

New Zealand Influenza Pandemic Plan: A framework for action

Acknowledgement

The Ministry of Health would particularly like to acknowledge its debt to Professor Geoffrey W Rice. Professor Rice's history of the impact of the 1918 pandemic on New Zealand, Black November, compiled from primary sources and interviews with people who were affected, has been invaluable to our planning (Rice 2005).

Comments

The New Zealand Influenza Pandemic Action Plan has been in existence since 2002, but has undergone substantial revision since then due to the evolving threat from H5N1 influenza, the influenza A (H1N1) 2009 pandemic and the subsequent all-of-government programme of pandemic planning and exercises that have been implemented.

This plan will continue to evolve. If you have any comments please send them to the Ministry of Health:

by post to:

NZIPAP

Emergency Management Team

Ministry of Health

1 The Terrace

PO Box 5013

Wellington 6145

or by email to: nhep@moh.govt.nz

Version

Date: 30 April 2010

Key revisions since last version: o Not applicable.

Citation: Ministry of Health. 2010. *New Zealand Influenza Pandemic Plan: A framework for action.*
Wellington: Ministry of Health.

Published in April 2010
by the Ministry of Health
PO Box 5013, Wellington 6145, New Zealand

ISBN 978-0-478-35906-0 (Print)

ISBN 978-0-478-35907-7 (Online)

HP 5049

This document is available on the Ministry of Health website:
<http://www.moh.govt.nz>

HEALTH

MANATŪ HAUORA

New Zealand Influenza Pandemic Plan: A framework for action

Foreword

The *New Zealand Influenza Pandemic Plan: A framework for action* sets out the all-of-government measures to be taken to prepare for and respond to an influenza pandemic. It replaces the *New Zealand Influenza Pandemic Action Plan 2006*.

The Ministry of Health leads the Government's response to a pandemic. It is the responsibility of other agencies to plan for and respond to a pandemic in their respective sectors and settings, based on the direction set out by the Ministry of Health.

Pandemics by their nature are unpredictable in terms of timing, severity and the population groups that are most affected. This version of the New Zealand Influenza Pandemic Plan establishes a framework for action that can readily be adopted and applied to any pandemic, irrespective of the nature of the virus and its severity.

This revision of the plan is based on extensive consultation carried out in 2008/09. It takes into account lessons learned in the pandemic influenza A (H1N1) 2009 response. It is a working document to give direction to future responses.

Many of the lessons learned in the New Zealand influenza A (H1N1) 2009 response and in pandemic simulation exercises are operational in nature and are being addressed in more detailed programmes and policies that will sit alongside this plan.

This work is very important. We have been through a recent pandemic, followed by an earthquake and a tsunami that devastated one of our close Pacific neighbours, reminding us of the reasons for our ongoing obligation to respond to major emergencies impacting on society.

Our own preparedness, across all sectors of our economy and government, is key. This plan is one very important way of helping us all to best prepare to protect ourselves and our way of life in the likely occurrence of an influenza pandemic.

Stephen McKernan
Director-General of Health

Contents

Acknowledgement.....	ii
Comments.....	ii
Foreword	iii
Part A: Setting the Scene	1
Introduction.....	1
Purpose of the New Zealand Influenza Pandemic Plan	1
Structure of this document	2
New in this version	2
Audience for this document.....	2
Exercising plans	3
What is Pandemic Influenza?.....	4
Definitions of ‘pandemic’ and ‘influenza’	4
Characteristics of influenza	4
Characteristics of pandemics.....	4
Influenza pandemics.....	5
The type of pandemic being planned for.....	6
Phases of pandemic influenza: the World Health Organization and New Zealand	6
New Zealand Pandemic Framework	7
Managing health-related emergencies.....	7
Pandemic planning and preparedness strategy	8
Legislation	10
Pandemic Planning and Preparedness	12
Overview of pandemic planning	12
Intelligence between pandemics	12
Ministry of Health pandemic planning	12
District Health Board pandemic planning	14
All-of-government pandemic planning	14
Key issues to consider in pandemic planning and preparedness.....	14
Summary of Roles	21
Resources must be dedicated as the emergency escalates	21
All-of-government response.....	21
Co-ordination arrangements nationally and locally	24
Intersectoral Response	28
Intersectoral Pandemic Group work streams	28
Health work stream	29
Biosecurity work stream	32
Law and order and emergency services work stream.....	33

Civil defence emergency management work stream	36
Welfare work stream.....	39
Education work stream	42
Border work stream	44
External work stream	47
Economy work stream	49
Workplaces work stream.....	52
Part B: The Action Plan	55
How to Use the Action Plan	55
Context of the Action Plan	55
Key to the Action Plan.....	55
New Zealand phases drive the pandemic response in New Zealand	55
Interpretation of actions and key decisions for each phase	56
Key factors to consider when deciding trigger points and actions at each phase	57
New Zealand Influenza Pandemic Plan	60
Plan For It.....	62
Keep It Out.....	73
Stamp It Out.....	83
Manage It.....	94
Manage It: Post-Peak.....	101
Recover From It.....	107
Part C: Explanatory Material	111
Explanatory material.....	111
Public Information Management Strategy	111
Communications objectives.....	112
Sequence of communication planning and key messages.....	112
Intelligence.....	113
Intelligence functions.....	113
Surveillance	113
Legislation.....	117
Compulsory measures are authorised by statute.....	117
Legislative powers.....	117
Health Act 1956	118
Routine powers	118
Special powers.....	119
Epidemic Preparedness Act 2006	120
Epidemic notices.....	120
Modification orders.....	120
International Health Regulations 2005	121

Public Health Bill.....	121
Civil Defence Emergency Management Act 2002	122
Civil defence emergency management declarations	123
Containment Measures	125
Impact on business as usual and key control measures	125
Border management.....	126
Approaches to border management.....	126
Use of isolation and quarantine for border management	128
Cluster control.....	132
Isolation and quarantine for cluster control and pandemic management	133
Use of antivirals for cluster control	133
Restriction of movement.....	134
Hygiene and social distancing	134
Closure of education institutions to students and children.....	135
Limitations on cluster control operations.....	136
Manage It	137
Transition to pandemic management.....	137
Care in the community.....	138
Telephone triage	138
Community-based assessment centres (CBACs).....	139
Clinical assessment and treatment.....	139
Hospital treatment	140
Pharmacists	140
Antiviral medicine	140
Antibiotics	141
Vaccination	141
Pandemic vaccine	142
Vaccination supplies	142
Other clinical supplies.....	142
Laboratory diagnosis.....	143
Care of the deceased.....	144
Role of agencies.....	144
Coronial issues.....	145
Infection hazards from bodies of people who have died from influenza	145
Gatherings, tangihanga and funerals.....	146
Refrigeration and storage	146
Burial.....	146
Cremation	147
Transport of bodies to or from overseas	147
Welfare arrangements	148
Managing the economic impact.....	149

Business continuity.....	149
Maintenance of essential services.....	151
Travel restrictions.....	152
Manage It: Post-Peak.....	153
Overview.....	153
Key areas of uncertainty.....	153
Will the number of infected people increase?.....	153
When will the number of infected people increase?.....	153
How many people might get sick?.....	154
How severe will the illness be?.....	154
A new wave.....	154
Recover From It.....	156
Planning for recovery.....	156
Psychosocial recovery planning.....	156
General considerations for recovery following a moderate to severe pandemic.....	157
Scale.....	157
Prioritisation of recovery activities.....	157
Community networks.....	157
Social factors.....	158
Public expectations.....	158
All-of-government pandemic recovery co-ordination.....	158
Transition from response to recovery.....	159
Recovery responsibilities in the health sector.....	159
Appendices.....	161
Appendix A: Public Information Management Strategy.....	161
Introduction.....	161
Key messages framework.....	161
Key messages.....	161
Communication initiatives to reach target audiences.....	166
Appendix B:	
Additional Factors to Consider when Mounting a Response.....	169
Appendix C: Recovery.....	173
Cornerstones of recovery.....	173
National recovery management structure.....	174
Appendix D: Glossary.....	176
References.....	183

List of Figures

Figure 1: New Zealand strategic approach to a pandemic	9
Figure 2: New Zealand pandemic planning process	13
Figure 3: National crisis management model with Ministry of Health as lead agency.....	22
Figure 4: Past pandemic waves	155
Figure 5: Integrated and holistic recovery.....	173
Figure 6: Possible national recovery management structure in a pandemic.....	175

List of Tables

Table 1: Areas of interest to audiences of the <i>New Zealand Influenza Pandemic Plan: A framework for action</i>	3
Table 2: Six-phase strategy of New Zealand pandemic planning	10
Table 3: Intersectoral Pandemic Group work streams	28
Table 4: Key factors that inform the actions to be taken in a pandemic response.....	58
Table 5: Summary of phases in the New Zealand Influenza Pandemic Plan.....	60
Table 6: Health sector surveillance objectives and systems (as at 1 March 2010).....	115
Table 7: Summary of specific legislative provisions	124
Table 8: Overview of possible border management actions and powers to inform key decisions	128
Table 9: Infection hazards from bodies of people who have died from influenza.....	145

Part A: Setting the Scene

Introduction

Purpose of the New Zealand Influenza Pandemic Plan

The *New Zealand Influenza Pandemic Plan: A framework for action* (NZIPAP) is based on an established strategy to deal with outbreaks of infectious disease, and forms part of the *National Health Emergency Plan*. The purpose of this document is to outline the all-of-government measures that will be considered in response to an influenza pandemic and to provide an overview of the activities that are being undertaken to ensure New Zealand is adequately prepared for an influenza pandemic.

The NZIPAP provides an overarching framework for possible actions during a pandemic. The actions that are implemented in any pandemic will depend on a range of factors (for example, severity) which are described in Part B.

Individual agencies have their own response plans, manuals, handbooks and standard operating procedures based on the NZIPAP, each of which provides information in addition to that contained in the NZIPAP.

The NZIPAP focuses on pandemic influenza. However, the approach in the plan could reasonably apply to other respiratory-type pandemics (such as severe acute respiratory syndrome – SARS). The NZIPAP is not relevant to epidemics in which spread is predominantly faecal-oral.

The NZIPAP is an evergreen document that will be updated from time to time as new evidence becomes available. Agencies should refer to the version of the NZIPAP published on the Ministry of Health website, as this will always be the most up-to-date version.

The NZIPAP is the foundation for responses to future pandemics. The Ministry of Health will use it to customise responses to such pandemics, if and as required.

Key objective

To minimise deaths, serious illness and serious disruption to communities and the economy arising from an influenza pandemic.

Note: The NZIPAP is primarily a central government planning and response framework, and is intended to inform, but not prescribe, the structure of local plans.

Structure of this document

The NZIPAP is divided into four parts and concludes with a list of references.

Part A: Setting the Scene outlines the Ministry of Health, District Health Board (DHB), and all-of-government approach to pandemic planning and preparation, and the co-ordination arrangements and response functions that would be put in place in the event of a pandemic.

Part B: The Action Plan summarises the phases (both international and New Zealand-specific) of a pandemic and provides guidance on the potential actions relevant to each phase, the individuals or agencies responsible for those actions, and the authority under which actions can be taken. These factors will always depend on the nature of the particular pandemic. The NZIPAP provides information to guide key decision-making.

Part C: Explanatory Material contains further information about the specific measures identified in Part B.

The Appendices contain the Public Information Management Strategy (Appendix A), additional factors to consider when mounting a response to an influenza pandemic (Appendix B), Recovery (Appendix C), and a glossary that explains key terms and abbreviations used throughout this document (Appendix D).

New in this version

This version of the NZIPAP updates the NZIPAP 2006 (Ministry of Health 2006c) as a result of pandemic exercises that took place after 2006 and the response to influenza A (H1N1) 2009. Although these factors highlighted the need for new guidance, overall they confirmed the strength of New Zealand's strategic approach to pandemic planning and management.

The structure of this version is more user-friendly.

The scenarios in Part B of the NZIPAP 2006 have been replaced by six phases. These phases describe a variety of actions that could be taken in a pandemic and factors to enable the mix of actions to be customised for a new pandemic. These phases have been driven by the New Zealand situation, but are based on new phases the World Health Organization has introduced.

Several appendices from the NZIPAP 2006 are being published as stand-alone documents.

Audience for this document

The NZIPAP is intended for anyone involved in planning, preparation or response to an influenza pandemic. It also provides general information on pandemics and Government planning for the New Zealand public.

The NZIPAP summarises many issues. Because of its wide intended audience it also, where possible, gives references to websites and key documents that provide further information on particular issues.

Part B of this document focuses on actions to consider at different pandemic phases. Parts A, C and D provide context and background information.

Table 1: Areas of interest to audiences of the *New Zealand Influenza Pandemic Plan: A framework for action*

Audience	Relevant section of document	Supporting information
Public	Part A: Setting the Scene Part C: Explanatory Material	Factsheets and resources available from the Ministry of Health Pandemic Influenza web page: http://www.moh.govt.nz/pandemicinfluenza (Ministry of Health 2009e)
Health professionals	Entire document	<i>National Health Emergency Plan</i> (Ministry of Health 2008c) Guidance documents available from the Ministry of Health Pandemic Influenza web page: For the health sector: http://www.moh.govt.nz/moh.nsf/indexmh/pandemicinfluenza-guidelines-forthehealthsector (Ministry of Health 2008e)
Health and other sector decision-makers	Entire document	National Health Emergency Plan (Ministry of Health 2008c) Guide to the National Civil Defence and Emergency Management Plan 2006 (MCDEM 2006c) Guidance documents available from the Ministry of Health Pandemic Influenza web page: For the health sector: http://www.moh.govt.nz/moh.nsf/indexmh/pandemicinfluenza-guidelines-forthehealthsector (Ministry of Health 2008e)

Exercising plans

As outlined in the *National Health Emergency Plan* (Ministry of Health 2008c), all health emergency plans require ongoing testing through exercises to ensure they will be effective when activated. The education and training of key staff likely to be involved in the activation of a health emergency plan is essential to ensure they will function effectively in what will be, for many of them, a highly stressful and unusual event. The ongoing exercising of emergency plans will increase the pool of appropriately trained people with competencies in emergency management.

Participation in inter-agency emergency-related exercises will ensure all health emergency plans are well integrated. Integration is critical, because most emergencies require some degree of inter-agency response.

After each exercise, all health emergency plans should be evaluated and reviewed, which may necessitate further training and exercising.

Lessons identified in national and district exercises of the NZIPAP have been incorporated into this edition of the NZIPAP.

What is Pandemic Influenza?

Definitions of 'pandemic' and 'influenza'

Pandemic: An epidemic that becomes very widespread and affects a whole region, a continent or the world.

Influenza: A contagious viral disease of the respiratory tract.

An influenza pandemic is the most likely event to cause a large-scale health emergency. Three major influenza pandemics occurred in the 20th century, reaching New Zealand in 1918, 1957 and 1968. Recent estimates put mortality from the 1918 pandemic at between 50 million and 100 million worldwide. In New Zealand, the 1918 pandemic is estimated to have infected between a third and one half of the entire population, causing about 8000 deaths, of which at least 2160 were Māori. However, the first wave of influenza A (H1N1) 2009 reminds us that some pandemics may have only a small impact on death rates. The NZIPAP 2010 has been designed to ensure it can be readily adapted for mild or severe pandemics.

Characteristics of influenza

Influenza is a contagious viral disease of the respiratory tract. It is a major threat to public health worldwide because of its ability to spread rapidly through populations and to cause complications. Relatively minor epidemics of influenza typically occur in New Zealand during winter, often affecting all age groups and causing many complications, including viral or bacterial pneumonia.

Influenza is a significant and under-recognised cause of mortality in the New Zealand population, including many cases where influenza contributes to an elderly or chronically ill person's death.

Influenza is characterised by rapid onset of respiratory and generalised signs and symptoms, including fever, chills, sore throat, headache, dry cough, fatigue and aching. Influenza is easily spread through droplets from an infected person (suspended in the air through coughing or sneezing) being inhaled by another person, or through contact with contaminated objects. The incubation period can range from one to seven days, but is commonly one to three days. There is limited evidence that adults are infectious for half a day to one day before most symptoms start, and until about day five of the illness. Children generally remain infectious for up to seven days after symptoms start, but may be infectious for up to 21 days.

Characteristics of pandemics

Influenza pandemics are characterised by the global spread of a novel type of virus, and may cause unusually high morbidity and mortality for an extended period. Most people are immunologically naive to the novel virus, and are therefore susceptible to infection. A severe pandemic can overwhelm the resources of a society due to the exceptional number of people affected.

A pandemic entails not only the emergence of a new viral subtype, but also the capacity of that virus to spread efficiently from person to person and cause significant human illness.

Influenza pandemics

During the 20th and 21st centuries to date, the emergence of several new influenza A virus subtypes has caused four pandemics, all of which spread around the world within a year of being clinically recognised. These were:

- the 1918/19 pandemic influenza A (H1N1)
- the 1957/58 pandemic influenza A (H2N2)
- the 1968/69 pandemic influenza A (H3N2)
- the 2009/10 pandemic influenza A (H1N1) 2009.

The 1918/19 pandemic caused the highest number of known influenza deaths. Many people died within the first few days after infection, and others died of secondary complications; nearly half of those who died were young, healthy adults.

New influenza viruses arise from recombination in humans, pigs and birds. People have little or no pre-existing immunity to these new viruses.¹

A severe pandemic: impact of the 1918 pandemic on New Zealand

The 1918/19 pandemic had a profound effect on New Zealand, which took years to recover. Because it came at the end of the First World War, the trauma suffered is less clear than it would otherwise have been, but it is evident that in many ways the pandemic was more damaging than the war itself. Little was known about the cause of the disease or how it spread, and a variety of ineffective treatments such as throat-sprays that were available at public facilities might have been additional sources of infection. Public health knowledge was limited, and in each community doctors were overwhelmed, able to do little to halt the course of influenza in those infected. With no effective treatment, many people died from secondary infections. Communities formed groups and committees to look after those most in need with food or home help, and it seems that without this basic care even more could have died.

Impact of pandemics on Māori and Pacific peoples in New Zealand

The 1918/19 pandemic had a severe impact on Māori, whose death rate of 4.2 percent was approximately five to seven times higher than the non-Māori death rate.

Māori and Pacific peoples in New Zealand had higher rates of morbidity for the influenza A (H1N1) 2009 pandemic than other ethnic groups.

History, therefore, suggests that Māori and Pacific peoples are more susceptible to pandemic influenza than other groups.

¹ Naming pandemics by their association with countries or animals has unfortunate consequences. It can lead to confusion (for example, consumers avoiding produce from the animal concerned, even though there may be no risk of acquiring influenza from such produce, and can impact on business and trade. The Ministry of Health uses the nomenclature recommended by WHO; for example, pandemic influenza A (H1N1) 2009. The Ministry notes that the naming of pandemics by the media and members of the public remains outside the control of international or national agencies.

The type of pandemic being planned for

The NZIPAP 2010 is flexible enough to enable a response to be tailored to the level of severity of a pandemic. Key actions outlined here reflect the more serious end of the scale of national health emergencies, but can readily be customised for less serious pandemics.

The impacts in New Zealand of the 1918/19 influenza pandemic represent the severe end of the spectrum in a standard planning model providing planners with a means of determining the scope, scale and duration of future severe pandemics.

The New Zealand standard planning model assumes a severe pandemic wave in which 40 percent of the New Zealand population (more than 1.6 million people) become ill over an eight-week period. The peak incidence in the model occurs in weeks three to five, when about 1.3 million people – a third of New Zealand’s population – would be ill, convalescing or just recovered.

The standard planning model assumes a total case fatality rate of 2 percent, within which about 33,000 deaths would occur over the eight-week period, peaking at about 10,000 in week four (compared with New Zealand’s normal weekly death rate of around 550). It is important to note that this is not a prediction – it is not possible to make any such forecast before a pandemic develops. A 21st-century pandemic may not reflect the course, incidence or fatality rates of the 1918 pandemic.

The model’s purpose is to provide a structure around which the health sector, Government and New Zealand as a whole can plan for a very large event having severe impacts on all aspects of society. Because the 1918 pandemic in New Zealand is relatively well understood and documented, it has been selected to provide the basis for the standard planning model. It is necessary that plans be based on the circumstances that a 1918-type pandemic could represent, while recognising that future pandemics might be more moderate in their impact.

Although planning is based on a severe pandemic, the NZIPAP 2010 has been modified so the mix of actions at different phases can be customised to apply to a mild to moderate pandemic.

Phases of pandemic influenza: the World Health Organization and New Zealand

The World Health Organization has developed a set of definitions that classify the phases of a pandemic. During a pandemic, WHO will announce the onset of each phase based on international evidence from the WHO Pandemic Taskforce and international consultation. Part B sets out the WHO phases, along with the macro-characteristics that are used to define progression between phases.

The NZIPAP 2010 describes how phases in New Zealand align with the 2009 WHO phases (see Part B, Table 5). The plan acknowledges that pandemic influenza activity may come in waves and that response and recovery actions need to recognise this.

The time between confirmation of a pandemic by WHO and widespread outbreak is unlikely to be predictable but may be compressed. If the pandemic has a particularly rapid onset, some phases might progress rapidly or be missed. For this reason, it is very important to prepare emergency responses in the inter-pandemic period (the ‘Plan For It’ phase).

New Zealand Pandemic Framework

Managing health-related emergencies

The NZIPAP is one part of the wider New Zealand emergency management framework, which is governed by several Acts and regulations. The relationship between health emergency planning and planning in the wider emergency management sector is detailed in the *National Health Emergency Plan*, which provides overarching direction to the health and disability sector and all of government.

The *National Health Emergency Plan*:

- outlines the structure of emergency management in New Zealand and the way that the health and disability sector fits within it, and provides a high-level description of the responsibilities of local and regional groups compared with the national responsibilities of the Ministry of Health
- provides the health and disability sector with guidance and strategic direction on its approach to planning for and responding to health emergencies in New Zealand
- provides other organisations and Government agencies with contextual information on emergency management in the health sector, and on the organisational structure the health and disability sector uses in response to an emergency.

The objectives of the *National Health Emergency Plan* are to:

- describe the larger context within which the Ministry of Health and all New Zealand health and disability services will function during any national health-related emergency, including New Zealand's responsibilities under international agreements and regulations
- clarify the roles and responsibilities of the Ministry of Health, DHBs and their public health units, and other key organisations
- provide specific advice to assist health and disability services to prepare their own action plans
- outline the Ministry of Health's emergency management system
- prescribe expectations for DHB emergency management systems.

The NZIPAP is an all-of-government document that details the arrangements and specific actions to be carried out in the management of pandemic influenza.

The Ministry of Health has also produced a series of emergency management-related documents to provide guidance in a health-related emergency.

Cross-references and supporting material

The latest versions of all National Health Emergency Plans and associated documents are available on the Ministry of Health Emergency Management web page:
<http://www.moh.govt.nz/emergencymanagement>

Pandemic planning and preparedness strategy

The Government has taken a strategic approach to preparing for, reducing the impact of, responding to and recovering from a pandemic. Central to this approach are three overarching goals and a six-phase planning strategy. A series of key functions then gives effect to the goals and the strategy, all of which are described in this plan and illustrated in Figure 1.

The three overarching goals of New Zealand pandemic planning and preparation – to protect New Zealand’s people, society and economy during and after a pandemic – are in line with the Government’s goals for managing any crisis. The key functions giving effect to these goals are of an all-of-government nature, although they maintain a health focus in line with the nature of a pandemic emergency.

New Zealand pandemic planning is based around a six-phase strategy:

- 1 Plan For It (planning and preparedness)
- 2 Keep It Out (border management)
- 3 Stamp It Out (cluster control)
- 4 Manage It (pandemic management)
- 5 Manage It: Post-Peak
- 6 Recover From It (recovery).

Table 2 outlines these six phases, along with their potential triggers and specific objectives. The Keep It Out and Stamp It Out phases focus on containing the spread of the virus, and are often jointly described as ‘containment’.

These phases represent the main strategies to be applied and the specific objectives of each strategy, and are not exclusive to each phase. For example, planning is a continuous process through all phases, but is the primary focus of the inter-pandemic Plan For It phase; border management activities occur in several phases, but enhanced measures are the focus of the Keep It Out phase.

The six-phase strategy is a way to focus attention on the main task at any particular time, and represents a simple way to structure plans and activities.

Figure 1: New Zealand strategic approach to a pandemic

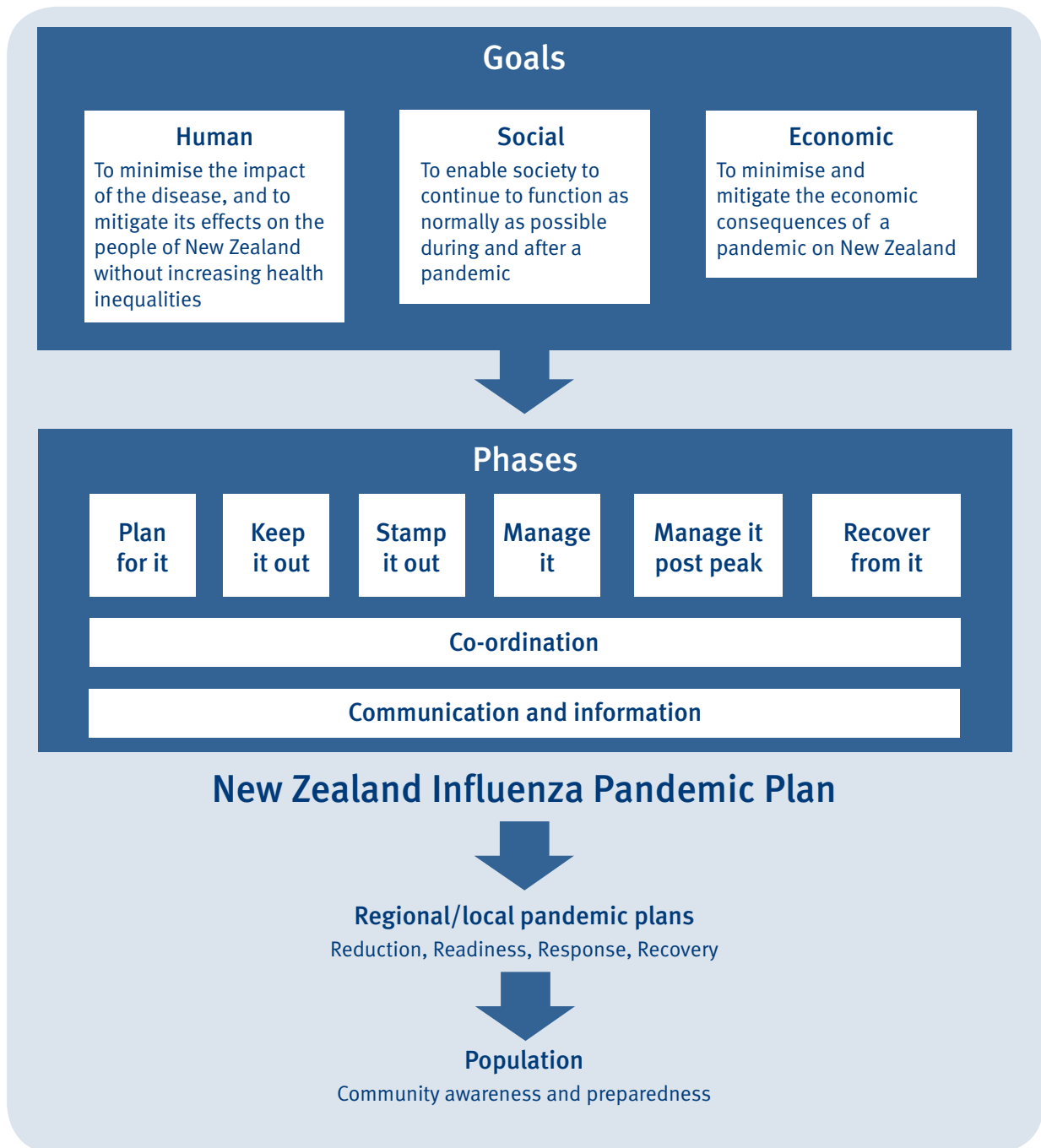


Table 2: Six-phase strategy of New Zealand pandemic planning

Phase	Potential trigger	Specific objectives
Plan For It Planning and preparedness	Level of influenza at normal seasonal levels	Plan and prepare to reduce the health, social and economic impact of a pandemic on New Zealand Deal with disease in animals, if required
Keep It Out Border management	Sustained human-to-human transmission of a novel influenza virus overseas in two or more countries	Prevent, or delay to the greatest extent possible, the arrival of the pandemic virus in New Zealand
Stamp It Out Cluster control	Novel influenza virus or pandemic virus detected in case(s) in New Zealand	Control and/or eliminate any clusters found in New Zealand
Manage It Pandemic management	Multiple clusters at separate locations, or clusters spreading out of control	Reduce the impact of pandemic influenza on New Zealand's population
Manage It: Post-Peak Transition to Recover From It phase, and planning for a resurgence or second wave	New Zealand wave decreasing	Expedite recovery, and prepare for a re-escalation of response
Recover From It Recovery	Population protected by vaccination, or pandemic abated in New Zealand	Expedite the recovery of population health, communities and society where affected by the pandemic, pandemic management measures, or disruption to normal services

How changes in strategy are decided in New Zealand

High-level triggers for moving between phases are described in Part B. Final decisions are made within the Domestic and External Security Co-ordination (DESC) system activated in response to an emergency (see Part A, Summary of Roles, All-of-government response).

Legislation

The NZIPAP refers to actions that are authorised by statute. These statutes include the Health Act 1956, the Civil Defence Emergency Management Act 2002 (CDEM Act) and the Epidemic Preparedness Act 2006.

The Health Act 1956 is the primary statute focused on the need to contain communicable diseases, within the country and at the border, and works alongside the more general CDEM Act. The Epidemic Preparedness Act 2006 provides additional legislative provisions prompted in part by emerging diseases such as SARS and the threat of influenza A (H5N1), and by the limitations of existing law.

In a pandemic response, the Government will use legislative provisions in a way that is proportionate and appropriate to the emerging pandemic.

Provisions under the Epidemic Preparedness Act 2006 are only able to be used when the prime minister is satisfied that the effects of an outbreak of a quarantinable disease (as defined in the Health Act 1956) are likely to disrupt essential governmental and business activity in New Zealand. Because these criteria are high, agencies must not rely on the activation of these provisions in mounting a response.

Likewise, agencies must not rely on the provisions in the CDEM Act to mount a response in a timely fashion.

Legislation is described in greater detail in Part C.

Pandemic Planning and Preparedness

Overview of pandemic planning

Hospitals and health professionals are used to dealing with emergencies every day. However, sudden surges in the number of people seeking help, either from mass-casualty events or from outbreaks of infectious disease, are difficult to manage, so all hospitals and health agencies have established emergency plans to deal with such events. Within the Ministry of Health, these plans have been co-ordinated through the *National Health Emergency Plan*, the most recent version of which was published in December 2008 (Ministry of Health 2008c).

The possibility of a pandemic adds an extra dimension to emergency planning, and has been a key feature of Ministry of Health planning work since late 2004. The World Health Organization advises that the risk of pandemics has recently increased due to the increase in the human population, the closer proximity of humans and animals in rural and urban settings and the increased speed and frequency of travel.

Compared with many other countries New Zealand has some advantages when planning for a pandemic because it has a modern health system, comparatively easily managed borders, a simple and effective government structure and, in general, a strong sense of community. The last of these factors is vital, since a pandemic on the scale of the 1918 pandemic needs to be managed by good planning, by total commitment from central and local government and, most importantly, by people looking after each other.

Intelligence between pandemics

A nationally consistent monitoring and surveillance system during the period between pandemics (the 'inter-pandemic' period) is an essential component of preparedness. Overseas trends must be monitored and analysed and surveillance systems in New Zealand maintained to enable the early detection of a novel influenza virus following announcements by WHO, and these systems must be capable of tracking the progress of a pandemic in New Zealand. Information from the intelligence system will play a key role in guiding actions throughout all the phases of a pandemic.

Cross-reference and supporting material

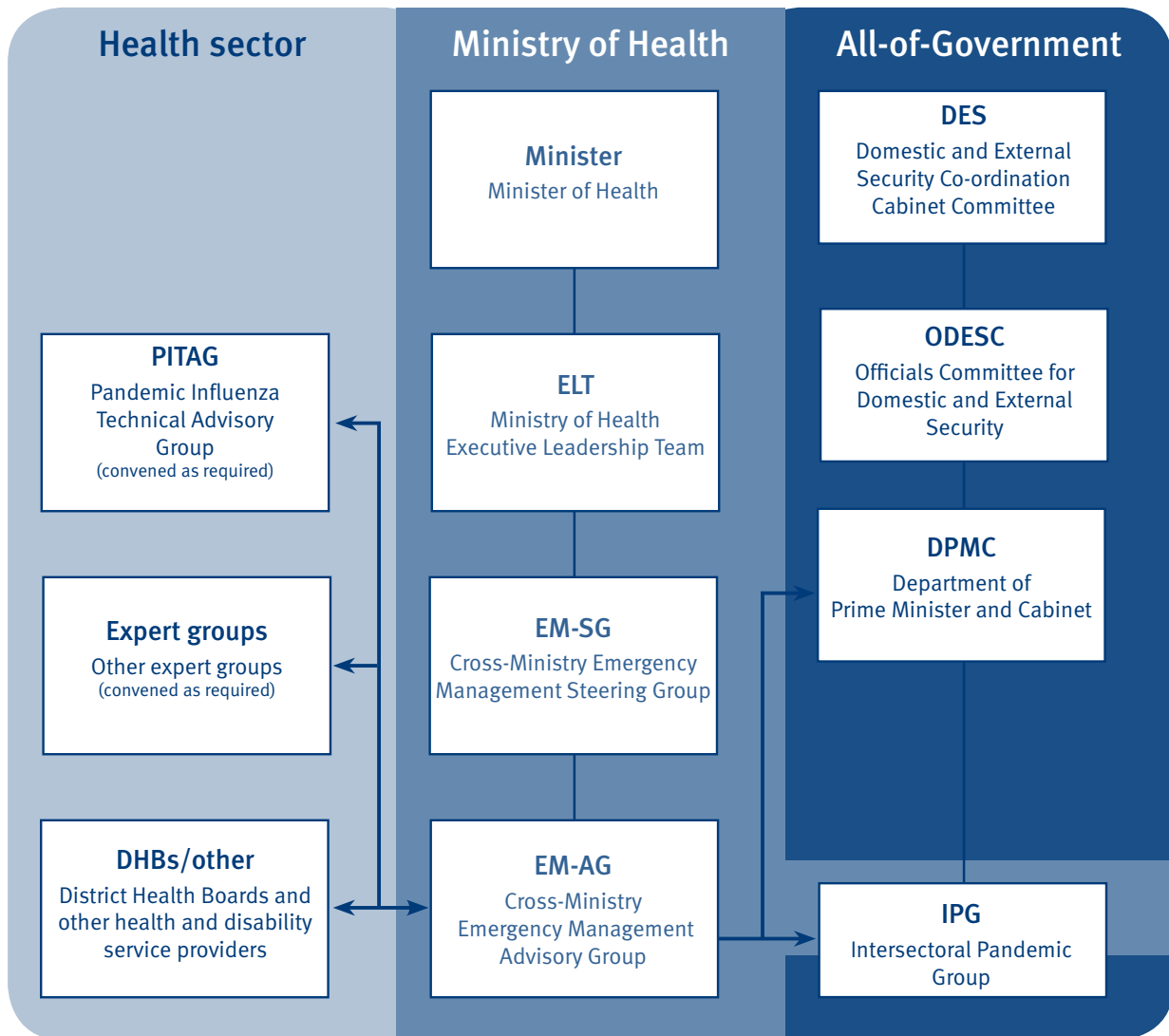
NZIPAP 2010: Part C, Intelligence

Ministry of Health pandemic planning

The Ministry of Health began a period of 'accelerated' pandemic planning in 2005 because of increased national and international concern about the risk posed by pandemic influenza. This concern has been reinforced by experience with SARS, the threat of influenza A (H5N1) and influenza A (H1N1) 2009.

Within the Ministry of Health, co-ordination and collaboration is achieved through a cross-ministry advisory group, as shown in Figure 2. A cross-ministry steering group also provides leadership and strategic oversight of the emergency management work programme as a whole, which includes pandemic planning. The steering group reports to the Ministry of Health's Executive Leadership Team and the Minister of Health through normal Ministry channels.

Figure 2: New Zealand pandemic planning process



The Pandemic Influenza Technical Advisory Group was established to provide expert clinical, virological, epidemiological, infection control and ethical advice to inform Ministry of Health pandemic response planning. This group informs Ministry policy on communications, key messages, public health interventions and a range of associated issues, and is convened as required to provide technical advice to the Director of Public Health.

Other advisory and working groups are set up during an emergency response to address specific operational issues, as the need arises.

The Ministry of Health's ongoing pandemic planning includes ensuring a co-ordinated approach that avoids duplication of effort or communication across the large number of groups and organisations within the wider health sector that are involved in pandemic planning.

The Ministry of Health also recognises that an effective flow of information between District Health Boards (DHBs), ambulance services and the primary health care sector is required. The providers of primary health care in the community (eg, general practitioners, pharmacists and primary health care nurses) and ambulance services will be under great pressure and will need ongoing information, advice and assistance. Other providers of community health care, such as those working with people with disabilities and in aged care, will need similar help. The Ministry has issued several pandemic-related guidelines to help those involved in pandemic planning and response.

District Health Board pandemic planning

District Health Boards are the lead agencies for planning and responding to pandemics (and other health emergencies) at a local level. District Health Board emergency planning responsibilities are set out in the Operational Policy Framework document that is part of the DHB Planning Package the Ministry of Health revises each year in conjunction with the wider sector.²

The evolving emergency planning and management section in the Operational Policy Framework details DHBs' specific responsibilities in planning for emergencies of all kinds, including pandemics.

Emergency planning reference documents and legislation noted in the Operational Policy Framework include:

- the Health Act 1956
- the Epidemic Preparedness Act 2006
- the CDEM Act
- clauses 28–32 in the Schedule to the National Civil Defence Emergency Management Plan Order 2005
- the *National Health Emergency Plan* (Ministry of Health 2008c)
- *National Health Emergency Plan: Guiding principles for emergency management planning in the health and disability sector 2005* (Ministry of Health 2005a)
- the NZIPAP
- *National Health Emergency Plan: Hazardous substances incident hospital guidelines 2005* (Ministry of Health 2005b)
- *National Health Emergency Plan: Pandemic or emergency vaccination policies plans and guidelines*
- *Communicable Disease Control Manual* (Ministry of Health 1998)
- *Environmental Health Protection Manual*.

All-of-government pandemic planning

Planning and preparedness for an event of the scale, scope, complexity and potential impact of a pandemic requires expertise from a range of fields. The Ministry of Health takes a lead role in planning for a health-related emergency, but many aspects of the national response are beyond its scope. Pandemic planning is ongoing, and although the Ministry of Health is the lead agency, an all-of-government response is required (see Part A, Intersectoral Response).

The NZIPAP 2010 is the core document agencies should use to inform their pandemic planning.

Key issues to consider in pandemic planning and preparedness

The *National Health Emergency Plan* outlines generic considerations for health emergency planning. The NZIPAP highlights the issues specifically related to pandemic influenza. Planning needs to be accompanied by preparedness programmes, including training and exercising.

² The 2009/10 *Operational Policy Framework* is available on the Nationwide Service Framework Library website at <http://www.nsf.health.govt.nz/apps/nsfl.nsf/pagesmh/301> and is a part of the 2009/10 *DHB Planning Package* (Ministry of Health 2009g).

Ethical issues in pandemic planning

Many decisions and policies within pandemic planning have ethical components, especially those relating to the prioritisation of medicines and medical resources, the use of restrictive measures such as quarantine, and the ethical duties of health care workers when caring for the sick. The challenge is to plan for decisions in these areas in a way that achieves the stated aims of the NZIPAP, is practical and, as much as possible, meets New Zealanders' expectations.

People are more likely to accept difficult decisions if decision-making processes are open and transparent, reasonable, inclusive and responsive, with clear lines of accountability. Decision-making processes are also more likely to be acceptable if they are based on agreed, core ethical values.

The health sector operates under several guiding strategies, including the *New Zealand Health Strategy* (Minister of Health 2000) and the *New Zealand Disability Strategy* (Minister for Disability Issues 2001). These strategies outline values relating to the distribution of and access to health services.

It is important to take legal considerations into account in decision-making. Moral and ethical values are acknowledged in New Zealand legislation, for example in:

- the Human Rights Act 1993
- the New Zealand Bill of Rights Act 1990
- the Privacy Act 1993.

It is important to note that ethical considerations are broader than the legislation suggests, and that the law is silent on many issues raised in pandemic planning. In addition, the law is often slow to follow moral change in the community, so older legislation may not necessarily reflect a community's current ethical values.

Some pandemic programmes must be implemented swiftly if they are to be effective, and some will have ethical components that need to be considered in real time. It will not always be effective to rely on usual processes.

Cross-references and supporting material

New Zealand Disability Strategy (Minister for Disability Issues 2001)
New Zealand Health Strategy (Minister of Health 2000)

Ethical framework for New Zealand pandemic planning

The National Ethics Advisory Committee, Kāhui Matatika o te Motu, is an independent advisor to the Minister of Health on ethical issues of national significance concerning health and disability matters. In 2007 the committee developed *Getting through Together: Ethical values for a pandemic*, which identifies widely shared ethical values for planning for, and responding to, a pandemic, and provides examples of hypothetical cases to illustrate how such values identified might be applied.

Some of these ethical values are to govern decision-making processes. Others are values on which to base the content of decisions. Some come from the sphere of Māori tikanga and kawa. The best way to act on our values depends on the particular situation – which could be as general as

developing public policy for a future pandemic or as personal as deciding how best to help a sick family member or neighbour. The values identified by *Getting through Together* are listed below.

In good decision-making processes we are:

open

- letting others know what is to be decided, how and on what basis
- letting others know what decisions we have made on that basis
- letting others know what will come next

inclusive

- including those who will be affected
- including people from all cultures
- taking everyone's contribution seriously
- striving for acceptance of our process, even by those who might not agree with the decisions we make through that process

reasonable

- working with alternative options and ways of thinking
- working with and reflecting diversity of culture
- using a fair process to make decisions
- basing our decisions on shared values, and on the best evidence available

responsive

- willing to make changes and be innovative
- changing when relevant information or context changes
- enabling others to contribute wherever we can
- enabling others to challenge our decisions and actions

responsible

- being responsible to others for our decisions and actions
- helping others to take responsibility for their decisions and actions.

Good decisions are those we base on:

minimising harms

- protecting one another from harm
- not harming others

respect

- supporting others to make their own decisions wherever possible
- supporting those who make decisions for people who can't make their own decisions
- restricting freedom as little as possible, if freedom must be restricted for the public good

fairness

- supporting others to get what they are entitled to
- ensuring that everyone gets a fair go
- minimising health and disability inequalities
- prioritising fairly when there are not enough resources for all to get the services they seek

neighbourliness – whanaungatanga

- helping and caring for our neighbours and relations
- working together where there is a need to be met

reciprocity

- helping one another
- agreeing to extra support for those who have extra responsibilities to care for others

unity – kotahitanga

- being committed to seeing this through together
- being committed to strengthening individuals and communities.

Cross-reference and supporting material

Getting through Together: Ethical values for a pandemic (National Ethics Advisory Committee 2007)

Māori as tāngata whenua and the role of *He Korowai Oranga*

Given the severe impact of the 1918/19 pandemic on Māori and the increased susceptibility of Māori to the influenza A (H1N1) 2009 pandemic, consideration of the specific needs of Māori, cultural sensitivity and the impact of a pandemic on traditional Māori protocols (tikanga) should be an integral aspect of pandemic preparedness planning at local and national levels. Māori issues can be most effectively addressed through active engagement with Māori and the development and distribution of key messages to reach Māori.

The Ministry of Health encourages the inclusion of Māori in district, regional and national pandemic planning to ensure the potential impact of an influenza pandemic on Māori is not greater than the impact on other New Zealanders.

He Korowai Oranga: Māori Health Strategy sets the direction for Māori health development (Minister of Health, Associate Minister of Health 2002). The overall aim of *He Korowai Oranga* is whānau ora: Māori families supported to achieve their maximum health and wellbeing. It is important for the successful engagement of Māori on pandemic issues that the principles of *He Korowai Oranga* are applied in regional and national consultation and planning.

The Pandemic Māori Reference Group (which comprised Māori health practitioners and representatives from DHBs) identified key issues for Māori as being:

- factsheets for Māori communities
- Māori engagement with DHBs
- Māori access to resources (for example finance, education materials and people)
- the role of Māori providers

- workforce preparedness
- community infrastructure and needs.

The Pandemic Māori Reference Group contributed to the development of Māori-specific pandemic brochures, which include material about the role of marae and material specific for Māori audiences.

It is important for agencies to establish and maintain effective dialogue with Māori communities and organisations from the early stages of planning for a pandemic. Relationships between DHBs and Māori communities and organisations vary from district to district. District Health Boards need to understand who iwi and other Māori groupings in their area represent, and what their priorities are. Māori communities often have important resources to contribute in terms of health emergency planning for a pandemic. Each community can advise on its own capacity and capability to respond.

Cross-references and supporting material

NZIPAP 2010: Part C, Explanatory Material

NZIPAP 2010: Part C and Appendix A, Public Information Management Strategy

Getting Ready for a Flu Pandemic for Whānau, Hui, Marae and Tangihanga (Ministry of Health 2007a)

He Korowai Oranga: Māori Health Strategy (Minister of Health, Associate Minister of Health 2002)

Ko Tātou: Building and maintaining relationships with Māori – A guide for District Health Boards (Ministry of Health 2004)

Working Together: Guidelines for emergency managers working with culturally and linguistically diverse communities (MCDEM 2006b)

Pacific peoples in New Zealand

Interrelated risk factors, socioeconomic determinants and complex cultural values, beliefs and preferences increase the potential risk and impact of an influenza pandemic for Pacific peoples in New Zealand. The specific needs of ethnically diverse Pacific communities must be recognised and addressed at all stages of pandemic planning.

The influenza A (H1N1) 2009 pandemic in New Zealand had a greater impact on Pacific peoples than on other ethnic groups, indicating this population's greater susceptibility. It is, therefore, particularly important for DHBs and other agencies to engage with Pacific communities during all phases of a pandemic, including the planning and preparedness phase.

Pandemic and other emergency issues should be addressed through health workforce and Pacific provider development programmes, alongside other initiatives.

Engaging and involving Pacific leaders and existing community and health networks (for example through churches, councils or sports groups) is critical in identifying issues, raising awareness and maximising the delivery of key messages to Pacific peoples. It is an approach that can increase the effectiveness of national and regional pandemic preparedness, and strengthen capacity for the strong community response required to manage an influenza pandemic.

At all phases the Ministry of Health and DHBs should engage with these networks and make use of networks established by other Government agencies (for example, the Ministry of Pacific Island

Affairs, councils) to extend reach into Pacific communities and build a consistent approach across agencies.

Important points of contact are the Ministry of Health Chief Advisor Pacific Health and already formed Pacific health professional networks such as the Pasifika Medical Association and Pacific nursing organisations.

Cross-references and supporting material

NZIPAP 2010: Part C, Explanatory Material

NZIPAP 2010: Part C and Appendix A, Public Information Management Strategy

Getting Ready for a Flu Pandemic (in various Pacific languages) (Ministry of Health 2009c)

A Paper for the Pacific Health and Disability Action Plan Review (Ministry of Health 2008)

Working Together: Guidelines for emergency managers working with culturally and linguistically diverse communities (MCDEM 2006b)

Tokelau, Niue and the Cook Islands

New Zealand has constitutional relationships with Tokelau, Niue and the Cook Islands. Tokelau is a dependent territory of New Zealand, and Niue and the Cook Islands are self-governing states in free association with New Zealand. Because of these linkages, and the fact people from Tokelau, Niue and the Cook Islands are New Zealand citizens, the New Zealand Government needs to consider their situation when planning for a pandemic.

The New Zealand Government works closely with the governments of Tokelau, Niue and the Cook Islands to determine how best to help them with their preparedness and response to a pandemic.

Other ethnic groups in New Zealand

People from ethnic groups other than Māori and Pacific peoples may also require targeted programmes (see Appendix A).

Cross-references and supporting material

NZIPAP 2010: Part C, Explanatory Material

NZIPAP 2010: Part C and Appendix A, Public Information Management Strategy

Getting Ready for a Flu Pandemic (in various languages) (Ministry of Health 2009c)

Community issues

Action at a community level will be fundamental to an effective national response to a future influenza pandemic. During the height of a moderate to severe influenza pandemic, people within communities will not be able to rely solely on the health sector or other Government agencies for support; they will need to support each other. Health facilities are unlikely to be available to care for people with pandemic influenza beyond the early stages of a severe pandemic. Families need to be prepared to care for each other at home. Non-governmental organisations, charities and community groups all have an important role to play in assisting their communities to respond to an influenza pandemic.

One particular community issue that Government agencies and other service providers must consider in a pandemic is that people who are dependent on others may be left without their caregivers. At the community level, neighbourhoods will also need to prepare for the possibility that they will need to assist each other in this respect. Local community networks of support will be particularly important for people living on their own.

Vulnerable and susceptible people

The impact of a pandemic on different population groups may vary. For example, Māori and Pacific people, pregnant women and morbidly obese people were more susceptible, and therefore harder hit, than other groups in the first wave of the influenza A (H1N1) 2009 pandemic. People living in institutions such as rest homes or barracks, and schoolchildren, are at higher risk of infection than other groups because they are living or working closely to each other.

Programmes at all phases, therefore, must focus more intensively on groups at higher risk, particularly when resources are stretched: for example, during the response phase.

During a moderate to severe pandemic, there are likely to be substantial numbers of people whose usual caregivers are unable to provide assistance. This could include children whose parents are sick, older people, people with chronic illness or disability, and people with mental illness. As a matter of priority it is important services are targeted to provide support to such people.

Summary of Roles

Resources must be dedicated as the emergency escalates

New Zealand's strategic response to a pandemic will use the framework detailed in the Action Plan (Part B). As a pandemic emergency escalates, more resources will need to be dedicated to the response. As a result, agencies must understand, and in fact expect, that as the emergency escalates business as usual will be affected (see Part C, Business continuity). In particular, agencies are likely to be affected by high levels of illness among staff, and disruptions to supply and distribution processes. Many different agencies (including government departments and industry) across the country will face the same scenario. This chapter outlines the responses required.

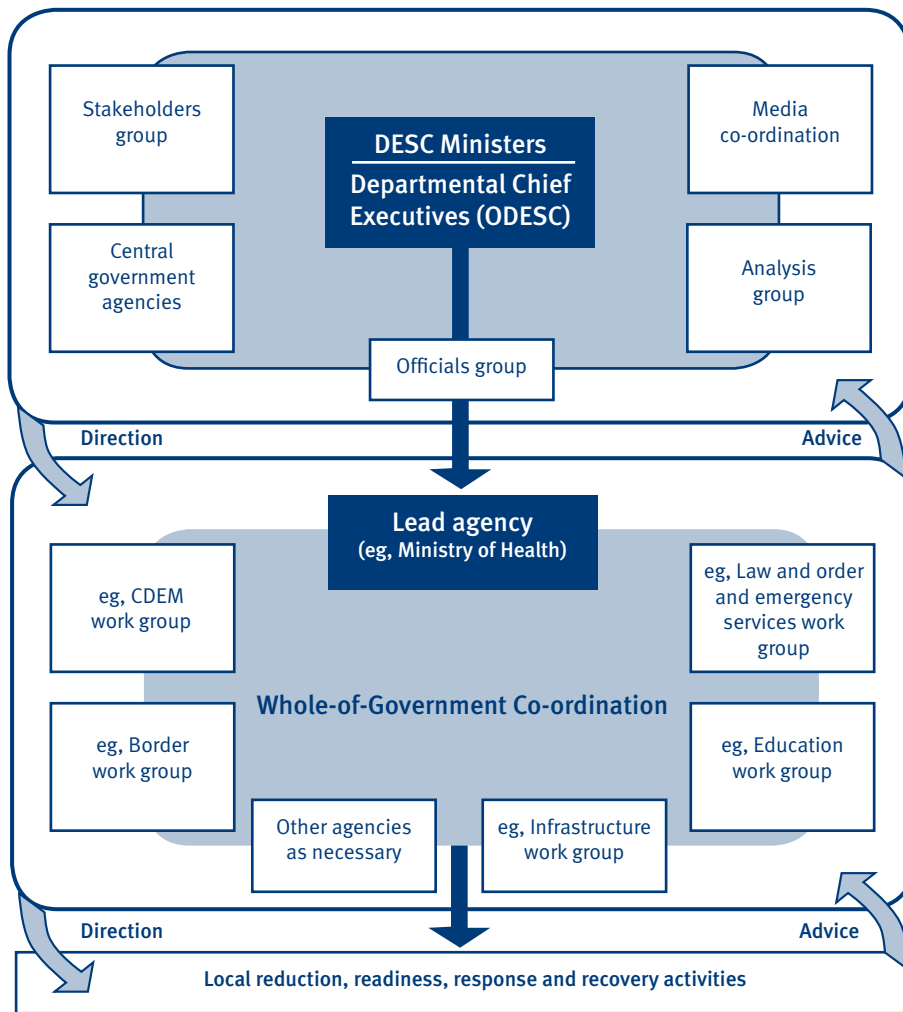
All-of-government response

An emergency, such as a pandemic, that potentially affects the whole of society requires *national* co-ordination and decision-making. New Zealand has not experienced a truly national emergency in recent history – a moderate to severe pandemic would be an exceptional emergency situation. Actions will need to be taken to protect and reduce the impact of the emergency on New Zealand as a whole. In such an event, strategic decisions will be made centrally through established processes and systems.

Recent overseas disasters (for example, the tsunami in south-east Asia in December 2004, Hurricane Katrina in August 2005, the earthquake in the Sichuan province of China in 2008, the first wave of influenza A (H1N1) 2009 and the tsunami in Samoa in 2009) have demonstrated the need for effective co-ordination, co-operation and leadership in managing a response. This section outlines current organisational arrangements to ensure co-ordination, co-operation and leadership are realised in a pandemic emergency. Figure 3 summarises these arrangements.

Each Government agency is responsible for leading the response for the sector it serves and developing relevant materials for that purpose that are based on the direction set and the resources developed by the Ministry of Health.

Figure 3: National crisis management model with Ministry of Health as lead agency



Note: CDEM = civil defence emergency management; ODESC = Officials Committee for Domestic and External Security Co-ordination.

Governance and decision-making

Domestic and External Security Co-ordination

The DESC system, as detailed in the *National Health Emergency Plan*, would be used in a pandemic in the same manner as it would be used after an act of terrorism or an outbreak of foot and mouth disease.

The DESC system would likely be activated by the Department of Prime Minister and Cabinet following confirmation of a sustained and efficient human-to-human transmission of an influenza virus overseas (that is, at the Keep It Out phase of this plan).

Domestic and External Security Group

The Domestic and External Security Group operates at a strategic level. It brings together information for Ministers, co-ordinates analyses, develops options and assists decision-making by Cabinet.

Officials Committee for Domestic and External Security Co-ordination

The Officials Committee for Domestic and External Security Co-ordination (ODESC) is charged with making high-level policy decisions on security and intelligence matters.

The Officials Committee for Domestic and External Security Co-ordination comprises the chief executives from the Ministry of Foreign Affairs and Trade, New Zealand Defence Force, Ministry of Defence, New Zealand Security Intelligence Service, Government Communications Security Bureau, New Zealand Police, New Zealand Fire Service, Ministry of Civil Defence and Emergency Management, Treasury, Ministry of Health and others as necessary.

At a strategic level, ODESC exercises policy oversight and advises the prime minister, Cabinet and, when activated, the Cabinet Committee on Domestic and External Security Co-ordination, which the prime minister chairs.

The Committee's role in pandemic planning is to ensure all-of-government activities are effective and co-ordinated, and to advise the Domestic and External Security Group of issues as necessary. The key objective of ODESC is to minimise the social disruption and economic impact of a pandemic.

Lead agencies

Lead agencies are agencies that have a mandate (through legislation or agreed authority) for the control of an incident. A lead agency monitors and assesses the situation, co-ordinates national support, reports to ODESC and provides policy advice. In a national emergency, the lead agency directs and manages the operational responses of its sector as necessary.

Ministry of Health as lead agency in a pandemic

In a human disease epidemic or pandemic, the Ministry of Health will be the lead agency.

The Ministry has already taken a lead role in planning for an influenza pandemic, and this role would continue into the response phase of a pandemic. In particular, the Ministry would be responsible for:

- initiating, activating, escalating and standing down a national emergency response through the National Health Co-ordination Centre and, as required, the National Crisis Management Centre
- maintaining standard operating procedures for the National Health Co-ordination Centre that clearly identify roles and responsibilities consistent with the co-ordinated incident management system (CIMS) organisational strategy identified in the *National Health Emergency Plan*
- ensuring sufficient staff are trained and exercised to participate in the National Health Co-ordination Centre at short notice, and maintaining a knowledge base on pandemic planning and response
- undertaking national intelligence and planning, including liaising with WHO and other international bodies responsible for providing high-level advice and recommendations to national authorities
- convening advisory groups and disseminating clinical and public health advice nationally
- providing information and advice to Ministers
- liaising nationally with, and advising, other Government agencies
- advising ODESC to activate the National Crisis Management Centre when necessary
- collating information for dissemination and use in New Zealand with the support of the best expert advice available

- overseeing the health sector response nationally
- providing public information, including through 0800 advice lines and the internet, and providing access to travel advisories that border control agencies produce
- instigating and standing down universal or targeted public health assessments.

Ministry of Agriculture and Forestry as lead agency

For an animal disease, whether epizootic or panzootic (the animal health equivalents of epidemics and pandemics respectively), the Ministry of Agriculture and Forestry will be the lead agency.

If a human contracted the disease as a result of handling affected animals, the Ministry of Agriculture and Forestry would continue as lead agency, working closely with the Ministry of Health on the risks associated with the human case or cases and possible human-to-human transmission. In particular, the Ministry of Agriculture and Forestry would be responsible for:

- notifying the Ministry of Health
- determining the particular strain of influenza in infected animals
- notifying the World Organisation for Animal Health
- implementing technical response policies and plans in accordance with the Biosecurity Act 1993
- monitoring the infection in animal populations
- liaising with the Ministry of Health in relation to human cases or suspected cases.

Where human-to-human transmission of an animal disease occurs in New Zealand or overseas and there is an indication of possible pandemic spread, the Ministry of Health becomes the lead agency for managing the pandemic. The Ministry of Agriculture and Forestry would, however, continue with incursion response activities, if there was disease in animals. Additional roles the Ministry of Agriculture and Forestry would have in any pandemic situation include assisting with welfare recovery, assisting with legal and border issues with other agencies, and assisting the Ministry of Health with laboratory testing.

Co-ordination arrangements nationally and locally

One of the critical components of an effective pandemic response is the relationship between the Ministry of Health, as lead agency, and the other government and local organisations that have an involvement in emergency management. In comparison to its role in the more common types of natural disaster, in a pandemic the health sector has the particular responsibility, through its lead agency (the Ministry of Health) and operationally through DHBs, to manage the country's response. The Ministry of Civil Defence and Emergency Management and designated local and group controllers also have responsibility for, and are critical to, the management of emergencies in the community.

Government agencies are responsible for leading their own responses and those of the sectors they serve, using the NZIPAP and generic material the Ministry of Health has produced to help them develop and disseminate information. Government agencies must be prepared to take up their sector leadership roles.

Roles and accountabilities of local agencies

At a local level DHBs, in accordance with national policy, involve DHB emergency planners or health co-ordinators,³ public health units and, where statutory public health measures are called for, the local medical officer of health in planning for and responding to pandemic influenza.

The Minister of Health can authorise the use of special powers under sections 70–72 of the Health Act 1956 to assist with the management of health or disease-related interventions in response to a pandemic.

While the Ministry of Health is accountable for implementing the NZIPAP, civil defence emergency management structures and resources will be available to support management of the pandemic in the community. Other Government agencies will continue to operate under their own legislation as they meet their responsibilities under the NZPIAP.

If an influenza pandemic occurs, a state of local or national emergency will only be declared under the CDEM Act in extreme circumstances. A declaration is not necessary for civil defence emergency management resources to be made available. The National Civil Defence Emergency Management Plan Order 2005, section 9(6)⁴ and (7)⁵ in the Schedule (which contains the National Civil Defence Emergency Management Plan) provide for such arrangements. Further information on civil defence emergency management declarations can be found within this document in Part C, Legislation.

In practice, the Government expects the local health co-ordinator, local medical officer of health and civil defence emergency management controller to ‘sit around the same table’, with the following accountabilities and responsibilities.

- The health co-ordinator is accountable for the local pandemic response and for providing the command and control necessary to deliver health response measures under the NZIPAP.
- The medical officer of health has statutory powers and is accountable for the exercise of those powers to the Director-General of Health.
- The civil defence emergency management controller is accountable for co-ordinating and directing community and civil defence responses, resources and functions under civil defence emergency management plans.

These three roles should work in partnership, jointly considering decisions and their consequences as far as possible. In terms of health imperatives, the decisions of the health co-ordinator will prevail because the co-ordinator is the representative of the lead agency, the Ministry of Health, which has overall accountability for implementing the NZIPAP.

It is not necessary for agencies to rely on the provisions in the CDEM Act to mount a response in a timely fashion.

³ ‘Health co-ordinator’ is the generic term this document uses to denote the person with overall accountability for the local or DHB response. Individual DHBs use different terminology for this role (eg, ‘DHB incident controller’ or ‘response co-ordinator’).

⁴ Section 9(6) in the Schedule to the National Civil Defence Emergency Management Plan Order 2005 states: ‘A range of agencies other than [the Ministry of Civil Defence and Emergency Management] may take the lead in an emergency. Indicative examples include the Ministry of Agriculture and Forestry (biosecurity), the Ministry of Health (pandemic), and the New Zealand Police (counter-terrorism). Aspects of such emergencies can be managed under the [CDEM Act] and using parts of this [National Civil Defence Emergency Management Plan]. In these cases, the responsibilities of the lead agency are in no way diminished even though a state of local or national emergency is declared under the Act to support that lead agency’.

⁵ Section 9(7) states: ‘Civil defence emergency management arrangements may be activated to support lead agencies if these arrangements are included in those agencies’ plans’.

An important consideration in managing pandemic influenza is the use of established organisational structures and accountabilities.

The detail for delivery operations will be determined at the local level to reflect local and regional circumstances, but should conform to the accountabilities outlined above.

Cross-reference and supporting material

NZIPAP 2010: Part C, Legislation

Co-ordinated Incident Management System

All New Zealand operational and response agencies have adopted the CIMS for managing emergencies. This system prioritises teamwork in emergency management by sharing common terminology, using a modular organisational structure, integrating communications, using common action plans, ensuring a manageable span of control and sharing resources. Since its inception in New Zealand in 1998, the CIMS has improved efficiency in the management of emergencies, particularly in multi-agency responses.

Under the CIMS, co-ordination is based on four components forming the basis of response to a routine incident, major event or major disaster:

- command/control
- planning and intelligence
- operations
- logistics.

Response teams within the Ministry of Health and DHBs will make use of these organisational structures to manage a pandemic emergency. Other Government agencies will use the same structures, and the National Crisis Management Centre may be activated.

Cross-references and supporting material

National Health Emergency Plan (Ministry of Health 2008c)

The New Zealand Co-ordinated Incident Management System (New Zealand Fire Service Commission 1998)

National Crisis Management Centre

The National Crisis Management Centre is a secure, centralised facility for information gathering and management, strategic-level oversight, decision-making and the co-ordination of national responses. In an emergency the centre facilitates an all-of-government response by supporting government crisis management arrangements.

The Officials Committee for Domestic and External Security Co-ordination will activate the National Crisis Management Centre on the recommendation of the lead agency during an emergency requiring an all-of-government response.

Cross-references and supporting material

Guide to the National Civil Defence Emergency Management Plan (MCDEM 2009b)

National Health Emergency Plan (Ministry of Health 2008c)

Health sector Emergency Management Information System

The New Zealand health sector's Emergency Management Information System is the primary tool for managing information in emergency operations centres during significant incidents and emergencies at local, regional and national levels. The system enables secure, real-time information sharing during a crisis such as pandemic influenza. The Emergency Management Information System incorporates a range of systems and applications and is under continual development.

The Emergency Management Information System should not replace oral communication between agencies. It operates according to the concept that, in emergency operations centres, 'voice' is used to 'control' and 'data' is used to 'co-ordinate' at all levels.

The Emergency Management Information System gives DHBs, public health units, ambulance services and other key health responders a logging and task-tracking system for managing local response to an incident. In addition, the system includes templates for standardising situation reports and intelligence reports. It allows for the development of status boards, which multiple agencies can update simultaneously. During the influenza A (H1N1) 2009 response, this proved an effective means of gathering and supplying information on school closures, DHB status and flight arrivals.

Giving other response agencies (such as those involved in civil defence emergency management and border management) access to the Emergency Management Information System will enhance emergency response co-ordination.

Cross-reference and supporting material

Information about the 2009 Emergency Management Information System is available on the Ministry of Health Emergency Management web page. (Ministry of Health 2009b)

Intersectoral Response

Intersectoral Pandemic Group work streams

Each Government agency, informed and directed by the Ministry of Health as lead agency, is responsible for leading planning, preparedness and response in the sectors it serves. Agencies also play an important role in intelligence: for example by tracking workforce or student absence, movements at the border and impacts on the economy and critical infrastructure. For the purposes of emergency management, it is important that agencies carry out these responsibilities in a well co-ordinated fashion.

The Ministry of Health engages with the wider government sector through the Intersectoral Pandemic Group, which co-ordinates 11 work streams established to plan for and respond to a pandemic. These work streams address critical areas of the national pandemic response. Lead agencies have responsibility for particular streams, within which agencies with operational roles in a pandemic response will work together (or will establish new work streams where appropriate) to ensure an integrated and co-ordinated interagency response (see Table 3). For example, the New Zealand Customs Service leads the Border work stream. This work stream also involves the Aviation Security Service, the Maritime Safety Authority, port and airport agencies, MAF Biosecurity New Zealand and other border management agencies.

Table 3: Intersectoral Pandemic Group work streams

Work stream	Work stream lead agency
Health	Ministry of Health
Biosecurity	Ministry of Agriculture and Forestry
Law and order and emergency services	New Zealand Police
Civil defence emergency	Ministry of Civil Defence and Emergency Management
Welfare	Ministry of Social Development
Education	Ministry of Education
Border	New Zealand Customs Service
External	Ministry of Foreign Affairs and Trade
Economy	The Treasury
Infrastructure	Ministry of Economic Development
Workplaces	Department of Labour

During a pandemic, multi-agency groups will also address all-of-government communications (led by the Ministry of Health), legislation issues (led by the Ministry of Health) and co-ordination (led by the Department of the Prime Minister and Cabinet).

The following section provides more information about the scope of each of the 11 Intersectoral Pandemic Group work streams.

Health work stream

Agencies

Central government agencies – Ministry of Health (lead)

Other agencies – DHBs, DHB-contracted health service providers, national service providers

Legislation

Epidemic Preparedness Act 2006

Health Act 1956

Health (Burial) Regulations 1946

Health (Infectious and Notifiable Diseases) Regulations 1966

Health Practitioners Competence Assurance Act 2003

Health (Quarantine) Regulations 1983

International Health Regulations 2005

Medicines Act 1981

New Zealand Public Health and Disability Act 2000

Public Health Bill

Key documents

National Health Emergency Plan (Ministry of Health 2008c)

The NZIPAP

DHB pandemic plans (21)

Regional co-ordination plans (four)

Websites

Ministry of Health, Emergency Management: <http://www.moh.govt.nz/emergencymanagement>

Ministry of Health, Pandemic Influenza: <http://www.moh.govt.nz/pandemicinfluenza> (Ministry of Health 2009e)

WHO, Pandemic Preparedness: <http://www.who.int/csr/disease/influenza/pandemic>

Roles and responsibilities

Ministry of Health

The Ministry of Health is the lead agency for planning for and responding to a pandemic on a national scale. The Ministry of Health's particular responsibilities in the response phase include:

- activating a national emergency response, including activating and running the National Health Co-ordination Centre
- maintaining standard operating procedures for the National Health Co-ordination Centre that clearly identify roles and responsibilities consistent with the CIMS organisational strategy identified in the National Health Emergency Plan

- ensuring sufficient staff are trained and exercised to participate in the National Health Co-ordination Centre at short notice, and maintaining a knowledge base on pandemic planning and response
- undertaking national intelligence and planning, including liaising with, and reporting to, WHO and other international bodies responsible for providing high-level advice and recommendations to national authorities
- convening advisory groups and disseminating clinical and public health advice nationally
- providing information and advice to Ministers
- liaising nationally with, and advising, other Government agencies
- advising the DESC system to activate the National Crisis Management Centre if necessary
- collating information for dissemination and use in New Zealand with the support of the best expert advice available
- providing inter-regional support for health services
- overseeing the health sector response nationally to ensure consistency of advice and action across the country in all pandemic phases
- providing public information, including through public awareness and information campaigns, telephone advice lines and the internet, and links to information such as travel advisories that border control agencies produce
- instigating and standing down universal or targeted public health assessments
- co-ordinating services and resources nationally, as required.

District Health Boards

District Health Boards are the lead agencies for planning for and responding to a pandemic on a local and regional level. A DHB's particular responsibilities during the response include:

- co-ordinating with the medical officer of health and civil defence emergency management (CDEM) controller in its region
- providing appropriate support to public health units, so they can carry out their core functions
- implementing its major incident and emergency plan or pandemic plan, as necessary, and contributing to implementation of the applicable regional incident co-ordination plan
- implementing instructions, advice and guidelines issued by the Ministry of Health through the regional co-ordination team
- ensuring hospitals and health services function to the fullest possible extent during and after the emergency, including infection prevention and control and laboratory capacities
- ensuring community-based health services are available to meet increased demand for assessments, including the establishment of community-based assessment centres (CBACs) as required
- implementing vaccination campaigns
- using information produced by the Ministry in communicating with local communities, agencies and providers

- communicating with and supporting health and disability providers in its region, including ambulance services, primary care providers, aged care providers, non-governmental organisations and Māori and Pacific providers
- liaising with other agencies at a local level, as appropriate (including local government, CDEM agencies, education providers, welfare agencies, border agencies and national health groups with local representation)
- contributing to the regional co-ordination team, and implementing regional decisions at a local level.

Public health units

Public health units, based in DHBs, are responsible for:

- developing and implementing plans for public health emergencies
- maintaining and enhancing surveillance of public health
- maintaining and enhancing border health response activities
- investigating ‘cases’ (sick people) and ‘contacts’ (people who may have been exposed to the virus, but who have not yet developed, or may not develop, symptoms)
- using control measures (including statutory powers) as necessary
- integrating public health planning and response with DHB planning and response
- accessing support from DHBs and other agencies to maintain core functions
- advising local agencies and lifeline utilities about the public health aspects of their planning and response
- investigating, assessing and responding to events involving risks to public health
- ensuring advice and action are consistent across the country.

Ambulance providers

Ambulance providers will be responsible for the continuation of their service and the appropriate management of increased demand during a pandemic. Ambulance providers will also provide representatives for DHB regional groups and CDEM groups, as required.

Environmental Science and Research Ltd

Environmental Science and Research Ltd (ESR) is responsible for co-ordinating national, real-time notifiable disease surveillance and data analysis, so transmission patterns throughout New Zealand can be monitored.

Environmental Science and Research’s laboratory at the National Centre for Biosecurity and Infectious Disease, Wallaceville, Upper Hutt, is the WHO National Influenza Centre and reference laboratory for New Zealand. This laboratory will maintain the capacity to isolate, diagnose and characterise a pandemic influenza virus in a high containment laboratory. In addition, ESR will serve as a key contact to facilitate communication among, and provide scientific advice to, agencies within New Zealand and internationally.

Other virology laboratories

There is a network of virology laboratories in New Zealand (including ESR) that will help to co-ordinate the testing required during a response.

Ongoing work

The health work stream is responsible for addressing five key areas, each with their own objectives:

- pandemic intelligence
- health and disability sector capability and capacity
- Ministry of Health logistics
- government and sector leadership and co-ordination
- public information management.

Biosecurity work stream

Agencies

Central government agencies

Ministry of Agriculture and Forestry (lead)

Legislation

Biosecurity Act 1993

Key documents

Memorandum of Understanding on Biosecurity Activities between Ministry of Agriculture and Forestry and Department of Conservation, Ministry of Fisheries and Ministry of Health (2005)

Policy for MAF's Response to Risk Organisms (Ministry of Agriculture and Forestry 2008)

Websites

Ministry of Agriculture and Forestry: <http://www.maf.govt.nz>

MAF Biosecurity New Zealand: <http://www.biosecurity.govt.nz>

The MAF Biosecurity New Zealand Knowledge Base: <http://biosecurity.govt.nz>

Roles and responsibilities

MAF Biosecurity New Zealand

MAF Biosecurity New Zealand is the business unit within the Ministry of Agriculture and Forestry responsible for monitoring animal populations for influenza and responding to outbreaks in animals. MAF Biosecurity New Zealand will also report to the World Organisation for Animal Health, the international veterinary agency responsible for international animal health issues.

Ongoing work

MAF Biosecurity New Zealand is the lead agency for planning for and responding to an outbreak of highly pathogenic influenza in animal species. It also has a role in the response phase to human pandemic influenza. In particular, MAF Biosecurity New Zealand is responsible for:

- surveillance of influenza in animals
- responding with investigation and laboratory diagnosis to public enquiries about sick animals, including through the pest and exotic disease hotline (0800 80 9966)
- preparing technical and other information on influenza in animals
- preparing technical response policies considering such matters as detection, vaccination, culling and disposal
- establishing and implementing import health standards to control the risk of notifiable influenza in animals entering New Zealand through the importation of animal material.

Law and order and emergency services work stream

Agencies

Central government agencies

New Zealand Police (lead), New Zealand Defence Force, New Zealand Fire Service, Ministry of Justice, Department of Corrections, New Zealand Parole Board, Ministry of Civil Defence and Emergency Management, Ambulance New Zealand, Department of the Prime Minister and Cabinet

Legislation

Civil Defence Emergency Management Act 2002

Corrections Act 2004

Defence Act 1990

Epidemic Preparedness Act 2006

Fire Service Act 1975

Forest and Rural Fires Act 1977

Policing Act 2008

Key documents

Influenza Pandemic Medical, Human Resources and Personal Protective Equipment Guide (New Zealand Fire Service 2006)

National Influenza Pandemic Action Plan (New Zealand Fire Service 2008a)

National Pandemic Influenza Action Plan (New Zealand Police 2008)

Regional Influenza Pandemic Action Plan (New Zealand Fire Service 2008b)

Websites

New Zealand Police: <http://www.police.govt.nz>

New Zealand Fire Service: <http://www.fire.org.nz>

Roles and responsibilities

New Zealand Police

Police responsibilities in a pandemic are the same as in any emergency. Police must:

- maintain law and order
- respond to requests from the medical officer of health
- take all measures within their power and authority to protect life and property, and to assist with the movement of rescue, medical, fire and other essential services
- assist the coroner as required by the Coroners Act 1988
- co-ordinate movement control over land, including communications and traffic control.

New Zealand Defence Force

During a pandemic the New Zealand Defence Force will offer aid to other agencies to the greatest extent possible. However, in addition to a possible reduction through illness of available personnel, the resources of the New Zealand Defence Force may be compromised by other commitments, including overseas, and responsibilities for other Government-directed contingency tasking.

Where available, New Zealand Defence Force equipment and personnel may be able to assist in local or regional situations where normal services are under pressure. In general, government agencies do not assume substantial assistance would be available from the New Zealand Defence Force on the basis that its help, while extremely valuable, would be in addition to other arrangements included in plans. The priority tasks of the New Zealand Defence Force will be centrally controlled to meet government-directed priorities.

New Zealand Fire Service

Fire service roles and responsibilities in a pandemic are the same as they are in any emergency:

- firefighting to control, contain and extinguish fires
- containing releases and spills of hazardous substances
- undertaking urban search and rescue
- redistributing water for specific needs (eg, to preserve health and hygiene in stricken areas).

Ministry of Justice

During an influenza pandemic, the Ministry of Justice's role is to provide services to support law and order. It is responsible for providing essential court services, coronial services, support to the judiciary and policy advice, and will also advise and inform the Ministers for Courts and Justice on the provision of essential services and other matters that may arise.

Department of Corrections

The Department of Corrections' role in a pandemic response is to ensure the safe and secure containment of New Zealand's prisons and the continued monitoring of high-risk offenders.

New Zealand Parole Board

If an epidemic management notice is in force in respect of an influenza pandemic, the New Zealand Parole Board can make release decisions about offenders on the basis of documents only, or by the chairperson or a panel convenor acting alone.

Ministry of Civil Defence and Emergency Management

The Ministry of Civil Defence and Emergency Management will support CDEM groups, their controllers and local government to address the expected consequences of pandemic influenza on their communities.

Ambulance providers

Ambulance providers will be responsible for the continuation of their service and the appropriate management of any increased demand during a pandemic. Ambulance providers will also provide representatives for DHB regional groups and CDEM groups, as required.

Department of the Prime Minister and Cabinet

The Department of the Prime Minister and Cabinet serves the Governor-General, the Prime Minister and the Cabinet, and helps to co-ordinate the work of core public service departments and ministries. Its role in pandemic influenza planning and response is to assist in co-ordinating all-of-government activities through the DESC system – the mechanism used to formulate advice for Cabinet and through which strategic direction from the Government is channelled for implementation.

Department of Internal Affairs

The Department of Internal Affairs' major roles and responsibilities during an influenza pandemic are to provide:

- executive government support (eg, continued support to members of the Executive, publication of the Gazette, and maintenance of the translation service and the Visits and Ceremonials Office)
- identity services (eg, births, deaths and marriages; and passports and citizenship in support of passports, if required)
- policy support for local government and community and regulation and compliance, if required
- support and resources for the Ministry of Civil Defence and Emergency Management (which is a business unit of the department).

Ongoing work

The focus of the law and order and emergency services work stream is to plan for the impact of a pandemic on law and order and emergency services agencies in New Zealand and, in a pandemic, to maintain law and order, support border agencies, and contribute towards the control or elimination of pandemic influenza.

The objectives of this work stream are to:

- determine national and regional law and order responses
- identify areas in which health agencies, the New Zealand Police and other agencies and their designated officers (particularly medical officers of health) will require support
- update New Zealand Police national and district emergency plans
- develop internal and external New Zealand Fire Service contingency plans
- assist in the Department of Corrections' internal and external planning
- work with other agencies to clarify the role of the New Zealand Defence Force between and during pandemics, and identify trigger points for that role.

The work stream is convened as required to address law and order and emergency services planning and response issues.

Civil defence emergency management work stream

Agencies

Central government agencies

Ministry of Civil Defence and Emergency Management (lead), Ministry of Health, Ministry of Economic Development, Ministry of Social Development, Ministry of Transport

Other agencies

CDEM groups, local authorities, Local Government New Zealand, the fast-moving consumer goods (FMCG) sector

Legislation

Civil Defence Emergency Management Act 2002

National Civil Defence Emergency Management Plan Order 2005

Key documents

New Zealand Local Authority and CDEM Group Pandemic Planning Guide (MCDEM 2006c)

Guide to the National Civil Defence Emergency Management Plan (MCDEM 2009b)

16 CDEM group plans

Guide for the CDEM Group Plan Review. Director's guidelines for the CDEM sector (in development)

FMCG sector contingency plan(s) (proposed)

Websites

Ministry of Civil Defence and Emergency Management: <http://www.civildefence.govt.nz>

Get Ready, Get Through: <http://www.getthru.govt.nz>

Roles and responsibilities

Ministry of Civil Defence and Emergency Management

The roles and responsibilities of the Ministry of Civil Defence and Emergency Management in the response phase, in support of the Ministry of Health as the lead agency, are to:

- support CDEM groups and local government to manage the consequences of pandemic influenza on their communities
- facilitate local CDEM support to the FMCG sector to enable the FMCG sector to maintain sufficient food and grocery supplies to point of sale during a pandemic
- co-ordinate the CDEM welfare, infrastructure and lifeline utility aspects of a pandemic.

Ministry of Health

See information on the health work stream above.

Ministry of Economic Development

The Ministry of Economic Development will provide advice on measures to mitigate impacts on energy and information communication technology services.

Ministry of Social Development

See information on the welfare work stream above.

Ministry of Transport

See information on the infrastructure work stream above.

Civil Defence Emergency Management Groups

The role of CDEM Groups in the response phase, in support of the Health-led response, is to prioritise and co ordinate the regional CDEM interagency responses to the consequences of pandemic influenza necessary to support communities. They do this through:

- providing or arranging the provision of suitably trained and competent personnel (including volunteers) and an organisational structure for CDEM Group in its area
- providing, arranging the provision of, or making available materials, services, information and any other resources necessary to support the health-led response to pandemic influenza
- responding to and managing the non-health CDEM adverse effects of pandemic influenza in its area
- reporting on the co-ordination of CDEM welfare, infrastructure and lifeline utility aspects of a pandemic.

Local authorities

The roles and responsibilities of local authorities in the response phase, in support of the health-led response, will be to provide local leadership, maintain essential local government services, provide local CDEM response to pandemic influenza and support the activities of their CDEM Group to address the community consequences of pandemic influenza.

Fast-moving consumer goods sector

Representatives of the FMCG sector will co-ordinate during a pandemic event to maintain essential food and grocery supplies to point of sale. Co-ordinating organisations include, but are not limited to, the New Zealand Food and Grocery Council, the New Zealand Retailers Association, Retail Meat New Zealand, Fonterra, the New Zealand Fruit and Vegetable Growers Federation, Progressive Enterprises, Foodstuffs, Colgate Palmolive and Goodman Fielder.

Ongoing work

The CDEM work stream is focused on facilitating the development of plans to identify and deal with CDEM pandemic preparedness and response issues. This includes supporting local government to address its roles in providing community leadership and managing community services and assets, and their CDEM functions in support of the health sector.

The objectives of the CDEM work stream are to:

- support local government to provide ongoing local government leadership and governance in their communities
- support CDEM Groups to develop contingency plans to identify and deal with regional CDEM pandemic preparedness and response roles
- support the FMCG sector to develop plans to maintain the FMCG supply chain and retail operations
- develop a CDEM support plan for a pandemic response
- co-ordinate the CDEM welfare, infrastructure and lifeline utility aspects of a pandemic response.

Part C, Manage It, Welfare arrangements

Welfare work stream

Agencies

Central government agencies

Ministry of Social Development (lead), Ministry of Health, Ministry of Civil Defence and Emergency Management, Ministry of Agriculture and Forestry, Housing New Zealand Corporation, Accident Compensation Corporation (ACC), Te Puni Kōkiri, Ministry of Education, Ministry of Tourism, Ministry of Foreign Affairs and Trade, Inland Revenue Department, Department of Labour

Non-governmental agencies

New Zealand Red Cross, St John, Salvation Army, Victim Support, Insurance Council of New Zealand

Legislation

Children, Young Persons, and Their Families Act 1989

Civil Defence Emergency Management Act 2002

Injury Prevention, Rehabilitation, and Compensation Act 2001

Ministry of Māori Development Act 1991

Social Security Act 1964

Tax Administration Act 1994

Key documents

Individual welfare agencies' pandemic plans and guidelines

Welfare in an emergency: Director's Guideline (MCDEM 2010)

Planning for Individual and Community Recovery in an Emergency Event: Principles for psychosocial support. National Health Emergency Plan (Ministry of Health 2007b)

Arrangements for Welfare Support during an Influenza Pandemic (2010)

Websites

Ministry of Social Development: <http://www.msd.govt.nz>

Ministry of Civil Defence and Emergency Management: <http://www.civildefence.govt.nz>

Ministry of Health: <http://www.moh.govt.nz>

Roles and responsibilities

Ministry of Social Development

The Ministry of Social Development is responsible for:

- convening and chairing the National Welfare Co-ordination Group (NWCG)
- continuing ongoing payments to existing clients
- providing financial assistance to new clients
- providing care and protection, youth justice and residential services
- working with other Government agencies and non-Government agencies to provide a co-ordinated welfare response
- activating the 0800 Government Helpline, which will provide immediate, co-ordinated information about the services and assistance available to people affected by an adverse event or emergency (declared or non-declared).

Ministry of Health

Within the welfare work stream, the Ministry of Health's primary role is to:

- promote evidence-based best practice and principles for psychosocial support interventions
- liaise with DHB service providers (including DHB mental health services) and other health and disability sector providers (for example primary health organisations and non-governmental organisations) to facilitate the co-ordination of planning and interventions during all phases (see Part B).

The Ministry of Health is also responsible for working with NWCG agencies to establish whether DHBs, health and disability service providers and the public have a need for further information or guidance concerning welfare arrangements and psychosocial support issues.

Ministry of Civil Defence and Emergency Management

See information on the civil defence emergency management work stream above.

Ministry of Agriculture and Forestry

As part of the welfare work stream, MAF Biosecurity New Zealand undertakes a liaison role between the NWCG and the rural sector. MAF Biosecurity New Zealand is primarily concerned with the impacts on, and support mechanisms available for, the rural sector.

Accident Compensation Corporation

The Accident Compensation Corporation's primary responsibility will be to maintain its activities in accordance with the Injury Prevention, Rehabilitation, and Compensation Act 2001. Its Influenza Pandemic Business Continuity Plan defines the activities from first notification of human-to-human transmission of pandemic influenza to closure of ACC's businesses because staff are unable to continue their work.

ACC will, to the extent possible, ensure:

- people can continue to lodge claims
- clients can receive quality health and rehabilitation services
- clients continue to receive weekly compensation payments

- seriously injured clients are as well supported and cared for as possible
- health service providers are paid for the services they provide to ACC clients.

The Accident Compensation Corporation will also prioritise communication with clients and payments to staff. At the onset of a pandemic, ACC will form a pandemic response team to ensure all activities and available resources are co-ordinated and engaged to meet defined goals.

Department of Labour

See information on the border and workplaces work streams below.

Te Puni Kōkiri

Te Puni Kōkiri's role is to:

- engage with whānau, hapū, iwi, Māori individuals, Māori organisations and Māori communities to ensure their needs are being met
- work, as required, with the relevant Government agencies to facilitate and co-ordinate support for Māori
- assist with the preparation and distribution of key communication messages to whānau, hapū, iwi, Māori individuals, Māori organisations and Māori communities.

Ministry of Education

As part of the welfare work stream, the Ministry of Education acts as a liaison point for the wider education sector (see information on the education work stream below).

Ministry of Tourism

In a pandemic the Ministry of Tourism role is to act as a liaison point for the wider tourism sector, including providing information to visitors about support that may be available if required. The Ministry of Tourism is part of the Ministry of Economic Development.

Ministry of Foreign Affairs and Trade

See information on the external work stream below.

Inland Revenue Department

See information on the economy work stream below.

New Zealand Red Cross, St John, Salvation Army, Victim Support, Insurance Council of New Zealand

Non-governmental agencies play an important role in the welfare work stream. Depending on the scale of the event and the specific welfare arrangements in existence at the local level, such agencies perform both an advisory role at the national level and an operational role as part of welfare advisory groups (WAGs) and local welfare committees at a local level. Input from these agencies is critical.

Ongoing work

The NWCG is a national, strategic welfare group that plans, supports and helps co-ordinate welfare activity when assistance or support is required at a national level. At the community level, welfare is planned for and delivered through the CDEM structure, which includes local welfare committees and WAGs. The NWCG supports the local and regional response through representation on these groups.

In pandemic planning, the objectives of the NWCG are to:

- co-ordinate the provision of an integrated Government welfare response
- support Government agencies to identify and address welfare issues such as the provision of accommodation, the delivery of food to vulnerable households, financial assistance and the care of children
- ensure welfare agencies continue to provide essential services during a pandemic.

See also Part C, Manage It, Welfare arrangements

Education work stream

Agencies

Central government agencies

Ministry of Education (lead), New Zealand Qualifications Authority, Education Review Office, New Zealand Teachers Council, Tertiary Education Commission, Career Services

Other agencies

Early Childhood Education Services Working Party, Schools Working Party, Tertiary Working Party, 11 divisions of the Ministry of Education's National Office, four regional offices (serving seven local and 49 district offices)

Legislation

Biosecurity Act 1993

Education Act 1989

Education Standards Act 2001

Key documents

Pandemic Planning Kit (Ministry of Education 2008), which includes:

- a pandemic planning guide for schools, early childhood education services and tertiary education organisations
- templates for:
 - a pandemic plan for education organisations
 - an action plan for hostels
 - an action plan for international students
 - communications guidelines.

Internal Ministry of Education planning documents, including:

- the Ministry of Education Managers' Pandemic Planning Guide
- the Strategic Management Group Pandemic Response Plan
- pandemic management policy

Websites

Ministry of Education, Pandemic Preparation: <http://www.minedu.govt.nz/pandemicplanning>

Roles and responsibilities

Ministry of Education

The role of the Ministry of Education is to co ordinate the response for the education sector and ensure response arrangements are publicised for:

- early childhood education services
- schools
- tertiary education organisations
- education agencies (the Ministry of Education, the Education Review Office, the New Zealand Qualifications Authority, Career Services, the New Zealand Teachers Council and the Tertiary Education Commission).

Ongoing work

The Education work stream co-ordinates pandemic planning and response for the education sector, including early childhood education services, schools, tertiary education organisations, and education agencies. This involves about one million people, including staff and students.

The objectives of the education work stream are to help education agencies and providers to:

- prepare suitable response plans
- incorporate their pandemic plans in their organisation's emergency management plan
- identify their essential services in a pandemic and take steps to ensure these services can be effectively carried out in a pandemic.

See also Part C, Cluster control, Closure of education institutions to students and children

Border work stream

Agencies

Central government agencies

New Zealand Customs Service (lead), Ministry of Health, Ministry of Transport, Department of Labour (Immigration New Zealand), Aviation Security Service (AvSec), Maritime New Zealand, Civil Aviation Authority, Ministry of Foreign Affairs and Trade, Ministry of Agriculture and Forestry, New Zealand Defence Force, New Zealand Police, Ministry of Tourism, The Treasury, Department of the Prime Minister and Cabinet

Legislation

Customs and Excise Act 1996

Epidemic Preparedness Act 2006

Health Act 1956

Health (Quarantine) Regulations 1983

Immigration Act 2009⁶

International Health Regulations 2005

Key documents

Regional and local airport action plans

Regional and local marine port action plans

The NZIPAP 2010

Draft Notice to Airmen (not for public release)

Decision-making templates (not for public release)

Quarantine options paper (not for public release)

Websites

AvSec: <http://www.avsec.govt.nz>

Civil Aviation Authority: <http://www.caa.govt.nz>

Department of Labour, Immigration New Zealand: <http://www.immigration.govt.nz>

Maritime New Zealand: <http://www.maritimenz.govt.nz>

Ministry of Foreign Affairs and Trade: <http://www.mfat.govt.nz>

Ministry of Foreign Affairs and Trade, Safe Travel: <http://www.safetravel.govt.nz>

Ministry of Transport: <http://www.transport.govt.nz>

New Zealand Customs Service: <http://www.customs.govt.nz>

⁶ Planned for enactment in April 2010. Until enacted the Immigration Act 1987 applies.

Roles and responsibilities

New Zealand Customs Service

The New Zealand Customs Service chairs the multi-agency Border Working Group, which is responsible for developing border management options that can be used during a pandemic influenza threat. These options range from enhanced assessment to restrictions on trade and travel.

In the response phase, the New Zealand Customs Service will be involved in implementing such measures at airports and seaports. Many of the responses will be at the direction of health officials under Ministry of Health legislation, but certain powers under the Customs and Excise Act 1996 may also be used.

Ministry of Health

As a member of the Border Working Group, the Ministry of Health is responsible for national intelligence and planning, including liaison with WHO and the other international bodies responsible for providing high-level advice and recommendations to national authorities, and providing public information, including through 0800 advice lines and the internet, and facilitating public access to travel advisories that border control agencies produce.

Ministry of Transport

The Ministry of Transport will be among those agencies assisting the Ministry of Health and the New Zealand Customs Service in the Border Working Group by providing advice to the group and liaising with the transport sector. It will also prepare appropriate Notices to Airmen detailing decisions about international air traffic to and from New Zealand.

Department of Labour – Immigration New Zealand

Immigration New Zealand, a business unit in the Department of Labour, will support the Ministry of Health with its response in a pandemic. Immigration New Zealand's main responsibility at airports will be to manage the entry of passengers with Advanced Passenger Processing, which can be done by region or all inbound flights. To help manage the immigration risk, Immigration New Zealand will help to facilitate arrival processing with referrals from the primary line.

Aviation Security Service

The Aviation Security Service will assist with operational aspects of a pandemic response at international airports by, for example, carrying out perimeter patrols and foot patrols and providing airside escorts to ensure aviation security is not compromised. Additionally, AvSec may assist the New Zealand Customs Service with other airport-related tasks if it has resources available.

Maritime New Zealand

Maritime New Zealand will provide advice to the Border Working Group on ship and port safety and security.

Civil Aviation Authority

In a pandemic when a decision has been made to limit or halt international air traffic, the Civil Aviation Authority will issue Notices to Airmen as appropriate. It will also provide advice to health authorities on the ability of aircraft to use aerodromes if aircraft need to be redirected after their arrival in New Zealand.

Ministry of Foreign Affairs and Trade

See information on the external work stream below.

Ministry of Agriculture and Forestry

See information on the biosecurity work stream above.

New Zealand Defence Force

See information on the law and order and emergency services work stream above.

New Zealand Police

See information on the law and order and emergency services work stream above.

Ministry of Tourism

The Ministry of Tourism's role in a pandemic is to provide advice and assistance to the New Zealand Customs Service and the Ministry of Health, and to liaise with and disseminate information to the wider tourism sector, including visitors and intending visitors.

The Treasury

See information on the economy work stream below.

Department of the Prime Minister and Cabinet

See information on the law and order and emergency services work stream.

Environmental Science and Research Ltd

See information on the health work stream above.

Ongoing work

The border work stream is primarily focused on the Keep It Out phase of the New Zealand pandemic response; that is, preventing or delaying a pandemic influenza outbreak from reaching the country. A range of border management options is possible. Priority will be accorded to responses at the air border first, followed by the sea border (considered more manageable).

The objectives of the border work stream are to:

- maintain and enhance possible border responses to a range of pandemic scenarios
- maintain a flexible suite of responses that can be used independently or in combination, to manage flows of travel and trade in order to limit the spread and impact of pandemic influenza
- consider decision-making processes, logistical issues, legislative powers or restrictions, and the costs and implications of the proposed response
- identify trigger points and understand the roles of other responsible agencies.

See also Part C, Containment Measures, Border management

External work stream

Agencies

Central government agencies

Ministry of Foreign Affairs and Trade (lead), Department of the Prime Minister and Cabinet, Ministry of Health, Ministry of Pacific Island Affairs, New Zealand Defence Force, New Zealand Police, Ministry of Agriculture and Forestry, New Zealand Customs Service, MAF Biosecurity New Zealand, New Zealand Food Safety Authority, Tourism New Zealand, Ministry of Education, Ministry of Tourism.

Legislation

None applicable to a pandemic

Key documents

Information about pandemic influenza for New Zealanders overseas is available from the Ministry of Foreign Affairs and Trade website, Safe Travel, <http://www.safetravel.govt.nz>

Consular Response Plan (not a public document)

External Communications Plan (not a public document)

Pandemic plans for New Zealand posts overseas (not public documents)

Websites

Ministry of Foreign Affairs and Trade: <http://www.mfat.govt.nz>

Ministry of Foreign Affairs and Trade, Safe Travel: <http://www.safetravel.govt.nz>

Roles and responsibilities

Ministry of Foreign Affairs and Trade

The Ministry of Foreign Affairs and Trade is responsible for:

- reporting on international influenza developments and liaising with other governments on pandemic response measures
- providing pandemic influenza-related information to New Zealanders abroad
- providing consular assistance to New Zealanders abroad affected by the pandemic
- providing foreign missions in New Zealand information to help them provide consular assistance to their nationals during a pandemic
- facilitating New Zealand's contribution to international efforts to prepare for and respond to pandemic influenza, including:
 - providing development assistance to partners to support preparedness for influenza pandemics
 - responding to requests for assistance from developing countries, in conjunction with other countries and agencies.

Department of the Prime Minister and Cabinet

See information on the law and order and emergency services work stream.

Ministry of Pacific Island Affairs

The Ministry of Pacific Island Affairs' role in the response phase will be to provide appropriate agencies with advice and support to ensure key messages reach Pacific communities around New Zealand in a culturally responsive manner.

Ministry of Health, New Zealand Defence Force, New Zealand Police, Ministry of Agriculture and Forestry and New Zealand Customs Service

As part of the external work stream, the Ministry of Health, New Zealand Defence Force, New Zealand Police, Ministry of Agriculture and Forestry and New Zealand Customs Service provide advice and assistance as required to the Ministry of Foreign Affairs and Trade as the lead agency.

Ministry of Tourism

As required, leads a tourism workstream including Tourism New Zealand, the Tourism Industry Association, the Inbound Tour Operators Council, the Ministry of Economic Development (Major Events), the Ministry of Education (International Education), SPARC, the Ministry of Foreign Affairs and Trade (Economic), the Ministry of Health (Communications). The role of this group is to assess the impact of the pandemic on the tourism and education sectors and to develop and disseminate targeted information to international visitors, intending visitors and the wider tourism sector network.

Ongoing work

The external work stream focuses on the international dimension of New Zealand's pandemic planning. Aided by reporting from New Zealand's foreign missions abroad, the group monitors international planning efforts, and in the event of pandemic influenza will monitor global spread of pandemic influenza and international efforts to respond to a pandemic. The work stream focuses on Pacific planning and co-ordinating New Zealand's international activities.

The objectives of the external work stream are to:

- develop a consular response for New Zealanders overseas
- prepare New Zealand posts overseas to respond to a pandemic
- develop an external communications strategy
- co-ordinate New Zealand's international activities on pandemic influenza
- facilitate New Zealand's contribution to international efforts to prepare for and respond to pandemic influenza, including by:
 - providing development assistance to partners to support preparedness for influenza pandemics
 - responding to requests for assistance from developing countries, in conjunction with other countries and agencies.

Economy work stream

Agencies

Central government agencies

New Zealand Treasury (lead), Reserve Bank of New Zealand, Inland Revenue Department, Ministry of Economic Development, Ministry of Social Development, Department of Labour, Ministry of Foreign Affairs and Trade, Ministry of Tourism, State Services Commission, Ministry of Civil Defence and Emergency Management, Ministry of Health

Legislation

Public Finance Act 1989 (section 25)

Key documents

Impacts of a Potential Influenza Pandemic on New Zealand's Macroeconomy (Douglas et al 2006)

Influenza Pandemic Planning: Business continuity planning guide (Ministry of Economic Development 2005)

Websites

Ministry of Social Development: <http://www.msd.govt.nz>

The Treasury, Pandemic Issues: <http://www.treasury.govt.nz/economy/reports/pandemic>

Ministry of Economic Development: http://www.med.govt.nz/templates/MultipageDocumentTOC_14455.aspx

Roles and responsibilities

The Treasury

The Treasury is the Government's primary economic and financial advisor. Its pandemic influenza planning has included commissioning work looking at measures to mitigate the economic shock from a pandemic and encourage a rapid recovery, and contributing to working groups looking at more specific issues with significant economic implications.

The Treasury's primary role in the response phase of a pandemic will include the continued running of the Government financial system and advising on measures to mitigate economic impacts.

Reserve Bank of New Zealand

The Reserve Bank of New Zealand is responsible for providing physical currency (notes and coins) and operating the inter-bank settlement system that allows transactions between firms and households to be settled. It is also responsible for the conduct of monetary policy, foreign exchange intervention and supervision of the banking system. The Reserve Bank will ensure that core systems are maintained through any pandemic period, including, if necessary, pre-positioning currency supplies outside of Wellington.

Inland Revenue Department

The Inland Revenue Department plays a key role in the economic and social wellbeing of all New Zealanders by ensuring revenue is available to fund Government programmes and ensuring people receive the payments they are entitled to. Some normal compliance and information services may need to be suspended during a pandemic. However, to the greatest possible extent, the Inland Revenue Department will ensure that in the event of a pandemic revenue collection services are maintained and customers receive their entitlements.

Ministry of Economic Development

The Ministry of Economic Development is working across infrastructure sectors to help ensure key services continue to be provided during an influenza pandemic, with minimum disruption. It is also encouraging the business community at large to undertake pandemic business continuity planning. During the response phase, the Ministry of Economic Development will provide advice and assistance to the Treasury as the lead agency.

Ministry of Social Development, Department of Labour, Ministry of Foreign Affairs and Trade, Ministry of Tourism, State Services Commission, Ministry of Civil Defence and Emergency Management and Ministry of Health

These agencies will provide advice and assistance as required to the Treasury as the lead agency.

Ongoing work

The agencies in the economy work stream have looked at measures to mitigate the economic shock from a pandemic and encourage a rapid recovery. When required, these agencies also advise the Ministry of Health on specific pandemic planning measures, such as the purchase of pandemic vaccine.

The objectives of the economy work stream are to:

- protect the Government financial system – this involves contingency planning to ensure that Government payments keep running in a pandemic, and that the Treasury, the Inland Revenue Department, the Ministry of Social Development and other applicable agencies regularly update and review their business continuity plans
- maintain financial stability – the Reserve Bank of New Zealand is updating its business continuity plans and meeting with banks to discuss their preparedness and business continuity plans
- formulate macroeconomic policy – the Reserve Bank of New Zealand and the Treasury have examined the robustness of monetary and fiscal policy frameworks to withstand a potential shock of this nature and scale
- firms' preparedness – including work to assist firms with their preparedness to cope with disruptions to their supply chains and markets and other effects
- provide support to firms and households.

Infrastructure work stream

Agencies

Central government agencies

Ministry of Economic Development (lead), Ministry of Health, Ministry of Transport, Ministry of Civil Defence and Emergency Management

Legislation

Civil Defence Emergency Management Act 2002

Energy (Fuels, Levies and References) Act 1989

Health (Drinking Water) Amendment Act 2007

International Energy Agreement Act 1976

National Civil Defence Emergency Management Plan Order 2005

Petroleum Demand Restraint Act 1981

Key documents

Influenza Pandemic Planning: Business continuity planning guide (Ministry of Economic Development 2005)

Guide to the National Civil Defence Emergency Management Plan (MCDEM 2009b)

Oil Emergency Response Strategy (Ministry of Economic Development 2008)

Websites

Ministry of Economic Development: <http://www.med.govt.nz>

Ministry of Civil Defence and Emergency Management: <http://www.civildefence.govt.nz>

Ministry of Economic Development: http://www.med.govt.nz/templates/MultipageDocumentTOC_14455.aspx

Roles and responsibilities

Ministry of Economic Development

In the response phase of a pandemic, the Ministry of Economic Development will provide advice on measures to mitigate impacts on energy and information and communication technology services.

Ministry of Health

In the response phase of a pandemic, the Ministry of Health will advise on measures to mitigate impacts on the water and waste sectors.

Ministry of Transport

In the response phase of a pandemic, the Ministry of Transport will advise on measures to mitigate impacts on transport services, and activate its Transport Response Team to liaise with the transport sector about the status of critical transport infrastructure and services.

Ministry of Civil Defence and Emergency Management

In the response phase of a pandemic, the Ministry of Civil Defence and Emergency Management will co-ordinate lifeline utilities in accordance with the arrangements outlined in the National Civil Defence Emergency Management Plan Order 2005 and Guide to the National Civil Defence Emergency Management Plan (MCDEM 2009b).

Ongoing work

The Ministry of Economic Development is leading the infrastructure work stream across the energy, communications, transport and water and waste sectors to ensure that key infrastructure services continue to be provided during an influenza pandemic with minimal disruption.

The objectives of the infrastructure work stream are to:

- raise awareness among infrastructure providers of the value of continuity planning, through central agencies where practical
- encourage infrastructure providers to strengthen their business continuity plans to take account of human resource matters
- provide information to infrastructure providers to assist with their continuity planning
- receive briefings from infrastructure providers on the state of their readiness
- maintain relationships with key infrastructure providers and central agencies.

Workplaces work stream

Agencies

Central government agencies

Department of Labour (lead), State Services Commission, Ministry of Health, Ministry of Civil Defence and Emergency Management, Ministry of Economic Development, The Treasury

Other agencies

Business New Zealand and key sector networks, New Zealand Council of Trade Unions and affiliated unions

Legislation

Employment Relations Act 2000

Health and Safety in Employment Act 1992

Holidays Act 2003

Key documents

Influenza Pandemic Planning: Business continuity planning guide (Ministry of Economic Development 2005).

Department of Labour guides, presentations and other resources (accessible from the Department of Labour's website or from the Health and Safety website, or by telephoning 0800 20 90 20) to help employers and employees minimise the risk and impact of an influenza pandemic, including:

- Frequently Asked Questions
- *Minimising the Risk and Impact of an Influenza Pandemic on your Business: A practical guide for employers* (Department of Labour 2006)
- information to assist with business continuity planning
- detailed workplace health and safety guidance, including advice on infection, control and the use of personal protective equipment in workplace settings
- generic workplace scenarios illustrating possible control options by which workplaces can manage pandemic-related risks.

Websites

Department of Labour: <http://www.dol.govt.nz>

The Department of Labour's Health and Safety site: <http://www.osh.dol.govt.nz>

Ministry of Economic Development: http://www.med.govt.nz/templates/MultipageDocumentTOC_14455.aspx

Department of Labour information on workplace health and safety and employment relations issues is also included on the State Services Commission website: <http://www.ssc.govt.nz>

Roles and responsibilities

Department of Labour

The Department of Labour, in consultation with key Government agencies and stakeholder groups (in particular Business New Zealand and the New Zealand Council of Trade Unions), has prepared employment relations and health and safety guidance material for workplaces to help them to plan for, prepare for, respond to and recover from a pandemic.

In the response phase, the Department of Labour will be responsible for:

- reviewing and maintaining the currency of key messages to employers on responding to a pandemic
- responding to enquiries and complaints from workplace participants.

State Services Commission

The role of the State Services Commission is to give advice to state services agencies. It advises agencies on pandemic-related issues; in particular on:

- guidance that relates to attendance in the workplace including an employee's refusal to work during a pandemic, remote working arrangements (usually working from home)
- leave arrangements and salary payments during a pandemic

- co-ordinating staff to provide wider support during a pandemic to help maintain essential services, by undertaking alternative duties
- approaches to take if the medical officer of health closes the workplace.

Ministry of Health, Ministry of Civil Defence and Emergency Management, Ministry of Economic Development and the Treasury

These agencies will provide advice and assistance as required to the Department of Labour as the lead agency.

Ongoing work

The workplaces work stream aims to provide general workplace health and safety and employment relations information to workplace participants about the risks associated with a pandemic, as well as generic guidance about managing those risks. This guidance includes supporting material for Department of Labour staff about pandemic issues and a business continuity plan to ensure the maintenance of key delivery services to workplaces by the Department of Labour during a pandemic.

The objectives of the workplaces work stream are to:

- facilitate the ability of workplace participants to take a planned and flexible approach to a pandemic that is tailored to their particular workplace situation
- assist employers, employees and other workplace participants to work together to develop effective risk management approaches to the impact of a potential pandemic
- ensure that workplace participants use legislative and regulatory frameworks to guide their planning, rather than adopting legalistic approaches
- ensure that the options adopted by workplace participants during a pandemic are directed towards the best possible recovery from the event.

Part B: The Action Plan

How to Use the Action Plan

Context of the Action Plan

The Action Plan is the core of the New Zealand Influenza Pandemic Plan 2010. It outlines the phases of a potential pandemic wave in New Zealand (on a basis informed by phases identified by the World Health Organization (WHO)), and provides guidance on actions that need to be considered for each phase, who is responsible for these actions, and by what authority the actions can be taken.

Key to the Action Plan

Table 5 summarises the different phases of a pandemic in New Zealand, demonstrates how they align with WHO's phases, and describes New Zealand-specific trigger points for identifying transition into each phase.

The formulation of New Zealand phases and their associated actions is not designed to be predictive; the phases are not always going to proceed in order. Rather, the system provides a framework for planning and for customising a response to a future pandemic according to the nature of the pandemic virus and the domestic and international situation at that time. Key factors that will help determine the course of action to be taken during a particular phase are identified in Table 4.

The New Zealand phases are informed by, but are not tied to, the WHO phases, because the overall international situation may vary from the national situation: for example, WHO may announce its phase 6 (sustained community-level outbreaks in a minimum of three countries in two regions) while New Zealand has yet to record cases and is implementing its Keep It Out phase.


This approach is consistent with the WHO recommendation that while individual nations should use WHO phases to inform national planning, that planning needs to reflect the local situation. WHO will announce the onset of each international phase.

Table 5 summarises the terminology used to describe different phases of a pandemic, shows how they align and summarises the phases, with descriptive trigger points for identifying transitions.

New Zealand phases drive the pandemic response in New Zealand

New Zealand phases are denoted in the Action Tables in Part B by this symbol: 

The applicable New Zealand phase will be announced by the national co ordinator.

The WHO phases provide international consistency at a high level, reflecting pandemic risk and the observable epidemiological situation internationally. Like the New Zealand phases, the WHO phases are not designed to be predictive, and will not always proceed in numerical order. The WHO phases are denoted in the Action Tables by this symbol: 

The onset of each international phase will be announced by WHO. Note that the New Zealand and WHO phases may not always match.

Health alert codes are a communication device for the health sector only, representing stages of activation of the National Health Emergency Plan. Each alert code triggers indicative actions to be taken by the Ministry of Health and District Health Boards (DHBs). Further information on alert codes can be found in the National Health Emergency Plan (Ministry of Health 2008c, Table 2).

Alert codes will be adapted for specific pandemic responses: for example, the influenza A (H1N1) 2009 pandemic was mild to moderate in its impact, so the health alert code level during the response phase did not move beyond Code Yellow, which describes a mild to moderate situation in which health action to manage the pandemic is taking place within existing national health resources and without extensive disruption to normal health services.

Health agencies should always be prepared to escalate the response to a higher level if the situation deteriorates. Further, they should not wait until a Code Red is announced in order to mount response phase actions necessary to deal with a mild to moderate pandemic wave.

Health agencies also need to note that recovery after a severe pandemic may take some time with services slowly returning to normal as resources allow. Therefore, withdrawal of pandemic programmes may take place incrementally or in stages as determined by national and local circumstances. After a mild pandemic there may be no need for a recovery phase.

Although all actions are cumulative throughout phases, and build on actions detailed in previous phases, moving between phases and codes is not necessarily a consecutive or chronological process (eg, a rapid onset severe pandemic may necessitate an immediate Code Red).

Interpretation of actions and key decisions for each phase

Epidemiological and clinical characteristics of any future influenza pandemic are unable to be predicted. This Action Plan is therefore flexible, to ensure that actions will be appropriate to the situation and can be adapted as needed.

Table 4 outlines key factors that will inform decisions on the nature of actions to be implemented in a future pandemic.

The Phase Action Plan tables show actions that can be considered in each phase, who has the responsibility for those actions, and under what authority (where necessary) the actions may be taken. They identify actions under headings (eg, 'planning' and 'public health interventions') that apply in any pandemic, whether mild, moderate or severe, and in all phases.

Actions marked with the key decision symbol **KD** may also be implemented, depending on the situation. These actions require consideration and a decision at the time.

All actions are cumulative throughout the phases: for this reason it is important to review decisions made in previous phases at regular intervals.

Note that different parts of the country may experience different phases at different times, depending on local circumstances.

Actions to prevent or slow the progress of the pandemic have potentially far-reaching positive and/or negative implications for society or the economy. In some cases, individual people or agencies have the power to decide to proceed with an action. However, in the interests of national consistency it is expected that these decisions will be made within the Domestic and External Security Co-ordination (DESC) system (as described in Part A). All decisions are expected to be made in consultation with relevant agencies. All-of-government decision-making is crucial to ensure a co-ordinated response to the pandemic threat. Rapid decision-making is vital.

Most interventions (in particular in the Keep It Out and Stamp It Out phases) rely on rapid implementation for their efficacy. Decision-makers can therefore expect they will need to make critical decisions in real time, within a situation of considerable uncertainty and in the face of a probable large-scale lack of reliable information.

The Ministry of Health expects that relevant agencies will review key decisions and actions throughout the pandemic. Agencies are required to be forward-looking in their decision-making and preparations.

Key factors to consider when deciding trigger points and actions at each phase

Although WHO will announce the onset of each international phase and the national co-ordinator will announce the applicable New Zealand phase, agencies must consider certain factors in starting or stopping individual measures. Identifying trigger points can be a highly complex process, given the number of epidemiological variables that need to be taken into account and the varying impact of controls or lack of controls on New Zealand's society and economy.

Table 4 sets out key factors that will inform the level of response to a pandemic, indicating trigger points for moving from one phase to another and key decisions to be made at different phases. It is important to consider the interaction and interdependence of these key factors when making decisions, rather than considering each in isolation.

Other factors to be considered in decision-making at different phases are listed in Appendix B.

The set of actions to be undertaken in response to a pandemic needs to be reviewed as the nature and impacts of the pandemic change.

The New Zealand response will be informed initially by international data, but will be increasingly informed by New Zealand data if the pandemic evolves in New Zealand.

Table 4: Key factors that inform the actions to be taken in a pandemic response

Key factor	Impact	Comment	Especially informs
Ease of transmission and severity	<p>Ease of transmission influences the number of cases, and the shape of the epidemic curve: high transmissibility increases the number of cases and speed of transmission.</p> <p>Severity influences the proportion of suspect and actual cases who become more seriously ill, or die.</p> <p>Ease of transmission and severity determine demand for ambulance, primary health care and hospital (including intensive care unit (ICU)) services. If the pandemic is moderate to severe, there is an increased risk of health services being overwhelmed.</p>	<p>Ease of transmission must be considered alongside severity when making key decisions.</p> <p>These are important factors in determining the potential efficacy and sustainability of containment measures.</p> <p>Higher rates of transmission will mean agencies need to be prepared for a swift transition to the Manage It phase.</p> <p>High rates of transmission and severity will mean that greater efforts will need to be put into containment measures in order to flatten the pandemic curve and spread the impact on health services and society.</p> <p>Transmission and severity among different population groups and the total population must be considered. For example, a higher rate of fatality or rate of transmission in certain population groups may necessitate the introduction of specially targeted interventions.</p> <p>Severity and attack rates in different population groups may affect society in different ways, for example:</p> <ul style="list-style-type: none"> • higher rates in younger adults or their children will affect workforce productivity • higher rates in some population groups may increase existing health inequalities. 	<p>Key decisions will centre on:</p> <ul style="list-style-type: none"> • containment measures at the border and internally, for cluster control • the application of social distancing measures • the readiness and response capacities of primary care services, ambulance services and hospitals, particularly ICUs. It may be necessary to consider: <ul style="list-style-type: none"> – the establishment of community-based assessment centres (CBACs) – cross-training staff to perform duties they do not usually perform in hospital settings under pressure – reprioritisation of services (for example cancellation of electives) – support for less severely affected patients required to stay at home • the establishment of regional emergency operations centres • the applicability of regulations • disseminating information to the public.

Key factor	Impact	Comment	Especially informs
Vaccine availability	The nature and timing of a vaccination programme have implications for other aspects of the response strategy. For example, late delivery of a vaccine in a moderate to severe pandemic may mean greater efforts need to be placed on the Keep It Out and Stamp It Out phases to flatten the pandemic curve and spread the impact more evenly over time.	<p>A mass vaccination programme is unlikely to start for six months or more after a WHO declaration of a pandemic and production of vaccine.</p> <p>Decisions on the purchase of a vaccine need to be made by the Government, taking into account the costs and benefits to society of reducing the impact of the pandemic.</p>	<p>Key decisions will centre on:</p> <ul style="list-style-type: none"> • length and intensity of containment measures and measures in the Manage It phase • speed of transition to the recovery phase • immunisation programmes.
Efficacy of treatment on morbidity and mortality	<p>Antivirals play a significant role in containment and response programmes.</p> <p>If antivirals are not effective against new virus strains, then more intensive efforts may need to be made in the Keep It Out and Stamp It Out phases of the virus, and to treat and support patients.</p> <p>New Zealand has adequate supplies of antibiotics to treat a major complication of influenza: secondary bacterial infection.</p>	<p>It is important to monitor antiviral resistance before and during a pandemic, so containment and response programmes can be modified accordingly.</p> <p>Less effective treatments are likely to result in greater workforce absences due to sickness and the need to care for dependents.</p>	<p>Key decisions will centre on:</p> <ul style="list-style-type: none"> • clinical guidance • contact tracing and other containment measures • laboratory capacity and capability • demand on primary and hospital services.

New Zealand Influenza Pandemic Plan

Table 5 summarises the phases in the New Zealand Influenza Pandemic Plan, relating them to WHO equivalent phases and the international situation.

Table 5: Summary of phases in the New Zealand Influenza Pandemic Plan

New Zealand phase	New Zealand situation and triggers	Indicative health sector alert code	Comparable WHO phase	International situation
Plan For It	No human cases in New Zealand	Code White (information/ advisory)	Phase 1	No viruses among animals have been known to cause human infections.
			Phase 2	An animal influenza virus is known to cause infection in humans, and is a specific pandemic threat.
			Phase 3	An animal or human–animal influenza reassortant virus has caused sporadic cases or small clusters of disease in people, but has not resulted in human-to-human transmission sufficient to sustain community-level outbreaks.
Keep It Out	No human cases in New Zealand	Code Yellow or Code Red, depending on district or region and the exact situation	Phase 4	Human-to-human transmission of an animal or human–animal influenza reassortant virus able to sustain community-level outbreaks has been verified.
			Phase 5	The same identified virus has caused sustained community-level outbreaks in two or more countries in one WHO region.
Stamp It Out	First case identified in New Zealand	Code Yellow or Code Red, depending on district or region and the exact situation		
	Clusters of cases in New Zealand		Phase 6	The same identified virus has caused sustained community-level outbreaks in two or more countries in the region affected in WHO phase 5.
Manage It	Increased and substantial transmission in the general population	Code Yellow or Code Red, depending on district/region and the exact situation		

New Zealand phase	New Zealand situation and triggers	Indicative health sector alert code	Comparable WHO phase	International situation
Manage It: Post-Peak	Wave decreasing; possibility of a resurgence or new wave	Code White, Yellow or Red, depending on the situation and on district/region	Post-peak	Levels of pandemic influenza in most neighbouring countries with adequate surveillance have dropped below peak levels.
Recover From It	Pandemic over and/or population protected by vaccine	Code Green	Post-pandemic	Levels of influenza have returned to the levels seen for seasonal influenza in most countries with adequate surveillance.

Note: Health sector alert codes only apply to the health sector.

Plan For It

Planning and Preparedness

Objective

To plan to reduce the health, social and economic impact of a pandemic on New Zealand

Key issues to be addressed in planning

We seek to:

- strengthen pandemic preparedness at national, regional and local levels
- minimise risk of transmission to humans, and rapidly detect transmission.

We will achieve our aims through:

- planning, co-ordination and reporting (among all agencies)
- intelligence
- public health programme planning for containment
- health care and emergency response planning
- communications and health education planning
- training
- simulation exercises
- preparation in all sectors at local, regional and national levels
- incorporating pandemic response issues into business continuity planning.

In the planning phase we will:

- develop and exercise relationships, plans and procedures
- establish capability and capacity through training and exercising, and maintain systems and structures for responding to a pandemic and other emergencies
- ensure pandemic-related issues are incorporated into business continuity plans
- manage any disease in animals in New Zealand
- maintain an appropriate level of engagement within and across agencies during low-risk or low-activity times
- establish likely priorities for a national response.

Plan For It phase

One of the following situations applies:

- No influenza virus circulating among animals has been reported to cause infection in humans.
- An animal influenza virus is known to have caused infection in humans, so is considered a specific pandemic threat.
- An animal or human–animal influenza reassortant virus has caused sporadic cases or small clusters of disease in people, but has not resulted in human-to-human transmission sufficient to sustain community-level outbreaks.



There are no human cases in New Zealand.

Function	Action	Responsibility	Authority	Further information in the NZIPAP 2010
Planning, co-ordination and reporting	<p>Strengthen pandemic preparedness nationally and locally.</p> <ul style="list-style-type: none"> • Incorporate pandemic response issues into business continuity planning. • Develop and implement action plans for the organisation or sector to address lessons learned in response to the influenza A (H1N1) 2009 pandemic. • Maintain sector-specific guidelines and protocols for planning, response and communications. • Establish, revise and exercise pandemic plans locally and nationally. • Maintain a legal framework for pandemic interventions. • Maintain a communication plan and resources for the organisation or sector at national and local levels. • Train staff and exercise agency and intersectoral plans. • Prepare to implement pandemic plans at short notice should circumstances change. • Maintain a communication plan and resources (addressing, for example, public information, health systems' disease assessment and management tools, information for other authorities). • Maintain stockpiles of critical pandemic supplies (eg, antivirals and antibiotics) and mechanisms to access a virus-specific pandemic vaccine. • Maintain plans and policies for the use of vaccines. • Plan for laboratory services (public and private), assessment facilities, and antiviral and vaccine delivery mechanisms (including registers of individuals who have received each). • Plan local quarantine facilities and social distancing measures. 	All agencies	No powers required	Part A, Intersectoral Response, Summary of Roles
				Parts A, C, D

Function	Action	Responsibility	Authority	Further information in the NZIPAP 2010
Planning, co-ordination and reporting (continued)	<ul style="list-style-type: none"> Promote the uptake of inter-pandemic influenza vaccination and personal hygiene. 	Ministry of Health and DHBs	No powers required	
	<ul style="list-style-type: none"> Plan to minimise the risk of animal influenza virus transmission from animals to humans and to rapidly detect transmission. 	MAF Biosecurity New Zealand, Ministry of Health	Biosecurity Act 1993	Part A, Intersectoral Response, Biosecurity work stream
	<ul style="list-style-type: none"> Assess the likelihood of animal or bird infection being the vector to New Zealand. 			Part C, Intelligence
	<ul style="list-style-type: none"> Assess animal response options and maintain response plans. 	MAF Biosecurity New Zealand	Biosecurity Act 1993, sections 43, 109, 114, 121	Part A, Intersectoral Response, Biosecurity work stream
	<ul style="list-style-type: none"> As required provide public advice on limiting the risk of transmission from animals. 	MAF Biosecurity New Zealand	Health and Safety in Employment Act 1992	Part A, Intersectoral Response, Biosecurity work stream
	<ul style="list-style-type: none"> Ensure appropriate workplace guidelines, protection and training for animal workers and exposed humans to reflect WHO guidelines and New Zealand guidelines and legislation. 	Department of Labour, MAF Biosecurity New Zealand	Health and Safety in Employment Act 1992	Part A, Intersectoral Response, Biosecurity and workplaces work streams

Public health interventions: border

Ensure national and local multi-sectoral plans are in place.

All stakeholders active in border operations nationally and at each international port of entry

No powers required

Part C, Containment Measures, Border management

Function	Action	Responsibility	Authority	Further information in the NZIPAP 2010
Public health interventions: border (continued)	<ul style="list-style-type: none"> • Ensure plans are nationally consistent, so stakeholders are aware of their responsibilities and roles irrespective of their location. • Assess and audit core capacity requirements regularly. • Ensure national and local border emergency management groups meet regularly and that all relevant stakeholders for relevant locations (for example international airports) meet regularly and update plans. • Review assessment policies and procedures at the border. 	All stakeholders active in border operations nationally and at each international port of entry	No powers required	Part C, Containment Measures, Border management
Public health interventions	<ul style="list-style-type: none"> • Maintain the capability, preparedness and training to mount border control and cluster control operations when required. • Identify sources of additional staffing locally from health or non-health agencies, to enable an intensive cluster control operation to be sustained if required. • Use training material to develop a local orientation package for these additional staff. 	DHBs and PHUs, Ministry of Health, border agencies	No powers required	Part C, Containment Measures, Border management; Cluster control
Intelligence	<ul style="list-style-type: none"> • Monitor the situation overseas. • Ensure human surveillance systems can identify a novel influenza virus and a developing pandemic within New Zealand following an alert from WHO. 	Ministry of Health and Ministry of Foreign Affairs and Trade Ministry of Health, MAF Biosecurity New Zealand	No powers required	Part A: Intersectoral Response, Biosecurity and Health work streams

Function	Action	Responsibility	Authority	Further information in the NZIPAP 2010
Intelligence (continued)	<ul style="list-style-type: none"> • Maintain the capability to track and monitor the impact of a pandemic in New Zealand in order to inform action at different phases. • Maintain animal surveillance as required. • Maintain a response evaluation framework focusing on outcome, output and process evaluation. 	<p>Ministry of Health, MAF Biosecurity New Zealand</p> <p>All agencies</p>		Part C, Intelligence
Health care and emergency response	<ul style="list-style-type: none"> • Review, update and exercise plans for managing a pandemic. • Prepare for an expansion in demand for key services including intensive care, primary care, ambulance services, laboratory services, 0800 helplines and other hospital services. 	DHBs	No powers required	Part A, Pandemic Planning, District Health Board planning
Communications and health education	<p>At all times:</p> <ul style="list-style-type: none"> • maintain inter-agency reporting, communications and consultation, including ongoing liaison with WHO and the Australian Department of Health and Ageing • build public awareness about influenza and the potential for pandemic through routine media • reinforce health sector awareness and preparedness • promulgate pandemic key messages (ie, be aware, know that we are preparing for a pandemic at some time) • reiterate key public health messages (eg, the importance of hand-washing, and cough and sneeze etiquette) 	Ministry of Health (lead) and all agencies	No powers required	Appendix A, Public Information Management Strategy

Function	Action	Responsibility	Authority	Further information in the NZIPAP 2010
Communications and health education (continued)	<ul style="list-style-type: none"> ensure media planning and monitoring develop and implement the Public Information Management Strategy as required. <p>If a new strain emerges overseas, or there is a resurgence of an existing strain overseas, consider, as required:</p> <ul style="list-style-type: none"> informing key stakeholders promulgating key messages (eg, personal protection and preparedness, where to go for help (0800 helplines, websites, etc), and the likely impact of pandemics informing the public about what the authorities will do in a pandemic providing travel advice relevant to the threat reviewing and updating key messages and communication channels co-ordinating communications across and within sectors creating web-based information sources, such as frequently asked question sheets and guides initiating background briefings for spokespeople. 	<p>Ministry of Health</p> <p>Ministry of Health in co-ordination with MAF Biosecurity New Zealand, and other agencies as required</p>		

If there is an outbreak of a pandemic virus among animals in New Zealand posing a risk of human disease, then the following additional actions will be considered in all phases.

Function	Additional action	Responsibility	Authority	Further information from NZIPAP 2010
Planning, co-ordination and reporting	<ul style="list-style-type: none"> Update human detection and clinical care guidelines. Issue a case definition. Develop and implement surveillance of animal workers. 	Ministry of Health	Potential application of Health Act 1956, section 77 (power of medical officer of health to enter any premises and examine persons)	Part C, Legislation; Intelligence, Surveillance
	<ul style="list-style-type: none"> Investigate rapidly any reported possible human cases. 	Ministry of Health, DHBs/ PHUs, Department of Labour/Occupational Safety and Health (OSH)		
	<ul style="list-style-type: none"> Enhance laboratory diagnostic capacity for a novel strain. 	Ministry of Health, DHBs, PHUs		
	<ul style="list-style-type: none"> Prepare for possible release of pre-pandemic vaccine if available. KD 	Ministry of Health, DHBs, PHUs		
	<ul style="list-style-type: none"> Implement influenza response plans. 	MAF Biosecurity New Zealand	Biosecurity Act 1993	Part A, Summary of Roles; Intersectoral Response, Biosecurity work stream

Function	Additional action	Responsibility	Authority	Further information from NZIPAP 2010
Planning, co-ordination and reporting (continued)	<ul style="list-style-type: none"> Ensure appropriate protection and training for animal workers and other exposed humans (those who work with poultry and pigs are most at risk) to reflect WHO guidelines and New Zealand guidelines and legislation. Restrict movement of animals or any at-risk goods from affected areas in New Zealand as required KD 	MAF Biosecurity New Zealand, Department of Labour	Health and Safety in Employment Act 1992	Part A, Summary of Roles; Intersectoral Response, Biosecurity and workplaces work streams
Health care and emergency response	<ul style="list-style-type: none"> Prepare for possible cases of zoonotic influenza by activating enhanced infection control, laboratory procedures, clinical guidelines and isolation facilities, among other measures. 	DHBs	Biosecurity Act 1993, sections 130 and 131 and Part 7	Part A, Summary of Roles; Intersectoral Response, Biosecurity work stream
Intelligence	<ul style="list-style-type: none"> Target the surveillance of humans in areas where animals are affected, and place primary health care providers on enhanced alert for the detection and notification of the first zoonotic cases. 	Ministry of Health, PHUS and MAF Biosecurity New Zealand	Biosecurity Act 1993, sections 43, 109, 114, 121 and Part 7	Part C, Intelligence, Surveillance Part A, Intersectoral Response, Biosecurity work stream
Communications and health education	<ul style="list-style-type: none"> Inform key stakeholders of the increased risk regarding infection in animals. Disseminate guidance materials and key messages for employers, employees and other workplace participants to help them plan, prepare for and respond to a pandemic event. 	MAF Biosecurity New Zealand Department of Labour	No powers required	Part A, Intersectoral Response, Biosecurity work stream

Function	Additional action	Responsibility	Authority	Further information from NZIPAP 2010
Communications and health education (continued)	<ul style="list-style-type: none"> Review, update and increase the frequency of communications for all audiences. Regularly update whole-of-government communications to ensure appropriate key messages and material are presented to relevant sectors, including health, agriculture, education, border control (incoming travellers), foreign affairs and trade (for posts, travellers), police, fire, ambulance, civil defence and emergency management, welfare, travel and tourism, business and unions, local government and non-governmental organisations. Liaise, through the Ministry of Health, with the current provider of the national 0800 Healthline, and use regular monitoring of calls to refresh scripts for information and triage. Initiate web, talkback and media monitoring. Initiate wide distribution of short videos, and secure their broadcast. Regularly brief Government stakeholders for media interviews, and increase the frequency of media updates. Review and formalise all media and communications protocols. Initiate the production of new materials for paid media advertising in next and ensuing phases (and arrange for an 'authority figure' presenter to regularly present key messages). Initiate a buying plan for advertising in national media for the next phase. Carry out ongoing liaison with WHO and the Australian Department of Health and Ageing. Enter information for the health sector into the Emergency Management Information System. 	<p>MAF Biosecurity New Zealand, with the support of other agencies as required</p> <p>MAF Biosecurity New Zealand, with the support of other agencies as required</p> <p>MAF Biosecurity New Zealand</p> <p>Ministry of Health</p>	<p>No powers required</p> <p>No powers required</p>	<p>Part C and Appendix A, Public Information Management Strategy</p> <p>Part C and Appendix A, Public Information Management Strategy</p>

Function	Additional action	Responsibility	Authority	Further information from NZIPAP 2010
Communications and health education (continued)	<ul style="list-style-type: none"> Communicate with foreign governments and travellers about the New Zealand situation. 	Ministry of Foreign Affairs and Trade		Part A, Intersectoral Response, External work stream
Other cross-sectoral actions	<ul style="list-style-type: none"> Ensure appropriate engagement with the lead agency, MAF Biosecurity New Zealand. Ensure each agency's single point of contact details are disseminated to other agencies. Maintain a contact list of other agencies. Keep relevant staff and sector updated as the situation evolves. Revisit, review and revise plans and prepare to activate if or when the situation escalates. 	All agencies	No powers required	Part A, Summary of Roles; Pandemic Planning; Intersectoral Response, Biosecurity work stream

Keep It Out

Border Management

Potential trigger

Community-level outbreaks overseas through verified human-to-human transmission, significant increase in risk of a pandemic

Objective



To prevent or delay the arrival of the pandemic virus into New Zealand by implementing border management controls, and to prepare for the next phases

Key decisions

The extent and level of border controls (sea and air) to be implemented will be determined by the actual and potential degree of severity of the pandemic and its ongoing development overseas, and will include iterative consideration of:

- moving to positive pratique
- stationing clinical staff at airports for assessments
- requiring contact-tracing information from travellers
- authorising special powers under the Health Act 1956 and/or considering the need for an epidemic notice
- preparing for a possible release of a pre-pandemic vaccine, if available
- preparing for a possible release of antivirals for use according to policy
- ordering a pandemic vaccine following a pandemic declaration by WHO
- briefing the Minister of Health and Cabinet on options for an elevated response in advance (eg, by limiting arrivals, managing visa applications, issuing a Notice to Airmen or implementing enhanced quarantine) and implementing approved programmes and agreed options as quickly as possible
- warning people intending to travel to New Zealand of the escalating situation regarding the threat of an influenza pandemic, and warning that, should it be deemed justified, travellers may be placed in mandatory quarantine for a certain period on arrival
- commencing vaccination, if a vaccine is available.

Keep It Out phase

-  Sustained human-to-human transmission of an animal or hybrid animal–human influenza virus causing community-level outbreaks has been verified (there has been a significant increase in the risk of a pandemic).
-  There are no human cases in New Zealand.

Function	Action	Responsibility	Further information from NZIPAP 2010	
Planning, co-ordination and reporting	<ul style="list-style-type: none"> • Activate or prepare to activate pandemic plans at short notice when notified by the Ministry of Health. • Activate the National Health Co-ordination Centre (NHCC). 	<p>All agencies</p> <p>Ministry of Health</p>	<p>Part B, Plan For It</p> <p>No powers required</p> <p>No powers required</p>	
	<ul style="list-style-type: none"> • Regularly monitor, evaluate and report on the actual and anticipated impact of the pandemic and response activities in individual sectors and through the work streams identified in Part A. Report on these activities to the NHCC. 	All agencies	Part A, Intersectoral Response	
	<ul style="list-style-type: none"> • Issue a case definition and provide technical advice to inform action in health and other settings. 	Ministry of Health	No powers required	
	<ul style="list-style-type: none"> • Activate emergency management organisational structures and the health sector Emergency Management Information System as required. 	Ministry of Health and DHBs	No powers required	
	<ul style="list-style-type: none"> • Activate the Intersectoral Pandemic Group, the Border Working Group and other pandemic work groups as required. 	Ministry of Health and other agencies	No powers required	
	<ul style="list-style-type: none"> • Plan for an escalation to the Stamp It Out and Manage It phases, and review recovery plans. 	All agencies	No powers required	
	<ul style="list-style-type: none"> • Prepare for a possible release of pre-pandemic vaccine (if available) under the Pre-Pandemic Vaccine Usage Policy. KD 	Ministry of Health, DHBs/PHUs	No powers required	
				Part A, Co-ordination activities nationally and locally
				Part A, Intersectoral Response
				Parts B and C
			Part A, Intersectoral Response, Health work stream	
			Part C, Vaccines	

Function	Action	Responsibility	Authority	Further information from NZIPAP 2010
Planning, co-ordination and reporting (continued)	<ul style="list-style-type: none"> Order pandemic vaccine (if available) following a pandemic declaration by WHO. KD Release national reserve volumes of antivirals, and consider pre-positioning bulk supplies for use according to policy in border management operations. Monitor antiviral usage. KD 	Ministry of Health	No powers required	Part C: Manage It, Vaccination Part C, Manage It, Antiviral medicine
	Intelligence	<ul style="list-style-type: none"> Introduce enhanced staff surveillance and sickness reporting – follow up any influenza-like illness. Review recent surveillance of influenza-like illness. Carry out intensive surveillance through primary health care service providers, accident and medical centres, hospital emergency departments, infectious disease physicians and laboratories to detect possible imported cases and secondary cases. Implement surveillance of influenza-like illness, viral characteristics, and monitoring of trends in Healthline calls, and prepare to implement sentinel site surveillance (eg, of workforce absence). Monitor the situation overseas. Create intelligence summaries. 	All agencies Ministry of Health Ministry of Health with support from Environmental Science and Research Ltd (ESR), DHBs/PHUs and general practices Ministry of Health	No powers required No powers required No powers required No powers required
		Ministry of Health (lead), MAF Biosecurity New Zealand and Ministry of Foreign Affairs and Trade	No powers required	Part A, Intersectoral Response, Health, biosecurity and external work streams

Function	Action	Responsibility	Authority	Further information from NZIPAP 2010
Intelligence (continued)	<ul style="list-style-type: none"> Carry out surveillance at the border as required by the Ministry of Health. Advise WHO of any border measures implemented as required under the International Health Regulations 2005, and provide WHO with the rationale for and relevant scientific information concerning their implementation. Commence response-evaluation programmes. 	<p>PHUs and border agencies at local and national levels</p> <p>Ministry of Health</p>	<p>No powers required</p> <p>No powers required</p>	<p>Part A, Intersectoral Response, Border work stream</p>
Public health interventions: border management	<ul style="list-style-type: none"> Use resources such as border aides memoire, templates, guidelines and orientation programmes developed for border management in emergencies. Activate co-ordination mechanisms between border agencies at local levels to ensure planning and programmes are well co-ordinated. Issue travel advisories as appropriate. Define the area of concern within which border measures may be applied. Provide information to incoming and outgoing travellers. 	<p>All agencies, informed by Ministry of Health</p> <p>PHUs, DHBs, border agencies</p> <p>DHBs</p> <p>Ministry of Health, Ministry of Foreign Affairs and Trade</p> <p>Ministry of Health</p> <p>PHUs in liaison with other border agencies; Ministry of Foreign Affairs and Trade</p>	<p>No powers required</p> <p>No powers required</p> <p>No powers required</p> <p>No powers required</p> <p>No powers required</p> <p>No powers required</p>	<p>Part C, Containment Measures, Border management</p> <p>Part A, Intersectoral Response, External work stream</p> <p>Part C, Containment Measures, Border management</p> <p>Part C, Containment Measures, Border management</p>

Function	Action	Responsibility	Authority	Further information from NZIPAP 2010
Public health interventions: border management (continued)	<ul style="list-style-type: none"> Advise on exit procedures in areas of concern, and on border measures being used in other countries. 	Ministry of Foreign Affairs and Trade		
	<ul style="list-style-type: none"> Alert agencies managing facilities that are to be used for quarantine. 	PHUs	No powers required	Part C, Containment Measures, Cluster control, Isolation and quarantine
	<ul style="list-style-type: none"> Amend the Schedule to the Health (Infectious and Notifiable Diseases) Regulations 1966 if required. 	Ministry of Health	Health (Infectious and Notifiable Disease) Regulations 1966	Part C, Containment Measures, Border management
	<ul style="list-style-type: none"> Require additional declarations from masters of maritime vessels, stating whether anyone has joined the vessel since its last port of call and the place of origin of any such people. A declaration is required from those vessels that have gone out to sea after receiving pratique and that might have taken crew on board. Compliance with national protocols is required. 	Maritime operators and shipping agents	Health (Quarantine) Regulations 1983	Part C, Containment Measures, Border management
	<ul style="list-style-type: none"> Assist with measures for ocean-going yacht arrivals and arrivals of non-commercial flights that land at airports served by the New Zealand Customs Service. 	MAF Biosecurity New Zealand, New Zealand Customs Service and PHUs	No powers required	Part C, Containment Measures, Border management
	<ul style="list-style-type: none"> Identify aircraft from areas of concern and passengers on other aircraft who are from areas of concern, using advanced passenger notification systems and direct questioning. 	New Zealand Customs Service	Customs and Excise Act 1996	Part C, Containment Measures, Border management
	<ul style="list-style-type: none"> Sanitise aircraft. 	Airlines, with advice on procedures from PHUs		
	<ul style="list-style-type: none"> Grant pratique to craft once the public health risk has been managed. 	PHUs		

Function	Action	Responsibility	Authority	Further information from NZIPAP 2010
Public health interventions: border management (continued)	<ul style="list-style-type: none"> Consider moving to positive pratique (100 percent health status reporting required from all incoming aircraft). If Australia takes this step it would be prudent for New Zealand to do so, as the measure will be more effective if actioned in all countries in which an aircraft lands. KD Station public health officials (nurses) at airports for referrals, with medical back-up for clinical assessments. KD Require contact-tracing information from passengers arriving from areas of concern, either through the New Zealand mandatory form or the WHO passenger locator form. KD Request the Minister of Health give conditional authorisation for the use of special powers by the medical officer of health under section 70 of the Health Act 1956. If required, amend the Schedule to the Health (Infectious and Notifiable Diseases) Regulations 1966 to include the incubation period and other particulars of the novel virus. Brief the Minister on options for an elevated response in preparation for escalation of the situation. KD Ask Ministers to agree to New Zealand's co-ordinated response to the pandemic situation, for example: <ul style="list-style-type: none"> in limiting or refusing arrivals of craft or individuals from areas of concern in issuing Notices to Airmen in managing visa applications in implementing enhanced quarantine measures. KD 	Ministry of Health PHUs Airlines and New Zealand Customs Service Ministry of Health	No powers required No powers required Customs and Excise Act 1996, section 282A Health Act 1956; Health (Infectious and Notifiable Diseases) Regulations 1966	Part C, Containment Measures, Border management Part C, Containment Measures, Border management Part C, Containment Measures, Border management Part C, Legislation; Containment Measures, Border Management

Function	Action	Responsibility	Authority	Further information from NZIPAP 2010
Public health interventions: border management (continued)	<ul style="list-style-type: none"> Implement the above interventions approved by Ministers. Advise all people intending to travel to New Zealand by air of the escalating situation regarding the threat of an influenza pandemic, and warn them that, should it be deemed justified, they may be placed in mandatory quarantine for a certain period on arrival. Alert airlines to symptoms of concern. KD 	<p>Ministry of Health, Immigration New Zealand, Ministry of Foreign Affairs and Trade and DHBs/PHUs</p> <p>Ministry of Health, Ministry of Foreign Affairs and Trade and airlines</p>	Health Act 1956	Part C, Legislation; Containment Measures, Border management
Public health interventions: other	<ul style="list-style-type: none"> Implement or prepare to implement cluster control activities. Renew advice to health care workers to have seasonal vaccination. Consider establishing regional emergency operations centres. KD 	PHUs, DHBs	No powers required	Part C, Containment Measures, Cluster control
Health care and emergency response	<ul style="list-style-type: none"> Assess suspect cases at the border using WHO case definitions and travel history, as advised by the Ministry of Health. KD If a suspect case is reported, arrange for the person to be met and transported to hospital or another designated facility. Ensure the emergency department (or facility) is advised of the case being transported and that appropriate laboratory testing is undertaken. Apply the antivirals policy. Quarantine those whose symptoms do not require hospitalisation. If a case is positive for a novel influenza virus (using the polymerase chain reaction (PCR) test), manage other symptomatic people (and other suspected cases) according to set management procedures for suspected cases. 	<p>Medical officer of health, PHUs and DHBs</p> <p>PHUs, in liaison with ambulance services and DHBs</p>	<p>Health Act 1956, section 70(f) (if applicable)</p> <p>Health Act 1956, sections 97B, 101</p>	Part C, Legislation

Function	Action	Responsibility	Authority	Further information from NZIPAP 2010
Health care and emergency response (continued)	<ul style="list-style-type: none"> Prepare and disseminate clinical guidelines, including for the use of personal protective equipment, antivirals and antibiotics, and vaccination procedures (if applicable). 	Ministry of Health, DHBs	No powers required	Part C, Containment Measures, Border management; Cluster control
	<ul style="list-style-type: none"> Commence targeted immunisation once vaccine is available. KD 	Ministry of Health, DHBs	No powers required	Part C, Vaccination
Communications and health education	<ul style="list-style-type: none"> Review and update materials for employers, employees and other workplace participants containing key messages for workplaces to help them plan for, prepare for and respond to a pandemic. 	Department of Labour/ OSH	No powers required	Part A, Intersectoral Response, Workplaces work stream
	<ul style="list-style-type: none"> Establish a pandemic website or web page to provide key information for the public and agencies to guide their planning and response. 	Ministry of Health with support from other agencies as required	No powers required	Appendix A, Public Information Management Strategy
	<ul style="list-style-type: none"> Review key messages and promulgate new messages reflecting health action (eg, border controls). 			
	<ul style="list-style-type: none"> Review and increase the frequency of media conference updates (to once or twice daily). 			
	<ul style="list-style-type: none"> Review and update public information in conjunction with all key agencies (ongoing). 			
	<ul style="list-style-type: none"> Liaise with WHO and the Australian Department of Health and Ageing (ongoing). 			
	<ul style="list-style-type: none"> Regularly review the Public Information Management Strategy, incorporating feedback from talkback monitoring, media monitoring, call centre reports, web monitoring, sector intelligence and other agency intelligence (ongoing). 	Ministry of Health with support from other agencies as required	No powers required	Appendix A, Public Information Management Strategy

Function	Action	Responsibility	Authority	Further information from NZIPAP 2010
Communications and health education (continued)	<ul style="list-style-type: none"> • Provide information to overseas visitors in New Zealand. • Evaluate and refresh paid media campaigns (ongoing). • Expand services through the national 0800 Healthline number to provide information and clinical advice to the public, and use regular monitoring of calls to refresh scripts and provide data on influenza-like illness to inform national policy. • Introduce as appropriate local helplines as back-up to the national Healthline, to ensure timely information and advice is provided to the public about the local response, for triage, and to inform members of the public who require information on services to assess influenza-related symptoms. • Co-ordinate communications to foreign governments on the situation in New Zealand, and advise New Zealanders overseas. • Distribute situation reports and intelligence summaries. • Review planning documents and information, with special reference to border control, the tourism and travel sectors, and education (international). 	<p>Ministry of Tourism in liaison with the Ministry of Health, Tourism New Zealand and the Tourism Industry Association</p> <p>Ministry of Health</p> <p>Ministry of Health</p> <p>PHUs and DHBs</p> <p>Ministry of Foreign Affairs and Trade</p> <p>Ministry of Health, DHBs and PHUs</p> <p>All agencies</p>	<p>No powers required</p> <p>No powers required</p> <p>No powers required</p>	<p>Part A, Intersectoral Response, External work stream</p>

Function	Action	Responsibility	Authority	Further information from NZIPAP 2010
Other cross-sectoral actions	<ul style="list-style-type: none"> • Brief staff and key decision-makers. • Keep up to date with national policy and advice issued by the Ministry of Health. • Lead communications, planning and response within the agency and with the sector they serve. • Answer queries from the relevant sector. • Maintain co-ordination with other agencies through established national and district mechanisms. • Ensure each agency's single point of contact details are disseminated to other agencies. • Maintain a contact list of other agencies. • Ensure response staff are given the opportunity for rest and recuperation. 	All agencies	No powers required	

Stamp It Out

Cluster Control

Potential trigger

Novel influenza virus or pandemic virus detected in case(s) in New Zealand


Objective


To control and/or eliminate any clusters that are found in New Zealand

Key decisions

- Prepare authorisation for use of special powers and an epidemic notice, if needed.
- Consider declaring a state of local or national emergency under the Civil Defence Emergency Management Act 2002.
- Release antivirals for use according to policy, and monitor antiviral usage.
- Order the pandemic vaccine, if available, after a pandemic declaration by WHO.
- Commence vaccination if and when the vaccine becomes available.
- Release the pre-pandemic vaccine, if available, under the pre-pandemic vaccine usage policy.
- Introduce exit-assessment procedures, depending on the New Zealand situation and the risk of exporting the disease.
- Issue domestic and/or international 'don't travel' notices.
- Agree on a policy for preventing people leaving the country in order to prevent spread of the disease.
- Close educational facilities in affected areas, as appropriate.
- Restrict regional public gatherings and venues, as appropriate.
- Activate CBACs.
- Establish regional response structures.
- Isolate the New Zealand areas affected, if possible.
- Protect unaffected islands.

Stamp It Out phase

 There have been sustained community-level outbreaks in two or more countries overseas.

 Two situations are covered by this phase. The extent of implementation of control measures will depend on the particular characteristics of the pandemic, and will need to be reviewed if situation one escalates to situation two. Additionally, the extent of control measures necessary may vary from one district to another.

- Situation one: The first laboratory-confirmed human case in New Zealand has been identified.
- Situation two: There are clusters of cases in New Zealand.

Maintain actions implemented in the Keep It Out phase, and implement the following actions. Regularly review actions applied to take account of changes in the situation.

Function	Action	Responsibility	Authority	Further information from NZIPAP 2010
(If arising from contact with New Zealand animals)	<ul style="list-style-type: none"> • Implement actions detailed in the Keep It Out phase in addition to actions noted below. 	MAF Biosecurity New Zealand, Ministry of Health, PHUs, Department of Labour		Part B, Plan For It and Keep It Out Action Tables
Planning, co-ordination and reporting	<ul style="list-style-type: none"> • Review actions and decisions in the context of information provided by the Ministry of Health, and increase the response as necessary and in accordance with agency response plans. • Ensure ongoing surveillance information informs policy and operational decisions on implementing the Co-ordinated Incident Management System (CIMS), regional response plans and preparation for an escalated response. • Prepare to activate business continuity plans, in anticipation of staff or supply chains being disrupted by the pandemic internationally or within New Zealand. 	<p>All agencies</p> <p>Ministry of Health</p> <p>All agencies</p>	<p>No powers required</p> <p>No powers required</p> <p>No powers required</p>	<p>Part B, All previous phases</p> <p>Part C, Intelligence</p> <p>Part C, Manage It: Business Continuity</p>

Function	Action	Responsibility	Authority	Further information from NZIPAP 2010
Planning, co-ordination and reporting (continued)	<ul style="list-style-type: none"> • Prepare for the Manage It phase and review recovery plans. 	All agencies	No powers required	Parts B and C, Manage It and Recover from It
	<ul style="list-style-type: none"> • Activate the emergency management organisational structure (CIMS), including the NHCC. 	Ministry of Health	No powers required	Part A, Summary of Roles, Co-ordination arrangements nationally and locally, Co-ordinated Incident Management System
	<ul style="list-style-type: none"> • Consider a trigger for a shift to the Manage It phase (eg, a 15 percent or higher attack rate or a doubling of the death rate). KD 	Ministry of Health	No powers required	Part B, Tables 4 and 5
	<ul style="list-style-type: none"> • Release antivirals for use according to policy, and monitor antiviral usage. KD 	Ministry of Health	No powers required	Part C, Manage It, Antiviral medicine
	<ul style="list-style-type: none"> • If appropriate, release pre-pandemic vaccine under the pre-pandemic vaccine usage policy. KD 	Ministry of Health	No powers required	Part C, Manage It, Vaccination
	<ul style="list-style-type: none"> • Prepare authorisation for use of emergency powers and an epidemic notice, if required. KD 	Ministry of Health	Health Act 1956, section 70	Part C, Legislation
	<ul style="list-style-type: none"> • Order pandemic vaccine, if available, following pandemic declaration by WHO. KD 	Ministry of Health	No powers required	Part C, Manage It, Vaccination

Function	Action	Responsibility	Authority	Further information from NZIPAP 2010
Intelligence	<p>Actions on the identification of a first case will depend on case history. Factors to consider include the following:</p> <ul style="list-style-type: none"> • If the case has travelled overseas recently (within eight days), increase monitoring and surveillance at the border. • Exposure to animal sources of infection <ul style="list-style-type: none"> – If the case has not travelled overseas within eight days and there has been no animal or bird exposure, assume human-to-human transmission within New Zealand. • Ensure contact-tracing information informs policy and programmes. • Conduct intensive surveillance to detect other cases, possible secondary cases and contacts. • Carry out surveillance through border management. • Carry out intensive surveillance through primary care and accident and medical and hospital emergency departments to detect possible cases and clusters, and notify cases to a medical officer of health for cluster control measures. • Monitor influenza-like illness. • Enhance laboratory surveillance. • Carry out surveillance of the spread of influenza through and between regions. • Monitor the load on and capacity of the health sector. • Monitor Healthline calls. • Monitor staff absence through sentinel surveillance in DHBs, schools and other workplaces. 	<p>Ministry of Health, MAF Biosecurity New Zealand, DHBs and PHUs</p>	<p>Notification requirements (to medical officer of health): Health Act 1956, sections 74 (doctors) and 76 (quarantine); Health (Quarantine) Regulations 1983, regulations 3 (pilots) and 10 (masters of ships).</p> <p>No powers required</p> <p>No powers required</p>	<p>Part C, Legislation, International Health Regulations 2005</p> <p>Part A, Intersectoral Response, Health work stream</p> <p>Part C, Intelligence</p>
	<ul style="list-style-type: none"> • Monitor influenza-like illness. • Enhance laboratory surveillance. • Carry out surveillance of the spread of influenza through and between regions. • Monitor the load on and capacity of the health sector. • Monitor Healthline calls. • Monitor staff absence through sentinel surveillance in DHBs, schools and other workplaces. 	<p>DHBs and PHUs</p> <p>Ministry of Health, DHBs and PHUs</p> <p>Ministry of Health, DHBs and PHUs</p>	<p>No powers required</p> <p>No powers required</p> <p>No powers required</p>	<p>Part C, Intelligence</p>
	<ul style="list-style-type: none"> • Monitor staff absence through sentinel surveillance in DHBs, schools and other workplaces. 	<p>DHBs, State Services Commission, Ministry of Education And Ministry of Health</p>	<p>No powers required</p>	<p>Part C, Intelligence</p>

Function	Action	Responsibility	Authority	Further information from NZIPAP 2010
Intelligence (continued)	<ul style="list-style-type: none"> • Ensure surveillance information informs policy and operational decisions on implementing the CIMS, regional response plans and preparation for a full response. • Monitor the situation overseas. • Create intelligence summaries. • Ensure laboratories have sufficient viral test primer and capacity, clarify supply constraints, and ensure resources are available to provide a timely response to increased service requirements. • Carry out national and international reporting, including to WHO. • Advise WHO of the first and subsequent cases identified in New Zealand. • Review surveillance of animals in the area or areas where humans are affected. 	<p>Ministry of Health and DHBs</p> <p>Ministry of Health (lead), MAF Biosecurity New Zealand and Ministry of Foreign Affairs and Trade</p> <p>Ministry of Health, ESR and DHBs</p> <p>Ministry of Health</p> <p>MAF Biosecurity New Zealand</p>	<p>No powers required</p> <p>No powers required</p> <p>No powers required</p> <p>International Health Regulations 2005</p> <p>Biosecurity Act 1993, sections 43, 109, 114, 121</p>	<p>Part A, Intersectoral Response, Health, External and Biosecurity work streams</p> <p>Part A, Intersectoral Response, Health work stream</p> <p>Part C, Legislation</p> <p>Part A, Intersectoral Response, Biosecurity work stream</p>
Public health interventions: border management	<ul style="list-style-type: none"> • Review Keep It Out phase actions and consider exit assessment procedures, initially on a voluntary basis, depending on the New Zealand situation, WHO advice and the risk of exporting disease. <p>KD</p>	<p>National Border Working Group (Lead) in liaison with PHUs and airport authorities as required</p>	<p>Special powers may be required under the Health Act 1956, section 71</p>	<p>Part C, Legislation; Part A, Intersectoral Response, Border work stream</p>

Function	Action	Responsibility	Authority	Further information from NZIPAP 2010
Public health interventions: border management (continued)	<ul style="list-style-type: none"> Agree on a policy for preventing people leaving the country in order to prevent spread of the disease. KD Implement Keep It Out Phase actions, exit assessment and other procedures as agreed above. 	National Border Working Group and DESC Border agencies	Health Act 1956; Epidemic Preparedness Act 2006	Part C, Legislation
Public health interventions: other	<ul style="list-style-type: none"> Carry out contact tracing, voluntary quarantine and the dissemination of advice to contacts on social distancing and symptoms. Provide antivirals. Ensure those in voluntary quarantine can access food, medications and treatment for existing conditions, and are referred to welfare agencies for any income support needs. Use national and local contact-tracing resources produced for emergencies. Obtain and train additional staff from outside PHUs to assist with contact-tracing duties, as required. Monitor contacts' health while in home quarantine and on antiviral prophylaxis. Promote hygiene and social distancing measures. Issue domestic and/or international 'don't travel' advisories. KD Prepare authorisation for use of emergency powers. KD 	PHUs and DHBs PHUs and DHBs (lead), in liaison with local authorities DHBs, PHUs and the Ministry of Health DHBs and PHUs Ministry of Health, DHBs, all agencies Ministry of Health and Ministry of Foreign Affairs and Trade Ministry of Health	Health Act 1956 No powers required No powers required No powers required No powers required	Part C, Legislation Part C, Containment Measures, Cluster control Part C, Legislation section 70

Function	Action	Responsibility	Authority	Further information from NZIPAP 2010
Public health interventions: other (continued)	<ul style="list-style-type: none"> Consider declaring a state of local emergency under the Civil Defence Emergency Management Act 2002, if not already in force. KD If authorised by the Minister of Health, or if an epidemic notice is in force, or if an emergency has been declared under the Civil Defence Emergency Management Act 2002, close educational facilities in affected area(s). KD If authorised by the Minister of Health, or if an epidemic notice is in force, or if an emergency has been declared under the Civil Defence Emergency Management Act 2002, consider closure of premises of a stated kind, and/or forbid people to congregate in outdoor places of amusement or recreation. KD If authorised by the Minister of Health, if an epidemic notice is in force or if an emergency has been declared under the Civil Defence Emergency Management Act 2002, consider isolating or quarantining patients. KD 	<p>Local government, Ministry of Civil Defence and Emergency Management and DESC</p> <p>Ministry of Education and medical officer of health</p> <p>Medical officer of health, PHUs and DHBs</p>	<p>Civil Defence Emergency Management Act 2002, Part 4</p> <p>Epidemic Preparedness Act 2006; Civil Defence Emergency Management Act 2002; Health Act 1956, sections 70(1)(la) and 70(1)(m)</p> <p>Epidemic Preparedness Act 2006; Civil Defence Emergency Management Act 2002; Health Act 1956, section 70(1)(m)</p> <p>Health Act 1956, section 79; Epidemic Preparedness Act 2006; Civil Defence Emergency Management Act 2002; Health Act 1956, section 70(1)(f) and (fa)</p>	<p>Part C, Legislation</p> <p>Part C, Legislation; Containment Measures, Cluster control, Closure of education institutions to students and children</p> <p>Part C, Legislation; Containment Measures, Cluster control, Hygiene and social distancing</p> <p>Part C, Legislation; Containment Measures, Cluster control, Isolation and quarantine</p>

Function	Action	Responsibility	Authority	Further information from NZIPAP 2010
Public health interventions: other (continued)	<ul style="list-style-type: none"> Isolate New Zealand area affected, if possible and if agreed by Cabinet (through DESC). KD Identify potentially vulnerable groups and institutional settings in the community to inform communications and enable the targeting of control interventions, as required. Implement intensive, targeted cluster control activities and other programmes in higher risk populations and settings. KD Protect unaffected islands if authorised by the Minister of Health, if an epidemic notice is in force, or if an emergency has been declared under the Civil Defence Emergency Management Act 2002 (that is, forbid people or things from an infected place entering a healthy district; forbid people from leaving a healthy district or a place within it; and consider detaining people attempting to leave or enter an affected area). KD Commence immunisation once vaccine is available. KD 	<p>New Zealand Police and New Zealand Defence Force</p> <p>DHBs and PHUs</p> <p>Ministry of Health, DHBs and PHUs</p> <p>Ministry of Health, New Zealand Police and New Zealand Defence Force</p> <p>DHBs and PHUs</p>	<p>Epidemic Preparedness Act 2006; Civil Defence Emergency Management Act 2002; Health Act 1956, sections 70(1)(g) and (h), 79</p> <p>No powers required</p> <p>No powers required</p> <p>Epidemic Preparedness Act 2006; Civil Defence Emergency Management Act 2002; Health Act 1956, sections 70(1)(g) and (h), 79</p> <p>No powers required</p>	<p>Part A, Intersectoral Response, Law and order and emergency services work stream</p> <p>Part C, Containment Measures, Cluster control, Restriction of movement</p>

Function	Action	Responsibility	Authority	Further information from NZIPAP 2010
Health care and emergency response	<ul style="list-style-type: none"> Isolate cases for 48 hours and treat according to clinical advice and antiviral policies. 	Medical officer of health	Health Act 1956	Part C, Containment Measures, Cluster control; Manage It, Antiviral medicine
	<ul style="list-style-type: none"> Use human resource guidelines and policies prepared by DHB human resource managers for major emergencies to implement human resource programmes as required. 	DHBs and PHUs	No powers required	
	<ul style="list-style-type: none"> Track all staff contacts of cases and review their health status. Report on staff absences to the Ministry of Health to inform national policy. 	DHBs and PHUs	No powers required	
	<ul style="list-style-type: none"> Test suspect cases, using the PCR test; test cases in the community or in a hospital when clinically indicated; provide information to suspect cases by telephone. 	DHBs, hospitals and general practices, in liaison with PHUs	No powers required	
	<ul style="list-style-type: none"> Liaise with local ambulance services to provide updated information on service requirements. 	DHBs and PHUs	No powers required	
	<ul style="list-style-type: none"> Consider activating CBACs to support cluster control responses. 	DHBs and Ministry of Health KD	No powers required	Part C, Manage It, Community-based assessment centres
	<ul style="list-style-type: none"> Consider activating regional response structures. 	DHBs and Ministry of Health KD	No powers required	National Health Emergency Plan 2008
Communications and health education	<ul style="list-style-type: none"> Co-ordinate communications to foreign governments and New Zealanders overseas about the situation in New Zealand. 	Ministry of Foreign Affairs and Trade	No powers required	Part A, Intersectoral Response, External work stream

Function	Action	Responsibility	Authority	Further information from NZIPAP 2010
Communications and health education (continued)	<ul style="list-style-type: none"> Implement a multi-media campaign fronted by a trusted authority figure covering: <ul style="list-style-type: none"> – hygiene – social distancing – self-care and caring for others – staying safe – limiting spread – control interventions – accessing advice and help. Distribute information to their staff, sector and clients through their normal channels at national and local levels. Ensure material is customised and uses appropriate channels to reach populations who may be more susceptible, such as: <ul style="list-style-type: none"> – Māori – Pacific peoples – Non-English-speaking communities – vulnerable groups, as informed by epidemiological data. Expand the capacity of telephone helplines to meet an increase in demand from the public and health professionals. Distribute situation reports and intelligence summaries. 	<p>Ministry of Health, with the support of other agencies as required</p> <p>All agencies: Ministry of Health, DHBs and PHUs, with the support of other agencies as required</p> <p>Ministry of Health, DHBs and PHUs</p>	<p>No powers required</p> <p>No powers required</p> <p>No powers required</p>	<p>Part C and Appendix A, Public Information Management Strategy</p>

Function	Action	Responsibility	Authority	Further information from NZIPAP 2010
Communications and health education (continued)	<ul style="list-style-type: none"> • Provide customised information to overseas visitors in New Zealand. 	The Ministry of Tourism – in liaison with the Ministry of Health, Tourism New Zealand and the Tourism Industry Association.	No powers required	
Other cross-sectoral actions	<ul style="list-style-type: none"> • Focus on ensuring and maintaining appropriate engagement with the Ministry of Health as the lead agency in order to inform action. • Ensure contact details for each agency are up to date. • Keep staff and sectors updated on the evolving situation. • Ensure response staff are given the opportunity for rest and recuperation. 	All agencies	No powers required	Part A

Manage It

Pandemic Management

Potential triggers

Multiple clusters in New Zealand at separate locations or clusters spreading out of control

Logistically impossible to maintain cluster control activities

Sustained and substantial transmission in the population

Objective


To reduce the impact of pandemic influenza on New Zealand's population

Key decisions

- Release antivirals for use according to policy, and monitor antiviral usage.
- Order pandemic vaccine, if available, following pandemic declaration by WHO.
- Consider the need for an epidemic notice, if one is not already in force, and/or declaring a state of local or national emergency under the Civil Defence Emergency Management Act 2002, and review their implementation on an ongoing basis.
- Review the need for containment measures, and implement as necessary.
- Consider setting national prioritisation criteria for the distribution and usage of critical goods and services that may be in short supply.

Manage It phase

 An animal or hybrid animal–human influenza virus has caused clusters of disease in at least two of the following geographical regions: Africa, Asia, Europe, the Americas or Oceania (pandemic probability is certain).

 There is increased and substantial transmission in the general population.

The application of Manage It phase actions will depend on the epidemiology of the pandemic virus and its spread in different regions. Some districts or regions may remain at the Stamp It Out phase, while others move to the Manage It phase. Movement from the Manage It phase into the Stamp It Out phase may also vary. Targeted Stamp It Out programmes may be maintained in these phases to protect populations at greater risk.

Function	Action	Responsibility	Authority	Further information from NZIPAP 2010 (Part: Chapter, Section)
Planning, co-ordination and reporting	<ul style="list-style-type: none"> Review actions and decisions and adjust to the current situation. Implement new actions as the evolving situation demands. Ensure the NHCC is adequately resourced for the increase in demand, and consider possible activation of the National Crisis Management Centre (NCMC). Consider the need for an epidemic notice. 	All agencies	No powers required	Part B, All previous phases
		Ministry of Health	No powers required	Part A, Summary of Roles
		Ministry of Health, Minister of Health and Prime Minister	Epidemic Preparedness Act 2006	Part C, Legislation

KD

Function	Action	Responsibility	Authority	Further information from NZIPAP 2010 (Part: Chapter, Section)
Planning, co-ordination and reporting (continued)	<ul style="list-style-type: none"> Consider declaring a state of local or national emergency under the Civil Defence Emergency Management Act 2002, if not already in force. KD 	Local government, Ministry of Civil Defence and Emergency Management and ODESC	Civil Defence Emergency Management Act 2002, Part 4	Part C, Legislation
	<ul style="list-style-type: none"> Order the pandemic vaccine, if available, following a pandemic declaration by WHO. KD 	Ministry of Health	No powers required	Part C, Containment Measures, Cluster control, Vaccination
	<ul style="list-style-type: none"> Release antivirals for use according to policy, and monitor antiviral usage. KD 	Ministry of Health	No powers required	Part C, Manage It, Antiviral medicine
	<ul style="list-style-type: none"> Activate recovery arrangements. KD 	All agencies	No powers required	Part C, Recover from It
	<ul style="list-style-type: none"> Consider setting national prioritisation criteria for the distribution and usage of critical goods and services that may be in short supply. KD 	All agencies	Civil Defence Emergency Management Act 2002, Part 4; Health Act 1956; other sector-specific legislation	Part C, Manage It; Recover from It
	Intelligence	<ul style="list-style-type: none"> Change the overall emphasis in surveillance activities from nationwide detection of cases and clusters to extensive assessment of the general spread, the health and social impacts of the pandemic, and the efficacy of control measures. 	Ministry of Health, DHBs, PHUs and agencies focused on social and economic impact	No powers required

Function	Action	Responsibility	Authority	Further information from NZIPAP 2010 (Part: Chapter, Section)	
Intelligence (continued)	<ul style="list-style-type: none"> Consider targeting containment surveillance programmes in higher-risk settings and in vulnerable population groups. Monitor Healthline calls. Monitor information from CBACs, primary care services and hospitals on patients seen; clinical status; capacity of critical services such as emergency departments, laboratory services and ICUs; and usage of national reserve supplies. Monitor mortality data and influenza-like illness. Monitor workforce absence at sentinel sites. Monitor antiviral resistance. Monitor the load on, and capacity of, the health sector. Monitor laboratory capacity and prioritise services, if required. Review surveillance of animals in areas where humans are affected. Monitor the situation overseas. Distribute situation reports and intelligence summaries. 	Ministry of Health, DHBs, PHUs and ESR	No powers required	Part C, Intelligence	
		MAF Biosecurity New Zealand	Biosecurity Act 1993, sections 43, 109, 114, 121	Part A, Intersectoral Response, Biosecurity work stream	
		Ministry of Health, MAF Biosecurity New Zealand and Ministry of Foreign Affairs and Trade	No powers required	Part A, Intersectoral Response, Health, Biosecurity and External work streams	
		Ministry of Health and DHBs			
	Public health interventions: border management	Re-evaluate border measures and ensure a nationally consistent approach.	Border agencies	No powers required	Part B, all previous phases
		Implement exit assessment if required.		Health Act 1956, section 71	Part C, Legislation

Part B: The Action Plan

Function	Action	Responsibility	Authority	Further information from NZIPAP 2010 (Part: Chapter, Section)
Public health interventions: other	<p>Re-evaluate actions and critical decisions implemented in the Stamp It Out phase. Consider the value of maintaining, increasing, targeting or reducing interventions such as:</p> <ul style="list-style-type: none"> measures to slow the spread of the pandemic, including closure of the education sector, social distancing, advice on staying home, focusing on hygiene, reduction or restriction of travel, restrictions on public gatherings and venues, and voluntary quarantine of contacts programmes tailored to high-risk populations or settings. KD 	Ministry of Health (lead), PHUs, DHBs and other Government agencies	No powers required	Part B, all previous phases
Health care and emergency response	<ul style="list-style-type: none"> Action regional plans locally and/or regionally as necessary or directed, including for primary care, CBACs, hospital services, and antiviral and antibiotic distribution. Increase and support national, regional and local telephone triage as necessary, and monitor demand. Provide relevant and accessible information to higher-risk populations and settings. Engage with intensivists and monitor ICU capability and capacity. Apply national DHB human resource guidelines and resources locally. Review core competencies required to deliver critical services under pressure (eg, in an ICU or primary health care) in order to inform any reprioritisation of health resources locally, regionally or nationally. Monitor the impact on critical hospital services; postpone electives if required and liaise with other DHBs to make best use of available regional and national resources. 	DHBs and Ministry of Health	No powers required	Part C, Manage It, Community-based assessment centres; Telephone triage

Function	Action	Responsibility	Authority	Further information from NZIPAP 2010 (Part: Chapter, Section)
Health care and emergency response (continued)	<ul style="list-style-type: none"> Report to the Ministry of Health on service capacity, as required. Comply with any national service or resource priority criteria the Ministry of Health establishes. Liaise with ambulance providers to prioritise the use of this service, if required. Monitor use of personal protective equipment and respond to DHB requests for use or distribution of such equipment from the National Reserve Supply. 	DHBs	No powers required	
Communications and health education	<p>Implement measures applicable to the Stamp It Out phase, and additionally:</p> <ul style="list-style-type: none"> review the communications strategy, with special reference to audiences and key messages, incorporating feedback from media monitoring and other agencies' channels and intelligence (ongoing) evaluate and refresh paid media campaigns and inter-agency communications and consultation (ongoing) liaise with WHO and the Australian Department of Health and Ageing on all issues (ongoing) co-ordinate communications to foreign governments about the situation in New Zealand, and advise New Zealanders overseas create and distribute situation reports and intelligence summaries. 	Ministry of Health	No powers required	Part C and Appendix A, Public Information Management Strategy
		Ministry of Health, with support from other agencies as required	No powers required	
		Ministry of Health	No powers required	
		Ministry of Health	No powers required	
		Ministry of Foreign Affairs and Trade	No powers required	Part A, Intersectoral Response, External work stream
		Ministry of Health		

Function	Action	Responsibility	Authority	Further information from NZIPAP 2010 (Part: Chapter, Section)
Other cross-sectoral actions	<p>Implement measures applicable to the Stamp It Out phase, and in particular:</p> <ul style="list-style-type: none"> • focus on ensuring and maintaining appropriate engagement with the Ministry of Health as the lead agency • keep contact details of each agency up to date • keep staff and sector of each agency updated on the evolving situation • monitor staff absence • undertake preparatory actions for the Manage It: Post-Peak and Recover From It phases • ensure response staff are given the opportunity for rest and recuperation. • use Planning for <i>Individual and Community Recovery in an Emergency Event</i>. National Health Emergency Plan (Ministry of Health 2007b) to inform recovery planning. 	All agencies	No powers required	<p>Part A, Pandemic Planning; Summary of Roles</p> <p>Part C, Recover from It</p>

Manage It: Post-Peak

Potential trigger

Wave decreasing, but the possibility of a resurgence or new wave remains

Objective

To move towards the restoration of normal services, expediting recovery, while preparing for a re-escalation of the response

Key decisions

Many actions for this phase are common to all pandemics, whether mild or moderate. Additional actions relate to key decisions on:

- establishing recovery offices
- implementing vaccination programmes
- re-opening schools
- lifting travel restrictions
- lifting restrictions on public gatherings
- preparing to re-introduce interventions from earlier phases at short notice, if required, should there be a resurgence or a new wave of the pandemic.

Manage It Post-Peak phase

★ Levels of pandemic influenza in most countries with adequate surveillance have dropped below peak levels.

⦿ The wave of pandemic influenza is decreasing, but there is the possibility of a resurgence or a new wave.

It is likely that actions applied in the Manage It phase will be slowly stood down, and that actions for the Recovery phase will be introduced and strengthened at this point. (See tables pertaining to the Manage It and Recover From It phases for more information.) This phase may occur at different times across the country, reflecting local circumstances. At this stage the maintenance of surveillance and intelligence activities is particularly important in order to obtain early warning of any change in circumstances that requires action. Should there be a resurgence of the pandemic, the actions implemented in previous phases may need to be re-introduced at short notice.

Function	Action	Responsibility	Authority	Further information from NZIPAP 2010
Planning, co-ordination and reporting	<ul style="list-style-type: none"> • Inform agencies of the change in phase. 	Ministry of Health		
	<ul style="list-style-type: none"> • Review actions and decisions, in particular actions relating to key decisions made in earlier phases. Stand down controls and programmes when feasible, noting that they may need to be re-introduced quickly if there is a resurgence. 	All agencies	No powers required	Part B, All previous phases
	<ul style="list-style-type: none"> • Debrief staff and agencies, and collate lessons learned in order to better inform planning and future responses. 	All agencies	No powers required	
	<ul style="list-style-type: none"> • Evaluate the effectiveness of measures used and update plans, guidelines, protocols and algorithms accordingly. 	All agencies	No powers required	
	<ul style="list-style-type: none"> • Collate report on lessons learned in the New Zealand health and intersectoral response in order to inform planning and future responses, using an evaluation framework. 	Ministry of Health	No powers required	
	<ul style="list-style-type: none"> • Collate resources and store material developed in the response for use in future pandemics. 	All agencies	No powers required	
	<ul style="list-style-type: none"> • Review activation of the NHCC and NCMC, and prepare to transition to the Recovery phase co-ordination mechanism, the Plan For It phase. 	Ministry of Health	No powers required	Part A, Summary of Roles, Co-ordination arrangements
	<ul style="list-style-type: none"> • Review the ongoing need for an epidemic notice or the activation of special legislative powers. 	Ministry of Health, Minister of Health and Prime Minister	Epidemic Preparedness Act 2006	Part C, Legislation
	<ul style="list-style-type: none"> • Review the ongoing need for a declaration of a state of local or national emergency under the Civil Defence Emergency Management Act 2002. 	Local government, Ministry of Civil Defence and Emergency Management and DESC	Civil Defence Emergency Management Act 2002, Part 4	Part C, Legislation

Function	Action	Responsibility	Authority	Further information from NZIPAP 2010
Planning, co-ordination and reporting (continued)	<ul style="list-style-type: none"> Review usage of national reserve supplies, and consider re-ordering supplies. Implement activation of recovery arrangements as required. KD 	Ministry of Health	No powers required	Part C
	<ul style="list-style-type: none"> Prepare to re-introduce interventions from earlier phases at short notice, if required, should there be a resurgence. KD 	All agencies	No powers required	Part B, All previous phases
Intelligence	<ul style="list-style-type: none"> Review surveillance programmes applied in earlier phases in order to focus activities on early detection of any resurgence. Distribute situation reports and intelligence summaries. Monitor the load on and capacity of the health sector. Continue antiviral resistance monitoring. Analyse epidemiological data in order to inform programmes to be re-introduced in a resurgence. 	Ministry of Health	No powers required	Part C, Intelligence, surveillance
	<ul style="list-style-type: none"> Review the surveillance of animals in areas where humans are affected. 	Ministry of Agriculture and Forestry	Biosecurity Act 1993, sections 43, 109, 114, 121	Part B, Plan For it
Public health interventions	<ul style="list-style-type: none"> Monitor the situation overseas to identify any changes in frequency and severity of the pandemic, and in management plans and guidance from critical international bodies (such as WHO). 	Ministry of Health, MAF Biosecurity New Zealand and Ministry of Foreign Affairs and Trade	No powers required	Part A, Intersectoral Response, External, Health and Biosecurity work streams
	<ul style="list-style-type: none"> Re-evaluate measures that have been put in place, and return to business as usual when justified. Continue or commence a pandemic vaccination programme, as required. KD 	All border agencies, PHUs DHBs and PHUs	All previous phases No powers required	All previous phases Part C, Vaccination

Part B: The Action Plan

Function	Action	Responsibility	Authority	Further information from NZIPAP 2010
Public health interventions	<ul style="list-style-type: none"> • Reopen educational institutions and childcare facilities, when justified. 	<p>Ministry of Education, Ministry of Health and PHUs</p> <p>KD</p>	Health Act 1956; Civil Defence Emergency Management Act 2002	Part C, Containment Measures, Cluster control, Closure of education institutions to students and children
	<ul style="list-style-type: none"> • Lift any internal travel restrictions, when justified. 	<p>Ministry of Health and PHUs</p> <p>KD</p>	Health Act 1956; Civil Defence Emergency Management Act 2002	Part C, Containment Measures, Cluster control, Restriction of movement
	<ul style="list-style-type: none"> • Lift any restrictions on public gatherings, when justified. 	<p>Ministry of Health and PHUs</p> <p>KD</p>	Health Act 1956; Civil Defence Emergency Management Act 2002	Part C, Containment Measures, Cluster control, Hygiene and social distancing
Health care and emergency response	<ul style="list-style-type: none"> • Review actions and decisions and stand down controls and pandemic programmes when feasible, noting that they may need to be introduced quickly if there is a resurgence. • Prepare to return to business as usual. 	DHBs, PHUs and Ministry of Health	No powers required	Part C, Manage It: Post-Peak
Communications and health education	<ul style="list-style-type: none"> • Update the public and agencies on any changes to the status of the pandemic (ongoing). • Ensure the public and agencies are aware it is possible that the pandemic will resurge or that a second wave will occur, so they remain vigilant. • Review the communications strategy, with special reference to audiences and key messages, incorporating feedback from media monitoring and other agencies' channels and intelligence (ongoing). 	Ministry of Health	No powers required	Part C and Appendix A, Public Information Management Strategy

Function	Action	Responsibility	Authority	Further information from NZIPAP 2010
Communications and health education (continued)	<ul style="list-style-type: none"> • Evaluate or refresh awareness campaigns (ongoing). • Initiate development of a recovery campaign with reference to post-trauma knowledge and best practice. • Consult with all key agencies (ongoing). • Liaise with WHO and the Australian Department of Health and Ageing (ongoing). • Disseminate key messages on the post-peak situation, consistent with communications released by the Ministry of Health. • Update advice on travel. • Disseminate information on travel to New Zealand • Co-ordinate communications to foreign governments on the situation in New Zealand, and advise New Zealanders overseas. 	Ministry of Health	No powers required	Part C and Appendix A, Public Information Management Strategy
		All agencies	No powers required	Part C and Appendix A, Public Information Management Strategy
		Ministry of Foreign Affairs and Trade	No powers required	
		The Ministry of Tourism – in liaison with the Ministry of Health, Tourism New Zealand and the Tourism Industry Association.	No powers required	
		Ministry of Foreign Affairs and Trade	No powers required	Part A, Intersectoral Response, External work stream

Function	Action	Responsibility	Authority	Further information from NZIPAP 2010
Other cross-sectoral actions	<ul style="list-style-type: none"> • Ensure response staff are given the opportunity for rest and recuperation. • Maintain appropriate engagement with the Ministry of Health as the lead agency. • Ensure each agency's single point of contact details are disseminated to other agencies. • Maintain a contact list of other agencies. • Keep staff updated of the evolving situation. • Use <i>Planning for Individual and Community Recovery in an Emergency Event</i>. National Health Emergency Plan. (Ministry of Health 2007b) to inform recovery planning. 	All agencies	No powers required	Part C, Recover from It

Recover From It

Recovery

Potential trigger

Population protected by vaccination or pandemic abated in New Zealand

Objective

To expedite the recovery of population health, communities and society where they have been affected by the pandemic, pandemic management measures or disruption to normal services

Key decisions

Most decisions listed for this phase are common to all pandemics, whether mild or severe, and focus on phasing out programmes introduced in earlier phases, noting that recovery takes time and that some controls and programmes may need to be retained for a period while society gradually returns to normal. In a mild pandemic there may be no need for a specific recovery phase. In more severe pandemics, decisions may need to be made on:

- the establishment of recovery offices
- setting or maintaining national prioritisation criteria for the distribution and usage of critical goods and services temporarily in short supply.

Recover From It phase

- ★ The level of influenza in most countries with adequate surveillance has returned to that normally seen for seasonal influenza.
- ☼ The pandemic is over and/or the population has been protected by vaccination.

Function	Action	Responsibility	Authority	Further information from NZIPAP 2010 (Part: Chapter, Section)
Planning, co-ordination and reporting	<ul style="list-style-type: none"> Review actions and decisions, and develop phased plans for ceasing programmes introduced in earlier phases, starting or continuing recovery-specific programmes, and returning to business-as-usual activities. Give iterative consideration to activating or standing down recovery activities as demanded by the situation. Review the ongoing need for an epidemic notice. Review the ongoing need for a declaration of a state of local or national emergency under the Civil Defence Emergency Management Act 2002. Review antiviral, antibiotic and other national reserve supply stocks, recall unused supplies to the national reserve, and reassess the need to re-order. Deactivate, when appropriate, the NHCC, NCMC and other emergency operations centres. Give iterative consideration to the need to establish or de-activate operation recovery offices. 	<p>All agencies</p> <p>All agencies</p> <p>Ministry of Health, Minister of Health and Prime Minister</p> <p>Local government, Ministry of Civil Defence and Emergency Management and ODESC</p> <p>Ministry of Health</p> <p>All agencies</p> <p>All agencies</p>	<p>No powers required</p> <p>No powers required</p> <p>Epidemic Preparedness Act 2006</p> <p>Civil Defence Emergency Management Act 2002, Part 4</p> <p>No powers required</p> <p>No powers required</p> <p>No powers required</p>	<p>Part B, All previous phases</p> <p>Part C, Recover From It</p> <p>Part C, Legislation</p> <p>Part C, Legislation</p> <p>Part C</p> <p>Part A, Summary of Roles, Co-ordination arrangements</p> <p>Part C, Recover From It</p>

KD

Function	Action	Responsibility	Authority	Further information from NZIPAP 2010 (Part: Chapter, Section)
Planning, co-ordination and reporting (continued)	<ul style="list-style-type: none"> Consider setting national prioritisation criteria for the distribution and usage of critical goods and services temporarily in short supply. KD 	All agencies	Civil Defence Emergency Management Act 2002, Part 4; Health Act 1956; other sector-specific legislation	Part C, Recover From It
Intelligence	<ul style="list-style-type: none"> Review current surveillance activities and maintain those required during the transition to full recovery (eg, those providing information on health service impact). Distribute situation reports and intelligence summaries. Monitor the load on and capacity of the health sector. Return to Plan For It activities when recovery is complete. 	Ministry of Health	No powers required	Part B, Plan For It
Public health interventions	<ul style="list-style-type: none"> Move to routine measures as implemented in the Plan For It phase. 	Ministry of Health and DHBs	No powers required	Part B, Plan For It
Health care and emergency response	<ul style="list-style-type: none"> Implement a phased stand-down of response activities. Focus on recovery activities. Assess priorities for business resumption. Resume business-as-usual services gradually. Organise debriefings. Review the lessons learned. Revisit, review and revise plans accordingly. Move to routine measures as implemented in the Plan For It phase. 	All agencies	No powers required	Part B, Plan For It
		All border agencies, PHUs	No powers required	Part B, Plan For It
		Ministry of Health and DHBs	No powers required	Part C, Recover From It

Function	Action	Responsibility	Authority	Further information from NZIPAP 2010 (Part: Chapter, Section)
Communications and health education	<ul style="list-style-type: none"> Review the communications strategy, with special reference to audiences and key messages, incorporating feedback from monitoring and information from other agencies (ongoing). Initiate recovery information and actions campaign. Co-ordinate communications to foreign governments and New Zealanders overseas about the situation in New Zealand. 	Ministry of Health, with the support of other agencies	No powers required	Part C and Appendix A, Public Information Management Strategy
Other cross-sectoral actions	<ul style="list-style-type: none"> Implement a phased stand-down of response activities. Focus on recovery activities. Use Ministry of Civil Defence and Emergency Management and Ministry of Health resources to inform recovery planning. Assess priorities for business resumption. Resume business-as-usual services gradually. Ensure each agency's single point of contact details are disseminated to other agencies. Maintain a contact list of other agencies. Organise debriefings. Review the lessons learned. Revisit, review and revise plans accordingly. Move to actions implemented in the Plan For It phase. 	Ministry of Foreign Affairs and Trade All agencies	No powers required	Part A, Intersectoral Response, External work stream Part C: Recover From It

Part C: Explanatory Material

Explanatory material

Public Information Management Strategy

Overarching principles

Public information management is part of an integrated strategy to provide leadership for the public, the health sector and other sectors during a pandemic and complement the Ministry of Health and wider sector pandemic response.

The Public Information Management Strategy allows the Ministry of Health to explain what it is doing and to advise the public as the pandemic progresses. It is designed to avoid confusion and maintain accuracy, clarity and consistency of message. The overarching principles of the strategy are to:

- build trust
- announce early
- be transparent
- respect public concerns
- plan in advance.

This strategy recognises that information is essential to the effective management of a pandemic response, and that in a pandemic one of the most critical roles of the Ministry of Health will be to provide leadership and co-ordination in communications.

Materials produced by the Ministry of Health will be used and, as required, customised by District Health Boards (DHBs) and other national and local agencies in their responses. For example, DHBs and their providers can take national resources, add in local details on how the public can obtain advice and treatment, and disseminate this material through local community networks and media.

It is important to recognise that different districts may be at different response phases at any given time. It is therefore important to ensure that national information is adapted and disseminated by local agencies (such as DHBs) to meet local circumstances.

The Co-ordinated Incident Management System (CIMS) and the National Health Co-ordination Centre (NHCC) established by the Ministry of Health provide mechanisms for communicating with the sector, operational groups and other agencies. Although every organisation will be largely responsible for communications with its own audiences, this strategy provides leadership, consistency and co-ordination. Other organisations should base their communications on material produced by the NHCC.

The Public Information Management Strategy is an evolving strategy that is designed to be revised as more is learnt about a pandemic and its characteristics. New information will allow the Ministry of Health to better target our messages and manage our communications more effectively.

The Ministry of Health in its public information management function within the NHCC will:

- lead all communications on human health
- ensure the appointment of a public information management manager with the ability to carry out the necessary responsibilities supported by an adequate team of communications staff throughout the phases of a pandemic
- resource the production of informative materials, public awareness campaigns and so on, appropriate to the phase and level of risk
- support the liaison team in the NHCC to provide guidance and advice to other Government agencies taking responsibility for devising key messages appropriate to their agency or sector
- support the operations team in the NHCC to develop detailed drop-down plans for specific activities and audiences in operational areas (for example border control, primary health care and recovery).

Communications objectives

The provision of information on an influenza pandemic needs to be timely, deliberate, accurate, authoritative, planned and sustained, with the aim of establishing and maintaining mutual understanding between those managing the response and between agencies and the public.

Key objectives are to:

- maintain public confidence in the response and in agencies' competence and capability
- be proactive and provide information before people know they need it
- be flexible enough to respond to unforeseen or changing circumstances
- ensure those who need information and advice, including external and international agencies and non-governmental organisations get accurate, consistent and timely information and advice on which to base their own communications and responses
- create a level of public awareness and a sense of urgency appropriate for the level of risk without creating alarm or panic
- be open and honest in raising awareness of the potential consequences of an influenza pandemic
- discuss all potential threats and ensure audiences are aware of them
- ensure New Zealanders and overseas visitors have clear and simple information about how to prepare themselves and their families/whānau for a pandemic, and where to get help
- ensure the public receives clear and frequent information about the steps to take to protect themselves and others (e.g, health and hygiene messages such as the importance of hand-washing, cough etiquette, social distancing and self-care).

Sequence of communication planning and key messages

Discrete initiatives and key messages will be developed for specific audiences and different phases. Appendix A provides an overview of these.

Intelligence

Intelligence functions

Important intelligence activities include:

- gathering and assessing information on relevant international developments, actions and advice
- surveillance of influenza-like illness, viral isolates and unusual events
- enhancing surveillance during a pandemic response
- monitoring response activities and resources (in the health sector and other sectors)
- evaluating response activities (in the health sector and other sectors)
- assessing impacts on health services, society and the economy
- assessing impacts on non-health services and sectors
- gathering clinical information about illness and management
- gathering and assessing epidemiological information (including time trends, geography and impacts on population groups)
- reviewing and assessing virology data
- reviewing mortality data
- reviewing legislative options
- undertaking analysis to support planning and decision-making (including modelling)
- undertaking other research.

A number of these functions can be categorised as ‘surveillance’.

Information gathered by way of these activities should be analysed and used to produce reports and provide advice to the health sector and other sectors as needed.

Government agencies are responsible for monitoring the impact of a pandemic and monitoring, evaluating and reporting on response activities in their own sectors and through the work streams identified in Part A, and reporting on these activities to the NHCC and NCMC.

Surveillance

Surveillance is the key intelligence function performed by health and other agencies before and during a pandemic, particularly at the national level. Pandemic surveillance involves the ongoing, systematic collection, analysis, interpretation and dissemination of data to inform planning and response activities, and, ultimately, to reduce morbidity and mortality.

Important objectives for the pandemic surveillance health agencies carry out are outlined in Table 6, along with national systems and data sources in place as at 2009. Resources and functions allocated to (and within) health planning and intelligence teams need to take account of these.

An important priority between pandemics is ensuring that influenza surveillance will be able to be enhanced in a pandemic. Throughout all phases the Ministry of Health will work with

Environmental Science and Research Ltd (ESR) and other agencies to collect and analyse data, which will allow early determination of national trends. The Ministry of Health will use its networks to facilitate prompt public health action on the basis of this data analysis.

The objectives for public health surveillance and the surveillance methods used will change as a pandemic develops and spreads through the country. In the Plan For It phase, the priority is to improve surveillance systems and monitor the international situation to inform pandemic preparedness. As the country moves through the Keep It Out and Stamp It Out phases, the early detection of imported and secondary cases and clusters becomes the priority, so appropriate control measures can be implemented. In the Manage It phase, characterised by widespread disease in New Zealand, intensive efforts towards the detection of cases will be replaced by monitoring the progress of the pandemic; assessing its impact on the population, health and social services, and critical infrastructure; and assessing the effectiveness of response activities.

No single surveillance system or information source can provide all the information needed for pandemic preparedness, control and management. Surveillance systems will be under considerable pressure in during a pandemic, when resources are likely to be limited. Given the short incubation and latency periods of a virus and potential delays in diagnosis, notification and action, decisions will need to anticipate the likely situation in two to three generations of the virus (four to six days), rather than respond to current information, which may no longer be accurate.

Central and local government, the health sector, social service agencies, the media and the public will have their own information needs, but important common requirements include:

- the implementation of robust surveillance infrastructure and operations that can operate in a timely manner
- the use of simple, existing information sources and surveillance methods where possible
- consideration of how enhancing existing systems would compare with creating new systems (that is, carrying out costs and benefits analyses)
- appropriate checks and balances for monitoring the quality of new surveillance systems
- making multiple use of information – gather once, avoid duplication and use for many purposes
- the existence of a variety of collection methods, so that the collapse of one source can be compensated for
- integration and consistency with other pandemic-related information management planning and development activities.

Table 6: Health sector surveillance objectives and systems (as at 1 March 2010)

Objective	National strategy or systems	Owner	Relevant phase
Identify and monitor international events of concern and related advice to inform action in New Zealand	International Health Regulations 2005 and World Health Organization (WHO) communication channels	Ministry of Health	All
Detect cases and clusters early	Notification through public health units (PHUs) and laboratories	PHUs, Ministry of Health	Keep It Out, Stamp It Out
Detect cases and contacts	Monitoring of probable and confirmed cases notified to the local medical officer of health and through EpiSurv (a database that collates notifiable disease information)	ESR	All
Detect community transmission	EpiSurv and sentinel surveillance in various settings, as noted below	Ministry of Health, ESR	Stamp It Out
Monitor the level of influenza activity in the community and the pressure on primary health care services	Monitoring of influenza-like illness consultations in sentinel general practices ESR sentinel surveillance (also includes viral isolates) HealthStat sentinel surveillance Monitoring of calls to Healthline concerning influenza-like illness Possible sero-prevalence surveys to assess levels of exposure among people in the community	ESR Ministry of Health	All
Monitor containment activities being undertaken	Monitoring of, for example: <ul style="list-style-type: none"> volumes of flights levels of contact tracing laboratory testing Possible use of data from the Pandemic Minimum Data Set (PMDS) in the future may assist	Ministry of Health, PHUs, DHBs Ministry of Transport	Keep It Out, Stamp It Out
Monitor pressure and impacts on health services and levels of resources	Monitoring of, for example: <ul style="list-style-type: none"> PHUs ambulance services primary health care use hospitalisations intensive care unit admissions illness among personnel antivirals (national reserve supplies) laboratory testing Healthline calls Possible use of PMDS data in the future may assist	Ministry of Health, DHBs	All

Objective	National strategy or systems	Owner	Relevant phase
Monitor the impact on the community and population groups	<p>Monitoring of data on absences from:</p> <ul style="list-style-type: none"> • schools • the workforce in DHBs and PHUs • employers in certain industries • the state sector <p>Epidemiological analysis and research on impacts across population groups</p> <p>Possible use of PMDS data in the future may assist</p>	Ministry of Health, DHBs/PHUs, Ministry of Education, State Services Commission	All
Monitor calls to Healthline to provide additional data on the pandemic wave	Monitoring of Healthline calls (free national 0800 24-hour telephone health advice service). Data collected includes daily counts of all calls and those triaged for influenza-like-illness	Ministry of Health	All
Assess the effectiveness of interventions	Review and evaluation of the pandemic response	Ministry of Health, other government agencies	All
Detect and monitor deaths	EpiSurv and the Office of the Chief Coroner. Only deaths confirmed as being due to the pandemic virus are reported by the Ministry of Health and reported to WHO	Ministry of Health	All
Track the characteristics of the virus internationally, including information on incubation and infectious periods, severity, transmissibility, and antiviral sensitivity	Epidemiological reports from WHO, other health authorities, and sources	Ministry of Health	All
Track the characteristics of the virus locally	<p>Weekly reporting of influenza virus isolates sent to virology laboratories and collated by ESR for both sentinel and non-sentinel swabs</p> <p>DNA sequencing</p> <p>Antiviral resistance testing</p>	ESR	All

Legislation

Compulsory measures are authorised by statute

Any action specified in this plan in relation to individuals that includes the possibility of compulsory measures being taken (ie, an action undertaken even if against a person's will) must be authorised by statute. The action is otherwise likely to be unlawful and, in particular, might be contrary to the New Zealand Bill of Rights Act 1990.

Compulsory measures include:

- requirements for people to be tested and screened
- quarantining or isolating people (that is, removing symptomatic or non-symptomatic people to a quarantine or treatment facility or prohibiting them from leaving a particular facility)
- restricting the movement of people into or out of an area
- restricting travel of people (within or out of New Zealand)
- imposing a duty to supply information (eg, future travel plans or past travel history)
- requirements on people to undergo preventive treatment
- requirements on people not to go to work or other public places or to do so only under certain conditions
- commandeering of resources (eg, land, buildings or vehicles).

Legislative powers

In a pandemic response, Government and designated officers may use available legislative powers as appropriate to the particular situation. These include:

- powers provided for in the Health Act 1956 ('routine' and 'special' powers)
- additional powers available under the Epidemic Preparedness Act 2006 to facilitate the management of *serious* epidemics of specified diseases
- additional powers under the Civil Defence Emergency Management Act 2002 (in a state of emergency declared under that Act) if required in a very severe situation.

The powers in the Health Act 1956 and the Epidemic Preparedness Act 2006 can be exercised only in relation to specific diseases or categories of disease (that is, infectious disease or quarantinable disease). Specific powers may therefore only apply to specific diseases. In particular, the Epidemic Preparedness Act 2006 relates to only five named quarantinable diseases set out in Part 3 of Schedule 1, of the Health Act 1956. The lists of specific diseases in the schedules to the Act and the Health (Infectious and Notifiable Diseases) Regulations 1966 (made under the Health Act 1956) can be changed by Order in Council.

Other health legislation that contains provisions relevant to managing a pandemic includes:

- the Health (Burial) Regulations 1946
- the Health (Quarantine) Regulations 1983
- the Cremation Regulations 1983
- the Health Practitioners Competence Assurance Act 2003
- the Medicines Act 1981 (and regulations made under that Act)
- the New Zealand Public Health and Disability Act 2000.

The Medicines Act 1981 provides mechanisms for the classification of medicines and controls conditions for prescribing, dispensing and selling medicines. These controls can be changed quickly by notice in the Gazette and may be relevant in particular pandemic situations. For example, in 2009 a Gazette notice authorised the supply of prescription medications without a prescription when supplied from a community-based assessment centre (CBAC).

Table 7 provides a summary of specific legislative provisions.

Health Act 1956

The Health Act 1956 (and its associated regulations) is the core statute for a wide range of public health functions. It details significant health protection roles for the Minister of Health, Director-General of Health, Director of Public Health, statutory officers (such as medical officers of health and health protection officers) and local government officers (such as environmental health officers).

Medical officers of health and health protection officers would rely on two kinds of primary powers in a pandemic: routine and special.

- Routine powers are available to the officers, and do not need prior approval to use.
- Special powers (for medical officers of health only) need prior authorisation before they can be used. Such authorisation can be granted:
 - by the Minister of Health
 - by virtue of an epidemic notice having been issued by the Prime Minister under the Epidemic Preparedness Act 2006
 - by virtue of a state of emergency having been declared under the Civil Defence Emergency Management Act 2002.

Routine and special powers as defined in the legislation relate to specific diseases or categories of disease.

The term ‘non-seasonal influenza’ (capable of being transmitted between human beings) would apply to any new form of influenza. Non-seasonal influenza is now specified as an infectious disease by its inclusion in the Schedule 1 of the Health Act 1956. As such, medical officers of health may be authorised to use the Health Act’s special powers to help manage non-seasonal influenza in the event of a pandemic.

Routine powers

Five routine powers are relevant in the pandemic influenza context.

The power to enter any premises, including boarding an aircraft or ship, may be exercised at any reasonable time if the medical officer of health or health protection officer ‘has reason to believe that there is or recently has been any person suffering from a notifiable infectious disease or recently exposed to the infection of any such disease’ (section 77 of the Health Act 1956).

The power to examine allows a medical officer of health or health protection officer to medically examine any person in any premises, including on an aircraft or a ship, ‘to ascertain whether a person believed to be suffering from a notifiable infectious disease or recently exposed is suffering or has recently suffered from the disease’ (section 77 of the Health Act 1956).

The power to detain for isolation purposes allows a medical officer of health or health protection officer to make an order to remove a person to hospital or other suitable place for isolation, if the officer has reason to believe or suspect that the person, ‘whether suffering from an infectious disease or not, is likely to cause the spread of any infectious disease’ (section 79 of the Health Act 1956). The wording of this section allows the power to be used for both ‘cases’ (that is, sick people) and ‘contacts’ (that is, people who may have been exposed to the virus, but who have not yet developed, or may not develop, symptoms).

The power to prescribe medical treatment allows a medical officer of health or health protection officer to prescribe ‘preventive treatment’ for a person who is likely to cause the spread of an infectious disease. Such a person can be detained until they have undergone the prescribed treatment (section 79 of the Health Act 1956). This section does not authorise a person to be compulsorily given preventive treatment.

Powers under the Health (Infectious and Notifiable Diseases) Regulations provide legislative back-up to encourage co-operation in contact tracing, and to empower the exclusion by medical officers of health of specific children and teachers from school for the period specified in Schedule 2 of the regulations (eg, for non-seasonal influenza, a maximum of seven days).

Special powers

Four special powers authorised by the Minister of Health or by an epidemic notice or where an emergency has been declared under the Civil Defence Emergency Management Act 2002 are relevant in the pandemic influenza context.

The power to examine, allows a medical officer of health (or any medical practitioner authorised by the medical officer of health) to enter any premises, (including an aircraft or ship) if there is reason to believe that there is or recently has been any person either suffering from or exposed to a notifiable infectious disease, and may medically examine any person to determine if they have or have recently had any such disease (s.77 Health Act 1956).

The power to detain, isolate or quarantine allows a medical officer of health to ‘require persons, places, buildings, ships, vehicles, aircraft, animals, or things to be isolated, quarantined, or disinfected’ (section 70(1)(f) of the Health Act 1956).

The power to prescribe preventive treatment allows a medical officer of health, in respect of any person who has been isolated or quarantined, to require people to remain where they are isolated or quarantined until they have been medically examined and found to be free from infectious disease, and until they have undergone such preventive treatment as the medical officer of health prescribes (section 70(1)(h) of the Health Act 1956).

The power to requisition premises allows a medical officer of health to requisition premises and vehicles for the accommodation, treatment and transport of patients (section 71(1) of the Health Act 1956).

The power to close premises The closure of premises such as schools under sections 70(1)(1a) and 70(1)(m) of the Health Act 1956 can be required. This can be made by way of written order to the person in charge of the premises, or made by order published in a newspaper or broadcast by television or radio able to be received by most households in the district. If specified in the order, premises operating certain infection control measures may be exempted from closure.

Section 71A of the Health Act 1956 states that a member of the police may do anything reasonably necessary (including the use of force) to help a medical officer of health or any person authorised

by the medical officer of health in the exercise or performance of powers or functions under sections 70 or 71 of the Health Act 1956.

Epidemic Preparedness Act 2006

The Epidemic Preparedness Act 2006 provides for:

- the Prime Minister to issue an epidemic notice and epidemic management notices, and for statutory changes to then be made through ‘modification orders’
- epidemic modification orders to be made (prospectively or immediately) and passed by Order in Council.

Epidemic notices

Mechanism for invoking emergency powers

The provisions in the Epidemic Preparedness Act 2006 can take effect once an epidemic notice is issued by the Prime Minister. The Prime Minister may issue an epidemic notice only when recommended to do so by the Director-General of Health. The Prime Minister must be satisfied that the effects of an outbreak of a particular quarantinable disease are likely to disrupt (or continue to disrupt) essential government and business activity in New Zealand (or parts of New Zealand). The outbreak can be overseas or in New Zealand. Epidemic notices last for a maximum of three months and are renewable.

Effects of an epidemic notice

When an epidemic notice has been issued the special powers for medical officers of health under the Health Act 1956 are authorised. While an epidemic notice is in force the Prime Minister may, with the agreement of the responsible minister, issue an epidemic management notice. An epidemic management notice may activate, if this is specified in the notice, action under other statutes (which may refer to an epidemic management notice [section 8(1) of the Epidemic Preparedness Act 2006]), or a modification to a specific statute made by a prospective modification order. Immediate modification orders may also be made; these are designed to allow more flexibility in pandemic management than envisaged and addressed in any prospective modification orders. Implementation of a prospective or an immediate modification order must have the agreement of the Minister responsible for administering the relevant statute.

Modification orders

Effects of modification orders

Modification orders:

- can be absolute
- can be subject to conditions
- may be made by stating alternative means for complying with the requirements or restriction, or by substituting a discretionary power for the requirements or restriction.

Acts to which a modification cannot be made

A modification cannot be made to the New Zealand Bill of Rights Act 1990, Bill of Rights 1688, Constitution Act 1986, Electoral Act 1993, Judicature Amendment Act 1972 or Epidemic Preparedness Act 2006.

International Health Regulations 2005

The International Health Regulations 2005 require WHO member states to plan for and respond to disease outbreaks of all kinds, including pandemics. The scope of the regulations is broader than just communicable diseases, and includes any public health event of potential international significance: for instance, emergencies arising from toxicological, radioactive or other sources (WHO 2006).

Under the International Health Regulations 2005, countries must designate a national focal point for co-ordination and communication with WHO, to respond to requests from WHO for information about public health risks and to notify WHO within 24 hours of any event that may be a public health emergency of international concern.

A public health emergency of international concern is defined in the International Health Regulations 2005 as an extraordinary public health event that requires an international response. Countries must notify WHO in accordance with a decision instrument as set out in Annex 2 of the regulations. The Office of the Director of Public Health in the Ministry of Health is the national focal point in New Zealand.

Under the International Health Regulations 2005, countries must develop and maintain capacities for surveillance, investigating, responding to and reporting of all potentially significant public health events. These core public health capacities must be in place locally or regionally, nationally and at the border.

One specific requirement of the International Health Regulations 2005 is that countries take measures to avoid exporting disease. In a pandemic, this means that once cases have been identified in New Zealand, measures may be needed at the border for departing travellers (eg, exit assessment).

Public Health Bill

As at 30 March 2010, the Public Health Bill is awaiting its second reading in Parliament. It is intended that this Bill will replace the Health Act 1956, and so comprise the core statute for the management of communicable disease, border health protection and public health emergencies.

Prevention and control of communicable disease

The Public Health Bill contains provisions for the reporting of notifiable conditions and of any potentially serious public health events. It includes provisions for medical officers of health to issue directions to manage conditions posing health risks, including in situations where urgency is required. Specific provisions support contact tracing and allow court orders for examination, detention and isolation.

Border health protection

The Public Health Bill gives effect to the all-risks scope of the International Health Regulations 2005 and is designed to manage any potentially serious threat to public health. Its provisions also retain the Health Act 1956's powers to inspect and grant pratique to arriving craft, and to examine travellers and, if necessary, isolate or quarantine them. The Bill includes provisions relating to the departure of people and craft from New Zealand, in conformance with the International Health Regulations 2005 requirement that countries do not export public health risks.

Public health emergencies

The Public Health Bill provides for the Minister of Health to declare public health emergencies and for the Governor-General to make emergency regulations. Such declarations can address any serious risk to public health, including disease outbreaks and pandemics, and are time-limited. The Bill provides for a full range of emergency powers in a state of emergency, many of which are similar to the special powers currently defined in the Health Act 1956.

Disclaimer: The preceding text summarises aspects of the Public Health Bill introduced to the House of Representatives on 21 November 2007. It has been written for a general readership, and does not represent law. No decisions should be based on this summary. The summary has been produced in good faith as a means to inform emergency management planners of the nature of the legislation the Government intends to replace the Health Act 1956. The final legislation will be determined when the Bill is enacted.

Civil Defence Emergency Management Act 2002

The Civil Defence Emergency Management Act 2002 is the principal instrument of the civil defence emergency management (CDEM) framework. Other instruments include the *National Civil Defence Emergency Management Strategy* (Minister of Civil Defence 2008) and *Guide to the National Civil Defence Emergency Management Plan* (MCDEM 2009b), as well as statutes such as the National Civil Defence Emergency Management Plan Order 2005, the Biosecurity Act 1993, the Resource Management Act 1991 and the Health Act 1956 (as outlined above).

The Civil Defence Emergency Management Act 2002 provides for (among other things):

- planning for emergencies
- the declaration of a state of local or national emergency: local authority mayors (or delegated elected representatives) or the Minister of Civil Defence can declare a state of local emergency, and the Minister of Civil Defence can declare a state of local emergency
- emergency powers that enable CDEM groups and controllers to:
 - close or restrict access to roads and public places
 - regulate traffic
 - provide rescue, first aid, food, shelter and so on
 - conserve essential supplies
 - undertake emergency measures for the disposal of dead people and animals
 - provide equipment
 - enter into premises

- evacuate premises or places
- remove vehicles
- requisition equipment, materials, facilities and assistance.

Cross-references and supporting material

Guide to the National Civil Defence Emergency Management Plan (MCDEM 2009b)

National Civil Defence Emergency Management Strategy (Minister of Civil Defence 2008)

National Civil Defence Emergency Management Plan Order 2005

Civil defence emergency management declarations

Before the Epidemic Preparedness Act 2006, a declaration under the Civil Defence Emergency Management Act 2002 or an authorisation by the Minister of Health was required to authorise the special powers of medical officers of health under the Health Act 1956. These powers are now authorised by virtue of an epidemic notice having been issued, which should significantly lessen the need for a declaration under the Civil Defence Emergency Management Act 2002. A CDEM declaration should now be required only when the emergency powers detailed in sections 85–92 of the Civil Defence Emergency Management Act 2002 need to be released (these powers are summarised in the list above).

State of local emergency

Local agencies should consider the potential need for a declaration of a state of local emergency under the Civil Defence Emergency Management Act 2002 in conjunction with central government, in order that responses are consistent and made in the interests of New Zealand as a whole. The Ministry of Civil Defence and Emergency Management recommends to local authorities and CDEM groups that declarations for any kind of emergency should be made only when the powers provided by the Act are required and when the declaration will add value to the response.

State of national emergency

It is expected that any declaration of a state of national emergency, made by the Minister of Civil Defence under the Civil Defence Emergency Management Act 2002, will be made in consultation with the Cabinet Committee on Domestic and External Security Co-ordination (DESC).

Any declaration of a state of local or national emergency under the Civil Defence Emergency Management Act 2002 in response to a pandemic will be made in order to support the Ministry of Health in its lead role.

Civil defence groups can provide assistance irrespective of whether a declaration has been made.

Cross-references and supporting documents

Declarations: Director's Guidelines for CDEM Sector (DGL 05/06) (MCDEM 2006a)

New Zealand legislation: <http://www.legislation.govt.nz>

Table 7: Summary of specific legislative provisions

Legislation	Relevant sections of the legislation	Further information in NZIPAP 2010
Health legislation		
Health Act 1956	Part 3 (Infectious and Notifiable Diseases): <ul style="list-style-type: none"> • special powers (sections 70, 71, 71A and 72) • routine powers (sections 77–82 and 96–101) • notifying diseases (sections 74, 74AA and 76) • power to enter premises and examine persons (section 77) • isolation of persons (section 79) • mortuaries and burials (sections 84 and 86) • restrictions on ships liable for quarantine (section 99) • inspections of ships and aircraft liable to quarantine (section 101) 	Part B, Border management, Cluster control
Epidemic Preparedness Act 2006	Particularly, sections 5, 8, 11–15 and 66–69	Part B, Border management, Cluster control
Health (Infectious and Notifiable Diseases) Regulations 1966	Regulations 8–12	Part B, Border management, Cluster control
Health (Quarantine) Regulations 1983	Regulations 3, 10 and 13	Part B, Border management, Cluster control
Health (Burial) Regulations 1946		Part C, Manage It, Care of the deceased
Non-health legislation		
Biosecurity Act 1993	Particularly: <ul style="list-style-type: none"> • restricting imports of animals and animal products (section 25) • animal surveillance (sections 43, 109, 114 and 121 and Part 7) • restricting movement of animals or any at-risk goods (sections 130 and 131 and Part 7 (dealing with biosecurity emergencies)) 	Part A, Intersectoral Response, Biosecurity work stream; Part B

Legislation	Relevant sections of the legislation	Further information in NZIPAP 2010
Non-health legislation (continued)		
Civil Defence Emergency Management Act 2002	Particularly Parts 4 (declaration of state of emergency) and 5 (powers in relation to civil defence emergency management)	Part A, Intersectoral Response, Civil Defence Emergency Management work stream; Part B: All phases
Customs and Excise Act 1996	Section 21 and regulation 13 (advanced passenger information)	Parts B and C, Border management; Part B: All phases
Immigration Act 2010		To be enacted in April 2010, until then Immigration Act 1987 applies

Containment Measures

Impact on business as usual and key control measures

A moderate to severe pandemic will probably be characterised by a high level of absence in the workforce, as people fall ill or stay at home to care for sick relatives and friends. Essential services such as police, fire, transportation, communications and emergency management services need to be maintained during a pandemic. Other services and supplies, including hospitals, food, water, gas, electricity, educational facilities, postal services and sanitation, may also be affected. It is reasonable to assume that normal business activities, regardless of their nature, will suffer during a severe pandemic, and that there will be lesser, if any, impact during mild pandemics.

Given the potential severity of a pandemic, New Zealand's strategy is to take every practicable step in the designated Keep It Out and Stamp It Out phases before having to move to the Manage It phase, taking into account the potential impact of the particular novel influenza virus concerned. This strategy allows more time to obtain information about the virus and the best way to manage it, prepare to mobilise health and other sectors for a response, and reinforce public understanding of hygiene measures.

Containment measures may also be applied in the Manage It phase to reduce transmission of the virus. These measures may be implemented to lower transmission among vulnerable and susceptible communities, and in settings such as schools and rest homes.

It is important to consider a variety of control measures to prevent, eliminate or slow down transmission of the virus. Modelling indicates that such interventions may help to eliminate or slow a virus's spread, pending the arrival of a vaccine. Public health measures could include border management measures, intensified surveillance, early detection and isolation of cases and quarantine of contacts, promotion of the importance of strict personal hygiene (especially hand-washing), the use of antivirals, the restriction of public gatherings and the closure of education institutions.

The evidence for the effectiveness of many pandemic control interventions consists primarily of historical and contemporary observations, supplemented by mathematical models.

The particular pandemic control interventions to be adopted in an influenza pandemic will depend on the phase of the pandemic, the severity of the disease (a more virulent strain will justify more socially demanding measures) and the extent of transmission within the country and community.

Determination of the nature and extent of public health measures to implement will be based on the key factors summarised in Part B, taking into account their potential positive and negative impacts on health, society and the economy.

Different areas may implement different controls at different times, depending on whether they have no cases, are managing a suspected cluster, or are managing district-wide illness. For example, one local area may need to mount intensive cluster control measures, while areas as yet unaffected by the pandemic can remain at a state of alert. Action in the affected area should be informed not only by the need to protect and support the local population, but also by the need to prevent the spread of disease to other localities. Quick, decisive and far-reaching measures that are temporarily disruptive to the locality concerned but are in the national interest may be the most effective in the Keep It Out or Stamp It Out phases.

Border management

In a potential or actual global pandemic, New Zealand may be able to prevent the virus from entering the country or to delay its entry, allowing other response measures to be put in place (during the Keep It Out phase). Such an intervention may be feasible because of New Zealand's geographical isolation, its limited number of entry points and its well-co-ordinated border management systems. In the Keep It Out phase routine public health risk management procedures at the border could be elevated, according to the development of the global situation. Elevated measures may include increasing information to arriving passengers, providing travel advisories, closing the border to certain categories of arrival or imposing mandatory quarantine for categories of arrivals.

There is value in trying to keep the virus out, or to at least delay the arrival of the virus, to allow time for virus attenuation and reduce the time the virus is in the country before a pandemic vaccine for it becomes available. Effective border management is the best way to protect New Zealanders from the effects of a future pandemic.

Specific border actions are described in Table 8 and in the 'public health interventions: border management' sections of the Phase Action Tables in Part B of this document. Decisions on border management measures will be made through DESC processes and will depend on the situation, including the threat from the virus, the actions being taken by other countries and the possible adverse consequences of control measures. Border interventions do not conclude after the Keep It Out phase; they are maintained through the Stamp It Out phase, when exit assessment may be introduced to ensure New Zealand does not export the disease.

Voluntary co-operation is usually sought by designated officers for health interventions, and is usually obtainable without recourse to statutory powers. Health officers seek to preserve patient autonomy, as the least restrictive option in carrying out their duties.

Approaches to border management

The measures described in the Action Plan support a strategy of **exclusion**. This strategy involves limiting arrivals from affected areas, using intervention measures for those from affected areas

intending to travel to New Zealand, and quarantining arrivals who have been, or may have been, exposed to pandemic influenza. Limiting arrivals will be particularly important to ensure Keep It Out measures are sustainable for the weeks or months that they may be necessary. Programmes to reduce arrivals from affected areas can include:

- the New Zealand Immigration Service managing visa applications and issuing a directive on APS to reduce carriage of non New Zealand residents
- warning travellers to New Zealand prior to departure that should it be deemed necessary they may be placed in quarantine on arrival for a specified period
- the Civil Aviation Authority, in liaison with the Ministry of Transport, issuing a Notice to Airmen of New Zealand border closure.

Should a pandemic virus prove to be virulent, exclusion measures coupled with facility-based quarantine and the use of antivirals would be introduced. Initiated early enough, these measures would give New Zealand the best opportunity to keep rates of infection of low and the goal of successfully containing the disease achievable.

Should the virus prove less virulent, a less restrictive strategy of **separation** could be chosen. This would require all arrivals from affected areas to voluntarily quarantine themselves from the community for two days after their arrival in New Zealand. All arrivals would be given hygiene information, advised to report any illness, and be asked for contact-tracing information.

The two-day period is thought to be the period during which infected travellers would be most likely to become symptomatic. This option would always have a degree of non-compliance (and mandatory home quarantine could be too onerous to manage). However, a two-day period could be more successful than asking people to quarantine themselves from the community for up to eight days.

Although not as costly or disruptive as facility-based quarantine, the separation strategy would still be burdensome on PHUs, which would be tasked with managing distributed at-risk passengers. Also, travellers arriving at the border with no homes to go to (or homes that are far from their place of arrival) would have to be placed in quarantine facilities for the required time.

Should the virus prove to be serious but not readily transmissible, a strategy that focused on those arriving who are in close association with symptomatic people could be chosen. All arrivals would be given hygiene information, advised to report any illness, and have contact tracing information taken. Those arriving in close association with symptomatic people (such as family members, travel group members, people sitting nearby) would be placed in quarantine and released if the symptomatic traveller was cleared of the pandemic virus.

The Government would decide which course of action to take. Any decision might require strong action to be taken initially, until such time as the global situation became clearer. The reasoning for this is that measures can always be relaxed, but if certain measures are not put in place at the first opportunity, the option to escalate may no longer be available.

Use of isolation and quarantine for border management

The modelling undertaken for New Zealand suggests that the most effective single intervention at the border to prevent or delay the introduction of a pandemic virus into New Zealand would be to minimise numbers of incoming travellers. Travel restrictions and the use of facility-based quarantine, supplemented by antivirals, would give New Zealand the best opportunity to restrict the number of cases introduced into the community and successfully contain the disease's spread.

Table 8: Overview of possible border management actions and powers to inform key decisions⁷

Possible actions	Responsibility	Legislation	Further information from NZIPAP 2010
All ships and aircraft arriving in New Zealand from overseas are liable for quarantine, and must receive pratique in order to commence operations in New Zealand. All aircraft arriving in New Zealand, after landing, require pratique to disembark and commence operations.	Airlines and shipping operators, PHUs	Health Act 1956, section 107; Health (Quarantine) Regulations 1983	Part A, Intersectoral Response, Border work stream Part B, all phases, 'Public health interventions: border management'
Masters of ships arriving in New Zealand must inform health authorities of the health status of those on board their vessels before arrival. On arrival, vessels must also submit a Maritime Declaration of Health to officials. Public health authorities either grant pratique or arrange to meet the vessel on arrival based on the health status reports.	Shipping operators	Health (Quarantine) Regulations 1983	Part A, Intersectoral Response, Border work stream Part B, all phases, 'Public health interventions: border management'
Captains of aircraft must report to their agents the health status of all people on board at least 15 minutes before landing in New Zealand. Any sign of illness among passengers and crew and any unsanitary conditions on board the aircraft must be reported to health authorities by the airline's agent. Pratique is deemed to have been granted unless there has been a report of illness or unsanitary conditions on board.	Airlines and airline agents	Health (Quarantine) Regulations 1983	Part A, Intersectoral Response, Border work stream Part B, all phases, 'Public health interventions: border management'

⁷ See also Part C, Legislation.

Possible actions	Responsibility	Legislation	Further information from NZIPAP 2010
Public health authorities grant pratique after meeting any craft that has reported illness after satisfying themselves that no cases of quarantinable diseases are on board the craft, and have ensured that any public health risks are managed. Aircraft landing at airports not served by the New Zealand Customs Service must be met on arrival so public health risks can be assessed and, where appropriate, pratique granted. Public health units are responsible for ensuring all New Zealand international airports have procedures for managing the public health risks around the arrival of unwell passengers.	PHUs	Health (Quarantine) Regulations 1983	Part A, Intersectoral Response, Border work stream Part B, all phases, 'Public health interventions: border management'
Consider the use of enhanced quarantine (ie, the quarantining of large numbers of people in the absence of symptomatic people but where there is good reason to believe those people may have been exposed to pandemic influenza, due to where they have travelled) as a pandemic management measure. If enhanced quarantine is to be used locate larger quarantine facilities.	Ministry of Health, PHUs within DHBs in consultation with other relevant agencies	Health (Quarantine) Regulations 1983	Part A, Intersectoral Response, Border work stream Part B, all phases, 'Public health interventions: border management'
Consider pre-arrival risk-profiling efficacy and methodology (eg, mining passenger name record data) and determination of escalation/relaxation trigger points (based on modelling of phases).	Ministry of Health in consultation with relevant agencies	No powers required	Part A, Intersectoral Response, Border work stream
Consider the use of, and triggers for, exit assessment procedures, and the determination of such procedures and required authority.	Ministry of Health in consultation with relevant agencies	No powers required	Part A, Intersectoral Response, Border work stream
Review existing plans and prepare for the eventual roll out of contact-tracing information management – collected from World Health Organization passenger locator forms, which will require additional information (via passenger arrival forms) to be given to passengers to comply with New Zealand privacy legislation.	Ministry of Health in consultation with relevant agencies	Customs and Excise Act 1996, section 282A	Part A, Intersectoral Response, Border work stream
Routine border health reporting from masters of vessels and captains of aircraft.	Airlines and maritime operators	Health (Quarantine) Regulations 1983	Part A, Intersectoral Response Border work stream

Possible actions	Responsibility	Legislation	Further information from NZIPAP 2010
Public health units work with airports of first arrival to ensure all reports of illness on board incoming aircraft are reported to and responded to by public health units.	Ministry of Health, District Health Boards (DHBs) and their public health units	No powers required	Part A, Intersectoral Response Border work stream Part B all phases, public health interventions border management
When the threat of a pandemic exists, Airlines may be informed of symptoms of particular concern, and reminded of the statutory requirement that all symptoms suggestive of infectious disease be reported to the destination airport before the craft's arrival.	Ministry of Health, DHBs and PHUs	No powers required	Part A, Intersectoral Response, Border work stream
Aircraft: If symptoms are reported that give rise to suspicion of a quarantinable disease, the plane, its passengers and its crew can be detained for inspection.	PHUs	Health Act 1956, sections 97B and 101	Part A, Intersectoral Response, Border work stream
Ships: Masters of ships must seek radio pratique from a medical officer of health or health protection officer between 12 and 24 hours before their expected arrival. The medical officer of health or health protection officer may withhold pratique if not satisfied of the state of health of the ship. If radio pratique is withheld, the ship may not berth and people cannot leave or board the ship without the medical officer of health's or health protection officer's authority, and before the ship has been inspected.	Master of ship, medical officer of health, health protection officer	Health Act 1956 sections 97B, 99, 101	Part A, Intersectoral Response, Border work stream Part B, all phases, 'Public health interventions: border management'
Post border: If illness is reported, depending on the symptoms reported health authorities can arrange for ill people to be met, and (if they are extremely unwell or meet the case definition and exposure risk factors for pandemic influenza) transported to a hospital or other designated facility.	Airlines and shipping agents (for reporting), PHUs	No powers required	Part A, Intersectoral Response, Border work stream Part B, all phases, 'Public health interventions: border management'

Possible actions	Responsibility	Legislation	Further information from NZIPAP 2010
The medical officer of health can examine any person suspected of suffering from, or having been exposed to in the past six days, a quarantinable disease.	Medical officer of health	Health (Quarantine) Regulations 1983, regulation 22	Part A, Intersectoral Response, Border work stream
The medical officer of health has the general power to detain and isolate any person who he or she believes is likely to cause the spread of an infectious disease.	Medical officer of health	Health Act 1956, section 79	Part C, Legislation
If authorised by the Minister of Health, or if an emergency has been declared under the Civil Defence Emergency Management Act 2002, a medical officer of health can require people to submit to medical examinations and isolate or quarantine them as he or she sees fit.	Medical officer of health	Epidemic Preparedness Act 2006; Civil Defence Emergency Management Act 2002; Health Act 1956, section 70(1) (e), (ea), (f) and (fa)	Part C, Legislation
Ensure the emergency department (or other facility) is advised of the case being transported.	Public health units	No power required	
The family or travel group (due to the possibility of infection from a common source) and those travelling near the ill person are identified. Contact-tracing information is requested; people are given information on hygiene and reminded to report illness if they fall ill after travel; people are told to call their general practitioner if they have symptoms of respiratory disease, and are invited to report to a public health service in 24 hours to find out the results of the diagnosis of the sick person.	New Zealand Customs Service (advanced passenger information), public health units, airport authorities	Customs and Excise Act 1996	Part A: Intersectoral Response, Border work stream
All other passengers from the flight are given the passenger handout.	New Zealand Customs Service, public health units	No powers required	
Grant pratique to the craft once the public health risk has been managed.	Public health units	Health Act 1956, section 107	

Possible actions	Responsibility	Legislation	Further information from NZIPAP 2010
<p>Consider the use of the following public health control interventions when required may be appropriate:</p> <ul style="list-style-type: none"> enhanced quarantine of arrivals pre-arrival risk-profiling exit assessments contract-tracing information management through World Health Organization WHO passenger locator forms update ensuring air and shipping lines and ports are kept up to date in terms of their reporting requirements. 	Ministry of Health, PHUs, border agencies		<p>Part A, Intersectoral Response, Border work stream</p> <p>Part C, Legislation</p>

Cluster control

Background to cluster control

The aims of the Stamp It Out (cluster control) phase in a pandemic are:

- to control or eliminate the disease after its limited introduction into New Zealand (in conjunction with rigorous border management) or, failing this,
- to delay early transmission of the disease to allow more time for emergency plans to be activated, and
- to obtain epidemiological information with which to inform pandemic management response.

The rigour with which cluster control measures are implemented needs to be related to the rigour of border controls. The continuing introduction of new imported cases would eventually overwhelm the capacity of PHUs to respond to outbreaks. The World Health Organization accepts that the spread of a pandemic cannot be prevented effectively in continental countries with multiple land borders and entry points: in such countries cluster control attempts are likely to be of less benefit compared with wider pandemic management. However, WHO notes that the prevention or delay of the importation of pandemic influenza into isolated island nations with limited entry points such as New Zealand may be possible. For this reason, this Action Plan includes cluster control measures.

Public health cluster control measures depend on early recognition of imported and secondary cases through early diagnosis and notification to PHUs. When the number of cases is limited and cases are recognised early enough, cluster control interventions may be able to limit, slow the spread of or control an outbreak. Once the virus is widespread in a community, interventions aimed at reducing spread may have little effect. However, cluster control measures may be maintained throughout the response phases of a pandemic in higher-risk settings, such as institutions, rest homes, early childhood education services and schools, and in higher risk populations.

The identification of early imported (primary) and local (secondary) cases through astute clinicians and surveillance will trigger case investigation and contact-tracing procedures by PHUs, under the direction of the medical officer of health. Early cases may be isolated in hospital if clinically indicated. Contacts of cases will be told of the symptoms to be aware of and actions they can

take, and will be advised to stay at home in voluntary quarantine for several days, depending on what is known of the incubation period of the illness. The medical officer of health may consider compulsory quarantine for contacts.

Targeted cluster control measures may be maintained in the Manage It phase in order to offer additional protection in institutions and among vulnerable and susceptible communities.

The Ministry of Health has developed guidelines for PHUs to assist their decision-making in the implementation of cluster control measures in a pandemic.

Cross-reference and supporting material

Guidelines for Public Health Services on Cluster Control for Pandemic Influenza (Ministry of Health 2008a)

Isolation and quarantine for cluster control and pandemic management

Compulsory or voluntary isolation of cases and quarantine of contacts are important measures to prevent or slow the spread of a pandemic virus at all phases of a pandemic response, particularly in the context of border and cluster control. Compulsory isolation and quarantine may be considered for cluster control for the first New Zealand suspected or diagnosed cases, but in practice, this is probably no more effective than voluntary quarantine.

Isolation and quarantine will be used in combination with post-exposure prophylaxis, using antivirals distributed to contacts at the border control and cluster control phases. Modelling indicates that this combination of programmes will be more effective than isolation and quarantine on their own in controlling the spread of pandemic influenza, providing antivirals are effective against the pandemic strain.

However, evidence and experience suggest that when there is sustained transmission in the general population, aggressive interventions to isolate patients and quarantine contacts, even if they were the first patients detected in a community, would probably be ineffective, in addition to being a poor use of limited health resources and socially disruptive. Voluntary isolation may be a better solution in the case of sustained transmission.

Use of antivirals for cluster control

The provision of effective antiviral medication to people with pandemic influenza and for the post-exposure prophylaxis of contacts may reduce the likelihood of spread. Antivirals, if effective against the pandemic virus, will be used early in a pandemic as part of the efforts to contain or eliminate any initial clusters by providing treatment for cases and post-exposure prophylaxis for close contacts, as determined by the medical officer of health within the scope of national guidelines. If the pandemic becomes more widespread within New Zealand, it is expected that antivirals will be reserved for the treatment of cases.

Cross-reference and supporting material

Ministry of Health, *Antiviral Medication Interim Guidelines*:
<http://www.moh.govt.nz/moh.nsf/indexmh/pandemicinfluenza>

Restriction of movement

Isolation and quarantine could be used as part of entry assessment of domestic travellers into more isolated communities where no cases have occurred, or exit assessment of domestic travellers from areas where the pandemic is widespread could be undertaken.

The ability of communities to slow the entry of the virus by restricting entry or exit will depend on local geography and associated logistics. Prolonged cessation of travel into a geographic region may be difficult because of social and economic imperatives for continued contact. Essential goods and services invariably need to pass through internal borders.

Attempts to restrict movement within New Zealand may be practicable only for geographically distinct communities (for example Great Barrier Island, the Chatham Islands, the West Coast and Tairāwhiti). However, even in these communities, such measures are likely to be considered only in exceptional circumstances (eg, when infection results in high mortality rates).

Decisions concerning the compulsory restriction of movement in to and out of an area must take into account the likely effectiveness of the strategy, as well as other costs and benefits (including the potential to prevent morbidity and mortality as compared to potential social and economic impacts).

Cross-reference and supporting material

Internal borders http://www.med.govt.nz/templates/MultiDocumentTOC_34094.aspx

Hygiene and social distancing

Messages about personal hygiene and measures to increase social distancing in a pandemic are a critical part of any pandemic response. The public should be advised to avoid crowded spaces, adhere to infection control measures such as cough and sneeze etiquette, avoid mixing with other people if a person is coughing or sneezing, and regularly and effectively wash and dry their hands.

During any pandemic, however mild or severe, such messages must be disseminated.

Public gatherings are likely to be a means of transmission during the early stages of a pandemic. Although it is likely the public will of their own accord avoid mixing during the course of a severe pandemic, compulsory cancellation of public gatherings may be instituted in certain circumstances (for example in an attempt to control a cluster outbreak). In other circumstances, employers and businesses may decide to close, or to postpone or cancel an event in the interests of staff health.

Situations or events involving large numbers of people in confined spaces (such as public transport systems or large events in crowded indoor venues) are more likely to contribute to disease transmission than, for example, local rugby club matches in the open air.

An inevitable tension exists between promoting social distancing and promoting community support. The key message of social distancing (to avoid unnecessary contact with others) is at odds with the key message of community support (to be aware of other members of the community and provide support if necessary). People may respond to social distancing messages in a disproportionate manner, avoiding all contact rather than just unnecessary contact. Social distancing messages should not encourage discrimination or prejudice, and should make explicit the fact that people who have close personal contact with those infected with influenza will not necessarily become infected themselves.

The issue of the tension between social distancing and community support should be openly raised. Social distancing measures should be discussed from the planning phase. When they are implemented, information should then be given about the importance of community support, and about how to minimise risk while maintaining social contact.

Social distancing measures are likely to be most useful and important during the Stamp It Out phase of a pandemic; community support is likely to be more important during the Manage It phase. Communications relating to these issues must keep this in mind and acknowledge that the relative balance to be achieved between social distancing and community support will probably change as the pandemic progresses.

Closure of education institutions to students and children

In yearly influenza epidemics, preschool and school-aged children are a significant source of spread, because of the close contact inherent in these institutions, and the poorer hygiene and lack of immunity to viral strains among children generally. Children are likely to spread infection in the home environment to other family members, and may shed the influenza virus for up to 21 days, whereas adults usually stop shedding the virus after five days. School holidays can have a noticeable effect on seasonal influenza epidemics.

The closure of early childhood education services and schools in an affected area during a pandemic in the Keep It Out and Respond To It phases may make a significant contribution to controlling spread. Decisions by medical officers of health to close these institutions will be influenced by the epidemiology of the virus (eg, age groups typically affected, and severity) and local circumstances. Education institutions may also decide to close voluntarily: such decisions need to take into account local circumstances and the advice of the medical officer of health.

While early childhood education services, schools and tertiary institutions may be closed, their premises would not necessarily be closed in a quarantine sense. For example, staff could continue to go to work to deliver normal services, or to carry out 'alternative duties' for their employer or another agency. School premises may also be used for alternative purposes, such as CBACs.

The Ministry of Education has developed pandemic planning guidelines for early childhood education services (including kindergartens, crèches and playcentres; that is, for children aged under five), schools and tertiary educational organisations. The Ministry of Education is responsible for leading the response in the education sector.

Parents may be advised to keep children away from any setting in which they mix in large groups (eg, games arcades or school holiday programmes). They are therefore more likely to need to stay at home to care for children, and this will impact on the workforce. This impact will need to be considered when making decisions on school closure in a pandemic.

It is important that decisions concerning the closure or reopening of educational institutions are well publicised so that parents, employers and others can put appropriate plans into place.

Cross-reference and supporting material

Part A, Intersectoral Response, Education work stream
Pandemic Planning Kit (Ministry of Education 2008)

Limitations on cluster control operations

Cluster control may not be warranted if the first indication of a pandemic arriving in the country is a large outbreak or several outbreaks (which would indicate a similar number of second- and third-generation contacts already incubating infection and an escalating number of contacts). In this case, immediate activation of the Manage It phase is required.

The main limitation on cluster control is expected to be the availability of staff with sufficient skills to undertake control measures. District Health Boards will need to plan for the rapid redeployment of staff to help with public health control activities, including border management activities. Resources will mainly come from the health sector (PHUs, hospitals, primary care services and non-governmental organisations), but other sectors may be able to contribute (eg, police, local government, education, veterinarians and the biosecurity sector). High-intensity responses may not be sustainable for more than a few weeks. However, if border management is rigorous, the numbers of imported cases are limited and the reproductive rate of the virus is relatively low, control efforts could be continued for many months.

Manage It

Transition to pandemic management

In the Manage It phase, the strategy changes from individual-level interventions (such as case finding and identification, contact tracing and quarantine) to population-wide actions. Several of these may continue from the Stamp It Out phase, including:

- public health involvement in emergency management through the CIMS
- public advice on symptoms and dealing with the illness, through 0800 helpline numbers and the media
- voluntary isolation of affected people at home or in hospital – on advice given through clinical services (eg, CBACs), 0800 helplines and PHUs
- encouraging voluntary home quarantine of contacts
- targeted cluster control measures in institutions and for vulnerable and susceptible populations
- education sector closures
- social distancing measures, including social distancing at work, working from home, and encouraging non-essential workers to stay at home
- disseminating advice to postpone non-essential local and national travel
- imposing restrictions on public transport
- imposing restrictions on public gatherings
- surveillance through analysis of data from settings such as CBACs, primary health care providers and hospitals; mortality data; and surveys
- continued border management – by this stage, international travel would be expected to have reduced substantially.

Past influenza pandemics have varied substantially in their effects on health and society. If a pandemic is mild, such as those of 1968 or 2009, then it can be expected that existing health services will be able to cope, albeit with some adjustment. People would receive health services largely as they do at any other time, through hospitals and general practices, and some interventions noted above would not be required.

If a pandemic is moderate to severe, then alternatives to regular health service provision will be required. It should be noted, however, that even in a substantial pandemic most people will suffer uncomplicated influenza, which will resolve itself.

Self-management at home will be necessary during a severe pandemic. It can be safe and effective, if the public has good information about how to look after themselves and others, and how to identify complications and seek advice should they occur.

While regular home visits to all patients by health professionals may not be possible, other means of contact can be maintained (eg, by telephone) to identify additional needs which may require a home visit or other interventions.

Care in the community

Public preparation for a future pandemic is important for New Zealand's preparedness as a whole. Individuals should have a plan that includes:

- how they will manage if they live on their own
- identification of pre-arranged contacts
- how they will obtain necessary supplies if they are unwell.

They should also maintain a well-stocked emergency supplies kit (see details in the back of the Yellow Pages and on the Ministry of Health website: <http://www.moh.govt.nz/moh.nsf/indexmh/pandemicinfluenza-resources-brochures>).

The public should be informed about effective infection prevention and control practices, such as thorough hand-washing, covering coughs and sneezes, keeping a distance of at least one metre from others where at all possible and staying home if sick.

In a pandemic, advice will be made available on self-care, care of others, and how to seek help, including how to access antivirals and antibiotics.

Cross-references and supporting material

Guidance for Infection Prevention and Control during an Influenza Pandemic (Ministry of Health 2006a)

Pandemic Influenza: Resources (Ministry of Health 2009f)

Telephone triage

As outlined in the *National Health Emergency Plan*, DHBs are expected to plan to activate teletriage (telephone triage) systems that the public can access for health information and advice in an infectious disease outbreak. These systems reduce the need for the public to go to a hospital for information. Assessment and care of those ill with influenza in the community could play an important role in a pandemic, because high rates of infection may mean that all except the seriously ill will need to be cared for at home.

A 24-hours a day, seven days a week call centre system maintaining a free call line will give the public continuous access to professional advice and information. District Health Boards should consider the merits of a combined response to telephone triage.

Cross-reference and supporting material

National Health Emergency Plan (Ministry of Health 2008c)

Community-based assessment centres (CBACs)

A moderate to severe pandemic emergency will put significant pressure on primary and community services as well as hospital emergency services and ambulances. District Health Boards, in consultation with primary and community providers and ambulance services, should plan the most effective and integrated way for health services to respond to large volumes of demand in a significant health emergency, while maintaining normal health services to the greatest degree possible.

Community-based assessment services must be flexible to meet the needs of differing (eg, urban and rural) communities, and will need to reflect the severity of a pandemic or other major emergency.

As outlined in the *National Health Emergency Plan*, DHBs, in conjunction with local primary health care services, should plan for CBACs to be established in an emergency. Planning should acknowledge the requirement to inform the Ministry of Health of any decision to activate a CBAC.

The purpose of a CBAC is to provide additional focused primary-care capacity. A sudden increase in demand for primary care services for people with infectious disease symptoms may arise during a significant outbreak such as an influenza pandemic, or when there has been a mass casualty incident or evacuation from a DHB region.

In a pandemic, CBACs would initially assess possible cases, taking the load off practices and hospital emergency departments, and distribute antivirals and/or antibiotics.

CBACs require clear clinical leadership, with strong management and administrative support. They provide clinical assessment, advice, triage and referrals as necessary, but no inpatient or observation services. They can be established in any facility with the resources for the required clinical services, in locations where they can best meet the needs of the local community: for example, within a medical centre, a hospital outpatient facility, a community hall or a marae. (A different approach will be required in a marae context; consultation with relevant communities will be required.) CBACs may also need to be close to pharmacy services. In some sparsely populated areas, mobile CBACs could be considered.

District Health Boards will locally make final decisions on the activation, nature and location of CBACs, and will widely publicise their purpose and location.

A CBAC training and education pack is available for CBAC staff orientation and may be sourced from DHB Emergency Managers. This will also be placed on the Ministry of Health website in 2010.

Cross-references and supporting material

Guidance on Community-based Assessment Centres and Other Support Services (Ministry of Health 2008b)

National Health Emergency Plan (Ministry of Health 2008c)

Clinical assessment and treatment

Although most people with pandemic influenza should be able to remain in their homes and look after themselves, people with severe symptoms may require assessment and/or referral to secondary care. Whether people access a telephone triage number or present at a CBAC, they will

need some level of assessment. That assessment will include a decision about where and how to treat the patient, based on factors such as the severity of the patient's illness, the presence of pre-existing co-morbidities and available resources.

The Ministry of Health has developed an interim guide for people those involved in assessing individuals with a suspected influenza-like illness in a pandemic. This guide includes information on the epidemiology and clinical features of influenza, pathways for assessment (including telephone and face-to-face), and advice on options for clinical management. This guide will be updated and released in the event of a pandemic.

In the event of a moderate to severe pandemic, there may not be enough qualified health professionals in operation to be able to assess all suspected cases. Information for the public on how to care for themselves and others at home during a pandemic will therefore be appended in the guidance document.

Hospital treatment

If people with pandemic influenza are assessed as needing hospital care and resourced beds are available, they will be referred for treatment. As demand in a moderate to severe pandemic is likely to exceed supply, public and private hospitals will need to prioritise admissions, rationalise non-acute services and review staff rosters. Capacity to admit people to hospital during the Manage It phase is likely to be limited during a mild to moderate pandemic and considerably constrained during a severe pandemic.

District Health Boards will need to liaise with local councils, CDEM groups and voluntary groups, who can then assist in providing community care.

Pharmacists

In a pandemic, pharmacists may experience a rise in workload aggravated by staff absences because of illness and family responsibilities. They will be closely involved in the provision of front-line advice to the public and handling an increased demand for dispensed prescriptions and over-the-counter treatments of influenza symptoms. Pharmacists could have a role supervising the dispensing of antivirals and antibiotics in CBACs.

Pharmacists will also continue to dispense non-influenza medicines and will need to engage in resolving supply chain difficulties caused by interruptions in international manufacture and supply.

District Health Boards may need to liaise with pharmacists to reach agreement on prioritising of pharmacy services.

Antiviral medicine

Influenza-specific antiviral drugs, such as Oseltamivir (Tamiflu™) or Zanamivir (Relenza™), can reduce the duration and severity of illness if given within 48 hours of the onset of symptoms, and can reduce the incidence of secondary complications. In accordance with advice from WHO and other expert sources the Ministry of Health maintains a national reserve of antiviral medication in New Zealand, and additional supplies in the Cook Islands, Niue and Tokelau. Guidelines for use of the antiviral reserves are outlined in the policy document *Antiviral Medication Interim Guidelines*.

The Tamiflu™ reserve contains adult-dose capsules only, so three alternative methods have been developed for making a paediatric formulation for children. One method is for pharmacists to make up child doses; the other two methods enable formulations to be made at home. These

formulations are also suitable for adults who cannot take capsules. Details of all methods are available on the Ministry of Health website, and will be available anywhere national reserve supplies are being distributed.

Some members of the public have already bought antiviral medication. Once the nature of the pandemic disease becomes clear the Ministry of Health will publish advice for individuals on when and how to best use their own supplies.

It is possible the pandemic virus strain could develop resistance to one or both antivirals, limiting their effectiveness. The pandemic virus strain will be monitored for resistance, and any developments will be incorporated into modified usage policies and advice to individuals.

Cross-reference and supporting material

Antiviral Medication Interim Guidelines <http://www.moh.govt.nz/moh.nsf/indexmh/pandemicinfluenza-guidelines-forthehealthsector>

Antibiotics

Secondary infection with pneumonia-causing bacteria is a common complication of influenza. To ensure antibiotics can be provided for the treatment of pneumonia during a pandemic, the Ministry of Health has enhanced the supplies of antibiotics held in New Zealand. The national reserve supplies of pandemic antibiotics are held in DHB stores and overseen by the Ministry, and include provisions for the Cook Islands, Niue and Tokelau. The supplies will be released for use as appropriate.

Vaccination

Pre-pandemic vaccines

From time to time the Ministry of Health may purchase small quantities of vaccines made from a circulating strain of a new influenza virus that has the potential to cause a pandemic. These will be held in reserve to be used if a pandemic eventuates.

In February 2010, the Ministry released 300,000 doses of an effective monovalent influenza A (H1N1) 2009 vaccine, to provide early protection for people at a higher risk of life-threatening complications and frontline health care workers, given that a second wave of influenza A (H1N1) 2009 was anticipated to arrive early in the autumn of 2010. This vaccine has been made available in advance of the seasonal influenza vaccine, which will also offer protection against the influenza A (H1N1) 2009 virus.

As of January 2010 the Ministry of Health also holds a supply of 200,000 monovalent vaccination courses (400,000 doses) of an H5N1 pre-pandemic vaccine (H5N1 vaccine), made from a circulating strain of the H5N1 influenza virus. This volume may vary during the life of this document.

It may not be possible to predict the level of protection such a vaccine might provide against a human pandemic strain. This will depend on how close (in the evolutionary sense) the human virus is to the seed virus, and this cannot be known ahead of time. The vaccine may provide protection ranging from good to negligible. It will probably provide a priming dose for any eventual pandemic vaccination, which in turn can be expected to enhance the response to a pandemic-specific vaccination.

If needed, it is expected the H5N1 monovalent vaccine will be offered to frontline health care workers who are likely to be most exposed to a human strain of the virus in the early stages of a pandemic, other front-line workers of key emergency response agencies or people at higher risk of life threatening complications. This will depend on the anticipated severity of the pandemic and its consequent impact on critical services. This is expected to enhance the pandemic responses of New Zealand, the Cook Islands, Niue and Tokelau and will help to minimise pandemic impacts on the general population in advance of the more general availability of a vaccine ordered at the time of the declaration of a pandemic.

Cross-reference and supporting material

National Health Emergency Plan: H5N1 pre-pandemic vaccine usage policy (Ministry of Health 2008d)

Pandemic vaccine

As of January 2010 New Zealand has two agreements with vaccine manufacturers for the supply of pandemic vaccine. However, there will always be some months' delay between the declaration of a pandemic and the arrival of pandemic vaccine supplies in New Zealand. This is because a vaccine that will protect against the pandemic strain cannot be made until that strain has developed and is identified.

Pandemic vaccine orders and vaccination campaign strategies will be influenced by several factors, including the nature (including the virulence) of the pandemic virus, the size of pandemic waves that may have already affected the population and the probable timing of vaccine deliveries. The process of vaccinating the population may be further complicated if each individual needs to be vaccinated twice because of the novel nature of the pandemic virus: management of this would probably involve administering two vaccinations about three weeks apart.

Should a pandemic vaccination campaign be thought necessary, the Ministry of Health will publish guidance for DHBs, which will be tasked with implementing vaccination campaigns.

Vaccination supplies

New Zealand has stored sufficient needles and syringes, sharps containers and other vaccination equipment and supplies to mount a mass vaccination campaign covering the whole population (including the Cook Islands, Niue and Tokelau).

Other clinical supplies

In an international health emergency such as a severe pandemic, normal supply chains to New Zealand may be severely interrupted due to a reduction in international manufacturing and supply chains. To ensure health care workers and first responders are protected, because they provide care for the population, the Ministry of Health has enhanced various clinical supplies held in DHB stores and bulk stores around the country.

Enhanced supplies of personal protective equipment include surgical masks and P2 grade respirators, gowns, aprons and gloves. Stocks of intravenous fluids and associated equipment, such as giving sets, injection devices, needles and syringes, have also been enhanced. These supplies are stored within DHBs, but remain under Ministry of Health oversight, to be released under Ministry direction if required.

The Ministry of Health also holds bulk stores of P2 grade respirators and general-purpose face masks in several locations around the country. A strategic respirator and mask-manufacturing capability has been established in New Zealand, and a supply of stockpiled raw material is in place to further reduce this country's vulnerability to the disruption of overseas supply lines.

Large numbers of deaths over a short time could affect the capacity of normal services to dispose of dead bodies within a reasonable or culturally acceptable timeframe, or to safely store dead bodies until disposal is possible.

The Ministry of Health holds New Zealand's only large supply of body bags in bulk stores off DHB sites. Body bags will assist in managing a very large mass casualty event by providing a culturally acceptable alternative to coffins for burials or readily enabling frozen storage of the dead until normal disposal systems can meet demands.

Due to the possible disruption of international and national manufacturing and distribution of supplies for other diseases and conditions, it may be necessary for the Ministry of Health to set prioritisation criteria for other critical clinical supplies in short supply.

Cross-references and supporting material

Guidance on Infection Prevention and Control during an Influenza Pandemic:
<http://www.moh.govt.nz/pandemicinfluenza> (Ministry of Health 2006a)

National Health Emergency Plan: National Reserve Supplies Management and Usage Policies
(Ministry of Health 2009d)

Laboratory diagnosis

The overall approach to diagnosing influenza with pandemic potential, and the management of cases, will be affected by WHO and Ministry of Health pandemic alert status. During the early phases of an influenza pandemic in New Zealand (Keep It Out and Stamp It Out), health providers should be able to carry out influenza A diagnostic tests with the maximum sensitivity and specificity and a turnaround time of less than 24 hours to assist a rapid public health response.

Once pandemic influenza has entered New Zealand, the need for highly accurate testing will diminish, with the exception of accurate diagnoses for individuals seriously ill. However, periodic testing will be required to examine antiviral resistance.

It is preferable to take respiratory samples for viral diagnosis during the first three days after the onset of clinical symptoms. However, samples may be taken up to a week after the onset of illness, or even later in severely ill or immune-compromised patients. The specimens of choice are nasopharyngeal swabs and throat swabs.

The real-time polymerase chain reaction (RT-PCR) test is the optimal test for detecting a novel influenza virus, and should therefore be the first test conducted. During the early phases, samples from suspected and probable pandemic influenza cases will be sent, using regular laboratory transport network systems, to a referral laboratory.

Early samples that are PCR positive for a novel strain of influenza will be sent to the WHO Collaborating Centre in Melbourne for confirmation. During later phases, when infection is widespread, the testing strategy may alter.

The Ministry of Health, with assistance from the New Zealand Virology Laboratory Network, has developed guidelines for collecting, handling and transporting human specimens for laboratory diagnosis of influenza with pandemic potential.

Cross-reference and supporting material

National Laboratory Guidelines for Pandemic Influenza: Collection and handling of human specimens for laboratory diagnosis of influenza with pandemic potential (Ministry of Health 2006b)

Care of the deceased

The standard planning model for a severe pandemic assumes about 33,000 deaths over an eight-week pandemic wave, with a maximum of around 10,000 in the peak week. For context, New Zealand averages about 550 deaths from any cause per week in normal times. Clearly, this will have an impact on normal services for dealing with the deceased. Normal DHB emergency planning processes include provision for managing larger than normal numbers of deceased.

Under section 46AA of the Burial and Cremation Act 1964 no one may dispose of a body without a doctor's certificate or coroner's authorisation. If people are instructed to stay at home during a pandemic, some may die from influenza without having seen a doctor. Although a natural consequence of illness, such deaths must be reported to the coroner under section 13(1) of the Coroners Act 2006. This may cause additional delays and pressures on coronial services.

Role of agencies

Several agencies are involved in managing matters relating to the dead during a pandemic.

- The New Zealand Police is an agent for the coroner.
- Births, Deaths and Marriages within the Department of Internal Affairs is responsible for registering deaths (section 34(1) of the Births, Deaths, Marriages, and Relationships Registration Act 1995 requires every death in New Zealand to be notified and registered in accordance with that Act).
- The Ministry of Justice is responsible for the coronial system. Normal coronial processes would be expected to continue for other deaths (eg, homicides) during a pandemic. Coronial services in a severe pandemic will come under considerable pressure.
- The Department of Labour is responsible for health and safety in the workplace, including for funeral directors and pathologists, one aspect of which is preventing the spread of disease.
- The Ministry of Health is responsible for public health issues and burial and cremation legislation. The Ministry is also responsible for receiving certification of deaths (see section 46AA(2) of the Burial and Cremation Act 1964). Medical officers of health and health protection officers in PHUs within DHBs may implement many functions on behalf of the Director-General of Health.
- Territorial authorities are responsible for registering mortuaries and providing cemeteries. In a pandemic there may be resource implications for funeral directors, territorial authorities and managers of denominational burial grounds, including pressure on space.
- Regional councils and territorial authorities are responsible for ensuring compliance with the Resource Management Act 1991 in regards to burial and cremation. There may be Resource Management Act implications in the establishment or extension of cemeteries and burial grounds, the installation and operation of cremators, and so on.

- In a pandemic, funeral directors will carry out their existing roles, including transporting bodies and completing the usual documentation. The Funeral Directors' Association of New Zealand has identified the role of a funeral company during a pandemic as: registration of deaths with Births, Deaths and Marriages; signed identification of the deceased; transfer of the deceased from the place of death to a funeral home; placement of the deceased into an identifiable body pouch; transfer of the deceased to a local cemetery for burial or, where possible, a crematorium for cremation; and providing support for families in the community.

Coronial issues

During a pandemic some deaths will require coronial assessment. The Office of the Chief Coroner will maintain a database of suspect and confirmed cases of pandemic influenza. The Ministry of Health and the Office of the Chief Coroner, under a specific memorandum of understanding, will work together to share information on each case when a new pandemic strain threatening human health in New Zealand emerges, and to ensure public information is released as consistently as possible. It is acknowledged that coronial findings may take a long time to process before being released to the Ministry of Health.

Infection hazards from bodies of people who have died from influenza

The Health (Burial) Regulations 1946 enable medical officers of health, health protection officers and the coroner to obtain information, direct embalming processes and set conditions for the hygienic storage, transport and disposal of the dead, as required.

Dead bodies will not transmit influenza. However, some post-mortem activities may generate droplets or aerosols (eg, lung biopsies or other specimen collections) that may be capable of transmitting influenza. These guidelines are not intended to provide advice for pathologists.

The degree of risk from handling the bodies of people who have died from influenza is considered low. Bodies do not need to be bagged. Viewing and embalming pose only a low risk of infection and are considered safe.

While the deceased may not pose a risk, people who have been in contact with the deceased may have been exposed to the virus, and therefore need to be particularly careful to practice hygiene and personal protection procedures such as social distancing, hand-washing and so on, as advised by the Ministry of Health.

Table 9: Infection hazards from bodies of people who have died from influenza

Function	Action	Responsibility	Authority
Care of the deceased	<p>The degree of risk for handling bodies of people who have died from influenza is considered to be low.</p> <p>Bodies do not need to be bagged.</p> <p>The viewing and embalming of bodies are considered safe.</p>	Ministry of Health, Department of Labour	Health Act 1956, Burial and Cremation Act 1964, Health and Safety in Employment Act 1992

Gatherings, tangihanga and funerals

The Ministry of Health does not intend to prohibit funerals and tangihanga in a pandemic.

With any death it is important that relatives and friends have an opportunity to grieve. To restrict this would only create other health problems later on. It is likely the Ministry of Health would discourage mass gatherings at funerals and tangihanga by informing people of the associated risks of transmission of infection. Health authorities should encourage communities to plan such gatherings with an awareness of the risks and to think about this issue in advance, evaluating the risk of transmission against cultural practices and protocols. It might be appropriate to encourage social distancing for people attending such events, rather than discouraging people from attending.

Emergency powers are in fact available under section 70 of the Health Act 1956 to prohibit mass gatherings, which can include funerals and tangihanga, should public health needs require it. Once the power is authorised, either by the Minister of Health or because an emergency has been declared under the Civil Defence Emergency Management Act 2002, the medical officer of health will decide how to implement that power.

Funeral directors will face significant demand. Funeral directors themselves may be suffering significant morbidity and mortality, and consequent resource difficulties. It should be remembered that one way in which they are compromised could be in terms of their capacity to provide grief therapy and work as fully with families and friends as they normally do.

Refrigeration and storage

If bodies need to be stored, because they cannot be prepared for burial or cremation in a timely manner or because the remains are unidentified, the following practices should be followed until appropriate identification and/or disposal can take place:

Long-term storage (five or more days)

To preserve bodies indefinitely, they should be stored in refrigerated containers that can maintain temperatures below -24°C . Care should be taken to avoid thawing and re-freezing remains.

Short-term storage (less than five days)

Unembalmed bodies may be stored in refrigerators of temperatures above 0°C for up to five days before muscle and bone is likely to decompose.

Burial

If there is no medical certificate stating the cause of death or the body cannot be identified, police will refer the matter to the coroner. While awaiting coronial direction, bodies should be placed in cold storage.

Despite the predicted increase in the number of deceased in a severe pandemic, the Ministry of Health's advocates burial in separate graves or cremation whenever possible. Mass graves should not be necessary – it is preferable to hold bodies in cold storage than to bury them in mass graves for later disinterment and reburial.

Local Government New Zealand and the Funeral Directors' Association of New Zealand have indicated that they could manage an increase in number of deaths in a pandemic situation.

Information on the Ministry of Economic Development’s website relating to infrastructure planning has drawn territorial authorities’ attention to the need for planning for business continuity and infrastructure, which should include increased demand for burial sites.

The Funeral Directors’ Association of New Zealand has indicated that funeral directors are confident they have capacity to transport greater numbers of bodies during a pandemic (subject to the availability of protective safety gear, fuel and so on), and that unembalmed bodies could be buried in body bags instead of caskets, if necessary.

Cremation

There should be no barrier to cremation in a pandemic provided all legislative requirements are met, the main requirement being that there is a medical certificate of cause of death signed by a medical practitioner or a coroner’s order that a certificate of death be issued. This certificate is separate from the death certificate that Births, Deaths and Marriages issues.

There is provision in the Cremation Regulations 1973 for the Minister of Health to permit cremations to be carried out, or to authorise medical referees to permit cremations to be carried out without complying with some duties required of a medical referee, subject to such exceptions or conditions as the Minister may specify or impose.

Funeral directors have indicated that bodies may not be embalmed if there is undue pressure on the handling of remains. If the deceased is to be cremated, unembalmed remains should remain in cold storage and only be taken to the crematorium just prior to cremation.

Concerns about the continuity of gas supplies to operate cremators have been raised. The information on the Ministry of Economic Development’s website relating to infrastructure planning covers energy supplies as part of the essential infrastructure to be maintained in a pandemic.

Transport of bodies to or from overseas

Limitations on available air transport may mean bodies will need to be stored before transport can occur (see the storage recommendations above).

Where a body is to be transported between countries, the normal procedure is for a funeral director in the country where death has occurred to consign the body to a funeral director in the country to which the body is to be transported, designated by the relatives of the deceased. The funeral director in the country to which the body is to be transported advises the former funeral director of the requirements imposed by the country of destination.

The Ministry of Health is not aware of any international regulations relating to the transportation of bodies internationally. However, ordinances have been established by international conventions and agencies. Most relevant is the air cargo tariff (TACT) manual produced by the International Air Transport Association, which includes a section on human remains.

Health and biosecurity permits are not required for the importation of human remains into New Zealand. If documentation is not produced, details of an importation will be conveyed by the New Zealand Customs Service to the Ministry of Health, which issues a release to import the body into New Zealand.

Health approval is not required to export bodies from New Zealand. The medical officer of health or a health protection officer at a DHB’s public health service can prepare a health authority statement for bodies being exported from New Zealand on request from a funeral director overseas.

When the body of a person who died in New Zealand is to be transported outside of New Zealand, the death must be notified to Births, Deaths and Marriages for registration before the body leaves the country.

Cross-reference and supporting material

New Zealand legislation: <http://www.legislation.govt.nz>

Welfare arrangements

A pandemic may affect the physical and emotional wellbeing of large numbers of people who may suffer bereavement, severe illness, or separation from families and support. People may also experience loss of employment and income, along with social and community isolation.

The ability of individuals to be self-reliant and for communities to remain resilient in the face of these challenges will be vital. Well-developed community support networks will go a long way to assisting individuals and communities to respond to and recover from a pandemic. Education on how to prevent the spread of influenza and information on actions people can take to be self-reliant will be essential.

Local Civil Defence Emergency Management Groups will co ordinate welfare support by government and non-governmental organisations in communities as required.

Welfare provision in a pandemic will follow the same guidelines as for any other (non-pandemic) response and involve supporting people through the co-ordinated provision of:

- food and shelter
- support of those unable to care for themselves, for example:
 - people who have influenza and no support network (ie, no family or friends able to assist them)
 - people whose caregiver is sick and so is unable to care for them (eg, children and people with disabilities and older people living with a caregiver)
 - who depend on external help (eg, those relying on home support)
- financial assistance
- psychosocial support to promote recovery.

In most emergency situations in New Zealand immediate welfare is co ordinated and provided by local authorities, with support from non-government and central government agencies. In large scale emergency events overall co ordination is provided by responding Civil Defence Emergency Management Groups, with the National Welfare Co-ordination Group (NWCG) working to support the process as required. It is important to ensure that DHBs and the Ministry of Health respectively liaise closely with these groups to ensure seamless coordination of services.

At a national level, the National Welfare Co-ordination Group's role is to identify the nature and scope of the immediate response required from central government, and to ensure the responsibilities of individual agencies within the group are met. It is also the role of the NWCG to work with member organisations in an integrated and supportive way, assisting regional and local activity, and obtaining government approval for the appropriate levels of assistance for relief of those affected by the event.

Cross-reference and supporting material

NZIPAP 2010: Part A, Intersectoral Response, Welfare work stream and Civil Defence Emergency Management work stream

Managing the economic impact

The severity and duration of any pandemic will have a critical bearing on the range of responses that the Government may need to consider to help mitigate the immediate impact and support rapid recovery.

A severe pandemic is likely to have serious adverse short-term effects on the economy and on most individual businesses. In addition, uncertainty about how serious any pandemic may turn out to be, how long it may last, and when things may return to normal, would have a major impact on business and consumer confidence. Such confidence effects are likely to play a major role in how severe the economic impact of a pandemic turns out to be, and in how quickly the economy can recover afterwards.

Due to the disruption of international and national manufacturing and distribution networks certain critical goods may be in short supply and exports may be disrupted. As a result, policies that aim to restore confidence and support demand, maintain normal commercial relationships, and promote a quick return to work when safe to do so, are likely to be the most effective in mitigating the economic impacts of a pandemic. This means looking to ensure that, as far as practical:

- macroeconomic policy can respond appropriately to help maintain economic stability
- any risks to financial stability are recognised and managed
- providers of infrastructure and other services essential to other economic activity have taken steps to maintain the continuity of those services
- businesses have arrangements in place to manage their exposures in a serious pandemic, and to maximise the chances of emerging from a pandemic with their viability (and the employment relationships within these businesses) maintained
- households and individuals can continue to meet their immediate financial needs.

A mild pandemic, such as the H1N1 2009 pandemic first wave, is unlikely to have a significant impact on the economy and society.

Cross-reference and supporting material

Part A, Intersectoral Response, Economy, Infrastructure and Workplaces work stream

Business continuity

Ensuring private and public agencies and organisations have robust arrangements for business continuity must be a particular focus for all Phases. All agencies and organisations should consider the social, economic, natural and built environment dimensions of recovery as they relate to their business activities.

A mild pandemic, such as the H1N1 2009 pandemic first wave, is unlikely to have a significant impact on business as a whole.

However, a severe pandemic would cause disruption in many businesses and agencies. Staff absences could make it hard for firms to continue to operate as normal. Supplies of goods and services may be disrupted, making it hard for firms to do business as they do under usual conditions. Normal sales patterns could be substantially disrupted. This means that it is necessary to plan arrangements for a prolonged, staged recovery period.

Agencies and businesses will need to plan how they can best manage their business in such an event. This will be different from the kind of business continuity planning needed for other emergencies. For firms providing essential services, this includes ensuring they can continue operating throughout a pandemic, in order to minimise wider social and economic disruption.

All agencies and companies are ultimately responsible for their own business continuity planning. On its website, the Ministry of Economic Development provides a guide that could be helpful for businesses in developing their unique continuity plans.

To be confident that their plans will work it will be advantageous for agencies and businesses to discuss their plans with their employees, main suppliers, and bank. It would also pay to ensure that relevant customers are aware of implications the contingency arrangements might have for them.

The Department of Labour, on its website, has material to assist employers in preparing for a pandemic. This material encourages employers to be pragmatic, to look to maintain good employment relationships with their staff, and to consider their ability to continue to pay absent staff through leave provisions as far as possible. The aim is for firms to bolster their ability to respond to a pandemic (eg, by redeploying available staff or changing work practices), and to quickly return to normal business thereafter.

Businesses' plans should identify the infrastructure and resources required for the business to continue to operate at a minimum level, and develop mitigation strategies for business disruptions, including disruption to supplies.

Businesses should also consider how they would finance a period of significant disruption, and discuss possible financing needs and associated risks with their bank or other financiers, before the event.

The key messages when developing business continuity plans for a pandemic are as follows.

- Plan while you can. All agencies and businesses will have different requirements for continuity, and planning needs to reflect this. Think about mutual support between neighbouring businesses.
- Note that a pandemic could take several forms, so business planning needs to be pragmatic and flexible.
- Note that some agencies may have different roles in different phases of a pandemic.
- Note that a moderate to severe pandemic may adversely affect the economy, agencies and business as a whole.
- Focus on the human resource impact, namely staff absences and workplace issues. Workplace issues will include those relating to health and safety and contractual obligations. Consulting with staff when developing and implementing contingency plans will be important in ensuring a flexible response and an efficient as possible recovery.
- Address staff welfare, including immediate, medium-term and long-term personal recovery issues, stress and grief.

- Develop innovative solutions for staff during and after an emergency, including childcare options, flexible work arrangements and safe shift-work relief practices.
- Address continuity of senior management roles and management systems.
- Think specifically about how the demand for goods and services is likely to be affected (eg, in some sectors demand might actually increase, national and international supply and distribution chains may be affected).
- Think about how the supply of inputs and contractor services might be affected.
- Focus on trying to maintain essential goods and services.
- Think about how to finance a period of disruption, and discuss this with your bank or other possible financiers.
- Note that there are no guarantees. Although a large amount of progress has been made to address issues in infrastructure and other sectors, there is no way to assure continuation of all services.
- Note that in a severe pandemic priority access to infrastructure services, including petroleum supplies, electricity and telecommunication services cannot be guaranteed. Infrastructure providers and others with priority needs should consider the possibilities for individual arrangements as part of their business continuity planning and engage directly with their suppliers where appropriate. They should make their needs known to regional CDEM Group controllers in advance.
- Plan for reinstatement of any business-as-usual functions that were suspended as non-critical during the response phase.

Cross-references and supporting material

Department of Labour: <http://www.dol.govt.nz>

Ministry of Economic Development: <http://www.med.govt.nz>

Maintenance of essential services

The Ministry of Economic Development is leading work to promote business continuity, with support from the Ministries of Civil Defence and Emergency Management, Transport and Health, across the infrastructure sectors of energy (electricity, oil, gas and coal), communications (telecommunications, broadcasting and post), transport and water and waste sectors.

In general, pandemic planning in the infrastructure sector is well advanced. General business continuity plans exist for lifeline utilities, and most of them have developed a specific pandemic influenza business continuity plan.

Ongoing work in preparing for a pandemic includes:

- improving plans (testing and exercising plans, identifying potential bottlenecks to service delivery)
- ensuring plans can be implemented (ordering needed supplies, enabling working from home, and, where necessary, talking to CDEM Groups about needs)
- sharing plans externally (working with service providers, including integrating plans).

Completed plans should be regarded as living documents exposed to ongoing review as new information becomes available.

Travel restrictions

Internal travel restrictions imposed in response to a moderate to severe pandemic would pose challenges for servicing of infrastructure (eg, the maintenance of electricity lines and gas pipes) and delivery of goods. The nature of any such restrictions will be determined at the time in the light of not only the nature of the pandemic, but also the need to maintain key services in affected communities. Infrastructure providers and transport operators are expected to plan for and implement arrangements to enable necessary service continuity during travel restrictions.

Cross-reference and supporting material

Part A, Intersectoral Response, Infrastructure work stream

Manage It: Post-Peak

Overview

It is important to maintain vigilance when a pandemic wave is waning. The pandemic may be far from over. The immediate priority in the Manage It: Post-Peak phase is to continue managing the impacts of the pandemic, scaling back the response where appropriate and transitioning to the recovery phase as required, while preparing for the likelihood of another increase in influenza activity. The timing, severity and magnitude of a potential increase will always be subject to considerable uncertainty, but it is prudent that preparations should begin at this phase. If the level of influenza activity in many countries rises again, it will be necessary to review actions within New Zealand.

Once the pattern of demand for services returns to normal seasonal levels after a first pandemic wave, agencies need to take the opportunity to learn from the experience and to prepare for the high probability of further waves of infection.

The process of management and scaling down the response will vary from district to district and from agency to agency, depending on local circumstances. The NHCC will also scale back its activities while continuing to co-ordinate the national response.

The two objectives at this phase are to:

- manage – to continue to respond to and manage the impact of pandemic influenza on individuals (in particular those at higher risk), the population, health and other services, and the economy, while scaling back the response as appropriate to changing local circumstances, and transitioning to the recovery phase
- prepare – to ensure New Zealand is prepared at national and district levels for a future increase of pandemic influenza, the timing, scale and severity of which cannot be predicted.

Key areas of uncertainty

The key areas of uncertainty in the Manage It: Post-Peak phase are as follows.

Will the number of infected people increase?

It is highly likely that after a first wave New Zealand will experience a further increase in case numbers of pandemic influenza.

When will the number of infected people increase?

Further growth in case numbers could occur at any time. This could begin in the short term, that is, if the decline in numbers proves to be short-lived and the number of cases starts to climb again. Alternatively, and probably more likely, case numbers could increase as part of a subsequent wave of infection some time in the few months or even years following the initial peak period, as has been observed in previous pandemics (see Figure 4). All four influenza pandemics from the past 120 years have demonstrated multiple waves of infection. The intervals between successive waves have ranged from as little as a few months to as long as two to three years.

How many people might get sick?

In three of the last four influenza pandemics, evidence suggests the second wave produced more deaths than the first wave, and sometimes significantly more. It would be unwise to assume other pandemics will be any different. Depending on the proportion of the population infected in the first wave, it is prudent, for planning purposes, to assume that any resurgence of the pandemic virus may affect more people than in the first wave. Response strategies will need to be adapted accordingly.

How severe will the illness be?

It is not possible to confirm that any future resurgence of pandemic influenza will have the same characteristics as the first wave. The virus may well change in terms of its ability to spread from person to person (ie, to become more or less transmissible), in terms of the severity of illness it causes (ie, more or less virulent), its resistance to antivirals, and/or the population groups it affects most. It may, therefore, have greater or lesser impact than the first wave. In short, we cannot assume it will come back with the same characteristics. It is prudent to make appropriate preparations for the possibility of a more severe second wave.

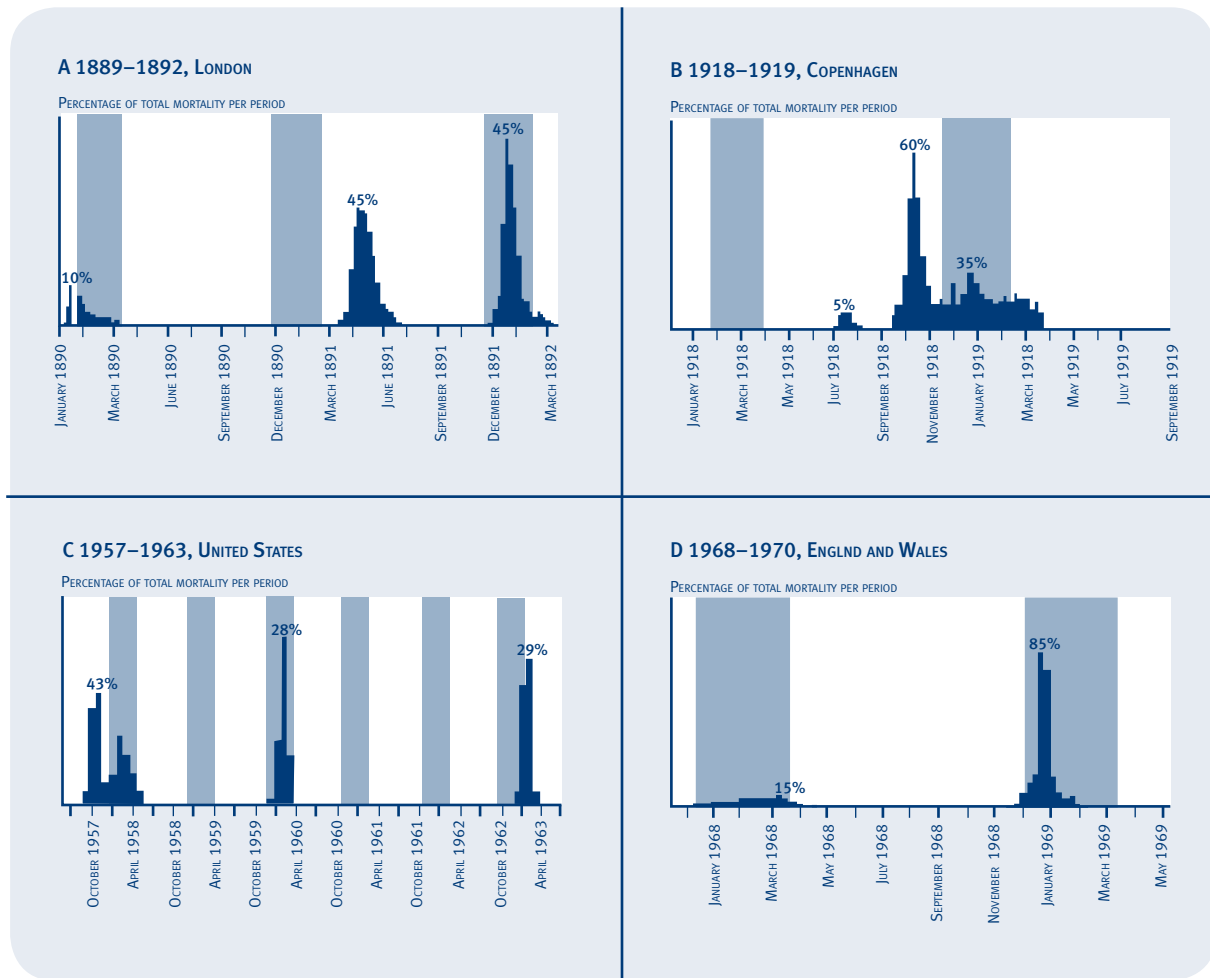
A new wave

If the level of influenza activity in many countries rises again, it will be necessary to review actions within New Zealand. The Ministry of Health will provide advice on the anticipated severity and impact of a second wave during the Manage It: Post-Peak phase. The mix of actions from the Keep It Out phase to the Manage It Post-Peak phase that are implemented in the case of a new wave depend on several factors.

- If vaccination of the New Zealand population has been completed and the vaccine is effective and safe for all population groups, then the level of response required will be considerably reduced.
- If a vaccine is not available, then actions from the Keep It Out phase to the Manage It: Post-Peak phase need to be considered.
- If certain population groups (eg, infants, the elderly or pregnant women) have not received the vaccination because it has not been registered for use by those groups, then targeted programmes will need to be implemented.
- If the uptake of vaccination in the population has been low, then actions relevant to the phase will need to be implemented in addition to promotion of vaccination, if vaccine is still available.

See Part B for key factors influencing decision-making in this phase. Note that, in addition, it is necessary to prepare for transition to the recovery phase at this time.

Figure 4: Past pandemic waves



Mortality distributions and timing of waves of previous influenza pandemics

Proportion of the total influenza-associated mortality burden in each wave for each of four previous pandemics is shown above the green bars. Mortality waves indicate the timing of the deaths during each pandemic. The 1918 pandemic (Panel B) had a mild first wave during the summer, followed by two severe waves the following winter. The 1957 pandemic (Panel C) had three winter waves during the first 5 years. The 1968 pandemic (Panel D) had a mild first wave in Britain, followed by a severe second wave the following winter. The shaded columns indicate normal seasonal patterns of influenza.

Source: MA Miller, C Viboud, M Balinska et al. 2009. The Signature Features of Influenza Pandemics: Implications for policy. *New England Journal of Medicine* 360: 2595–8. <http://www.content.nejm.org/cgi/content/full/NEJMp0903906>

Recover From It

Definition of 'recovery'

Recovery: the co-ordinated efforts and processes to effect the immediate, medium-term and long-term holistic regeneration of a community after an emergency.

Recovery activities will be minimal following a mild to moderate pandemic wave with a low rate of deaths and workforce absence and little social and economic impact (as in the influenza A (H1N1) 2009 pandemic first wave). A Recover From It phase may not be required.

However, recovery will be prolonged in a severe pandemic which has impacted significantly on social and economic environments over an extended period.

Recovery activities should begin during the response phases and continue into the medium and long term. Planning for the transition from Manage It to Recover from It needs careful consideration and should include a wide variety of agencies. The transition will be influenced by the severity of the pandemic, the status of response activities, resourcing issues, financial and political factors, and whether recovery structures have been established.

The general cornerstones for recovery, and a description of the national recovery management structure that may need to be put in the place for a moderate to severe pandemic are outlined in Appendix C: Recovery.

Planning for recovery

A co-ordinated approach to planning at local, regional and national levels is essential to ensure efficient and effective delivery of recovery services. In a pandemic, the main recovery focus will be on social and economic environments. Therefore, key agencies concerned with social issues, health, the economy and business will play a lead role in recovery planning. However, there may also be impacts on natural and built environments; for example from a lack of maintenance. Agencies concerned with natural and built environments therefore also need to be involved in planning.

The development of pandemic recovery plans can be informed by existing recovery plans for other forms of emergencies but need to address the unique nature of a pandemic. For example, the onset of a pandemic may be slower, but the pandemic will extend across many months, and may come in waves, thus affecting society for a longer period than other emergencies. Recovery activities may be staged to match the course of the pandemic as it unfolds in New Zealand.

Psychosocial recovery planning

Recovery encompasses the psychological and social dimensions that are part of the regeneration of a community. The process of psychosocial recovery from emergencies involves easing the physical and psychological difficulties for individuals, families/whānau and communities, as well as building and bolstering social and psychological wellbeing.

Psychosocial support is therefore an important issue to incorporate into recovery planning. Psychosocial support ensures an individual's emotional, spiritual, cultural, psychological and social needs are addressed in the immediate, medium- and long-term recovery following an

emergency event. It also contributes to the wider community social structure and mechanisms for supporting the community as a whole, such as the culture and heritage, sports and leisure, and education and spiritual groups within the community. This includes those who may be providing psychosocial support services as well as those who may be receiving them.

Psychosocial recovery planning is intersectoral in nature, requiring co-ordination between agencies at national, regional and local levels, and spans all the phases of emergency management, including planning.

Cross-reference and supporting material

Planning for Individual and Community Recovery in an Emergency Event: Principles for psychosocial support. National Health Emergency Plan (Ministry of Health 2007b)

General considerations for recovery following a moderate to severe pandemic

As part of Exercise Cruickshank (in 2006), an extensive series of workshops were held at local and national levels to discuss recovery issues at the end of the notional eight-week severe pandemic wave. Key considerations for pandemic recovery in the six areas identified by workshop participants are described below.

Scale

A pandemic event will affect the whole of New Zealand and will not be isolated to a geographic area.

Prioritisation of recovery activities

The prioritisation of recovery activities in a severe pandemic in order to bring some level of usual daily function back to society is a key issue. A basic approach may involve:

- placing a primary focus on reinstating services providing the basic necessities of life (that is, food and clean water) as soon as practical, and promoting the concept of community self-reliance in this respect
- placing a secondary focus on reinstating law and order, banking services (over the counter and electronic funds transfer at point of sale services) and financial assistance services (welfare support)
- making a decision as to when to reopen educational institutions that takes into account local circumstances
- acknowledging the fact that Government agencies and the private sector may not be able to deliver their usual services for an extended period, necessitating an ongoing need for prioritising services and managing resources while meeting public expectations.

Community networks

Communities differ geographically, in their levels of public and private sector representation, and in their ethnic or socioeconomic make-up, and these differences will determine the nature and effectiveness of targeted recovery activities. Agencies should identify and make use of existing community networks in each unique area.

Social factors

Numerous social issues may arise during recovery. Staffing capacity for the delivery of all Government services, and psychosocial support for vulnerable communities, Māori and minority ethnic groups will require consideration. After a pandemic it may be necessary to establish a recovery centre – a ‘one-stop-shop’. Such centres may be useful for providing communities with a variety of support services delivered through central government departments, local government, non-governmental organisations and other agencies. They could minimise travel and inconvenience for affected people and maximise co-ordination and liaison between relief and recovery services.

Public expectations

Agencies will need to manage public expectations at national and local levels if communities face a long period before a return to usual daily functions. This must be led at a national level and enhanced and supported at a regional level.

Cross-references and supporting material

Recovery Management: Director’s guidelines for CDEM groups (DGL 4/05) (MCDEM 2005b)

Report on Exercise Cruickshank (Ministry of Health 2007c)

Guide to the National Civil Defence Emergency Management Plan (MCDEM 2006b)

All-of-government pandemic recovery co-ordination

As lead agency in a pandemic the Ministry of Health, following consultation with other agencies, is responsible for advising Government on recovery activities and any special arrangements that may be necessary according to the severity of the pandemic, and the likelihood of additional waves.

Effective recovery requires planning and management arrangements that are accepted and understood by recovery agencies and the community.

In a mild pandemic, special recovery structures and arrangements will not be required.

Following a severe pandemic, participants in the recovery process will be numerous, including central and local government, organisations, community agencies and individuals. Each of these groups has a role to play in determining how the recovery progresses. Recovery arrangements must cover both preparation and implementation.

In these circumstances recovery planning and response requires an all-of-government approach at local and national levels. Strong leadership and clear accountabilities are necessary, and the development of appropriate relationships is critical: A combined approach will be necessary. In these circumstances it will be necessary to consider a national recovery management structure, as outlined in Appendix C.

It is likely that social and economic environments will be those most significantly affected, and will therefore most require the attention of special task groups. However, built and natural environments may also be affected, so agencies concerned with these environments could have a role to play. The way in which these issues are addressed may have long-lasting effects on the community, and may be costly in financial and resource terms.

Transition from response to recovery

The transition from response to recovery in a pandemic should be staged, and may vary geographically. It should be event-driven rather than time-driven. It is expected that the transition, including the transition of lead agencies, will be discussed and agreed at the national level for implementation nationally, regionally and locally.

The principal aspects of the transition to recovery are:

- ensuring recovery structures are established before transition occurs
- implementing recovery task groups
- preparing a national recovery action plan that is drafted in consultation with recovery task groups
- developing a communications plan with relevant recovery agencies.

The unique nature of a pandemic means there may be several waves of infection. If a transition to recovery has taken place after the first wave and a second wave emerges, recovery may need to be scaled down and response activity reactivated.

Recovery responsibilities in the health sector

Ministry of Health

Following a moderate to severe pandemic, the Ministry of Health's responsibilities will include participating in an all-of-government recovery approach and overseeing national co-ordination of health sector recovery activities. The Ministry may also need to develop national policy for the prioritisation of health supplies and services to ensure national consistency across DHB districts.

The Ministry of Health will take the lead in managing national public information on the recovery of health services. The Ministry will work with other Government agencies and the national recovery manager or recovery co-ordinator (if one has been appointed) to ensure a co-ordinated recovery.

The Ministry of Health may seek to enable relevant emergency powers to be retained, if such powers will assist in significantly reducing the duration of the recovery period and protecting public health. The Ministry will also be responsible for ensuring triggers for either an escalation or a standing-down of recovery activities are event-driven rather than time-driven.

The Ministry will also provide advice about psychosocial recovery activities and support programmes for the public and health personnel. It will do this in partnership with agencies represented on the NWCG.

District Health Board actions to assist pandemic recovery

District Health Board responsibilities will include participating in all-of-government recovery activities at district and regional levels, and overseeing district and regional co-ordination of health sector recovery activities. The Ministry of Health may require DHBs to implement national policy for the prioritisation of health supplies and services, to ensure national consistency across DHB districts.

District Health Boards will work with the Ministry of Health and other Government agencies to manage public information so that messages remain complementary and unambiguous. Health authorities will need to disseminate advice about psychosocial recovery to individuals and affected communities, and to implement support and recovery programmes for the public and health personnel in partnership with the CDEM sector.

Cross-reference and supporting material

National Health Emergency Plan (Ministry of Health 2008c)

NZIPAP (2010): Appendix C, Recovery

Appendices

Appendix A: Public Information Management Strategy

Introduction

This appendix contains the Public Information Management Strategy – the key message framework and relevant actions for specific audiences to supplement the objectives and principles outlined in Part C of the 2009 New Zealand Influenza Pandemic Plan (NZIPAP 2010). This appendix should be read in conjunction with the indicative communications and health education actions outlined in detail in the Phase Action Tables in Part B.

Cross-references and supporting material

Part B, all phases, 'Communications and health education' sections

Part C, Public Information Management Strategy

Key messages framework

The Ministry of Health has identified anticipated information demands and messages for each phase of a pandemic.

Many of the messages and much of the information will remain constant, although information will vary in emphasis and dissemination will vary in frequency according to the severity of the pandemic, and through different phases.

In the lists that follow, points that appear as questions indicate information to be disseminated that will vary according to the nature of the particular pandemic.

Key messages

It looks like a flu pandemic is about to start

- This is a new warning.
- What is pandemic influenza?
- What is the difference between seasonal influenza and pandemic influenza?
- How does the virus behave? (eg, How does it spread? What is its longevity on surfaces?)

There is much about this that we do not know

- We don't know how severe it will be.
- What do we know so far?
- What we are doing so far?

The pandemic may be very bad

- We are preparing in the hope that our efforts may not be needed.

What matters most is how we prepare

- What can households, communities and organisations do to get ready?
- Put a plan in place for coping with sickness and absences.
- Be prepared if you need to look after yourself.
- Business preparedness is essential.

Individual and community preparations should focus on reducing the chance of getting sick, helping households cope during a pandemic and minimising disruption

- Cover coughs and sneezes and keep your distance from anyone who is sick.
- Wash and dry your hands (or use a sanitiser).
- If you're sick, stay home.
- Prepare to help yourself.
- Gather essential supplies.
- Know how to look after yourself at home.
- Organise work to focus on essential tasks.
- Organise volunteers and help networks.

Social distancing will help us control it

- Although social distancing is inconvenient, it could be essential to slowing the spread of influenza.
- Public events may be cancelled.
- Working from home may be a good idea.
- In your day-to-day activities, try to reduce interactions with other people.

School closures will help us control it

- Although school closures are disruptive, these may be necessary, because schools have always been a source for widespread infection in the community.
- Schools need to prepare.
- Individuals, communities and employers need to prepare for the eventuality of school closures.

Getting ready is about preparing for possible shortages

- In a severe pandemic households and organisations will have to look after themselves.
- We don't know whether goods and services will be limited.
- The biggest impact will be on hospital and health services.
- The Government or health system may not always be able to help you.

Think about how to care for loved ones at home

- Even a moderate pandemic could overwhelm hospital services.
- Health services have plans, but you need to be ready to look after your family (or be looked after) at home.
- Make sure you have the supplies you might need.
- Make sure you know how you will organise your household if you or someone else gets sick.
- Have a plan as to what you will do if you all get sick.
- Seek advice as soon as possible if the health of a sick person in your household deteriorates.

You can help as a volunteer

- Think about how you can help family, friends and neighbours.
- Plan how to use people who have already recovered from the pandemic flu – they will probably have immunity, unless the disease mutates.

What will the Government and Ministry of Health be doing?

- The Government and the Ministry of Health are actively planning, co-ordinating and facilitating a response.
- The Ministry of Health has the best access to authoritative information, and will make every effort to let you know what is happening.
- The Government and the Ministry of Health are monitoring and disseminating information about the pandemic.
- Will the Government be implementing a vaccination programme?

We will be upfront and honest

- Be prepared for news that may be bad – we will not sugar-coat messages.
- There may be changing or conflicting information.
- Pandemics are characterised by uncertainty.

This is how you get information you need . . .

- This is how to get additional information . . .

Sequence of communication planning

Discrete initiatives and key messages will be developed for specific audiences and at different phases. The following sections list key questions for which the public are likely to need answers, according to the six phases of a pandemic response.

Plan For It and Keep It Out

- What can I do to prepare?
- How can we reduce the risk of spreading the influenza virus?
- What will happen at the borders? Will they be closed? If so, when and where?

- What are the household supplies New Zealanders will need in a pandemic?
- What will happen to travel services?
- How likely is a pandemic?
- What will happen to me if I get sick?
- Is there a vaccine?
- How will health services cope in an influenza pandemic?
- What are you planning to do to respond?
- Who is in charge?
- Will people be able to ring a free phone number such as Healthline for advice?
- How can antivirals help? Will they cure people?
- Where can I get up-to-date information?

Stamp It Out

- What can I do to help Stamp It Out?
- Where can I get up-to-date information?
- What are the household supplies New Zealanders will need in a pandemic?
- What should I do if I think I have influenza: who should I call for more advice and how can I look after myself (specifically)?
- Is it safe to go to work?
- How can I keep myself safe at work?
- Where can I seek local assessment and treatment for pandemic influenza?
- Who is eligible for antivirals or a vaccine?
- How can I get antivirals or a vaccine for myself or my family members?
- What should I do about travel overseas?
- What should I do if I have been overseas in an affected area and am feeling unwell with flu-like symptoms?
- Where should I go for more information or help for health problems other than the flu (eg, scheduled surgery)?
- Can influenza be spread by air conditioning units?
- Who is in charge of making decisions nationally?
- To what extent should I stay away from infected areas?
- Where should I go for welfare help?
- What are the extended powers of medical officers of health?
- When and how are the medical officer of health's extended powers enacted?
- What should I do and who should I call if someone I am looking after dies?
- How can I volunteer services to help others?

Manage It

- Where can I get up-to-date information?
- How can I reduce the risk to myself and my family? What social distancing measures (including safety on public transport) should I take?
- What should I do if I think I have influenza, who should I call for more advice and how should I look after myself (specifically)?
- What should I do if someone in my family gets influenza: how can I look after them (specifically)?
- How can I seek assistance if I get sicker?
- What can I expect from health services?
- When, how, where and in what circumstances should I call for medical help? (Note that the response to this question will essentially give self-triage information – the ‘where’ aspect will be local information.)
- Where can I seek local assessment and treatment for pandemic influenza (eg, are there local community-based assessment centres that can provide this)?
- Who is eligible for antivirals or a vaccine?
- How can I get antivirals or a vaccine for myself or my family members?
- Which public gatherings, if any, will be cancelled?
- What should I do and who should I call if someone I am looking after dies?
- How can I volunteer my services to help others?
- How can I keep myself safe at work?
- Who is in charge of decision-making nationally?
- To what extent should I stay away from infected areas?
- What are the extended powers of medical officers of health?
- When and how are the medical officer of health’s extended powers enacted?

Recover From It

Recovery messages will be developed in conjunction with relevant agencies at the time of the event. Key agencies concerned with social issues, health, the economy and business should take part in developing recovery messages.

Messages will need to take into consideration the scale of the event, existing community networks, social factors and public expectations.

- What psychosocial recovery activities and support programmes are available for the public, health personnel and other front-line staff and volunteers?
- Where can I get up-to-date information?
- How can I volunteer my services to help others?
- Who is in charge of decision-making nationally?
- What priority is being given to recovery activities, in terms of:
 - reinstating services providing basic necessities
 - reopening educational facilities

- identifying services that continue to be disrupted or unavailable?
- How long will it take before services return to normal?

Communication initiatives to reach target audiences

Communication is essential to the management of any pandemic response. During a pandemic, a communications plan should aim to ensure our communications:

- use existing media, communication channels, resources and partnerships (for example news media outlets, established communications networks, websites, professional bodies and organisations, and church and social groups)
- are simple (that is, do not over-complicate the message) and achievable, emphasising what is important, and what will work
- are appropriately targeted (that is, that there are specific strategies and plans in place for specific groups, through established professional bodies and networks).

News media

Established media channels are the primary method of communication in a pandemic, and adequate resources need to be provided initially to ensure the maintenance of an effective and constructive working relationship. Media initiatives include:

- media conferences – these are helpful for providing information and critical for providing opportunities for journalists to ask questions and talk to people in key roles
- media releases and advisories – these draw attention to information and upcoming events and provide a baseline of credible information, and can take pressure off busy spokespeople
- briefings for news editors and specialist journalists – these can provide in-depth background information, on the record
- frequently asked questions sheets and information for file – these can provide a context and support for specific initiatives
- media interviews: one-on-one or with another guest or two; live or taped and edited; in person, on the telephone or via satellite – these can provide pertinent information, on the record
- media monitoring of national and international media sites – this can keep the Ministry of Health abreast of breaking stories and ensure it is ready to respond as required.

Web

New online media provide critical tools for managing information. Experience shows that they are extensively used by the public, traditional media and health professionals. They are an efficient way of communicating with large audiences quickly. Components of web-based communication tools that could be useful in a pandemic response include:

- implementing a dedicated and clearly identifiable space within the Ministry of Health website (<http://www.moh.govt.nz>) that is separate from the general pandemic influenza site and provides customised information on the new pandemic
- streaming media conferences, posting interviews and other video and providing resources on this space
- appointing a dedicated person with the responsibility and authority to develop and maintain online communication and ensure that content is co-ordinated, current and aligned to the current level of pandemic response and risk

- ensuring online communication caters for all discrete groups, including Māori, Pacific peoples, other ethnic groups, and groups with special needs
- linking the special Ministry of Health site to other relevant web pages and sites, both local and international
- being aware of how similar sites present information, and copying formats that work
- making use of social networking sites (eg, Facebook, Bebo and Twitter) to disseminate information.

Telephone helplines

Helplines are an essential tool for disseminating information and managing large numbers of enquiries at an operational level. National helplines (such as Healthline) can disseminate general advice, and local helplines can provide information on accessing local services. Public information managers need to work closely with operations teams to ensure the provision of consistent messages and to capture feedback that can be used to improve and enhance communications. The establishment of helplines will involve setting up 0800 numbers, creating scripts and pre-recording messages to be played after hours and during call diversions.

Public awareness and education

It will be important at different stages of the pandemic response to heighten awareness and provide educational messages through paid media channels. Planning for this will involve:

- developing key messages and information
- planning collateral and campaigns to the point of readiness for production
- obtaining pre-approval of a budget for production, considering possible media mechanisms (eg, print or electronic media, direct mailings or billboards at high-impact sites) and accordingly obtaining pre-approval of media partners
- exploring the option of using newer telecommunication technologies, such as instant messaging and text messaging
- developing public service broadcasts able to be used in national emergencies
- considering a variety of methods to reach communities and agencies.

Māori and Pacific audiences

Teams involved in the public information management function will co-ordinate with Māori- and Pacific-focused health teams within the Ministry of Health and networks led by other Government agencies to ensure key messages reach Māori and Pacific audiences effectively. Communication with these audiences can be channelled through:

- Māori Television
- Māori and Pacific radio stations
- Māori and Pacific language translations on the Ministry of Health website
- the networks and resources of Te Puni Kōkiri, the Ministry of Pacific Island Affairs and other Government agencies.

Ethnic communities

Key information published online in a variety of languages other than English, Māori and Pacific languages. Other resources and channels will be considered as the pandemic develops to ensure many ethnic communities have access to timely and relevant information, for example:

- ‘under the radar’ media outlets, such as the 11-station Access Radio national network
- the Department of Internal Affairs’ Office of Ethnic Affairs’ translations, database and regional contact advice, and its current list of the top 15 languages most commonly spoken by ethnic communities in New Zealand
- ethnic television programmes (eg, in the Auckland area, those in Mandarin and Cantonese)
- numerous small Chinese-language newspapers, particularly in Auckland
- locally based refugee services and networks
- religious groups forming centres for ethnic communities (eg, Islamic organisations, who, in the Influenza A (H1N1) 2009 pandemic, were willing to spread health messages through their networks, websites and newsletters).

Other publicity opportunities

An existing network of professional, vocational, community, cultural and special-interest media provides a good opportunity for communication with a wide variety of audiences. Such media include:

- community newspapers
- professional and trades journals (eg, in the health sector, *New Zealand Doctor*, *Pharmacy Today* and nursing journals)
- central agencies’ communication networks (the Ministries of Tourism, Education, Labour and Welfare all maintain such networks)
- educational supplements and resources
- children’s television, in Māori and English (eg, *What Now* ran a colouring-in competition during the influenza A (H1N1) 2009 pandemic, and its programmers are willing to continue to work closely with the Ministry of Health in the event of a future pandemic)
- church and social groups
- regional television
- train and bus stations and sidings.

Communications resources

Getting Ready for a Flu Pandemic for Whānau, Hui, Marae and Tangihanga (Ministry of Health 2007a)

Working Together: Guidelines for emergency managers working with culturally and linguistically diverse communities (MCDEM 2006b)

Pandemic Influenza: Resources (Ministry of Health 2009f)

Getting Ready for a Flu Pandemic. Leaflet in English, Māori, Pacific and other languages (Ministry of Health 2009g): <http://www.moh.govt.nz/moh.nsf/indexmh/pandemicinfluenza-resources-translations>

Appendix B: Additional Factors to Consider when Mounting a Response

Factors	Impact	Comment	Especially informs
Overall global trends	Helps to inform the degree of action that needs to be implemented in New Zealand at any given point	<p>Global trends provide a context for what may happen in New Zealand to inform New Zealand’s response strategy.</p> <p>The World Health Organization (WHO) is a critical source of information.</p> <p>Data direct from Australia, the Pacific and affected counties with good surveillance systems are particularly important to monitor.</p>	<p>Level and type of surveillance</p> <p>Level and type of border controls</p> <p>Readiness of plans and response capacity</p> <p>Dissemination of public information</p>
Potential for health services to be overwhelmed	<p>Ability to provide normal levels of health care for all patients, not just pandemic patients</p> <p>Deferral of elective and ambulatory services</p> <p>Establishment of community-based assessment centres</p> <p>Revision of District Health Board performance targets</p> <p>Re-configuration of services and redeployment of staff to meet priority requirements</p> <p>Dissemination of public information to reflect changed expectations of the services health providers can or will deliver</p> <p>Demand for additional welfare and other services to support people taking care of themselves at home</p>	<p>Initially, New Zealand may need to rely on overseas data to project potential impacts.</p> <p>Impact will be determined by several factors, including:</p> <ul style="list-style-type: none"> • transmissibility • case fatality rate • severity or morbidity • efficacy of Keep It Out and Stamp It Out interventions to slow entry into New Zealand and flatten the pandemic curve <p>Evidence indicates specialist hospital services such as emergency departments, intensive care units, paediatrics services and radiology may come under particular pressure and face difficulty providing normal levels of service.</p> <p>Health services should be monitored to anticipate trends where demand might exceed capacity, for example in:</p> <ul style="list-style-type: none"> • hospitalisation rates • intensive care units • primary health care • ambulance services • home care services • public health services • ambulance services • medical supplies • laboratory services. 	<p>Level of border control (high-severity virus places greater emphasis on border)</p> <p>Readiness and response capacity of primary care, hospitals and their intensive care units</p> <p>Dissemination of public information</p> <p>Surveillance, reporting and review of deaths</p> <p>Dissemination of clinical guidance (for example use of antivirals)</p> <p>Regional emergency operations centre escalation</p>

Factors	Impact	Comment	Especially informs
Changing characteristics of the pandemic virus	<p>Characteristics or new information, for example:</p> <ul style="list-style-type: none"> • an increase or decrease in severity • anti-viral resistance • secondary infections • symptoms 	The Ministry of Health will need to review key decisions and actions and provide direction to DHBs and other response agencies on any changes necessary in the response.	<p>The mix of actions at different phases</p> <p>Laboratory capacity and capability</p>
Advice of WHO	The way in which changes in phase and standing or temporary recommendations are to be responded to in New Zealand under the International Health Regulations 2005	WHO recommendations should be interpreted in the light of the New Zealand situation at the time and New Zealand's obligations under the International Health Regulations 2005.	May or may not require a change in actions at different phases
Change in response measures by other countries	Significant changes in the response of other countries may have implications for New Zealand's response measures and the way they are perceived by the media and public	<p>Response strategies should be re-assessed against that of comparable countries, in particular Australia, while ensuring actions are based on the NZ situation.</p> <p>New Zealand will need to consider requests by other countries (for example Pacific island countries and territories asking New Zealand to undertake exit assessment).</p>	<p>Dissemination of public information</p> <p>Mix of actions at different phases</p> <p>Surveillance and reporting</p>
Sustainability of response (in all phases, across all sectors)	<p>Various impacts across agencies, districts and phases, including, critically, the workforce</p> <p>A shift in phase</p> <p>A different mix of actions</p> <p>Prioritisation of services and resources</p> <p>The impact on the workforce involved in the response is a critical factor. The sustainability of a response will be influenced by the number of staff and/or volunteers that can be oriented to perform duties outside their normal scope of practice, and by the amount of support they receive to avoid burn-out.</p>	<p>The sustainability of the response will be influenced by the interaction of a number of factors.</p> <p>In a moderate to severe pandemic, greater reprioritisation of normal services will be required to sustain a response.</p> <p>Many actions are interdependent, for example:</p> <ul style="list-style-type: none"> • quarantining arriving passengers from affected areas may be only a short-term option by itself, unless programmes are put in place to reduce arrivals from affected areas • extensive cluster control operations may be feasible only in the medium term if health workers and staff from other agencies are seconded to response activities. 	<p>Personnel resources</p> <p>Use of supplies</p> <p>Need to prioritise services</p> <p>Regional emergency operations centre escalation</p> <p>Level and type of ongoing border and containment measures to flatten the pandemic curve</p>

Factors	Impact	Comment	Especially informs
Community and corporate response	<p>Speed of transition from one phase to another</p> <p>Level of uptake with voluntary measures over time will influence the nature and mix of response measures, and the speed of the transition from one Phase to another</p>	<p>Particular attention needs to be paid to personal hygiene and other programmes to keep individuals and their community safe, using resources produced by the health sector, including the Ministry of Health, and other agencies</p> <p>Uptake of voluntary response measures should be monitored as part of ongoing assessment on the pandemic response, and modified as required.</p>	<p>Dissemination of public information</p> <p>Mix of actions at different phases</p> <p>Business planning</p>
Economic impact nationally and internationally	<p>Minimal impact on New Zealand economy, if pandemic is mild to moderate (such as H1N1 2009)</p> <p>Potentially negative impacts (such as impact of restrictions on movement on trade) if pandemic is more severe</p> <p>However, a mild to moderate pandemic (as with H1N1 2009 in New Zealand) is likely to have minimal impact on the economy</p> <p>The likely mix and impact of actions within New Zealand must take the economic impact into account, including:</p> <ul style="list-style-type: none"> • positive benefits of the actions (eg, flattening the pandemic curve, spreading the impact on business and services) • potentially negative impacts (eg, impact of restrictions on movement on trade) 	<p>The economic impact may result from:</p> <ul style="list-style-type: none"> • staff absence • disruption to national and international supply chains • rationing of critical supplies • disruption to trade • disruption to tourism • widespread defaulting on debt • foreclosure of affected businesses • adverse impacts on the exchange rate • reduction of the tax take. <p>Some of these factors will be influenced by the mix of actions implemented in New Zealand, but many are outside New Zealand's control.</p>	<p>Dissemination of public information</p> <p>Mix of actions at different phases</p> <p>Community support</p>

<p>Social factors</p>	<p>Varying possible impacts, depending on the severity of the pandemic and the efficacy of response actions, including:</p> <ul style="list-style-type: none"> • psychosocial impact on individuals, families and communities affected • psychosocial impact on response staff • impacts on law and order • impacts on infrastructure • a need for a higher degree of welfare and other support for sick people and their families at home • an increased need to take care of people who have lost support (eg, orphaned children) <p>Impacts of pandemic interventions may include:</p> <ul style="list-style-type: none"> • a reduction in adverse social effects, if the impact of the pandemic is reduced by containment actions (eg, border management, cluster control, closure of schools), early establishment of community-based assessment centres and support of response staff • social disruption caused by certain interventions (eg, the ability of loved ones to provide support for dependants, if movement into an affected area is restricted; impact on the workforce of school closures) 	<p>Critical resources that can be used to ameliorate social impacts include:</p> <ul style="list-style-type: none"> • the National Welfare Advisory Group, which can catalyse a nationally consistent approach to welfare (see Part A, Intersectoral Response, Welfare work stream) • welfare advisory groups, which can help to co-ordinate local resources to provide support • the Ministry of Health’s psychosocial guidelines, Planning for Individual and Community Recovery in an Emergency Event: Principles for psychosocial support. National Health Emergency Plan (Ministry of Health 2007b). 	<p>Dissemination of public information</p> <p>Community support</p>
<p>International relations</p>	<p>The positive or negative impact of New Zealand’s response on countries with which New Zealand has close relationships (eg, Australia and Pacific Islands), and vice versa</p>		<p>Intelligence and international reporting</p>

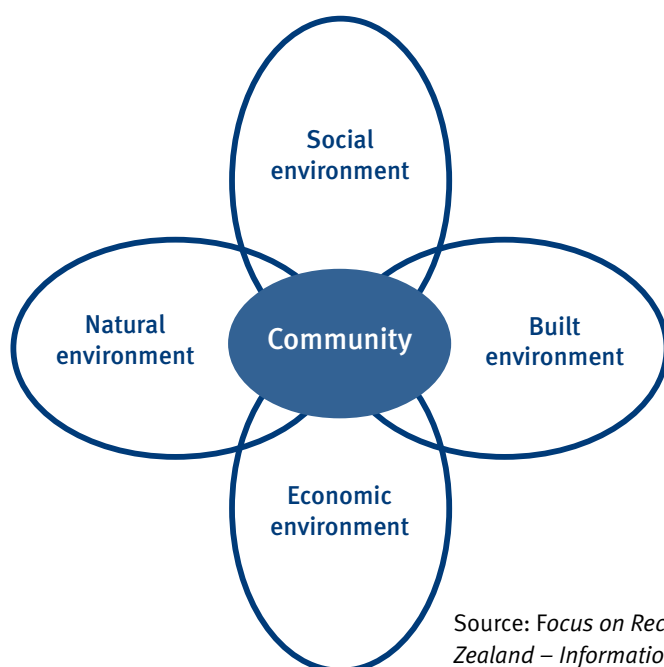
Appendix C: Recovery

Cornerstones of recovery

Recovery has 10 cornerstones.

1. Recovery is a short-, medium- and long-term process.
2. Recovery starts on day one of the response and can continue in many ways on a long-term basis: possibly for years or even decades.
3. After the response phase has ended, there may need to be a gradual transition to medium- and long-term recovery activity.
4. Recovery is a holistic concept, embracing all the needs of the community.
5. Recovery is an integral part of the four Rs (reduction, readiness, response and recovery) to be applied across all hazards and risks.
6. Recovery addresses the management of all hazards as consequences of emergencies that affect communities. This means planning and activation should be designed around managing the consequences or effects of given events, rather than planning for the event itself.
7. Recovery encompasses the community and the social, natural, economic and built environments (see Figure 5). This interaction must involve members of the community and be supported by local, regional and national structures.
8. Recovery must be planned and evaluated.
9. The unique nature of a pandemic means there may be several waves of infection. If a transition to recovery has taken place after the first wave and a second wave emerges, recovery may need to be scaled down and response activity reactivated.
10. Recovery is a process of regeneration. In practice, this means that life after a severe pandemic is likely to be different in many ways. However, a mild pandemic may have little impact on society.

Figure 5: Integrated and holistic recovery



Source: *Focus on Recovery: A holistic framework for recovery in New Zealand – Information for the CDEM sector (IS 5/05)* (MCDEM 2005a).

Cross-references and supporting material

Focus on Recovery: A holistic framework for recovery in New Zealand – Information for the CDEM sector (IS 5/05) (MCDEM 2005a)

Recovery Management: Director’s guidelines for CDE groups (DGL 4/05) (MCDEM 2005b)

National recovery management structure

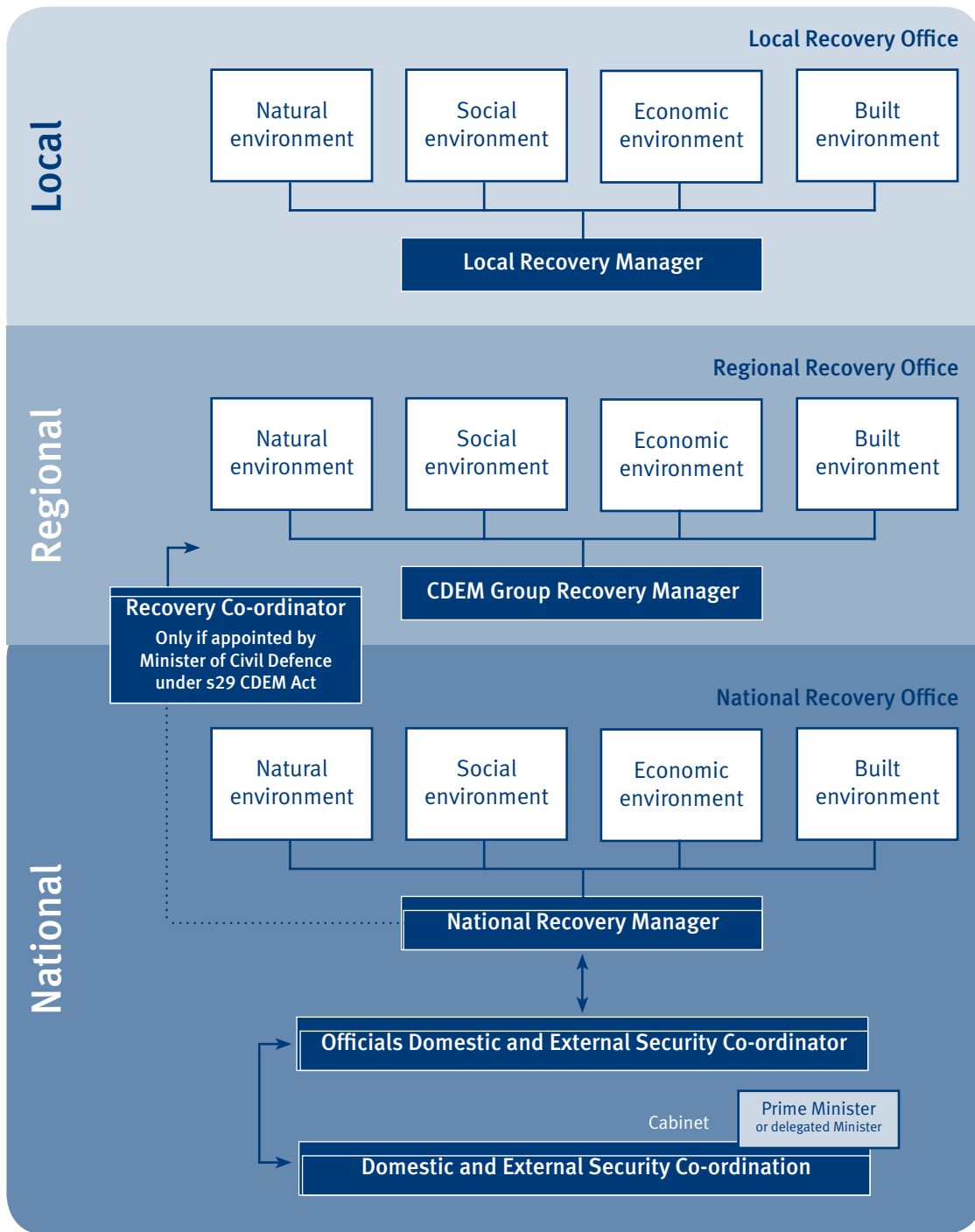
The National Civil Defence Emergency Management Plan and *Guide to the National Civil Defence Emergency Management Plan* (MCDEM 2009b) set out arrangements for national recovery activities. National-level government agencies would ordinarily become involved only when recovery is beyond the ability of the community to manage. Following a pandemic, this situation is likely to be reversed: the widespread nature of a pandemic means an all-of-government approach is likely to be the most effective.

National recovery management procedure applicable to a pandemic is based on a structure of multi-agency task groups paralleled at local, regional and national levels (see Figure 6), aimed to ensure that recovery activities in the immediate, medium and long term are co-ordinated. Agencies should work together in the Plan For It phase to ensure their recovery arrangements will provide a co-ordinated and timely response.

In a moderate to severe pandemic, by its nature widespread, it is likely that the Officials Committee for Domestic and External Security Co-ordination (ODESC) would convene to provide strategic co-ordination and recovery prioritisation. This committee would then advise the Cabinet Committee on Domestic and External Security Co-ordination of the national direction of recovery activities and the possible establishment of a national recovery office co-ordinated by a national recovery manager or recovery co-ordinator: such a position can be established under the provisions of the National Civil Defence Emergency Management Plan. The national recovery office would then co-ordinate an all-of-government approach after a pandemic event.

The Government expects the health co-ordinator, medical officer of health and CDEM controller will ‘sit around the same table’ to manage response at a regional level (see Part A, Summary of Roles, Co-ordination arrangements). Decisions should be made jointly as much as possible within this partnership. Joint decision-making processes in the recovery stage should follow the national approach, including the likely decision to appoint a regional recovery manager and establish a regional recovery office. The delivery of recovery activities at the local level will be determined by local arrangements and recovery plans, and should reflect the regional and national recovery management structure.

Figure 6: Possible national recovery management structure in a pandemic



Appendix D: Glossary

The following definitions apply for the purposes of this document. Words in **bold** in the definitions are defined elsewhere in the glossary. Abbreviations used in this document are also included here.

ACC	Accident Compensation Corporation
agencies	Bodies including: <ul style="list-style-type: none">• Government agencies such as public service departments, non-public service departments, Crown entities and offices of Parliament• non-government agencies• lifeline utilities
alert codes for health	A set of codes the Ministry of Health issues to District Health Boards to alert them and trigger a series of actions. The four codes are: <ul style="list-style-type: none">• Code White – information/advisory• Code Yellow – standby• Code Red – activation• Code Green – stand-down/recovery.
area of concern	A country or region New Zealand officials identify as having cases of the disease: travellers from this area therefore pose a risk to New Zealand
Cabinet Committee on Domestic and External Security Co-ordination	A Cabinet committee the Prime Minister chairs that includes Ministers responsible for the departments that will play essential roles in domestic and external security events. Central government uses this committee to manage significant crises or security events in which impacts of national significance warrant the co-ordination of a national effort.
CBAC	community based assessment centre
CDEM	civil defence emergency management
CDEM Act 2002	Civil Defence Emergency Management Act 2002
CIMS	Co-ordinated incident management system
Civil defence emergency management (or CDEM) group	Each group is a committee of elected representatives from local authorities. The groups integrate civil defence emergency management planning, and respond to and manage adverse effects of emergencies in their region.

Community-based assessment centre	A body that may be set up by a District Health Board during an emergency . Such centres are commonly used in instances of mass evacuations, infectious disease outbreaks affecting many people and mass casualty incidents.
Co-ordinated incident management system	An organisational structure that allows the multiple agencies involved in an emergency to work together to manage it systematically, under a co-ordinated operational response. The system involves common terminology and operating structures, integrated communications and other shared management processes.
debriefing	A critical examination of an operation carried out in order to evaluate actions for the purposes of documentation and improvement
DESC system	Domestic and external security co-ordination system
DHB	District Health Board
District Health Board	One of 21 bodies established under the New Zealand Public Health and Disability Act 2000 to provide health and disability services to populations within a specific geographical area
District Health Board emergency management team	An incident management team to manage the local emergency response in a health-related emergency. Each District Health Board convenes a team. The teams contribute to their relevant regional co-ordination team .
District Health Board incident controller	The member of a District Health Board emergency management team who has overall responsibility for co-ordinating an emergency response at the individual District Health Board level. Under CIMS each District Health Board has an incident controller, and managers for planning and intelligence, operations, logistics and liaison functions.
Domestic and External Security Co-ordination system	A system comprising the Cabinet Committee on Domestic and External Security Co-ordination , the Officials Committee for Domestic and External Security Co-ordination and the Officials' Group
emergency	A situation that: <ul style="list-style-type: none"> • is the result of a happening, whether natural or otherwise, including, without limitation, any explosion, earthquake, eruption, tsunami, land movement, flood, storm, tornado, cyclone, serious fire, leakage or spillage of any dangerous gas or substance, technological failure, infestation, plague, epidemic, failure of or disruption to an emergency service or a lifeline utility, or actual or imminent attack or warlike act • causes or may cause loss of life or injury or illness or distress or in any way endangers the safety of the public or property in New Zealand • cannot be dealt with by emergency services alone, or otherwise requires a significant and co-ordinated approach under the Civil Defence and Emergency Management Act 2002

Emergency management information system	The Web-based emergency management information system the Ministry of Health hosts and provides to the New Zealand health sector in order to manage local, regional and national emergencies. This system is the primary tool for managing significant health incidents and emergencies at local, regional and national levels. It complements existing business-as-usual systems (such as EpiSurv, which collates notifiable disease information, and patient management systems). Although its focus is the health sector, it can also facilitate structured information sharing with local, regional and national partners.
epidemic	A disease affecting or tending to affect an atypically large number of individuals within a population, community or region at the same time
ESR	Institute of Environmental Science and Research Ltd
four Rs	An expression that stands for: <ul style="list-style-type: none"> • 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 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 co-ordinated efforts and processes used to bring about the immediate, medium-term and long-term holistic regeneration of a community after a civil defence emergency
H1N1 2009	A strain of the influenza A virus that caused a pandemic in 2009
hazard	A source of potential harm that may cause, or contribute substantially to, the course of an emergency
health co-ordinator	A generic term to denote the person with overall accountability for the local or District Health Board response to an emergency . Individual District Health Boards use different terminology for this role (for example District Health Board incident controller or response co-ordinator).
health emergency	An emergency that exists when the usual resources of a provider are overwhelmed or have the potential to be overwhelmed
Influenza	A contagious viral disease of the respiratory tract characterised by fever, headache, cough, myalgia, prostration, coryza and sore throat

Information report	A report detailing information on any aspect of an emergency , produced as required (a District Health Board may produce several reports one day and none the next, depending on the situation). These reports are a primary means for recording changes in the situation: agencies must issue them as soon as possible after a change. They are also the main means of documenting informal communications, especially telephone calls.
Intelligence summary	A report (commonly called an IntSum) that contains intelligence information in addition to that in a Situation Report or information that cannot wait for the next Situation Report. The National Health Co-ordination Centre is the main conduit for intelligence information across the health sector. Intelligence summaries are sent out as required. They tie together intelligence from across all of government. The National Health Co-ordination Centre may be required to issue intelligence summaries on non-health matters.
lead agency	The organisation with the legislative or agreed authority for control of an incident
liaison officer	A person who is a single point of contact between agencies to improve the flow of information
lifeline utility	A service or network that provides the necessities of life (for example power and gas, water, sewerage, petrol, roading, transport of essential supplies, radio, television, air travel and shipping)
likelihood	A general description of probability or frequency used in risk management
local	describes a designated population or a provider group working in a specific geographical area. The District Health Board of a local area has overall responsibility for providing health and disability services in an emergency to a local population. However, local provider groups also have obligations to provide services in an emergency.
Logistics	Name of the team responsible for providing facilities, services and materials in an emergency.
medical officer of health	An officer designated by the Director-General of Health under section 7A of the Health Act 1956.
national co-ordinator	The person who leads the Ministry of Health National Health Co-ordination Team and has overall responsibility for co-ordinating emergency response at the national level
National Health Co-ordination Centre	A body run by the Ministry of Health to lead the national response to a health emergency
National Health Co-ordination Team	The team within the Ministry of Health, comprising members of all Ministry Directorates, that co-ordinates the national emergency response in a health-related emergency.

<i>National Health Emergency Plan</i>	A Ministry of Health umbrella plan that incorporates health emergency-specific action plans, such as the <i>New Zealand Influenza Pandemic Plan</i> and the <i>Multiple Complex Burn Action Plan</i> . The National Health Emergency Plan provides guidance for the New Zealand health and disability sector for emergency management.
NZIPAP	<i>New Zealand Influenza Pandemic Plan</i>
ODESC	Officials Committee for Domestic and External Security Co-ordination
Officials Committee for Domestic and External Security Co-ordination	A committee of Government chief executives that is charged with providing strategic policy advice to Ministers. It provides support to the Cabinet Committee on Domestic and External Security Co-ordination and oversees the areas of emergency readiness, intelligence and security, terrorism and maritime security. Activation of ODESC is at ministerial request.
Operational Policy Framework	A group of documents collectively known as the policy component of the District Health Board Planning Package that sets out operational level accountabilities for District Health Boards for each fiscal year. The framework is executed through Crown funding agreements between the Minister of Health and each District Health Board . The framework covers emergency obligations based on the four Rs .
pandemic	An epidemic that becomes very widespread and affects a whole region, a continent or the world
PCR test	Polymerase chain reaction test
personal protective equipment	Equipment used by clinical and non-clinical staff to protect them from hazards (eg, gloves, masks, eye protection, respirators, gowns and footwear)
PHU	Public health unit
Planning and Intelligence team	The Ministry of Health team responsible for collecting, evaluating and disseminating information related to an incident
primary health care	Care and services that general practitioners, nurses, pharmacists, dentists, ambulance services, midwives and others provide in the community
primary health organisation	A grouping of primary health care providers; a local structure through which District Health Boards implement the <i>Primary Health Care Strategy</i> (Minister of Health 2001)
provider	An organisation or agency providing health and disability services (for example a District Health Board , a primary health organisation , a non-governmental organisation or the ambulance service).

public health services	Bodies that provide health services to populations rather than individuals. Twelve public health services in New Zealand provide environmental health, communicable disease control and health promotion programmes. Each service is administered by a public health unit that is led by a manager and staffed by, among others, medical officers of health , public health nurses and health protection officers.
public health unit	A body that administers a public health service . Each unit is led by a manager and staffed by, among others, medical officers of health , public health nurses and health protection officers.
public information management	The collection, analysis and dissemination of information to the public in a timely manner
recovery	The co-ordinated efforts and processes undertaken to effect the immediate, medium-term and long-term holistic regeneration of a community after an emergency
regional co-ordination team	A body that co-ordinates the regional emergency response of District Health Boards in a health-related emergency
regional emergency management advisor	One of four emergency management advisors, based in Auckland, Hamilton, Palmerston North and Christchurch, who are members of the Ministry of Health's Emergency Management team. These advisors work with District Health Boards , their public health units and other agencies (eg, Civil Defence Emergency Management groups and the police) to enhance regional co-ordination. They also lead and contribute to other health-related emergency projects to ensure the needs of the Ministry, District Health Boards and other significant organisations concerned with health-related emergencies are met, and that planning is co-ordinated across sectors
regional health co-ordinator	The role with overall responsibility for co-ordinating an emergency response at the regional level. The co-ordinator is an agreed appointee of a District Health Board and its public health unit in a region, and is a member of the regional co-ordination team
risk	The likelihood of consequences of a hazard ; often specified in terms of an event or circumstance
SARS	Severe acute respiratory syndrome
secondary care	Treatment by specialists to whom a patient has been referred by primary health care providers
Situation report	A report (commonly called a SitRep) of an incident that is usually given at regular intervals. This report provides a snapshot of the situation and the response. It does not provide up-to-date awareness as the situation changes. There is a template for this report in the emergency management information system, to ensure standardisation.

standard operating procedure	The approach an agency has documented for dealing with a specified incident consistently
support agency	Any Government agency that helps the lead agency during an emergency. Support agencies are determined by the potential consequences of the emergency. The Ministry of Civil Defence and Emergency Management and Civil Defence Emergency Management groups can support a lead agency under the Civil Defence Emergency Management Act 2002, the National Civil Defence and Emergency Management Plan or Civil Defence Emergency Management Group plans. Support agencies may change as an emergency situation changes.
tertiary health care	The treatment given in a health care centre that includes highly trained specialists and often advanced technology
triage	The sorting or classification of casualties according to the nature or degree of illness or injury
WHO	World Health Organization

References

These references are current as of 1 February 2010. Note that over the life of this Plan some publications and resources may be updated, or their web references modified. Go to the website of the Government agency concerned for updates.

2009/10 *Operational Policy Framework* (Endorsed). Wellington: Ministry of Health.

URL: <http://www.nsf.health.govt.nz/apps/nsfl.nsf/pagesmh/301>

Department of Labour. 2006. *Minimising the Risk and Impact of an Influenza Pandemic on your Business: A practical guide for employers*. Wellington: Department of Labour.

URL: <http://www.dol.govt.nz/initiatives/workplace/pandemic/index.asp>

Department of Labour. *Pandemic Planning Information*.

URL: <http://www.dol.govt.nz/initiatives/workplace/pandemic/index.asp>, also <http://www.osh.dol.govt.nz>

Douglas J, Szeto K, Buckle B. 2006. *Impacts of a Potential Influenza Pandemic on New Zealand's Macroeconomy*. Policy Perspectives Paper 06/03. Wellington: The Treasury.

URL: <http://www.treasury.govt.nz/publications/research-policy/ppp/2006/06-03>

Get Ready, Get Through. URL: <http://www.getthru.govt.nz/web>

Local Authority Pandemic Planning Working Party. 2006. *New Zealand Local Authority and CDEM Group: Pandemic planning guide*. Wellington: Ministry of Civil Defence and Emergency Management.

URL: [http://www.civildefence.govt.nz/memwebsite.nsf/Files/Pandemic_influenza/\\$file/Pandemic%20Guide_final.pdf](http://www.civildefence.govt.nz/memwebsite.nsf/Files/Pandemic_influenza/$file/Pandemic%20Guide_final.pdf)

MAF Biosecurity New Zealand. URL: <http://www.biosecurity.govt.nz>

MCDEM. 2005a. *Focus on Recovery: A holistic framework for recovery in New Zealand – Information for the CDEM sector* (IS 5/05). Wellington: Ministry of Civil Defence and Emergency Management. URL: http://www.civildefence.govt.nz/memwebsite.NSF/wpg_url/for-the-cdem-sector-publications-index?opendocument

MCDEM. 2005b. *Recovery Management: Director's guidelines for CDEM groups* (DGL 4/05). Wellington: Ministry of Civil Defence and Emergency Management. URL: http://www.civildefence.govt.nz/memwebsite.NSF/wpg_url/for-the-cdem-sector-publications-index?opendocument

MCDEM. 2006a. *Declarations: Director's guidelines for CDEM Sector* (DGL 05/06). Wellington: Ministry of Civil Defence and Emergency Management. URL: http://www.civildefence.govt.nz/memwebsite.NSF/wpg_url/for-the-cdem-sector-publications-index?opendocument

MCDEM. 2006b. *Working Together: Guidelines for emergency managers working with culturally and linguistically diverse communities*. Wellington: Ministry of Civil Defence and Emergency Management. URL: http://www.civildefence.govt.nz/memwebsite.NSF/wpg_url/for-the-cdem-sector-publications-index?opendocument

MCDEM. 2006c. *New Zealand Local Authority and CDEM Group Pandemic Planning Guide*. Wellington: Ministry of Civil Defence and Emergency Management. URL: http://www.civildefence.govt.nz/memwebsite.NSF/wpg_url/for-the-cdem-sector-publications-index?opendocument

MCDEM. 2009. *Arrangements for Welfare Support during Pandemic (H1N1) 2009*. Wellington: Ministry of Health, Ministry of Social Development, and Ministry of Civil Defence and Emergency Management. URL: [http://www.mcдем.govt.nz/memwebsite.nsf/Files/Welfare_resources/\\$file/Pandemic%20plan.pdf](http://www.mcдем.govt.nz/memwebsite.nsf/Files/Welfare_resources/$file/Pandemic%20plan.pdf)

MCDEM. 2009b. *Guide to the National Civil Defence Emergency Management Plan*. Revised edition. Wellington: Ministry of Civil Defence and Emergency Management. URL: http://www.civildefence.govt.nz/memwebsite.NSF/wpg_url/for-the-cdem-sector-publications-the-guide?opendocument

MCDEM. 2010. *Welfare in an Emergency: Director's guidelines*. To be published.

Memorandum of Understanding on Biosecurity Activities between Ministry of Agriculture and Forestry and Department of Conservation, Ministry of Fisheries, and Ministry of Health. 2006. Wellington: Ministry of Agriculture and Forestry.

URL: <http://www.biosecurity.govt.nz/files/biosec/policy-laws/mou/biosecurity-mou.pdf>

Miller MA, Viboud C, Balinska M, et al. 2009. The Signature Features of Influenza Pandemics: Implications for policy, *New England Journal of Medicine* 360: 2595–8.

URL: <http://content.nejm.org/cgi/content/full/NEJMp0903906>

Minister for Disability Issues. 2001. *New Zealand Disability Strategy: Making a world of difference – Whakanui Oranga*. Wellington: Ministry of Health.

URL: <http://www.moh.govt.nz/moh.nsf/pagesmh/2571?Open>

Minister of Civil Defence. 2008. *National Civil Defence Emergency Management Strategy*. Wellington: Department of Internal Affairs. URL: [http://www.mcdem.govt.nz/memwebsite.NSF/Files/National_CDEM_Strategy/\\$file/National-CDEM-strategy-2008.pdf](http://www.mcdem.govt.nz/memwebsite.NSF/Files/National_CDEM_Strategy/$file/National-CDEM-strategy-2008.pdf)

Minister of Health. 2000. *New Zealand Health Strategy*. Wellington: Ministry of Health.

URL: <http://www.moh.govt.nz/publications/nzhs>

Minister of Health. 2001. *Primary Health Care Strategy*. Wellington: Ministry of Health.

Minister of Health, Associate Minister of Health. 2002. *He Korowai Oranga: Māori Health Strategy*.

Wellington: Ministry of Health. URL: <http://www.moh.govt.nz/mhs.html>

Ministry of Agriculture and Forestry. URL: <http://www.maf.govt.nz>

Ministry of Agriculture and Forestry. 2008. *Policy for MAF's Response to Risk Organisms*. Wellington: Ministry of Agriculture and Forestry.

URL: <http://www.biosecurity.govt.nz/bio-strategy/library/policy-incursion.htm>

Ministry of Agriculture and Forestry. *MAF Standard 153 Series: Exotic disease programmes of animals (including honey bees and fish)*. Wellington: Ministry of Agriculture and Forestry.

Ministry of Civil Defence and Emergency Management. URL: <http://www.civildefence.govt.nz>

Ministry of Economic Development. 2005. *Influenza Pandemic Planning: Business continuity planning guide*. Wellington: Ministry of Economic Development.

URL: http://www.med.govt.nz/templates/MultipageDocumentTOC____14455.aspx

Ministry of Economic Development. 2006. *Information Kit for Infrastructure Providers*. Wellington: Ministry of Economic Development.

URL: http://www.med.govt.nz/templates/StandardSummary____14457.aspx

Ministry of Economic Development. 2008. *Oil Emergency Response Strategy*. Wellington: Ministry of Economic Development.

URL: http://www.med.govt.nz/templates/ContentTopicSummary____37527.aspx

Ministry of Education. URL: <http://www.minedu.govt.nz>

Ministry of Education. 2008. *Pandemic Planning Kit*. Wellington: Ministry of Education.

URL: <http://www.minedu.govt.nz/NZEducation/EducationPolicies/Schools/SchoolOperations/HealthAndSafety/PandemicPlanning/PandemicPlanningKit.aspx>

Ministry of Education. 2009. *Pandemic Preparation*.

URL: <http://www.minedu.govt.nz/pandemicplanning>

Ministry of Foreign Affairs and Trade. *Safe Travel*. URL: <http://www.safetravel.govt.nz>

Ministry of Health. 1998. *Communicable Disease Control Manual*. Wellington: Ministry of Health. URL: [http://www.moh.govt.nz/moh.nsf/ea6005dc347e7bd44c2566a40079ae6f/019e54d1de5e73534c25666e00835b79/\\$file/cdcm.pdf](http://www.moh.govt.nz/moh.nsf/ea6005dc347e7bd44c2566a40079ae6f/019e54d1de5e73534c25666e00835b79/$file/cdcm.pdf) Ministry of Health. 2004. *Ko Tātou: Building and maintaining relationships with Māori – A guide for District Health Boards*. Wellington: Ministry of Health.

Ministry of Health. 2005a. *National Health Emergency Plan: Guiding principles for emergency management planning in the health and disability sector 2005*. Wellington: Ministry of Health.

URL: <http://www.moh.govt.nz/moh.nsf/pagesmh/3679>

Ministry of Health. 2005b. *National Health Emergency Plan: Hazardous substances incident hospital guidelines 2005*. Wellington: Ministry of Health. URL: <http://www.moh.govt.nz/moh.nsf/pagesmh/4461>

Ministry of Health. 2006a. *Guidance for Infection Prevention and Control during an Influenza Pandemic*. Wellington: Ministry of Health. URL: [http://www.moh.govt.nz/moh.nsf/0/4013C98B3E5B384DCC2571490017EC3D/\\$File/influenza-pandemic.pdf](http://www.moh.govt.nz/moh.nsf/0/4013C98B3E5B384DCC2571490017EC3D/$File/influenza-pandemic.pdf)

Ministry of Health. 2006b. *National Laboratory Guidelines for Pandemic Influenza: Collection and handling of human specimens for laboratory diagnosis of influenza with pandemic influenza*. Wellington: Ministry of Health. URL: [http://www.moh.govt.nz/moh.nsf/pagesmh/4845/\\$File/national-laboratory-guidelines-pandemic-influenza.pdf](http://www.moh.govt.nz/moh.nsf/pagesmh/4845/$File/national-laboratory-guidelines-pandemic-influenza.pdf)

Ministry of Health. 2006c. *New Zealand Influenza Pandemic Action Plan*. Wellington: Ministry of Health. URL: <http://www.moh.govt.nz/moh.nsf/indexmh/nz-influenza-pandemic-action-plan-2006?Open>

Ministry of Health. 2007a. *Getting Ready for a Flu Pandemic for Whānau, Hui, Marae and Tangihanga*. Wellington: Ministry of Health. URL: <http://www.moh.govt.nz/moh.nsf/indexmh/pandemicinfluenza-resources-brochures>

Ministry of Health. 2007b. *Planning for Individual and Community Recovery in an Emergency Event: Principles for psychosocial support. National Health Emergency Plan*. Wellington: Ministry of Health. URL: <http://www.moh.govt.nz/moh.nsf/indexmh/planning-individual-community-recovery-in-emergency-event>

Ministry of Health. 2007c. *Report on Exercise Cruickshank*. Wellington: Ministry of Health 2007. URL: <http://www.moh.govt.nz/moh.nsf/indexmh/exercise-cruickshank-report-oct07>

Ministry of Health. 2008a. *Guidelines for Public Health Services on Cluster Control for Pandemic Influenza*. Wellington: Ministry of Health. URL: <http://www.moh.govt.nz/moh.nsf/indexmh/pandemicinfluenza-resources-guidelines>

Ministry of Health. 2008b. *Guidance on Community-based Assessment Centres and Other Support Services*. Wellington: Ministry of Health. URL: <http://www.moh.govt.nz/moh.nsf/indexmh/guidance-communitybased-assessment-centres-and-support-services?Open>

Ministry of Health. 2008c. *National Health Emergency Plan*. Wellington: Ministry of Health. URL: <http://www.moh.govt.nz/moh.nsf/indexmh/national-health-emergency-plan-2008?Open>

Ministry of Health. 2008d. *National Health Emergency Plan: H5N1 pre-pandemic vaccine usage policy*. Wellington: Ministry of Health. URL: <http://www.moh.govt.nz/moh.nsf/pagesmh/8313>

Ministry of Health. 2008e. *Pandemic Influenza: For the health sector*. URL: <http://www.moh.govt.nz/moh.nsf/indexmh/pandemicinfluenza-guidelines-forthehealthsector>

Ministry of Health. 2009a. *Emergency Management*. URL: <http://www.moh.govt.nz/emergencymanagement>

Ministry of Health. 2009b. *Emergency Management: WebEOC for the New Zealand health sector*. URL: <http://www.moh.govt.nz/moh.nsf/indexmh/emergencymanagement-webeoc>

Ministry of Health. 2009c. *Getting Ready for a Flu Pandemic*. Leaflet in English, Māori, Pacific and other languages. Wellington: Ministry of Health. URL: <http://www.moh.govt.nz/moh.nsf/indexmh/pandemicinfluenza-resources-translations>

Ministry of Health. 2009d. *National Health Emergency Plan: National reserve supplies management and usage policies. Second edition*. Wellington: Ministry of Health. URL: <http://www.moh.govt.nz/moh.nsf/indexmh/national-reserve-usage-policies-2nd-ed-apr09>

Ministry of Health. 2009e. *Pandemic Influenza*. URL: <http://www.moh.govt.nz/pandemicinfluenza>

Ministry of Health. 2009f. *Pandemic Influenza: Resources*. URL: <http://www.moh.govt.nz/moh.nsf/indexmh/pandemicinfluenza-resources>

Ministry of Health. 2009g. *2009/10 DHB Planning Package*. URL: <http://www.nsfl.health.govt.nz>

Ministry of Health. 2010. *Antiviral Medication Interim Guidelines*. Wellington: Ministry of Health. To be published.

Ministry of Health. *Guidance on the Treatment and Care of New Zealanders in an Influenza Pandemic: Clinical pathways*. Wellington: Ministry of Health. On request.

Ministry of Social Development. URL: <http://www.msd.govt.nz>

Ministry of Social Development. *Guidelines for the Welfare Sector*. Draft.

National Ethics Advisory Committee. 2007. *Getting through Together: Ethical values for a pandemic*. Wellington: Ministry of Health. URL: <http://www.neac.health.govt.nz/moh.nsf/indexcm/neac-resources-publications-gettingthroughtogether>

New Zealand Fire Service. URL: <http://www.fire.org.nz>

New Zealand Fire Service. 2006. *Influenza Pandemic Medical, Human Resources and Personal Protective Equipment Guide*. Wellington: New Zealand Fire Service.

New Zealand Fire Service. 2008a. *National Influenza Pandemic Action Plan*. Wellington: New Zealand Fire Service.

New Zealand Fire Service. 2008b. *Regional Influenza Pandemic Action Plan*. Wellington: New Zealand Fire Service.

New Zealand Fire Service Commission. 1998. *The New Zealand Co-ordinated Incident Management System*. Wellington: New Zealand Fire Service Commission.

New Zealand Legislation. URL: <http://www.legislation.govt.nz>

New Zealand Police. URL: <http://www.police.govt.nz>

New Zealand Police. 2008. *National Pandemic Influenza Action Plan*. Version 6. Wellington: New Zealand Police.

Rice, GW. 2005. *Black November: The 1918 influenza pandemic in New Zealand*. Second edition. Christchurch: Canterbury University Press.

The Treasury. 2009. *Pandemic Issues*.

URL: <http://www.treasury.govt.nz/economy/reports/pandemic>

WHO. 2006. *International Health Regulations (2005)*. Geneva: World Health Organization.

WHO. *Pandemic Preparedness*. Geneva: World Health Organization.

URL: <http://www.who.int/csr/disease/influenza/pandemic>

WHO, UNICEF. 2009. *Behavioural Interventions for Reducing the Transmission and Impact of Influenza A (H1N1) Virus: A framework for communication strategies*. Geneva: World Health Organization.

URL: <http://www.who.int/csr/resources/publications/swineflu/framework/en/index.html>