



Primary Care Plan

Pandemic Plan Template for General Practice



October 2019

CONTENTS

Introduction	3
Pandemic Phases	4
Case Definition	5
Primary Care Management	6
Options for Service Delivery	7
Recognition and Management	7
Community Outreach Service	8
Communication Plan	9
Reporting Cases	9
Surveillance	9
Isolation of Suspected Cases	10
Infection Control Precautions	10
Daily Environmental Cleaning	11
Information	11
Radiology and Laboratory Facilities	12
Supplies	12
Temporary Accommodation	12
Training	12
Workforce Management	12
Appendix 1 – Checklist for Pandemic Influenza Case	14
Appendix 2 – Patient Care Clinical Pathway	15
Appendix 3 – PMDS	16
Appendix 4 – Management Pathway	17
Appendix 5 – Clinical Records	18
Appendix 6 – Personal Protective Equipment (PPE)	22
Appendix 7 – Specimen Collection	24
Appendix 8 – Use of Antivirals	26
Appendix 9 – Vaccine	29
Appendix 10 – Information on Quarantine	31

INTRODUCTION

Influenza pandemics are typically characterised by the rapid spread of a novel type of influenza virus to all areas of the world, resulting in unusually high morbidity and deaths for approximately two to three years. Factors that need to be present for a pandemic to occur include: the emergence of a new viral subtype; the capacity for the virus to spread efficiently from person to person; and being virulent enough to cause disease.

The primary purpose of this plan is to provide the framework and methodology to efficiently respond to an influenza pandemic in general practice. This purpose must consider as the situation develops primary care response will necessarily evolve with additional forms of care delivery being activated.

Assumptions

1. An influenza pandemic is inevitable.
2. There will be very little warning. Most experts believe that we will have between one and six months between the time that a novel influenza strain is identified and the time that outbreaks begin to occur in New Zealand.
3. Outbreaks are expected to occur simultaneously throughout much of New Zealand, preventing shifts in human and material resources that normally occur with other natural disasters.
4. The effect of influenza on individual communities will be relatively prolonged -- weeks to months -- when compared to minutes-to-hours observed in most other natural disasters.
5. The impact of the next pandemic could have a devastating effect on the health and well being of the New Zealand public. Based on CDC projections it is estimated that in Hawke's Bay alone, over a course of 2 to 3 months:
 - Up to 62 thousand people will become clinically ill
 - Up to 29 thousand people will require primary health care
 - Up to 700 people will be hospitalized
 - Up to 200 people will die (this is a conservative estimate of the impact)Essentially this means that 97% of care delivery will occur in the primary care setting.
6. Effective preventive and therapeutic measures -- including vaccines and antiviral agents -- will likely be in short supply, as well as antibiotics to treat secondary infections.
7. Health-care workers and other first responders will likely be at even higher risk of exposure and illness than the general population, further impeding the care of victims.
8. Widespread illness in the community will also increase the likelihood of sudden and potentially significant shortages of personnel in other sectors who provide critical community services: police, firemen, utility workers, and transportation workers, just to name a few.

PANDEMIC PHASES – DEFINITIONS

For purposes of consistency, comparability and co-ordination of the national, regional and local response, identification and declaration of the following phases will be done at the national level.

WHO Pandemic Phase	Definition
Inter-Pandemic Period (WHO Phase 1)	No new influenza virus subtypes have been detected in humans. An influenza virus subtype that has caused human infection may be present in animals. If present in animals, the risk of human infection or disease is considered to be low.
Novel Virus Alert (WHO Phase 2)	No new influenza virus subtypes have been detected in humans. However, a circulating animal influenza virus subtype poses a substantial risk of human disease.
Pandemic Alert (WHO Phase 3)	Human infection(s) with a new virus sub-type, but no human-to-human spread, or at most rare instances of spread to a close contact.
(WHO Phase 4)	Small cluster(s) with limited human-to-human transmission but spread is highly localised, suggesting that the virus is not well adapted to humans.
(WHO Phase 5)	Larger cluster(s) but human-to-human spread still localised, suggesting that the virus is becoming increasingly better adapted to humans, but may not yet be fully transmissible (substantial pandemic risk).
Pandemic Period (WHO Phase 6)	Pandemic: increased and sustained transmission in general population.

WHO PERIOD*	WHO PHASE*	NZ STRATEGY	MoH/DHB ALERT CODE
Interpandemic Period	Phase 1	Planning	N/A
	Phase 2		WHITE (Information / Advisory)
Pandemic Alert Period	Phase 3		Border Management
	Phase 4	RED (Activation)	
	Phase 5	Cluster Control	RED (Activation)
	Pandemic Period	Phase 6	
Post Pandemic Period	Post Pandemic Period	Recovery	GREEN (Stand Down)

MINISTRY OF HEALTH CASE DEFINITION

Suspected case of Pandemic Influenza

Person with an influenza like illness of abrupt onset, characterised by:

- History of fever, chills and sweating; or
- Clinically documented temperature $\geq 38^{\circ}\text{C}$; and
- Cough or sore throat

Probable case of Pandemic Influenza

Person with an influenza like illness who has a strong epidemiological link to a confirmed case or defined cluster.

Confirmed case

An individual for whom laboratory testing demonstrates one or more of the following:

- a. positive viral culture for Pandemic Influenza; or
- b. positive RT-PCR for Pandemic Influenza; or
- c. four-fold rise in novel influenza virus specific neutralising antibodies.

PRIMARY CARE MANAGEMENT

During inter-pandemic period:

- Encourage annual influenza immunisation.

During pandemic alert:

- Determine daily activities that can be deferred during the pandemic event.
- Contact at-risk patients to determine coping strategies/action plans, this may include pneumococcal vaccination to reduce incidence and severity of secondary infection.
- Ensure access to updated clinical information on the emerging infectious disease including case definition and management and treatment guidelines.
- Make decisions regarding practice collaboration or referral of influenza-related illness to a larger practice.
- Assess staff availability.
- Purchase sufficient supply of personal protective equipment to cover 7-10 days.
- Promote the public education strategy led by the HBDHB.
- Initiate staff training plan.

During pandemic imminent stage:

- Fully activate the practice response plan.
- Obtain contact details for advice about, and referral of, suspect patients.
- Obtain the influenza hospital admission criteria and treatment guidelines produced by HBDHB.
- Increase cleaning services in all areas.
- Place appropriate visible signage advising patients and others of any restrictions or required actions.
- Educate all patients who think they have influenza to seek advice by phone before presenting at the practice.
- Ensure provision for additional supplies of oxygen (BOC contracted by the DHB), pulse oximetry and radiology services along with increasing supplies of oxygen masks and tubing in consultation with the DHB.

During the pandemic:

- Notify the Medical Officer of Health of all probable cases of influenza and related deaths in the community.
- Administer antiviral agents and vaccine to patients and staff according to national recommendations.
- Utilize telephone service for general practitioners at Hawke's Bay Hospital on 0800 442 312, this service allows direct discussion with a consultant physician for advice and support.

Admission criteria and treatment guidelines will be written by the Infectious Diseases Physicians nationally on confirmation of the virus involved. These will be disseminated to all general practices on completion.

Utilise triage checklist (Appendix 1) to screen suspected cases.

The patient care clinical pathway (Appendix 2) should be followed for all identified suspected cases.

Practice Responsibilities

Every practice must identify a liaison person whose role will be to:

1. Take lead responsibility for all infection prevention and control issues affecting the practice.
2. Ensure that general practitioners, practice nurses and reception staff are kept up to date with current information from the DHB and the Ministry of Health.
3. Ensure that all staff are adequately trained in infection control practice.

OPTIONS FOR SERVICE DELIVERY

Options to consider:

1. Practices with a limited number of staff may elect to take a collaborative approach with another practice.
2. Community Assessment Centres for the provision of primary care surge capacity arising from a sudden increase in demand (triggered by Code Red).

Functions:

- Provision of clinical assessment and advice
- Dispensing of antivirals and antibiotics
- Provision of triage and referral to other primary or secondary care
- Infection prevention and control

These centres would be based around those existing practices with the physical and management structures to support this form of care delivery.

3. Mobile general practitioner and practice nurse teams to manage home visits. Assessment of the patient and their household contacts should be by phone prior to the visit, if possible.

RECOGNITION AND MANAGEMENT

Utilise triage checklist to screen suspected cases. Patient's who telephone and are advised to attend the practice should be asked to bring their current medications with them.

The patient care clinical pathway should be followed for all identified suspected cases. Antiviral medicines will be supplied to patients meeting the criteria, some antibiotics and paracetamol may also be supplied.

Admission and treatment guidelines will be supplied by HBDHB.

Antiviral medicines will be used in the stamp it out phase for:

- The treatment of early cases
- Post-exposure prophylaxis of contacts
- Possibly pre-exposure prophylaxis of health-care workers

Antiviral medicines will be used in the manage it phase for:

- Patients with severe clinical influenza-like illness.
- Patients with influenza-like illness who are at high risk of influenza-related complications (immunocompromised or suppressed patients, pregnant women, severe or poorly controlled congestive heart failure, severe chronic respiratory disease, severe asthma, patients on renal replacement therapy).
- Patients with influenza-like illness who live or work in high risk institutions (residents of aged residential care facilities [ARRC] or other chronic care

facility, people who provide services in relatively closed settings to persons at high-risk).

- Cluster and/or infection control where appropriate on discussion with the Medical Officer of Health.

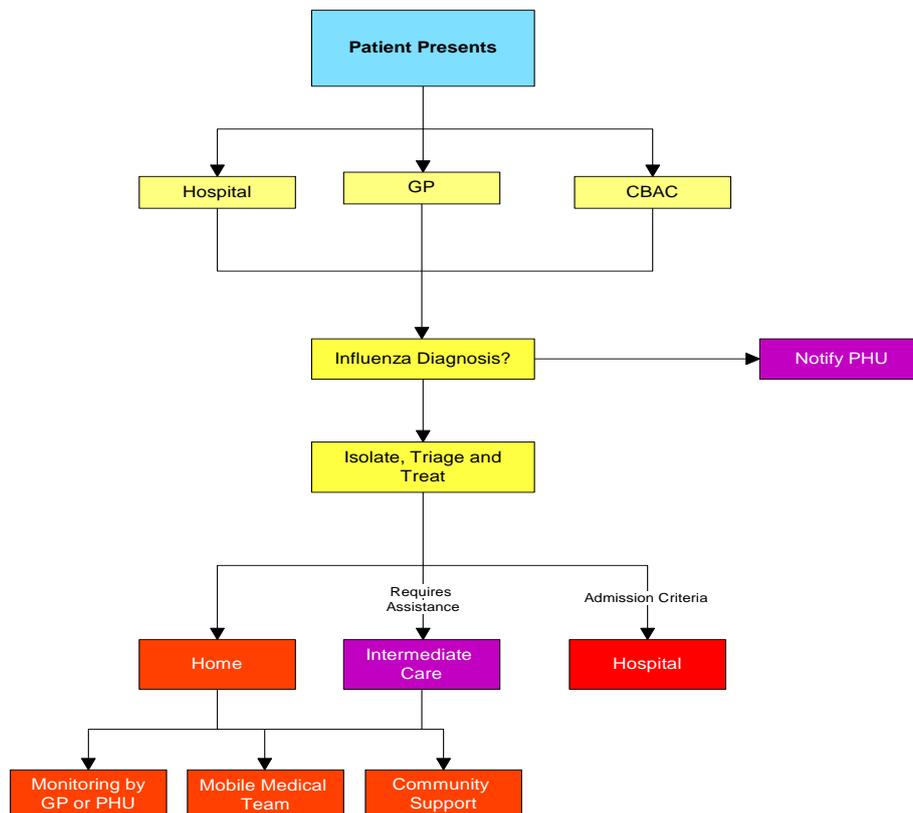
The MOH will be responsible for application to the MoH for release of the national supply to HB hospital pharmacy.

Effective vaccine is unlikely to be available for at least 12-16 weeks at which point the Public Health Unit will coordinate a mass immunisation campaign.

COMMUNITY OUTREACH SERVICE

Patients who are home bound may need to be visited and assessed by a registered nurse following infection prevention and control procedures. See Outreach Service Plan.

Patient Management Pathway



COMMUNICATION PLAN

Name	Title	Contact	Availability
DHB			
Sandra Bee	Emergency Management Advisor	878-8109	On-call
Racquel MacDonald	Infection Prevention and Control Advisor	878-8109	On-call
Debbie Fritz	Infection Prevention and Control Advisor	878-8109	On-call
Public Health Unit			
Dr Nick Jones	Medical Officer of Health	878-8109	On-call
Dr Rachel Eyre	Medical Officer of Health	878-8109	On-call

Useful Websites:

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

WHO <http://www.who.int>

CDC <http://www.cdc.gov>

Daily reports to Emergency Operations Centre at Hawke's Bay Hospital during Phases 5 and 6.

REPORTING CASES

1. Early in the epidemic

Immediate notification of the first suspected cases is crucial. Phone 834-1815 (seven days). Ask to speak to a Medical Officer of Health (MOH). Make sure you speak directly to a MOH, do not leave a message. Detailed information will be required about each case and the MOH will work closely with the practice to formulate an immediate plan of action, including investigation and management of the case and contacts.

2. When the MOH advises that a Hawke's Bay epidemic is established

At this point the MOH will advise all centres that the reporting requirements are to be reduced to a minimum, Pandemic Minimum Data Set (PMDS), e.g. report date, name, age, gender, ethnicity and suburb or street address. PMDS Forms to be faxed to the DHB's Emergency Operations Centre.

SURVEILLANCE

Surveillance means collecting and reporting data about cases to describe the evolving epidemic to help guide a response. Surveillance will be carried out by the Public Health Service (PHS).

Surveillance updates will be available for practitioners on the Hawke's Bay District Health Board website: <http://hawkesbaydhb.govt.nz/> click "Public Health Alerts".

ISOLATION OF SUSPECTED CASES

The separation of routine patients from those suspected of having influenza must be planned. This can be achieved by the following strategies: minimising time spent in waiting rooms, separating suspected patients as quickly as possible, providing separate entrance/waiting rooms for these patients, placing suspected patients directly into a single, dedicated room. Designated staff should manage the patients in this area.

Prompt triage will assist in patient placement. Providing a surgical mask will minimise contamination of others and the environment.

INFECTION PREVENTION AND CONTROL PRECAUTIONS

Initial precautions

Such a major health event can only be handled by the whole general practice or Accident and Medical (A&M) team and the team should be involved in any planning and preparation. Do not forget the cleaner. Your first suspicion of influenza in your community may come through a phone call. Consider how you will deal with this.

It is recommended that all staff be vaccinated each year against seasonal influenza. While this may not protect against pandemic influenza, it will maintain the general wellness of your team. Create an expectation that sick staff should stay at home.

Initial precautions for people dealing with someone suspected of having pandemic influenza include:

- **Keep your distance**
One metre is accepted as safe and significantly reduces your exposure
- **Wear a surgical mask and gloves**
Also offer a mask to any patient and support people
- **Rigorous, frequent hand hygiene**
Use an antimicrobial hand gel or wash in warm water with soap, dry hands with paper towels
- **Where possible try to separate patients with respiratory symptoms from other patients**
- **Ventilation**
Keep windows open if possible, if air conditioning is used, ensure that designated areas can be isolated from the rest of the facility

Each general practice or A&M should promote hand hygiene, the use of tissues when coughing or sneezing, or sneezing/coughing into the elbow.

Include in your plan:

- How to handle patient care equipment and soiled linen (backtraps should be fitted to all bag-mask devices to enable ease of cleaning)
- Environmental cleaning and spills management
- Appropriate waste disposal processes (biohazard bags supplied by the DHB, HB Medical Waste contracted by the DHB to collect waste daily)
- Support for staff to regularly monitor their own health
- Provision for individuals responsible for monitoring staff use of PPE and infection prevention and control practice

Patients should:

- Be isolated if possible, if single rooms are not available, suspected cases may be grouped in one area
- Be encouraged to wear a disposable surgical mask
- Be asked to cough/sneeze into a tissue and to dispose of the tissue afterwards, then wash hands in warm water with soap or use an antiseptic hand gel, hands must be thoroughly dry

Essential supplies

- Gloves
- Surgical masks
- Disposable thermometers
- Tissues – for both waiting and consulting rooms
- Waste disposal bins and medical waste disposal bags – with lids for infection prevention and control
- Antimicrobial hand gel or soap and water and paper towels for drying

DAILY ENVIRONMENTAL CLEANING

Horizontal surfaces should be wiped down with environmental wipes after each suspect patient. Patient care areas must be cleaned at least daily on completion of other routine cleaning.

Protective clothing (mask, gown and gloves) must be worn. Use sodium hypochlorite 100mL in 1L of water (1:10). Clean all horizontal surfaces and all surfaces that are touched by patients and staff. Floors are to wet mopped with clean water and detergent with the mop rinsed thoroughly on completion and inverted to dry. Cleaning cloths should be disposed of in a biohazard bag. All patient equipment unable to be disposed of should be cleaned with environmental wipes followed by sodium hypochlorite 100mL in 1L of water (1:10) and left to dry.

A linen skip and a biohazard bag must be kept in the designated area. Minimal linen should be used and changed after each patient taking care not to shake it. All waste (except sharps) must go into the biohazard bag. Linen and waste must be emptied daily or when containers are two thirds full.

INFORMATION

Messages to the public will be distributed centrally by HBDHB following MoH advice, this will assist in managing expectations. HBDHB will also provide public information on local arrangements.

Information pamphlets are available on the MOH website. (www.moh.govt.nz/pandemic). Regular bulletins will be coordinated through the DHB. A hotline number may be made available through the DHB for updated information on 0800 777 790.

LABORATORY AND RADIOLOGY FACILITIES

Laboratory specimens will only be collected in the early stages of the pandemic. See Appendix 5 for specimen collection procedures.

Patients with suspected pandemic influenza should not be sent to a community laboratory for collection of throat or nasopharyngeal swabs.

Specimens should be double-bagged and couriered to the Laboratory at Hawke's Bay Hospital.

Radiology service arrangements will continue as normal practice arrangements dictate. They will be supported by TRG Imaging for non influenza patients with transport to services the responsibility of the DHB.

SUPPLIES

Supplies of PPE should be held by each practice to manage initial cases with resupply through the national reserve held by HBDHB on release by the MoH.

Essential supplies recommended by the MOH for primary healthcare include: gloves, surgical masks, at least two higher level PPE kits, disposable thermometers, tissues, waste disposal bins with lids, and antimicrobial hand gel or soap and paper towels for drying.

Equipment for collection of multiple specimens (as describe above) for viral culture and PCR.

Include in your plan:

- A system for management of stock levels and reordering
- Security for critical supplies

TEMPORARY ACCOMMODATION

Arrangements for temporary accommodation for staff who are willing to work but do not wish to go home should be made.

Coordination of temporary accommodation, if required, for patients who live alone will be carried out by HBDHB.

TRAINING

A training plan has been prepared by HBDHB to ensure consistent messages for all staff.

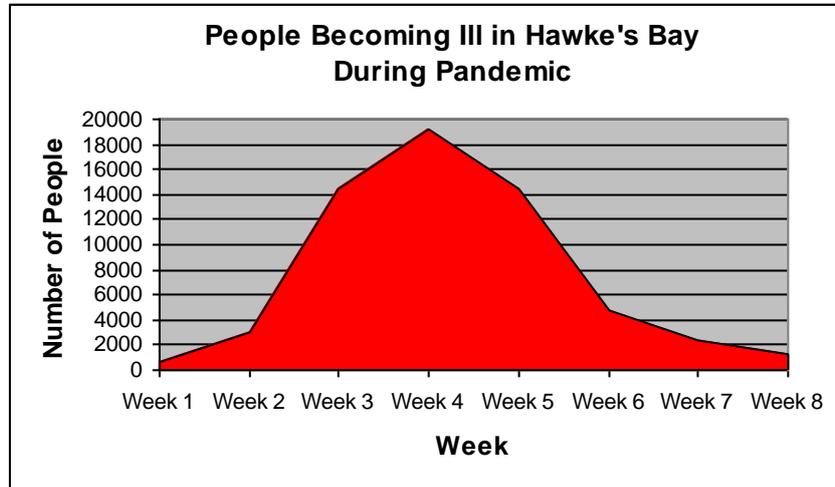
WORKFORCE MANAGEMENT

Workforce management requires sensible rostering, cover for sickness and absenteeism and attention to staff welfare. Volunteers and ex staff may be utilised although considerable thought is required as to the tasks that may be allocated to these groups. Rostering should consider short rotations in influenza care provision and adequate break time.

Discussion with staff in the planning phase is essential to determine who will be most likely to be available, and skills that might be adapted to provide cover.

In the event of practices amalgamating to provide cover, advice should be given to patients using a standardised approach.

Workforce planning should consider the need for increased staffing during the peak of the pandemic.



Note: This is one scenario for a pandemic wave based on a Ministry of Health modelling tool which draws on data from the 1918 pandemic using a "standard planning model" of 40% attack rate and 2% case fatality rate. This would result in 66,244 cases and 3312 deaths in Hawke's Bay.

APPENDIX 1

CHECKLIST – INFLUENZA PANDEMIC STRAIN

Complete the following checklist at first contact with patient, i.e. in triage room or over the telephone.

May 2019

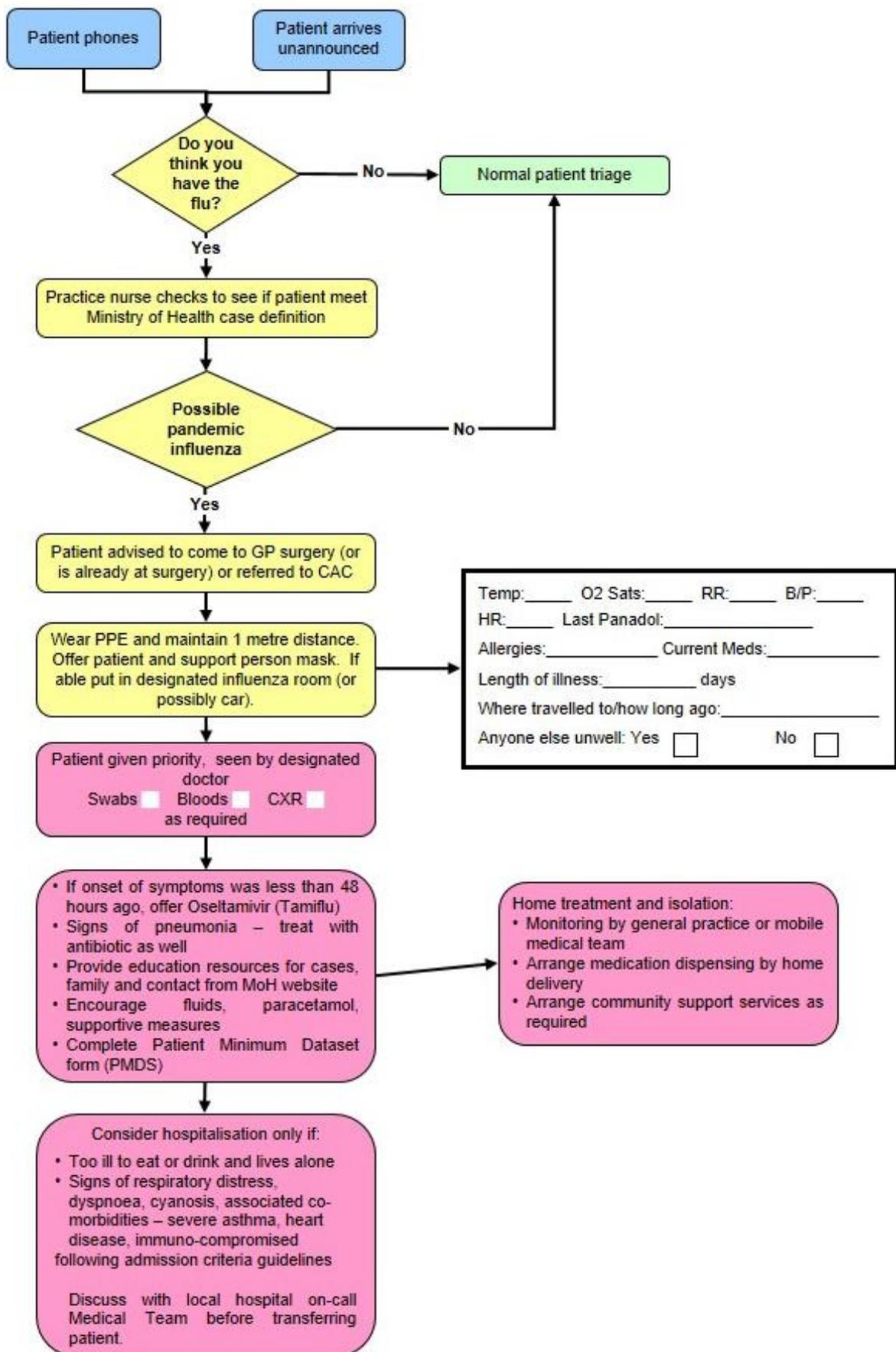
	Yes/No
1. History of fever, chills, myalgia or clinically documented fever $\geq 38^{\circ}\text{C}$	<input type="checkbox"/>
2. PLUS two or more of the following	
Headache	<input type="checkbox"/>
Malaise	<input type="checkbox"/>
Cough	<input type="checkbox"/>
Sore throat	<input type="checkbox"/>

Patients with **both 1 and 2** meet the definition of influenza-like illness.

If you have a suspect case, direct patient to nearest community assessment centre, if activated, or general practice caring for influenza related illness if triage over the phone. If patient has presented at general practice, put a mask on the patient and put on protective clothing immediately, direct the patient to the designated influenza area.

APPENDIX 2

**Primary Health Pandemic Influenza Presentation
Patient Care Clinical Pathway**



APPENDIX 3



**Pandemic Minimum
Data Set**

Name of Practice:	Date:
Clinical Assessor:	Signature:

Name:	Given	Middle	Family
Address:			
House Number:			
Street:			
Suburb:			
Town:			

Gender: M / F	DOB:	NHI:		
Ethnicity:	European	Maori	Pacific	Other

Please Circle Appropriate Codes

Category Codes		Antiviral Status Codes	
GEN	General Public	TRT-T	Treatment provided – Tamiflu
HCN	Health Care Nurse	TRT-R	Treatment provided – Relenza
HCD	Health Care Doctor	OWN-T	Antiviral treatment from own supply - Tamiflu
HPA	Health Care Ambulance	OWN-R	Antiviral treatment from own supply - Relenza
HCO	Health Care Other Direct Contact	POP-T	Post exposure prophylaxis with Tamiflu
BOR	Border Worker	POP-R	Post exposure prophylaxis with Relenza
POL	Police	Antibiotic Codes	
DEF	NZDF Member	NIL	No antibiotics provided
COR	Corrections Worker	TRT	Antibiotic treatment provided – evidence of existing respiratory bacterial infection
FIR	Fire Service Worker	PRO	Prophylactic/precautionary antibiotics provided because of unusual vulnerability to bacterial infection (e.g. person with COPD, CHF, asthma or other condition)
SOC	Civilian Social Support Worker	Antibiotic Prescribed	
Treatment Rationale Codes		AUG	Augmentin
ILI	Severe influenza-like illness	COT	Co-Trimoxazole
HRG	High risk group	DOX	Doxycycline
HRI	High risk institution – MUST be discussed with the Medical Officer of Health	FLU	Flucloxacillin

Please fax completed form and copy of prescription to: 0800 856 923

Management of Patient with Influenza-Like Illness

Influenza-like Illness (ILI)

- History of fever, chills, myalgia or clinically documented fever $\geq 38^{\circ}\text{C}$
- **Plus two or more of the following**
- Cough, sore throat, headache, malaise

SIRS Criteria
Clinical Criteria for Severe ILI
 More than one of the following:

- Temperature $\geq 38^{\circ}\text{C}$
- Heart Rate > 90
- Respiratory Rate > 20

High Risk Groups

1. People with influenza-like illness who are at high risk of influenza-related complications:
 - People who are immune compromised or suppressed (transplantation, haematological and solid organ malignancy on chemotherapy/radiotherapy, HIV, autoimmune disorders, etc)
 - Pregnant women – discuss with infectious diseases physician
 - Mental health patients on Clozapine
2. People with influenza-like illness who live or work in residential institutions, (e.g. prisons, boarding schools, nursing homes). Please discuss with Medical Officer of Health ph: 8341815.

Anyone over six months of age with chronic medical conditions, such as:

- Severe or poorly controlled congestive heart failure
- Severe chronic respiratory disease
- More severe asthmatics (e.g. people on oral steroids, high dose steroid inhalers, or steroids and long acting beta-agonists)
- Renal replacement therapy

Does this person meet clinical criteria for Severe ILI?

No

Is patient in a high risk group?

Yes

Self manage at home.
 Do not prescribe National Reserve Tamiflu or antibiotics

Yes

- Fax prescription(s) to authorised pharmacy
- Fax *Patient Minimum Data Set* form to 0800 856 923
- Instruct patient or relative to collect Tamiflu
- Advise to stay in isolation until well

Consider hospital assessment if patient has any of the following:

- T $> 39^{\circ}\text{C}$
- SBP < 100
- HR > 110
- RR > 25
- Sats < 92
- Vomiting > 1 in 24 hrs
- Confusion
- Rigors
- Pleuritic Chest Pain
- Inability to self care
- Dehydration

These criteria are not prescriptive and can not replace clinical judgement

CBAC AREA 1 & 2 INITIAL ASSESSMENT					Local code/number space
Australasian Triage Score (circle) 1 2 3 Record obs. on front sheet					Initials
TREATMENTS All prescriptions must be signed for by Nurse (if standing order) or Prescribing Dr.					
Drug/Fluids/Oxygen	Dose	Route	Signature or Standing order	Given by	Time
OTHER INSTRUCTIONS					Initials
EXAMINATION FINDINGS					
					Initials
POST-TREATMENT FINDINGS					
					Initials
DIAGNOSIS AND OTHER INFORMATION					
					Initials
DISCHARGE ADVICE/TREATMENT					
PRESCRIPTIONS					
ANTIBIOTICS*		ANTIVIRALS*		OTHER MEDICATION PRESCRIBED	
Underlying condition? Yes <input type="checkbox"/> No <input type="checkbox"/>		Yes Treatment given <input type="checkbox"/> Post-exposure <input type="checkbox"/>		<div style="border: 1px solid black; height: 100px;"></div>	
Given for infection <input type="checkbox"/> or prophylaxis <input type="checkbox"/>		Own supply <input type="checkbox"/> Dose _____			
Antibiotic _____		No Offered & declined <input type="checkbox"/> 48 Hrs+ <input type="checkbox"/> Failed			
Dose _____		Case definition <input type="checkbox"/>			
NEEDS REFERRAL TO OTHER SERVICE: Referred time _____ to _____ Referral accepted? _____					
Requires transport to other service? Yes <input type="checkbox"/> No <input type="checkbox"/> Time transport ordered _____					
Time transferred to other service _____ By _____					Initials
CLINICAL ASSESSOR (Area 1 or 2) Print name _____ Signed _____					
Qualification: RN <input type="checkbox"/> Dr <input type="checkbox"/> Other (Please state) _____ Discharge time _____ Place _____					

CRAC AREA 1 & 2 INITIAL ASSESSMENT					Local identifier space (as on front sheet)
Australian Triage Score (circle) 1 2 3 Record Obs. on front sheet					Initials
TREATMENT					
Drug/Fluids/Oxygen	Dose	Route	Signature or Standing order	Given by	Time
OTHER INSTRUCTIONS					Initials
EXAMINATION FINDINGS					
					Initials
POST-TREATMENT FINDINGS					
DIAGNOSIS AND OTHER INFORMATION					
					Initials
DISCHARGE ADVICE/TREATMENT					
PRESCRIPTIONS					
ANTIBIOTICS		ANTIVIRALS		OTHER MEDICATION PRESCRIBED	
Underlying condition? Yes <input type="checkbox"/> No <input type="checkbox"/>		Yes Treatment given <input type="checkbox"/> Post-exposure <input type="checkbox"/> Ova supply <input type="checkbox"/> Dose _____		Initials	
Given for infection <input type="checkbox"/> Prophylaxis <input type="checkbox"/>		Offered & declined <input type="checkbox"/> 48-Hrs+ <input type="checkbox"/> Failed course			
Antibiotic _____ Dose _____		Definition <input type="checkbox"/>			
NEEDS REFERRAL TO OTHER SERVICE Referred time _____ to _____					
Referral accepted? _____					
Requires transport to other centre? Yes <input type="checkbox"/> No <input type="checkbox"/> Time transport ordered at _____					
Time transferred to other centre _____ By _____					Initials
Person accompanying _____ Relationship to child _____					
CLINICAL ASSESSOR (Area 1 or 2) Print name _____ Signed _____					
Qualification: RN <input type="checkbox"/> Or <input type="checkbox"/> Other (Please state) _____ Discharge time _____					

APPENDIX 6

PERSONAL PROTECTIVE EQUIPMENT

Recommendations for PPE use

Personal protection equipment (PPE) includes masks, eye/face shields, gloves, gowns and aprons. Varying levels and types of PPE are required, depending on the level of exposure and the risk of transmission.

Whatever the level of PPE to be used, education and training is necessary to ensure the equipment is used and disposed of correctly, to maintain the equipment's effectiveness.

Estimate for PPE for GP Practice

One patient requires one GP and one Nurse:

PPE required for 1 patient = 2 masks, 2 pair gloves, 2 gowns

GP sees 4 patients per hour = 8 pair gloves per hour
= 96 patients per 24 hours
= 192 pairs per 24 hours
= 672 patients per week
= 1344 pairs gloves per week

Gloves supplied per box = 100 therefore 26-27 boxes of gloves per week

PFR95 masks \leq 4 hours = 12 per day per one GP and one Nurse
= 84 per week

PFR95 masks supplied per box = 35 therefore 2.4 boxes per week

Surgical masks for patients = 672 patients per week
Surgical masks supplied per box = 50 therefore 13-14 boxes per week

If the gown is to last 4 hours = 12 per day (as for masks)
= 84 per week

Gowns supplied per carton = 50 therefore 2 cartons per week

Gowns - you will need to decide how long your gown should last. In the hospital situation a gown is single use. In the primary care setting you may decide to use one gown for 4-8 hours. This will depend on the contact with patients and the care and contamination of the gown.

Gloves may not be required for all patient contacts. Hand hygiene (antimicrobial hand gel or soap and water wash) will be sufficient in most cases.

NOTE: These numbers are only estimates and may vary during the phases of a pandemic. There are many variables to be considered i.e. practice size, patients seen, acuity, potential for contamination of PPE.

APPENDIX 7

Summary of PPE requirements:

	Entering Room but no close contact (> 1 metre from patient)	Close patient contact (<1 metre from patient)	Aerosol generating procedure being performed (including nose/throat swabs)
PFR95 mask	No	No	Yes
Surgical mask	Yes	Yes	No
Gown, non sterile, long sleeved	No	Yes	Yes
Gloves, non-sterile	No	Yes	Yes
Eyewear, protective	No	No	Yes

Using disposable surgical masks, gloves and gowns/aprons

Disposable surgical masks are recommended for first responders and health care/support workers in a health care setting who are at risk from droplet transmission.

Disposable gloves are recommended as a means of reducing the likelihood of influenza transmission when handling objects contaminated with respiratory secretions. Apart from health care settings, the use of gloves is less important than careful hand hygiene. The use of gloves does not replace the need for hand hygiene.

Disposable gowns or splash resistant aprons may also reduce opportunities for transmitting influenza. However, it may not always be practical to use gowns/aprons outside the health care setting.

Using particulate respirator masks (PFR95), eye protection, gloves and gowns/aprons (full PPE)

Health care workers should wear particulate respirator masks, eye protection, gloves and gowns/aprons (i.e. full PPE) when there is a high risk of direct contact with respiratory secretions, particularly via aerosols. This will apply mostly in inpatient settings during some invasive procedures.

In most other settings a disposable surgical mask (with or without eye protection and disposable gloves) will provide sufficient protection from droplet transmission for health care workers in close contact and/or providing direct personal care to patients with pandemic influenza.

Checklist for Staff before Entering Designated Areas

The following points must be checked before entering a designated area:

- Cellphones or pagers left outside the area along with pens, stethoscopes and tourniquets
- Shoulder length hair must to clipped or tied back
- Shoes should cover and protect feet from splashes and dropped equipment and should have wipeable surfaces
- A mask must be worn and fit securely
- A gown must be worn and be tied firmly
- Gloves must be worn and cover the wrists

APPENDIX 7

USING PERSONAL PROTECTIVE EQUIPMENT

Order for putting on:

- Change into work clothing, shoes should be either designated work shoes or be suitable for disinfection
- Put on gown or apron
- Fit mask ensuring a good seal (can be worn for 4 hours before being replaced unless wet)
- Put on gloves ensuring they are a good fit

Removal:

- Remove gown/apron and gloves (if worn) taking care to minimise contamination of self and clothes
- Using two hands, untie mask strings and lift off forwards taking care not to touch the pouch of the mask

Perform hand hygiene

Notes:

If any of the following occurs the mask must be changed:

- if you touch it
- if it is grossly contaminated
- if it becomes wet for any other reason
- if it becomes hard to breathe through

Masks should be placed in a biohazard bag after removal.

If at any time gloves become contaminated, they must be removed, hand hygiene performed and clean gloves put on.

Gloves are not a replacement for hand washing.

APPENDIX 7

SPECIMEN COLLECTION

All samples should be sent by the usual Southern Community Laboratories specimen collection service to Hawke's Bay Hospital Laboratory.

Who should be swabbed?

- Swabbing should be reserved for only those patients with influenza-like illness who are in high risk groups or situations.

People on antiviral medication

- Antiviral medication reduces the yield from viral swabs.
- If an adult case has commenced a *twice-daily treatment* course of antiviral medication, do not take swabs. Children excrete a higher viral load. If a child case has been on a *twice-daily treatment* course of antiviral medication for ≥ 48 hours do not take swabs.
- For contacts on *once-daily prophylaxis* with antiviral medication who develop symptoms, a swab is indicated if within 48 hours of commencing antiviral medication.

People not on antiviral medication

- Virus shedding declines with time in untreated patients.
- Do not take swabs from an adult case who has had symptoms for five days or longer.
- Children (especially young children) shed for longer, so untreated children can be swabbed even if they have had symptoms for longer than five days.

Samples required

- Nasopharyngeal swab in viral transport medium

Sample collection

Respiratory specimens should be collected as early as possible in the course of the illness. The likelihood of recovering most viruses and many bacteria diminishes markedly >72 hours after symptom onset. Some respiratory pathogens may be isolated after longer periods.

Equipment:

One pernasal swab with non-wooden shaft and synthetic fibre tip

One green top virology swab with viral transport medium

One pair of scissors

PPE i.e. gloves, gown, PFR95, faceshield, hat

Antimicrobial hand gel

(i) Collection of nasopharyngeal swab

Use a pernasal swab with non-wooden shaft and synthetic fibre tip:

Insert swab into one nostril, parallel to the palate, rotate gently and advance until resistance is felt. (One eye often waters when swab is in the correct position.)

Press swab tip on the mucosal surface of the mid-inferior portion of the inferior turbinate and leave in place for a few seconds, then slowly withdraw using a rotating motion.

Place swab into **green pre-labelled viral transport medium tube.**

Cut off the cap with scissors and discard the cap.

APPENDIX 7

Lay the medium tube to one side.

(ii) If the viral transport medium is liquid

Cut the swab sticks off just below the level of the bottle - so that there is no swab pressure for the viral media lid to pop off.

Ensure lid is firmly closed on viral specimen and taped to prevent leakage of viral media.

Packaging and Transport:

- The laboratory form should clearly indicate that this is a request for "PCR testing for novel influenza infection". Write "copy result to the Medical Officer of Health". Notifying the MOH is not required before sending the swab.
- Ensure the laboratory request form is fully completed with details including the NHI number and that the specimen container contains the patient name and NHI number.
- Specimens should always be double bagged and ensure that the snap lock is sealed on both bags. Place the request form in the pocket of the outside bag.
- Specimens should be transported by Southern Community Laboratories to the Hawke's Bay Hospital Laboratory.

APPENDIX 8

USE OF ANTIVIRALS

Influenza viruses develop significant resistance quickly for M2 channel blockers and zanamivir is not available in New Zealand. Therefore only oseltamivir (Tamiflu) will be described in detail.

First line health care workers will be using antivirals from the Government's stockpile, because the antiviral medication will be in short supply when the pandemic strikes. The MoH (directly or through Medical Officers of Health) will be communicating guidelines, protocols, and priorities for its use.

Tamiflu might be used prophylactically for exposed travellers, containment of sporadic clusters, essential services staff and therapeutically for all patients (initially), high-risk patients, essential services staff.

Tamiflu is licensed for the treatment of influenza in adults and children ≥ 1 year of age.

Tamiflu is indicated for the prophylaxis of influenza in adults and adolescents ≥ 13 years of age.

Presentation

Tamiflu capsules 75mg blister pack of 10 capsules

Tamiflu powder for oral suspension 12mg/mL bottle pack with 30g of powder

Dosage and Method of Administration

Tamiflu may be taken with or without food. However, Tamiflu taken with food may enhance tolerability in some patients.

Standard Dosage

Treatment of influenza

Treatment should begin within the first or second day of onset of symptoms of influenza.

Adults and adolescents

The recommended oral dose of Tamiflu capsules in adults and adolescents ≥ 13 years is a 75mg capsule twice daily, for 5 days. Adults and adolescents ≥ 13 years of age that are unable to swallow capsules may receive a dose of 75mg Tamiflu suspension bid for 5 days.

Children

Children > 40 kg or ≥ 8 years who are able to swallow capsules may also receive treatment with a 75mg capsule twice daily as an alternative to the recommended dose of Tamiflu suspension (see below).

APPENDIX 8

The recommended oral dose of Tamiflu suspension for children ≥ 1 year of age is:

Body weight	Recommended dose for 5 days
≤ 15 kg	30mg twice daily
> 15 to 23 kg	45mg twice daily
> 23 kg to 40kg	60mg twice daily
> 40 kg	75mg twice daily

No dose adjustment is necessary for patients with creatinine clearance above 30mL/minute. In patients with creatinine clearance between 10 and 30mL/minute receiving Tamiflu it is recommended that the dose be reduced to 75mg of Tamiflu every other day or 30mg suspension every day. No dosing recommendation is available for patients undergoing routine haemodialysis and continuous peritoneal dialysis with end stage renal disease and for patients with creatinine clearance ≤ 10 mL/minute.

No dose adjustment is required for patients with hepatic dysfunction and no dose adjustment is required for elderly patients.

The safety and efficacy of Tamiflu in children under 1 year has not been established. Tamiflu should not be used in children under 1 year of age.

A bottle of 30g Tamiflu powder for oral suspension contains 25.713g of sorbitol. One dose of 45mg oseltamivir administered twice daily delivers 2.6g of sorbitol. For subjects with hereditary fructose intolerance this is above the recommended daily maximum limit of sorbitol.

Prophylaxis of influenza

The recommended oral dose of Tamiflu for prophylaxis of influenza is 75mg once daily for at least 10 days. Therapy should begin within two days of exposure.

Contraindications

Hypersensitivity to oseltamivir phosphate or any component of the product.

Information derived from pharmacology and pharmacokinetic studies of oseltamivir suggest that clinically significant interactions with other medicines are unlikely.

At present, insufficient data are available in pregnant women taking Tamiflu to enable an evaluation of the potential for oseltamivir cause foetal malformations or foetal toxicity. Tamiflu should therefore be used during pregnancy only if the potential benefit justifies the potential risk to the foetus.

APPENDIX 8

Undesirable Effects

Table 1: Most frequent adverse events in studies in naturally acquired influenza

Adverse Event	Treatment		Prophylaxis	
	Placebo N=1050	Oseltamivir 75mg bd N=1057	Placebo N=1434	Oseltamivir 75mg od N=1480
Nausea (without vomiting)	71 (6.8%)	113 (10.7%)	56 (3.9%)	104 (7.0%)
Vomiting	32 (3.0%)	85 (8.0%)	15 (1.0%)	31 (2.1%)
Diarrhoea	84 (8.0%)	58 (5.5%)	38 (2.6%)	48 (3.2%)
Bronchitis	52 (5.0%)	39 (3.7%)	17 (1.2%)	11 (0.7%)
Abdominal pain	21 (2.0%)	23 (2.2%)	23 (1.6%)	30 (2.0%)
Dizziness	31 (3.0%)	20 (1.9%)	21 (1.5%)	24 (1.6%)
Headache	16 (1.5%)	17 (1.6%)	251 (17.5%)	298 (20.1%)
Insomnia	10 (1.0%)	11 (1.0%)	14 (1.0%)	18 (1.2%)

Single doses of up to 1000mg of Tamiflu have been well tolerated apart from nausea and/or vomiting

HBDHB holds a number of courses for management of a first case and close contacts. The Ministry of Health reserve will be released to DHB's following this and distributed according to a national priority list.

APPENDIX 9

VACCINE

Vaccine Management should be based on the following assumptions:

1. There will be a minimum of 6 months between a novel virus alert and the availability of vaccine.
2. The entire population will be susceptible and may require two doses of vaccine, one month apart, for adequate protection.
3. The proportion of influenza vaccine to be distributed and administered through the public versus the private sector is unknown. Even so, the amount, if not the proportion, of vaccine that will be distributed through the public sector during a pandemic will be greater than the amount distributed by the public sector in non-pandemic years.
4. There will be a national contract for purchase of vaccine.

Vaccine Administration

Vaccinators are authorised by the Medical Officer of Health pursuant to regulation 44a of the Medicines Regulations. Hawkes Bay has authorised vaccinators available with a database being maintained to record all vaccinations. A list of currently authorised vaccinators is held by the PHS. There are other registered nurses who could be rapidly trained and authorised to vaccinate.

Priority Groups List for Receipt of Vaccine

Because vaccine shortage during an influenza pandemic is likely, the MoH, in conjunction with various advisory committees, is in the process of formulating recommendations for a rank-order list of high priority groups for vaccination. The order of these groups will be based on a number of factors, including the need to maintain the infrastructure necessary to carrying out the pandemic response plan; to limit mortality among high-risk groups; to reduce morbidity to the general population; and to minimize social disruption and economic losses.

While any Priority Groups List will be subject to change, the list will most likely include the following groups:

- Health-care workers and public health personnel involved in the distribution of vaccine and antiviral agents
- Persons responsible for community safety and security, e.g. police, fire-fighters, military personnel, corrections officers, "first responders" not included in first priority group (e.g. ambulance officers)
- Other highly skilled persons who provide essential community services whose absence would either pose a significant hazard to public safety (e.g. air traffic controllers) or severely disrupt the pandemic response effort (e.g. persons who operate telecommunications or electric utility grids, care givers at residential facilities). [NOTE: Members of this target group are likely to vary widely from region to region, depending on local circumstances.]
- Persons traditionally considered to be at increased risk of severe influenza illness and mortality:
 - Persons of any age with high-risk medical conditions
 - Pregnant women
 - Persons in aged residential care facilities and other long-term care facilities
 - Persons > 50 years of age without high-risk medical conditions
 - Infants age 6-12 months (if supported by epidemiologic and clinical data)
 - Household contacts of persons with high-risk medical conditions

APPENDIX 9

- Others who, in the judgement of national and district health officials, provide critical community services (e.g. utility workers, funeral services personnel, personnel involved in the transport of essential goods such as food)
- Healthy persons age 18-49 years
- Pre-school-age (especially day-care-centre attendees) and school-age children (the population least likely to have severe illness)

Vaccination will be coordinated by the Public Health Service at HBDHB.

Information on Quarantine (Home Isolation) for Influenza

You have been asked to stay in isolation because:

1. You have suspected influenza and are infectious to others. Isolation in your home should continue for 72 hours after starting Tamiflu or 7 days from the onset of illness if you are not taking Tamiflu.
2. You may have been exposed to influenza. Isolation in your home should continue for 72 hours after starting Tamiflu or 7 days from the onset of illness if you are not taking Tamiflu.

The period of isolation may be lengthened if somebody else in your household becomes sick with suspected influenza.

We want you to restrict your activities to protect the safety of your family, friends and the community. This information sheet is to tell you what isolation means.

Staying at home.

You must not go to school, work, child care or out in public until cleared by the Public Health Nurse. This means you must not attend shopping centers, movies, parties or any social gatherings at all.

Visitors

You should have no visitors until you come out of isolation. Talk by phone and have things delivered to the door. Sometimes a visitor is essential (for example someone has to come into the house to give you essential home support). The visit should be brief. You and the visitor must both wear a mask. Talk with the visitor outside in the open air if possible and keep at least two metres away from them.

Preventing the spread of infection

Stay in a part of the house where you have minimal contact with other people. Try to keep well people and sick people apart.

Give people who have a fever and/or diarrhoea plenty to drink.

Give Paracetamol for fever. *Do not give Aspirin to children under 12 if they have a fever.*

Open doors and windows and ventilate the house as much as possible.

Cover your mouth and nose with a tissue or toilet paper when you are coughing or sneezing. Put the used tissue straight into a rubbish container. Wash and dry your hands afterwards.

Wash and dry your hands after you use the bathroom or toilet. Wash and dry your hands before you prepare food and eat, and when you are looking after sick people.

If you have more than one toilet, then one should be reserved for use by sick people.

Twice a day clean the following: with 1 part household bleach to 10 parts water:

- toilet handle and door handles of toilet, bathroom and rooms of isolated people
- bathroom sink and taps

Nobody else should use anything that could be contaminated with your throat or nose secretions or coughing or faeces – e.g. towels, handkerchiefs, eating utensils, food, bed linen, cigarettes, marijuana joints, P pipes, kava bowls.

Sharing bedding, clothing and utensils may spread infection, but you do not need to wash a sick person's bedding, clothing and utensils separately from the rest of the family's.

If you wash and dry all these things in the usual way they will then be safe for others to use.

Using face masks

The Public Health Nurse will show you how to wear a mask.

- Sick people should wear a surgical mask if anyone is in their room and if they have to leave their room.
- People who are in quarantine but not sick should wear a particulate respirator (PFR95) mask if they are in the same room as a sick person.
- Essential visitors to the house should wear a particulate respirator (PFR95) mask through their visit.

Used masks should be put in the normal household rubbish.

Coming out of isolation

The Public Health Nurse or your doctor will tell you when you are cleared to come out of isolation. At that time you will be non-infectious to others. It will then be safe for you to resume your normal life.

Questions

Your Public Health Nurse will be happy to answer any questions.

