

**Nauru**  
**Ministry of Health**  
**Emergency Operations Plan for Pandemic Influenza**

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## I. INTRODUCTION

### A. Purpose of the Nauru Pandemic Influenza Preparedness Plan

This Pandemic Influenza Preparedness Plan (Pandemic Flu Plan) was developed by the Nauru Influenza Pandemic Task Force (see Annex A) in consultation with WHO.

The plan is designed to provide an overview of the activities and responses that will be required from the Nauru government, corporations, and non-governmental organizations to prepare for, mitigate, and respond to an influenza pandemic.

### B. Influenza background information

Influenza is an illness caused by viruses that infect the respiratory tract in humans. Signs and symptoms of influenza infection include rapid onset of high fever, chills, sore throat, runny nose, severe headache, nonproductive cough, and intense body aches followed by extreme fatigue. Influenza is a highly contagious illness and can be spread easily from one person to another. It is spread through contact with droplets from the nose and throat of an infected person during coughing and sneezing. The period between exposure to the virus and the onset of illness is usually one to five days. Influenza is not an endemic disease.

### C. WHO Phases of Influenza Pandemic

Due to the prolonged nature of a pandemic influenza event, the World Health Organization (WHO) has defined phases of the pandemic in order to facilitate coordinated plans. This document uses the most recent 2005 WHO guidelines.

#### **Table 1: 2005 WHO Guidelines for Phases of Influenza Pandemic**

##### **Inter-pandemic period**

**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, risk of human infection or disease is considered to be low.

**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 period**

**Phase 3:** Human infection(s) with a new subtype, but no human-to-human spread, or at most rare instances of spread to a close contact.

**Phase 4:** Small cluster(s) with limited human-to-human transmission but spread is highly localized; suggesting that the virus is not well adapted to humans.

**Phase 5:** Larger cluster(s) but human-to-human spread still localized, suggesting that the virus is becoming increasingly better adapted to humans, but may not yet be fully transmissible (substantial pandemic risk).

##### **Pandemic period**

**Phase 6:** Pandemic: increased and sustained transmission in general population.

##### **Post-pandemic period**

Return to inter-pandemic period.

#### **D. Planning Assumptions for Influenza Pandemics**

The following assumptions were considered in developing this Pandemic Flu Plan:

- Influenza is a highly contagious illness that is easily spread by direct personal contact or through the air. It can cause serious illness or death, especially in vulnerable persons, such as the elderly or people with underlying illness.
- After infection with influenza, humans develop immunity by forming antibodies against two glyco-proteins on the virus surface: hemagglutinin (H) and neuraminidase (N). This immunity will protect against re-infection with the same virus, or it will make infection with a slightly different influenza virus less severe.
- Influenza viruses mutate frequently, by changing their H and N surface proteins. If the change to these surface proteins is significantly large, then a person's existing immunity will not protect him or her from infection.
- Due to the highly contagious nature of influenza and its propensity for mutation, worldwide pandemics have occurred on a regular basis. This can happen after the virus mutates significantly, so that the majority of the population has no immunity to it.
- Experts believe that an influenza pandemic is inevitable, but no one knows when it will occur.
- In the past, pandemics have occurred once every 10 to 40 years. The pandemic of 1918 was particularly severe and killed up to 25% of the population of some Pacific island countries.
- Experts believe that we will have between one to six months between the identification of a novel influenza virus and the time that widespread outbreaks begin to occur in the mainland United States. This time may be shorter in the Pacific where direct flights from Asia occur on a daily basis.
- Healthcare workers and other first responders will likely be at higher risk of exposure to influenza than the general population, further impeding the care of patients.
- Widespread illness in the community may also increase the likelihood of sudden and potentially significant shortages of personnel who provide other essential community services. This will impact distribution of food, home meal deliveries, day care, garbage collection and other critical services.
- Medical services and healthcare workers will be overwhelmed during the influenza pandemic.
- The first wave of the pandemic may last from 1-3 months, while the entire pandemic may last for 2-3 years.
- It will take six to eight months after the novel virus is identified and begins to spread among humans before a specific vaccine would likely be available for distribution, but initially, the supply will not be sufficient to meet the demand.
- Effective preventive and therapeutic measures, including vaccines and antiviral agents, will likely be in short supply during an influenza pandemic, as will some antibiotics to treat secondary bacterial infections.
- Four antiviral agents are currently available for prophylaxis or treatment of influenza A.
  - \* Amantadine and rimantadine are chemically related drugs and are recommended only for prophylaxis due to difficulties with rapid development of resistant viruses. Moreover, these drugs are ineffective against the bird flu virus.
  - \* Oseltamivir and zanamivir are neuraminidase inhibitors and are recommended for both prophylaxis and therapy, but have far less availability. Oseltamivir (Tamiflu®) is the only drug that has been shown to be effective against the bird flu virus.
- Adverse effects such as nausea, vomiting, and diarrhea are not uncommon with the influenza antiviral drugs.
- The public will likely encounter some unreliable and possibly false information in the media and on the Internet.
- Mechanisms for communication with the public will vary depending on the phase of the pandemic and its impact on communities.

#### **E. Primary Responsibility of the WHO and other international organizations**

- Vaccine research and development.
- Coordinating national and international surveillance.
- Assessing and potentially enhancing vaccine and antiviral capacity and coordinating public-sector procurement.
- Developing a national “clearinghouse” for vaccine availability information, vaccine distribution and redistribution.
- Developing “generic” guidelines and “information templates” that can be modified
- Pursuing mechanisms by which influenza vaccine can be made more rapidly available and in larger quantities prior to and during the next pandemic.
- Issuing travel alerts and advisories to areas where the novel strain of influenza is in wide circulation.

#### **F. Primary Responsibility of the Nauru Government**

- Identification of public and private sector partners needed for effective planning and response.
- Development of key components of pandemic influenza preparedness plan: to include surveillance, distribution of vaccine and antiviral drugs, and communications.
- Development of data management systems needed to implement components of the plan.
- Assistance to local areas in exercising plans.
- Coordination with neighboring countries, in particular the ones that share common air traffic and shipping traffic.

#### **G. Organization of this Nauru Pandemic Flu Plan Document**

The Nauru Pandemic Flu Plan document was developed by consulting the WHO *Global Influenza Plan*; and the Pacific Public Health Surveillance Network *Influenza Guidelines* the draft Pan Flu Plan of the Commonwealth of the Northern Mariana Islands, in addition to other references. References are listed in Part V of this document.

The activities that will be necessary during the different pandemic phases are listed in Table 2.

In addition to the different phases of a pandemic, some control measures will be dependent on whether cases of influenza are occurring in Nauru. For example, even after WHO has declared Phase 6 (the highest level of alert: an active pandemic is ongoing) because other countries are experiencing outbreaks of the disease, it is possible that Nauru may not yet have any cases of influenza. The Influenza Pandemic Task Force felt that it will be important to make this distinction because it will determine the need for certain control measures. An example is the use of quarantine, which will only be useful if no cases have occurred yet in Nauru.

Activities are arranged by category. The “Activity” column describes the nature of the activity, the next column describes the mechanism by which this is achieved, and the next column lists the responsible authority.

The fifth column of Table 2 lists the phases when the activity will need to be carried out or activated, assuming no cases of influenza are occurring yet in Nauru. The sixth column of Table 2 lists at what phase an activity becomes necessary if cases are already occurring in Nauru.

The final column of Table 2 lists what still needs to be done to make the activity possible.

#### **H. Review of the Nauru Pandemic Flu Plan**

This plan will be reviewed annually by the Nauru Pandemic Influenza Task Force. (See Annex A for committee roster).

In addition, at the end of any escalation of events to Phase 5 or higher, a debriefing will be carried out through the Pandemic Influenza Task Force to assess the effectiveness of operations during the event and to determine the extent of social, economic, and health impact on the population. This information should then be used to update and review the plan.

## II. PANDEMIC INFLUENZA PREPAREDNESS ACTIVITIES

Table 2: Pandemic preparedness activities, pandemic phase in which they are necessary, depending on whether cases of influenza are occurring in Nauru

Category	Activity	How?	Who is responsible?	Are influenza cases occurring in Nauru?		What needs to be done
				No	Yes	
				Activity necessary in phase	Activity necessary in phase	
Command and management	Assess need for additional resources, interventions and emergency powers	Meet once a month	Pandemic Influenza Task Force	1-3	Not applicable	Activate task force (same persons as SARS task force)
		Meet once a month or more frequently if required		4-5	1-5	
		At least every week		6	6	
Communications	Informing government authorities	Inform authorities on task force activities and findings	Chairman of task force	6	1-6	Health promotion and awareness activities
	Informing the public	Inform the public about signs and symptoms of influenza	Health Promotion Coordinator	1-6	1-6	
	Informing the public	Inform about preventive measures, general hygiene	Health Promotion Coordinator	6	1-6	
	Exchange information with WHO, PPHSN, PACNET, other countries; ProMED	By electronic means, phone, and meetings.	Director Public Health	1-6	1-6	

Category	Activity	How?	Who is responsible?	Are influenza cases occurring in Nauru?		What needs to be done
				No	Yes	
				Activity necessary in phase	Activity necessary in phase	
Surveillance	Reporting of absenteeism	Reported <b>monthly</b> by personnel/human resource officers to Director of Public Health	Director of Public Health receives and analyzes reports	4-6	1-5	Reporting system should be started
	Reporting of absenteeism	Reported <b>weekly</b> by personnel/human resource officers to Director of Public Health	Director of Public Health receives and analyzes reports	Not applicable	6	Reporting system should be started
	Detection of cases of influenza-like illness (ILI)	Hospital-based reporting; Reports from communities	Reporting by hospital physicians and district committee to Director of PH	1-6	1-5	Make ILI a reportable condition; make public aware that ILI is reportable
	ILI case investigation	Interview the patient, identify possible sources	Public Health Medical Officer / Health Inspector	3-6	3-5	Write case investigation protocol
	Confirmation of influenza	Use rapid tests to confirm outbreaks and to select patients for lab confirmation in reference lab.	Public Health Medical Officer / Health Inspector, Laboratory	3-6	Activity not necessary in any phase	Order rapid tests through WHO.
	Confirmation of influenza	Send specimens to level-2 reference lab for virus isolation/confirmation. See Annex G for details.	Dangerous goods officer, Air Nauru	3-6	Activity not necessary in any phase	Clarify funding mechanism for specimen shipment
	Strain subtyping	Ship to level 3 reference lab (Annex G)	Level 2 lab should on-forward	3-6	6	WHO to pay for freight charges and testing?
	Animal surveillance	Reporting of die-off of birds, poultry, and swine; have samples tested	Health Inspector collects information and investigates; Quarantine officers assist	3-5	3-5	Make public announcement that animal die-off needs to be reported; identify appropriate lab (Annex G)

Category	Activity	How?	Who is responsible?	Are influenza cases occurring in Nauru?		What needs to be done
				No	Yes	
				Activity necessary in phase	Activity necessary in phase	
Public health	Quarantine ships and planes	When a vessel arrives with suspected ILI on board, passengers should be sequestered for as long as necessary up to 1 week	Decision: Director PH; carried out by health inspector and quarantine officers (IDI), police, Immigration	6	Activity not necessary in any phase	Add influenza to the quarantine act and to airline regulations; Designate a quarantine facility to house travelers
	Quarantine of travelers	Persons arriving or transiting from pandemic influenza-affected countries are not permitted to enter Nauru during their incubation period (7 days)	Air Nauru, Immigration, Department of Public Health	6	Activity not necessary in any phase	Make into law
	Encourage persons with ILI to stay at home for 3-4 days; and for caretakers to look after sick children	Physician should examine the person and give medical certificate	Medical doctors	1-6	1-6	Make it into law
	Institutional closures	Close schools, prohibit public gatherings	Director Public Health, assisted by police	Activity not necessary in any phase	6	

Category	Activity	How?	Who is responsible?	Are influenza cases occurring in Nauru?		What needs to be done
				No	Yes	
				Activity necessary in phase	Activity necessary in phase	
Planning, Stockpiling	Osetamivir (Tamiflu®)	WHO is providing 200 courses. Find funding to order more.	Dir. Public Health	1-6	1-6	Fund more Tamiflu through foreign aid
	Vaccine	Order pandemic strain vaccine if available	Director Public Health	5-6	5-6	
	Prioritization of persons to receive Tamiflu or vaccine	Make list of persons who are to receive treatment or prophylaxis	Pandemic Influenza Task Force	1-6	1-6	Departments must submit list of essential personnel
	Stockpile other drugs	Order simple antibiotics: ampicillin, cotrimoxazole, doxycycline	Pandemic Influenza Task Force	1-6	1-6	Find foreign aid for funding
	Gowns, masks, and other infection control supplies	Ordered through WHO	Dir. Public Health	1-6	1-6	
	Pneumococcal vaccination	Include pneumococcal vaccine into EPI for children under 2 and elderly over 65 years of age	Dir. Public Health	1-6	1-6	Add pneumococcal vaccine to EPI program
	Medical facilities	When necessary, expand to other facilities such as IOM camp, schools to hospitalize patients	Dir. Public Health	Activity not necessary in any phase	6	get agreement with IOM; ensure adequate supplies of mattresses etc
Maintaining essential services	Medical personnel	Plan to call up retired nursing staff and paramedics to work as nurse aides; request foreign support if required.	Director Medical Services through public service	Activity not necessary in any phase	6	
	Other personnel (police, ambulances, etc.)	Call up retired persons	Police commander through public service	Activity not necessary in any phase	6	

Category	Activity	How?	Who is responsible?	Are influenza cases occurring in Nauru?		What needs to be done
				No	Yes	
				Activity necessary in phase	Activity necessary in phase	
Patient management	Treatment	Only patients on priority list and high-risk patients (Annex C)	Physicians	Activity not necessary in any phase	6	
	Infection control: patient isolation	Sporadic patients can be nursed in isolation ward, and in separate ICU units. When many cases, cohorting of patients, e.g. in IOM camp, designated public buildings.	Physicians and nurses	Activity not necessary in any phase	1-6	Make agreement with IOM to use their facility when needed
	Infection control	Other infection control measures: see Annex B	Physicians and nurses	Activity not necessary in any phase	1-6	
Contact management	Minimize chance that contacts of flu cases spread the disease	Advise close contacts to stay mostly at home, minimize socializing for 5 days	Community health nurses should monitor disease within the affected household	Activity not necessary in any phase	1-6	

### III. ACRONYMS

#### *List of Acronyms Used in the Nauru Pandemic Flu Plan*

DPH	Department of Public Health
HPAI	Highly Pathogenic Avian Influenza
ILI	Influenza-Like Illness
PACNET	Pacific Health Network (List Serve)
PICTs	Pacific Island Countries and Territories
PPHSN	Pacific Public Health Surveillance Network
SPC	Secretariat of the Pacific Community
WHO	World Health Organization
WPRO	(WHO) Western Pacific Regional Office

### IV. ANNEXES

#### *Annex A. Members of the Nauru Pandemic Influenza Task Force*

Chairman: Director of Public Health  
Immigration  
Air Nauru  
Chief Nursing Officer  
Directorate of Medical Services  
Police  
Port Authority  
Quarantine Officers (IDI)  
Non State Actors Secretariat  
Laboratory services

The task force can be expanded with additional members when the need arises.

Chairman reports meeting results to the Minister for Health

#### *Annex B. Infection Control Recommendations*

##### **Healthcare Facilities:**

1. Place suspect cases on droplet and standard precautions (see CDC Guidelines on Prevention of Nosocomial Pneumonia at <http://www.cdc.gov/ncidod/hip/pneumonia/default.htm> .
2. All persons entering isolation rooms should wear a gown, gloves, and mask and practice good hand hygiene (see CDC guidelines for hand hygiene in healthcare settings at <http://www.cdc.gov/handhygiene/> .
3. Healthcare workers displaying influenza-like symptoms should be removed from direct patient care when possible.
4. Visitors with febrile respiratory illnesses should be restricted from visitation as much as possible.
5. Patients and staff should cover their mouths and noses with tissue when coughing or sneezing, dispose of used tissues immediately after use and wash hands after using tissues.
6. Restrict elective admissions in hospitals
7. Isolation should be initiated at symptom onset and continue for duration of illness (usually 4 to 5 days.)

##### **At Home:**

- 1 Persons should remain at home during their illness (usually until four to five days after symptoms appear).
2. Restrict visitors to the home as much as possible.

3. Persons entering homes of suspect influenza cases should wear a surgical mask when within 1 meter of the patient, and should wash hands after patient contact and before leaving the home.
4. Patients should cover their mouths and noses with tissue when coughing or sneezing, dispose of used tissues immediately after use and wash hands after using tissues.
5. Family members should wash hands after contact with the patient.

**Annex C. Target Groups for Treatment and Vaccination Prioritization**

Nauru will have 200 courses of Oseltamivir (Tamiflu®) available for members of priority services that need to be maintained during a pandemic. Oseltamivir has been shown to reduce the severity of the influenza provided it is given within 48 hours of onset of symptoms. It can also help reduce the period of infectivity of a person. Because the number of available courses is extremely limited, it is essential that a list is drawn up of the persons that will be eligible to receive this medication if they are ill.

It is expected that no specific pandemic influenza strain vaccine will be available initially. If it becomes available, it will likely be difficult to obtain sufficient doses for the entire population. The following list should therefore also be used to prioritize persons who will first receive the vaccine.

Priority level	Essential services	Total Number of Staff	Number that should get anti-viral medication if ill (or vaccine if available)
Highest priority	Doctors	6	6
	Nurses + nurse aides	50	50
	Medical laboratory staff	7	2
Second priority	For use by doctors to treat high risk patients		50
Third priority	President, cabinet, chief secretary	7	7
	Police	100	50
	Ambulance drivers	6	3
	Air Nauru	150	37
	Airport		3
	Customs, Immigration	15	2
	Fire brigade	26	12
	Port services	100	30
	Medical quarantine	2	2
	Communication	38	4
	Utilities (water, electricity, fuel)		8
	<b>Total</b>		266

**Annex D. Case definition of influenza-like illness (ILI) for surveillance purposes**

An acute onset of fever (T> 38°C),  
AND cough or sore throat,  
AND myalgia  
in the absence of other diagnoses.

***Annex F. Criteria for hospital admission of flu patients***

Severe pneumonia  
Encephalitis  
Dehydration  
Persons >60 with severe infection  
Children under 5 with severe infection

***Annex G. Procedures for shipping and testing of specimens***

(Attached)

## V. REFERENCES

### *List of References Used in Development of the Nauru Pandemic Flu Plan*

Australian Government Ministry of Health and Ageing, *Australian Management Plan for Pandemic Influenza*  
<http://www.health.gov.au/internet/wcms/publishing.nsf/Content/phd-pandemic-plan.htm>

New Zealand Ministry of Health, *Influenza Pandemic Action Plan*  
<http://www.moh.govt.nz/moh.nsf/ea6005dc347e7bd44c2566a40079ae6f/5f5694e4a5736dd2cc256c55000788a3?OpenDocument>

Secretariat of the Pacific Community, Pacific Public Health Surveillance Network, *PPHSN Influenza Guidelines*  
<http://www.spc.org.nc/phs/pphsn/Publications/Guidelines/Influenza.htm>

US Ministry of Health and Human Services, *Pandemic Influenza Response and Preparedness Plan*  
<http://www.hhs.gov/nvpo/pandemicplan/index.html>

WHO *Global Influenza Pandemic Preparedness Plan* (WHO/CDS/CSR/GIP/2005.5)  
[http://www.who.int/csr/resources/publications/influenza/WHO\\_CDS\\_CSR\\_GIP\\_2005\\_5/en/index.html](http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_5/en/index.html)

WHO *Checklist for Influenza Pandemic Preparedness*  
[http://www.who.int/csr/resources/publications/influenza/WHO\\_CDS\\_CSR\\_GIP\\_2005\\_4/en/index.html](http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_4/en/index.html)

## VI. INTERNET RESOURCES

### *List of Internet Resources Related to Pandemic Influenza*

World Health Organization, *WHO Pandemic Preparedness* <http://www.who.int/csr/disease/influenza/pandemic/en/>

US Ministry of Health and Human Services, National Vaccine Program Office, *Pandemic Influenza*  
<http://www.hhs.gov/nvpo/pandemics/index.html>

Centers for Disease Control and Prevention, *Information about Influenza Pandemics*  
<http://www.cdc.gov/flu/avian/gen-info/pandemics.htm>

## VII. ACKNOWLEDGEMENTS

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