



# **Influenza Pandemic Strategic Plan**

**- Third Edition -**

**Centers for Disease Control,  
Department of Health,  
R.O.C. (Taiwan)**



# Influenza Pandemic Strategic Plan

- Third Edition -

Edited by Centers for Disease Control,  
Department of Health, R.O.C. (Taiwan)

Published by Centers for Disease Control,  
Department of Health, R.O.C. (Taiwan)

**July 2012**

# Influenza Pandemic Strategic Plan

- Third Edition -

## CONTENTS

- 4 **Overview of the major changes**
- 6 **I Foreword**
- 8 **II Strategic Framework**
  - 2.1 Administrative Mechanisms
  - 2.2 Outline of Strategies
  - 2.3 Core Values
- 16 **III Surveillance**
  - 3.1 Grasping of International Epidemic Conditions
  - 3.2 Health Surveillance of Incoming Passengers
  - 3.3 Surveillance of Epidemic Trends
  - 3.4 Surveillance of Influenza Cases
  - 3.5 Surveillance of Virus Activities
  - 3.6 Case Investigation
  - 3.7 Collection of Virus Related Information
- 22 **IV Transmission Interruption**
  - 4.1 Individual and Family Level
  - 4.2 Community Level
- 30 **V Border Control**
  - 5.1 Health Information and Travel Alerts
  - 5.2 Arrival Screening
  - 5.3 Management of Incoming Cases
  - 5.4 Management of Contacts with Incoming Cases
  - 5.5 Departure Control
- 36 **VI Manpower Mobilization**
  - 6.1 Medical Manpower Mobilization
  - 6.2 Mobilization of Community Volunteers



- 40 **VII Antivirals Strategies**
- 7.1 Influenza Antivirals Stockpile
  - 7.2 Allocation and Provision of Influenza Antivirals
  - 7.3 Administration of Influenza Antivirals
  - 7.4 Management of Pharmaceuticals
- 44 **VIII Vaccine Strategies**
- 8.1 Promotion of Seasonal Influenza Vaccination
  - 8.2 Stockpile of Pandemic and Pre-pandemic Vaccine
  - 8.3 Preparedness for Pandemic Vaccination
- 48 **IX Personal Protective Equipment (PPE) Preparedness**
- 9.1 PPE Stockpile
  - 9.2 PPE Dispatching
  - 9.3 Sufficient Supply of PPE
- 52 **X Health Care Preparedness**
- 10.1 Patient Isolation
  - 10.2 Triage and Placement of Patients
  - 10.3 Treatments for Off-shore and Remote Localities
- 58 **XI Risk Communication**
- 11.1 Communicating with the General Public
  - 11.2 Communicating with Media
  - 11.3 Communicating with Professionals
- 62 **XII Response and Actions**

# Overview of the major changes

The Influenza Pandemic Strategic Plan (Strategic Plan) is defined pursuant to the National Influenza Pandemic Preparedness Plan (Preparedness Plan) and related recommendations of the World Health Organization (WHO). The Executive Yuan approved the First and Second editions of the Strategic Plan on January 3, 2007 and February 20, 2008, respectively. In 2009, following the H1N1 novel influenza pandemic, countries assessed their response measures. In light of which, the Department of Health (DOH) updated the Third Edition of the Strategic Plan pursuant to the Preparedness Plan Phase II approved by the Executive Yuan on May 18, 2010, the “Pandemic Influenza Preparedness and Response. WHO guidance document” that the WHO issued in April 2009, and the H1N1 novel Influenza Experiences of 2009-2010.

The revised Guidance:

## 1. Update the key principles of the Strategic Plan

- (1) Focus on the “influenza pandemic”, and no longer continue the focal concept of “H5N1” avian influenza.
- (2) Establish no separate domestic pandemic phase structure, and schedule the strategies according to the pandemic phase issued by the WHO.
- (3) Outline the strategy objectives and execution timing in order to maintain the execution flexibility of respective strategies. As regards the details and procedures of execution, time-changing data shall no longer be included in this edition.
- (4) In response to the WHO advocacy, incorporation of ethics and legitimacy principles and integration of the “all-hazards approach preparedness” and “whole of society” approach.

## 2. Amend to the strategy contents

- (1) Division of the “Transmission Interruption” into two categories the “Individual and Family Level” and the “Community Level” , and the addition of the new strategy “Fostering of Hygiene Habits” into the “Individual and Family Level” (4. Transmission Interruption) .

- (2) Addition of the new strategy “Travel Restriction and Border Closing” (5. Border Control) .
- (3) The provision of “Manpower Mobilization” was re-compiled into a separate chapter. The provision of “Mobilization of Community Volunteers” initially stated in the chapter of “Transmission Interruption” was incorporated into this chapter; moreover, the “Medical Manpower Mobilization” was included to provide an all-points manpower mobilization for an influenza pandemic (6. Manpower Mobilization) .
- (4) Deletion of the tables of “Priority list” and “Administration Timing” for the strategy of antivirals to enable a flexible activation of antivirals administration to suit the epidemic status (7. Antivirals Strategies) .
- (5) Deletion of the vaccine research and development strategy since Taiwan is now capable of manufacturing the Influenza Vaccine (8. Vaccine Strategies) .
- (6) Removal of the table of personnel protective equipment (PPE) stockpile that is subject to circumstantial changes. (9. Personal Protection Equipment Preparedness) .
- (7) Revision of the “Planning for Maintenance of Communicable Disease Control Medical System Operations” to “Health Care Preparedness” and the modification of the pertaining strategies to three principal divisions: a. Patient Isolation, b. Triage and Placement of Patients, and c. Treatments for Off-shore islands/remote Localities (10. Health Care Preparedness) .
- (8) Improvement of the more theoretical provisions of the previous edition into the more substantial information based on the practical communication experiences of H1N1 novel influenza control (11. Risk Communication) .
- (9) Refer to the format of WHO latest guidance, particularization of the primary concepts of the respective strategies in the chapter of “Response and Actions” (12. Response and Actions) .
- (10) Replacement of two response guidelines, “Continuity of Social Functions and Business Operations” and the “Plan Assessment and the Exercise Planning”.

# Foreword

Influenza virus has the most potential to spread worldwide, causing a pandemic. The term influenza pandemic refers to a new type of flu virus that emerges and affects humans, and due to the absence of antibodies in human bodies to combat it, contamination is rapidly widespread in global population

Starting from 2003, the consequential spread of avian epidemic and human cases of the H5N1 influenza virus drew serious attention to the influenza pandemic preparedness. In 2009, in light of the past preparedness, response to the H1N1 novel influenza pandemic had been quite successful. However, the influenza virus is a highly mutative virus, thus the threat of a pandemic is not been totally eradicated. Hence, it is imperative to continue improving the preparedness work.

An influenza pandemic can take an economic toll and social disorder, and strain health services. Hence, the national goals of the influenza pandemic preparedness and response are as follows:

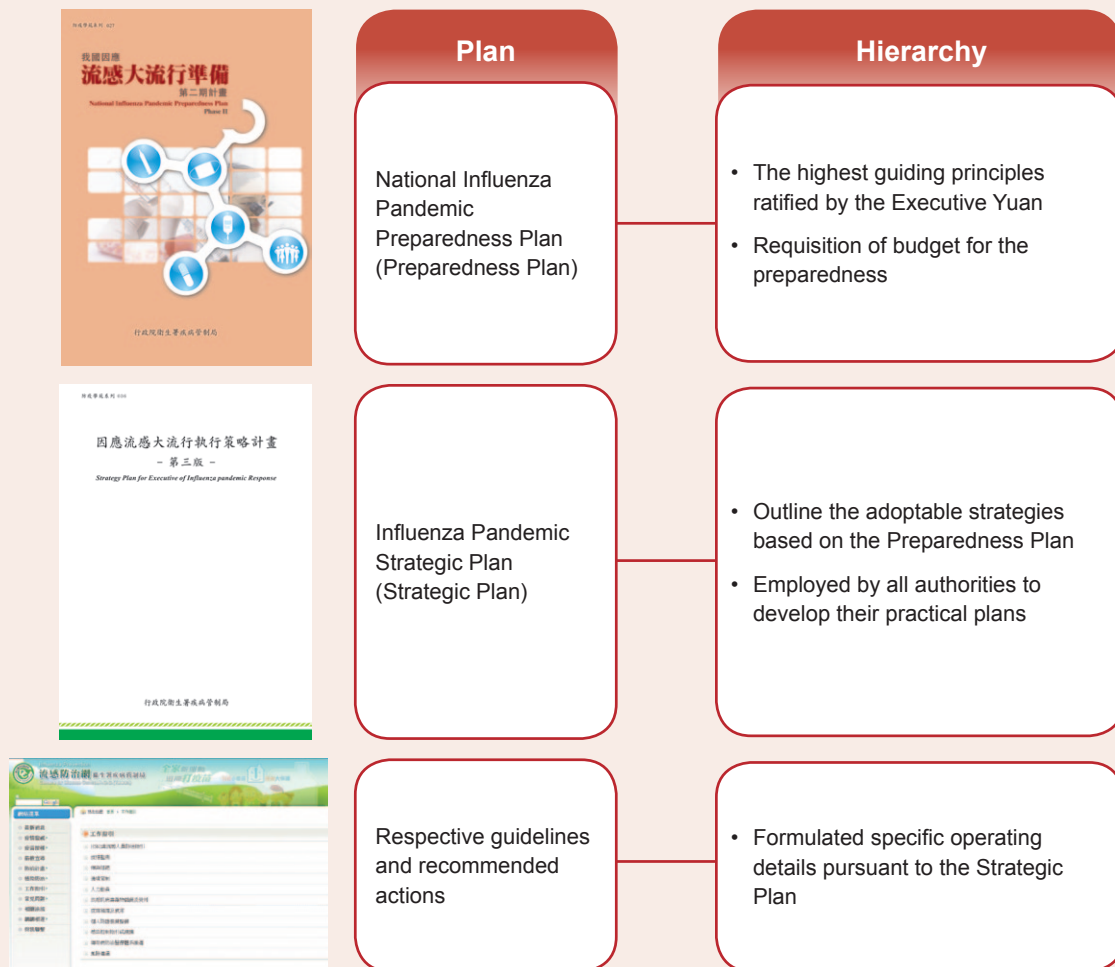
1. Sustained surveillance: Close monitoring of the international epidemic development and maintain surveillance of the domestic virological, mild/ complicated cases and cluster events to prevent the spread in the early stages of the pandemic period.
2. Infection control: Prevent further transmission of imported human infected with novel influenza virus.
3. Harm reduction: If the contagion of novel influenza virus increases among humans, aggressive treatment and public health intervention shall be instituted to mitigate the health impact and to maintain social functions and economic activities during a pandemic.
4. Recovery: Institute measures to foster the recovery from social, economic and psychological impacts during post-pandemic period.

The Executive Yuan ratified a Preparedness Plan on May 23, 2005, and on May 18, 2010, it subsequently ratified the Preparedness Plan Phase II. Under the provisions of the Preparedness Plan, central and local governments stockpiled, established a mobilization system and trained the epidemic control manpower.

This Strategic Plan, in response to the WHO-promulgated strategies, studied the national conditions and formulated the possible measures which the government authorities may institute in a pandemic, thereby allowing the government authorities to understand the full nature of the strategies and pursuant to the delegated responsibilities, define a plan in advance. The Strategic Plan is updated once in every one or two years under the confirmation of Executive Yuan Avian influenza Control Cross-sectoral Meeting (Cross-sectoral Meeting) and the ratification of the Executive Yuan.

Moreover, the pandemic response guidelines shall be issued from time to time .

Fig. 1. Hierarchy of Plans for Influenza Pandemic Response







## II

# Strategic Framework

## 2.1 Administrative Mechanisms

Influenza pandemic is classified as a non-traditional security threat under the national security system; hence, its administrative mechanism has been upgraded to the national security level. The Executive Yuan has established a cross-sectoral cooperative system which places responsibility for the strategy planning under the hands of the DOH. Under this system, the local governments serve as the implementing bodies.

### 2.1.1 Administrative Mechanisms of Central Government

#### 2.1.1.1 Ordinary Preparedness

##### National Security Level

Three national security meetings have been convened by the President from August of 2005 to address the H5N1 avian influenza virus threat. In the period between 2009 and 2010, President convened four sessions of the Expert Advisory Meeting on the Response of the H1N1 Influenza Pandemic. The meeting studied the possible impacts on national security and provided some policy instructions for the Executive Yuan.



## Executive Yuan Level

Since October 2005 to date, the Executive Yuan has been holding the Cross-sectoral Meeting periodically to initiate a full-scale mobilization of every ministry and department to prevent the influenza pandemic. The associated ministries and departments were assembled to make decisions on each critical or cross-sectoral issue related to influenza pandemic.

## Department of Health Level

The DOH planned the framework and strategies, stockpiled vaccine, antivirals and the personal protective equipment (PPE), supervises the preparedness of local governments and organizes related training or drill when necessary. A meeting of DOH Infectious Disease Control Advisory Committee-Influenza control group is convened for consultation.

### 2.1.1.2 Contingency Response

Upon the escalation of influenza pandemic risks, the DOH, under the Article 17 of the “Communicable Disease Control Act” and the “Regulations of the Central Epidemics Command Center”, shall acquire the Executive Yuan approval for the organization of the Central Epidemics Command Center (CECC). The command center should effectively coordinate and allocate the resources, equipment and staff.



### 2.1.2 Functions and Responsibilities of Local Governments

According to Article 5 of the Communicable Disease Control Act, the local competent authorities should formulate and implement their own response plans pursuant to the central policies and upon the local requirements.

In preparedness and response to the influenza pandemic, in addition to plan formulation and budget allocation, the local governments shall also establish an inter-agency mobilization mechanism, manage and utilize local medical resources, stockpile essential logistics, conduct epidemic surveillance, supervise the infectious control in hospitals, and evaluate the available community organizations or volunteer groups which can be mobilized.

At a sign of an influenza pandemic, local governments shall organize an epidemic command center to mobilize available local resources for action.

## 2.2 Outline of Strategies

The outlines of Taiwan's influenza pandemic response are hinged on the four major strategies and five lines of defense.

### 2.2.1 Four Major Strategies

The four major strategies were defined: surveillance and assessment, interruption of transmission, antivirals, and influenza vaccine.

#### **Strategy 1: Surveillance and Assessment**

The purpose of surveillance is to enable the early detection of unusual cluster or abnormal clinical symptom, and to understand characteristics of the virus and mutation trends; thereafter, conduct a proper assessment of efficiency of the response measures, and the extend of the epidemic impacts.

## Strategy 2: Interruption of Transmission

Several non-pharmaceutical public health interventions, such as personal hygiene practices (including frequent washing of hands and wearing medical masks when sick), isolation of patients, quarantine of contacts, and social distance measures, etc., can reduce the virus spreading. Promotion of those measures will be important and economic.

## Strategy 3: Antivirals

The influenza antivirals, neuraminidase inhibitor, has been proven effective for treatment and prevention of seasonal influenza. Therefore, they have been stockpiled and expected to contain the spread of the virus, and to reduce morbidity and mortality during a pandemic.

## Strategy 4: Influenza Vaccine

Influenza vaccination may effectively reduce severe illness and death occurrences; hence, it is hoped to institute the stock inventory preparation, emergency production, or urgent procurement of adequate effective vaccines to maintain essential social functions and protect the high-risk groups during a pandemic.



## 2.2.2 Five Lines of Defense

Taiwan has defined five lines of defense for the influenza pandemic response system; that is, containment abroad, border control, community epidemic control, maintenance medical system functions, and individual and family protection.

### **First Line of Defense: Containment Abroad**

In order to contain the potential pandemic virus, the government, in addition to aggressive participation in international cooperation, enhancement of information sharing, and surveillance on international epidemic, shall step up its information campaign to individual traveling to countries or regions under an avian influenza epidemic, issue timely international travel alert, and impose international travel bans when necessary.

### **Second Line of Defense: Border Control**

If a highly infectious virus leading to influenza pandemic emerge abroad, airport and seaport quarantine inspection shall be strengthened to safeguard the health of all citizens. The monitoring, reporting, health screening and management procedures for incoming passengers shall be gradually stepped up pursuant to international epidemic phase. Thus, the suspect case can be detected timely and treated immediately to avoid the domestic spread.

### **Third Line of Defense: Community Epidemic Control**

Public health intervention measures and antivirals and vaccine shall be appropriately implemented during the community epidemic control. The assistance of civic organization and volunteer groups to disseminate accurate information to the public can enhance the public cooperation in the community epidemic control drive.



#### **Fourth Line of Defense: Maintenance of Medical System Functions**

The massive number of influenza patients during a pandemic period could impose an enormous burden on the medical system. To ensure the delivery of proper medical care and to prevent the impact on the medical resources available to patients, the medical system shall maintain full functions during the pandemic period. In addition to enhancement the measures of nosocomial infection control, it's imperative to plan a complete communicable diseases medical system for the need of national emergency response. In addition, the local governments need to set up additional isolation facilities for the surge of pandemic influenza patients.

#### **Fifth Line of Defense: Individual and Family Protection**

Individuals are encouraged to cultivate proper personal hygiene habits in their daily lives and to keep some epidemic prevention and living materials at home. During the pandemic period, not only should everyone maintain the right daily hygiene habits but also avoid unnecessary social interaction. Furthermore, people with mild symptoms should be recuperate at home and on these occasions, stringent requirements for home and personal hygiene are imposed.

## **2.3 Core Values**

The strategies for influenza pandemic response shall be established on legal basis and with consideration to human rights. Moreover, ethical issue also has to put in consideration. These preparedness work should be maintained to ensure that the response system shall not become lax due to the absence of a pandemic.

### **2.3.1 Legislation of the Response Strategies**

The pharmaceutical and public health intervention for influenza pandemic are closely related to the health of the public, such as, the importation of new medicines, emergency vaccination campaign, etc. All these measures have to be implemented with caution; moreover, laws shall be established to provide legitimacy to these measures and ensure proper understanding of health-care or epidemic control workers and proper observance of the public.

### **2.3.2 Protection of Basic Human Rights**

For the reason to protect most people's life, some individual rights and civil liberties may be limited during the pandemic period. Such limitations must be essential, reasonable, proportional, equitable, and non-discriminatory.

### **2.3.3 Observance of Ethical Considerations**

Since priority considerations of influenza pandemic response measures are concentrated on the general welfare of the society, it is inevitable that such measure may infringe on certain individuals' interests. The respective agencies implementing the related policies shall ensure that no differential treatment is conducted and actions taken are essential, reasonable, proportional, equitable, non-discriminatory, and not in violation of national and international laws. Moreover every action should be founded on national laws; for instance, decisions on the priority of government-funded vaccines, antivirals, or treatment procedures, the principle of proportionality of disease control measures and willingness of the individual, the commensurate authority and responsibility of health-care workers, treatment of mass fatalities, and requirements of high-risk groups should likewise consider ethical issues.



## 2.3.4 Preparations for Sustained Implementation

When or where the next influenza pandemic will strike is unpredictable; hence, to enable the protracted and continued preparedness work to ensure adequate response capacity during a pandemic, it is imperative that the following principles be upheld:

### 2.3.4.1 Integration of all epidemic control foundation in coping with an influenza pandemic

All the preparedness shall be regarded as the foundation of the influenza pandemic response, and should be integrated to optimize its resources. For instance, the H1N1 influenza pandemic had been well controlled due to the enhancement of the prevention system realized following the SARS epidemic of 2003.

### 2.3.4.2 Consolidation of the all-hazards approach preparedness

Disaster may refer to natural disasters (typhoons, floods, etc.), incidental disasters (major fire disasters, explosions, etc.), and disasters caused by physically, chemically, or biologically induced diseases. Although different response actions are implemented for each type of disaster, all these actions require the cross-sectoral cooperation mechanism, the establishment of an information platform, and the mobilization of the manpower and material resources of the various ministries and department. Furthermore, regardless of the nature of the disaster, it is imperative to ensure the continuing operations of critical social functions and to maintain the economic activities. Related response share a commonality and thus planning work shall be consolidated.

Disasters are not ordinary (low frequency rate) and predictable (quite incidental) events, and preparedness work may never come to use. Hence, consolidating planning work for disasters sharing common nature is a time-saving, money-saving, and manpower conserving effective system.



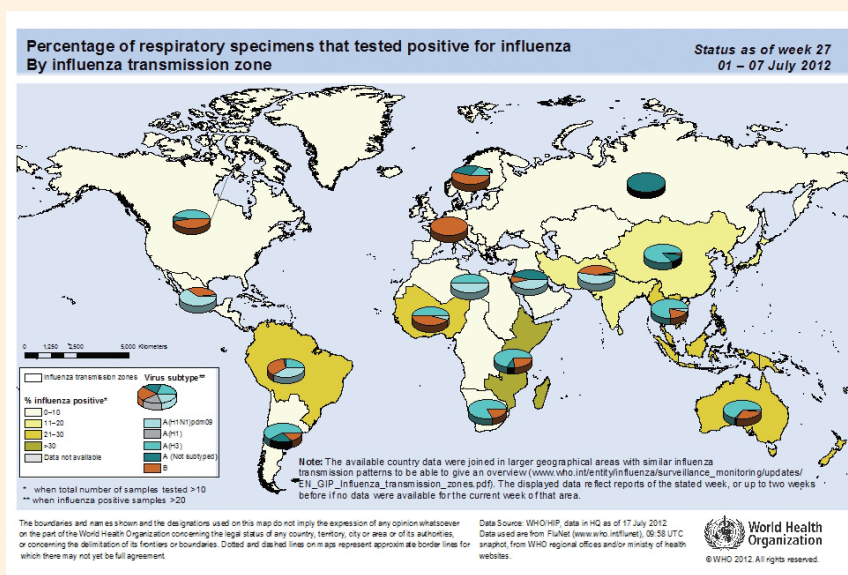


## Surveillance

The surveillance program is composed of seven adoptable strategies.

### 3.1 Strategy 1: Grasping of International Epidemic Conditions

This strategy is employed during any preparedness and response stages. There are a number of channels from which latest updates on global conditions may be obtained. Moreover, the Global Outbreak Assistance Corps of Taiwan may be assigned to the affected countries or regions for grasping of the epidemic conditions and the control measures when necessary. Furthermore, updates of important international epidemic information shall be regularly announced for public information.



## 3.2 Strategy 2: Health Surveillance of Incoming Passengers

This strategy is employed under the scenario of no domestic case. For further details, please refer to Part 5, Border Control.

## 3.3 Strategy 3: Surveillance of Epidemic Trends

This strategy is employed during any preparedness and response stages. The long-term monitoring of domestic epidemic trends by the surveillance systems may be used as reference for epidemic warnings or for assessing efficiency of the control performance. Current existing surveillance systems are:

1. Surveillance System for Populous Institutions: Any inhabitant or staff in the populous institutions meeting any criteria defined in “Standards for Immediate Reporting” should be reported within 24 hours of detecting.
2. School-based Surveillance System: Around 600 public elementary schools have joined the system and provide a weekly report of influenza-like illness (ILI) and campus clusters.
3. Real-time Outbreak and Disease Surveillance (RODS) System: More than 100 emergency departments in hospitals provide daily ICD-9-coded related data of ILI. Moreover, the rate of outpatient visits for ILI is obtained from the daily data of the system of National Health Insurance.
4. Surveillance of Death Cases: The death reporting network is used to get the mortality data of pneumonia and influenza.

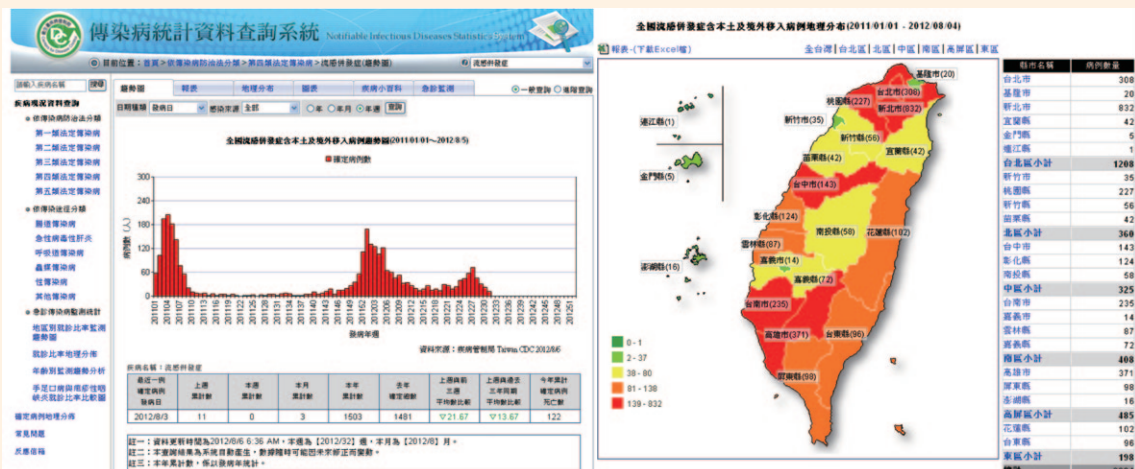
Related surveillance data are periodically announced through Taiwan Influenza Express for general public information.

### 3.4 Strategy 4: Surveillance of Influenza Cases

This strategy is employed during any preparedness and response stages. In ordinary time, the surveillance systems are required to monitor occurrence of any related cases, and upon the emergence of domestic cases, the reporting frequency of certain surveillance systems shall be enhanced to timely monitor the epidemic trends or assess the outcome of the control measures intervention. Existing surveillance systems related to this strategy are described below:

1. Notifiable Diseases Surveillance System: Monitored diseases related to influenza are regarded as “Complicated influenza”. The reporting person should provide the related clinical data and specimen of the case for examination.
2. Symptom Surveillance System: Patients who meet the criteria for “Person under investigation for H5N1 influenza”, clusters of ILI and patients with fever found through the boarder quarantine should be reported through this system.

The CDC requires clinical physicians to check the information of occupation, travel history, and contact history of patients during the diagnostic procedure in order to discover H5N1 influenza cases timely and facilitate the subsequent case investigation. (Please refer to the strategy 3.6).



### 3.5 Strategy 5: Surveillance of Virus Activities

This strategy is employed during any preparedness and response stages. Over 200 sampling sentinels have been established for the “Contracted Virus Lab Surveillance System”. Each sentinel has to select two samples and sent to the contracted viral infection labs for isolation and typing of influenza virus every week. Moreover, virus resistance to the antivirals shall be provided. An examination of the pathogen enables an understanding of the circulating type of influenza virus. Data obtained shall serve as reference for clinical treatment, vaccination policy, vaccine development and epidemic development evaluation.

### 3.6 Strategy 6: Case Investigation

This strategy is employed upon the emergence of domestic related case. A simple case investigation is conducted on the investigated cases and upon discovery of a suspected case, a full case investigation is implemented.

The objective of the investigation is to understand the route of infection, clinical symptom, source of infection, and scope of infection of the virus. It shall investigate the related contact history and possible contacts for each patient. Moreover, the investigation findings may serve as reference for future amendments of the reporting criteria or as bases for determining whether an amendment of the control measures is necessitated (e.g., recommendation of selfprotection measures or the subjects of prophylaxis and containment measures) .

The investigation is implemented by local health authorities, and information is registered through the CDC communicable epidemic investigation system (investigation system). The investigation system has been linked to the symptom surveillance system, the notifiable diseases surveillance system, and the voluntary quarantine and home self-care information system, thus enabling the effective management of the cases and their close contacts.

Once the country is under a pandemic, massive influenza cases will be reported. Individual case sampling and investigations conducted may no longer be useful for surveillance. The Central Epidemic Command Center (CECC) will announce the cessation of all individual case sampling and investigation.

### **3.7 Strategy 7: Collection of Virus Related Information**

This strategy is employed upon the emergency of domestic pandemic influenza confirmed cases. The sharing of infectious biomaterials within the country shall be implemented according to the provisions of the Regulations Governing Management of Infectious Biological Materials and Collection of Specimens from Patients of Communicable Diseases; as for sharing with international bodies, documents and procedures of delivery of virus strain to WHO reference laboratory are established.

On the matter of information sharing, the latest updates on the influenza virus and the virus strain examination data and data interpretation are posted in the CDC website and updated weekly.



The pathogen genetic bank system shall regularly update the influenza sequences data of its international database. Its primary source of information is the website of the U.S. National Center for Biotechnology Information (NCBI) Influenza Virus Resource Database. Moreover, it regularly transmits representative influenza virus strain sequences collected by contracted laboratories to the NCBI Genbank to facilitate exchanges with the laboratories of other nations.





## IV

# Transmission Interruption

Transmission interruption measures are divided into two levels, the individual/family level and the community level, which contain 13 major strategies.

## 4.1 Individual and Family Level

Tactics employed in this level include the encouragement of infection control actions, patient isolation, contact quarantine, and family preparedness.

### 4.1.1 Strategy 1: Fostering of Hygiene Habits

Implementation of this strategy should be maintained at any pandemic phase. The program is addressed to the general public, the school and business organizations, not only to encourages hand hygiene, respiratory hygiene, and coughing etiquette, but also stay home when ill, wear masks moderately, practice courtesy bowing in place of handshakes and discourages kissing greetings.





### 4.1.2 Strategy 2: Patient Isolation

Isolation is to separate and limit the movements of suspected, possible or confirmed cases within a specific facility with health care provided, in order to reduce the possibility of pathogen spread. The duration of isolation will be determined by remission of clinical symptoms, virus characteristics and period of communicability.

The types of isolation include hospital ward isolation, home isolation, and facility isolation.

### 4.1.3 Strategy 3: Contact Quarantine

Quarantine is to separate and limit the movements of those who are suspected of infection exposure but not yet onset and to monitor their health status, in order to reduce the possibility of pathogen spread.

The following types of quarantine can be adopted:

1. Voluntary quarantine: During the quarantine period, the close contacts of suspected, possible, or confirmed cases are required to confine themselves at home and monitor their health status. However, their families retain their freedom of movement.
2. Facility quarantine: For those who will not or cannot sustain voluntary quarantine, for example people without relatives, tourists, travelers or those requiring special care, the local governments should designate an appropriate place to serve as the quarantine facility and shall arrange persons to implement quarantine measures.
3. Workplace quarantine: This procedure is applicable to epidemic control workers, health-care workers, and crew members of aircrafts or ships coming from an epidemic countries or regions. The personnel under work quarantine may continue with their work but are required to take precautionary safeguards, and when they are off-duty, they should observe either home quarantine or facility quarantine.



It should pay attention to ethical principles under willingness does not matter whether isolation or quarantine is implemented. Compulsory actions is the last-ditch measures.

## 4.2 Community Level

The community level measures include the social distancing (regional quarantine, infection control in public gatherings and on mass transportation systems, cancellation of public gatherings, school campus epidemic control, and closure of public facilities) and the sheltering, cordon sanitaire and domestic travel restriction imposed when cases surging.

A nationwide contact restriction strategy is activated when the CECC issues an order according to the virus characteristics, the requirement and feasibility of response. The local governments, medical facilities, and community organizations may study implementation procedures in advance and flexibly adjust operations to suit circumstances.

### 4.2.1 Strategy 4: Regional Quarantine

When massive presence of the virus is probable in a particular location (such as schools, workplace, homes, medical facilities, etc.) and it could be definitely determined a particular cluster with the same exposure history, quarantine may be implemented in the region where the particular cluster of individuals are exposed to the virus.

### 4.2.2 Strategy 5: Intensification of Infection Control in Public Gatherings

When occasions of large public gatherings such as school opening or graduation ceremonies, religious activities, sports competitions, weddings, funerals, festivities, or political gatherings fall on a pandemic period, event organizers shall implement the infection control



measures; for instance, advise individuals manifesting influenza symptoms or high-risk groups to avoid attending such occasions in advance, install the hand-washing facilities in public places, preparation of adequate supplies of masks for users, and enhanced information dissemination of epidemic control measures, etc.

#### 4.2.3 Strategy 6: Intensification of Infection Control on Mass Transportation Systems

Mass transportation systems are regular public transportation means and are often closed places. Hence, when the pandemic influenza virus is prevalent in the community, necessary response actions should be instituted. Transportation system operators should not only maintain constant cleaning and sterilization procedures, but also intensify infection control actions; such as, installation of disposable gloves, surgical masks, or disinfectants, sterilization of objects and surfaces with which the public is in regular contact, assignment of isolated sections in long-distance transportation vehicles for passengers manifesting symptoms.



#### 4.2.4 Strategy 7: Cancellation of Public Gatherings or Activities

When influenza virus becomes more virulent and may be rather hazard to the public health, it would be difficult to maintain adequate social distancing during public gatherings and thus causing the spread of the virus. CECC shall make the assessment of hold the public gathering as scheduled or not., pursuant to the epidemic control requirements. Cancellation is the major principle with tie in the scale reduction or postponement for exception.

#### 4.2.5 Strategy 8: Suspension of Classes or Closure of Schools

A “class suspension” is the suspension of classes for a number of days on a “class” basis; on the other hand, a “school closure” is the suspension of an entire school implemented to retard the spread of the virus and delay epidemic from reaching peak. These two strategies are applicable upon the outbreak of a community contagion and age groups of the infected population belong to the young. Type of strategy is determined through the severity of the virus contagion. Nevertheless, suspension of classes or closure of schools could not completely stop the transmission of the influenza virus in the community; hence, the public should be informed that it is inevitable that there might be cases in the schools.





In the period that classes are suspended or schools are closed, parents are responsible and obligated to protect the youth and children. They should not allow children to gather or have activities outside school activities to ensure that measure may effectively retard the spread of the epidemic. On the other hand, the educational authority should plan supportive measures for the class suspension measure to prevent an interruption of the academic progress of students.

#### **4.2.6 Strategy 9: Closure of Public Places**

A closure order may be issued to office buildings, transportation system stations, libraries, museums, public swimming pools and other public facilities, or even business establishments such as department stores, music halls, skating rinks, or theaters pursuant to Article 37 Paragraph 1 of the Communicable Disease Control Act in response to epidemic control requirements and determination of its necessity and feasibility.

#### **4.2.7 Strategy 10: Rapid Containment**

A rapid containment measure is executed on a community where a novel virus is discovered. Within the defined containment zone, residents, regardless whether they may or may not have any contact history, shall be given antiviral prophylaxis; moreover, measure shall be supplemented by public health intervention, such as expending social distance and enhancing surveillance. In principles, residents may not move out of the containment zone at will; however, departure shall be allowed under special

circumstances after resident has undergone screening tests and accepted intensified tracking measures and continues to take medication. The purpose of the strategy is to eradicate any virus that may possibly sprout from or be carried into the community. The strategy is applicable in the early stages of a novel subtype of influenza virus mutation become human-to-human, that is, before contagion has spread to a wider scope. Strategy is implemented upon determination of its necessity and feasibility.

#### 4.2.8 Strategy 11: Sheltering

Sheltering is a measure to restrict most people's social activity and is different from isolation and quarantine. It does not target for patience or close contacts. It targets the whole population in a community; and it is generally not forcible.

Similar to the 'snow day' in foreign countries or the typhoon in Taiwan, the government announces a "no work" or "no school" order. The public is asked to stay at home for their safety. Pursuant to the government order, the public would stay home and reduce outdoor activities or social engagements to reduce chances of mutual contact, thus preventing transmission of the epidemic. However, this measure should be carried out with caution to avoid affecting essential social functions.

When influenza virus is very contagious and is greatly pathogenic and the scale of community spread is too large to proceed with contacts investigation, all aggressive control measures, such as isolation, quarantine, and social distancing still cannot prevent virus from spreading, continuation of social activities would make it impossible to effectively reduce infection risks, institution of sheltering measures may be considered.



### 4.2.9 Strategy 12: Domestic Travel Restriction

Types of travel restriction may cover air, sea, and land transportation systems and degree of the restriction may range from light in the form of issuing travel warning to forcible execution in the form of canceling transportation means. Any decision involving forcible actions to be imposed on the public may have a broad range of influence, and thus the CECC shall make rigorous decisions upon determination of its necessity and severity of effects.

### 4.2.10 Strategy 13: Cordon Sanitaire

Cordon sanitaire refers to the forcible execution of a ban prohibiting people from entering or leaving a particular community. It is aimed to prevent the virus from spreading to other regions and implemented only on communities manifesting a serious epidemic. The period of its execution depends on the requirement of circumstances, and will be determined by the central and local command centers. The execution of this measure is extremely difficult; hence, on the basis of human right and ethical considerations, it is impossible to implement this measure unless it is direly essential. The cordon sanitaire is regarded as an ultimate attempt to control the spread of epidemic.



## Border Control

### 5.1 Health Information and Travel Alerts

#### 5.1.1 Strategy 1: Travel Health Information Dissemination

This strategy can be maintained at any pandemic phase. Regular dissemination of travel health information may effectively reinforce the public's knowledge, reduce chances of infection and generate more cost effective results. Accurate information provided to outgoing and incoming passengers may include characteristics of the disease, epidemic conditions, prevention measures, medical information, and border control policies. Information should be updated in multilingual text.



#### 5.1.2 Strategy 2: Announcement of International Travel Alerts

The CECC will update pandemic phase through the CDC, according to the international epidemic developments and WHO recommendations. Thereafter, the Bureau of Consular Affairs, pursuant to the provisions of the Guidelines for the Announcement of Overseas Travel alert Reference Information announced by Ministry of Foreign Affairs, and in consideration of the international pandemic phase and recommendations of the pertinent diplomatic office, shall announce an overseas travel alert to remind the public of making their travel plans with caution. Moreover, the CECC

shall also update the epidemic information of the epidemic countries or regions and monitor whether a travel alert against Taiwan is issued by another country or region. At the presence of the latter, the command center shall endeavor to understand underlying circumstances and initiate proper communication; related information shall be disseminated to the people.

At the same time, the “international pandemic phase” defined by the CDC aims to inform the public to know the risk of infection in their travel destinations; however, decisions regarding travel plan alterations shall be subject to the conditions of their respective travel agreements.

### 5.1.3 Strategy 3: Travel Restriction and Border Closing

The forcible travel restriction and border closing strategy is implemented through stringent decision-making standards. Pursuant to IHR 2005, this strategy should be based on scientific principles and imposed upon presence of scientific proof indicating hazards to human health and pursuant to WHO recommendations. Moreover, the government shall present the underlying reasons for such action to the WHO. This strategy is a time-limited intervention and subject to evaluation within three months of execution. At that time, the CECC shall assess feasibility and necessity of the strategy pursuant to the epidemic status, and thereafter issues an announcement. If necessary, local governments shall cooperate with the campaign and discuss matters with the travel business operators.

## 5.2 Arrival Screening

### 5.2.1 Strategy 4: Fever Screening

The fever screening of incoming passengers is a regular measure implemented in the airports and seaports of Taiwan. Implementation is maintained at any pandemic phase. Incoming passengers with high body temperatures shall subject to further reporting, diagnosis, treatment, or voluntary quarantine depending on circumstances.





## 5.2.2 Strategy 5: Symptoms Declaration

Incoming passengers from countries or regions which suffer from restricted, endemic, or pandemic outbreak may be requested to present a declaration of symptoms. Passengers having related symptoms should be assessed to see whether further diagnosis or follow-up is necessary.

The image shows a 'Communicable Disease Survey Form' from the Centers for Disease Control, Taiwan, ROC. The form is divided into several sections:
 

- Flight Details:** Includes fields for Flight Class, Flight Number, Departure Date, and Departure Time.
- Passenger Information:** Includes fields for Name, Sex, Age, and City of Origin in Taiwan.
- Health Status:** Includes a section for 'Please mark off if you have any of the following symptoms during the past 14 days' with checkboxes for Fever, Cough, Sore throat, Diarrhea, Vomiting, and Other.
- Health Notice:** A section with instructions in both Chinese and English, including 'If you have fever, coughing, diarrhea, skin rash, jaundice or other symptoms in the next 14 days, please seek medical advice and inform your doctor of your recent travel history.' It also provides the CDC Hotline (1922) and website (www.cdc.gov.tw).

The image shows a 'Medical Assistance Reminder for Incoming Passengers with Usual Health Condition' from the Centers for Disease Control, Taiwan, ROC. The form is divided into several sections:
 

- Header:** Includes the title and the name of the Quarantine Officer.
- Instructions:** A section with instructions in both Chinese and English, including 'As you disembark arrival health conditions when you arrived from a communicable disease affected area and in accordance with Article 36 of the Communicable Diseases Control Act, you are required to report to the doctor's office or a hospital in the next 24 hours, before ALPNA (02) 2505-5577 (2505-5577). Please inform the doctor of your travel and contact history in facilities diagnosis.'
- Passenger Information:** Includes fields for Name, Passport No., and the number of contact persons in Taiwan.
- Signature:** A line for the Quarantine Officer's signature.
- Footer:** Includes the Taiwan CDC Crisis Alert Ymail and website information.

## 5.2.3 Strategy 6: Case Reporting of in Flights or Voyages

International transportation carriers and travel business operators shall observe the Principles for Recommending Treatment of Incoming or Outgoing Flights Carrying Passengers or Crew Members Manifesting Symptoms of Infection complied by the CDC and duly comply with the suspected case reporting procedure. Prior to or upon the arrival of the flight, conditions of the disease occurrence shall be reported voluntarily to international port quarantine personnel. Infected passengers need to wear personal protective equipment (PPE) and receive appropriate treatment. Moreover, pursuant to the request of CECC, related information such as a list of the tour members or flight manifest shall be provided. If necessary, the local governments shall discuss with the respective international transportation carrier and travel business, and provide assistance.



## 5.2.4 Strategy 7: On-Board Quarantine

Incoming passengers from countries or regions which suffer from restricted, endemic, or pandemic outbreak may be requested for on-board quarantine. International port quarantine personnel may board an aircraft and conduct screening examinations on suspected infection cases and implement the proper



measures. The measures may be implemented on all flights of a particular travel route or on flights containing suspected cases. Where no clear information on the severity of the epidemic status in the other country or region is available or where the flight has reported detection of cases with related symptoms on board the aircraft, quarantine authorities may implement “anchorage quarantine” depending on space and manpower conditions. Docking and passenger entry may be arranged at a separate area to prevent consequential infection of contact with other incoming flight passengers.

## 5.3 Management of Incoming Cases

### 5.3.1 Strategy 8: Medical Examination and Laboratory Diagnosis

A suspected incoming passenger should undergo further diagnosis to determine whether the passenger is infected and the subsequent measures. Diagnosis may be conducted within an appropriate area in the airport or a designated hospital. Diagnostic tools can be quick diagnostic agents or test methods with higher sensitivity or specificity or a combination of both.

### 5.3.2 Strategy 9: Medical Facilities Quarantine

Subsequent medical treatment under isolation shall be given to any passenger diagnosed to be a suspected, possible or confirmed case. If control operations are required and medical resources are adequate, passenger shall be transferred to a designated isolation medical facility for proper treatment until passenger are no longer contagious.

### 5.3.3 Strategy 10: Home Self-care

If passengers are diagnosed to be suspected, possible or confirmed cases, and current medical system is no longer capable to treat, those who has mild conditions and do not require hospitalization may be requested to home self-care.

## 5.4 Management of Contacts with Incoming Cases

### 5.4.1 Strategy 11: Voluntary Quarantine

Incoming passengers who contact with incoming cases from countries or regions which suffer from restricted, endemic, or pandemic outbreak may be requested for voluntary quarantine. These possible contacts may include passengers onboard the same flight as or seated next to a confirmed case. Management procedure employed may be in the form of voluntary quarantine, and passengers should seek medical treatment when manifesting related symptoms. The international transportation carrier may be requested to provide the passenger information, and the National Immigration Agency and the Department of Household Registration of the Ministry of the Interior may provide the passenger's contact information to tract the contacts. The local governments shall implement following-up, specimen sampling, assessment of the necessity for antivirals prophylaxis and health monitoring. As for the crew members of flights carrying suspected cases, the workplace quarantine should be instituted by transportation carrier.

### 5.4.2 Strategy 12: Facility Quarantine

Where an incoming passengers is unable to return home practicing voluntary quarantine, quarantine within a border facility may be considered. For details of the strategy, please refer to paragraph 4.1.3.2 of this plan, Facility Quarantine.

However, activation of a border quarantine facility shall consider the manpower resources, material resources, hardware and software resources of the county or city where the airport or seaport locates before planning.



## 5.5 Departure Control

### 5.5.1 Strategy 13: Travel Restriction for Patients and Individuals Having Contact with an Infected Case

If necessary, confirmed cases and individuals having contact with an infected case may be subject to an overseas travel restriction pursuant to the provisions of Article 36 of the Communicable Disease Control Act. However, this strategy shall be made with caution, and safeguard the core values of basic human rights.

### 5.5.2 Strategy 14: Fever Screening and Symptom Declaration

In principle, screening inspection of outgoing passengers shall be conducted according to the WHO recommended procedures. Pursuant to the WHO Pandemic Influenza Preparedness and Response in 2009, during the initial periods of phase 4 and phase 5-6, it is recommended that screening of outgoing passengers in the affected countries or regions shall be implemented. If Taiwan meets the WHO-defined situation, an infrared fever screening and declaration of symptoms shall be required for all outgoing passengers. The passengers with fever ( $\geq 38^{\circ}\text{C}$ ) or influenza-like illness (ILI) symptoms will not be allowed to leave the country unless they present a medical certificate ensuring that they are not infected with pandemic influenza.





## VI

# Manpower Mobilization

## 6.1 Medical Manpower Mobilization

### 6.1.1 Strategy 1: Dispatching of Backup Medical Manpower

In the event that hospital would suffer manpower shortage during the implementation of isolation, inter-hospital assistance may be considered based on the geographical proximity and human resource availability. Human resource from the medical centers or regional hospitals shall be the first consideration, or backup manpower may be dispatched from the backup manpower roster of local governments. Otherwise, the DOH medical affairs management system shall be employed to understand manpower availability. Other options include work adjustment, utilization of retired personnel, activation of volunteers of civic organizations or professional groups, etc. Moreover, when an isolation facility is opened, local governments may consider the appropriation of human resources from the local primary health care settings or outside traditional health care system.

## 6.2 Mobilization of Community Volunteers

### 6.2.1 Strategy 2: Dissemination of Epidemic Control Know-how

Implementation of this strategy should be maintained at any pandemic phase. Community volunteers may employ their available communication channels to provide community residents with instantaneous and clear information updates, teach epidemic control skills, and clarify rumors or false information being circulated.

### 6.2.2 Strategy 3: Collection of Community Information

Implementation of this strategy should be maintained at any pandemic phase. Community volunteers may assist in the collection of public opinions and feedback public demands to authorities. They may actively pay attention to the health conditions of community residents and act as the communication bridge between the community and the government.

### 6.2.3 Strategy 4: Management and Distribution of Necessities to the Community

Where assistances are required during the pandemic period, community volunteers may aid in distributing PPE from government stockpile or necessities from private sector donations, thereby facilitating the implementation of epidemic control measures in the community and at the same time sustaining the daily living needs of the community.



#### **6.2.4 Strategy 5: Maintenance of the Daily Lives of Residents**

This strategy is applicable when transmission interruption is imposed on individuals or communities. Community volunteers may assist community residents undergoing isolation or quarantine by providing them their daily living requirements; for instance, they may help them procure home consumption items, process or attend to important matters, dispose of garbage, take care of family members, and provide tutoring to students under class or school suspension.

#### **6.2.5 Strategy 6: Home Care Services**

This strategy is applicable when there are a large number of infection cases in a community. Community volunteers may help provide home care to patients in the community; such as teaching them proper infection control in the homes, understanding changes in the patients' conditions, or arrangement of patient hospitalization when necessary.

#### **6.2.6 Strategy 7: Moral Support**

When patients and contacts are under the condition of isolation or quarantine in community, volunteers may provide visit and moral support to them. This strategy may enable community residents to undergo isolation or quarantine willingly. Moreover, upon the pandemic-related death of a patient living in a community, volunteers may assist the families in their moment of grief.

### 6.2.7 Strategy 8: Promotion of Epidemic Prevention Activities

Community volunteers may assist in the promotion of epidemic prevention at any pandemic phase; such as, assisting individual having close contact with infected cases to undergo voluntary quarantine, urging and aiding the public to receive influenza vaccination, organizing information dissemination activities in the community, or assisting in the public place or public gatherings control, etc.

### 6.2.8 Strategy 9: Maintenance of Community Order

This strategy is applicable when a cordon sanitaire or rapid containment measure is implemented in a community. Community volunteers may assist in guiding moving lines under perimeter controls, pacifying resident panic, and maintaining the order and the safety of the community.







## VII

# Antivirals Strategies

## 7.1 Influenza Antivirals Stockpile

### 7.1.1 Strategy 1: Assessment and Maintenance of Stockpile

Pursuant to the Preparedness Plan Phase II, the government shall procure and maintain an adequate stockpile of influenza antivirals.

The government shall continue to gather information on new pharmaceutical research and development and plan in advance the procedure through which new medicine importation and customs clearance may be expedited.

### 7.1.2 Strategy 2: Maintaining a Multiplex Stockpile of Influenza Antivirals

At present, Taiwan is maintaining a multiplex stockpile of influenza antivirals, selecting a variety of neuraminidase inhibitors, such as, Tamiflu<sup>®</sup>, Relenza<sup>™</sup>, and Rapiacta<sup>®</sup>. The diversified pharmaceutical stock makes it possible to cope with the drug resistance and to attend to the needs of patients with special indications.

### 7.1.3 Strategy 3: Management of Expired Antivirals

It is necessary to establish proper management for pharmaceuticals upon their expiration, and implement constant stability monitoring. Determine whether expiration may be extended or whether the expired pharmaceuticals may be used as substitutes in case of a stockpile shortage during an influenza pandemic, or should be immediately destroyed pursuant to their drug stability test results and the governing pharmaceutical administration regulations. Another option is to release antivirals nearing their expiration dates to hospitals to enhance the utilization efficiency.



## 7.2 Allocation and Provision of Influenza Antivirals

### 7.2.1 Strategy 4: Allocation and Provision

This strategy should be employed in the preparedness stage. To enable the timely and proper administration of treatments to patient and retardation of a pandemic, allocation of certain quantity of antivirals are distributed to hospitals and local health authorities in advance, thereby allowing the immediate administration of government-subsidized antivirals to patients.

### 7.2.2 Strategy 5: Enhancing Accessibility

During a pandemic period, in order to enhance accessibility of antivirals, the national health insurance system is employed to distribute medicine. Hospitals acquire their supplies primarily from manufacturers. Upon the shortage of supplies, government subsidized antivirals is released to increase supply availability.

### **7.2.3 Strategy 6: Allocation of Tamiflu® API**

The pharmaceutical dispensing site handles the dispensing and repackaging of Tamiflu® active pharmaceutical ingredient (API) into bottled liquid; thereafter, the local health authorities speedily distribute the antivirals to the required destinations. The local health authorities may plan the delivery and distribution of the Tamiflu® API during the inter-pandemic period, thus enhancing delivery efficiency of the medicine during a pandemic.

## **7.3 Administration of Influenza Antivirals**

### **7.3.1 Strategy 7: Administration as Treatment**

This strategy is applicable upon the emergence of a domestic infection case. Treatment is provided to an infected case as soon as possible.

### **7.3.2 Strategy 8: Administration as Prophylaxis**

This strategy is applicable upon the emergence of a domestic infection case. Antivirals is administered to individuals having close contacts with patients or high-risk groups for prophylaxis.

### **7.3.3 Strategy 9: Employment of the Rapid Containment Strategy**

This strategy is applicable upon the emergence of cluster. “containment zones” and “buffer zones” are designated within the epidemic area. Treatment is provided to infected cases and prophylaxis to the rest of the individuals in the containment zone.

### 7.3.4 Strategy 10: Administration of the Tamiflu® API

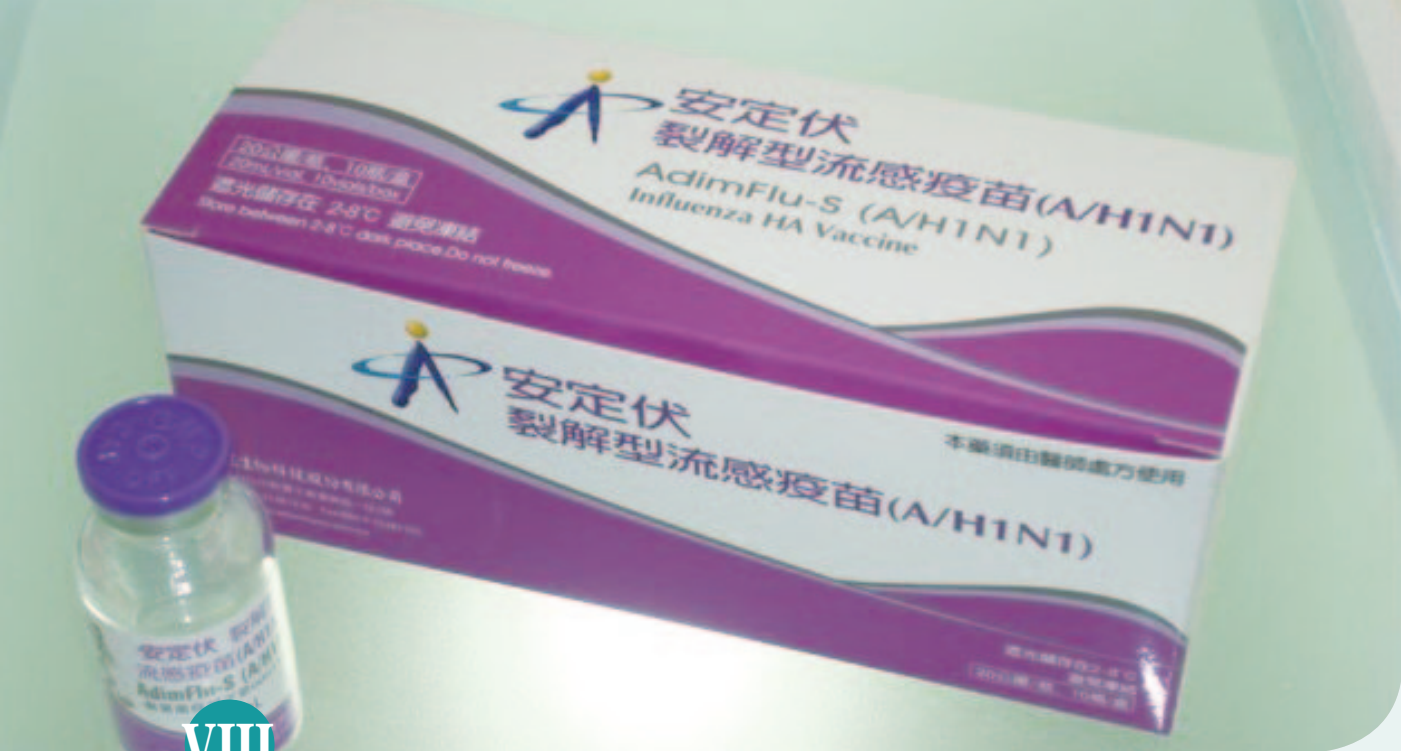
Pursuant to the directive of the CECC, Tamiflu® API shall be dispensed and repacked into liquid solutions for the large-scale prophylaxis program during the rapid containment (Strategy 9). Solutions may also be exclusively used in the treatments administered to infected cases to prevent the development of serious symptoms and reduction of fatality.

## 7.4 Management of Pharmaceuticals

### 7.4.1 Strategy 11: Computerized Information Management

Influenza antivirals should be included in the Management Information System (MIS) and managed under the influenza antivirals subsystem. Matters for management include pharmaceutical delivery and distribution, pharmaceutical return procedure, dosages, safety stockpile control, dispatching and dispensing of pharmaceuticals.





## VIII

# Vaccine Strategies

## 8.1 Promotion of Seasonal Influenza Vaccination

### 8.1.1 Strategy 1: Implementation of the Annual Influenza Vaccination Program

This strategy should be maintained at any pandemic phase. This strategy is to build up correct concept of vaccination of the general public, and strength the infrastructure of vaccine campaign by way of conducting exercises of related health-care workers and public health officials.

### 8.1.2 Strategy 2: Enhancement of the Influenza and Vaccine Knowledge of Health-Care and Epidemic Prevention Workers

This strategy should be maintained at any pandemic phase. Although health-care workers implementing the seasonal influenza vaccinations are mainly pediatricians, internal medicine doctors, or family doctors, a larger health-care manpower is required to carry out the vaccination campaign in pandemic. Hence, it is critical to communicate adequate and accurate information regarding the influenza and vaccination with every health-care and epidemic prevention workers.





## 8.2 Stockpile of Pandemic and Pre-pandemic Vaccine

### 8.2.1 Strategy 3: Urgent Procurement of Pandemic Vaccine

This strategy is implemented during a pandemic period. It is necessary to procure pandemic vaccine urgently in pandemic when the the pandemic virus mismatched from the stockpiled prepandemic virus strain , or the hat shortage of pandemic vaccine supplies from APA. Procurement operations shall be conducted according to the Government Procurement Act provisions. If necessary , the Food and Drug Administration (FDA) should assist in special importation or fast authorization for the vaccine.



### 8.2.2 Strategy 4: Stockpile the Pre-pandemic Vaccine

This strategy is implemented during inter-pandemic periods. Stockpile the pre-pandemic vaccine to vaccinate priorities as in need.

### 8.2.3 Strategy 5: Stockpile the Pre-pandemic Vaccine Bulk

This strategy is implemented during inter-pandemic periods. Procurement of vaccine bulk is for cost and space saving. However, it would be necessary to prepare and repack them and to inspect them before using. Hence, proper pre-planning shall be required.

### 8.2.4 Strategy 6: Storage of Adjuvants and Antigens

This strategy may be implemented at any pandemic phase. Antigen sparing adjuvant strategy might increase pandemic vaccine doses. Besides, adjuvant have a longer shelf-life than antigens. Hence, stockpiling adjuvants and antigen separately could save total budget. However, it should be considered that antigens and adjuvants produced by different manufacturers may not be compatible for mixing. And, advanced planning for proper examination and inspection of the repacked vaccine is necessary.

### **8.2.5 Strategy 7: Advance Purchase Agreements (APA) of Pandemic Vaccines**

This strategy is carried out during inter-pandemic periods. Negotiations with vaccine manufacturers are made in advance to ensure the supply of enough vaccine when pandemic occurs in the future. The advantages of APA include decreasing the quantity of stockpiled prepandemic vaccine in inter-pandemic period, get enough vaccine soon after the pandemic outbreak, and avoid the problem of seller's market at pandemic. However, the heterogeneity of APA contents of manufacturers, and it is imperative to evaluate whether such procurement should be subject to the provisions of the Government Procurement Act.

## **8.3 Preparedness for Pandemic Vaccination**

### **8.3.1 Strategy 8: Fast track of Pandemic Vaccines**

Implementation of this strategy should be maintained at any pandemic phase. A fast track for vaccine approval should be developed in order to ensure that new vaccines launched into the market are safe.

### **8.3.2 Strategy 9: Priming of Priorities**

This strategy is carried out before the onset of a pandemic period. The first dose is for priming of a particular group before pandemic. Boost a second dose of vaccine to induce immunity quickly as the pandemic occurs.

### **8.3.3 Strategy 10: Full immunization of Specified Subjects**

This strategy is carried out before the onset of a pandemic period. Vaccinate a complete course (including 2 doses) to a particular group to protect them against pandemic.

### **8.3.4 Strategy 11: Establishment of the Vaccination Priority**

The vaccination priority of pre-pandemic and pandemic vaccine is as shown in Table 1. Moreover, the priority of vaccination should be modified according to epidemiological information, vaccine availability and disease burden in pandemic.

### 8.3.5 Strategy 12: Coordination of Containment Strategies

The containment strategies implemented in the early stages of the pandemic (please refer to Part 4 paragraph 4.2.7), include intensified surveillance, antivirals usage, isolation/quarantine, and social distance preventive measures, and the pre-pandemic vaccination measures. Vaccination may be implemented in the surrounding areas of the outbreak zone to block the virus spread.

**Table 1 Priority of the Influenza Pandemic Vaccine Inoculations**

Individuals at risk of infection under different epidemic levels of a pandemic period are presented as below.

Epidemic Conditions	High risk groups
No human case (but may have animal epidemic)	Animal disease surveillance workers
	Workers implementing animal culling operations
	Workers engaged in inspection of bird and fowl smuggling
	Poultry and livestock related workers
Possible human-to human transmission abroad	First-line workers in international ports and harbors
	Public health workers of the CDC branches and local governments
	Workers of CDC influenza virus lab and contracted virology lab
Human to human transmission is ongoing abroad	Medical staff and support manpower of the communicable disease control medical network
	Workers of quarantine facilities.
Report of sporadic case in Taiwan	CDC and local governments personnel
	Backup manpower of outbreak investigation
	Vaccine R&D workers
Human to human transmission in Taiwan	Officers of central/local epidemic command centers
	Community volunteer assisting in epidemic control work
	Backup manpower for virus examination
	All health-care workers
Community wide epidemic in Taiwan	Workers of isolation facilities and ambulance drivers
	Individuals maintaining essential social functions
	Military personnel providing epidemic control support

Note: The DOH "Advisory Committee on Infection Prevention and Control - Influenza Prevention and Control Subcommittee" meeting has deliberated and passed a resolution in agreement of this table. Moreover, the table was presented to 22<sup>nd</sup> Avian Influenza Coordination Meeting, and a resolution had been passed to its effect.





## IX

# Personal Protective Equipment (PPE) Preparedness

## 9.1 PPE Stockpile

### 9.1.1 Strategy 1: Three-Tiered Hierarchy of PPE Stockpiles

The central health authorities, local health authorities, and medical facilities shall determine a safety stock of PPE according to the actual usage and the safety needs and timely adjust the stockpile quantity, so as to fulfill their stockpile duties. The stockpile built up by the central competent authority is for nationwide epidemic control and emergency dispatch. The local authorities shall set their respective stockpiles to cater to the local epidemic control needs. To ensure protection for the first-line HCWs and continuity of facility operations, every medical facility shall regularly keep a stockpile for single month requirement, and replenish the stockpile pursuant to the epidemic development conditions, whenever required.

The Management Information System (MIS) of Materials for Communicable Disease Control enables the respective stockpile control agency to monitor the procurement, supply delivery, storage, material release, and stock replenishing matters of the PPE, thus facilitating the acquisition of real-time and accurate material supply information and enhancing their respective emergency response capability.

### 9.1.2 Strategy 2: Replacement of Expired Inventory

To ensure the effectiveness of all PPE in the inventory, in addition to the regular maintenance inspection and procurement of new products in replacement of the expired ones, the central government also developed a nationwide approach of unified purchasing and product replacement system provision in the procurement contract. Moreover, the first-in, first-out rule shall be observed to ensure the maintenance of optimum efficiency of products in inventory.

### 9.1.3 Strategy 3: Family Stockpile

The family is the basic unit of the community and the core of the pandemic preparedness program. Under ordinary times, face masks enough to meet requirements of family members should be stored at home, thus, during a pandemic, families would not have to worry about mask shortage, so that a massive wave of panic buying could be prevented as a result of shortage.



## 9.2 PPE Dispatching

### 9.2.1 Strategy 4: Strategic Allocation

In provision of the essential backup of the nationwide epidemic control system, epidemic control implementing organizations (institutions) may requisition the needed PPE supplies with the central competent authority. During the pandemic period, the CECC may monitor epidemic developments and release the related supplies in advance to prevent outbreak or through active allocation or a response to supply requisition, help provide the essential supplies to the related authorities (institutions) in demand.

## **9.2.2 Strategy 5: Emergency Supplement**

The central and local governments may, depending on their respective inventory level of PPE, accept urgent supply requisitions of related schools and institutions. In case of PPE shortage in the market, the governments may also supply to the civic organizations and enterprises that are in urgent need, and these institutions, organizations and enterprises shall replace the “borrowed” PPE to the government when supply conditions of the items have stabilized.

## **9.3 Sufficient Supply of PPE**

### **9.3.1 Strategy 6: Expansion of the Supply Quantity and Capacity**

Upon a serious supply shortage of PPE, production capacity expansion and other measures to broaden the sources may be activated to balance supply and demand of PPE in the market. For instance, the Ministry of Economic Affairs shall negotiate with domestic manufacturers for increasing the production capacity; the Ministry of Foreign Affairs shall assist in obtaining foreign supply sources; the Ministry of Finance shall expedite the customs clearance and reduce the import tariff rate temporarily; the Ministry of National Defense shall instruct the plants of Combined Service Force to assist in the production of needed products.

### **9.3.2 Strategy 7: Investigation of Hoarding and Price-gouging Practices**

To deter certain minority manufacturers from hoarding PPE to force up market prices during the epidemic period, the respective government authorities shall intensify investigation and enforce the provisions of the Communicable Disease Control Act for legal actions against serious offenders.

### 9.3.3 Strategy 8: Release of Home Use Face Masks

The Ministry of Economic Affairs shall assess the supply conditions of face masks for home use in the domestic market and issue a recommendation to the commander officer of the CECC regarding the distribution channels and quantities for masks to be released to the public. Thereafter, the Department of Health, on the authority granted by the directive, shall release face mask supplies to these pre-established channels from the national stockpile, thereby stabilize the market prices and alleviating the rise of panic buying among the public.

### 9.3.4 Strategy 9: Export Prohibition and Product Expropriation

If PPE supply remains inadequate or veers towards potential shortage after the implementation of the foregoing strategies, forcible measures shall be applied through government intervention to ensure the availability of adequate stocks of PPE for the priority epidemic control requirements. These forcible measures may include an exportation ban for the related products from the Ministry of Economic Affairs, or the expropriation of PPE under Article 54 of the Communicable Disease Control Act.





## X

# Health Care Preparedness

## 10.1 Patient Isolation

### 10.1.1 Strategy 1: Hospital Isolation

This strategy is employed upon the emergence of suspected or confirmed cases of a novel influenza infection, and contamination risks involved are lower. Patient is diagnosed and treated through regular procedures and is confined in a negative pressure isolation ward.

### 10.1.2 Strategy 2: Response Hospitals Isolation

This strategy is employed upon the emergence of suspected or confirmed cases of a novel influenza infection, but contamination risks are higher and may cause massive infection. To prevent epidemic from crippling medical care system operations, response hospitals shall immediately prepare negative pressure isolation wards and accept patients for isolation pursuant to the directives of the commander of the CECC. Where circumstances require, supportive cooperation procedures shall be implemented and the cooperating hospitals will assist in the patient treatment.

### 10.1.3 Strategy 3: Vacation of Response Hospitals

This strategy is employed upon the appearance of multiple suspected or confirmed cases of a novel influenza infection within a particular locality. Under circumstances where negative pressure isolation ward of response

hospitals are not enough to accommodate all patients, the response hospitals shall evacuate certain sections or floors or even the entire hospital building, that is depending on the growth rate of cases, to enable the accommodation of patients, or else, the hospital may implement infection control measures for the cohorting of patients suffering similar symptoms or diseases within the same area or ward.

#### **10.1.4 Strategy 4: Expropriation of Hospitals for Isolation**

This strategy is employed upon the emergence of a large number of suspected or confirmed cases of a novel influenza infection. Under the provisions of the Regulations Governing the Operational Procedures and Compensation for Designation and Expropriation for the Establishment of Quarantine and Isolation Site and Requisition of Related Personnel, local governments may expropriate other hospitals (including isolation quarantine hospitals) and, pursuant to the Communicable Disease Control Medical Network Response Hospitals-the Emergency Response Plan Checklist, prepare hospital facilities in readiness for response actions and the accommodation of patients suffering from the novel influenza.

#### **10.1.5 Strategy 5: Establishment of Isolation Sites**

This strategy is employed upon the emergence of a large number of influenza cases. Under the Regulations Governing the Operational Procedures and Compensation for Designation and Expropriation for the Establishment of Quarantine and Isolation Site and Requisition of Related Personnel, the local governments may expropriate other public facilities for the establishment of quarantine and isolation sites according to the Communicable Disease Control Medical Network-Checklist for the Planning and Establishment of Novel Influenza Isolation Sites and designate an agency and respective personnel responsible for the endeavor. Local government shall also inspect and plan the human resources, material and implements, and site interior layout according to infection control principles. Diagnostic and treatment sections of the sites may be located separately depending on the conditions of patients; moreover, the hospital which

accept the severe case from the isolation site should be designated in advance.

### 10.1.6 Strategy 6: Home Self-care

This strategy is employed upon the emergence of a large number of influenza cases. For patients manifesting mild symptoms and thus no hospitalization is required may return home for self-care treatment. The local health authorities shall schedule home checkups and medicine provisions, and if patient conditions were found to have deteriorated, arrange the patient for hospital treatment.

### 10.1.7 Strategy 7: Isolation of Center of Infectious Diseases Prevention

This strategy is employed upon the emergence of a serious and rare communicable disease. Under the direction of the competent central authority or the commander of the CECC, the Center of Infectious Diseases Prevention shall commence admitting Category I and Category V notifiable disease cases. The southern region communicable disease control medical network and the local governments shall attend to the dispatching of the required logistics personnel, medical equipment, materials and implements of the center.



## 10.2 Triage and Placement of Patients

### 10.2.1 Strategy 8: In-house Infection Control and Patient Triage

This strategy is employed upon the emergence of a large number of novel influenza/ILI cases. In coping with the massive increase in outpatient department and emergency room admissions, medical facilities should establish a patient triage system, designate specific diagnostic and medical sections, and define separate moving lines for infectious disease and non-infectious disease patients.

### 10.2.2 Strategy 9: Triage of Patients with Mild Symptoms

This strategy is employed upon the emergence of a large number of novel influenza/ILI cases. Local governments shall expand influenza diagnosis and treatment operations within their jurisdictional territories and designate clinics and public health centers to act as influenza diagnostic clinics. Local governments shall coordinate the establishment of special influenza-like clinics in hospitals for the diagnostic and treatment of patients with mild symptoms, thereby alleviating congestion in hospital emergency rooms.

### 10.2.3 Strategy 10: Treatment of Patients with Acute and Severe Conditions

This strategy is employed when conditions of patients under hospital treatment aggravate and hospital resources or professional capacity is limited, and thus the hospital needs to transfer patients for continued medical treatment. To provide effective hospital transfer and medical care to patients with serious conditions at the first instance, it is imperative to consolidate the emergency rescue and treatment capacities of the emergency medical network for an





efficient grasp of ICU bed distribution and availability information, thus making it possible to arrange the most suitable treatment for patients. Where circumstances require, the aeromedical transportation service shall be provided.

### **10.3 Treatments for Off-shore and Remote Localities**

#### **10.3.1 Strategy 11: Availability of Treatment in Localities of Patients**

This strategy is employed upon the emergence of novel influenza cases in off-shore islands/remote localities. Under the direction of the competent central authority or the commander of the CECC commander, the local government shall arrange for the admission and isolation of patients in local medical facilities and assist hospitals in planning and implementing the proper triage of patients and infection control moving lines.

#### **10.3.2 Strategy 12: Transfer of Resources for Treatment**

This strategy is employed upon the emergence of influenza cases in off-shore islands/remote localities. In view of the shortage of medical human resources and equipment in off-shore islands/remote localities or in provision of the medical diagnostic and treatment requirements of serious cases, the coordinators of the Communicable Disease Control Medical Network shall assist the respective Centers for Disease Control branch offices in dispatching the medical workers and equipment from the main island to provide assistance.



### 10.3.3 Strategy 13: Transfer of Patient for Treatment

This strategy is employed upon the emergence of influenza cases in off-shore islands/remote localities. The patient's condition should be assessed, pursuant to the current epidemic conditions, hospital capacity, transfer risks, and administration related factors, if it is determined that patient transfer for hospital treatment shall be necessary, case shall be processed according to the regulations governing the hospitalization procedure for infectious disease patients in off-shore islands/remote localities.





## XI

# Risk Communication

## 11.1 Communicating with the General Public

### 11.1.1 Strategy 1: Systematic Health Education

This strategy should be employed in each pandemic phase. Multimedia materials, posters, informational flyers should be systematically developed for different groups, such as general public, students, health-care workers, institutions, and distributed through proper channels.

### 11.1.2 Strategy 2: Press Conferences

This strategy is applicable upon the requirement of a public announcement of related information. Press conferences shall be organized depending on the issues. During a pandemic, routine press conferences may be held daily. In addition to the statements of spokespersons, related experts and stockholders may be invited to provide further information or present questions. Cue cards or multimedia tools may be useful to communicate with the general public clearly.

### 11.1.3 Strategy 3: Public Opinion Feedbacks

This strategy is applicable under any epidemic status. Public opinion feedbacks obtained through counseling service hotlines, letters, media disclosures. Moreover, professional training and phone etiquette education shall be regularly provided to the personnel, and a system shall be established for verifying service quality. During





a pandemic, public opinions generally increase drastically, hence, an increment in resources and manpower shall be necessary.

#### **11.1.4 Strategy 4: Information Dissemination through the Neighborhood Governance System**

This strategy is applicable when widespread dissemination of specific information is required. Through the well-established neighborhood governance system, informational materials or knowledge may be extensively and verbally disseminated to the general public to enhance their willingness of complying with the epidemic control measures.

#### **11.1.5 Strategy 5: Expropriation of TV Channels**

This strategy is applicable upon a pandemic or special epidemic status. Pursuant to Article 52 of the Communicable Disease Control Act and provisions of the Enforcement Guidelines for the Expropriation of Broadcasting Media Channels and Periods for the Announcement of Natural Disaster and Emergency Situations, TV channels can be expropriated for periodic broadcasting of epidemic control news, video footages, or the flashing of running subtitles.

#### **11.1.6 Strategy 6: News Announcements on the Internet**

This strategy involves the regular establishment of dedicated influenza websites and blogs on the Internet during ordinary times for the announcement of epidemic information, news releases, promotional materials, plans, and guidelines. Regular updates of the information shall be implemented. Moreover, social networks or Internet marketing activities may be utilized to encourage public participation and to enhance news broadcasting.

#### **11.1.7 Strategy 7: Text Messaging Sending**

This strategy is highly proactive. It is implemented when dissemination of instant information to the general public is required during an epidemic period. It is especially suitable for local governments conducting a localized distribution of specific information. The central or local governments may work with cellular phone service providers to send out text messages to subscribers or specific groups within the allowances of the information privacy protection laws and regulations.

### **11.1.8 Strategy 8: Opinion Polls**

This strategy is implemented occasionally depending on circumstances. Opinion polls on specific issues should be conducted to understand public opinion feedbacks on particular policies and the gaps between knowledge, attitude and practice. Feedbacks gathered may be use as reference for procedure amendments or an overall policy assessment.

### **11.1.9 Strategy 9: Information Dissemination to Work Places**

This strategy is employed during ordinary times for the announcement of information to business enterprises and corporations, thereby ensuring the continuity of core operations in work places and restoring equipment and assets when a disaster occurs. The point is that businesses should certainly understand and analyze the risk of pandemic, quickly establish plans for maintaining business operation and thereafter conduct verification and amendment through exercises.

## **11.2. Communicating with Media**

### **11.2.1 Strategy 10: Establishment of a Communication Platform with Media Executives**

This strategy is applicable prior to a serious epidemic outbreak. The DOH in-charge officers shall implement a regular two-way communication with the senior executives of TV stations and newspapers publishing companies to establish the foundation of mutual trust; thus, upon the outbreak of an epidemic, proper and accurate news reporting enables an instantaneous establishment of a consensus in same direction, thereby reducing the misalignment between government policies and media reporting and eliminating the impact of politics or interest conflicts on the media reports.

### **11.2.2 Strategy 11: Provision of Easy-to-Understand Knowledge**

This strategy is applicable when communication is ineffective or difficult. Conduct related seminars with inviting the journalist actively. Press media should be provided with professional information which is translated into easy-to-understanding words so that information can be precisely broadcasted and reported. Moreover, the accurate concepts and knowledge can be conveyed to general public through television, radio broadcasts, newspapers, magazine, and Internet.



### 11.2.3 Strategy 12: Clarification of Inaccurate Reports

In light of the general tension caused by the epidemic, uneven information, mass panic, or competition/cooperation between interest groups during a pandemic, there might be certain false reports which affect the implementation of prevention actions. Hence, it is imperative that the right information be disseminated through press releases, press conferences, responses on TV news or talk shows with op-ed page/call-in/interviews ways to prevent public misconception. Moreover, media may be the route to defend and elaborate on the policies.



## 11.3 Communicating with Professionals

### 11.3.1 Strategy 13: Communication with Associations/Societies

The epidemic updates, policies, treatment criteria or the matters needed assisting of health-care workers and public health professionals to promote to the public may convey to the members of association/society through their website posts, professional magazines, e-mails, or text messages.

### 11.3.2 Strategy 14: National Health Insurance System Assistance

The national health insurance system is linked to the majority of medical facilities. Hence, letters to the medical field may be sent through the national health insurance virtual private network (VPN) to keep them epidemic updates, response policies, treatment criteria or the matters needed assisting of health-care workers and public health professionals to promote to the public.

### 11.3.3 Strategy 15: Professional Reeducation

This strategy should be implemented during ordinary times. To improve health-care workers' knowledge, related professional teaching materials/courses and seminar shall be proactively established, to facilitate communication to the public, thereby alleviating their suspicions, or furthermore persuading them into accepting the vaccination and other strategies.

## Response and Actions

The nine general strategies classified in each part of this plan include: surveillance, transmission interruption, border control, manpower mobilization, antivirals strategies, vaccine strategies, personal protection equipment preparedness, health-care preparedness, and risk communication. In line with the WHO defined global pandemic phase as shown in Part 1, the primary concepts of WHO recommended actions are as stated on Table 2. These concepts shall serve as a reference for the decision-making.

**Table 2. Summary Table of Recommended Actions**

Preparedness Components	PHASES				
	1 – 3	4	5 – 6	Post-Peak	Post Pandemic
surveillance	Develop robust national surveillance systems	<ul style="list-style-type: none"> <li>• Increase surveillance</li> <li>• Share findings with WHO and the international community</li> </ul>	Implement epidemic investigation and obtain virus data if necessary	Continue surveillance to detect subsequent waves	Evaluate the pandemic characteristics and situation monitoring and assessment tools for the next pandemic
Transmission Interruption	Promote beneficial behaviours in individuals for self protection	Promote and communicate recommended interventions to prevent and reduce population and individual risk	Continue providing updates to general public and all stakeholders on the state of pandemic and measures to mitigate risk	Regularly update the public and other stakeholders on any changes to the status of the pandemic	Conduct a thorough evaluation of all interventions implemented
Border control	<ul style="list-style-type: none"> <li>• Routinely Establish travel health information and alert system</li> <li>• Implement incoming passengers screen</li> </ul>	Implement specific border control measures in line with international epidemic conditions	Understand of international border control actions and instantaneous report to the general public		
Manpower mobilization	Plan mobilization plans for medical and community volunteer workers	Mobilize manpower for disease prevention and containment operations	Mobilize manpower to supplement the needed work force to attend to massive cases or social disturbance	<ul style="list-style-type: none"> <li>• Mobilize manpower to assist in the restoration of societies and communities</li> <li>• Plan and coordinate the possible manpower requirement in the subsequent wave</li> </ul>	Process compensations, leaves, and labor appreciation matters
Vaccine Strategies		<ul style="list-style-type: none"> <li>• Inoculate the priority vaccine beneficiaries</li> <li>• Acquisition of adequate vaccine supplies</li> </ul>	<ul style="list-style-type: none"> <li>• Assess the proper timing for the gradual vaccination procedures</li> <li>• Promote vaccination</li> </ul>	Dispose vaccines adverse effect events	



Preparedness Components	PHASES				
	1 – 3	4	5 – 6	Post-Peak	Post Pandemic
Personal Protective Equipment (PPE) Preparedness	Maintain stockpile availability and effectiveness	Dispatch Stockpile	Assure supply adequacy	Reexamine and rebuild essential stockpile	
Health-care Preparedness	Maintain medical network operations and assess/hold exercise regularly	Provide suitable treatment sites for patients	<ul style="list-style-type: none"> <li>Deal with patient triage and infection control</li> <li>Enhance the medical accessibility</li> </ul>	Assess the medical care provided to other patients	
Antivirals Strategies	Plan for use of pharmaceuticals and vaccines	Apply for use of treatment and prophylaxis	<ul style="list-style-type: none"> <li>Reevaluate the utilization plan according to stockpile and epidemic conditions</li> <li>Enhance the accessibility of medications</li> </ul>	Survey the drug resistance	
Risk Communication	Complete communications planning and initiate communications activities to communicate real and potential risks	Regularly provide information for mass media through the diversified channels	Consider adopting the more intensified channels	Disseminate the information about the pandemic has slow down through the mass media and establishing a public consciousness to avoid panic but maintain vigilance	<ul style="list-style-type: none"> <li>Evaluate the response of the health system to the pandemic</li> <li>Share the lessons learned</li> </ul>





# Influenza Pandemic Strategic Plan

## - Third Edition -



Editor: Centers for Disease Control, Department of Health, R.O.C. (Taiwan)

Publisher: Centers for Disease Control, Department of Health, R.O.C. (Taiwan)

Address: No.6, Linshen S. Road, Taipei, Taiwan 100

Telephone No.: 886-2-2395-9825

Website: <http://www.cdc.gov.tw>

Printer: Growing Up Advertising & Design Co., Ltd.

Address: 3F.-3 No.285, Sec. 6, Roosevelt Rd., Wenshan Dist., Taipei City 11670, Taiwan, R.O.C.

Telephone No.: 886-2-2932-8300

Date of Publication: July 2012

Editon: 3rd Edition

Price: NT \$ 900

Available at the following bookstores:

1. Government Publish Store

Add.: 1F., No.209, Songjiang Rd., Zhongshan District, Taipei City 104, Taiwan (R.O.C.)

Tel: +886-2-2518-0207

Website: <http://www.govbooks.com.tw>

2. Wu Nan Bookstore

Add.: 6 Jhongshan Rd., Taichung City, Taiwan

Tel: +886-4-2226-0330

Website: <http://www.wunanbooks.com.tw/>

3. eslitebooks.com

Website: <http://www.eslitebooks.com/xinyi/>

4. Books.com Co.

Website: <http://www.books.com.tw/>

GPN: 1010101438

ISBN: 978-986-03-3135-6

Copyrighted by Centers for Disease Control, Department of Health, R.O.C. (Taiwan). No part of this publication may be reproduced, stored in any retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission from the copyright owner.

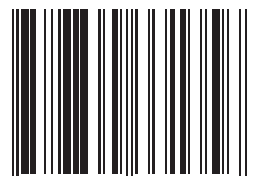


## Influenza Pandemic Strategic Plan - Third Edition -



Disease prevention should be regarded as a battle.  
Unity, professionalism and action are the keys to success.  
Website: <http://www.cdc.gov.tw>  
Health Consultation Hotline: 1922

ISBN 978-986033135-6



9 789860 331356

GPN : 1010101438  
Price : NT\$ 900