

# **NMCS D PANDEMIC INFLUENZA PLANNING GUIDE**

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- (11) NAVMEDCEN SDIEGOINST Infection Control Manual
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- (13) Pandemic Influenza: Clinical and Public Health Guidelines for the Military Health System May 2007
- (14) DoD Pandemic Influenza Watchboard ([www.dod.mil/pandemicflu](http://www.dod.mil/pandemicflu))
- (15) County of San Diego Strategic National Stockpile Military Distribution Plan January 2009

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## Introduction

1. Purpose. The goal of this Pandemic Influenza Planning Guide (PIPG) is to use it as a management tool to assist Naval Medical Center San Diego (NMCS D) in responding to a pandemic influenza outbreak, particularly an outbreak resulting from avian influenza. The PIPG addresses major contingency concerns and contains multiple references (a)-(o) from which additional information may be gathered. Because scientific knowledge, policies and guidance, institutional capacity, key personnel, and available resources are constantly changing, this PI Plan must be regularly reviewed and altered, when necessary, so that it remains relevant and effective.

a. It is imperative that each department develop standard operating procedures for the sections of this plan that pertain to their departments and responsibilities.

b. The main objectives of the NMCS D response to an influenza pandemic will be to:

- (1) Limit illness and death arising from infection;
- (2) Provide treatment and care for those who become ill;
- (3) Minimize disruption to health and other essential services;
- (4) Maintain business continuity, as far as possible;
- (5) Reduce, as far as possible, disruption to employees' lives; and
- (6) Recover to a pre-pandemic level of business as quickly as possible.

## 2. General Response.

a. NMCS D operational priorities in response to an influenza pandemic are to:

- (1) Ensure rapid and early detection of a novel virus;
- (2) Coordinate efforts to ship and process samples to confirm the identity or type a novel virus by laboratory identification; and
- (3) Identify the exposure source of the outbreak and the population(s) at risk.

b. This plan lists actions and recommendations that provide for three broad responses to an outbreak caused by pandemic influenza:

- (1) Medical Mobilization - dealing with the management and treatment of personnel infected with the virus;
- (2) Facilities Mobilization - dealing with the management of physical plant and utility systems for the hospital, clinical, and administrative areas including possible expansion; and

(3) Prevention and Containment Strategies - dealing with the management of public health prevention and containment for staff and the community.

(a) Establish the role of other governmental agencies (San Diego County, Naval Bases etc.) in enforcing community containment measures;

(b) Establish information hotlines and widespread community awareness and education before an outbreak of influenza;

(c) Identify resources required to implement and maintain quarantine (if determined to be necessary), to include shelter, food, and medical care for quarantined people, and deliver essential interventions and supplies to quarantined individuals/clusters;

(d) Conduct containment measure training for all medical staff;

(e) Targeted chemoprophylaxis of disease clusters;

(f) Determine the appropriate level of quarantine that will need to be applied;

(g) Identify and engage traditional partners (e.g., public health and healthcare workers) and non-traditional community partners (e.g., facilities management and housekeeping staffs) and invite them to participate in preparedness planning and in pandemic influenza containment exercises and drills. Identify potential isolation and quarantine facilities;

(h) Establish procedures for medical evaluation and isolation of quarantined persons who exhibit signs of influenza-Like Illness (ILI);

(i) Develop tools and mechanisms to prevent stigmatization and provide mental health services to persons in isolation or quarantine, as well as to family members of affected persons and other community members;

(j) Establish procedures for delivering medical care, food, and services to persons in isolation or quarantine. These efforts should take into account the special needs of children and persons with disabilities;

(k) Develop protocols for monitoring and enforcing quarantine measures;

(l) Ensure legal authorities and procedures exist for various levels of movement restrictions;

(m) Establish procedures with the Human Resources Office (civilian) for issues related to employment compensation and job security;

(n) Establish telephone hotline numbers (NMCSO Pan Flu Line) for information and guidance during the Pandemic;

(o) Identify sites, staff members, and volunteers for hotline operations. Develop protocols for hotline staff members that include training components and triage decision trees or algorithms;

(p) Establish communication systems with influenza clinics, if they are established, to:

1. Enhance disease surveillance and symptom monitoring;
2. Assist with rapid diagnosis and treatment for those who fall ill; and
3. Guide preventive interventions, including quarantine of individuals, vaccination and prophylactic treatment.

(q) Quarantined individuals will be sheltered, fed, and cared for under the supervision of trained healthcare professionals, refer to *Recommendation for Quarantine*. They will also be among the first to receive all available medical interventions to prevent and control disease, including:

1. Vaccination;
2. Antibiotics;
3. Early and rapid diagnostic testing and symptom Monitoring; and
4. Early treatment if symptoms appear.

(r) While the above responses are distinct, a coordinated response will be required for success.

3. Applicability. This guide applies to NMCS D and the area Branch Medical Clinics (BMCs). The Officers in Charge of the outlying BMCs shall develop a similar program applicable to their clinics and shall submit written plans to the NMCS D Emergency Management Program Manager (EMPM), along with after-action reports of drills and/or exercises performed.

4. Action. Upon receipt of this planning guide, all military and civilian personnel assigned to NMCS D and its BMCs will become familiar with its contents.

## Objectives of Pandemic Influenza Planning Guide

1. Background. Pandemics occur when an entirely new subtype of influenza A virus emerges through recombination of human and animal antigens. Not all antigenic shifts cause a pandemic, but if a novel subtype is virulent and easily transmitted person-to-person, a pandemic is probable.

a. Three pandemics have occurred in the last century: Spanish Flu in 1918, Asian Flu in 1957 and Hong Kong Flu in 1968. The virus responsible for the Spanish Flu originated from swine while the viruses in the other pandemics were closely related to avian viruses. The impact of the Spanish flu was unprecedented, with an estimated 500,000 deaths in the United States and 20-50 million deaths worldwide. While it is true that during a regular flu season 80 to 90 percent of all deaths occur in those 65 years of age and older, during the 1918 pandemic nearly half of those who died were young, healthy adults. Many people died within the first few days after infection and others died of complications soon after. The responsible strain type A (H1N1) circulated in the general population until the 1950's and can still be identified in pigs in some countries.

b. The Spanish flu pandemic was followed by a pandemic caused by the "Asian flu", which occurred in 1957-1958 and was due to a type A (H2N2) virus. The age-specific death rates were highest among the very young and the elderly. The overall impact however was only one tenth of that observed during the 1918 pandemic. The next influenza pandemic was caused by the Hong Kong flu (Type A, H3N2) which occurred in 1968. The mortality rate due to this strain was almost half that due to Asian flu. These two recent influenza pandemics caused far fewer deaths in the United States (104,000 total, 70,000 and 34,000 respectively) than the 1918 pandemic. This has been attributed to less virulent viruses, antibiotic treatment of secondary infections and improved supportive care.

2. Biology. Human influenza viruses refer to influenza subtypes that both cause disease and occur widely in humans. Human disease is caused by influenza types A, B, and C. There are only three known subtypes of type A human flu viruses (H1N1, H1N2, and H3N2), and it is likely that some genetic fragments of current human influenza A viruses originated from avian influenza viruses.

a. Avian influenza, commonly known as the bird flu, is an infection caused by viruses that occur naturally among birds. Only influenza A viruses infect birds of which there exist numerous subtypes. Wild birds are the natural hosts for all subtypes of influenza A virus, carry the viruses in their intestines, but usually do not get sick from them. Infected birds shed the flu virus in their saliva, nasal secretions, and feces. Avian influenza is very contagious among birds and can make some domesticated birds, including chickens, ducks, and turkeys, very sick resulting in death. Susceptible birds become infected when they have contact with contaminated excretions or surfaces that are contaminated with excretions.

b. The risk from avian influenza is generally low in most humans because the avian viruses do not readily infect humans. During an outbreak of avian influenza among poultry (domesticated chicken, ducks, turkeys), there is a possible risk to people who have contact with infected birds or surfaces that have been contaminated with feces or other secretions from infected birds. Most cases of avian influenza infection in humans are thought to have resulted from contact with infected poultry or contaminated surfaces.

c. The incubation period for influenza is 1-4 days, with an average of 2 days. Adults typically are infectious from the day before symptoms begin through approximately 5 days after illness onset. Children can be infectious for more than 10 days, and young children will usually shed the virus for less than 6 days before their illness onset. Severely immunocompromised persons can shed the virus for weeks or months.

d. Uncomplicated influenza illness is characterized by the abrupt onset of constitutional and respiratory signs and symptoms (e.g. fever, myalgia, headache, severe malaise, nonproductive cough, sore throat, and rhinitis). Among children, otitis media, nausea, and vomiting are also commonly reported with influenza illness. Respiratory illness caused by influenza is difficult to distinguish from illness caused by other respiratory pathogens on the basis of symptoms alone.

3. Pandemic Planning Assumptions. The following assumptions were made in pandemic response planning and data projections based on the use of the Flu Surge Software obtained from the CDC website:

a. Another influenza epidemic will occur and susceptibility will be universal;

b. The specific strain, timing, and character of the next influenza pandemic cannot be predicted. It may be human, avian, or another type of influenza virus;

c. Each affected region will experience waves of 6 to 10 week epidemics with the severest wave most likely occurring in the autumn or winter season. The population attack rate may reach 30 percent or more;

d. High risk groups will include healthy young and middle-aged adults, pregnant women, and school-aged children, in addition to elderly and chronically ill persons;

e. Unnecessary social and work interactions among non-immune individuals will accelerate the spread of disease;

f. Focal epidemics within the specialized workforces that operate critical infrastructures (power generation, freight transportation, communication, command and control leadership, etc.) can cause cascading disruptions in military, social, and economic systems;

g. Triage at medical facilities will be necessary and standards of care may need to be altered;

h. Shortages of food, power, medical supplies and health care personnel at our Medical Treatment Facilities (MTFs) may occur;

i. Non-pharmacologic interventions such as social distancing, protective sequestration, voluntary and mandatory isolation, quarantine, cough, sneeze and hand hygiene and personal protective equipment (mask and gloves) can prevent or reduce the transmission of the virus among individuals;

j. Military and civilian public health authorities may close schools, ban public gatherings, and enact other voluntary and mandatory measures;

k. Pharmaceutical and medical interventions can reduce morbidity and mortality. Specifically, antibiotics can reduce mortality from secondary bacterial complications;

l. The *oseltamivir* stockpile (or other antivirals) will be substantial but insufficient for all possible treatment and/or prophylaxis needs;

m. Oseltamivir is most effective in patients treated within 24 to 48 hours of developing symptoms. The degree of clinical efficacy cannot be predicted and will depend on the virulence of the virus strain and/or emergence of resistance. Oseltamivir or other antiviral prophylaxis is effective in preventing or reducing clinical illness but distribution may need to be prioritized for individuals whose skills are vital to maintain societal infrastructure;

n. It will most likely take several months after a novel influenza strain is identified before an effective vaccine is developed and manufactured in sufficient quantity for a mass immunization campaign. Individuals who have no immunity to the novel strain (such as H5N1) will require two doses separated by 21 to 28 days before they can mount an adequate immune response to the virus; and

o. MTF Commanding Officers and Regional Commanders may be tasked to conduct foreign and domestic civilian assistance missions.

4. Pandemic Phases. The World Health Organization (WHO) has defined phases for a global pandemic and the US federal government has defined pandemic response stages, as described in Table 1. The WHO has developed a pandemic alert system that has six phases, with Phase 1 having the lowest risk of human cases and Phase 6 posing the greatest risk of a pandemic. The federal government has developed a similar response system starting with Phase 0 and ending with Phase 7. The actions and recommendations outlined in this Pandemic Influenza (PI) Plan are related to the current pandemic alert system phase. The federal stages are provided for general information only.

a. Implementation. The pandemic plans prepared by NMCS D refer to the WHO pandemic phases and/or Federal Government Response phases. The NMCS D plan will be implemented in a phase-triggered approach in accordance with Table 1 and are based on the WHO and federal government response Pandemic Phases. As of February 2009, WHO announced that the avian influenza A (H5N1) is in Phase 3.

**Table 1 World Health Organization Pandemic Phases and the Stages for Federal Government Response**

WHO Pandemic Phases		Federal Government Response Stages	
INTER-PANDEMIC PERIOD			
1	No new influenza virus subtypes have been detected in humans. An influenza virus subtype that has caused human infection may be present in animals.	0	<i>No domestic animal outbreaks in at-risk country</i>
2	A circulating animal influenza virus subtype poses a substantial risk of human disease		
PANDEMIC ALERT PERIOD			
3	Human infection(s) with a new subtype, but no human-to-human spread, or rare instances of infectious spread to a close contact.	0	<i>No domestic animal outbreaks in at risk country</i>
		1	<i>Suspected human outbreak overseas</i>
4	Small clusters with limited human-to-human transmission but spread is highly localized, suggesting that the virus is not well adapted to humans.	2	<i>Confirmed human outbreak overseas</i>
5	Larger clusters, but human-to-human spread is still localized, suggesting that the virus is becoming increasingly better adapted to humans.		
PANDEMIC PERIOD			
6	Increased and sustained transmission in the general population	3	<i>Widespread human outbreaks in multiple locations overseas</i>
		4	<i>First human case in North America</i>
		5	<i>Spread throughout United States</i>
		6	<i>Recovery and preparation for subsequent waves.</i>
POST PANDEMIC PERIOD			
7	Rates of infection return to normal flu season	7	<i>Recovery and rates of infection return to normal flu season</i>

<sup>a</sup>. Per WHO, the avian influenza subtype H5N1 is in Phase 3, as of November 2005.

b. Recommendations for Phases 1 to 3

(1) Prepare NMCS D Guidelines For the Management of Pandemic/Avian Influenza Plan;

(2) Coordinate NMCS D plan with county/city Operational Emergency System (OES), regional hospitals, and local county public health department(s);

(3) Participate in regional planning groups;

(4) Develop departmental pandemic plans, to include:

(a) Communication Plan and Succession Plan with all members of each department;

(b) Complete department business continuity planning: define mission, functions, level of each function, staffing, supplies & durable medical equipment, and dependencies;

(5) Purchase contingency supplies;

(6) Engage in discussions with all stakeholders; and

(7) Arrange pandemic education of all staff.

c. Recommendations for Phase 4 (Small Clusters of Cases)

(1) Alert all stakeholders to change in status;

(2) Test/update dept/unit communication plan;

(3) Review inventory/order supplies; and

(4) Ensure necessary training is complete.

d. Recommendations for Phase 5 (Large Clusters of Cases)

(1) Alert all stakeholders to change in status; and

(2) Activate Hospital Command Center (HCC) and establish Hospital Incident Command System (HICS) as the incident command structure for the pandemic.

e. Pandemic Period (Phase 6)

(1) Following initial announcement by the WHO of pandemic influenza anywhere in the world, NMCS D's pandemic influenza response plan should be activated in accordance with the level of pandemic activity. If outbreaks of pandemic influenza are reported outside the United States, the main steps will be to:

(a) Alert all stakeholders to change in status;

(b) Implement Plan in concert with overall NMCS D Emergency Management Plan;

(c) Implement social distancing measures;

(d) Establish contact with key public health, healthcare, and community partners;

(e) In coordination with public health, implement hospital surveillance for pandemic influenza, including detection of patients admitted for other reasons who might be infected with the pandemic influenza virus;

(f) Implement a system for early detection and antiviral treatment of healthcare workers who might be infected with the pandemic influenza virus;

(g) Reinforce infection control measures to prevent the spread of influenza; and

(h) Accelerate the training of staff, in accordance with NMCS D's pandemic influenza education and training plan.

f. If outbreaks of pandemic influenza are reported within the United States, the main steps will be to:

(1) Identify when pandemic influenza cases began in the community; San Diego County Public Health will be the lead agency;

(2) Identify, isolate, and treat all patients with potential pandemic influenza;

(3) Implement activities to increase capacity, supplement staff shortages, and provide supplies and equipment; and

(4) Maintain close communication within and among local healthcare facilities, San Diego County Public Health department and the NMCS D HCC.

g. Recovery and Return to Normal Flu Season (Phase 7)

(1) After each wave of the pandemic subsides, the main steps will be to:

(a) Restore operations and department functions to their normal state;

(b) Evaluate emergency plans and procedures and revise/update as needed; and

(c) Prepare for next wave of pandemic.

5. Establish Links/MOA's/MOU's. Links, Memorandums of Agreement (MOA) and Memorandums of Understanding (MOU) have been established with 28 Local, Regional and State Health Departments, and Civilian, Military Emergency Management organizations in accordance with reference (a).

6. Organizational Structure and Responsibility. The Commanding Officer (CO) has the ultimate responsibility for the implementation of this response plan. The Deputy Commander, or in their absence, the Command duty Officer and /or Officer of the Day will be responsible to the Commanding Officer to initiate the plan. The Director of Public Health Services is designated by the CO as

the NMCS D Public Health Emergency Officer (PHEO). He/she, in close coordination with the Department Head of Preventive Medicine, and the Chairman of the Infection Control Committee, will implement/activate the plan. Directors will ensure that Pandemic Influenza Check Sheets contained in the NMCS D plan represent directorate actions needed to be carried out during Pandemic Alert Phase escalation. In the event of a pandemic influenza outbreak, the NMCS D Executive Steering Committee members will direct and monitor completion of phase-triggered actions listed in the Directorate Pandemic Influenza Check Sheets provided by the Disaster Preparedness Office (Appendices 16 and 17), when an upgrade to Pandemic Alert Phase 4 is initiated.

## Medical Management Plan

1. Introduction. In order to respond most effectively to an influenza pandemic, modified procedures for providing health services will be implemented. Assuming that there will be a large number of cases and limited resources during a pandemic, the modified procedures were designed to ensure that pandemic patients are appropriately triaged and cared for, while provisions for essential medical services continue.

a. This Medical Management Plan will be updated as additional procedures are prepared within NMCS D and/or as additional information about the avian or novel influenza virus becomes available.

2. Objectives and Organization of Medical Management Plan. An important objective of the Medical Management Plan is coordination of resources to ensure equitable health care delivery under emergency conditions. This is accomplished on multiple levels. During the interpandemic and pandemic alert periods, various policies and procedures, and implementation plans are prepared, reviewed, and/or updated. During the pandemic period, the plans will be implemented.

a. The Medical Management Plan is presented in 8 sections as described below.

(1) Infection Prevention and Control addresses actions related to staff, patients, and visitors to prevent and control spread of a novel influenza virus within NMCS D;

(2) Disease Surveillance includes protocols to be followed to collect and report cases during influenza outbreak;

(3) Clinical Management addresses modified procedures to be implemented regarding triage, clinical evaluation, admissions, and clinical management of suspected/confirmed cases of novel influenza;

(4) Occupational Health includes actions to be taken to protect the health of NMCS D employees;

(5) Use and Administration of Vaccines and Antiviral Drugs addresses recommendations and plans for pharmaceuticals during an influenza pandemic;

(6) Surge Capacity addresses surge capacity within the Emergency Department and within the medical center;

(7) Clinical Labor Pool addresses tracking staff commitments and absences, reassigning clinical staff, and requesting additional staff from the non-clinical labor pool; and

(8) Handling of Decedents includes stocks of needed materials, personal protective equipment, manning and training issues and overflow capacity.

3. Assumptions. The Medical Management Plan is based on the following assumptions:

a. A mild to moderate pandemic; refer to Appendix A-1 for the estimated numbers of patients anticipated for NMCS D;

b. 25% to 40% reduction in staff (due to quarantine for possible exposure, isolation for illness or family care issues);

c. Limited supplies for personal protection of staff, patients and visitors; and

d. Limited supplies for diagnosing and treating patients.

4. Influenza Definitions (as of August 2006)

a. **Seasonal (or common) flu** is a respiratory illness that can be transmitted person to person. Most people have some immunity, and a vaccine is available.

b. **Avian (or bird) flu** is caused by influenza viruses that occur naturally among wild birds. The H5N1 variant is deadly to domestic fowl and can be transmitted from birds to humans. As of May, 2008, no human immunity has occurred and no vaccine is available.

c. **Pandemic flu** is a novel (newly evolved), virulent human flu that causes a global outbreak, or pandemic, of serious illness.

d. **Clinical case definition of Influenza Like Illness (ILI):** Acute onset of respiratory illness with cough and fever, >38.0°C or 100.4°F, accompanied by one or more of the following: sore throat, arthralgia, myalgia or prostration. Note that the case definition for a novel influenza virus may be different and will be updated when additional information becomes known. Clinicians should recognize that human influenza viruses circulate worldwide and year-round in countries with outbreaks of avian influenza (H5N1) among poultry. During the inter-pandemic and pandemic alert periods, human influenza virus infection can be a cause of ILI among recent travelers at any time of the year, including during the summer in the United States. This includes travelers returning from areas affected by poultry outbreaks of highly pathogenic avian infection (H5N1), such as Asia. As of July 2006, such persons are currently more likely to have infections with human influenza than with avian influenza A (H5N1).

e. **Confirmed cases of novel influenza** are cases with laboratory confirmation (i.e., virus isolation from respiratory tract secretions, identification of viral antigens or nucleic acid in the respiratory tract, or a significant rise in serum antibodies) or clinical cases with an epidemiological link to a laboratory confirmed case.

f. **Travel and occupational risks** for novel influenza A (as of August 2006)

(1) Travel Risks: Persons have a travel risk if they recently visited or lived in an area affected by pathogenic avian influenza A outbreaks in domestic poultry or where a human case of novel influenza has been confirmed AND

(a) Had direct contact with poultry; or

(b) Had close contact with confirmed or suspected novel influenza; or

(c) Consumed uncooked poultry products.

(2) Occupational Risks: Persons at occupational risk for infection with a novel strain of influenza include persons who:

(a) Visited farms or live poultry markets; or

(b) Process or handle poultry infected with known or suspected influenza viruses; or

(c) Work in laboratories that contain live animal or novel influenza viruses; or

(d) Work in healthcare in direct contact with a suspected or confirmed novel influenza case.

g. Incubation and Transmission Criteria: Typical incubation period is 1-4 days; incubation periods for novel strains are unknown and could be longer. Viral shedding and the risk of transmission will be greatest during the first 2 days of illness. The maximum interval between potential exposure and symptom onset is 7-10 days and asymptomatic transmission may occur and persist during that period of time. Children usually shed more virus and cause more transmission. On average, infected persons will transmit infection to approximately two other people.

## 5. **Infection Prevention and Control**

a. Overview. A comprehensive infection prevention and control program identifies management of environmental issues, employee responsibilities, patient placement, and visiting guidelines. The program forms the mainstay for employee and patient safety during a pandemic. Adherence by staff to the infection control plan is imperative to slow disease transmission and protect staff and patients. Routine measures (standard precautions) are utilized during seasonal influenza season.

(1) Enhanced infection control and environmental measures will be implemented during Phase 6 of a novel influenza pandemic, or if the NMCSO service area is the localized area, during Phase 4 or 5. The plan is designed to accommodate the changing circumstances of the pandemic.

**(2) Strict adherence to HAND HYGIENE recommendations is the cornerstone of infection prevention and control.**

b. Implementation of Hand Hygiene includes:

(1) Staff, patients and those attending or providing care to a patient should be reminded that hand washing/hand hygiene is the most important procedure in preventing and controlling the spread of infection. Meticulous hand hygiene will inactivate the virus. Hand hygiene should be performed after direct contact with individuals with suspected or confirmed influenza and after contact with their personal articles or their immediate environment;

(2) Waterless alcohol-based hand sanitizers can be used as a substitute for hand washing with soap and water. Alcohol-based hand sanitizers are especially useful when access to sinks or warm running water is limited; and

(3) Hand washing procedures for soap and water and hand hygiene procedures for alcohol-based hand sanitizers should be emphasized and reinforced by supervisors.

c. **Quarantine** is defined as the separation of persons without symptoms who have been exposed to those with influenza. The quarantine period extends for one incubation period, which differs for each pathogen. A typical incubation period for influenza is 4 to 6 days.

d. **Isolation** is defined as separation of symptomatic patients (suspected or confirmed cases) using a private room or a designated cohort area, with required use of personal protective equipment for staff and visitors.

e. Critical Roles and Responsibilities. Critical Roles and Responsibilities in **Infection Control** include setting guidelines for the following:

(1) Personal Protective Equipment for health care workers.

(a) Respiratory protection: Use of N-95 mask or higher level of protection;

(b) Use of disposable gloves; and

(c) Use of facial shields and gowns.

(2) Environmental decontamination remains the same for non-pandemic cases hospitalized during a pandemic. Rooms housing pandemic cases are cleaned **daily** using standard cleaning techniques identified in the existing NMCS D Infection Control Manual.

(a) Surfaces and patient rooms;

(b) Equipment and medicines;

(c) Non-patient care areas; and

(d) Waste management issues.

(3) Patient isolation and protection

(a) Implementation of patient cohorts;

(b) Institution of negative pressure isolation;

(c) Patient activity restrictions; and

(d) Respiratory protection: Use of surgical mask, at a minimum, when outside negative pressure isolation.

(4) Visitor restrictions

(a) Respiratory protection: Use of N95 mask, at a minimum, while visiting.

(5) Workers and family/guest quarantine

(a) Worker furlough and quarantine

f. Actions and Triggers. The World Health Organization (WHO) defines 7 phases for a pandemic. As the status changes, the phase-triggered actions of Appendix A-2 will be implemented within NMCS D. In the event of a pandemic influenza outbreak, the Executive Steering Committee members will direct and monitor completion of phase-triggered actions listed in the Directorate Pandemic Influenza Check Sheets provided by the Disaster Preparedness Office (Appendices 16 and 17) when phase 4 is initiated.

g. Staffing and Training Needs. In order to effectively implement the actions identified in this section, the following staffing and training needs must be met:

- (1) One time Hand Hygiene training required for all staff via intranet;
- (2) One time Isolation Procedures training for all patient care staff;
- (3) Annual Nursing Skills Day training on isolation precautions for all nurses;
- (4) Just In Time training would be implemented to refresh skills and procedures once PI is identified;
- (5) Pull non-patient care staff from Labor Pool to use;
- (6) Fit testing of N-95 for staff on immediate basis (i.e., persons not previously fit tested);
- (7) Fit-testing instruction and training on use of a Powered Air Purifying Respirator (PAPR) and/or elastomeric half-face air-purifying respirator;
- (8) Infection control recommendations require regular review and update and communication with staff as viral transmission is known. Communication strategies include announcements, e-mail, NMCS D Intranet page, and the emergency preparedness web page. Coordination with Education and Training Department and Information Management is essential;
- (9) Prepare staff to function in austere circumstances; and
- (10) Provide guidance for shelter-in-place, quarantine, furlough, fit-to-work policies.

**6. Disease Surveillance**

a. Overview. Influenza surveillance occurs on a daily basis during seasonal influenza season. Surveillance is the backbone for case identification, patient testing/isolation, prompt patient treatment, and health care provider safety. Syndromic Surveillance is the surveillance of syndromes which NMCS D record at the time of the patient visit instead of specific diagnoses reported after laboratory or other diagnostic procedures; which can greatly lessen the time it takes to determine that an outbreak is occurring.

b. Surveillance and Monitoring.

(1) Enhanced surveillance of patients and staff will be conducted through active and passive methods daily. With increased activity, intensive monitoring will be implemented in Phase 4 of an influenza pandemic. Case reports of suspected/confirmed novel influenza from inpatient units and Ambulatory Care, including the Emergency Department and Primary Care Clinics will be retrieved by the Preventive Medicine Departments' Epidemiology Division and Infection Control Section personnel:

(a) Daily: direct lab result review and physical visits to the above noted areas.

(b) After hours, weekends and holidays: case reports captured the following business day with the exception of emergencies in which the Preventive Medicine Duty Technician is immediately notified via pager system.

(2) **Case Definition for PI Surveillance**

(a) Confirmed: A case of human infection with a novel influenza A virus confirmed by CDC's influenza laboratory.

(b) Probable: A case meeting the clinical criteria and epidemiologically linked to a confirmed case, but for which no laboratory testing for influenza virus infection has been performed.

(c) Suspected: A case that meets the clinical criteria, with a pending laboratory confirmation. Any case of human infection with an influenza A virus that is different from currently circulating human influenza H1 and H3 viruses is classified as a suspected case until the confirmation process is complete.

(3) Cases are reported to outside entities by Preventive Medicine and Infection Control staff as described by command instruction. Case reports will be provided to the San Diego County Health Department, Navy Environmental and Preventive Medicine Unit FIVE (NEPMU-5) and the Navy and Marine Corps Public Health Center via phone, electronic Confidential Morbidity Report (CMR) or the Navy Disease Reporting System internet (NDRSi), as appropriate. Case reports for staff will be forwarded to Preventive Medicine and Infection Control. Emergency procedures are implemented based on number of cases reported. The activities of surveillance will continue throughout all phases of the influenza pandemic. Some of the actions that need to be conducted are as follows:

(a) Review inpatient admission diagnoses daily (M-F);

(b) Review laboratory positive results daily (M-F);

(c) Review any available point-of-care influenza rapid test results;

(d) Review Emergency Department chief complaints daily (M-F);

(e) Review ESSENCE surveillance system for influenza-like illness daily (M-F);

(f) Monitor DoD influenza surveillance programs (NHRC, AFIOH) weekly;

(g) Monitor San Diego County Emergency Medical Alert Network (EMAN) electronic notification system daily;

(h) Monitor San Diego County syndromic surveillance report weekly;

(i) Train ED staff about pandemic influenza, focusing on protection, recognition of PI/AI cases, and reporting;

(j) Train NMCSO staff about the basic elements of the command's PI plan, including prevention, protection, recognition of PI/AI cases, and reporting;

(k) Conduct epidemiologic investigations as needed to determine causes and recommend preventive actions;

(l) Increase monitoring of ED chief complaints (#4 above) to twice daily;

(m) Conduct surveillance among inpatients for nosocomial influenza transmission daily;

(n) Implement staff health screening per the Work Quarantine Plan, and forward reports to HCC (if stood up) and Prev Med Dept twice daily (for routine work centers) or at shift change (for inpatient wards);

(o) Establish real-time communications with San Diego County Community Epi Division (e.g. Web EOC system);

(p) Participate in CNRSW Military Biologic Advisory Committee, if convened; and

(q) Reporting;

1. Cases of avian influenza and novel influenza strains are immediately reportable to all of the following:

a. Military chain of command (as a Commander's Critical Information Requirement, CCIR);

b. Navy disease reporting system (NDRSi); and

c. Civilian health authorities (CMR).

2. Any NMCSO staff (provider, lab, etc) that identifies a case of avian influenza or novel influenza strain will report that information to:

a. NMCSO Officer of the Day (OOD), who will report to the chain of command per SOP, and will also notify the duty Preventive Medicine Dept duty technician. The OOD and the Command Duty Officer will prepare a draft CCIR of the case for chain of command approval.

b. Preventive Medicine Dept, will report the case to the Navy Disease Reporting System (Medical Event Reporting System) and to the

local civilian health authorities (San Diego County Community Epidemiology Branch).

c. Actions and Triggers.

(1) The World Health Organization (WHO) defines 7 phases for a pandemic. When the status changes, the phase-triggered actions listed in Appendix A-3 will be implemented within NMCSO. The Executive Steering Committee members will direct and monitor completion of phase-triggered actions listed in the Directorate Pandemic Influenza Check Sheets provided by the Disaster Preparedness Office (Appendices 16 and 17) when phase 4 is initiated.

d. Staffing and Training Needs

(1) In order to effectively implement the actions identified in this section, the following staffing and training needs must be met:

(a) It is anticipated that clinical staff in ED and patient care areas will be in short supply and will be overloaded. With this in mind, Preventive Medicine will need additional administrative personnel to assist with gathering data for surveillance in addition to the use of ESSENCE.

(b) Preventive Medicine and Public Health Services staff must be familiar with the pandemic plan, surveillance methods and locations for data collection. Staff members already familiar with ESSENCE, or those with the highest skill level will perform the constant monitoring.

(c) Staff personnel must be aware of the roles, responsibilities and reporting methods for pandemic influenza.

**7. Clinical Management**

a. Overview. During an influenza pandemic, NMCSO will be overwhelmed with persons seeking care. Based on an assumption of large volumes of patients and limited resources during Phase 6 of influenza pandemic, modified procedures for triage, admissions/discharge, clinical evaluation, and clinical management/treatment will be implemented to enable NMCSO to handle more patients than normal. Initiate recall of Emergency Room, Internal Medicine, Pediatrics, Nursing, and Security personnel in anticipation of the influx of patients.

(1) **Triage**

(a) Triage is a vital role in the Emergency Department (ED) setting on a day-to-day basis. NMCSO ED routinely staffs on a shift-to-shift basis. The triage nurse provides both a Medical Screening Exam (MSE) and a triage classification at the time of presentation to the ED. During a pandemic, the current roles and practices during triage will be modified to evaluate the needs of the individual and to triage influenza patients efficiently in a crisis situation. Triage is also performed in the clinics.

(b) In Phase 6 of a pandemic (or in Phase 4 or 5 if the cluster of cases is within the NMCSO service area), a site adjacent to but not within the ED will be established to perform the modified triage assessment. This will be accomplished by a triage team consisting of a physician, 1 to 2 nurses, and unlicensed personnel. The main function of this modified triage

is to identify those patients with suspected influenza prior to entering the hospital or ED at the main gate. In addition, security personnel will screen anyone who arrives for care and point them to 1 of 3 locations.

(c) At the Main gate, the Triage Officer and NMCS Security will assign the following categories:

1. *Immediate* patients in Personally Owned Vehicles (POVs) will be given Red Cards and directed to the Casualty Collection Point (CCP)-Red (Emergency Room).

2. *Delayed* patients in POVs will be given Red Cards and directed to the CCP-Red (Emergency Room).

3. *Minimal* patients in POVs will be given Green Cards and directed to the CCP-Green (Baxter Circle).

4. Those arriving to pick up discharged patients, who report for non-Flu patient care (from pre-approved outpatient treatment list - C5 rehab, dialysis, infusion center, etc) will be given White Cards and directed to designated parking areas (Command Flag Circle).

5. Hospital personnel will be provided Blue Cards and will proceed to established parking areas.

(d) Using the modified triage procedures, triage personnel will segregate patients into two categories: patients with non-respiratory complaints and with respiratory complaints.

1. Patients with non-respiratory complaints, but requiring treatment will be directed to a nonrespiratory secondary triage area, to be triaged as usual. These patients may be treated in an alternate ED site within the hospital (Military Health Center).

2. Patients with respiratory complaints will be directed to the respiratory secondary triage area outside the entrance to the ED.

(e) Patients with respiratory complaints will be triaged into one of three categories:

1. Stable patients with no co-morbidities will be sent home with self-care instructions and follow-up information;

2. Stable patients with co-morbidity may be sent to an alternate ED care site for further evaluation or short observation; and

3. Patients with primary assessment findings that require secondary assessment will be brought into an isolated portion of the ED for admission or observation.

(f) Patients sent home will be advised to avoid other household members as much as possible and will be provided with information regarding:

1. Hand hygiene, cough etiquette, and soiled tissue management. Tissues used by patients should be placed in a bag with other household waste. Other family members should not touch soiled tissues from an infected patient;

2. Eating utensils should be washed with warm water and soap but do not need to be separated from other eating utensils used by family members; and

3. Family members and/or care givers should practice scrupulous handwashing with soap and water to prevent disease transmission.

(2) **Admission/Discharge**

(a) During an influenza pandemic, the admission and discharge processes will be expedited to enable direct admission to an inpatient bed and quick turnaround time after discharge.

(b) The ED will be used for triage and emergent stabilization of influenza patients only. This is vital to preserve other essential ED functions such as the treatment of trauma and pediatric patients.

(3) **Clinical Evaluation (as of August 2006)**

(a) CDC recommends <http://www.cdc.gov/flu/avian/professional/han020302.htm> for clinical evaluation of Influenza A(H5N1) Virus Infections under the following conditions:

1. Testing for influenza A (H5N1) is indicated for **hospitalized** patients with:

a. Radiographically confirmed pneumonia, acute respiratory distress syndrome (ARDS), or other severe respiratory illness for which an alternate diagnosis has not been established; **AND**

b. History of travel within 10 days of symptom onset to a country with documented H5N1 avian influenza in poultry and/or humans (for a listing of H5N1-affected countries, see the OIE Web site at [www.oie.int/eng/en\\_index.htm](http://www.oie.int/eng/en_index.htm) and the WHO Web site at [www.who.int/en](http://www.who.int/en)).

2. Testing for influenza A (H5N1) should be considered on a case-by-case basis in consultation with state and local health departments for **hospitalized or ambulatory** patients with:

a. Documented temperature of >38°C (>100.4°F), **AND** One or more of the following: cough, sore throat, shortness of breath, **AND**

b. History of contact with infected domestic poultry (e.g., visited a poultry farm, household raising poultry, or bird market) or a known or suspected human case of influenza A (H5N1) in an H5N1-affected country within 10 days of symptom onset.

3. Clinical specimens from suspect influenza A (H5N1) cases may be tested by PCR assays using standard Biosafety Level (BSL) 2 work practices in a Class II biological safety cabinet. In addition, commercial antigen detection testing can be conducted under 2 levels to test for influenza.

4. When indicated by CDC recommendations and/or NMCS D procedures, obtain clinical specimens for novel influenza A testing.

5. RT-PCR testing should be used to confirm or exclude novel influenza; rapid influenza tests and immunofluorescence should not be used to confirm or exclude novel influenza.

6. Notify lab where transport of specimens will be arranged.

7. Testing will be directed by Public Health.

8. One or more of the following will be required for earliest cases (after multiple cases are identified, it is anticipated that laboratory testing will cease):

a. Nasopharyngeal swab; and/or;

b. Nasal swab, wash, or aspirate; and/or;

c. Throat swab and/or tracheal aspirate.

(1) Store specimens at 4°C in viral transport media until transported or shipped for testing.

(2) Acute and convalescent specimens are required for all suspect cases until a critical number is reached.

(a) Acute specimens: up to 7 days after onset of illness.

(b) Convalescent specimens: 2-3 weeks after the acute specimen.

(3) Refrigerate serum specimens at 4°C.

(4) Save these serum specimens for additional testing until a specific diagnosis is made. Follow usual protocol.

**(4) Medical Management:**

(a) The management of novel influenza is based primarily on sound clinical judgment regarding the individual patient, use of rapid diagnostics, antiviral drugs, and availability of hospital beds. Early antiviral administration shortens the duration of illness due to seasonal influenza and is expected to have similar effects on cases caused by a novel influenza virus. However, it is anticipated that antivirals will be in short supply during an influenza pandemic.

(b) Clinical procedures for the initial screening assessment and management of suspected novel influenza and the associated physician roles are summarized below. The clinical procedures will be updated as additional information is known for a novel influenza. Medical and laboratory personnel will be monitored for influenza-like illness on an ongoing basis (refer to the **NMCS D Work Quarantine Plan**) and treated if indicated.

1. Management of patients who test positive for seasonal influenza:

a. Many suspected novel influenza cases may be found to have seasonal influenza, i.e. in winter season;

b. Implement standard clinical treatment for seasonal influenza;

c. Maintain standard and droplet precautions for seasonal influenza cases and continue antiviral treatment for a full treatment course (e.g. 5 days); and

d. Negative isolation is not required for seasonal influenza.

2. Management of patients who test negative for novel influenza:

a. False negative tests may occur;

b. True novel influenza cases might test falsely negative due to specimen collection conditions; viral shedding, or sensitivity of the test. Interpretation of negative test results is tailored to the individual patient in consultation with infectious disease specialists;

c. For hospitalized patients who test negative for novel influenza virus but no alternate diagnosis is established, continue managing for novel influenza if the clinical/epidemiologic links are strong;

d. Evaluate alternative diagnosis; when novel influenza tests are negative and an alternate diagnosis is established, discontinue isolation and antiviral drug therapy for novel influenza particularly in the absence of a strong clinical/epidemiologic link; and

e. Rely on laboratory test with high positive-predicted value. If an alternate etiology is identified, the possibility of co-infection with novel influenza virus may still be considered if there is a strong epidemiologic link to exposure.

3. Management of patients who test positive for novel influenza (or meet the clinical and epidemiologic criteria for a suspected case of novel influenza):

a. Initiate antiviral treatment as soon as possible, even if lab tests results are not available. Optimally, initiate treatment within 48 hours of onset of illness. Antivirals will most likely be in short supply and may be rationed during a pandemic; therefore, this recommendation may change;

b. Assist with identification of potentially exposed contacts. Persons in close contact (within 3 feet) of case patient are potentially exposed. This includes unprotected (no PPE) healthcare workers;

c. Implement infection control precautions, including negative pressure isolation, respiratory hygiene, hand washing, airborne precautions for a minimum of 14 days, unless there is a full recovery from the illness or another etiology is identified before 14 days elapse. Refer to Section B Infection Control;

d. Cohorting. Designated units or other areas within NMCS D should be used for cohorting patients with pandemic influenza. Whenever possible, assign only patients with confirmed pandemic influenza to the same room. At the height of a pandemic, laboratory testing to confirm pandemic influenza is likely to be limited, in which case cohorting should be based on having symptoms consistent with pandemic influenza. Personnel (clinical and non-clinical) assigned to cohorted patient care units for pandemic influenza patients should not "float" or otherwise be assigned to other patient care areas. The number of personnel entering the cohorted area should be limited to those necessary for patient care and support. Because of the high patient volume anticipated during a pandemic, cohorting should be implemented early in the course of a local outbreak; and

e. Notify Infection Prevention/Control regarding new cases at 619-532-6400 (Quarter Deck).

#### 4. Tracking of Inpatients with Novel Influenza

a. If diagnosed with Influenza on admission or admitted for suspected/rule out Pandemic Influenza, then the Admitting Diagnosis will be ICD-9 code 487.1 *Influenza with other Respiratory Manifestations*. This system entry will be completed by the Patient Administration Department (PAD) Admissions clerk.

b. If diagnosed with Influenza after admission, then the Discharge Diagnosis will be ICD-9 code 487.1 *Influenza with other Respiratory Manifestations*. This system entry will be completed by the PAD Inpatient coder.

c. Information Technology Department can identify patients by ICD-9 diagnosis code through an Ad Hoc Report, based either upon the Admitting or Discharge Diagnosis. This type of report has previously proven effective at this command when there is a need to identify specific patient populations by diagnosis.

### **(5) Clinical Laboratory Guidelines**

(a) The NMCS D Complex Testing Laboratory will maintain a stock of commercially available influenza detection reagents sufficient for seasonal influenza testing. These reagents will be capable of discriminating between Influenza A and Influenza B and must have been tested and shown by the manufacturer to detect both human and non-human Influenza A viruses. The high specificity of these tests allow for a rapid "rule-in" for influenza, thus allowing for rapid patient treatment and implementation of contact protocols. However, because of the low sensitivity of these tests (currently 70-80% depending on the manufacturer), they cannot be used definitively to rule-out influenza infection. Patient samples would have to be mailed out to external labs for definitive identification of novel strains.

(b) Microbiology lab personnel will maintain proficiency in rapid Influenza testing. Proficiency will be maintained by both lab proficiency testing and by performing routine, seasonal influenza testing. Sufficient lab personnel will be trained to ensure 24-hour availability of the test. All tests performed in the lab will be conducted in a Category II biological safety hood with all BSL 2 precautions used.

1. Surge capacity arrangements will be made to include

primary and alternate sources of supply for Influenza test kits. The laboratory does not have the capabilities to culture any virus, therefore, all requests to culture Influenza virus will be referred;

2. Point of Care Testing (POCT) sites will set up and trained by the POCT coordinator are approved to perform the test will be required to maintain proficiency as implemented by the POCT coordinator. All rapid influenza tests performed in a POCT setting must be done with appropriate biological containment measures in place;

3. The laboratory will publish information on sample collection for upper respiratory viruses in the Laboratory Users Manual, which is updated annually;

4. The laboratory will execute the contingency plan for procuring additional testing reagents;

5. The laboratory and the Infectious Disease departments will continue to collaborate on rules for testing and result reporting;

6. The laboratory will coordinate with all POCT sites to ensure that all sites have the necessary reagents and a cadre of personnel trained to perform the test;

7. The Laboratory will act as a liaison between NMCS D and outside reference labs to determine the exact protocol to send samples of suspected Pandemic Flu to the appropriate lab;

8. The laboratory will coordinate the referral of samples to the appropriate reference lab and ensure results are entered in CHCS. The "MailOuts" section will do this as is currently done with all reference lab tests;

9. During Pandemic WHO Phase level 6 or WHO Phase level 4 or 5 with a cluster, a request for testing can come from any ward or clinic. Results will be reported to the ordering physician and also forwarded to infectious disease; and

10. The laboratory will honor requests to test laboratory personnel, civilian or military, judged to show symptoms of Influenza-Like Illness (ILI). Request for testing should be forwarded through Infectious Disease. Priority will be given to individuals who directly handle specimens suspected to have Influenza virus.

b. Actions and Triggers. The World Health Organization (WHO) defines 7 phases for a pandemic. When the status changes, the phase-triggered actions listed in Appendix A-4 will be implemented within NMCS D. The Executive Steering Committee members will direct and monitor completion of phase-triggered actions listed in the Directorate Pandemic Influenza Check Sheets provided by the Disaster Preparedness Office (Appendices 16 and 17) when phase 4 is initiated.

c. Staffing and Training. In order to effectively implement the actions identified in this section, the following staffing and training needs must be met:

(1) It is anticipated that clinical staff in ED and patient care areas will be in short supply and will be overloaded.

(2) ED: Medical professional staff (Physicians and nurses) must be fully aware of the ED pandemic plan, modified triage criteria and associated algorithms, and modified admissions procedures. Staff members already certified in triage, or those with the highest skill level will perform triage. *Staffing the ED will be difficult if the absenteeism rate is the expected 25-40%.* Staff will need to be assigned to the ED, as needed. ED, staff can be utilized with a regular staff member dependent on skill level.

(3) Medical Staff/Patient Care Services/Clinical Operations: Medical professional staff must be aware of modified procedures for triage, admissions, clinical evaluation, and clinical management.

## 8. Occupational Health

a. Overview. Standard employee health precautions, including provision of seasonal influenza vaccinations, are in place and under the oversight of the Directorate for Public Health Services (DPHS).

(1) Enhanced employee health procedures will be implemented during an influenza pandemic to safeguard and monitor the health of employees providing care or in contact with suspect/confirmed novel influenza patients. Adequate personal protective equipment and training will be provided to at risk employees. Employees will be monitored for early signs of infection, tested, and quarantined if necessary. Mass prophylaxis programs targeting novel influenza will be held as antivirals and vaccines become available. Employees will need to be directed to the appropriate medical, psychological and pastoral care support services to best meet their needs during a pandemic.

(2) During an influenza pandemic, Occupational Health will be prepared to:

(a) Assist Infection Control (IC) in their exposure prevention efforts;

(b) Evaluate, manage, and track at risk and symptomatic healthcare workers;

(c) Test symptomatic employees for novel influenza infections;

(d) Work with the Pharmacy to distribute and administer antivirals and/or vaccines;

(e) Promote and administer seasonal influenza immunizations;

(f) Assist infected employees in receiving treatment;

(g) Provide psychological counseling and pastoral care information to staff and their families; and

(h) Make available to departments and staff up-to-date pandemic procedures and educational materials.

b. Critical Roles and Responsibilities.

(1) DPHS and Occupational Health will ensure; in conjunction with Human Resources:

- (a) Employee Influenza Prophylaxis;
- (b) Non-pharmacological measures;
- (c) Employee Surveillance Programs;

1. One central and pre-determined location for entering the command;

2. Distribute Pre-work Self-Assessment Protocols;

3. Tracking exposed symptomatic and quarantined employees;

4. Develop rosters, and monitor employees assigned to care for novel influenza patients;

5. Facilitate quarantine procedures for unprotected, exposed employees; and

6. Enforce stay-at-home and return-to-work protocols for symptomatic Employees.

- (d) Exposure Prevention

1. Assist in implementing exposure precautions as determined by IC;

2. Provide appropriate respiratory protection education, training, and fit-testing to medical staff; and

3. Recommend work reassignments for high-risk personnel.

- (e) Psychological Assistance

1. Working with the Mental Health Department and Pastoral Services, Occupational Health should provide a list of psychological resources for staff and their families in need of pandemic related counseling.

- (f) Healthcare Personnel Housing

1. A strategy is in place for all healthcare and other personnel who may need onsite housing for extended periods of time.

- (g) Child and Elder Care

1. A strategy is in place for accommodating and supporting personnel who have child or elder care responsibilities.

c. Actions and Triggers. Review strategy for prioritizing healthcare personnel for receipt of vaccine or antiviral prophylaxis. The Executive Steering Committee members will direct and monitor completion of phase-triggered actions listed in the Directorate Pandemic Influenza Check Sheets

provided by the Disaster Preparedness Office (Appendices 16 and 17) when phase 4 is initiated.

(1) This strategy is based on the route of exposure, type of illness and symptoms as provided by CDC. In accordance with DOD guidance, command priorities are as follows with these groups who comprise the Tier 1A Level in priority (Appendix A-15):

(a) Group 1 - Individuals who are hospitalized due to PI.

(b) Group 2 - Personnel necessary to maintain a functioning health care system.

1. Healthcare workers at high risk for exposure: ICU staff, Emergency Dept, PCC, MHC, Pulmonary, Infectious Disease staff, Respiratory therapists;

2. Other ward staff if used for PI patients; and;

3. Staff who are utilized as daily screeners of healthcare providers' health status.

(c) Review plan for berthing of personnel who will be needed on board for prolonged period of time. (Ensure space and supplies identified are still available). See NMCS D **Work Quarantine Plan**.

(d) Each department head to identify staff that has child or elder care responsibilities. These individuals need to provide a written plan for alternative care in the case of a pandemic event.

(e) Human Resource Department will establish a policy for telework and flexible work schedules.

(f) Each department head to identify staff positions that can be authorized to work at a different location or from home to decrease unnecessary exposure.

(g) Information Technology Department to identify what is needed to facilitate reassignment of work locations including access and security.

(h) The World Health Organization (WHO) defines 7 phases for a pandemic. When the status changes, the phase-triggered actions listed in Appendix A-5 will be implemented within NMCS D.

d. Staffing and Training Needs. In order to effectively implement the actions identified in this section, the following staffing and training needs must be met:

(1) Adequate staffing and training to expand Occupational Health and DPHS hours to 12 hours/day, 7 days/week for up to 10 weeks.

(2) Increased staff for increased seasonal influenza immunization efforts, rapid and expanded respirator fit testing, quarantine management, and high volume influenza testing.

(3) Additional clerical support for tracking exposures, infections, immunizations and absenteeism.

## 9. Use and Administration of Vaccines and Antiviral Drugs

a. Overview. During an influenza pandemic, antiviral drugs and influenza vaccines will play a role in the treatment of infected patients and containment/control of the spread of the novel influenza virus.

b. Antiviral drugs will be administered to patients infected with the novel influenza virus to decrease the duration and severity of symptoms. Dispensing of these drugs will occur by county health departments and NMCS D. NMCS D will receive antiviral drugs from the Department of Defense and BUMED as well as potentially local county health department and will administer them to inpatients and outpatients according to normal procedures and through mass dispensing station(s) established by NMCS D. In case of limited supplies of drugs, patients will be prioritized according to plans developed by NMCS D.

### (1) Antivirals [Oseltamivir (Tamiflu) and Zanamivir (Relenza)]

(a) The use of prophylaxis will be restricted to maximize health benefits. Interim recommendations for the use of antiviral drugs are discussed on CDC website.

(b) Supply shortages will dictate that the antivirals be used primarily to treat infected individuals rather than to provide prophylaxis prior to availability of vaccine.

(c) Stockpiling of drugs by hospitals is currently not allowed per state and federal guidelines.

(d) Federal government goal is to stockpile 75 million courses to treat 25% of population (current supply is 6 million courses).

c. When available, vaccines will be administered to patients and staff based on prioritization schemes developed by NMCS D. Vaccine administration will occur at mass vaccination sites established by NMCS D. See Appendix A-15, NMCS D Vaccine Priority Groups.

### (1) Vaccine

(a) Vaccine may not be available for six months following identification of the novel influenza viral strain and then several more months will be required to supply the entire US population.

(b) Vaccine delivery is less dependent on pandemic phase and more dependent on vaccine availability, CDC recommendations, and NMCS D prioritization.

(c) Two doses of vaccine administered four weeks apart will likely be required for complete immunization.

(d) As supplies of vaccine become available, it is possible that some healthcare personnel and others critical to a pandemic response will be recommended for Pre-Pandemic vaccination to provide partial protection or immunological priming for a pandemic strain. Federal policies for the use of pre-pandemic vaccine have not been finalized.

### d. Critical Roles and Responsibilities.

(1) **Pharmacy Administration and Preventive Medicine Department:**

Monitor CDC and San Diego County Public Health websites for notification of pandemic. Upon determination of pandemic, implement plans for receipt of drugs and implementation of mass dispensing.

e. Actions and Triggers.

- (1) Determine consumables, supplies and equipment needs;
- (2) Develop protocols and procedures to effectively screen patients and to safely administer or dispense vaccinations and/or prophylactic drugs;
- (3) Estimate the number of persons to be vaccinated or prophylaxed using available planning programs;
- (4) Determine and maintain listings of approximate numbers of priority personnel and patients (medical, security, fire fighters, high-risk patients, etc.);
- (5) Develop screening forms for administering both vaccinations and antiviral drug dispensing;
- (6) Exercise and refine the **Mass Prophylaxis/Vaccination plan** by staging equipment and by conducting exercises such as a mass shot exercise during the annual Influenza Vaccine season or mass dispensing exercise;
  - (a) Identify corpsmen staff and organize them into different vaccination/prophylaxis team. Corpsmen who have been trained and are experienced in administering the seasonal influenza vaccine should be utilized as members of the vaccination/prophylaxis teams;
  - (b) Perform baseline training for corpsmen staff who would man the vaccination/prophylaxis teams. Curriculum would include proper administration and dispensation, screening of patients and documentation;
  - (c) Verify and procure the required consumables, supplies and equipment to outfit the vaccination/prophylaxis teams. Items are to be placed into readily deployable containers for rapid transport and use;
  - (d) Verify the numbers and locations of priority personnel for vaccination and prophylaxis;
  - (e) Implement the Mass Vaccination/Prophylaxis plan: Order vaccines and/or retrieve antiviral stocks to begin vaccinating and/or prophylaxing priority personnel and beneficiaries; and
  - (f) Order additional vaccinations or antiviral drugs for all beneficiaries.
- (7) The World Health Organization (WHO) defines 7 phases for a pandemic. When the status changes, the phase-triggered actions listed in Appendix A-6 will be implemented within NMCS. The Executive Steering Committee members will direct and monitor completion of phase-triggered actions listed in the Directorate Pandemic Influenza Check Sheets provided by the Disaster Preparedness Office (Appendices 16 and 17) when phase 4 is initiated; and

(8) When necessary, work with the ESC to coordinate the delivery and utilization of San Diego county Strategic National Stockpile assets for prophylaxis and/or treatment purposes of beneficiaries and staff.

f. Staffing and Training Needs. In order to effectively implement the actions identified in this section, the following staffing and training needs must be met:

(1) Sufficient staff with training to perform mass dispensing and/or vaccination.

(2) Anticipate need for training and utilizing additional (non-pharmacy) staff from Non-Clinical Labor Pool.

## 10. **Surge Capacity**

a. Overview. This section addresses ED capacity, inpatient bed capacity, ventilator capacity, and associated procedures that affect hospital capacity, such as expedited admissions and discharges, and deferment of surgeries.

(1) NMCSO anticipates the need to use modified patient-to-staff ratios and staff overtime in addition to the use of non-clinical staff to provide adequate care during an influenza pandemic. Management of staff shortages is managed by the Human Resources Department for both military and civilian staff;

(2) Anticipated shortages of medical supplies are identified in the individual Department Business Continuity. The Surge Plan will identify high usage medical supplies and items needed as pandemic bed census increases. This list will be provided to purchasing/distribution to establish a cache either in-house or at the supply vendor;

(3) As the pandemic impact upon the community grows, the demand upon community health care resources will exceed normal available capacity. The immediate demands will be noticeable increases in ED visits, inpatient bed allocation to flu patients, and ventilator usage;

(4) Major actions that are required to be completed prior to activating the surge capacity plan are as follows:

(a) Stockpile, maintain and inventory surge capacity ventilators (IMPACT and Draeger) and PPE equipment as provided via BUMED shipments and previous GWOT funding;

(b) Mothball all functional ventilators from command critical care areas that have been replaced by upgraded models. The Head, Respiratory Therapy is responsible for inventory and storage of these ventilators;

(c) Update bed capacity space, equipment lists and ventilator inventory on EMP Surge Capacity Plan annually as part of the Hazard Vulnerability Analysis;

(d) Identify off site care areas for adult and pediatric continuity care, prenatal care, and well child care at Branch Medical Clinics (BMCs). Coordinate with Director, Branch Medical Clinics for site compatibilities;

(e) Ensure all IMPACT ventilator batteries are fully charged;

(f) Confirm working status of all mothballed ventilators and have Medical Repair restore and maintain any non-functioning ventilators to working status where possible;

(g) Begin contingency planning to move ambulatory continuity care to pre-determine off site locations at BMCs, including transfer of durable goods and equipment and staff assignments;

(h) Create treatment teams of critical care physicians, nurses and respiratory therapists as team leaders augmented by non-critical care inpatient providers for each category at a ratio of 1:3;

(5) Triggers to implement the Surge Plan may include:

(a) The proportion of emergency room visits attributable to influenza;

(b) The proportion of influenza cases requiring hospitalization;

(c) The capacity of the hospital to accommodate influenza cases;

(d) The proportion of cases who normally live with high-risk individuals or who have no support at home and cannot care for themselves; and;

(e) Other triggers may include reports from the San Diego County Public Health Department, Preventive Medicine and hospital-based clinics that cannot accommodate all patients requesting appointments for influenza-like-illness.

(6) Upon activating the Surge Capacity Plan, the following actions will be done:

(a) Cancel elective procedures at NMCSO;

(b) Clear office and storage space from rooms that have patient care capability (rooms with gas outlets and wall suction);

(c) When influenza census at 50% bed capacity of any given ward;

1. Enact emergency staffing ratios per EMP surge plan.

2. Move non-influenza continuity care to the Branch Medical Clinic (BMCs) and Tricare Outpatient Center TOCs.

(d) Implement Patient Tracking mechanisms of Pandemic Influenza patients as they are admitted for care and discharged:

1. If diagnosed with Influenza on admission or admitted for suspected/rule out Pandemic Influenza, then the Admitting Diagnosis will be ICD-9 code 487.1 *Influenza with other Respiratory Manifestations*. This system entry will be completed by the PAD Admissions clerk.

2. If diagnosed with Influenza after admission, then the

Discharge Diagnosis will be ICD-9 code 487.1 *Influenza with other Respiratory Manifestations*. (This system entry will be completed by the PAD Inpatient coder).

3. Information Technology Department can identify patients by ICD-9 diagnosis code through an Ad Hoc Report, based either upon the Admitting or Discharge Diagnosis. This type of report has previously proven effective at this command when there is a need to identify specific patient populations by diagnosis.

b. **Emergency Department (ED) Capacity**

(1) ED capacity encompasses pre-admission triage and post-admission emergency medical care. During an influenza pandemic, a surge triage area will be established outside the normal ED areas to control/contain the spread of viral exposure or infection. For possible pandemic-related surge triage sites see reference (a).

(2) Demand for emergency services for non-influenza related issues is anticipated to continue at close to normal caseload. The additional caseload in the ED from suspect/confirmed novel influenza cases could quickly overload the ED. The preferred option is to admit infected patients directly to an inpatient bed and not treat in the ED. When required, suspected novel influenza patients will be treated within the ED in negative pressure isolation areas.

(3) If suspect influenza patients cannot be admitted directly to an inpatient bed, an alternate waiting area must be identified to control/contain the spread of viral exposure or infection. Possible areas to set up as suspect influenza waiting rooms may include:

- (a) NMCS D External Loading Dock; and
- (b) Pharmacy Entrance.

(4) Possible ED surge areas to handle to overflow of patients in ED include space currently not used for patient care, such as:

- (a) Military Health Clinic;
- (b) Orthopedics / Podiatry Clinic; and
- (c) Internal Medicine Clinic.

(5) **Bed Capacity**

(a) The current status of the Triage/Main ED Bed Capacity: **25** Beds.

(6) **Ventilator Capacity**

(a) The current status of the Ventilator Capacity is:

1. 7 Operational In-Use Ventilators in the Emergency Department.

2. 103 Emergency Ventilators: 63 Drager ICU ventilators and 40 Impact transport ventilators (stored in NMCS D Warehouse and maintained by Medical Repair.

c. **Essential Medical Services**

(1) Continuation of trauma and other specialty services not related to an influenza pandemic identified in the individual department plans as required per reference (a). Each department has to identify the number of staff needed to provide critical services and functions.

d. Critical Roles and Responsibilities

(1) **Emergency Department:** Will initiate modified triage and treatment procedures during surge.

(2) **Bed Control:** Will expedite bed changeover and track use of unlicensed beds during surge.

(3) **Admissions and Discharge:** Will initiate modified admission and discharge procedures during surge.

(4) **Surgery:** Will initiate procedures to cancel or defer surgeries, as applicable, during surge.

(5) **Nursing Services:** Will initiate modified procedures regarding patient-to-nurse ratios and use of non-clinical staff.

(6) **Respiratory Therapy:** Will coordinate the use and employment of stored emergency ventilators as needs dictate.

(7) **Credentialing:** Utilize procedures as established in reference (a) for the rapid credentialing for recruited personnel.

(8) **Patient Administration:** When directed by BUMED and the ESC, activate NDMS and utilize existing MOA's/ MOU's in place for the movement of non-influenza patients.

(9) **Security:** Access to the hospital will be strictly controlled at the same point in which the influenza clinic and ward are set up.

(a) All personnel desiring access to the hospital will be screened at the main gate to determine their status as a visitor, patient, staff or support personnel. Screening will be conducted by trained personnel who will provide visitors and patients with proper instructions and/or PPE (i.e. surgical masks). Staff should have a designated entry area into the hospital compound. All other entrances will be secured from outside entrance during the duration. Doors will allow for exit of the building to maintain fire safety.

e. Actions and Triggers. The World Health Organization (WHO) defines 7 phases for a pandemic. When the status changes, the phase-triggered actions listed in Appendix A-7 will be implemented within NMCS D. The Executive Steering Committee members will direct and monitor completion of phase-triggered actions listed in the Directorate Pandemic Influenza Check Sheets provided by the Disaster Preparedness Office (Appendices 16 and 17) when phase 4 is initiated.

f. Staffing and Training Needs. In order to effectively implement the actions identified in this section, the following training needs must be met:

- (1) Educate all affected staff in regards to the surge plan(s).
- (2) Staff-specific training as to individual role requirements.
- (3) Educate all staff on Pandemic Influenza.

## 11. **Clinical Labor Pool**

a. Overview. During an influenza pandemic, the clinical staffing levels will be critical. It is anticipated that 25% to 40% of all NMCS D staff may be absent at the peak of a pandemic wave due to personal illness, illness within the family, or other reasons. Sufficient clinical staff will be needed to provide care for hospitalized patients.

b. Actions and Triggers. The following actions shall be done with the activation of this plan:

- (1) Ensure that staff members are trained on the contents of the Pandemic Influenza Infection Control Guidelines and Surge Capacity plans;
- (2) Begin to administer antiviral medications and vaccinations, if available as per the Mass Vaccination and Prophylaxis plan;
- (3) Implement the Pandemic Influenza Infection Control Guidelines and practices as detailed in the Pandemic Influenza Infection Control Guidelines to receive and care for patients suffering from the pandemic influenza strain; and
- (4) The World Health Organization (WHO) defines 7 phases for a pandemic. When the status changes, the phase-triggered actions listed in Appendix A-8 will be implemented within NMCS D.

c. Staffing and Training Needs. In order to effectively implement the actions identified in this section, the following staffing and training needs must be met:

- (1) Provide skill lab training for nurses in non-direct care positions emphasizing basic patient care, infection control procedures, AHLTA documentation, and self-care activities;
- (2) Provide training to non-clinical resources emphasizing safety, infection control procedures, activities they would be assigned, and self-care management;
- (3) Assess needs to provide update of skills for clinical staff that have currently been cross-trained to another clinical area, e.g., pediatrics, ICU, etc;
- (4) Consider assigning staff that are recovering or recovered from novel influenza to care for novel influenza patients; and
- (5) Assign personnel at high risk for complications of influenza (e.g., pregnant women, immunocompromised persons) to low risk duties such as,

non-influenza patient care, administrative duties that do not involve patient care or if unable to do so, consider furlough for those unable to place.

## 12. Handling of Decedents

a. Overview. Deceased individuals will be transported to the NMCSO morgue. All personnel involved in transport must adhere to PPE guidelines.

b. Critical Roles and Responsibilities.

(1) Since suspected influenza deaths could exceed the maximum in house storage capacity:

(a) Participate in periodic command Mass Casualty/Mass Fatality training, when available. Ensure current personnel are trained to use the BioSeal™ system (one kit of this system will contain 400 casualties);

(b) Verify adequate usual stock of body bags (300), and personal protective equipment (N-95 masks, gloves, etc). Ensure all personnel who will wear N-95 masks are adequately fit-tested (consult with NMCSO Safety Office for assistance);

(c) Review and discuss with San Diego County Medical Examiner Office the "San Diego County Pandemic Influenza and Highly Infectious Respiratory Transmitted Disease Response Plan." NMCSO is a participant in Annex D of the County Emergency Management Plan; consider additional Memoranda of Understanding (MOU) that might be required for disposition of non-military casualties;

(d) Autopsy may be necessary for initial index cases; whereas in later stages management of bodies would likely become paramount. If autopsy or specimen collection becomes necessary, the CDC, National Center for Infectious Disease, Division of Healthcare Quality Control [(404) 639-6413] or Pathology Activity [(404) 639-3133] should be contacted for specific guidance. Minimizing aerosols during autopsies is prudent;

(e) Consider that additional personnel might be required to handle and transport bodies. Possible sources include the A-school and Marine assets. Training and respirator fit-testing may be required at this stage for these personnel;

(f) Develop increased liaison with Military Mortuary Support Office (MMSO) and contract funeral home assets;

(g) Order (priority 3) additional BioSeal™ system kit to ensure coverage of 1100 casualties (two kits for 400 bodies each, plus 300 body bags);

(h) Perform training of additional personnel required to handle remains (PPE use and CDC "Standard Precautions");

(i) Verify immunization status of personnel handling human remains. Consider antiviral use for these personnel;

(j) Perform respirator fit testing on personnel identified to handle and transport pandemic fatalities;

(k) Analyze possibility of overstretching morgue body storage refrigeration capacity, and if warranted and with Laboratory Department Chairman approval, initiate orders to obtain additional refrigerated trucking assets;

(l) Note that if any remains other than active duty personnel are to be released, an "Order of Release" must be signed by the Next of Kin; and

(m) Consider Post-Traumatic Stress Disorder interventions that may be necessary for select personnel with increased response to fatalities, if necessary.

c. Actions and Triggers. The World Health Organization (WHO) defines 7 phases for a pandemic. When the status changes, the phase-triggered actions listed in Appendix A-9 will be implemented within NMCSO. The Executive Steering Committee members will direct and monitor completion of phase-triggered actions listed in the Directorate Pandemic Influenza Check Sheets provided by the Disaster Preparedness Office (Appendices 16 and 17) when phase 4 is initiated.

d. Staffing and Training Needs. In order to effectively implement the actions identified in this section, the following staffing and training needs must be met:

(1) The Non-clinical Labor Pool will need to provide additional staffing to transport decedents to the temporary refrigerated/freezer holding units.

(2) Transport staff must be trained in biohazard precautions, proper lifting technique, and back injury prevention.

## Communication and Education Plan

1. Introduction. An influenza pandemic will place a tremendous burden on the U.S. healthcare industry. Advanced planning for a large scale and widespread health emergency such as this, is required to sustain health care delivery. Unlike other public disaster emergencies, an influenza pandemic will impact multiple regions across the United States simultaneously. San Diego County, Orange County and NMCS D must be prepared to respond and provide services within the context of limited availability of external resources and support. Contingency planning is required to mitigate the impact of an influenza pandemic; this is accomplished through consideration, development and preparation efforts within all communities of San Diego, Los Angeles and Orange Counties in collaboration with their stakeholders.

2. Objectives. It will be the responsibility of Staff Education and Training Department in collaboration with Preventive Medicine and the Public Affairs Officer to meet the following objectives and perform the following actions:

- a. Increase influenza prevention behavior among target audiences;
- b. Provide education to ensure that staff, patients, and the public know how to protect themselves and their families to minimize the fear and panic that could arise in a pandemic;
- c. Develop and test internal, local, and regional communications networks;
- d. Position NMCS D as a credible, reliable source of expertise on influenza and pandemic response;
- e. Provide clear direction to clinical and non-clinical staff to ensure continued provision of essential health care services;
- f. Provide training and education to clinical and non-clinical staff;
- g. Provide regular, timely information updates about pandemic response to all Key stakeholders (including the media and general public);
- h. Mitigate panic both within the health system and throughout the local and regional community;
- i. Inform all key stakeholders about status of operations;
- j. Inform all audiences about the outcomes of the pandemic; and
- k. Provide education and information that will support recovery efforts, including personal recovery for faculty, staff, and students (i.e., post-traumatic stress, coping with grief, guilt, etc.).

3. Actions.

- a. Public Health Emergency Officers and Media and Clinical Spokespersons, and designated alternates to attend and complete Risk Communication training.

b. Prepare fact sheets detailing responses to questions from the media. Tab B (Public Information Message Maps) of the Commander, Navy Installations Command Hazard-Specific Appendix: Pandemic Influenza can be used to help develop the facts sheets.

c. In conjunction with San Diego County Public Health Department, share resources and develop central messages and materials that can be shared broadly via all available means to include radio and internet messages, television commercials, billboards, posters, and informational pamphlets. Informational tools should be in languages other than English to help ensure that health information is readily understandable. (PAO)

d. Draft public health messages that addresses basic epidemiology, symptomology, and protective measures against pandemic influenza. The Public Health message will be coordinated by utilizing available resources on line, WHO, NIH and CDC, and other military resources to include BUMED, NEPMU-5 and Navy and Marine Corps Public Health Center (NMCPHC). The Public Health message will be coordinated with San Diego County Public Health and Navy Region Southwest PAOs. (Preventive Medicine, Infectious Disease, Infection Control and PAO via NMCS Command)

(1) Specific actions include:

(a) Disseminate and make available Pan Flu information pamphlets that give background information and protective measures for beneficiaries within the different clinics and waiting areas. (Dissemination: PAO and Health Promotions) Telephone messages can also be made and played on NMCS appointment lines as beneficiaries are placed on hold.

(b) Open accessible channels for advice and information to the public, including ongoing functioning of Pan Flu hotlines and an Internet link on the command public internet Web site.

e. Continue to increase the information flow via PAO to medical providers, non-medical staff, and eligible beneficiaries. (Staff members: Staff Ed and Training; Beneficiaries: PAO and Health Promotions. Content: Infectious Diseases, Infection Control and Preventive Medicine)

f. Medical providers should be educated about the epidemiology and symptomology of Pandemic Influenza as well as supportive care measures for patients. Both medical providers and non-medical staff should also be educated about Infection Control measures such as strict hand washing, respirator use and cough and sneeze etiquette. Refer to the **Enclosures (3) and (11): Pandemic Influenza Infection Control Guidelines and Education and Training Plan**. (Content: Infectious Disease, Infection Control and Staff Education and Training. Dissemination: Staff Education and Training)

g. Use major agency sources (i.e. CDC, Department of Health and Human Services) to provide a public health information and education campaign for beneficiaries. The public health information and education campaigns should explain how individual action (e.g., strict compliance with respiratory hygiene, staying home when ill) and community efforts (e.g., implementation of snow days and self-shielding) can help reduce disease transmission amongst persons in the community. Education and information campaigns can describe the criteria, justification, role, methodology, and duration of quarantine and the social, medical, and psychological ways in which persons will be

supported during the quarantine period. They can also explain that quarantine which temporarily restricts personal movement is a collective action implemented for the common good. (Content: Preventive Medicine, Infection Control, and Infectious Diseases. Dissemination: PAO and Health Promotions)

(1) Disseminate and make available Pan Flu information pamphlets for beneficiaries within the different clinics and waiting areas that give background information and protective measures. (Dissemination: PAO and Health Promotions). Telephone messages can also be made and played on NMCSO appointment lines as beneficiaries are placed on hold. (Patient Relations)

h. Upon implementing the Public Affairs Pan Flu plan:

(1) Upon Chain of Command confirmation of a mass influenza epidemic, a STAT (15 minutes) and URGENT (30 minutes) Media advisories are released stating the following:

- (a) The status of Naval Medical Center San Diego;
- (b) Plans to keep NMCSO epidemic-free;
- (c) Announcement of NMCSO's healthcare provider rotation;
- (d) Announcement of NMCSO's plans to care for/treat beneficiaries within patient area;
- (e) Announcement of NMCSO's policy to care for/treat fringe-area beneficiaries;
- (f) Announcement of NMCSO's policy to care for/treat immediate-area civilians; and
- (g) Announcement that NMCSO will continue to keep beneficiaries informed.

(2) All Media Advisories will be routed through Naval Medical Center San Diego & Navy Medicine West Chains of Command, PAO to DepCom to Admiral, prior to dissemination.

(3) Other commands that will be courtesy copied on all Media Advisory transmissions are:

- (a) Commander, Navy Region Southwest Public Affairs;
- (b) Commander, Third Fleet Public Affairs;
- (c) Commander, Naval Air Forces Public Affairs;
- (d) Chief of Navy Information;
- (e) California Department of Health & Human Resources Public Affairs; and
- (f) San Diego County Department of Health Services Public Affairs.

(4) Intensify the public information and education campaign to staff and beneficiaries about containment measurements, such as cough and sneeze etiquette, keeping ill persons at home, avoiding crowds and strict hand washing. Additionally, inform beneficiaries about the curtailment of medical services and designated entry points to NMCS D and subsequent triage procedures and rationale. (PAO and Health Promotions)

i. Ensure that Risk Communication and Public Information materials are current and accurate. (PAO)

j. Implement Patient Tracking Plan for all Pan Flu admissions and discharges. Accurately track and account for all admitted patients who are treated at NMCS D, and if requested, inform relatives and loved ones concerning the disposition of their beneficiary loved ones. (Patient Administration and Decedent Affairs)

k. Ensure availability of designated Clinical and Media spokespersons to provide information and updates to eligible beneficiaries utilizing NMCS D Public Affairs and other media outlets; radio and television broadcast, print and internet. Content of public broadcasts should be consistent with the current information that San Diego County Public Health is disseminating. It may be important to consider additional recruitment and training of subject-matter experts as the need arises. (PAO)

l. Promptly and thoroughly address rumors, inaccuracies and misperceptions amongst staff members and beneficiaries. Provide informational pamphlets and designated Web site URLs (addresses) which provide accurate information to staff members and beneficiaries as circumstances dictate. Other options could include referral to a medical provider to address questions and concerns. (PAO)

4. Assumptions. The Communication and Education Plan is based on the following assumptions:

a. A mild to moderate pandemic; the estimated numbers of patients anticipated for NMCS D.

## 5. **Communication and Education Plan**

### a. Overview

(1) The overall goal of the Communication and Education Plan within the NMCS D Influenza Pandemic Plan is to provide clear, accurate education and information to internal and external audiences and stakeholders during all pandemic phases.

### b. Critical Roles and Responsibilities

(1) In the event of influenza pandemic, many departments involved in communications and training will have several highly critical functions to perform.

### c. Plan of Action/Tasks.

(1) Phase 3 (Pandemic Alert Period, limited human-human transmission worldwide, and no cases in U.S.).

(a) Identify members of an Education and Training group that would develop and revise Influenza training material for NMCS D staff members.

1. An Education Technologist, Work Center for Education Technology, Professional Development Division, Staff Education and Training (SETD) has been assigned to coordinate education and training for Pandemic Flu Response (e.g., identify and facilitate access to education and training programs) (name available upon request), phone: 619-532-7931.

2. One additional support staff member from Life Support and Trauma, Nursing Education Division, SETD has been identified to assist the Education Technologist.

3. These individuals will coordinate with the NAVMEDWEST Reserve Liaison Training Officer to develop a Pandemic Flu/Emergency Response Orientation for Reservists.

(b) Develop training briefs for NMCS D staff. There should be separate training briefs for medical providers, administrative, and ancillary support staff.

1. See attached medical provider, non-medical provider, and non-provider (e.g., housekeeping, food operations) power points (See Table 2).

2. Language and reading-level appropriate materials on pandemic influenza (e.g., available through state and federal public health agencies and professional organizations) appropriate for professional, allied and support personnel have been identified and a plan is in place for obtaining these materials ([www.cdc.gov/flu/professionals/patiented.htm](http://www.cdc.gov/flu/professionals/patiented.htm)).

3. Readability and grade level will be determined for all handouts and every effort will be made to ensure they are at 60% readability (at a minimum) and 8<sup>th</sup> grade reading level. The materials provided will be based on our Southwest population, specifically: English, Spanish, and Tagalog. Examples of handouts and educational materials that will be used specific to Pandemic flu may be found at <http://www.cdc.gov/flu/languages.htm>.

(c) Generate information pamphlets for eligible beneficiaries. Language specific pamphlets need to be generated to help ensure maximum coverage amongst beneficiaries. (Population Health, Infectious Disease, Infection Control, and Materials Management)

(d) Develop a training plan for NMCS D staff. Specific plan items are to include training locations, means of delivery and documentation of the receipt of training of staff members.

1. Training Locations: NMCS D On-Line Courses.

2. Means of Delivery: Web-based Training. Hard copy and handouts will be provided on a case by case basis (personnel without access to work center computers (i.e., housekeeping and Food Operations Staff) (Refer to Table 3 for example of handouts).

3. Documentation of Training:

a. DMHRSi for web-based training;

b. Documentation in Training Records by Training Officers as necessary (non-web-based training).

(e) Identify online websites or local education and training opportunities for clinicians.

(2) Phase 4 (Pandemic Alert Period: increased human-human transmission; OR human cases identified in the U.S. but not locally). Continue the Phase 3 actions above, and implement any or all of the following additional actions:

(a) If necessary, update training briefs to reflect the latest information on the epidemiology of the Pan Flu strain outbreak, protective measures, occupational health guidelines and infection control measures. The three training briefs designed for the following categories: 1) medical providers, 2) non-medical providers and 3) housekeeping staff.

1. The Education Technologist will:

a. Monitor local, state, and federal public health web sites to keep abreast of current information and update training as needed.

b. S/he will work with subject matter experts to achieve optimal training/readiness.

(b) Initiate command training plan utilizing educational briefs. Ensure that the following staff members have been trained and that the training has been documented:

1. In Table 2, a medical provider is identified by the letter M, a non medical provider is represented by the letter N, and non-provider support staff is represented by letter S (housekeeping, food service, and security). \* Indicates category with dual designation; perform level of training as directed by Department/Division Training Officer.

Table 2  
Staff categories

M	Attending physicians	M/N	Laboratory staff
M	Emergency Department personnel	N	Nursing staff
S	Engineering and Facilities maintenance personnel	S	Food operations staff
S	Environmental Services personnel	M/N	Outpatient personnel
S	Housekeeping and Janitorial staff	M/N	Preventive Medicine personnel
M/N	Infection Control staff*	S	Security personnel

(3) Phase 5 (Pandemic Alert Period, Evidence of significant human-human transmission; OR human cases identified in the U.S. but not locally).

(a) Ensure that all remaining NMCSO staff have been trained using the appropriate training brief.

1. Live training updates will be provided at regularly scheduled intervals to NMCSO leadership and staff on the changing Pandemic

phase and level of response by a variety of methods (e.g., VBRICK, Internet, and CDs as necessary).

(b) All directorates and departments to ensure that all personnel are familiar with the roles and responsibilities when the Hospital Emergency Incident Command System (HEICS) is activated.

(4) Phase 6 (Pandemic period; OR human cases identified locally). Continue the actions above, and implement any or all of the following additional actions:

(a) Update command leadership and staff on the latest developments concerning the outbreak, protective measures, and occupational health and infection control issues.

(b) Train incoming non-NMCS D staff (military and civilian volunteers) using the appropriate training briefs. Also ensure that newly incoming personnel are trained about the locations of the various departments and services of NMCS D.

(c) Live training updates will be provided at regularly scheduled intervals to NMCS D staff (including Branch Medical Clinics) on the changing Pandemic phase and level of response by a variety of methods (e.g., VBRICK, Internet, and CDs as necessary).

(d) Ensure that all staff members have been periodically updated on the latest developments and command policies. Continue to document the receipt of any and all training updates.

6. Actions and Trigger. The World Health Organization (WHO) defines 7 phases for a pandemic. When the status changes, the phase-triggered actions identified in Appendix A-10 will be implemented within NMCS D. The Executive Steering Committee members will direct and monitor completion of phase-triggered actions listed in the Directorate Pandemic Influenza Check Sheets provided by the Disaster Preparedness Office (Appendices 16 and 17) when phase 4 is initiated.

## **Logistics**

1. Introduction. In order to respond effectively to influenza pandemic, procedures for conducting critical functions will be implemented to ensure continuity of business. At or before the onset of an influenza pandemic, NMCS D would activate its Hospital Command Center (HCC) and implement its emergency management plan and HICS.

### 2. Security

a. Objectives. During a pandemic, access control may be required to limit staff, patient, and/or visitor access or egress to NMCS D facilities. As access control is increased, the affected facilities or locations will limit access and egress to the identified entry control point(s). Limited access may impact all employees who work in the affected facilities. Access to NMCS D facilities may be restricted during a pandemic for several situations; example situations include:

- (1) Patient, visitor, and/or employee screening / surveillance;
- (2) Facility quarantine;
- (3) Establish and maintain isolation units or areas; and
- (4) Resource protection.

#### b. Critical Roles and Responsibilities

(1) **Incident Commander** is responsible for defining the level of access control for patients, visitors, and/or staff.

(2) **NMCS D Security Department** is responsible for implementing the direction provided in the policies and procedures and to comply with the medical restrictions that may be required during a pandemic.

(3) **Staff Personnel** are responsible for complying with access controls as implemented and providing resources to monitor door security and to supplement NMCS D security personnel, upon request.

c. Actions and Triggers. If directed, instill heightened awareness amongst Security personnel of persons who present themselves at the gate with flu-like symptoms. This may be done in conjunction with medical personnel who would do a quick screening of incoming persons to NMCS D.

(1) After initiation of the Triage and Admissions Plan, enclosure (4), Security personnel will control vehicle and foot traffic access and egress onto NMCS D at the Emergency Room gate, Main gate, and the Fisher House gate.

(2) Security will post personnel to regulate vehicular traffic.

(3) Security will post to the different designated Casualty Collection Points (Red, Yellow or Green).

(4) When activated, Security Department will have the Pharmacy and Galley manned for Mass Vaccination and/or Prophylaxis dispensing sites on NMCS D, to screen staff and dispense medication. Refer to the Enclosure (7) Disaster Dispensing Plan.

(5) Security Department will man designated areas for Quarantine and Isolation. Certain persons who are or potentially infected with Pan Flu may be involuntary held within the NMCS D compound to help contain the spread of disease. These areas may be the Isolation Rooms and staff berthing areas in Bldg. 26 and 41 BEQs, Bldg. 5 and other designated areas within the hospital.

(6) NMCS D Security would be issued the appropriate PPE to protect themselves from potential exposures. At a minimum, gloves and N95 respiratory protection (requires satisfactory fit test) would be issued to Security personnel. Of note, the PPE would not replace the need to practice basic infection control measures such as hand washing, getting vaccinated and keeping one's hands away from their eyes and mouths.

(7) The decision to close NMCS D to new admissions would be based upon currently available critical care areas and/or ward bed capacity and staffing. In response, NMCS D Security would initiate measures to allow only staff members, non-flu visits, and follow-on care patients to enter the medical center grounds.

(8) In most cases, visitors for admitted patients will be on a limited basis to help prevent nosocomial transmission of Pan Flu strain. More frequent visitations will be decided by the HCC on a case by case basis.

(9) The World Health Organization (WHO) defines 7 phases for a pandemic. When the status changes, the phase-triggered actions listed in Appendix A-11 will be implemented within NMCS D.

### 3. Critical Infrastructure and Utilities

a. Objectives. During a pandemic, the hospital's JCAHO-defined critical utilities (water, sewage, heating/ventilation/air conditioning [HVAC], electrical, communications, computers, networks, fire alarms, etc.) must be maintained in an operational mode. The scope of the event may also require modifications to critical utilities, such as negative pressure rooms/floors, communications, and computer support.

b. Critical Roles and Responsibilities. See reference (a) for a complete outline of responsibilities for critical utilities and infrastructure.

c. Actions and Triggers. World Health Organization (WHO) defines 7 phases for a pandemic. When the status changes, the phase-triggered actions listed in Appendix A-12 will be implemented within NMCS D.

### 4. Supply Chain Management and Critical Supply Needs

a. Objectives. During a pandemic it is essential to ensure that the facility can operate effectively for an extended period of time up to 30 days. In order to do so the following actions must be met:

(1) Maintain essential supplies and stocking levels to support a pandemic wave.

(2) Review essential service contracts for alternative ways of providing services.

(3) Implement Materials Management Plan to support pandemic waves.

(a) The 192 pallets of NMCS D's PPE are stored at MCAS Miramar's Camp Elliot in a warehouse that provides adequate security, storage conditions and access during an outbreak. The pallets are pre-packaged in environmentally resistant packaging and will be easily mobilized during an outbreak. In response to phases 3 and 4 MTF Commander will determine which areas need a surge of durable and consumable resources. Materials Management will deliver consumables in amounts designated from MCAS Miramar to surge areas approved by the Commander.

(4) Review essential supply and stocking levels.

(a) Essential supplies and stock levels have been approved by BUMED and will include 308,872 N-95 respirators, 84,325 Exam Gloves, 308,872 Disposable Gowns, 42,163 Surgical Masks, 3,678 Safety glasses and 30 ventilators. PPE will be distributed as necessary to areas approved by Commander.

(b) If necessary, procure other consumables and supplies from other area hospitals or vendors.

(5) Determine ability to expand essential service contracts (i.e. laundry). All necessary contracts that could impact PI response can be modified to provide additional service over and above current daily requirements. Laundry services are essential to hospital operations.

5. Food and Nutritional Services. Activate implementation procedures to comply with the policies and procedures set forth for food and clinical support. Upgrade or downgrade level of food and clinical support, as directed by the Incident Commander and the Public Health Emergency Officer. Currently a seven day supply of food is on hand and can be increased if needed based on need through Prime Vendor.

a. Coordinate activities for patient care and galley services, taking the following steps:

(1) Take food and supply inventory;

(2) Meals-Ready-To-Eat (MRE's) may be used to supplement cafeteria meals, if there are personnel shortages;

(3) Notify the Non Clinical Labor Pool for additional staffing needs;

(4) Notify the primary, secondary and back up vendors; and

(5) Notify NMCS D dependency departments for support.

6. Actions and Triggers. World Health Organization (WHO) defines 7 phases for a pandemic. When the status changes, the phase-triggered actions listed in Appendix A-13 and A-14 will be implemented within NMCS D. The Executive Steering Committee members will direct and monitor completion of phase-triggered actions listed in the Directorate Pandemic Influenza Check Sheets provided by the Disaster Preparedness Office (Appendices 16 and 17) when phase 4 is initiated.

a. Coordinate activities in four strategic areas; patient care, galley services, hot/cold food production and availability of personnel.

## Chain of Command and Succession Plan

1. Overview. The Pandemic Influenza Planning Committee will have responsibility for management of the Pandemic Influenza Plan and runs under the auspices of the Emergency Management Planning Committee. All NMCS D personnel are responsible for reviewing its contents. Review of this plan is critical to the preparedness of the command and mitigation of the effects of an influenza pandemic.

a. Some of the assumptions used include:

- (1) NMCS D cannot rely on other hospitals for assistance;
- (2) Normal staffing was used as a baseline condition;
- (3) Departments assumed business-as-usual for staffing levels; and
- (4) All staff leave would be cancelled, as needed, during the most critical time period to ensure adequate staffing of critical functions.

b. Organization Chain of Command. The chain of command provides a list, in descending order, of the people who have decision-making authority and would also be used as a succession plan in the event of an emergency. At the height of a pandemic, a significant percentage of senior managers and supervisors may have unplanned absences from work due to illness; some may be absent for prolonged periods. A succession plan is critical to ensure business continuity for each department/ unit.

2. PI Responsibilities.

a. The Director for Public Health or other CO designee will be the Chair of the PI Planning Committee.

b. PI Planning Committee members will be representatives that correspond with Hospital Incident Command System (HICS) model. Enclosure (1) displays the organizational structure the HICS model.

c. Ad hoc Members to the PI Planning Committee will be added as needed. Other representatives to be considered are from Internal Medicine Department, Intensive Care, Occupational Health, Patient Administration, Legal, Information Management, and Nursing Services.

d. The PI Planning Committee will meet at least quarterly or more often as needed.

e. This PI Plan outlines how NMCS D will establish and maintain a program to ensure effective response to an outbreak of pandemic influenza. Note that responsibility for many actions and recommendations are shared.

f. Staffing for the PI plan will be in accordance with reference (a) during pandemic conditions and as required by respective functional areas based on need.

3. Authority.

a. Commanding Officer/Executive Officer/Officer of the Day. The Commanding Officer has the ultimate responsibility for the implementation of

this response plan. The Executive Officer, or in their absence the Officer of the Day will be responsible to the Commanding Officer to initiate this response plan.

b. Public Health Emergency Officer. The Director of Public Health is designated by the Commanding Officer as the NMCS D Public Health Emergency Officer (PHEO). He/she, in close coordination with the Head, Preventive Medicine Department, and the Chairman of the Infection Control Committee, will implement/activate the plan.

c. The Branch Medical Clinic (BMC) Officer's in Charge (OIC) will develop plans that mirror the core facilities but take into account the inability to provide inpatient care and the geographic location. Unless otherwise directed by the OIC, the Senior Medical Officer will be appointed as the PI Planning Officer.

(1) BMCs will submit a copy of their plans to the PI Planning Committee Chair.

(2) Planning assumptions will be essentially the same as the core document and any exceptions or additional planning assumptions will be included in the BMC PI Plan.

d. Executive Steering Committee (ESC). Members, in close coordination with their departments, will ensure that Pandemic Influenza Check Sheets contained in the NMCS D plan represent directorate actions needed to be carried out during Pandemic Alert Phase escalation, and will direct and monitor completion of these phase-triggered actions (Appendices 2 and 16), when an upgrade to Pandemic Alert Phase 4 is initiated and the HICS is activated.

#### 4. Functions and Staffing.

a. Section 3 of reference (a) includes an all encompassing list of leadership positions designed to cover any/all types of disasters/emergencies, whether short or long term in nature to include Pandemic Influenza.

b. Each leadership position or major functional area has an associated Trigger Table, available on the intranet, which defines specific duties and responsibilities based on each phase of the pandemic. NMCS D staff members who are pre-assigned to these positions are responsible for familiarizing themselves with their respective Trigger Table and updating this living document as necessary.

c. NMCS D Staff must know which team or action group they are assigned to and where their muster and work site is to be. If not specifically tasked by directorate, department or division these staff members should report for muster with the clinical and non clinical labor pool(s) in the designated area.

d. In addition, an important component of departmental planning is to identify all the functions performed by each department/unit. Once identified, all department functions were evaluated and assigned a level of criticality from I to IV with a focus on maintenance of critical business functions, provision of healthcare, and the health and safety of employees.

(1) The assignment of a level of criticality was based on the following definitions:

(a) **Level I:** Critical Functions provide vital services that must be maintained throughout the course of an influenza pandemic. All available staff may be needed to carry out critical functions. These functions are required to preserve life, directly support the functions that preserve life, or are deemed absolutely essential to a safe work environment.

(b) **Level II:** Significant Functions must also be maintained to diminish the likelihood of additional hospital admissions and to protect the health and safety of staff but can operate at a reduced level, if necessary. A limited scope of services is maintained to ensure that operations continue at a reduced level while protecting health, safety, and property.

(c) **Level III:** Intermittent Functions can be delayed but will require periodic attention. For purposes of the NMCS D PI Plan, intermittent functions would be performed every two to eight weeks. Staff performing these functions could be scheduled to perform other tasks in addition to the intermittent function.

(d) **Level IV:** Deferred Functions can be deferred without notable adverse consequences to health, safety or property. Deferred functions can generally be delayed indefinitely; however, for purposes of the NMCS D PI Plan, delayed functions would be deferrable for at least eight weeks. Staff performing these functions would be available for reassignment.

## Recommendation for Quarantine

### 1. General Considerations.

a. Monitor each quarantined person daily, or more frequently if feasible, for fever, respiratory symptoms, and other symptoms of early influenza disease.

b. Monitor compliance with quarantine through daily visits or telephone calls.

c. Provide a hotline number for quarantine persons to call if they develop symptoms or have other immediate needs.

d. If a quarantined person develops symptoms suggestive of influenza, arrangements should be in place for separating that person from others in quarantine and ensuring immediate medical evaluation.

e. Provide person in quarantine with all needed support services; including 1) psychological support 2) food and water, 3) household and medical supplies, and 4) care for family members who are not in quarantine. Financial issues, such as medical leave, may also need to be considered.

f. Collect data related to quarantine activities to guide ongoing decision-making including information on each person quarantined:

- (1) Relationships to the case-patient;
- (2) Nature and time of exposure;
- (3) Whether the contact was vaccinated or on antiviral prophylaxis or using PPE;
- (4) Underlying medical conditions;
- (5) Number of days quarantined;
- (6) Symptom log;
- (7) Basic demographics; and
- (8) Compliance with quarantine.

g. Based on current available data, the recommended duration of quarantine for influenza is generally 10 days from the time of exposure (This period may be adjusted based on available information during a pandemic). At the end of the designated quarantine period, contacts should have a final assessment for fever and respiratory symptoms. Persons without fever or respiratory symptoms may return to normal activities.

2. Home quarantine. Whenever possible, contacts should be quarantined at home. Home quarantine requires the fewest additional resources, although arrangements must still be made for monitoring patients, reporting symptoms, transporting patients for medical evaluation if necessary, and providing essential supplies and services. Home quarantine is most suitable for contacts with a home environment that can meet their basic needs and in which unexposed household members can be protected from exposure. Other

consideration includes:

- a. Persons in home quarantine must be able to monitor their own symptoms (or have them monitored by a caregiver).
- b. The person's home should be evaluated for suitability before being used for quarantine, using a questionnaire administered to quarantined person or caregiver.
- c. Quarantined persons should minimize interactions with other household members to prevent exposure during the interval between the development and recognition of symptoms. Precautions may include; 1) sleeping and eating in a separate room, 2) using a separate bathroom, and 3) appropriate use of personal protective equipment (see current recommendation from CDC).
- d. Persons in quarantine may be assessed for symptoms by either active or passive monitoring. Active monitoring of contacts in quarantine may overcome delays resulting from the insidious onset of symptoms or denial among those in quarantine.
- e. Household members may go to school, work, etc., without restriction unless the quarantined person develops symptoms. If the quarantined person develops symptoms, household members should remain at home in a room separate from the symptomatic person and await additional instruction from health authorities.
- f. Household members can provide valuable support to quarantined persons by helping them feel less isolated and ensuring that essential needs are met.
- g. Immediate and ongoing psychological support services should be provided to minimize psychological distress.
- h. Quarantined persons should be able to maintain regular communication with their loved ones and healthcare providers.

3. Quarantine in designated facilities. In some cases, affected persons may not have access to an appropriate home environment for quarantine. Examples include travelers; persons living in barracks, homeless shelters, or other group facilities; and persons whose homes do not meet the minimum requirements for quarantine. In other instances, contacts may have an appropriate home environment but may not wish to put family members at risk. In these situations, health officials should identify an appropriate community-based quarantine facility. Monitoring of quarantined persons may be either passive or active, although active monitoring may be more appropriate in a facility setting. Facilities designated for quarantine of persons who cannot or choose not to be quarantined at home should meet the same criteria listed for home quarantine. Evaluation of potential sites for facility-based quarantine is an important part of preparedness planning.

4. Working quarantine.

a. This type of quarantine applies to healthcare workers or other essential personnel who are at occupational risk of influenza infection. These groups may be subject to quarantine either at home or in a designated facility during off-duty hours. When off duty, contacts on working

quarantine should be managed in the same way as persons in quarantine at home or in a designated facility. Local officials should:

(1) Monitor persons in working quarantine for symptoms during working shifts.

(2) Promptly evaluate anyone who develops symptoms.

(3) Provide transportation to and from work, if needed.

(4) Develop Mechanisms for immediate and ongoing psychological support.

b. At the end of the designated quarantine period, contacts should receive physical (fever and respiratory symptoms) and psychological health assessment. Persons without fever or respiratory symptoms may return to normal activities. Persons who exhibit psychological distress should be referred to mental health professionals for additional support services.

## **Evaluation of Homes and Facilities for Isolation and Quarantine**

### 1. Home Isolation

a. Ideally, persons who meet the criteria for a case of pandemic influenza and who do not require hospitalization for medical reasons should be isolated in their homes. The home environment is less disruptive to the patient's routine than isolation in a hospital or other community setting.

b. If feasible, especially during the earliest stages of a pandemic, a home being considered as an isolation setting should be evaluated by an appropriate authority, which could be the patient's physician, health department official, or other appropriate person to verify its suitability. The assessment should center on the following minimum standards for home isolation of an influenza patient:

#### (1) Infrastructure

- (a) Functioning telephone;
- (b) Electricity;
- (c) Heating, ventilation, and air conditioning (HVAC);
- (d) Potable water;
- (e) Bathroom with commode and sink; and
- (f) Waste and sewage disposal (septic tank, community sewage line).

#### (2) Accommodations

- (a) Ability to provide a separate bedroom for the influenza patient;
- (b) Accessible bathroom in the residence; if multiple bathrooms are available, one bathroom designated for use by the influenza patient;
- (c) Resources for patient care and support;
- (d) Primary caregivers who will remain in the residence and who is not at high risk for complications from influenza disease;
- (e) Meal preparation;
- (f) Laundry;
- (g) Banking;
- (h) Essential shopping;
- (i) Social diversion (e.g., television, radio, Internet access, reading materials);

(j) Masks, tissues, hand hygiene products, and information on infection control procedures; and

(k) Educational material on proper waste disposal.

## 2. Isolation in community-based facility

a. When persons requiring isolation cannot be accommodated either at home or in a healthcare facility, a community-based isolation facility will be required. The availability of a community-based facility will be particularly important during a large outbreak.

b. Much of the work in identifying and evaluating potential sites for isolation should be conducted in advance of an outbreak as part of preparedness planning. When applicable, NMCS D should assemble a team (including infection control specialists, public health authorities, engineers, sanitation experts, and mental health specialist) to identify appropriate locations and resources for community influenza isolation facilities, establish procedures for activating them, and coordinate activities related to patient management.

c. The team should consider the use of both existing and temporary structures. Options for existing structures include community health centers, nursing homes, apartments, schools, dormitories, and hotels. Options for temporary structures include trailers, barracks, and tents. Considerations include:

### (1) Basic infrastructure requirements:

- (a) Meets all local code requirements for public facility;
- (b) Functioning telephone system;
- (c) Electricity;
- (d) Heating, ventilating, and air conditioning (HVAC);
- (e) Potable water;
- (f) Bathroom with commode and sink;
- (g) Waste and sewage disposal (septic tank, community sewage line); and
- (h) Multiple rooms for housing ill patients (individual rooms are preferred).

### (2) Access consideration:

- (a) Proximity to hospital;
- (b) Parking space;
- (c) Ease of access for delivery of food and medical and other supplies;
- (d) Handicap accessibility; and

(e) Basic security.

(3) Space requirements:

(a) Administrative offices;

(b) Offices/areas for clinical staff;

(c) Holding area for contaminated waste and laundry;

(d) Laundry facilities (on- or off-site); and

(e) Meal preparation (on- or off-site).

(4) Social support resources

(a) Television and radio; and

(b) Reading materials

(5) To determine priorities among available facilities, consider these features:

(a) Separate rooms for patients or areas amenable to isolation of patients with minimal construction;

(b) Feasibility of controlling access to the facility and to each room;

(c) Availability of potable water, bathroom, and shower facilities;

(d) Facilities for patient evaluation, treatment, and monitoring;

(e) Capacity for providing basic needs to patients;

(f) Rooms and corridors that are amenable to disinfection;

(g) Facilities for accommodating staff;

(h) Facilities for collecting, disinfecting, and disposing of infectious waste;

(i) Facilities for collecting and laundering infectious linens and clothing;

(j) Ease of access for delivery of patients and supplies; and

(k) Legal/property considerations.

(6) Additional considerations include:

(a) Staffing and administrative support;

(b) Training;

- (c) Ventilation and other engineering controls;
- (d) Ability to support appropriate infection control measures;
- (e) Availability of food service and supplies;
- (f) Ability to provide an environment that supports the social and psychological well-being of patients;
- (g) Security and access control;
- (h) Ability to support appropriate medical care, including emergency procedures;
- (i) Access to communication system that allows for dependable communication within and outside the facility; and
- (j) Ability to adequately monitor the health status of facility staff.

### 3. Quarantine Facilities

a. Home quarantine. A person's residence is generally the preferred setting for quarantine. As with isolation, home quarantine is often least disruptive to a person's routine. Because persons who have been exposed to influenza may need to stay in quarantine for as long as 10 days (may be modified based on information about the virus), it is important to ensure that the home environment meets the individual's ongoing physical, mental, and medical needs. An evaluation of the home for its suitability for quarantine should be performed, ideally before the person is placed in quarantine. This evaluation may be performed on site by a health official or designee. However, from a practical standpoint, it may be more convenient to evaluate the residence through the administration of a questionnaire to the individual and/or the caregiver.

b. Quarantine in a community-based facility. Although the home is generally the preferred setting for quarantine, alternative sites for quarantine may be necessary in certain situations. For example, persons who do not have a home situation suitable for this purpose or those who require quarantine away from home (e.g., during travel) will need to be housed in an alternative location. Because persons who have been exposed to influenza may require quarantine for as long as 10 days, it is important to ensure that the environment is conducive to meeting the individual's ongoing physical, mental, and medical needs. Ideally, one or more community-based facilities that could be used for quarantine should be identified and evaluated as part of influenza preparedness planning. The evaluation should be performed on site by a public health official or designee.

c. Additional considerations, beyond those listed above for home quarantine, include:

- (1) Adequate rooms and bathrooms for each contact;
- (2) Delivery systems for food and other needs;

(3) Staff to monitor contacts at least daily for fever and respiratory symptoms;

(4) Transportation for medical evaluation for persons who develop symptoms; and

(5) Mechanisms for communication, including telephone (for monitoring by health staff, reporting symptom, gaining access to support services, and communicating with family) Adequate security for those in the facility that service for removal of waste. No special precautions for removal of waste are required as long as persons remain asymptomatic.