California Department of Health Services

Pandemic Influenza Preparedness and Response Plan

September 8, 2006

An annex to the CDHS Public Health Emergency Response Plan and Procedures
Pandemic Influenza
Preparedness and Response Plan
California Department of Health Services

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Chapter 1.

OVERVIEW OF THE PANDEMIC EMERGENCY PREPAREDNESS AND RESPONSE PLAN

PURPOSES OF THE PLAN

The California Department of Health Services (CDHS) Pandemic Influenza Preparedness and Response Plan:

- Outlines key assumptions for statewide pandemic planning and response;
- Summarizes the legal and statutory authorities regarding public health;
- Explains the CDHS emergency management organization;
- Defines the CDHS concept of operations for pandemic influenza response; and
- Lists actions CDHS will undertake in preparing and responding to an influenza pandemic.

The plan outlines the roles and strategies of CDHS in coordinating the public health response to a pandemic with local health departments, the healthcare community, the federal government, and other key partners.

Consistent with CDHS’ mission “to protect and improve the health of all Californians,” this plan provides a framework for CDHS pandemic influenza preparedness, response, and recovery activities. The goal of these activities is to reduce the morbidity, mortality, and social and economic disruption caused by pandemic influenza. The plan is an annex to the CDHS Public Health Emergency Response Plan and Procedures and is consistent with the U.S. Department of Health and Human Services Pandemic Influenza Plan, November 2005.

CDHS will carry out the response activities described in this plan in collaboration with the Emergency Medical Services Authority (EMSA), the California Health and Human Services Agency, the Governor’s Office of Emergency Services, Governor’s Office of Homeland Security other state agencies, local health departments, and tribal entities.

Chapters and appendices provide a framework for CDHS’ preparedness activities and describe essential functions for conducting surveillance, case investigation, and treatment; preventing spread of the disease in the community; maintaining essential services; and other actions before, during, and after a pandemic.
MAINTENANCE OF THE PLAN

The CDHS Pandemic Influenza Preparedness and Response Plan is a dynamic document and will be updated periodically to reflect new developments in understanding of the novel influenza virus with potential to cause a pandemic, its transmission, prevention, and treatment. It will be exercised to identify operating challenges and promote effective implementation. Plan updates will also incorporate changes in response roles and improvements in response capability developed through ongoing planning efforts.

LIST OF ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
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<tbody>
<tr>
<td>CAHAN</td>
<td>California Health Alert Network</td>
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<tr>
<td>Cal/OSHA</td>
<td>California Occupational Safety and Health Administration</td>
</tr>
<tr>
<td>CDC</td>
<td>Centers for Disease Control and Prevention</td>
</tr>
<tr>
<td>CDFA</td>
<td>California Department of Food and Agriculture</td>
</tr>
<tr>
<td>CDHS</td>
<td>California Department of Health Services</td>
</tr>
<tr>
<td>DCDC</td>
<td>Division of Communicable Disease Control</td>
</tr>
<tr>
<td>EMS</td>
<td>Emergency Medical Services</td>
</tr>
<tr>
<td>EMSA</td>
<td>Emergency Medical Services Authority</td>
</tr>
<tr>
<td>Epi-X</td>
<td>Epidemic Information Exchange</td>
</tr>
<tr>
<td>EPO</td>
<td>Emergency Preparedness Office</td>
</tr>
<tr>
<td>EPSU</td>
<td>Emergency Pharmaceutical Services Unit</td>
</tr>
<tr>
<td>FDA</td>
<td>U.S. Food and Drug Administration</td>
</tr>
<tr>
<td>HEPA</td>
<td>High Efficiency Particulate Air Filter</td>
</tr>
<tr>
<td>HHS</td>
<td>U.S. Department of Health and Human Services</td>
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<tr>
<td>JEOC</td>
<td>Joint Emergency Operations Center</td>
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<td>NIMS</td>
<td>National Incident Management System</td>
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<tr>
<td>PCR</td>
<td>Polymerase Chain Reaction</td>
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<tr>
<td>PIWG</td>
<td>Pandemic Influenza Work Group</td>
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<tr>
<td>SEMS</td>
<td>Standardized Emergency Management System</td>
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<tr>
<td>VAERS</td>
<td>Vaccine Adverse Event Reporting System</td>
</tr>
<tr>
<td>VRDL</td>
<td>Viral and Rickettsial Disease Laboratory</td>
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<tr>
<td>WHO</td>
<td>World Health Organization</td>
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INTRODUCTION

Pandemic Influenza Background

Influenza, also known as the flu, is a disease that attacks the respiratory tract (nose, throat, and lungs) in humans. Although mild cases may be similar to a viral "cold," influenza is typically much more severe, usually comes on suddenly, and may include fever, headache, tiredness (which may be extreme), dry cough, sore throat, nasal congestion, and body aches and more often results in complications such as pneumonia. Seasonal influenza is a yearly occurrence that kills primarily persons aged 65 and older and those with chronic health conditions and causes significant economic impact. Those who are exposed, but do not succumb, develop immunity to the strain circulating that year.

Worldwide pandemics of influenza occur when a novel virus emerges to which the population has little immunity. The 20th century saw three such pandemics, the most notable of which was the 1918 Spanish influenza pandemic that was responsible for 20 million deaths throughout the world.

Public health experts are now concerned about the risk of another pandemic arising from the current epidemic of avian influenza that is spread rapidly and has affected domestic and wild birds in Asia, Africa, and Europe. When strains of avian influenza interact with the common strains of human influenza, a mutation can occur, creating a virus capable of human-to-human transmission, initiating a pandemic. Depending on the pathogenicity of such a virus, between 25 to 35 percent of the population may become ill and nearly 200,000 Californians may die. This level of disease activity would disrupt all aspects of society and severely affect the economy.

The impact of a pandemic cannot be predicted precisely because it will depend on the virulence of the virus, how rapidly it spreads, the availability of vaccines and antiviral medications, and the effectiveness of pharmaceutical and non-pharmaceutical community containment measures.

World Health Organization Pandemic Phases

This plan rests on a conceptual framework of public health functions (preparedness and communication; surveillance and detection; and response and containment), coupled to WHO's pandemic phases described below.¹

¹ In May 2006, WHO announced that it is reviewing and may revise the pandemic influenza phase definitions. For current definitions, see the WHO website at www.who.org.
INTERPANDEMIC PERIOD

WHO Phase 1. No new influenza virus subtypes have been detected in humans. An influenza virus subtype that has caused human infection or disease may or may not be present in animals. If present in animals, the risk of human infection or disease is considered to be low.

WHO Phase 2. No new influenza virus subtypes have been detected in humans. However, a circulating animal influenza virus subtype poses a substantial risk of human disease. The distinction between Phases 1 and 2 is based on the risk of human infection or disease resulting from circulating strains in animals, as assessed by various factors and their relative importance according to current scientific knowledge. Factors may include pathogenicity in animals and humans, occurrence in domesticated animals and livestock, (as opposed to only in wildlife), whether the virus is enzootic or epizootic, and whether the virus is geographically localized.

PANDEMIC ALERT PERIOD

WHO Phase 3. Humans have been infected with a novel virus subtype, but human-to-human spread has not occurred, or it has occurred in only rare instances of close contact.

Examples:

- One or more unlinked human cases with a clear history of exposure to an animal or other non-human source (with laboratory confirmation in a WHO-designated reference laboratory).

- Rare instances of spread from a case to close household or unprotected healthcare contacts without evidence of sustained human-to-human transmission.

- One or more small independent clusters of human cases (such as family members) who may have acquired infection from a common source or the environment, but for whom human-to-human transmission cannot be excluded.

- Persons whose source of exposure cannot be determined but who are not associated with clusters or outbreaks of human cases.

WHO Phase 4. Small cluster(s) of cases with limited human-to-human transmission are documented, but spread is highly localized, the virus is not well adapted to humans.

Examples:

- One or more clusters involving a small number of human cases, such as a cluster of less than 25 cases lasting less than two weeks.
• The appearance of a small number of human cases in one or more geographically linked areas without a clear history of a non-human source of exposure and for which the most likely explanation is considered to be human-to-human transmission.

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

Examples:

• Ongoing cluster-related transmission, but the total number of cases is not rapidly increasing, such as a cluster of 25 to 50 cases lasting from two to four weeks.

• Ongoing transmission, but cases appear to be localized (remote village, university, military base, island).

• In a community known to have a cluster, a small number of cases appear whose source of exposure is not readily apparent. The virus is beginning to spread more extensively.

• Clusters caused by the same or closely related virus strains appear in one or more geographic areas without rapidly increasing case numbers.

**PANDEMIC PERIOD**

**WHO Phase 6.** Increased and sustained transmission is documented in the general population.

**POSTPANDEMIC PERIOD**

Although not part of the WHO Phases for tracking the emergence of a pandemic, mitigation and recovery are essential for emergency planning and are incorporated as a part of this plan. Mitigation and recovery should focus on continuing public health actions, including communication with the public on issues such as when public gatherings can resume and continued monitoring of possible outbreaks of infection.
ASSUMPTIONS AND PLANNING PRINCIPLES

Key assumptions and limitations guiding CDHS pandemic influenza planning and response activities are listed below.

- A pandemic is a public health emergency that rapidly takes on substantial political, social, and economic dimensions. A broad range of private sector partners and government agencies, in addition to those dealing with public health, should be engaged in pandemic preparedness planning. A pandemic is likely to affect everyone in California: no amount of planning will allow “business as usual” in any sector of society or government.

- The course of pandemic influenza will be governed by factors that cannot be known in advance. Properties of the novel virus, including virulence, principal mode of transmission, timing and duration of viral shedding, and attack rate in different risk groups may differ from those of seasonal influenza strains.

- The first human cases of infection with a novel influenza virus will likely occur in outside of the U.S. and will be detected by the global surveillance network.

- An influenza pandemic could last from 18 months to several years, with two to three waves of activity.

- Activities identified in any given pandemic phase are not necessarily completed during that phase; activities started in one phase may continue into subsequent phases.

- Decisions about non-pharmaceutical community containment measures will be made in an atmosphere of considerable scientific uncertainty. Containment measures must be adapted to the epidemiologic context of each phase of the pandemic.

- Non-pharmaceutical community containment measures will be the principal means of disease control until adequate supplies of vaccine or antiviral medications are available.

- Vaccination and antiviral treatment are anticipated to be the most effective pharmaceutical strategies for reducing pandemic influenza morbidity and mortality. However, effective vaccines or antiviral medications may be delayed or in limited supply. CDHS will promote and coordinate the use of vaccines or antivirals based on their availability and the best scientific evidence at the time.

- CDHS, working with the Governor’s Office of Emergency Services, will continually strive to assure adherence with the State’s Standardized Emergency Management System (SEMS) and the National Incident Management System (NIMS).
• California’s standard operating procedure is for all levels of governance to coordinate emergency response activities through SEMS.

• CDHS may take actions described in this plan or activate its emergency management organization without local or state proclamation of emergency.

• Depending on the situation, CDHS may activate all or portions of the plan.

• California’s public health system is composed of local health departments with authority and responsibility for public health preparedness and response at the local level. CDHS leads, supports, and coordinates this effort and provides statewide policy guidance. CDHS provides cross-jurisdictional coordination during a multi-jurisdictional emergency and assistance if local resources are overwhelmed by the needs of the event. Although pandemic influenza may affect multiple jurisdictions simultaneously, all jurisdictional responsibilities are maintained. CDHS will provide additional support to leadership at the local level, without usurping the authority of local health departments.

• CDHS may modify and further define the federal guidance as necessary for allocating vaccines and antivirals to California’s local health departments. CDHS Emergency Pharmaceutical Services Unit (EPSU) will be responsible for obtaining and distributing vaccines and antiviral drugs made available to California.

• The ability of the federal government to support California will be limited at the onset of a pandemic and may continue to be limited for an extended period. The State, local communities, and tribal entities will have to address the pharmaceutical and non-pharmaceutical community containment effects of a pandemic with available resources. Planning for continuity of governance at the state and local levels and continuity of operations (for the private sector) is an essential component of pandemic influenza preparedness.

• Communication is a critical aspect of all emergency planning and response. All programs involved in planning for and responding to pandemic influenza and other public health emergencies must ensure timeliness and accuracy of communication, including risk communications.

• CDHS will activate its risk communication strategies and quickly disseminate public advisories and alerts based on information from the Centers for Disease Control and Prevention (CDC) and other credible sources.

• Numerous people cross the California-Baja California border daily. Coordination with representatives from Baja California on pandemic influenza activities is essential for an effective response.
• CDHS and local health departments will work with tribal entities, Indian Health Clinics, the federal Indian Health Services, and other organizations to assure coordination.

• Special populations will be assessed and included within the planning, response, mitigation, and recovery process.

AUTHORITIES

• California Emergency Service Act (Government Code Title 2, Division, Chapter 7, Section 8550 et seq.): Confers emergency powers upon the Governor and chief executives of political subdivisions of the state to provide for state assistance in organization and maintenance of emergency programs; establishes the Governor’s Office of Emergency Services; assigns functions to state agencies to be performed during an emergency and provides for coordination and direction of emergency actions of those agencies; and establishes mutual aid procedures. Authority for the creation of standby orders exists in Government Code section 8567. Authority to suspend statutes and agency rules exists in Government Code section 8671.

• California Health and Safety Code Sections Pertaining to State Authorities:
  o Sections 100170-100180: Establishes the authority of CDHS to enforce regulations to address threats to the public health.
  o Sections 120125-120140: Establishes the authority of CDHS to investigate and control communicable disease within the state.
  o Sections 120145-120150: Establishes the authority of CDHS to take actions related to persons, animals, or property to control threats to public health, including quarantine, isolation, inspection, disinfection, and destruction of property.

• California Health and Safety Code Sections Pertaining to Local Authorities:
  o Sections 101000, 101025, 101030: Establishes the authority of county health officers to preserve and protect the public health by enforcing county orders, ordinances, and statutes pertaining to public health.
  o Sections 101375, 101400, 101405, 101415, 101450, 101460, and 101470: Establishes authority of cities to consent or contract with the county to provide performance of public health functions and statute enforcement. In the absence of consents or contracts with the county, authorizes cities to appoint a health
officer to enforce and observe all orders, ordinances, quarantines, regulations, and statutes relating to public health.

- **Sections 101040, 101475**: Authorizes county and city health officers to take preventive measures during emergency.

- **Section 120175**: Authorizes the local health officer to take measures necessary to control the spread of communicable diseases.

- **California Food and Agriculture Code 9562**: Establishes provisions for the state veterinarian to quarantine animals or animal products and to take appropriate disease control action to control or eliminate diseases from animal populations.

- **California Government Code 8549.10 and 8549.11**: Establishes the Emergency Response Team for State Operations of eight specific Directors including the CDHS Director, and allows CDHS to enhance the continuity of government during major events, such as a pandemic influenza outbreak.

- **Executive Order No. W-9-91**: Mandates that each state agency and department (e.g., CDHS) is responsible to prepare for and respond to emergencies. It mandates emergency preparedness and response assignments for all state agencies and departments under the coordination of OES.

- **Executive Order No. S-04-06**: Directs state agency and department heads to meet on a regular basis to establish common strategies and actions for continued and enhanced emergency preparedness, response, recovery and mitigation efforts.

- **Administrative Order No. 79-22**: Details the emergency preparedness and response functions of each department (e.g., CDHS). This Administrative Order guides OES and all departments in coordinating priority tasks and programs related to emergency preparedness, response, and recovery in accordance with the OES State Emergency Plan.

## REFERENCES

- **California Department of Health Services, Public Health Emergency Response Plan and Procedures, November 2005.**

- **Emergency Medical Services Authority, Disaster Medical Response Plan, July 1992.**

- **Memorandum of Understanding, Department of Health Services and Emergency Medical Services Authority, July 1988**: Details the relationship between CDHS and EMSA in planning for and responding to a catastrophic disaster and describes the specific responsibilities of each department.
• **Governor's Office of Emergency Services, State Emergency Plan, May 1998:** Defines the emergency management system used for all emergencies in California. The plan describes the state government's response to disasters, including the response of all levels of government and certain private-sector organizations to all natural and human-made emergencies that threaten life, property, and the resources of California. It focuses on the basic requirements for disaster management and coordination under SEMS. It is intended to be used in conjunction with city, county, operational areas, and state agency plans and associated standard operating procedures. The State Emergency Plan recognizes and designates CDHS as the lead State department for public health response.

• **Federal Emergency Management Agency, National Response Plan, December 2004:** An all-discipline, all-hazards plan that provides a single, comprehensive framework for managing domestic incidents. It provides the structure and the mechanisms for coordinating delivery of federal assistance and resources to augment efforts of state, local, and tribal governments overwhelmed by a major disaster or emergency. It includes 32 signatory partners, including numerous federal departments, the American Red Cross, the National Voluntary Organizations Active in Disaster, and other organizations. It supports implementation of the Robert T. Stafford Disaster Relief and Emergency Assistance Act and for exercising direct federal authorities and responsibilities. For events that rise to the level of an Incident of National Significance, it provides operational or resource coordination for federal support to on-scene incident command structures.

• **Regional Disaster Medical and Health Coordinator Emergency Plans:** These plans are prepared by each Regional Disaster Medical/Health Coordinator to describe their local disaster response roles.

• **Health Officer Practice Guide for Communicable Disease Control in California, December 12, 2005:** A compilation of statutes, examples, and interpretations by local public health officials, county counsels, and others to provide a guide for local planning and actions during a public health emergency. The document can be found on the California Department of Health Services website at [www.dhs.ca.gov/EPO](http://www.dhs.ca.gov/EPO).

• **National Strategy for Pandemic Influenza, November 2005 Homeland Security Council:** Establishes the national perspectives on planning and preparedness for addressing a pandemic influenza outbreak on the national, state, and local levels.

• **Implementation Plan for the National Strategy for Pandemic Influenza, May 2006, Homeland Security Council:** Clarifies the roles and responsibilities of governmental and non-governmental entities and provides preparedness guidance for all segments of society.
EMERGENCY MANAGEMENT ORGANIZATION

The CDHS Pandemic Influenza Preparedness and Response Plan is an emergency-specific annex to the CDHS Public Health Emergency Response Plan and Procedures. The plans describe the relationship of CDHS to the state emergency response structure and the roles and responsibilities of CDHS organizational units. Coordination of the CDHS organizational units will be through the CDHS representatives in the Joint Emergency Operations Center (JEOC). This section describes the emergency management structure that CDHS will implement for pandemic influenza preparedness and response.

The CDHS Joint Advisory Committee on Public Health Preparedness serves as the federally-required coordinating committee on pandemic influenza issues. The CDHS Joint Advisory Committee on Public Health Preparedness advises CDHS on the formulation of policy and multi-agency preparedness and planning prior to a pandemic influenza event. This group will advise on preparedness activities and efforts as outlined in the plan. At the discretion of the Director, members of the CDHS Joint Advisory Committee on Public Health Preparedness may be included within the Multi-Agency Coordination group during an emergency. CDHS may convene technical consultants or other ad hoc advisory groups as needed to address specific issues.

CDHS is the lead state department for the State’s public health component of the pandemic influenza response. In this role, CDHS will communicate directly with other state agencies and coordinate activities through the Governor’s Office of Emergency Services. CDHS will work closely with EMSA in coordinating the medical response. CDHS has primary responsibility for activating the pandemic influenza response at the level appropriate to the specific phase of a pandemic. Within CDHS, the structure of the response organization will include a Disaster Policy Council, the JEOC, and coordination within individual programs and organizational units. The relationships of various groups are described below.

- **CDHS Directorate:** The Director of CDHS is responsible for the CDHS pandemic response. The CDHS Director will:
  
  o In coordination with the Emergency Preparedness Office (EPO), activate the CDHS emergency management organization as appropriate;
  
  o Activate the CDHS Disaster Policy Council to recommend high-level policy decisions and ensure that all CDHS organizational units implement these decisions;
  
  o Provide policy direction to emergency management groups and other state and local agencies detailed in this plan;
  
  o Ensure that all necessary CDHS resources are directed to respond to the emergency; and
- Maintain continuity of CDHS management and operations through a clear command authority.

- The **Disaster Policy Council** serves as an advisor to the Directors of CDHS and EMSA on policy issues related to a response to a pandemic influenza. It is activated by, and works under, the Director of CDHS and the Director of EMSA. In addition to the Directors of CDHS and EMSA, the Disaster Policy Council is composed of the State Public Health Officer and other CDHS executive staff, and recommends high-level policy decisions that govern pandemic influenza response and recovery activities.

- **A Multi-Agency Coordinating Group** is established when multiple disciplinary or jurisdictional areas are involved and incident management and policy coordination is required. The Multi-Agency Coordinating Group will be composed of the CDHS Director, the State Public Health Officer, members of the CDHS Joint Advisory Committee on Public Health Preparedness and other principals (or their designees) from organizations and agencies with direct incident management responsibilities or substantial incident management support or resource responsibilities. The Multi-Agency Coordinating Group will function as an advisory group to the JEOC. The Multi-Agency Coordinating Group will:
  - Ensure that each agency involved with incident management activities is providing appropriate situational awareness and resource status information;
  - Establish priorities between jurisdictions for acquiring and allocating resources in concert with those priorities, and identifying future resources requirements;
  - Coordinate and resolve policy issues arising from the incidents; and
  - Provide strategic coordination as required.

- **The Joint Emergency Operations Center** of CDHS and EMSA coordinates state-level medical and health response and resources, provides a location designed to facilitate the acquisition of public health and medical personnel, medical supplies, pharmaceuticals, and equipment on the request of an affected local area or region, and coordinates resource acquisition and support for field emergency response activities. The JEOC coordinates with Governor’s Office of Emergency Services at the State Operations Center or Regional Emergency Operations Centers, as appropriate. Additionally, the JEOC ensures information flow to CDHS organizational units and other state agencies, and ensures coordination and information flow with federal agencies, local health departments, tribal entities, healthcare organizations, and other providers of medical care, facilities, and supplies. The JEOC is staffed by representatives from CDHS and EMSA involved in the response. However, program activities occur within the responsible organizational units. For programs located at the Richmond Campus, the Richmond Coordination Center serves as the physical
location of the program’s response. This includes the Division of Communicable Disease Control (DCDC) as the lead CDHS program division on pandemic influenza planning and response (see CDHS DCDC below). An organizational chart for the JEOC during a pandemic influence response is shown in Figure 1.1.

- The Risk Communication Team consists of the Office of Public Affairs, the EPO Risk Communication Section, and representatives from the Division of Communicable Disease Control (DCDC). This team works collaboratively to provide all aspects of needed public information and support to local health departments. During activation, the Office of Public Affairs maintains its lead role in providing information to CDHS Executive Staff, California Health and Human Services Agency, the Governor’s Office, Legislature and the news media. The Risk Communication Team coordinates CDHS’ overall response with other organizational units in CDHS, local health departments, and the Governor’s Office of Emergency Services Joint Information Center. The Risk Communication Team also provides lead response on the CDHS EPO website and issues appropriate California Health Alert Network (CAHAN) alerts, fact sheets, translations of materials, and hotline and support materials as part of an overall public information campaign.

DIVISION AND PROGRAM RESPONSIBILITIES FOR PANDEMIC RESPONSE

The following CDHS divisions and programs will have active and direct roles during any pandemic influenza event.

- The CDHS Division of Communicable Disease Control (DCDC) is the lead CDHS division during a pandemic influenza. The DCDC Division Chief will:
  
  o Manage or designate responsibility to DCDC staff to assist in developing an Action Plan in coordination with the JEOC and involved divisions, such as the Licensing and Certification Division and EPO, and will ensure DCDC’s implementation of the Action Plan;

  o Provide DCDC liaisons to participate in the JEOC and ensure coordination of activities;

  o Ensure activation of all elements of the Pandemic Influenza Preparedness and Response Plan that are within the scope of DCDC, including the Richmond Coordination Center, and provide overall coordination among the activities composing the DCDC response; and
In coordination with EPO, ensure appropriate coordination and communication with other states and Baja California through the California Office of Binational Border Health and the Early Warning Infectious Disease Surveillance office, and with tribal entities.

- The CDHS Viral and Rickettsial Disease Laboratory Branch (VRDL) will provide laboratory support to the CDHS Communicable Disease Control Division and to other agencies concerned with the diagnosis, prevention, and control of viral and Rickettsial infections. The Branch will assist local public health directors, physicians, and medical facilities in the treatment of viral infections and provide essential immune sera, antigens, and other reagents not available elsewhere to local health departments and medical facilities to support their viral diagnostic services.

- The CDHS Immunization Branch will assist with surveillance, prevention, and control of vaccine-preventable diseases, including seasonal and pandemic influenza.

- The CDHS DCDC Pandemic Influenza Work Group (PIWG) is composed of the lead for pandemic influenza planning, the Chiefs of Immunization Branch, Viral & Rickettsial Disease Lab, Infectious Diseases Branch, and provides expert technical consultation and advice to DCDC on pandemic influenza containment issues.

- The CDHS DCDC Field-based Pandemic Influenza Technical Specialist or Rapid Assessment Teams (composed of two Field-Based Pandemic Influenza Technical Specialists, typically a physician and a nurse or epidemiologist) may be deployed to provide technical consultation on pandemic influenza control tactics to the Operational Area or Regional Emergency Operations Center planning-intelligence branch(es) or directly to the local health officer. Field Technical Specialists and Liaisons remain under the supervision of the Richmond Coordination Center but do not supersede Operational Area or Regional Emergency Operations Center management.

- The CDHS Emergency Preparedness Office (EPO) is responsible for coordinating CDHS’ emergency preparedness and response activities, including the 24-hour executive duty officer program, to ensure that CDHS is prepared to respond to a pandemic.

- The CDHS Emergency Pharmaceutical Services Unit (EPSU) will be responsible for procuring and distributing vaccines and antiviral drugs that are made available to the State.

- The CDHS Food, Drug, and Radiation Safety Division will coordinate the holding and control of appropriate drugs and medical supply stocks that are intended for wholesale distribution, if the appropriate Governor’s Standby Order has been implemented.
• The **CDHS Licensing and Certification Division** is responsible for regulating and promoting the highest quality of medical care in community settings and facilities. Healthcare surge capacity will be a key element of the response to pandemic influenza. The Licensing and Certification Division plays a key role in response activities and in the field working with licensed facilities on beds, staffing, and medical equipment needs to respond to pandemic influenza patients.

• The **CDHS Health Information and Strategic Planning Division’s Office of Vital Records** will assist local coroner operations during a pandemic through the provision of emergency supplies of death certificates and disposition forms and provide training in their use.

• The **CDHS Division of Chronic Disease and Injury Control’s Epidemiology and Prevention for Injury Control Branch** will develop, maintain, and implement epidemiologic surveillance protocols during the pandemic, in coordination with the CDHS Division of Environmental and Occupational Disease Control, to determine disaster-related morbidity and mortality.

• The **CDHS Division of Environmental and Occupational Disease Control** is responsible for protecting the public from health effects of chemical and hazardous materials and will provide occupational medicine and toxicology consultation to Cal/OSHA and other agencies during a pandemic.

• The **CDHS Laboratory Science Division** is responsible for providing laboratory technical services to support emergency operations of CDHS laboratories, to assure that reliable environmental and public health laboratory services are available to help assess the damage caused by the disaster, and to ensure that reliable clinical and public health laboratory services and blood bank services are available to help diagnose and treat the injuries, diseases, and medical conditions of human victims of the disaster.
Figure 1.1 The CDHS Organizational Chart for Pandemic Influenza. Solid lines denote official relationships and information flow. Dotted lines denote unofficial information channels and notification.
CONCEPT OF OPERATIONS

Synopsis of Operational Priorities

CDHS operational priorities in response to a potential pandemic are to:

- Ensure rapid and early detection of a novel virus;
- Confirm identity or type of a novel virus by laboratory identification;
- Identify the exposure source of the outbreak and the population at risk;
- Control and contain the spread of influenza through pharmaceutical and non-pharmaceutical community containment strategies, including isolation, quarantine, infection control, antiviral treatment and prophylaxis, and, if available, vaccination;
- Manage and disseminate accurate information for scientific, resource, and policy decisions in public health and healthcare delivery settings;
- Disseminate information to enlist public support and cooperation and enable personal, community, and business-based preparedness and response;
- Track and respond to subsequent pandemic influenza waves;
- Coordinate state and federal activities with local public health partners; and
- Coordinate the medical and healthcare response.

CDHS may mobilize staff in all of its divisions, branches, and programs during an emergency to perform duties outside their normal roles and work hours.

These concepts and activities are further described in the following chapters and appendices to the plan.

Operational Priorities by Pandemic Phase

WHO will designate the global pandemic phase, using the phases outlined in the Introduction of this plan. CDC, in coordination with WHO, will designate the U.S. pandemic phase. CDHS will adopt and function under the U.S. phase. The global and U.S. phases may differ. Because of the nature and impact of a pandemic, different operational priorities will pertain in different pandemic phases (Table 1.1).
<table>
<thead>
<tr>
<th>Pandemic Phases</th>
<th>Operational Priorities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpandemic period</td>
<td></td>
</tr>
<tr>
<td>Phase 1</td>
<td>Strengthen pandemic influenza preparedness at the state and local levels</td>
</tr>
<tr>
<td>Phase 2</td>
<td>Minimize the risk of transmission from birds to humans; coordinate with the California Department of Food and Agriculture regarding infected bird populations and the California Department of Food and Agriculture’s possible request for state of emergency proclamation; ensure rapid detection and reporting of the first occurrence of the novel virus in humans. Coordinate with the California Department of Fish and Game regarding migrating wild bird populations and potential infections.</td>
</tr>
<tr>
<td>Pandemic alert period</td>
<td></td>
</tr>
<tr>
<td>Phase 3</td>
<td>Continue to strengthen preparedness at the state and local levels. Ensure rapid characterization of the new virus subtype and early detection, notification, and response to additional cases and enhance surveillance.</td>
</tr>
<tr>
<td>Phase 4</td>
<td>Contain the new virus within limited foci or delay spread to gain time to implement preparedness measures, including vaccine development.</td>
</tr>
<tr>
<td>Phase 5</td>
<td>Maximize efforts to contain or delay spread, to possibly avert a pandemic, and to gain time to implement pandemic response measures.</td>
</tr>
<tr>
<td>Pandemic period</td>
<td></td>
</tr>
<tr>
<td>Phase 6</td>
<td>Minimize the impact of the pandemic, while striving to maintain routine provision of public health and healthcare delivery.</td>
</tr>
<tr>
<td>Postpandemic Period</td>
<td></td>
</tr>
<tr>
<td>Mitigation and Recovery</td>
<td>Continue public health actions, evaluations and research, public communications, mental health activities, surveillance, and preparations for reoccurring or additional outbreaks</td>
</tr>
</tbody>
</table>
Planning and Preparedness

Before sustained human-to-human transmission of a novel influenza strain, CDHS is responsible for ongoing preparedness activities, including:

- Convoking advisory groups to advise CDHS on implementation of the Pandemic Influenza Preparedness and Response Plan;

- Identifying public and private sector partners needed for effective planning and response;

- Developing the Pandemic Influenza Preparedness and Response Plan including conducting surveillance, laboratory testing, case management and treatment; obtaining and distributing vaccine and antivirals; preventing the spread of disease in the community; conducting healthcare facilities planning; and communicating to the public;

- Integrating pandemic influenza planning with other planning activities conducted under CDC and Health Resources and Services Administration bioterrorism preparedness cooperative agreements;

- Coordinating with local health departments to ensure development of local plans, as called for by the state plan, and providing planning resources, such as templates and training;

- Developing data management systems needed to implement components of the plan;

- Identifying and training CDHS staff to manage and facilitate response during a long-term emergency;

- Assisting local health departments in exercising plans and coordinating within their jurisdiction, with tribal entities, and with adjoining jurisdictions and states;

- Enhancing the influenza-like illness surveillance efforts of local health departments and tribal entities through training and laboratory support;

- Developing guidelines for healthcare facilities and healthcare delivery organizations related to planning, preparedness, and response;

- Specifying the activation thresholds for the JEOC;

- Operating the JEOC;

- Evaluating local health department and tribal entity pandemic influenza plans;
• Providing guidance to the private sector regarding continuity of operations planning; and

• Planning and coordinating public health activities with other states and Baja California through the California Office of Binational Border Health and the Early Warning Infectious Disease Surveillance office.

Emergency Response Notification and Activation Procedures

Medical or public health authorities may detect the first human case of novel influenza virus disease in California through the clinical evaluation and laboratory confirmation of persons presenting with influenza-like illness or upper respiratory disease. (Influenza-like illness is defined as a fever above 100°F and a cough or sore throat in the absence of a known cause other than influenza.)

CDHS receives updated national surveillance recommendations from CDC via the Health Alert Network. The DCDC PIWG reviews these surveillance recommendations, provides any needed technical clarifications or revisions for application to California, and distributes recommendations to local health departments, medical providers, and hospital-based infection control practitioners by e-mail and through CAHAN. Local health departments distribute recommendations to individual physicians and other providers through CAHAN or their own emergency communication mechanisms. If CDC recommendations are not forthcoming, the DCDC PIWG develops interim surveillance recommendations and distributes them through e-mail and CAHAN. The following flow chart illustrates CDHS’ notification and initial activation procedure in response to a novel influenza virus or a suspect novel human influenza case in California.
LHD Surveillance Coordinator/Local Health Officer notifies the DCDC Duty Officer of the Day (DCDC-DOD) of any patient who meets the interim surveillance criteria for suspect novel influenza case

The DCDC-DOD notifies VRDL contact (or designee), Chief of DCDC (or designee), the CDHS Duty Officer and the EPO Duty Officer

VRDL contacts LHD to coordinate specimen submission, laboratory testing, and completion of suspect novel influenza reporting form; VRDL contact (or designee) notifies Chief, DCDC (or designee) and Pandemic Influenza Workgroup (PIWG) of pending tests

VRDL notifies the PIWG, local health officer, and other key contacts of laboratory test results; Chief Immunization Branch/VRDL coordinates conference call with LHD and other key local contacts; VRDL and CDC will coordinate confirmatory testing

If laboratory testing confirms the presence of novel influenza virus in suspect case, the PIWG designee(s) notify DCDC, State Epidemiologist, EPO, the CDHS Duty Officer, OPA, and other Prevention Services and Executive Staff

The first case of laboratory-confirmed novel influenza virus human infection in California or elsewhere in the United States, or evidence of sustained human-to-human transmission anywhere in the world, will result in activation of the relevant components of CDHS emergency management organization and may trigger a Governor’s proclamation of a state of emergency. The scale of CDHS activation will be situation-specific and will be determined by the CDHS Director in consultation with the State Public Health Officer, DCDC, EPO, and the Disaster Policy Council.

CDHS will notify the Governor’s Office of Emergency Services of the activation of the JEOC. During initial activation of the JEOC, the JEOC Director will convene a conference call with key JEOC managers and DCDC representatives, including the PIWG, to assess the situation and determine the appropriate public health actions and priorities.

DCDC will convene a conference call with all local health departments, key state agencies, and other local contacts within one day of a positive laboratory confirmation of human infection with a novel influenza virus. DCDC will implement planned activities and may deploy a pandemic influenza assessment team to the location of the first case of infection to assess the situation and assist in case investigation. These teams report intelligence and situation assessments directly to DCDC and the JEOC.
Actions to Control the Pandemic and Responsible Parties

The key functional areas of the pandemic influenza response are surveillance and epidemiologic investigation, vaccine and antivirals operations, non-pharmaceutical community containment, surge capacity, infection control guidance to healthcare facilities, and risk communications.

During a pandemic, local health departments are responsible for:

- Conducting primary surveillance and reporting of cases;
- Conducting primary case investigation and contact tracing;
- Conducting primary laboratory analysis and confirmation of influenza;
- Identifying sources of disease and causes of disease spread;
- Initiating education and information to prevent spread of disease;
- Providing or coordinating vaccination and prophylaxis, and other means of preventing spread;
- Protecting communities through legal orders and enforcement of those orders;
- Coordinating with other public health agencies at the local and state level;
- Requesting assistance from other local and state agencies; and
- Informing and educating partner agencies and the public on public health guidance and actions needed to reduce and slow the spread of disease.

- Identification and coordination of alternate care sites.

CDHS will be responsible for the following actions:

- Assessing the need for enhanced surveillance in both affected and unaffected localities and activating revised surveillance protocols;
- Activating enhanced influenza surveillance strategies that are coordinated with national surveillance objectives;
- Activating reference laboratory testing, ensuring appropriate capacity, and providing guidance to local laboratories;
- Assessing the need for, and activating re-prioritized laboratory testing protocols;
• Activating and deploying specialists and liaisons, or Rapid Assessment Teams, comprising state staff, to selected locations in the field;

• In coordination with the CDHS Joint Advisory Committee on Public Health Preparedness' established subcommittee, titled the CDHS Joint Advisory Committee on Pandemic Influenza Vaccine and Antiviral Prioritization Strategies, and under general authorities, developing a dynamic list of treatment and prophylaxis recommendations for a novel virus including target recipients;

• Disseminating case and contact management protocols to ensure suspect cases are promptly identified and isolated, and contacts are located, quarantined, and monitored for symptoms;

• Identifying priority vaccine recipients and ensuring appropriate vaccine storage, handling, and administration;

• Distributing federally-supplied vaccine, according to California’s Strategic National Stockpile Plan, to targeted geographic areas and recipients;

• Activating infection control procedures and disseminating guidance to minimize transmission of influenza in homes, the community, and healthcare facilities;

• Invoking state legal authorities to increase or support availability of additional acute care beds and alternate care sites, including licensure of and infection control in healthcare facilities;

• Invoking state legal authorities, such as modifying licensing requirements, to support the availability of surge clinical and hospital staffing;

• Recommending to local authorities the most feasible, effective, and enforceable methods of isolation and quarantine to prevent the spread of influenza;

• Invoking isolation, quarantine, or non-pharmaceutical community containment requirements using state legal authorities, and coordinating with federal authorities on measures to prevent the interstate spread of influenza;

• Coordinating with federal and local authorities to ensure that communications with the public are consistent, accurate, address anxieties, alleviate unwarranted concerns or distress, and enlist cooperation with necessary control measures;

• Promoting self-protective behaviors to California communities in multiple languages and formats by developing consistent messages and materials for distribution through local health departments, tribal entities, response partners, and others;
• Providing training, including just-in-time training, to build public health and healthcare capacity to respond;

• Implementing Governor’s Standby Order to hold and control drugs and medical supplies intended for wholesale distribution, obtaining necessary inventories, and coordinating the distribution of assets to the designated locations;

• Organizing and releasing state and federal public health and medical response assets (in conjunction with local officials) including personnel, drugs, and medical supplies, including assets from the federal Strategic National Stockpile;

• Assessing the need for and recommending step-down and recovery operations;

• Activating post-event surveillance to monitor the pandemic;

• Continuing vaccine programs, if available, to maintain or increase immunity in the population; and

• Communicating and coordinating pandemic influenza response activities, with representatives from other states and Baja California.

Mitigation

During a pandemic, large-scale disruption of all sectors of society is likely. Mitigation activities are important elements of preparedness and provide a critical foundation across the incident management spectrum, from prevention through response and recovery. This plan incorporates mitigation activities throughout the pandemic phase responses. Activities that may mitigate the impact of a pandemic include the following:

• Educating the public on respiratory and hand-washing hygiene and what to expect during a pandemic;

• Planning for continuity of operations to handle absenteeism;

• Planning for inventory scarcity and disruption of essential supplies;

• Developing pharmaceutical solutions and distributing vaccines and antiviral medications. Vaccines will be unavailable or in short supply for at least six months and antivirals will be exhausted quickly with uncertain replacement supplies during a pandemic; and

• Implementing non-pharmaceutical community containment measures such as wearing masks, staying home if sick, and canceling school and public events.
Recovery

Unlike other natural disasters, an influenza pandemic may last for two to three years and occur in several waves. Recovery begins while the pandemic is still in progress and continues between waves and after the pandemic. The following activities are important aspects of recovery:

- Providing detailed retrospective characterization of the pandemic;
- Evaluating the efficacy of containment measures and emergency management strategies;
- Assessing the effectiveness of vaccines and antivirals;
- Preventing or minimizing subsequent waves of influenza by using current vaccine or antiviral resources; and
- Incorporating mental health messages into public communications to reduce post-traumatic stress disorders.

After a pandemic, CDHS will review and critique of the response activities in this plan with staff and other organizations and agencies. The review will result in an after-action report with recommendations to improve future preparedness.
Chapter 2.

PANDEMIC INFLUENZA SURVEILLANCE AND EPIDEMIOLOGY

INTRODUCTION

Global Influenza Surveillance

The World Health Organization (WHO) Global Influenza Surveillance Network is composed of four WHO Collaborating Centers and 112 institutions in 83 countries, which are recognized by WHO as WHO National Influenza Centers. Annually, the National Influenza Centers collect more than 175,000 patient samples and submit around 2,000 viruses to the four Collaborating Centers for antigenic and genetic analyses. The WHO Influenza Surveillance Network also serves as a global alert mechanism for the emergence of influenza viruses with pandemic potential.

National Influenza Surveillance

In the United States, the Centers for Disease Control and Prevention coordinates national influenza surveillance. National influenza surveillance consists of five components:

- Laboratory surveillance;
- Outpatient influenza-like illness surveillance;
- Pneumonia- and influenza-related mortality surveillance;
- Influenza-associated pediatric mortality surveillance; and
- Determination of relative influenza activity in individual states.
CDHS Influenza Surveillance

Influenza-Like Illness and Novel Influenza Virus Surveillance

Influenza is not a reportable disease in California because of the large number of cases that occur each year with a non-specific clinical presentation and no routine laboratory confirmation. However, CDHS collaborates with academic, public, and private institutions to obtain information from multiple sources about disease activity. During the influenza season (Week 40 through Week 20), through a collaborative effort between the Viral and Rickettsial Disease Laboratory (VRDL), Immunization Branch, and Infectious Diseases Branch, CDHS monitors influenza illness activity using the following surveillance systems (see Appendix A):

- Hospitalizations for pneumonia and influenza (Northern and Southern California Kaiser Permanente);
- Antiviral prescription data (Northern and Southern California Kaiser Permanente);
- Outpatient influenza-like illnesses (CDC Influenza Sentinel Providers);
- California emergency department visit data (California Emergency Physicians);
- Severe pediatric influenza and pediatric influenza-associated deaths;
- Surveillance of respiratory outbreaks in long-term care facilities;
- Surveillance for human avian influenza;
- Surveillance for vaccine adverse events; and
- Influenza-like illness surveillance along the California-Baja California border through the Early Warning Infectious Disease Surveillance and Border Infectious Disease Surveillance Programs.

Influenza Laboratory Surveillance

- **Sentinel Laboratories** provide data on the number of laboratory-confirmed influenza and other respiratory virus detections and virus isolations. Nineteen laboratories report these data weekly.

- The **Respiratory Laboratory Network** encompasses 22 local public health laboratories in California. Of these, 20 Respiratory Laboratory Network laboratories offer enhanced diagnostic testing for several respiratory pathogens, including influenza A and B viruses,
respiratory syncytial virus, parainfluenza virus, and adenovirus. All 22 Respiratory Laboratory Network laboratories offer polymerase chain reaction (PCR) testing for influenza A and B.

- **CDHS Viral & Rickettsial Disease Laboratory (VRDL)** serves as a statewide reference laboratory that offers diagnostic testing for influenza using isolation, PCR, and serologic testing.

The Division of Communicable Disease Control (DCDC) has a Pandemic Influenza Work Group (PIWG) consisting of representatives of VRDL, Immunization Branch, and Infectious Diseases Branch. The team meets weekly throughout the influenza season to review surveillance data, discuss the level of influenza activity, review individual cases and outbreaks, review vaccine supply distribution and allocation, work on communication activities, coordinate efforts with the Office of Public Affairs and Emergency Preparedness Office Risk Communication Section, and assign tasks when action is needed.

**CDHS Influenza Epidemiologic Investigations**

CDHS, in collaboration with local health departments, will initiate epidemicologic investigations to identify how suspected human cases of novel influenza virus became infected, assess the clinical impact of the disease, and determine the risk that infected persons or their environment may represent for others. CDHS will also initiate contact investigations to prevent further transmission, identify potential new cases, and provide appropriate prophylaxis or treatment. Based on these epidemicologic investigations, preventive measures, including non-pharmaceutical containment strategies, may be identified or revised, and specific actions (e.g., identification and prophylaxis treatment of contacts) evaluated and implemented.

**OBJECTIVES**

The objectives of CDHS pandemic influenza surveillance are to:

- Monitor the emergence of a novel influenza virus in human populations and detect the first appearance of a novel influenza virus in California;

- Describe the epidemiologic and clinical features of an influenza outbreak; and

- Provide critical surveillance data and facilitate response activities.
The objectives of CDHS pandemic influenza epidemiology are to:

- Ensure that suspect novel human influenza cases are isolated and that the sources of exposure (animal vs. human) are determined in the pandemic alert and early phases of a pandemic; and

- Conduct epidemiologic investigations of suspect human influenza cases to:
  - identify at-risk populations and current clinical characteristics of disease;
  - assess likely human-to-human transmission;
  - evaluate phase-specific control measures; and
  - characterize and assess impact of pandemic influenza on the California population.

ASSUMPTIONS AND PLANNING PRINCIPLES

Influenza Illness Surveillance

- An effective statewide pandemic influenza surveillance system requires a well-functioning, interpandemic influenza surveillance system.

- Surveillance needs will expand and change as an influenza pandemic evolves from the initial stages (i.e., when a novel influenza virus is first identified in one or more persons), to a pandemic (i.e., with efficient human-to-human transmission). Surveillance needs will differ, depending on where the disease has been identified, whether there is coexisting disease among poultry or other animals, whether and how efficiently transmission occurs between people, and whether disease outbreaks have occurred in the United States or other countries.

- Surveillance data will be critical to help guide implementation of control measures, such as restricting travel, closing schools, canceling public gatherings, initiating antiviral and vaccine usage in target groups, assessing the impact of a pandemic on the healthcare system, and assessing the social and economic impact on society.

- During a pandemic, stakeholders, the media, and the public will demand timely surveillance data.

- California shares many social and economic ties with Baja California, Mexico. There are more than 200 million border crossings a year. When individuals with an infectious
disease or their contacts cross the international border, binational cooperation is necessary for public health follow-up. Close collaboration between California and Baja California influenza surveillance systems is essential to monitor influenza activity and guide coordinated response strategies in the border region.

- In the interpandemic period and early stages of a pandemic, before community transmission is established, CDHS and local health departments will monitor individual cases of suspected and confirmed novel virus infection and collect relevant demographic and clinical information. Once sustained community transmission is established, monitoring suspected and confirmed cases may become overwhelming. CDHS and local health departments may only collect aggregate numbers of suspected and confirmed cases by local health jurisdiction, as well as other important morbidity and mortality markers, such as numbers of hospitalizations and deaths.

- Once a pandemic is under way, supplies of rapid antigen testing and reagents for immunofluorescence assays and PCR likely will be depleted. At this stage, surveillance for novel virus infection will rely primarily on clinical diagnoses made in outpatient clinics, emergency departments, inpatient wards, and intensive care units, with assistance from the local health departments.

**Pandemic Influenza Epidemiologic Investigation**

- In the pandemic alert period and in the early phases of the pandemic, identifying the source of infection (animal vs. environment vs. human) of new cases will be a critical activity that will support decisions about containment strategies. Once the pandemic is under way, the need for such investigations will be determined.

- The types of epidemiologic investigations conducted (i.e., those addressing clinical characteristics, risk factors, the probability of transmission among humans, treatment efficacy studies) will vary during different phases of the pandemic.
CDHS Pandemic Response Action Steps

WHO Phase 1 and Phase 2

Interpandemic Period: No novel influenza subtypes have been detected in humans, but a novel subtype that has caused human infection may be present or circulating in animals.

Influenza Illness Surveillance

CDHS will:

- Continue all interpandemic surveillance activities as described above and in Appendix A;

- Encourage influenza sentinel providers to perform year-round reporting of influenza-like illness activity;

- In conjunction with local public health laboratories, explore developing a laboratory-based surveillance system for cases of severe unexplained pneumonia;

- In conjunction with local health departments, explore developing an enhanced surveillance system for influenza-like illnesses in sentinel school-based clinics and health offices;

- In conjunction with local health departments, explore developing an enhanced surveillance system for pneumonia and influenza-associated deaths;

- In conjunction with local health departments, work closely with healthcare organizations and healthcare providers to implement active surveillance in emergency departments, inpatient wards, and intensive care units;

- Encourage the use of influenza rapid diagnostic tests, immunofluorescence assays, and PCR to detect the first case(s) of novel virus infection in California, and target containment strategies, such as isolation and quarantine, contact tracing, and use of limited vaccine and antivirals in the populations at risk during the interpandemic period and early stages of a pandemic, before community transmission is established;

- Explore the possibility of assessing rates of hospitalization for pneumonia and influenza activity in sentinel hospitals, (i.e., community hospitals and children’s hospitals);
• Request local health departments to report any suspect avian influenza cases and forward clinical specimens for concurrent testing;

• Expand the capacity for novel virus testing among sentinel local public health laboratories, including providing training, technical assistance, and reference or validation testing. Request sentinel local public health laboratories to report testing for any suspect avian influenza cases and to forward clinical specimens to VRDL for concurrent testing;

• Coordinate with the California Department of Food and Agriculture and California Department of Fish and Game on enhanced surveillance and reporting of novel influenza virus in poultry workers, commercial and private poultry flocks, and wild birds, to identify disease activity in animal populations and to characterize the human health threat; and

• Share influenza surveillance data and epidemiologic information in a timely manner with tribal entities, bordering states, and Baja California public health officials.

**Epidemiologic Investigation**

CDHS will:

• Develop and implement criteria and protocols for epidemiologic investigation of influenza outbreaks, influenza case clusters with unusual clinical presentations (e.g., unusual severity), and clusters of unexplained pneumonia;

• Enhance and expand capacity at the local and state levels to conduct case investigations and epidemiologic investigations during WHO Phases 1 through 4. These activities will include conducting an inventory of current capacity, determining current skill levels, conducting drills and exercises in case investigations, developing forecasts of future capacity needs under different pandemic scenarios, identifying gaps in capacity, and conducting epidemiologic investigations during WHO Phase 1 and Phase 2;

• In conjunction with local health departments, evaluate and implement an outbreak management system to assist with case management, case ascertainment, case reporting, surveillance, and data analysis;

• Develop protocols that clearly designate who will conduct epidemiologic studies in Phases 3 through 6 and coordination between local, state, and federal investigations; and

• Identify funding and training strategies to ensure that epidemiologic capacity at the state and local levels is consistent with current and future needs. Collaborate with CDC and
Baja California health officials in the epidemiologic investigation of binational influenza cases and outbreaks.

**WHO Phase 3 and Phase 4**

Pandemic Alert Period: Human infection with no or very limited human-to-human transmission

**Influenza Illness Surveillance**

CDHS will:

- On laboratory confirmation of the first case of novel influenza virus in California, develop and distribute guidance to local health departments on surveillance, case detection, contact tracing, and infection control. CDHS DCDC will coordinate disease control activities and provide technical assistance to local health departments with any confirmed cases of novel influenza virus infection;

- Actively monitor, and implement as necessary, any changes in recommendations and guidelines for surveillance and diagnostic testing from CDC (e.g., revision of the case definition, screening criteria, case report forms, or diagnostic testing algorithms), and post a case screening form and case report form for laboratory confirmed cases to the California Influenza Surveillance Project (CISP) website at: [http://www.dhs.ca.gov/ps/dcdc/vrdl/html/flu/fluintro.htm](http://www.dhs.ca.gov/ps/dcdc/vrdl/html/flu/fluintro.htm);

- Communicate with local health departments via weekly electronic communications, *CD Brief*, the VRDL California Influenza Surveillance Project website, and conference calls to share information on surveillance criteria, case management, specimen collection, and appropriate testing;

- Issue guidelines for managing suspect novel influenza cases, including infection control guidelines, guidelines for collecting and shipping specimens for influenza A (H5N1) diagnostics, laboratory biosafety guidelines for handling and processing specimens of novel influenza A, and specimen submittal forms will be posted on the VRDL California Influenza Surveillance Project website: [www.dhs.ca.gov/ps/dcdc/VRDL/html/FLU/fluintro.htm](http://www.dhs.ca.gov/ps/dcdc/VRDL/html/FLU/fluintro.htm);

- Work with local health departments to detect and monitor persons who have recently traveled to areas where the novel virus has been identified and who present with clinical illness consistent with influenza. Provide technical assistance and guidance to assess and report suspect cases of novel virus infection;
• Encourage all influenza sentinel providers to report data year-round and educate sentinel providers of the enhanced surveillance activities, including submission of specimens to VRDL, and of the need to report suspect cases to their local health department for further evaluation and testing;

• Recruit additional sentinel physicians to report influenza-like illness activity, to collect respiratory specimens, and to submit them to VRDL for testing;

• Maintain all other existing enhanced surveillance systems;

• Explore recruiting pharmaceutical vendors or large pharmacy chains to report the number of antiviral prescriptions filled. Explore the use of Medi-Cal pharmacy paid claims data to determine antiviral drug usage;

• Encourage reporting of all suspect human cases of the novel influenza virus or cases of clinical illness consistent with a novel influenza virus through an electronic case reporting system;

• Generate weekly reports of statewide influenza activity and distribute surveillance data to participating agencies, CDC, local health departments, Emergency Preparedness Office, Joint Emergency Operations Center Public Information Officer, and Office of Public Affairs;

• Review contingency plans to further enhance influenza surveillance if efficient person-to-person transmission of the novel virus is confirmed, including training additional personnel on surveillance, case detection, contact tracing, and infection control issues;

• Continue coordinating with California Department of Food and Agriculture and California Department of Fish and Game on enhanced surveillance and reporting of novel influenza virus detection in poultry workers, commercial and private poultry flocks, and in wild birds to identify disease activity in animal populations and to characterize the human health threat;

• Communicate current surveillance data, epidemiologic information, and changes in recommendations and guidelines for surveillance and diagnostic testing from CDC with Baja California public health officials;

• Petition for the mandatory reporting to the local health department of any instance when avian influenza testing is requested by a healthcare practitioner, including requests sent to private commercial laboratories;

• Expand capacity for novel virus testing in sentinel local public health laboratories, including providing training, technical assistance, and reference and validation testing;
- Request local public health laboratories to forward clinical specimens to VRDL for concurrent novel virus testing;

- Collaborate with commercial laboratory stakeholders who are offering novel virus testing to report any preliminary positive results for novel virus infection to either the local health department or VRDL immediately. If VRDL is notified first, VRDL will contact the local health department within 12 hours;

- Encourage submission of clinical specimens from influenza-like illness cases from all sources (public and private clinics, including sentinel providers, and hospitals) and facilitate subtyping of influenza A viruses at either the local or state level. VRDL will perform novel virus testing on all suspect cases of the novel influenza virus, and will support testing capacity at local public health laboratories;

- Communicate with CDC concerning updated diagnostic algorithms and laboratory reagents for novel virus testing (e.g., specific primers and probes), communicate results on suspect novel influenza virus cases to CDC, and expedite specimen shipping; and

- Communicate with local public health laboratories and other stakeholders via regular statewide conference calls regarding the detection and circulation of novel virus worldwide and in the United States, and provide detailed guidance on updated case definitions, diagnostic algorithms, and laboratory infection control issues. Expand capacity for novel virus testing to local public health laboratories, including providing training, technical assistance, and reference testing. Request local public health laboratories to forward clinical specimens to VRDL for concurrent novel virus testing.

**Epidemiologic Investigation**

CDHS will:

- In coordination with CDC, develop, distribute, and implement case management protocols to ensure that suspect human cases are promptly identified and isolated and that the source(s) of exposure (animal vs. human) are determined. Ensure protocols are distributed to local health departments and settings where cases and their contacts might be diagnosed;

- In collaboration with CDC and local health departments, conduct, direct, coordinate, or provide guidance on epidemiologic investigations of human cases to identify the populations at risk, the current clinical characteristics of disease, and the risk that infected persons or their environment may pose to others, including an assessment of likely human-to-human transmission;
• In conjunction with local health departments, develop a database or registry for case investigations, case management, case ascertainment, case reporting, surveillance, and data analysis;

• Coordinate with CDC and other partners on studies of viral shedding to determine the infectious and incubation periods for use in defining the duration of isolation and quarantine;

• Collaborate with CDC and Baja California health officials in the epidemiologic investigation of binational influenza cases and outbreaks;

• Summarize and distribute study results internally for use in assessing recommendations regarding the application and utility of non-pharmaceutical containment measures. Provide scientific review of results or identify subject matter experts for scientific review of results, as needed; and

• Monitor investigation and management resources. As resources permit, assess and enhance epidemiologic capacity to support expanded activities.

WHO Phase 5

Pandemic Alert Period With Substantial Pandemic Risk: Larger clusters but still limited human-to-human transmission; sustained community transmission is possible

The focus of surveillance during this Phase 5 is to identify the timing, location, and extent of the novel influenza virus infection in California to guide implementation of outbreak control and other response activities.

Influenza Illness Surveillance

CDHS will:

• Communicate with CDC to monitor any changes in recommendations and guidelines for surveillance and diagnostic testing, including guidance on triaging specimens for testing and choosing which isolates to send to CDC and immediately inform local health departments of new recommendations;

• Recommend and post on the California Health Alert Network (CAHAN), which subset of suspect cases of influenza-like illnesses meet the criteria for influenza testing at either the institutional, local, or the state level; if testing confirms influenza, VRDL and local public health laboratories with novel virus testing capacity will perform further testing as indicated;
• Work closely with local health departments to manage new suspect cases, provide confirmatory testing, and implement containment strategies to prevent or limit local spread (e.g., isolation and quarantine and antiviral treatment and prophylaxis);

• Provide technical assistance to guide expanded testing on specific cases that represent a risk of spread of the novel virus infection in the community, including those who have an epidemiologic link to infected cases (i.e., recent contact with a person in whom an infection is either suspected or confirmed) or who are hospitalized. Communicate with CDC concerning management, reference laboratory testing, and containment strategies in these cases;

• Communicate current surveillance criteria for cases of human novel virus infection, and the need to report data year-round and submit clinical specimens on influenza-like illness cases to sentinel providers and local health departments;

• Activate all enhanced surveillance systems to report data year-round and coordinate and communicate these activities with local health departments;

• Generate weekly reports of statewide influenza activity and make current surveillance data available to all participating agencies as well as CDC, local health departments, Emergency Preparedness Office, Joint Emergency Operations Center Public Information Officer, and Office of Public Affairs;

• Allocate additional personnel as needed to assist with surveillance activities, such as identifying information technology resources needed to assist in developing or modifying databases for influenza surveillance;

• Communicate the most current information on influenza epidemiology to Baja California public health officials;

• Maintain expanded critical laboratory testing capacity, including novel virus testing, antiviral resistance testing, neutralizing antibody assays to test for immunity to the novel virus, and egg-based culture methods to isolate novel viruses that are difficult to grow by standard culture methods; and

• Using e-mail, CAHAN, Epi-X, broadcast fax, and statewide conference calls, communicate with local public health laboratories and other stakeholders regarding the detection and circulation of novel virus worldwide and in the United States and provide detailed guidance on updated case definitions, diagnostic algorithms, and laboratory infection control issues. As the pandemic progresses and guidelines and testing algorithms are revised, VRDL will communicate these changes to local public health laboratories.
Epidemiologic Investigation

CDHS will:

- In coordination with CDC and the DCDC PIWG, review and revise case management protocols to reflect current recommendations and epidemiologic data; and

- Continue pandemic influenza-specific epidemiologic investigations and other special clinical studies.

WHO Phase 6

Pandemic Period: Increased and sustained transmission in the general population

CDHS will:

- Monitor the epidemiology and impact of the pandemic in California; and

- Sustain the capacity to perform laboratory-based surveillance because influenza viruses may undergo antigenic drift or develop resistance to antiviral agents.

Influenza Illness Surveillance

CDHS will:

- Support local health departments, public and private medical providers, hospitals, and other stakeholders to maintain surveillance efforts for cases of novel virus infection. As the pandemic progresses and laboratory services become overwhelmed, public and private medical providers and hospitals may be asked to selectively submit clinical specimens as directed by CDC. If laboratory supplies and reagents are exhausted, surveillance for novel virus infection will rely on a presumptive clinical diagnosis made by clinicians;

- Recommend discontinuing individual case reporting and request regular status reports from local health departments on cumulative statewide case counts associated with novel virus infection, morbidity, and mortality; such reports might include the number of:
  - clinically suspected cases;
  - laboratory confirmed cases;
  - persons hospitalized with a novel virus infection; and
- deaths attributed to novel virus infection.

- In collaboration with CDC and local health departments, and as resources are available, conduct special investigations to:
  - describe unusual clinical syndromes;
  - describe unusual pathologic features associated with fatal cases;
  - determine efficacy of vaccination, if vaccine is available, or antiviral prophylaxis;
  - assess antiviral effectiveness in circulating strains to help refine antiviral recommendations and target high risk groups; and
  - assess the effectiveness of non-pharmaceutical containment measures such as school and business closures.

- Determine which populations are at greatest risk, and, in conjunction with CDC, refine and revise priority groups for vaccination as vaccine availability increases;

- Generate weekly reports of statewide activity and share current surveillance data with all participating agencies including CDC, local health departments, Emergency Preparedness Office, Joint Emergency Operations Center Public Information Officer, and Office of Public Affairs;

- Communicate the most current information on influenza surveillance, epidemiology, and (potential) control efforts to Baja California public health officials;

- As resources permit, continue to encourage all participating sentinel laboratories and the Respiratory Laboratory Network to test for influenza with non-culture methods. Depending on CDC guidance, request laboratories to forward specimens to VRDL or local public health laboratories with novel virus testing capacity for further testing;

- As indicated by CDC guidance and as resources permit, characterize the strain of incoming specimens and isolates to detect antigenic drift variants and reassortant viruses that could limit the efficacy of vaccines produced against the original pandemic strain; and

- As resources permit, continue to perform testing critical to ongoing surveillance, including antiviral resistance testing and neutralizing antibody assays to test for immunity to the novel virus.
Epidemiologic Investigation

- CDHS will continue situation-specific pandemic influenza epidemiologic investigations and other special clinical studies, as warranted.

WHO Postpandemic Period

The goals of postpandemic surveillance are to:

- Provide a detailed retrospective characterization of the pandemic; and
- Evaluate the efficacy of containment measures and emergency management strategies.

CDHS, in conjunction with local health departments, will:

- Review death certificates statewide for influenza-related pneumonia and influenza deaths;
- Collaborate with the CDC and other partners on retrospective studies of vaccine and pharmaceutical containment measure efficacy;
- Conduct retrospective validation studies of influenza illness reporting;
- Provide frequent updates to the Joint Emergency Operations Center for tracking and monitoring of postpandemic activities; and
- Conduct a retrospective assessment of cross-border coordination with Baja California public health officials.
Appendix A.

INTERPANDEMIC AND PANDEMIC INFLUENZA SURVEILLANCE

Global Influenza Surveillance

The WHO Global Influenza Surveillance Network was established in 1952. The network comprises four WHO Collaborating Centers and 112 institutions in 83 countries, which are recognized by WHO as WHO National Influenza Centers. [http://www.who.int/csr/disease/influenza/surveillance/en/index.html] These Centers collect specimens in their country, perform primary virus isolation, and conduct preliminary antigenic characterization. Annually, these Centers collect more than 175,000 patient samples and submit around 2,000 viruses to the WHO Collaborating Centers for antigenic and genetic analyses.

The four WHO Collaborating Centers that participate in the WHO Global Influenza Surveillance Network are located in Australia, Japan, the United Kingdom, and the United States. The Collaborating Centers perform, at no cost to WHO, antigenic and genetic analyses of isolates received from National Influenza Centers and maintain repositories of different virus strains. Newly isolated strains are shipped to WHO Collaborating Centers for high-level antigenic and genetic analysis, the result of which forms the basis for WHO recommendations on the composition of influenza vaccine for the Northern and Southern Hemisphere each year. FluNet, an Internet-based information exchange program, links national influenza centers and WHO collaborating centers throughout the world and provides easy exchange of global influenza surveillance data: [http://gamapserver.who.int/GlobalAtlas/home.asp](http://gamapserver.who.int/GlobalAtlas/home.asp).

National Influenza Surveillance

In the United States, CDC coordinates national influenza surveillance. National influenza surveillance consists of four components: laboratory surveillance, outpatient influenza-like illness surveillance, pneumonia- and influenza-related mortality surveillance, and determination of relative influenza activity in individual states. State and local health departments assume primary responsibility for carrying out the epidemiologic and laboratory surveillance components. Current surveillance activities include:

- **Laboratory-based surveillance:** Approximately 120 laboratories in the United States report the number and type of influenza viruses isolated each week and send specimens to CDC for antigenic and genetic analysis. CDC updates this information weekly on the CDC influenza surveillance website (www.cdc.gov/flu/weekly/fluactivity.htm).

- **The CDC Influenza Sentinel Provider Network:** A voluntary, national network of approximately 1000 medical providers reports the number of patients presenting with influenza-like illnesses, age group, and the total number of patient visits for all causes each week. CDC updates influenza-like illness visit activity weekly on the CDC influenza surveillance website.

- **U.S. Cities Mortality Reports:** Vital statistics offices from 122 U.S. cities report weekly the percentage of total deaths caused by pneumonia and influenza as recorded on death certificates.

- **Influenza-associated pediatric mortality surveillance:** Influenza-associated pediatric mortality is a newly added nationally notifiable condition. Laboratory-confirmed influenza-associated deaths in children less than 18 years old are reported through the Nationally Notifiable Disease Surveillance System.

- **State and territorial epidemiologists** report their level of influenza activity each week as "widespread," "regional," "sporadic," or "no activity." CDC updates this information weekly on the CDC influenza surveillance website.

California Influenza Surveillance

Influenza is not a reportable disease in California because of the large number of cases that occur each year with a non-specific clinical presentation and no routine laboratory confirmation. However, CDHS collaborates with public, academic, and private institutions to obtain information from multiple resources about disease activity. During the influenza season (Week 40 through Week 20 of each year), CDHS Viral and Rickettsial Disease Laboratory (VRDL), Immunization Branch, and Infectious Diseases Branch jointly monitor influenza illness activity from the following surveillance systems:
• **Hospitalizations for pneumonia and influenza from Northern and Southern California Kaiser Permanente (estimated membership: 6 million persons).** This surveillance system defines "flu admissions" as inpatient hospitalizations admitted with the text field diagnoses of "flu," "influenza," or "pneumonia." The percentage of influenza admissions is defined as the number of hospitalizations fulfilling the above criteria over the total number of hospital admissions for the same day, excluding admissions for pregnancy, admissions for inpatient surgeries, labor and delivery, birth, and outpatient procedures. The baseline influenza admission percentage, reflective of year-round pneumonia admissions, is estimated to be approximately three to five percent. Influenza admissions are tracked weekly, and a summary is distributed electronically to local health departments and other public health stakeholders. CDHS posts these data to VRDL California Influenza Surveillance Project website: [www.dhs.ca.gov/ps/dcdc/VRDL/html/FLU/fluintro.htm](http://www.dhs.ca.gov/ps/dcdc/VRDL/html/FLU/fluintro.htm).

• **Antiviral Prescription Data (Northern and Southern California Kaiser Permanente).** Kaiser Permanente reports weekly the number of prescriptions its outpatient pharmacies fill for influenza antiviral drugs (amantadine, rimantadine, zanamivir, and oseltamivir). Baseline amantadine usage is assumed to be present year-round for disorders such as Parkinson’s disease. CDHS tracks antiviral usage weekly and distributes a summary to local health departments and other public health stakeholders via the *CD Brief* and VRDL California Influenza Surveillance Project website: [www.dhs.ca.gov/ps/dcdc/VRDL/html/FLU/fluintro.htm](http://www.dhs.ca.gov/ps/dcdc/VRDL/html/FLU/fluintro.htm).

• **CDHS’ state influenza sentinel provider surveillance coordinator:**
  - Monitors sentinel provider data weekly for completeness and errors;
  - Provides feedback and maintains weekly contact with sentinel influenza providers to encourage reporting, follow-up on unusual reports, and monitor completeness and errors;
  - Encourages year-round reporting of influenza activity from sentinel providers; and
  - Encourages sentinel providers to submit specimens for viral culture to VRDL.

• **Outpatient influenza-like illness (CDC Influenza Sentinel Providers).** California has approximately 145 sentinel providers (meeting the CDC goal of 1/250,000 population) who report the number of outpatient visits for influenza-like illnesses, age group, and total number of outpatient visits per week. CDHS tracks the percentage of influenza-like illness visits weekly and distributes a summary to local health departments and other public health stakeholders via the *CD Brief* and VRDL California Influenza Surveillance Project website: [www.dhs.ca.gov/ps/dcdc/VRDL/html/FLU/fluintro.htm](http://www.dhs.ca.gov/ps/dcdc/VRDL/html/FLU/fluintro.htm). Sentinel providers also receive a weekly electronic update that summarizes sentinel provider influenza-like illness activity both statewide and regionally.
• CDHS continues to recruit medical providers into the CDC influenza sentinel provider network in order to maintain the current ratio of one provider for every 250,000 population. California has an estimated population of 36 million people, requiring 145 sentinel providers to meet CDC recommendations. Current efforts to increase, maintain and improve sentinel provider participation include:

  o Providing influenza rapid test kits to sentinel providers who do not otherwise have laboratory diagnostic testing available (e.g., student health centers, community clinics, mobile clinics, and private clinics not associated with a hospital laboratory). In the pilot year of the program (2004-2005), CDHS recruited 50 additional sentinel providers in the first few months

  o Encouraging sentinel providers to report influenza-like illness activity to a coordinator at their local health department, who can monitor reporting and encourage sentinel providers who are not reporting. As the primary contact for the sentinel provider, the local health department coordinator reports all influenza-like illnesses in his or her county to CDHS and provides all laboratory results to the sentinel providers. Using local coordinators encourages local health departments to become involved in influenza surveillance in their region and to be viewed as the “influenza resource” for their communities.

  o Focusing recruitment efforts on counties with low ratios of sentinel providers for their populations and on types of providers underrepresented in the program. Recruitment efforts in 2004-2005 focused on pediatricians, who were underrepresented. Infants, toddlers, and school-age children are thought to be the primary population to introduce the spread of influenza into a community and may often be the first population evaluated in outpatient settings.

• California Emergency Physicians Emergency Department Visit Data. In 2004, CDHS began collaborating with the California Emergency Physicians and its physician practice partner, MedAmerica, to assist in monitoring influenza-like illness activity at 49 emergency departments (approximately 2 million patient visits annually) statewide. Through MedAmerica's surveillance system, "California Flu Watch," emergency physician electronic billing data is used to capture specific ICD-9 codes that may identify influenza-like illnesses, including the presence of fever plus cough, sore throat, upper respiratory illness, or nasal congestion. These data are subsequently analyzed for trends by time, age group, and regional activity. Because of the lag-time (approximately two weeks) between the emergency department visit and the compilation of the billing data, the synchronization with other influenza surveillance systems may not be timely.

• Severe pediatric influenza and pediatric influenza-associated deaths. CDHS conducts enhanced surveillance of children with laboratory-confirmed influenza who have been hospitalized in a pediatric intensive care unit (ICU) or who have died. Each
year, CDHS requests that infection control practitioners at the 26 hospitals in California with a pediatric ICU report any cases meeting the following definition: 1) age 0 to 17 years; 2) have influenza confirmed by laboratory testing; and 3) hospitalized in a pediatric ICU or died at any location (e.g., hospital, emergency department, home). The infection control practitioners report their cases to local health departments and CDHS. In addition, CDHS sends participating infection control practitioners and medical providers a weekly electronic update of statewide and regional activity for severe pediatric influenza and influenza-associated deaths.

- **Surveillance of respiratory outbreaks in long-term care facilities.** Outbreaks in long-term care facilities are often the first sign of influenza activity in a community. CDHS conducts enhanced surveillance for respiratory outbreaks at such facilities. Each year, CDHS sends a guidance document for managing respiratory outbreaks to all long-term care facilities in California, with a reminder that they are required to report clusters of respiratory illness to their local health department and local Licensing and Certification district offices (22 California Code of Regulations § 72539 and 72541). Local health departments collect basic information regarding the timing and duration of outbreaks, any respiratory illness-associated hospitalizations or deaths, and numbers of residents and staff who received influenza vaccination or antiviral medications. Local health departments forward summary data to CDHS. CDHS encourages Local health departments to collect specimens for diagnostic testing at either local public health laboratories or VRDL.

- **Surveillance for human avian influenza.** Since the first reports of large-scale outbreaks of avian influenza A (H5N1) in domestic poultry in Asia in late 2003, CDHS has maintained enhanced surveillance for human cases of avian influenza using surveillance criteria recommended by CDC. CDHS has developed case screening guideline and form, an extended case report form for laboratory confirmed cases, a diagnostic testing algorithm, and an electronic database to track suspect cases, and makes the case report forms widely available through the VRDL California Influenza Surveillance Project website and other venues. CDHS also periodically distributes reminders and updates regarding the ongoing epidemic. CDHS reminds local health departments to report any cases that meet surveillance criteria to CDHS for consultation about case management and for help with expedited PCR testing for H5 at designated local public health laboratories or VRDL.

- **Surveillance for Vaccine Adverse Events.** CDHS monitors reports of vaccine adverse events and forwards copies to the National Vaccine Adverse Event Reporting System (VAERS). Periodically, CDHS analyzes the data to identify increased frequency and types of complaints.

- **DCDC Pandemic Influenza Work Group (PIWG):** The DCDC Pandemic Influenza Work Group (PIWG) consists of representatives of VRDL, Immunization Branch, and Infectious Diseases Branch. The team meets weekly throughout the influenza season to
review surveillance data, discuss the level of influenza activity, review individual cases and outbreaks, review vaccine supply distribution and allocation, work on communication activities, coordinate efforts with OPA, and assign tasks when action is needed.

Laboratory Surveillance

- **Sentinel Laboratories.** Each week, CDHS collects data on the number of laboratory-confirmed influenza cases and other respiratory virus detections and isolations from 19 laboratories. Participants include hospital, academic, private, and public health organizations with laboratories located throughout California, including Kaiser Permanente Northern California Regional Laboratory and Kaiser Permanente Southern California Regional Laboratory. Most of these laboratories have contributed data to the California Influenza Surveillance Project since 1998.

- **Respiratory Laboratory Network.** This network consists of 22 local public health laboratories, 20 of which offer enhanced diagnostic testing with the “R-mix” shell viral assay, which detects several respiratory pathogens, including influenza A and B viruses, respiratory syncytial virus, parainfluenza virus, and adenovirus. All 22 laboratories offer PCR testing for influenza A and B.

- **CDHS Viral & Rickettsial Disease Laboratory (VRDL).** VRDL serves as a statewide reference laboratory that offers diagnostic testing for influenza and a broad array of other respiratory pathogens using isolation, PCR, and serologic testing. VRDL assists with diagnostic testing in a variety of settings, including institutional or community respiratory outbreaks, individual cases of severe respiratory illness, cases that meet surveillance criteria for novel avian influenza, and isolation, subtyping, and strain characterization of viruses from cases of influenza-like illnesses submitted by sentinel providers. VRDL provides diagnostic testing without charge.
Chapter 3.
LABORATORY TESTING CAPACITY

This chapter addresses laboratory testing capacity. Epidemiologic investigation is covered separately in Chapter 2: Pandemic Influenza Surveillance and Epidemiology.

INTRODUCTION

Because influenza viruses are constantly changing, strong laboratory-based surveillance will be critical through all stages of the pandemic to monitor disease activity and changes in virus strain. Timely identification of circulating or novel virus strains is equally important for pandemic detection and vaccine preparation. During the earliest stages of the pandemic, public health and hospital laboratories are likely to receive a large number of specimens for testing. Planning for laboratory surge capacity and the availability of diagnostic reagents is essential for timely and effective testing. Once a pandemic is underway and the virus is widespread, laboratory confirmation for each case will not be necessary and testing priorities will likely focus on a subset of cases (e.g., severely ill cases, clusters of cases, or cases refractory to antiviral treatment).

OBJECTIVES

The objectives of the California Department of Health Services (CDHS) pandemic influenza activities for laboratory testing capacity are to:

- Characterize and monitor interpandemic influenza activity year-round, with continuous surveillance for the appearance of novel influenza strains;

- Perform enhanced surveillance for other non-influenza, viral respiratory pathogens year-round (e.g., respiratory syncytial virus, parainfluenza virus, and adenovirus);

- Once a novel virus has been detected in California, monitor the level of novel influenza virus activity statewide, including antiviral resistance patterns;

- Support special epidemiologic and clinical studies needed to evaluate phase-specific clinical interventions and containment measures;
• Assist with the clinical management of individual patients by performing special studies, including distinguishing infections caused by influenza from infections caused by other respiratory viruses; and

• Support individual case decisions surrounding isolation and quarantine.

ASSUMPTIONS AND PLANNING PRINCIPLES

• Because many respiratory agents can mimic the signs and symptoms of influenza, a comprehensive laboratory program that offers diagnostic testing for multiple respiratory agents is critical to monitoring for the introduction of a novel virus in California.

• CDHS Viral and Rickettsial Disease Laboratory (VRDL) will provide the necessary leadership and guidance to local public health laboratories.

• Building strong, statewide laboratory-based surveillance in the interepidemic phase, including strengthening of partnerships between VRDL and local public health, private, and commercial laboratories will enhance the ability to monitor for disease activity and ultimately strengthen control measures.

• During the earliest stages of a pandemic, public health, hospital, and clinical laboratories will receive a large and potentially overwhelming volume of samples.

• During a pandemic, laboratory surveillance data, such as the confirmed presence or absence of a novel influenza virus in a given geographic area, will guide implementation of non-pharmaceutical containment measures (e.g., travel restrictions, closure of schools, and cancellation of public gatherings).

• During a pandemic, laboratory data identifying the emergence of new strains of novel virus will guide the implementation of vaccination strategies;

• During a pandemic, laboratory data identifying the presence or absence of antiviral drug resistance will guide the use of antiviral prophylaxis and treatment strategies.

• Once a pandemic is underway and human-to-human transmission is established, supplies of rapid antigen tests and reagents for immunofluorescence assays and polymerase chain reaction will likely be depleted. At this time, laboratory testing may be reserved for unusual or severe cases, special studies, or other specialized situations.
CDHS Pandemic Response Action Steps

WHO PHASE 1 AND PHASE 2

Interpandemic period: No novel influenza subtypes have been detected in humans, but a novel subtype that has caused human infection may be present or circulating in animals.

CDHS VRDL will:

- Develop and maintain laboratory testing algorithms, protocols, and strategies for use by CDHS, local public health laboratories, and the California Respiratory Laboratory Network to perform interpandemic influenza surveillance and to detect the emergence of novel influenza strains; these protocols will include standard diagnostic tests (e.g., virus isolation, direct antigen testing by rapid antigen tests and polymerase chain reaction, and serologic testing) and support the role of the public health laboratory in diagnosing interpandemic influenza under routine circumstances and in outbreak situations;

- In coordination with the local public health laboratories, develop and distribute recommended laboratory diagnostic guidelines for interpandemic influenza to all clinical settings (e.g., clinician offices, clinical laboratories, and local public health laboratory and disease control staff), including the role of commercial rapid antigen test kits in routine and outbreak situations and guidance on how to obtain further testing at CDHS and local public health laboratories, including specimen collection and transport protocols;

- Implement state-of-the art diagnostic testing algorithms for detecting and characterizing influenza, including testing for subtyping, strain-typing, immunity, and resistance;

- Transfer new technologies for influenza rapid testing (e.g., polymerase chain reaction and subtyping), to interested local public health laboratories; local public health laboratories receiving this technology will participate in proficiency testing;

- With local public health laboratories, develop laboratory capacity (personnel, supplies, reagents, and training) to perform year-round laboratory-based surveillance during the interpandemic period;
• With the California Association of Public Health Laboratory Directors, develop an inventory of current laboratory capacity in California, identify gaps in coverage, and recommend strategies to fill capacity gaps;

• With California Association of Public Health Laboratory Directors, estimate future laboratory capacity requirements under various pandemic scenarios and identify strategies for enhancing future capacity; and

• With local public health laboratories and the CDC, develop a policy for storing and sharing selected isolates and specimens to support special clinical and epidemiologic studies and maintain an inventory of current storage capacities.

WHO PHASE 3 AND PHASE 4

Pandemic Alert Period: Human infection with no or very limited human-to-human transmission

CDHS VRDL will:

• In collaboration with local public health laboratories,

  o encourage healthcare providers and clinical laboratories to submit specimens from suspected cases of human infection with novel influenza to a local or state public health laboratory for viral testing;

  o develop and distribute guidelines to hospitals, healthcare providers and clinical laboratories describing how to request testing for novel influenza virus; and

  o develop and distribute protocols to ensure that clinical laboratories notify their local public health laboratory of requests for testing for novel influenza virus;

• Develop guidelines for specimen collection, handling, and shipping, and post them on the VRDL-Flu website (www.dhs.ca.gov/ps/dced/VRDL/html/FLU/fluintro.htm);

• Adapt and distribute laboratory biosafety guidelines for handling and processing specimens or isolates of influenza A (H5N1) strains and post them on the VRDL-Flu website (www.dhs.ca.gov/ps/dced/VRDL/html/FLU/fluintro.htm);

• Develop and activate enhanced laboratory testing protocols in support of, and in coordination with, enhanced human surveillance protocols. VRDL will develop the capacity for subtype testing for influenza A (e.g., H5, H7) at either the local or state levels, as well as testing to identify other respiratory pathogens that present as influenza-
like illnesses, and coordinate transport to CDC any influenza A virus that cannot be subtyped;

- Provide detailed guidance to local public health laboratories on alternative diagnostic testing options, including rapid antigen detection, immunofluorescence assays, and polymerase chain reaction, including required biosafety levels;

- Develop contingency plans for possible nationwide supply and reagent shortages, including inventoring its own supplies and equipment and determining trigger points for ordering surge supplies; VRDL will set priorities in preparing reagents for identifying the novel virus strain, in preparation for pandemic Phase 5 and Phase 6, and will distribute California- or CDC-prepared reagents and primers to local public health laboratories that are enrolled in California’s Response Laboratory Network, as available;

- Develop appropriate personnel capacity (including training) to support enhanced laboratory surveillance for influenza at the state and local levels. VRDL will internally evaluate the need for additional personnel surge capacity, including re-certification of non-traditional labor pool and redirection and hiring of additional laboratory employees;

- Develop contingency plans to ensure adequate laboratory capacity for diagnostic testing of bacterial agents and other pathogens associated with infections secondary to influenza; and

- Institute surveillance for influenza-like illness among CDHS laboratory personnel working with novel influenza viruses and develop protocols for clinical assessment and management of exposed laboratory personnel (both symptomatic and asymptomatic).

In addition, CDHS will ensure that at least one “BioSafety Level-3 enhanced laboratory” exists within its laboratory facilities.

**WHO PHASE 5**

Pandemic Alert Period With Substantial Pandemic Risk: Larger clusters but still limited human-to-human transmission; sustained community transmission is possible.

CDHS VRDL will:

- Review and revise enhanced laboratory diagnostic protocols for influenza and other respiratory pathogens that may mimic influenza and distribute them to local public health laboratories;
- Develop state and local contingencies and protocols for redirecting resources to influenza testing and for rationing influenza testing;

- Review and revise technical guidance and provide training to local public health laboratorians, as needed;

- Delineate the resources needed to maintain expanded critical laboratory testing capacity during a pandemic, including laboratory equipment and supplies, re-certification of non-traditional labor pool, and redirection and hiring of additional laboratory employees;

- Maintain expanded diagnostic testing, including antiviral resistance testing, neutralizing antibody assays to test for immunity to the novel virus, and egg-based or other alternative culture methods to isolate novel viruses that are difficult to grow by standard culture methods; and,

- Ensure capacity to perform or support special clinical and epidemiologic studies.

WHO PHASE 6

Pandemic Period: Increased and sustained transmission in the general population.

CDHS VRDL will:

- Review and enhance laboratory diagnostic capacity for novel virus, with particular attention to rationing laboratory testing, as needed; and

- Continue other Phase 5 activities as appropriate.
Chapter 4.
HEALTHCARE PLANNING

INTRODUCTION

This chapter addresses the role of the California Department of Health Services (CDHS) in supporting the coordination of optimal response by, and adequate maintenance of, the state’s healthcare delivery system during a pandemic influenza emergency.

California’s healthcare system consists of private and public healthcare providers. Oversight and regulation of, and emergency planning for, the healthcare system are shared between multiple divisions within CDHS, primarily the Licensing and Certification Division, as well as other state agencies, including the Emergency Medical Services Authority (EMSA) and the Office of Statewide Health Planning and Development.

The increased demand for healthcare services during an influenza pandemic will challenge existing healthcare resources in California to a level not previously experienced. The “over-capacity” protocols in place at most hospitals are designed to accommodate an increased number of patients over a short period. A pandemic will require a health response sustained for months or years. Planning for this kind of sustained response presents a unique challenge to hospitals, healthcare institutions (i.e., long-term care facilities, skilled nursing facilities), and other healthcare providers and will require collaboration and integration between all healthcare partners. CDHS must work collaboratively with local health departments, local emergency medical services, healthcare facilities, medical providers, state agencies, and others to prepare to meet this demand.

BACKGROUND

CDHS pandemic planning efforts build upon local, regional, and state planning efforts. Under the National Bioterrorism Hospital Preparedness Program funded by the Health Resources and Services Administration, local planning groups have developed plans to respond to a sudden and marked increased demand for patient care related to an emergency event. Healthcare surge capacity is defined as “the ability to evaluate and care for a markedly increased volume of patients that exceeds normal operating capacity.”

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As required by the Health Resources and Services Administration cooperative agreement, local planning groups include representatives of healthcare partners including local health departments, hospitals, clinics, poison control centers, emergency medical services, state-run institutions, and other stakeholders. These local planning groups must meet benchmarks to ensure sufficient patient care surge capacity in an emergency of 500 cases per million (1:2000) pediatric and adult patients above the current daily-staffed bed capacity. This Health Resources and Services Administration benchmark is a starting point for healthcare planning during a pandemic that necessitates significant increased capacity for an extended time and affecting the entire state.

CDHS has projected the impact upon California's medical and health system during an influenza pandemic using CDC's FluSurge 2.0 software. The projections assumed an attack of eight weeks duration during which 25 percent of the population would become ill. The projections also assumed that the severity of the epidemic would be a moderate level pandemic, intermediate level (i.e., the 1967 pandemic) and severe level (i.e., the 1918 pandemic.) Based upon historic data provided by CDC, in such an epidemic 4.4 percent of affected persons would be expected to be admitted to hospitals and 26.7 percent of these would be expected to die. Based on this death rate, the CDHS projections assumed that 35 percent of admitted patients would require critical care (ICU or monitored beds), and 30 percent would require the use of ventilators. The California Department of Finance 2006 population data were used for age-group inputs. The results of these projections include:

- Hospital capacity to treat influenza patients would begin to exceed the state's hospital surge bed capacity (as of May 2006) in week 2 of the pandemic and in week 5 the surge bed capacity would be exceeded by 319 percent.

- In week 5, total need for critical care beds would exceed surge capacity by 1212 percent and the need for ventilators would exceed the number of available full-service ventilators by 1350 percent.

- Deaths are estimated to be 21,064 during an eight-week period in the first wave of the pandemic.

The magnitude of the shortfall for hospital needs could be significantly less in an epidemic with a lower attack rate or lower disease severity (requiring fewer hospital admissions). Subsequent attack waves in the same epidemic could also be expected to require fewer hospital resources. However, even in very mild scenarios the capacity of hospitals is likely to be significantly exceeded.
OBJECTIVES

The objectives of the CDHS pandemic influenza activities for healthcare planning are to:

- Maintain to the extent possible the provision of healthcare services sufficient to meet the needs of Californians during an influenza pandemic;

- Maximize California’s ability to respond to the healthcare needs resulting from an influenza pandemic through effective planning at the state level; and

- Collaborate with local health departments and healthcare providers to anticipate the healthcare surge capacity demands of an influenza pandemic.

ASSUMPTIONS

- Local health departments are the lead agencies for pandemic planning at the local level.

- Local health departments should coordinate with and ensure active participation from hospitals, local emergency medical services agencies, community clinics or health centers, private practice physicians, home-based care, long-term care facilities, and other healthcare partners.

- Local pandemic healthcare planning will build on local surge planning efforts undertaken through the Health Resources and Services Administration’s cooperative agreement.

- The increased demand for services and response during an influenza pandemic will severely challenge the capacity of CDHS, local health departments, and medical and health providers including hospitals, emergency medical services, community clinics or health centers, private practice physicians, home-based care, long-term care facilities, pharmacies, and other healthcare partners throughout California and the nation.

- Patient care surge capacity needed during a pandemic will exceed hospital capacity and must be a community responsibility

- Healthcare providers must be prepared to manage the surge of pandemic influenza patients presenting for care based on general predictions from the U.S. Department of Health and Human Services and based on current data of influenza outbreaks.
  
  o The clinical disease attack rate is estimated to be 25 to 35 percent of the population.
  
  o About 50 percent of ill persons will seek outpatient medical care.
  
  o Hospitalization will be required for a large number of those severely ill.
• About 20 percent of working adults will be affected.

• Illness rates will be the highest among school-aged children (approximately 40 percent) and decline with age.

• An average of two secondary infections will occur per infected person.

• The pandemic may last up to 18 months and several waves are likely.

• After the pandemic, the novel virus is likely to continue circulating and to contribute to seasonal influenza.

• Because of the widespread impact of an influenza pandemic, capacity for medical mutual aid may be limited or unavilable within California, between states, and between California and Baja California.

• Local healthcare surge capacity planning must include cooperative strategies that integrate the spectrum of healthcare providers, including hospitals, emergency medical services, community clinics or health centers, private practice physicians, home-based care, long-term care facilities, and other healthcare partners.

• Supplies, equipment, and pharmaceuticals will be in short supply during an influenza pandemic. Local healthcare surge capacity and pandemic influenza planning must prepare for shortages and should consider stockpiling of critical supplies, equipment, and pharmaceuticals.

• Effective outpatient management may reduce the demand for inpatient care. Home-based treatment provided by families, and supported by primary care practitioners, public and home health agencies, or other health professionals will be an essential resource during a pandemic.

• Under a Governor’s proclamation of emergency for California or an area of the state, CDHS can modify healthcare standards to help meet the immediate needs for patient care related to the influenza pandemic.

• Traditional standards of care may need to be altered to maximize healthcare resources and benefits. “Sufficiency of care,” or medical care that may not be of the same quality as that delivered under non-emergency conditions but that is sufficient for need3, may be the standard of care during an influenza pandemic.

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• Hospitals should anticipate and strive to maximize their healthcare surge capacity. CDHS will grant permission to exceed licensed capacity under appropriate circumstances. However, when hospital capacity is exceeded, alternate care sites will be needed to augment acute care facilities. Hospitals will be used for patients needing higher levels of care.

• Local health departments have responsibility for planning and coordination of alternate care sites at the local level.

• Hospitals and other healthcare providers will experience staffing shortages throughout the pandemic and into the recovery period.

• Volunteers, retired healthcare professionals, and trained, unlicensed personnel may be used under specific emergency conditions to augment patient care in a variety of healthcare settings.

• Healthcare facilities, medical examiners, county morgues, mortuaries, and funeral homes must plan for surge capacity in mass fatality management during an influenza pandemic.

• Coordination of pandemic healthcare planning should include neighboring states and countries (i.e., California-Baja California region).

COMPONENTS OF PLANNING

The planning activities described in this section are complex and extend across pandemic phases.

Pandemic healthcare planning is divided into the components listed below.

• Facilities include both traditional and alternate care sites (e.g., settings traditionally used for outpatient care or settings that now provide lower levels of healthcare, temporary structures, reopened health facilities, school gymnasiums, armories, hotels and motels, convention centers). Evaluation of or planning for sites should include physical structures, critical infrastructures (such as plant operations and transportation), and the incident command systems (i.e. Hospital Incident Command System) to manage them.

• Equipment and supplies include equipment needed for patient care (e.g., beds, ventilators, heating-ventilating-air conditioning) and medical supplies, such as pharmaceuticals and consumable medical equipment (e.g., intravenous sets, personal care supplies for patients, and personal protective equipment for staff).

• Personnel planning includes maximizing existing staffing resources and expanding staffing resources with alternative practitioners, volunteers, and newly recruited personnel.
• Statutes, regulations, and policies established by the state and federal governments to govern healthcare provision and practice may be modified or waived during an emergency.

• Protocols, procedures, and guidelines needed to manage patients during a pandemic in various settings include staffing plans, transfer procedures, infection control guidelines, clinical pathways and protocols for treating influenza patients, triage before entry into the healthcare facility, rationing scarce commodities (i.e., ventilators), and operating alternate care sites.

• Training for healthcare providers, families, volunteers, and newly recruited staff.

• Coordination and communication within facilities, the local health departments, communities, regions, and statewide.

CDHS Pandemic Response Action Steps

WHO PHASE 1 AND PHASE 2

Interpandemic Period: No novel influenza subtypes have been detected in humans, but a novel subtype that has caused human infection may be present or circulating in animals.

Facilities

CDHS will:

• Develop protocols, procedures, and guidelines needed to manage patients during a pandemic in various settings include staffing plans, transfer procedures, infection control guidelines, clinical pathways and protocols for treating influenza patients, triage before entry into the healthcare facility, rationing scarce commodities such as ventilators, and operating alternate care sites;

• Draft model emergency orders to maximize healthcare surge capacity;

• Review, update, and if necessary, revise or expand regulatory or statutory authority to ensure that hospitals and other healthcare facilities complete emergency preparedness planning related to catastrophic events such as pandemic influenza;

• Explore legal authority and regulatory changes to require healthcare facility emergency planning as a condition of licensure, including:
• requiring hospitals to develop specific triggers (or thresholds) for implementing healthcare surge capacity plans, augmenting and retaining staff, obtaining critical supplies and using alternate space or temporary shelters to manage increased demands; and

• requiring long-term care facilities to develop protocols and plans to manage patients with higher acuities through emergency admissions or existing residents who are unable to be transferred to acute care hospitals due to lack of capacity;

• Review local healthcare surge capacity plans and recommend the revision of the plans to promote consistency across the regions and the State; and

• In conjunction with EMSA and the Office of Statewide Healthcare Planning and Development, assess and enhance existing hospital bed reporting systems for statewide reporting of healthcare surge capacity.

Equipment and Supplies

CDHS will:

• Verify that local healthcare surge capacity plans include a system to maintain a current inventory of essential healthcare items such as cots, ventilators, personal protective equipment, and pharmaceuticals; and

• Collaborate with local health departments to update inventories of essential healthcare items and supplies throughout the state.

Personnel

CDHS, in conjunction with the Department of Consumer Affairs, EMSA, and other professional licensing entities, will:

• Review existing legal authority related to the use of healthcare volunteers;

• Determine the viability of temporarily expanding the scope of practice for specific licensed or certified healthcare professionals during influenza pandemic, including: physician assistants, paramedics, emergency medical technicians, nurses, dentists, veterinarians, podiatrists, pharmacists, respiratory care practitioners and psychiatric technicians;

• Determine mechanisms to permit unlicensed healthcare workers, such as nursing and medical students, and volunteers to perform specific patient care procedures, including vaccinations and dispensing prophylactic medication during an influenza pandemic;
• Ensure that local healthcare surge capacity plans include surge strategies to meet staffing needs;

• Develop and maintain a system to identify the skills of CDHS staff with healthcare skills for potential deployment;

• Work with Department of Social Services to explore potential use of Volunteer Emergency Services Team members; and

• In collaboration with medical professional societies, EMSA and others, develop principles and approaches to alternate standards of care in mass casualty situations, including suggested triggers, liability protections, communications, and other critical issues.

CDHS, in conjunction with EMSA, the California Service Corps, local health departments, and others, will:

• Encourage the development of Medical Reserve Corps in all counties and assist in developing guidelines for their use and deployment; and

• Participate in developing an automated Emergency System for the Advanced Registration of Volunteer Health Professionals in California.

**Communications** (See also Chapter 10: Pandemic Influenza Risk Communication Plan)

CDHS will:

• Ensure communications mechanisms, such as the California Health Alert Network (CAHAN) and the CDHS website, disseminate pandemic influenza-related information to local health departments and healthcare providers, including hospital-based infection control practitioners; and

• Develop a system for regular reporting of bed capacity, staffing, and critical supply inventories throughout the pandemic.
Mass Fatalities

CDHS will verify that local healthcare surge capacity plans address the management of mass fatalities related to an influenza pandemic.

WHO PHASE 3 AND PHASE 4

Pandemic Alert Period: Human infection with no or very limited human-to-human transmission.

Facilities

CDHS, in consultation with medical professional organizations and other stakeholders, will:

- Develop initial recommendations for patient triage including:
  - prioritizing limited resources within the healthcare system;
  - assigning patients to specific treatment settings (e.g., medical center, clinic, long-term care, home care, alternate care sites); and
  - accelerating discharge of patients from one level of care to another;

- Issue recommendations for the use of alternate care sites, including:
  - activation criteria;
  - minimum requirements for size, power, air and heat, equipment, supplies and security;
  - staffing;
  - infection control;
  - liability;
  - memoranda of understanding or other agreements for procuring and distributing resources and supplies;
  - best practices from other jurisdictions and states; and
  - address barriers to the use of alternate care sites, including developing model emergency orders;
• In conjunction with the California Department of Food and Agriculture, assess the potential use of local fairgrounds for pandemic-related activities; and

• In conjunction with EMSA, develop and test a statewide hospital capacity monitoring system to assess the healthcare surge capacity of acute care hospitals, including state-owned and managed facilities.

**Equipment and Supplies**

CDHS will:

• Collaborate with local health departments to develop a list of key pandemic supplies, inventory these supplies, and review the feasibility of stockpiling additional supplies; and

• Assess the potential to create regional stockpiles of essential equipment and supplies and develop distribution plans for these materials.

**Personnel**

CDHS will:

• Disseminate work products from Phase 1 and Phase 2 related to professional scope of practice requirements;

• Advise local health departments and healthcare providers regarding draft emergency orders for modifying scope of practice requirements;

• Exercise local pandemic plans in collaboration with healthcare facilities and other providers, the Governor’s Office of Emergency Services, the Governor’s Office of Homeland Security, local health departments, Regional Disaster Medical and Health Specialists, Medical and Health Operational Area Coordinators, healthcare volunteers, and expanded practice professionals;

• Collaborate with EMSA to develop call-up, activation, and deployment procedures and protocols for healthcare professionals who are registered in an Emergency System for Advanced Registration of Volunteer Healthcare Personnel system; and

• Implement procedures for identifying CDHS healthcare personnel.
Communication (See also Chapter 10: Pandemic Influenza Risk Communication Plan)

CDHS will:

- Convene regular conference calls with local health departments and other partners to discuss pandemic progress and scope, and refine healthcare planning guidance; and

- Use the CDHS website, CAHAN, and other communication mechanisms to transmit pandemic related information for the public, healthcare delivery organizations, their employees, volunteer workers, and local health departments.

Mass Fatalities

CDHS, working with the Governor’s Office of Emergency Services, the Department of Consumer Affairs, coroners/medical examiners, and others, will:

- Clarify jurisdictional authority and resolve issues concerning the large-scale management of mass fatalities related to an influenza pandemic;

- Develop model emergency orders to address mass fatality issues (i.e., mass body storage);

- Issue recommendations for the definition of a medical examiner or coroner’s case based on the case definition of infection with the pandemic influenza virus; and

- Issue recommendations on mass fatality management for healthcare facilities.

WHO PHASE 5

Pandemic Alert Period With Substantial Pandemic Risk: Larger clusters but still limited human-to-human transmission; sustained community transmission is possible

Facilities

CDHS will:

- Continue actions initiated in previous phases; and

- Monitor capacity reports from hospitals through established SEMS channels and manage resource requests.
Equipment and Supplies

CDHS will:

- Continue and complete actions initiated in previous phases; and
- Collaborate with local health departments to ensure the readiness of stockpiled supplies and distribution systems.

Personnel

CDHS will:

- Continue and complete actions initiated in previous phases;
- Train CDHS healthcare personnel for pandemic response; and
- Test deployment protocols for CDHS healthcare personnel.

Communication

CDHS will:

- In conjunction with EMSA, activate the Joint Emergency Operations Center (JEOC) to ensure readiness for surge response, communicating the status of the pandemic, and the coordinating healthcare personnel, facilities, equipment, and supplies; and
- Continue actions initiated in previous phases.

WHO PHASE 6

Pandemic Period: Increased and sustained transmission in the general population.

CDHS will:

- Activate emergency plans for personnel, supplies, alternate care sites, and mass fatality management after the Governor’s declaration of a state of emergency;
- In conjunction with EMSA, the Department of Consumer Affairs, and the Governor’s Office of Emergency Services, implement emergency orders and protocols related to
healthcare provider’s licensure, scope of practice, staffing requirements, patient capacity, alternate care sites, healthcare volunteers, and the management of mass fatalities;

- Through the JEOC, monitor and coordinate the following activities in response to local and regional resource requests transmitted through the Governor’s Office of Emergency Services:
  - use and supply of additional personnel;
  - use and expansion of healthcare facilities, including alternate care sites and fatality management resources;
  - use and supply of equipment, supplies, and pharmaceuticals; and
  - use and supply of healthcare transportation resources; and

- Monitor hospital care, alternate care sites, long term care facilities and alternate standards/sufficiency of care as necessary to provide care deemed appropriate and reasonable to provide care for most people.

**WHO Postpandemic Period**

Pandemic influenza is anticipated to arrive in two to three waves over the course of several years, with a trough between the waves. These periods of substantial decreases in new cases offer opportunities for recovery and a chance to regroup, learn, and prepare for the next wave.

CDHS will:

- Identify and share best practices related to information dissemination, clinical management, infection control, coordination of patient management, and other issues;

- Compile reports of shortages to validate planning assumptions regarding critical supplies and resources;

- Compile morbidity and mortality reports by treatment setting to understand how care may best be provided;

- Evaluate the use of volunteers, expanded scope, alternate care sites, and other practices used to expand/enhance surge capacity during the pandemic;

- Evaluate morbidity among hospital staff and the resulting impact on the provision of care;

- Adjust guidance for the use of personnel, supplies, and facilities; and
- Review and update guidance and recommendations issued during the previous phases.
Appendix B.

PLANNING CONSIDERATIONS FOR HEALTHCARE FACILITIES

This appendix is intended to assist healthcare facilities to prepare for catastrophic events such as pandemic influenza. These facilities should review the activities outlined below and consider them when developing and evaluating their surge plans.

ASSUMPTIONS

- Healthcare planning for pandemic influenza builds on efforts initiated under the National Bioterrorism Hospital Preparedness Program funded by the Health Resources and Services Administration.

- The increased demand for healthcare during an influenza pandemic will severely challenge the capacity of the healthcare system in California.

- Hospitals will be expected to maximize surge capacity. However, when hospital capacity is exceeded, alternate care sites will be needed to expand the availability of acute care. Hospitals should be used for patients requiring the highest level of care.

- The increased demand for healthcare associated with pandemic influenza cannot be managed by healthcare facilities alone. An effective pandemic response must include cooperative strategies that use a variety of healthcare providers, including hospitals, clinics, long-term care facilities, private practice physicians, and home health providers.

- Effective outpatient management may reduce the demand for inpatient care. Expanded clinic services and home health care provided by families who are supported by primary care practitioners, public and home health agencies, or other health professionals will be essential resources during a pandemic.

- Hospitals and other healthcare providers will experience staffing shortages throughout the pandemic and into the subsequent recovery period. Under specific emergency conditions, volunteers, retired healthcare professionals, and trained unlicensed personnel may be used to provide patient care in a variety of healthcare settings.
• During the interpandemic and pandemic alert periods, healthcare providers and facilities play an essential role in surveillance for suspected cases of infection with novel strains of influenza virus and should be alert for such cases.

• Hospitals and other healthcare providers should be prepared to report data to local health departments including beds, staffing, and critical supply inventories.

• Current resources for mass fatality care at all levels, including healthcare facilities, county morgues, and mortuaries, may be inadequate to meet the need during an influenza pandemic.

• To maximize healthcare resources and benefits, traditional standards of care may need to be altered. “Sufficiency of care,” or medical care that may be of the same quality as that delivered under non-emergency conditions, but that is sufficient for patient need\(^4\) may be the standard of care during an influenza pandemic.

• The pandemic could last for months or years. Local pandemic planning groups and healthcare facilities should meet regularly to assess the effectiveness of their pandemic response and modify efforts as indicated.

**Decision-Making and Coordination**

Healthcare facilities should:

• Convene a surge planning committee to develop a facility plan for responding to catastrophic events such as pandemic influenza, including:
  
  o incident management and communication protocols for continuity of hospital operations and patient care services;
  
  o specific pandemic influenza planning strategies that incorporate current state and federal guidance; and
  
  o triggers for activating the plan;

• Include on the facility planning committee a local health department representative as an ex-officio member;

• Participate in local pandemic planning groups that include representatives from the local health departments, the Medical Health Operational Area Coordinator, the local emergency medical services agency, law enforcement, county medical societies, and

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other healthcare facilities, including clinics, long-term care facilities, and home health agencies;

- Discuss with community partners patient management strategies to preserve hospital capacity for patients requiring higher levels of care including:

  - community education and communication (see Chapter 10: Pandemic Influenza Risk Communication Plan);
  - public health outreach to promote self care (see Chapter 10: Pandemic Influenza Risk Communication Plan);
  - expanded clinic use;
  - use of home health agencies and in-home health services to facilitate outpatient management;
  - collaboration with long-term care facilities to minimize hospital admissions of nursing home patients and to maximize long-term care resources for managing stable, non-contagious hospital patients;
  - collaboration among healthcare and community leaders on plans to operate, equip, staff, and transport patients to alternate care sites (e.g., shuttered hospitals, outpatient facilities, veterinary hospitals, non-medical facilities) for triage or management;
  - memoranda of understanding or other agreements for procuring and distributing resources and supplies within the jurisdiction;
  - vaccine and antiviral dispensing to and use by designated target groups (see Chapter 7: Pandemic Influenza Vaccine Program and Chapter 8: Pandemic Influenza Antiviral Drug Program); and
  - liaison with local, regional, and state officials; volunteer groups; county medical societies; and community-based organizations to plan a surge response, identify potential healthcare volunteers, and exercise local, regional, and state plans.

**Legal and Ethical Considerations**

The healthcare facility's surge planning committee should include representatives from the facility's ethics or human subjects committee, infection control practitioners, emergency management committee, staffing director, administration, and physician leadership. The surge planning committee should develop policies on:
• Requesting and obtaining emergency waivers of regulatory requirements (e.g., Health Insurance Portability and Accountability Act, Emergency Medical Treatment and Active Labor Act, staffing ratios, scope of practice restrictions);

• Enforcing isolation and quarantine protocols;

• Allocating limited resources, including diagnostics, therapeutic interventions, personnel and beds, and issues related to the “sufficiency of care;”

• Establishing temporary patient care areas and morgue space within the facility;

• Using volunteer and newly recruited personnel;

• Accelerating discharge to alternate care sites or home-based care;

• Deferring elective procedures; and

• Interfacing with home health and long-term care facilities.

Facilities

Healthcare facilities should:

• Review and revise high patient census protocols to prepare for an influenza pandemic;

• Review and revise high patient census protocols to prepare for increased demands for isolation capacity;

• Develop plans for use of overflow space to triage, transfer, discharge, and treat patients, including using suspended beds, converting outpatient space for inpatient use, and using non-patient areas for patient care, including obtaining permission from CDHS to use these spaces in an emergency; and

• Identify strategies such as education, phone advice, and treatment algorithms to minimize emergency department visits and admissions.

Communications (See also Chapter 10: Pandemic Influenza Risk Communication Plan)

Healthcare facilities should work with public health officials, other government officials, neighboring healthcare facilities, private physicians and providers, the public, and the press to ensure rapid and ongoing information sharing during an influenza pandemic.
External Communications

Healthcare facilities should:

- Assign responsibility (persons or a team) for managing external communications about pandemic influenza;

- Develop contacts, working relationships, and communication plans with local media representatives (e.g., newspaper, radio, television);

- Coordinate communications with local and state health and government officials and other healthcare facilities;

- In collaboration with local health department officials, develop pre-scripted messages and communication templates (e.g., press releases) to address pandemic influenza issues; and

- Determine how to respond to or refer public inquiries.

Internal Communications

- Healthcare facilities should develop plans to keep personnel, patients, volunteers, and visitors informed of the impact of the pandemic on the facility and the community.

Personnel

Healthcare facilities should:

- Identify critical staff roles, including healthcare workers, medical staff members, housekeepers, dietary and laundry workers, plant operations, security, chaplains and mental health staff, and management, and develop plans to cover these critical roles;

- Develop pandemic-specific triggers for implementing critical staffing procedures;

- Ensure medical staff participation in the planning for personnel mobilization and surge capacity;

- Develop work force preservation protocols to minimize absenteeism, which may include:

  o rosters of staff teams that allow for rotation and rest over the duration of the pandemic;

  o employee counseling services to manage grief, exhaustion, anger, fear, physical and mental care of self and loved ones, and resolution of ethical dilemmas;
• support of healthcare workers in need for rest and recuperation;

• housing and food for healthcare personnel who must remain on-site for prolonged periods; and

• support for staff with child-care or eldercare responsibilities (e.g., day-care services);

• Prepare to manage volunteer personnel, including:

  • granting emergency privileges;

  • establishing competency, conducting criminal record clearance, and monitoring performance;

  • assigning temporary personnel;

  • using retired and volunteer healthcare workers for some patient care roles;

  • using community volunteers for non-clinical roles such as transporting specimens, registration, and supply handling; and

  • training volunteers;

• Coordinate staffing plans with the community pandemic influenza planning group to avoid competing for personnel resources;

• Develop just-in-time training and orientation for temporary and volunteer staff; and

• Develop model memoranda of understanding for using temporary personnel.

**Supplies**

Healthcare facilities should:

• Inventory critical supplies;

• Determine usage levels and consider stockpiling critical supplies;

• Develop memoranda of understanding with vendors for procuring additional supplies including: masks, gloves, gowns, beds and cots, intravenous supplies, portable high efficiency particulate air filters (HEPA), and ventilators;
• Test systems for procuring and storing additional supplies and address stockpile rotation issues;

• Repair durable equipment not in full working order and shorten routine maintenance cycle;

• Coordinate plans with the local pandemic planning group to avoid competing for supplies; and

• In conjunction with CDHS and the local pandemic planning group, develop a community-wide plan for supplying and equipping alternate care sites.

Hospital Surveillance for Pandemic Influenza

Healthcare providers and healthcare facilities will play an essential role in pandemic influenza surveillance. To detect cases of novel virus infection, hospitals should:

• Conduct surveillance in emergency departments to detect increases in influenza-like illness during the early stages of the pandemic;

• Monitor employee absenteeism for increases that might indicate early cases of pandemic influenza;

• Track emergency department visits and hospital admissions and discharge of suspected or laboratory-confirmed pandemic influenza patients; this information will be needed to:
  o support local public health personnel in monitoring the progress and impact of the pandemic;
  o assess bed capacity and staffing needs; and
  o detect resurgence in pandemic influenza that might follow the first wave of cases;

• Report requested data to the local health departments and the Medical and Health Operational Area Coordinator (e.g., admissions, discharges, deaths, patient characteristics, such as age, underlying disease and secondary complication; illness in healthcare personnel), using the system developed or recommended by CDHS and local health departments;

• Conduct pre-event planning with local health departments on protocols for data collection and reporting during the pandemic;

• Establish criteria for distinguishing pandemic influenza from other respiratory illnesses;
• Provide education and exercises on disease identification, testing, and reporting;

• Consider participating in the CDHS Immunization Branch Sentinel Provider reporting program;

• Establish priorities for laboratory procedures, including processing specimens; and

• Assess communication systems to ensure receipt and dissemination of alerts and bulletins from local, regional, and state infection control partners.

**Infection Control** *(See also Chapter 5: Infection Control in the Healthcare Setting)*

Healthcare facilities should:

• Convene the infection control committee to review and revise infection control policies and plans relevant to the pandemic response, including:
  
  o establishing a system for conducting surveillance for pandemic influenza cases within the facility;
  
  o patient triage systems;
  
  o facility access and restriction of visitors;
  
  o non-pharmaceutical containment strategies;
  
  o respiratory hygiene;
  
  o isolation;
  
  o cohorting patients;
  
  o workforce issues, such as training, personal protective equipment, and guidelines for “fitness for duty” status; and
  
  o cleaning equipment and environments;

• Review and update staff training in infection control policies and procedures, including training for non-clinical hospital personnel such as housekeepers, admitting clerks, and other critical support staff;

• Require demonstration of staff proficiency in critical infection control techniques;
• Adopt “respiratory hygiene” programs in all patient and visitor waiting areas to include signs about respiratory etiquette, hand cleaning supplies, tissues, masks, and waste receptacles; consider requiring all coughing patients to don a mask;

• Inventory respiratory isolation capacity and assess the integrity of airborne infection isolation room systems; and

• Develop strategies for expanding respiratory isolation capacity and cohorting infectious patients.

**Vaccine Program and Antiviral Program** (See also Chapter 7: Pandemic Influenza Vaccine Program and Chapter 8: Pandemic Influenza Antiviral Drug Program)

Healthcare facilities should:

• Review the current healthcare worker and patient vaccination program for pneumonia and influenza;

• Develop internal policies and protocols to identify high-risk patients for vaccine or antiviral distribution, according to the CDHS-established priorities;

• Identify critical hospital personnel for vaccination and antiviral medication, according to the CDHS established priorities; and

• Collaborate with local health departments on distribution and dispensing plans for vaccine and antivirals.

**Case Management and Treatment** (See also Chapter 5: Infection Control in the Healthcare Setting)

Healthcare facilities should:

• Adopt treatment guidelines distributed by CDC and CDHS;

• Develop standard operating procedures to ensure rapid and consistent application of treatment guidelines and inpatient care protocols in conjunction with the medical staff;

• Train medical staff on treatment priorities, allocating limited resources, and “sufficiency of care” standard;

• Develop systems to rapidly disseminate and update guidance to clinical staff and to revise policies and standard operating procedures accordingly; and
- Develop and enforce policies and procedures for dealing with healthcare workers who become ill.

**Mass Fatalities**

Healthcare facilities should:

- Review current disaster plans for managing remains and handling morgue overflow;
- Develop plans to manage contaminated remains for days;
- Collaborate with local health department and coroner/medical examiner in mass fatality planning; and
- Consider memoranda of understanding for surge mortuary supplies (e.g., body bags, refrigerator trucks).

**Education and Training**

Healthcare facilities should:

- Develop an education and training plan that addresses the needs of staff, patients, family members, and visitors;
- Educate staff, at a minimum, on:
  - prevention and control of influenza including potential changes in current practices, policies, and procedures;
  - benefits of an annual influenza program;
  - implications of an influenza pandemic;
  - role of antivirals in preventing disease and reducing rates and severity of disease;
  - infection control strategies and personal protective equipment;
  - non-pharmaceutical containment measures (internal and community);
  - policies and procedures for the care of the pandemic influenza patient(s);
  - pandemic staffing contingency plans and managing employee illness;
  - reporting to the local health department; and
- cross-training and “just-in-time” training of staff to provide essential services;

- Prepare educational materials for patients, family members and visitors in language-specific and reading-level appropriate materials and develop a plan to distribute information and answer questions during the pandemic, using materials from CDC, CDHS, and local health departments; and

- Conduct periodic exercises to test and evaluate pandemic plans, policies, and procedures.
Chapter 5.
INFECTION CONTROL IN THE HEALTHCARE SETTING

INTRODUCTION

This chapter addresses infection control measures and practices in the healthcare setting and provides guidance to healthcare facilities on managing a pandemic influenza outbreak. This guidance is based on current knowledge of the routes of influenza transmission, the pathogenesis of the influenza virus, and the effects of influenza control measures used during past pandemics and interpandemic periods. The specific characteristics of a novel pandemic virus will remain unknown until the pandemic occurs. The California Department of Health Services (CDHS) will revise this document as needed to meet the changing dynamics of a pandemic.

The primary strategies for preventing pandemic influenza are the same as those for seasonal influenza: vaccination, early detection, treatment with effective antiviral medications, and the use of infection control measures to prevent transmission during patient care. However, when a pandemic begins, a vaccine will not be widely available and the supply of antiviral drugs may be limited. The ability to limit transmission in a healthcare setting will depend significantly on appropriate and thorough application of infection control measures.

Given the uncertainty about the characteristics of a pandemic virus strain, all aspects of preparedness planning for pandemic influenza must allow for flexibility and real-time decision-making as the situation unfolds. Healthcare facilities should be prepared to implement engineering and administrative controls and use of personal protective equipment to prevent all possible modes of transmission, including airborne. Preparedness includes having a respiratory protection program in place; pre-designating which employees might be required to wear respiratory protection; and ensuring that potential respirator users have been medically cleared, have selected a suitable respirator model through individual fit testing, and have been trained in respirator use. In addition, adequate supplies of respirators and other personal protective equipment must be onsite and plans in place to acquire additional equipment on short notice.
OBJECTIVES

CDHS objectives for infection control measures in the healthcare setting are to:

- Limit transmission from:
  - infected patients to non-infected healthcare staff;
  - infected patients to non-infected patients;
  - infected healthcare staff to non-infected patients;
  - infected healthcare staff to non-infected healthcare staff; and
  - infected visitors to non-infected patients or staff; and

- Provide infection control guidance to healthcare facilities on managing pandemic influenza outbreaks.

ASSUMPTIONS AND PLANNING PRINCIPLES

- Infection control needs will change as an influenza pandemic evolves from first identification of a novel influenza virus in one or more persons to when a pandemic, with efficient human-to-human transmission, actually occurs. CDHS will review data and scientific evidence, consult with local health officers, review national recommendations, and revise and update infection control guidance and recommendations as indicated.

- Susceptibility to the pandemic influenza virus will be universal before vaccination or recovery from infection.

- An average of two secondary infections will occur per infected person.

- After the pandemic, the novel virus is likely to continue circulating and to contribute to seasonal influenza.

- People may be asymptomatic while infectious and the incubation period may be as little as two days, as with seasonal influenza.
  - Viral shedding will occur one-half to one day before the onset of illness;
- Shedding will be the heaviest in the first two days after symptoms appear;

- Children are typically heavy viral shedders in the first few days of illness (one day before onset of illness and two days after); and

- The infectious period in adults is typically three to five days, in some children and the immunocompromised viral shedding may persist for several weeks. These estimates will be revised based on viral shedding studies available on pandemic strain.

• The modes of transmission of a novel influenza virus may vary from seasonal influenza outbreaks. Therefore, the California Division of Occupational Safety and Health (Cal/OSHA), in collaboration with the Occupational Safety and Health Standards Board, may develop workplace standards specific to the influenza pandemic, altering the recommendations in this chapter. Even if influenza transmission has not reached the pandemic phase, Cal/OSHA may develop the workplace standards if transmission presents a workplace hazard.

• Once the pandemic is underway and human-to-human transmission is established, infection control resources, including personal protective equipment, may be limited. Healthcare providers must be prepared to prioritize the use of personal protective equipment, allocate scarce resources, and manage the patient surge.

MODES OF INFLUENZA TRANSMISSION

Despite the annual prevalence of influenza, most information on the modes of influenza transmission from person-to-person is indirect and largely obtained through observations during outbreaks in healthcare facilities and other settings (e.g., cruise ships, airplanes, schools, and colleges). The amount of direct scientific information is limited. However, the observed epidemiologic pattern observed is generally consistent with spread through close contact (i.e., exposure to large droplets, direct contact, or near-range exposure to aerosols). There is little evidence of airborne transmission over long distances or prolonged periods, but the relative contributions and clinical importance of the different modes of influenza transmission are currently unknown.

For any novel influenza strain, the mode of transmission and recommendations for personal protection and isolation precautions (i.e., droplet, contact, airborne) must be determined at the time of the pandemic, based on the best available evidence at that time.
Droplet Transmission

Droplet transmission involves contact of the conjunctivae and or mucous membranes of the nose or mouth of a susceptible person with large-particle droplets containing microorganisms generated from a person who has a clinical disease or who is a carrier of the microorganism. Droplets are generated from the source person primarily during coughing, sneezing, or talking and during the performance of certain medical procedures, such as suctioning and bronchoscopy. Transmission via large-particle droplets requires close contact between source and recipient because droplets do not remain suspended in the air and generally travel only short distances (about three feet) through the air. Because droplets do not remain suspended in the air, special air handling and ventilation are not required to prevent droplet transmission. Large droplets (particles up to 100 microns in size) are considered inhalable or “inspirable,” even if they may not remain airborne for a long period; this fact supports the use of respiratory protection when a healthcare worker is within close contact of a coughing or sneezing patient.

Given epidemiologic patterns of disease transmission, large droplet transmission is probably a major route of influenza transmission. However, data confirming large droplet transmission of influenza in human outbreaks is indirect and limited.

Contact Transmission

Direct-contact transmission involves skin-to-skin contact and physical transfer of microorganisms to a susceptible host from an infected or colonized person, such as occurs when healthcare workers turn patients, bathe patients, or perform other patient-care activities that require physical contact. Direct-contact transmission also can occur between two patients (e.g., by hand contact), with one serving as the source of infectious microorganisms and the other as a susceptible host. Indirect-contact transmission involves contact of a susceptible host with a contaminated intermediate object, usually inanimate, in the patient's environment. Influenza can survive up to 48 hours on nonporous surfaces and up to 12 hours on porous surfaces, such as tissues and cloth. Viable virus can also be passed from tissues to hands for 15 minutes and from nonporous surfaces to hands for 24 hours. Virus can be recovered from hands for only five minutes if the hands are contaminated with a high viral titer. Contact transmission of influenza may occur through either direct skin-to-skin contact or through indirect contact with the virus in the environment and subsequent contact with mucous membranes (i.e., mouth, nose, or eyes).

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5 Uncertainty about the role of conjunctivae transmission results in uncertainty about recommending face and eye protection other than the standard precautions for protection against splash and spray.
Airborne Transmission

Airborne transmission occurs by dissemination and subsequent inhalation of airborne droplet nuclei or particles in the respirable to inspirable size ranges that contain the infectious agent. The term respirable refers to the size of the particles of less than 10 microns and can reach and deposit in the alveolar region of the lungs. Inspirable particles are in the range of 10 microns to 100 microns and do not reach the alveolar region, but can be inspired and accumulate in the thoracic and head airways of the respiratory tract. Microorganisms carried in smaller-size particles may be dispersed over long distances by air currents and may be inhaled by susceptible individuals who have not had close contact with (or been in the same room with) the infectious individual. Organisms transmitted in this manner must be capable of sustaining pathogenicity despite desiccation and environmental variation that generally limit survival in the airborne state. Preventing the spread of agents that are transmitted by the airborne route requires the use of special air handling and ventilation systems (e.g., negative-pressure rooms). The relative contribution of airborne transmission to influenza outbreaks is uncertain.

Whether influenza transmission can occur across long distances (e.g., through ventilation systems) or through prolonged residence in air is unknown. However, transmission may occur at shorter distances through inhalation of small-particle aerosols (droplet nuclei), particularly in shared air spaces with poor air circulation.

Some aerosol-generating procedures (e.g., endotracheal intubation, bronchoscopy) likely increase the potential for dissemination of droplet nuclei in the immediate vicinity of the patient. Therefore, healthcare workers who perform aerosol-generating procedures on influenza patients should use a higher level of respiratory protection (i.e., powered air purifying respirators.)

CDHS PANDEMIC RESPONSE ACTION STEPS

WHO Phase 1 and Phase 2

Interpandemic Period: No novel influenza subtypes have been detected in humans, but a novel subtype that has caused human infection may be present or circulating in animals.

- CDHS will provide influenza infection control recommendations, including respiratory protection measures, in consultation with the Centers for Disease Control and Prevention, the U.S. Occupational Health and Safety Administration (OSHA), Cal/OSHA, and other state and federal organizations.
• CDHS will promote seasonal influenza education of healthcare providers on the importance of respiratory etiquette and hand hygiene.

• CDHS Licensing and Certification Division and Division of Communicable Disease Control (DCDC), in consultation with the Occupational Health Branch will provide technical guidance to local health departments, hospitals, clinics, and home healthcare agencies on influenza infection control practices and procedures, healthcare worker surveillance, outbreak identification reporting and response, and other areas as needed.

• CDHS Licensing and Certification Division and DCDC will collaborate with local health departments, healthcare providers, and healthcare organizations to identify best practices of infection control for seasonal influenza. These best practices will be communicated to healthcare providers through multiple channels including the CDHS website at www.dhs.ca.gov and CAHAN.

• CDHS Licensing and Certification Division will monitor the compliance of healthcare facilities with state and federal infection control regulations and statutes.

Who Phase 3 and Phase 4

Pandemic Alert Period: Human infection with no or very limited human-to-human transmission.

• CDHS DCDC will recommend infection control guidelines for triaging patients entering the healthcare system (e.g., emergency departments, clinics, emergency medical services, physician offices), including spatial separation and masking (with a surgical mask) of potentially infected patients.

• CDHS Occupational Health Branch, in consultation with Cal/OSHA, will provide technical expertise and recommendations for protecting healthcare workers including recommendations for:
  
  o personal protective equipment for healthcare workers, including respiratory protection;

  o alternate care and out-patient settings;

  o situations in which personal protective equipment is in short supply or unavailable as a result of patient demand and census; and

  o “fitness-to-work” guidelines for healthcare workers. These guidelines will be based on the clinical symptoms of the influenza (fever of 38°F or 100.4°F, cough,
diarrhea), laboratory testing, probability of asymptomatic shedders, and risk assessment regarding exposure.

- CDHS DCDC, in consultation with the Occupational Health Branch, will provide technical consultation and recommendations for infection control practices and education of healthcare providers based on clinical, laboratory, surveillance, and epidemiologic data on the potential influenza pandemic, including:
  - instituting isolation and quarantine measures;
  - cohorting infected patients;
  - protecting non-influenza hospitalized patients; and
  - training and educating healthcare workers.

**WHO Phase 5 and Phase 6**

Pandemic Alert Period With Substantial Pandemic Risk: Larger clusters but still limited human-to-human transmission; sustained community transmission is possible and Phase 6, Pandemic Period: Increased and sustained transmission in the general population.

- CDHS DCDC will provide technical expertise and recommendations for:
  - alternate infection control measures and practices when personal protective equipment is in short supply or unavailable;
  - hospital infection control measures and equipment when cohorting large numbers of patients in alternate care facilities; and
  - postmortem care.

- CDHS Licensing and Certification Division will collaborate with local health departments to ensure effective infection control measures in alternate care sites and in isolating and cohorting influenza patients in areas of the facility.

- CDHS Occupational Health Branch, in consultation with Cal/OSHA, will provide technical expertise and recommendations for protecting healthcare workers including:
  - protecting healthcare workers in alternate care and outpatient settings;
protecting healthcare workers when personal protective equipment is in short supply or unavailable; and

“fitness-to-work” guidelines for healthcare workers. These guidelines will be based on the clinical symptoms of the influenza (fever of 38°C or 100.4°F, cough, diarrhea), laboratory testing, probability of asymptomatic shedders, and risk assessment regarding exposure.

- CDHS Division of Drinking Water and Environmental Management will make recommendations for managing large quantities of infectious waste (medical and non-medical); and will coordinate with CDHS DCDC to ensure that the waste capacity needs of affected facilities (hospitals, alternate care sites) are identified in a timely manner. Situations in which the amount of medical waste exceeds normal operating capacity will be addressed by the facility’s medical waste management plan. CDHS Division of Drinking Water and Environmental Management will address exceptions to the medical waste management plan on a case-by-case basis.

- CDHS will manage, procure, and allocate scarce infection control supplies and personal protective equipment to healthcare providers.

**WHO Postpandemic Period**

- CDHS will continue to monitor and assess surveillance, laboratory, epidemiologic, and clinical data in the postpandemic period.

- CDHS will, to the extent possible, evaluate the efficacy of infection control measures and practices during the pandemic, capturing best practices and lessons learned.
Appendix C.

RECOMMENDATIONS FOR INFECTION CONTROL IN THE HEALTHCARE SETTING

Infection Control Principles for Preventing the Spread of Influenza

The following infection control principles apply in any setting where persons with pandemic influenza might seek healthcare services (e.g., hospitals, emergency departments, outpatient facilities, residential care facilities, homes.) Healthcare facilities should be prepared to implement engineering and administrative controls and use of personal protective equipment to prevent all possible modes of transmission, including airborne. Airborne level of preparedness includes the following recommendations for respiratory protection:

- Respiratory protection programs for employees designated to wear respirators;
- Medical clearance for respirator users;
- Selection of a suitable respirator model through respirator fit testing; and
- Training programs for employees in respirator use.

Respiratory Hygiene and Cough Etiquette

Respiratory hygiene and cough etiquette are important strategies to contain respiratory viruses and limit their spread. The elements of respiratory hygiene/cough etiquette include:

- Educating healthcare workers, patients, and visitors on the importance of containing respiratory secretions to prevent transmission of influenza; and
- Posting signs in languages appropriate to the population served with instructions to:
- immediately report symptoms of respiratory infection to the healthcare provider;

- use source control measures (e.g., covering the mouth and nose with a tissue when coughing and disposing used tissues appropriately; applying a surgical mask on the coughing person as tolerated);

- perform hand hygiene measures after contact with respiratory secretions; and

- in common waiting areas, maintain to the extent feasible spatial separation (ideally at least three feet) between uninfected persons and person with respiratory infections.

**Hand Hygiene**

Hand hygiene includes both hand washing with plain or antimicrobial soap and water or use of an alcohol-based product (hand sanitizers, including gels, rinses, foams, and hand wipes) that does not require water.

- In the absence of visible soiling of the hands, approved alcohol-based products for hand disinfection are preferred over soap and water for superior immediate antimicrobial activity, reduced drying of the skin, and convenience.

- If hands are visibly soiled or contaminated with secretions, healthcare workers should wash their hands with soap (either non-antimicrobial or antimicrobial) and water.

- Healthcare workers should perform hand hygiene after removing gloves, before and after patient contacts, and after removing personal protective equipment.

**Safe Work Practices**

Healthcare workers must follow safe and consistent work practices and adhere to infection control policies and procedures.

- Facility infection control policies and procedures should include education for employees on safe work practices including “hand awareness” (i.e., being alert to touching and possible hand contamination).

- Healthcare workers should practice good hand hygiene at all times; avoid touching eyes, nose, mouth, or exposed skin with contaminated hands (gloved or ungloved); and remove contaminated gloves before touching surfaces (door knobs, light switches, keys, keyboards) and perform hand hygiene.
Personal Protective Equipment

Healthcare facility infection control policies and procedures should include measures to protect the healthcare worker from possible exposure and illness. Adherence to these measures is paramount to preventing transmission and infection and must be emphasized during provider education, monitoring, and follow up. Hospitals should consult Cal/OSHA requirements pertaining to personal protective equipment; these requirements may change as new standards addressing aerosol transmissible infectious diseases are promulgated.

Respiratory Protection

Current respiratory protection guidelines for influenza in healthcare facilities are for protection from droplet transmission; however, the role of small-particle airborne transmission of influenza remains undetermined. As long as there is uncertainty, the selection of respiratory protection for pandemic influenza must be assessed, using available evidence on the specific characteristics of the pandemic strain.

Because of the uncertainty about modes of transmission, CDHS recommends that in the early phases of the pandemic (WHO Phase 3, 4, and early Phase 5) with a single case or cluster(s) of cases, healthcare workers should use, at a minimum, an N-95 respirator when caring for a suspected or confirmed pandemic influenza patient. The current national recommendation for healthcare workers in an influenza pandemic is droplet precautions; however, CDHS recommends a higher level of protection until evidence of the transmission characteristics of the emerging pandemic strain demonstrates characteristics similar to seasonal influenza. At that time (WHO late Phase 5 and Phase 6), airborne precautions and N-95 respirators may not be needed for routine patient care, but should be reserved for high-risk care (i.e., aerosol generating procedures).

To ensure supply and appropriate use of limited supplies of N-95 respirators, hospital infection control policies should address the prioritization and allocation of respirators and specify target groups of workers that will wear N-95 respirators based on their role in direct patient care and exposure risk. Prioritization may include using respirators when in close proximity (three feet or less) of the patient, performing direct patient care, or transporting patients. N-95 respirators are disposable equipment and should not be reused.

Aerosol-generating procedures (e.g., bronchoscopy, intubation) create a higher concentration of pathogen-containing aerosol. Therefore, a higher level of respiratory protection than an N-95 respirator, such as powered air purifying respirators (PAPR) with N-100 (HEPA) filters should be used when the use of the PAPR does not interfere with the performance of the procedures. Aerosol-generating procedures should be conducted in an isolation room whenever possible.

Healthcare facilities must comply with all applicable OSHA and Cal/OSHA standards and guidelines. N-95 and other respirators should be used in accordance with a respiratory
protection program as specified by Cal/OSHA regulations, including medical evaluation, training, and fit testing. Facilities should anticipate and order adequate supplies and medically clear, fit-test, and train potential respirator users in advance.

CDHS DCDC, in consultation with the Occupational Health Branch and Cal/OSHA, will provide technical recommendations to healthcare providers for appropriate respiratory protection measures and equipment for the pandemic influenza based on clinical, laboratory, surveillance, and epidemiologic data. In collaboration with local health departments and healthcare providers, CDHS will educate healthcare workers and the public on appropriate respiratory protection measures.

**Gloves**

Gloves made of latex, nitrile, vinyl, or other synthetic materials are appropriate. However, if possible, latex-free gloves should be available for all healthcare workers to prevent the development of latex allergies. Healthcare workers should:

- Wear a single pair of gloves for contact with blood and body fluids and during any hand contact with respiratory secretions (e.g., providing oral care, handling soiled tissues);
- Ensure gloves fit comfortably;
- Remove and dispose of gloves after each patient use; do not wash gloves for reuse;
- Perform hand hygiene after removal of gloves;
- Use other barriers (e.g., disposable paper towels, paper napkins) when there is limited contact with a patient’s respiratory secretions; and
- Emphasize hand hygiene and hand awareness in healthcare workers, patients, and visitors.

Hospital infection control policies should address the prioritization of gloves when they are in short supply. Prioritization could include reserving gloves for situations in which extensive patient or environmental contact with blood and body fluids is likely, such as during suctioning.

**Gowns**

- Most routine patient interactions do not require gowns.
• Healthcare workers should wear a gown if soiling of personal clothes or uniform with a patient’s blood or body fluids, including respiratory secretions is anticipated, for example:
  o during procedures that may generate increased small-particle aerosols of respiratory secretions (e.g., endotracheal intubation and bronchoscopy);
  o during procedures or activities involving holding the patient close (e.g., restraining a child); and
  o during other patient care activities in which contact or exposure is likely (changing linens, ambulating a patient).

• Healthcare workers may use a disposable gown of synthetic fiber or cloth; the gown must fit the wearer and fully cover the area to be protected.

• Healthcare workers should wear the gown only one time and discard it into a laundry or waste receptacle.

• Healthcare workers should perform hand hygiene after removing the gown.

• Healthcare facility infection control policies must include proper donning and doffing procedures, including hand hygiene measures.

• Hospital infection control policy should address the prioritization of gowns when they are in short supply and designate alternate coverings (e.g., patient gowns). Infection control policies should clearly describe situations in which gowns are needed.

**Eye Protection and Goggles**

Droplet transmission and indirect contact transmission to the conjunctivae may be possible when a susceptible person is exposed to large-particle droplets generated from a person who has a clinical disease or is a carrier of the microorganism. If spray or splatter of infectious material is likely, goggles or a face shield should be worn, in addition to an N-95 respirator or surgical mask (e.g., within three feet of a coughing/sneezing influenza patient).

**Disposal of Medical Waste**

Standard precautions for contact with blood and body fluids (i.e., gloves) are required for biohazardous waste; gloves should be used when disposing of respiratory secretions. Support
personnel should be educated on proper personal protective equipment and procedures for handling waste materials.

**Linen and Laundry**

Healthcare facilities should use standard precautions for contact with blood and body fluids (i.e., gloves) for handling linen and laundry.

**Dishes and Eating Utensils**

Standard precautions for contact with blood and body fluids (i.e., gloves) are recommended for handling dishes and eating utensils used by a patient with known or possible pandemic influenza. Infection control policies and procedures must address proper cleaning and use. Disposable products are not required.

**Patient Care Equipment**

Healthcare facilities should follow standard practices for handling and reprocessing used patient care equipment including medical devices.

- Hospital personnel should wear gloves when handling contaminated patient care equipment.

- Hospital personnel should decontaminate patient care equipment with an EPA-approved hospital disinfectant before removing it from the patient’s room and clean, disinfect, or sterilize re-usable patient care equipment as appropriate.

- Hospital personnel should decontaminate external surfaces of portable equipment used to perform x-rays and other procedures in the patient’s room with an EPA-approved hospital disinfectant on removal of the equipment from the patient’s room.

**Environmental Cleaning and Disinfection**

Cleaning and disinfecting environmental surfaces are important routine infection control measures in healthcare facilities. In addition to routine environmental decontamination,
healthcare workers should more frequently disinfect commonly touched surfaces in patient rooms and common areas and follow facility procedures for post-discharge disinfection of an isolation room.

Postmortem Care

Healthcare facilities should follow standard practices for the care of the deceased. These practices should include standard precautions for contact with blood and body fluids (i.e., gloves).

If autopsy or procedures are performed on a deceased person with suspected or confirmed influenza and the procedures generate higher concentration of aerosols (e.g., cutting through bone), a powered air purifying respirator (PAPR) with an N, P, or R-100 cartridge should be worn.

Laboratory Specimens and Practices

Healthcare workers should follow standard facility and laboratory practices for collecting, handling, transporting, and processing laboratory specimens.

Other Infection Control Measures

- Limit contact between infected and non-infected persons.
- Isolate infected persons (i.e., confine patients to a defined area as appropriate for the healthcare setting).
- Limit contact between patients who are ill with pandemic influenza and nonessential personnel and visitors.
- Promote spatial separation in common areas (i.e., sit or stand as far away as possible, at least three feet) to limit contact between symptomatic and non-symptomatic persons.

DETECTING PERSONS ENTERING THE FACILITY WHO MAY HAVE PANDEMIC INFLUENZA
Infection control policies and procedures should include detection measures to limit exposure to infected individuals. Hospitals should post visual alerts in appropriate languages at the entrances of the hospital (e.g., emergency departments, clinics, lobby areas) to:

- Instruct persons with respiratory symptoms to inform the first person of contact at the hospital of their symptoms when they enter the facility;
- Instruct persons with respiratory symptoms to practice respiratory hygiene and cough etiquette;
- Discourage unnecessary visits or limit visits to medical facilities; and
- Educate patients, families, and visitors about infection control measures at home and in the community.

**Triage of Symptomatic Persons**

During the peak of the pandemic, emergency departments and hospital-based clinics may be overwhelmed with patients seeking care. Facilities should consider implementing the following measures.

- **Patient Triage**
  - Establish a “triage officer” to manage patient flow, including deferring or redirecting patients who do not require emergency care.
  - Designate a separate waiting area for patients with influenza-like symptoms. Consider placing triage and waiting areas outside of the main facility e.g. adjacent clinics, conference rooms, etc. If this is not feasible, the waiting area(s) should allow spatial separation (three feet) from other patients.

- **Healthcare Worker Triage**
  - Implement a system to screen all healthcare workers for influenza-like symptoms before assuming duty.
  - Implement “fitness-for-work” criteria for employees to return to work.

**Isolation Precautions and Patient Placement**

Standard precautions should be used with all patients. For any novel influenza strain, the mode of transmission and recommendations for isolation precautions (i.e., droplet, contact, airborne) and patient placement must be determined at the time of the pandemic, based on the best available evidence at that time. All precautions discussed in this section are airborne
precautions, which CDHS recommends for addressing a novel influenza virus until it becomes clear that airborne precautions are not needed. Planning considerations include the following.

- Hospitals should develop policies and procedures to limit admission of influenza patients to those with severe complications who cannot be cared for outside the hospital.

- During aerosol-generating procedures (e.g., bronchoscopy, endotracheal intubation), hospitals should use a negative-pressure isolation or procedure rooms to decrease the risk of transmission within the hospital.

- Immunocompromised patients may shed virus for longer periods and should be placed on contact and airborne precautions for the duration of their illness.

In the early phases of the pandemic (WHO 3, 4, and early 5), with small clusters of patients, but limited human-to-human transmission, hospitals should consider the following:

- Placing patients with suspected or laboratory-confirmed illness caused by a novel pandemic influenza virus into rooms with engineering controls (i.e., negative-pressure isolation rooms) or cohort these patients to minimize the risk of influenza transmission;

- Placing patients with known or suspected pandemic influenza on contact and airborne precautions for up to 14 days from the onset of symptoms; and

- Admitting influenza patients to a single-patient room or to an area designated for cohorting patients with influenza.

**Cohorting Patients**

During a pandemic, other respiratory viruses may be circulating concurrently in the community. To prevent cross-contamination of respiratory viruses, hospitals should assign only patients with confirmed pandemic influenza to the same room. Hospitals should:

- Implement cohorting early in the course of an outbreak to accommodate an anticipated surge of patients;

- When determining areas to cohort patients, consult with facility engineers to address ventilation systems that are not shared with other areas or rooms;

- Ensure that personnel assigned to cohorted units do not “float” or otherwise work in other patient care areas; and

- Limit the personnel entering the cohorted areas to those necessary for patient care and support.
Patient Transportation

- Hospitals should limit patient movement and transport outside of isolation areas to medically necessary purposes.

- Hospitals should use portable equipment (e.g., portable x-ray equipment) in the isolation area(s) and clean the equipment after each use, according to facility and equipment manufacturer’s guidelines.

- During transportation, patients should wear a surgical mask. If a patient cannot tolerate a surgical mask, apply the most practical measure to contain respiratory secretions such as placing a sheet or towel loosely over the nose and mouth or head.

Visitors

Hospitals should:

- Screen visitors for signs and symptoms of influenza before entry into the facility and exclude persons who are symptomatic;

- Limit visitors to persons who are necessary for the patient’s emotional well being and care;

- Ensure patients wear a surgical mask, if tolerated, while visitors are in the room;

- Assume that family members accompanying the patient to the facility have been exposed to pandemic influenza and should wear surgical masks;

- Educate visitors to pandemic influenza patients on the importance of wearing surgical masks and using good hand hygiene and respiratory and cough etiquette; and

- Post instructions on respiratory and cough etiquette and hand hygiene and make necessary supplies available.
Chapter 6.

CASE MANAGEMENT

INTRODUCTION

Healthcare providers are essential to detect the initial cases of novel or pandemic influenza in a community. Early identification of cases through heightened clinical awareness of disease and swift action for isolation and treatment can benefit the individual patient and may slow the spread of influenza in the community. At any phase of a pandemic, rapid diagnosis and clinical care can avert severe complications.

While healthcare providers play an essential role in detecting the earliest cases of infection with a pandemic influenza virus, making the diagnosis may be complicated by the lack of specific clinical findings and commercially available laboratory tests that can distinguish a novel or pandemic virus strain from seasonal influenza. Clinicians, under the best of circumstances in the midst of a pandemic, will face significant challenges to: 1) quickly identify and triage cases, 2) conduct efficient and thorough evaluations, 3) initiate antiviral and other supportive therapies; and 5) anticipate clinical complications. Thus, mitigating the impact of an influenza pandemic consists of integrating sound clinical assessment, managing individual patients, and assessing locally available medical resources (e.g., rapid diagnostics, antiviral drugs and vaccines, healthcare personnel, and hospital beds.)

OBJECTIVES

The objectives of the California Department of Health Services’ (CDHS) pandemic influenza activities for case management and treatment are to:

- Promote early identification, reporting, and proper management of cases to slow or contain the spread of disease in WHO Phase 3 and Phase 4;

- Provide education and guidance to local health departments in managing suspected and lab confirmed cases of novel virus strains as the pandemic evolves; and

- Communicate recommended practices, protocols and case management pertaining to avian and pandemic influenza to local health departments, healthcare providers and the public.
ASSUMPTIONS AND PLANNING PRINCIPLES

- The clinical characteristics of a novel or pandemic influenza virus and the groups at highest risk may differ from seasonal influenza A strains.

- Susceptibility to the pandemic influenza or novel influenza virus will be universal prior to vaccination.

- After the pandemic, the novel virus is likely to continue circulating and to contribute to seasonal influenza.

- People may be asymptomatic while infectious and the incubation period may be as little as two days, as with seasonal influenza.
  - Viral shedding will occur one-half to one day before the onset of illness.
  - Shedding will be the heaviest in the first two days after symptoms appear.
  - Children are typically heavy viral shedders in the first few days of illness (one day before onset of illness and two days after).
  - The infectious period in adults is typically three to five days, in some children and the immunocompromised viral shedding may persist for several weeks. These estimates will be revised based on viral shedding studies available on pandemic strain.

- Healthcare providers must be prepared to prioritize patient care, allocate scarce resources, and manage patient surge as well as consider using alternate care sites applying modified standards for patient care.

CDHS PANDEMIC RESPONSE ACTION STEPS

WHO Phase 1 and Phase 2

Interpandemic Period: No novel influenza subtypes have been detected in humans, but a novel subtype that has caused human infection may be present or circulating in animals.

- CDHS Division of Communicable Disease Control (DCDC), in collaboration with the CDHS Joint Advisory Committee on Public Health Preparedness, will develop, update,
and distribute California-specific guidelines for controlling interpandemic influenza in healthcare and other congregate settings at the start of the influenza season.

- Based on CDC guidance, and in coordination with local health departments, CDHS will develop and distribute protocols on case management and laboratory diagnostics. CDHS will work with local health departments to distribute protocols to settings where cases and their contacts might be diagnosed.

- CDHS will work with local health departments to ensure that clinicians and laboratory scientists know how to access the most current recommendations for novel or pandemic influenza case identification, reporting, management, and laboratory testing.

**WHO Phase 3 and Phase 4**

Pandemic Alert Period: Human infection with no or very limited human-to-human transmission.

- In coordination with CDC, CDHS will develop case management protocols to ensure that suspect human cases of novel or pandemic influenza virus infections are promptly identified, isolated, and source(s) of exposure (animal vs. human) determined. Case management protocols for clinicians will address:
  
  o screening criteria (clinical and epidemiologic, including travel and occupation);

  o notification of local health authorities;

  o case management (infection control precautions, laboratory testing, appropriate evaluation and treatment, nationally recommended management and treatment protocols); and

  o identification of potentially exposed contacts and assistance with management of contacts.

- CDHS will distribute to local health departments protocols on case management and laboratory diagnostics for avian and novel viruses as well as seasonal influenza virus.

- CDHS, in coordination with CDC, will develop and distribute guidance on managing patients who test negative for novel or pandemic influenza virus, addressing the potential for false negative findings, and clinical and epidemiologic criteria that warrant continued suspicion.
• CDHS, in coordination with CDC and local health departments, will revise and distribute virus transmission prevention and control guidelines to reflect the circumstances of Phase 3 and Phase 4.

• CDHS and local health departments will continue to educate clinicians and laboratory scientists on how to access the most up-to-date recommendations for novel or pandemic influenza case identification, reporting, management, and laboratory testing.

• CDHS, in coordination with CDC guidelines, will distribute to local health departments revised guidance on vaccination, prophylaxis, and treatment, based on the most current national and state recommendations, including a prioritized list of treatment and prophylaxis recipients and ensure the revised guidance is available to healthcare institutions and practitioners.

• CDHS, in collaboration with medical and professional societies will develop treatment protocols, standards and procedures for austere care, altered standards of care, and alternate care sites to direct patients to the most appropriate level of care in the community rather than acute care hospitals during an influenza pandemic.

• As isolated cases emerge, CDHS will manage the allocation and distribution of antiviral drugs in the CDHS stockpile to local health departments.

• CDHS will work with its Medical Care Services program (Medi-Cal); the Departments of Managed Health Care, Mental Health, Alcohol and Drug Programs, and Social Services; local health departments; and others to develop recommendations and guidelines for health plans, provider groups, and private practitioners.

WHO Phase 5

Pandemic Alert Period With Substantial Pandemic Risk: Larger clusters but still limited human-to-human transmission; sustained community transmission is possible

• CDHS, in coordination with CDC guidance and local health departments, will revise and distribute protocols and guidelines to reflect the circumstances of Phase 5.

• CDHS Emergency Pharmaceutical Services Unit will manage, allocate, and distribute vaccines, antiviral drugs, and other medications in the CDHS stockpile and the California distribution from the Strategic National Stockpile.
WHO Phase 6

Pandemic Period: Increased and sustained transmission in the general population

- CDHS will continue actions initiated in previous phases.
Appendix D.

CLINICAL GUIDELINES FOR PANDEMIC INFLUENZA

This appendix is intended to be a guide for clinicians for screening, assessing, and managing pandemic influenza patients and is based on guidance from the U.S. Department of Health and Human Services.6

ASSUMPTIONS

- During WHO Phases 1 through 5, early recognition of illness caused by a novel influenza A virus will rely on a combination of clinical and epidemiological features.

- During WHO Phase 6, diagnosis will be clinically oriented because of the likelihood that any severe febrile respiratory illness is caused by pandemic influenza.

- Management of influenza is based primarily on sound clinical judgment regarding the individual patient as well as an assessment of locally available resources (e.g., rapid diagnostics, antiviral drugs, hospital beds; see Chapter 4: Healthcare Planning).

- Early antiviral treatment shortens the duration of illness due to seasonal influenza and is expected to have similar effects on illness due to avian or pandemic influenza viruses (see Chapter 8: Pandemic Influenza Antiviral Drug Program).

- Clinical management must also address supportive care and management of influenza-related complications.

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CLINICAL GUIDELINES FOR WHO PHASES 1 THROUGH 5

The following criteria are based on the features of recent avian influenza A (H5N1) cases but are intended for use in evaluating suspected cases of infection with any novel influenza A virus. During WHO Phases 3 through 5 human infections with novel influenza A viruses will be an uncommon cause of influenza-like illness; therefore, both clinical and epidemiologic criteria should be met.

Clinical Criteria

- Any suspected cases of infection with avian influenza virus must first meet the criteria for influenza-like illness, defined as:
  - temperature of $> 100.4\,^\circ F (38\,^\circ C)$; and
  - either sore throat or cough or dyspnea.

- Clinical criteria may be modified as the characteristics of the pandemic evolve.

Epidemiologic Criteria

- Travel risks: persons have a travel risk if they have:
  - recently visited or lived in an area affected by highly pathogenic avian influenza A outbreaks in domestic poultry or where a human case of avian influenza has been confirmed; and either
  - had direct contact with poultry; or
  - had close contact with a person with confirmed or suspected avian influenza.

- Occupational risks:
  - persons who work on farms or live poultry markets;
  - persons who process or handle poultry infected with known or suspected avian influenza strains;
  - workers in laboratories that contain live animal or novel viruses; and
  - healthcare workers in direct contact with a suspected or confirmed avian influenza case.
Initial Management of Patients Meeting Criteria for Avian Influenza

When a patient meets both the clinical and epidemiologic criteria for a suspected case of novel influenza, healthcare personnel should initiate the following actions:

- Implement infection control precautions for avian influenza (see Chapter 5: Infection Control in the Healthcare Setting);

- Notify local and state health departments of the patient meeting the criteria as quickly as possible to facilitate initiation of public health and protective measures;

- Obtain clinical specimens for avian influenza A virus testing and arrange for transport to local or state public health laboratories (see Chapter 3: Laboratory Testing Capacity);

- Evaluate alternative diagnosis, based only upon laboratory tests with high positive predictive value (e.g., blood culture, viral culture, pleural fluid culture, etc.);

- Decide on inpatient or outpatient management based on clinical assessment, assessment of risk, and whether adequate precautions can be taken at home to prevent the potential spread of infection; see CDHS recommendations for lab confirmed, WHO Phase 3 H5N1 cases at: www.dhs.ca.gov/ps/cdc/VRDL/html/FLU/H5N1;

- Initiate antiviral treatment; and

- Assist public health officials with identifying potentially exposed contacts.

CLINICAL GUIDELINES FOR WHO PHASE 6

During WHO Phase 6, the primary goal of rapid detection is to identify and triage cases of pandemic influenza. During this period, the healthcare system may be overwhelmed with suspected cases, restricting the time and laboratory resources available for evaluation. Evaluation will therefore focus predominantly on clinical and basic laboratory findings, with less emphasis on laboratory diagnostic testing and epidemiologic criteria.

Clinical Criteria

- Any suspected cases of infection with avian or novel pandemic influenza virus must first meet the criteria for influenza-like illness, defined as:
  - temperature of > 100.4° F (38° C); and
o either sore throat or cough or dyspnea.

- Clinical criteria may be modified as the characteristics of the pandemic evolve.

**Epidemiologic Criteria**

- During WHO Phase 6, an exposure history will be marginally useful for clinical management when disease is widespread in a community. There will be a relatively high likelihood that any case of influenza-like illness during that time will be pandemic influenza. Once pandemic influenza is widespread, clinical criteria will be sufficient for classifying the patient as a suspected pandemic influenza case.

**Initial Management of Patients Meeting Criteria for Pandemic Influenza**

Healthcare personnel should initiate the following activities:

- Follow local and state health department recommendations on reporting of patients who meet the criteria for pandemic influenza;

- If the patient is hospitalized, implement infection control precautions for pandemic influenza (see Chapter 5: Infection Control in the Healthcare Setting);

- Obtain clinical specimens for general evaluation, as clinically indicated and according to the recommendations from local and state health departments issued at the time of the pandemic;

- Decide on inpatient, outpatient, or alternate care site management. The decision to hospitalize will be based on the physician’s clinical assessment of the patient and the availability of hospital beds and personnel. Acute care hospitals should be used to manage the most acute patients, and alternate care sites and home care used for less acute patients; and

- Review Chapter 7: Pandemic Influenza Vaccine Program and Chapter 8: Pandemic Influenza Antiviral Drug Program for information on target groups, allocation, and distribution.

**CASE MANAGEMENT RESOURCES**

- Clinical Case Management Procedures from CDC at: www.cdc.gov/fiu/
• Listing of areas affected by Avian Influenza A (H5N1 and other current novel strains):
  OIE - www.oie.int/eng/en_index.htm
  WHO – www.who.int/en/
  CDC – www.cdc.gov/flu/
• Limiting Occupational Risk from the Occupational Health and Safety Administration at:
• CDHS Pandemic Influenza Preparedness and Response Plan at www.dhs.ca.gov
• CDHS Division of Communicable Disease Control Pandemic Influenza Working Group
  recommendations and documents for local health departments for Phase 3 H5N1 cases in
  California including:
    CDHS Screening Form for Suspect Avian (H5N1) Influenza
    Suspect Avian Influenza Case Report Form
    Avian Influenza Infection Control Guidelines
    Guidelines for Specimen Collection
    Specimen Submittal Form for Suspect Avian Influenza
    H5N1 Biosafety Guidelines
Chapter 7.

PANDEMIC INFLUENZA
VACCINE PROGRAM

INTRODUCTION

The United States has used influenza vaccines for more than 50 years as the primary method for preventing influenza and its complications. Annual influenza vaccine development requires input from international organizations, advisory committees, the U.S. Department of Health and Human Services, and licensed vaccine manufacturers. This multi-step process typically takes nearly a year of work.

The amount of vaccine that can be produced in time to be used in an influenza season is a function of the capacity of the industrial manufacturing base and the growth characteristics of the viruses used to produce the vaccine. Increased domestic vaccine manufacturing capacity would enhance the supply of vaccine using current production techniques, and allow for adequate supply during a pandemic. In addition, developing new production techniques would also enhance supply. The Federal Government is working closely with vaccine manufacturers to expand vaccine production capacity, and is actively supporting research and development of new vaccine technologies that will allow influenza vaccine to be made available more quickly in the event of a pandemic. Adequate planning and assessment of pandemic influenza vaccine procurement, allocation, and distribution is essential for an effective pandemic vaccine intervention.

OBJECTIVES

The objectives of the California Department of Health Services’ (CDHS) Pandemic Influenza Vaccination Program are to:

- Allocate, distribute, and coordinate administration of pandemic influenza vaccine as rapidly, efficiently, and ethically as possible to target groups and populations; and

- Monitor the safety and effectiveness of pandemic influenza vaccination.
ASSUMPTIONS AND PLANNING PRINCIPLES

- With assistance from CDHS Emergency Pharmaceutical Services Unit, CDHS Immunization Branch will allocate and distribute vaccine to local health departments.

- Local health departments will develop plans and prepare to store, track, and administer vaccine.

- Vaccine delivery is less dependent on pandemic stage than on vaccine availability, CDC recommendations, and CDHS priorities.

- Three U.S. vaccine manufactures and others outside of the United States are conducting clinical trials of H5N1 vaccines. No manufacturers have completed clinical trials, and there is no federal policy for use of prepandemic vaccine.

- Two doses of vaccine administered at a minimum of four weeks apart will likely be required to develop maximal immunity to the novel virus. Further data on the safety and immunogenicity of a novel virus vaccine after one versus two doses will result from on ongoing human clinical trials.

- The federal government will purchase pandemic vaccine produced during the first few months (anticipated 3 to 6 million doses per week) and distribute it to states.

- State public health agencies will control the vaccine and be responsible for storage, security, allocation, distribution, and tracking. This vaccine supply will be used to vaccinate priority groups determined by CDC guidelines, the Division of Communicable Disease Control Pandemic Influenza Work Group, and the CDHS Joint Advisory Committee on Pandemic Influenza Vaccine and Antiviral Prioritization Strategies.7 (See Appendix D.)

- Adopting a consistent statewide pandemic influenza vaccination prioritization policy and practice for California will maximize the acceptance and effectiveness of the intervention. A single statewide prioritization policy will minimize confusion and increase the public’s confidence in the pandemic response.

- The importance of consistent application of State of California vaccine priority groups must be weighed against local conditions. The local health officer may request a vaccine priority group variance from CDHS based upon emergent needs.

7 A subgroup of the CDHS Joint Advisory Committee on Public Health Preparedness.
• Once vaccine is available, it will take several months to produce an adequate supply for the U.S. population. When first available, the federal government will distribute limited supplies of vaccine to states on a pro-rated basis. California comprises approximately 12 percent of the U.S. population, and can expect to receive 360,000 to 720,000 doses per week.

• New cell culture methods to increase vaccine production capacity are still early in development and are several years from approval.

• The vaccine may be administered and distributed under Investigational New Drug protocols, requiring informed consent before administration, follow up for second dose if required, and monitoring for possible adverse events. Alternatively, vaccine may be administered under U.S. Food and Drug Administration Emergency Use Authorization. Emergency Use Authorization procedures minimize the administrative burden and may be preferable to Investigational New Drug protocols to facilitate streamlined and efficient administration of vaccine.

• The necessary legal authority for implementing potentially extraordinary measures to distribute vaccine (e.g., allowing non-licensed volunteers to administer vaccine8 and secure distribution sites under emergency conditions should be planned before a pandemic occurs.

• Collaborate on vaccine distribution plans with federal agencies, local health departments, bordering states, and Mexico. Local health departments will be responsible for coordinating with providers and stakeholders and tribal entities within their jurisdictions.

Federal Role in Pandemic Influenza Vaccine Production, Allocation, and Distribution

The U.S. Department of Health and Human Services will:

• Work with the pharmaceutical industry toward the goal of developing, within 60 months, domestic vaccine production capacity sufficient to provide vaccine for the entire U.S. population (300 million courses) within six months after the recognition of a human influenza virus with pandemic potential and development of a vaccine reference strain;

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8 California law governs who may administer a vaccine. These people include physicians and surgeons (Health and Safety Code, section 1316.5), registered nurses (Business and Professions Code [BPC] section 2725 (b)(3)), physicians' assistants (BPC section 3502.1), pharmacists (BPC section 4052), and medical assistants under authorization and supervision of a licensed physician and surgeon or podiatrist (BPC section 2069). If the practitioner is operating under a particular practice guideline or protocol (e.g., a mass vaccination clinic), the licensed practitioner could delegate authority to screen or assess patients to a registered nurse, physician assistant, medical student, or resident. The suspension of legal provisions that limit who can perform medical procedures would require an order of the Governor during a declared state of emergency.
• Establish and maintain stockpiles of pre-pandemic vaccines adequate to immunize 20 million persons against influenza strains that present a pandemic threat and possibly become a virus with human pandemic potential;

• In collaboration with CDHS, local health departments, healthcare providers, and tribal entities, develop plans for the allocation, distribution, and administration of pre-pandemic vaccine;

• In coordination with Department of Homeland Security, and other agencies, and in collaboration with state and local governments, develop objectives for the use of, and strategy for allocating, vaccine and antiviral drug stockpiles during pre-pandemic and pandemic periods under varying conditions of countermeasure supply and pandemic severity; and

• In coordination with Department of Homeland Security and other agencies, present recommendations on target groups for vaccine when sustained and efficient human-to-human transmission of a potential pandemic influenza strain is documented anywhere in the world. These recommendations will reflect data from the pandemic and available supplies of medical countermeasures.

Monitoring and Evaluating Vaccine Coverage

• With support from CDHS, local health departments will have primary responsibility for monitoring and evaluating vaccine distribution and administration.

• CDHS will establish a database to track vaccine distribution and administration. This database will include information required for vaccine tracking (e.g., lot number, vaccination clinic dates, etc.). If an electronic system for vaccine tracking is not feasible for local health departments, a back-up paper system will be used. The paper system will document the same variables as the electronic system.

• Local health departments will have the primary responsibility for data entry. Local health departments will transfer data to CDHS Immunization Branch for analysis and interpretation.

Tracking Adverse Vaccine Reactions

• CDHS will use the Vaccine Adverse Event Reporting System, jointly coordinated by the FDA and CDC. Healthcare providers, patients, and vaccine manufacturers will report serious adverse events on paper forms, by telephone, or electronically.
• CDHS, in conjunction with local health departments, will analyze Vaccine Adverse Event Reporting System and other reports of serious adverse events to determine whether such events are reported more frequently than expected. CDHS will analyze signals of potential vaccine-associated events for biologic plausibility and may conduct epidemiologic studies to assess possible causation.

• CDHS may supplement the Vaccine Adverse Event Reporting System with additional surveillance and studies (e.g., active surveillance for adverse events in a sample of vaccines by telephone interviews or self-report diary cards).

Strategies for Using Limited Vaccine

• In the 1918 influenza pandemic, young, healthy adults were at high risk of morbidity and mortality. Currently, very young persons, elderly adults, and persons with underlying disease are at high risk of complications during interpandemic influenza outbreaks. Specific morbidity and mortality rates of any future pandemic remain unknown, and must be determined during the course of the pandemic.

• Vaccination strategies must be flexible and responsive to vaccine supply and the epidemiology of the pandemic. Epidemiologic investigations early in the pandemic will guide decision-making, by determining groups at highest risk for adverse health outcomes and age-specific case-fatality rates.

• CDHS will weigh programmatic feasibility when implementing priorities. For example, as vaccine supplies expand and after vaccination of the highest-priority target groups, it may be most feasible to vaccinate entire families or vaccinate by geographical area rather than further subdividing the population by priority.

• Vaccinating priority groups likely will be most efficient if the vaccination is given at the worksite (e.g., hospitals, fire stations, police stations). Prioritization strategies and implementation options for distribution of limited vaccine are included in Appendix D.

• CDHS will use risk communication strategies to explain the selection of priority groups (see Chapter 10: Pandemic Influenza Risk Communication Plan).

Pneumococcal Vaccine

Pneumococcal pneumonia is one of the most common secondary infections or complications of influenza.

• Increasing interpandemic pneumococcal vaccine coverage to those at highest risk of developing complications from influenza will be more feasible than implementing pneumococcal vaccination as an additional intervention measure once a pandemic begins.
Improving pneumococcal vaccination coverage during the interpandemic period will decrease demand when a pandemic occurs and decrease the risk of a pneumococcal vaccine shortage.

Consistent with current practice, private healthcare providers, home health agencies, visiting nurse associations, local health departments, and others will distribute and administer pneumococcal vaccine.

CDHS PANDEMIC RESPONSE ACTION STEPS

WHO Phase 1 and Phase 2

Interpandemic Period: No novel influenza subtypes have been detected in humans, but a novel subtype that has caused human infection may be present or circulating in animals.

No or limited supplies of pandemic vaccine are available. Some vaccine may be available in the private sector, the Strategic National Stockpile, or possibly a CDHS stockpile.

CDHS will:

- Promote seasonal influenza vaccination in traditional high-risk groups, particularly subgroups in which coverage levels are low (e.g., minorities and persons under age 65 years with chronic medical conditions). Increasing routine, annual vaccination coverage in these groups will facilitate access to these populations when a pandemic occurs. However, routine vaccination against the seasonal influenza virus is unlikely to protect against novel strains that emerge in a pandemic;

- Monitor seasonal vaccination in traditional high-risk groups through annual population-based surveys;

- Promote pneumococcal vaccination coverage to reduce the incidence and severity of secondary bacterial pneumonia in traditional high-risk groups;

- Promote seasonal influenza vaccination coverage rates among healthcare workers;

- Use the CDC Vaccine Information Statement, detailing the risks and benefits of the vaccine in English as part of its ongoing interpandemic influenza vaccine program, and will translate the Vaccine Information Statement into commonly used languages in California;
• Develop and distribute informational and promotional materials for interpandemic influenza vaccination to local health departments and healthcare providers (see Appendix F);

• Encourage local health departments to exercise their pandemic influenza vaccination plans;

• Develop, test, and implement a data management system (e.g., CDC Countermeasures Response Administration System) to allow state and local health departments to track influenza vaccine supply, distribution, and administration; and

• Communicate vaccine activities to Baja California.

WHO Phase 3 and Phase 4

Pandemic Alert Period: Human infection with no or very limited human-to-human transmission.

No or limited supplies of pandemic vaccine are available.

CDHS will:

• Communicate regularly with CDC, vaccine manufacturers, and distributors to obtain updates on plans for vaccine production and distribution;

• Convene regular meetings with the Pandemic Influenza Work Group and the Joint Advisory Committee on Pandemic Influenza Vaccine and Antiviral Prioritization Strategies to determine prioritization strategies for vaccination when supplies are limited and to guide local health departments in distributing and prioritizing within their jurisdictions; the strategies will include:

  o CDC guidelines on priority groups critical to maintaining health, social, government, and emergency response services; specific target populations, including those at highest risk for complications from influenza; and

  o updating recommendations based on vaccine supply and global surveillance and epidemiologic data on characteristics of the novel virus;

• Prioritize groups for vaccination in severe vaccine shortages, moderate vaccine shortages, and no vaccine shortages;

• Develop protocols for vaccine delivery including:
o preparing delivery, storage, and distribution plans with local health departments;

o coordinating vaccine delivery, security, and receipt, including whether vaccine is delivered by Emergency Pharmaceutical Services Unit-arranged transportation, vendors via a centralized CDC distribution system, or manufacturers;

o determining whether to distribute vaccine to the public health sector (likely in the initial phase), the private sector, or a combination of the two;

o establishing and confirming storage sites for vaccine from Strategic National Stockpile vendors and manufacturers at existing secure vaccine storage depots;

o determining allocation of vaccine to local health departments based on population and priority group strategies;

o arranging secure delivery of vaccine from CDHS storage facilities to local health departments;

o providing local health departments with updated protocols for receiving, storing, securing, and administering vaccine, including encouraging identification of vaccination clinic sites; formation, review or updating of memoranda of understandings with those sites; and ensuring adequate security of vaccination clinic sites and storage facilities;

o coordinating with local health departments to assess the local availability of vaccination supplies (including syringes, gloves, bandages, gauze, first aid supplies, biohazard containers, emergency kits to manage anaphylaxis, etc.);

o encouraging local health departments to coordinate with the local Governor’s Office of Emergency Services, Medical and Health Operational Area Coordinator, Regional Emergency Operations Center, Regional Disaster Medical Health Coordinator or Specialist, and the Joint Emergency Operations Center (JEOC) to assess local surge capacity to staff vaccination clinics, and to develop contingency plans for requests by local health departments for additional trained personnel;

o exercising the risk communication section of the CDHS Strategic National Stockpile Plan in conjunction with overall Emergency Pharmaceutical Services Unit planning; and

o exercising vaccine distribution plans annually;

- Review local health department plans for vaccinating population groups and provide support and guidance, and develop and distribute to local health departments vaccination
clinics guidance modified from CDC guidelines; the guidelines will include information on:

- identifying vaccination clinic sites;
- determining clinic staffing needs;
- preparing duty statements for clinic staff;
- developing protocols for vaccine storage, handling, and security;
- supplying vaccination clinics;
- developing clinic flow guidelines; and
- sponsoring risk communications and public information;

- Recommend and test data management systems for tracking vaccine supply, distribution, security, and administration and resolve problems;

- Ensure that appropriate legal authorities are developed for implementing the proposed distribution plan, such as:
  - vaccination of target groups determined by state public health officials as essential for public health, safety and welfare;
  - allowing non-licensed volunteers to administer vaccine; and
  - ensuring liability coverage for non-licensed volunteers providing medical services or administering vaccine;

- Ensure that contingency plans have been considered for emergency distribution of unlicensed vaccine using Investigational New Drug or Emergency Use Authorization provisions, including implementing strict inventory control and record keeping, completing signed consent forms, and monitoring adverse events;

- Coordinate the development of materials for just-in-time training and refresher courses on vaccine delivery protocols and vaccine administration techniques for persons who do not normally administer vaccines;

- Continue to work with local health departments to encourage pneumococcal vaccination of persons aged 65 years and older and other persons recommended by the Advisory Committee on Immunization Practices to decrease morbidity and mortality associated with pandemic influenza;
• In collaboration with federal agencies, collaborate on vaccine distribution plans with local health departments, bordering states and Mexico; local health departments will be responsible for coordinating with providers and stakeholders and tribal entities within their jurisdictions; and

• Coordinate vaccine distribution plans with other state agencies (e.g., the California Departments of Corrections and Rehabilitation, Mental Health, and Developmental Services).

WHO Phase 5

Pandemic Alert Period With Substantial Pandemic Risk: Larger clusters but still limited human-to-human transmission; sustained community transmission is possible

Vaccine may still not be available or may be in limited supply. Preparations should be made to begin vaccinating target populations according to the pre-designated priority groups. (See Appendix E)

CDHS will:

• Communicate with local health departments, private physicians, stakeholders and the public to update the status of vaccine production, priority group designations, and guidelines for whom to vaccinate (see Chapter 10: Pandemic Influenza Risk Communication Plan);

• Review and refine plans prepared in Phase 3 and Phase 4 for delivering and storing vaccine as it becomes available, including:
  o evaluating additional mechanisms of vaccine delivery (e.g., Strategic National Stockpile, vendors via centralized CDC distribution system, or direct from manufacturers), receipt and transport of vaccine, and whether vaccine distribution is limited to the public health sector (likely in the initial phase), the private sector, or a combination of the two;

  o establishing other vaccine storage depots as available or needed, in addition to storage site(s) described in Phase 3 and Phase 4;

  o evaluating allocation of vaccine to local health departments, depending on population and priority group strategies;

  o coordinating secure delivery of prepandemic vaccine to local health departments, which are responsible for vaccine distribution within their jurisdictions;
o providing updated protocols to local health departments for receiving, storing, and administering vaccine, including identifying additional vaccination clinic sites as needed, forming memoranda of understanding with those sites, and ensuring adequate security of vaccination clinic sites and storage facilities;

o working with local health departments to assess the local availability of vaccine administration supplies as described in Phase 3 and Phase 4; and

o encouraging local health departments to coordinate with the county Office of Emergency Services, the Medical and Health Operational Area Coordinator, Regional Disaster Medical Health Coordinator or Specialist, and the JEOC to assess available local surge capacity for administering vaccination and for staffing vaccination clinics;

• If vaccine is administered under an Investigational New Drug protocol, ensure strict inventory control and record keeping, completion of signed consent forms, and monitoring of adverse events through a paper or electronic system;

• Ensure adequate staffing and communications for the Vaccine Adverse Event Reporting System, including:

  o designating a CDHS Vaccine Adverse Event Reporting System coordinator;

  o establishing a team to review and monitor for adverse events once vaccination begins;

  o coordinating and communicating with local health departments for adverse events reports and surveillance;

  o if needed, implementing and refining a database system for monitoring adverse events and reporting/interfacing with the Vaccine Adverse Event Reporting System;

  o alerting local health departments on the need to report adverse events to the Vaccine Adverse Event Reporting System; and

  o establishing a support hotline to assist new Vaccine Adverse Event Reporting System users and users encountering problems;

• Review guidelines for determining vaccination priority groups. Based on vaccine supply, surveillance data, and epidemiologic information, update the priorities as appropriate, in consultation with CDC, and the Joint Advisory Committee on Pandemic Influenza Vaccine and Antiviral Prioritization Strategies (see Appendix D) including:

  o updating the estimate of high-risk and priority individuals needing vaccination; and
o coordinating the recommendations for vaccinating priority groups, updating
estimates by jurisdiction, and distributing vaccines to local health departments;

- Coordinate the development and distribution of materials for just-in-time training and
refresher courses to broadcast to local health departments (see Chapter 10: Pandemic
Influenza Risk Communication Plan);

- Use epidemiologic studies of vaccine effectiveness to determine whether changes are
needed to recommendations on vaccine formulation, dose, or schedule, in conjunction
with CDC, when feasible; and

- In collaboration with federal agencies, collaborate on vaccine distribution plans with
local health departments, bordering states and Mexico. Local health departments will be
responsible for coordinating with providers and stakeholders and tribal entities within
their jurisdictions.

WHO Phase 6

Pandemic Period: Increased and sustained transmission in the general
population.

Vaccine may become more widely available during this phase. CDHS will begin facilitating
procurement, coordination, and distribution of available vaccine.

CDHS will:

- Collaborate with local health departments, the Governor’s Office of Emergency Services,
Medical and Health Operational Area Coordinators, Regional Disaster Medical Health
Coordinator or Specialist, and JEOC to assess available local surge capacity and
communication needs to administer vaccination and staff vaccination clinics;

- Based on available supply, surveillance data, and epidemiologic information, review and
update priority target groups to receive vaccine in consultation with CDC and the CDHS
Joint Advisory Committee on Pandemic Influenza Vaccine and Antiviral Prioritization
Strategies (see Appendix D), including:
  
  o updating the estimate of high-risk and priority individuals needing vaccination; and

  o coordinating the recommendations for vaccinating priority groups, updating
estimates by jurisdiction, and distributing vaccines to local health departments;

- Review surveillance data for changes in risk factors that could require modification of
recommendations for priority groups receiving vaccine;
Monitor Vaccine Adverse Event Reporting System data for evidence of adverse reactions and report the findings to CDC;

Distribute vaccine to local health departments to allocate and vaccinate priority groups within their jurisdictions (including allocating to alternate care sites, as needed); close collaboration between public and private healthcare providers will be essential;

Assist local health departments in modifying existing standing orders, signed by the local health officer or agency director, for vaccine administration including dosage, site of administration, contraindications to vaccination, precautions to vaccination, and response to anaphylaxis;

In collaboration with federal agencies, collaborate on vaccine distribution plans with local health departments, bordering states and Mexico; local health departments will be responsible for coordinating with providers and stakeholders and tribal entities within their jurisdictions; and

Through the JEOC’s Public Information Officer and the Office of Public Affairs, provide frequent updates on vaccine availability and priority groups for stakeholders, partners, and the public (see Chapter 10: Pandemic Influenza Risk Communication Plan).

**WHO Postpandemic Period**

CDHS will:

- Provide a detailed retrospective characterization of the pandemic and evaluate the efficacy of pharmaceutical and non-pharmaceutical containment measures and emergency management strategies;

- In anticipation of a possible second pandemic wave, continue statewide surveillance and vaccination programs, with the goal of vaccinating all California residents; and

- Participate, in collaboration with CDC, in evaluating all aspects of the vaccination program, including vaccination coverage for first and second doses, priority groups and difficult-to-reach populations, monitoring of adverse events, and results of special studies to evaluate vaccine efficacy.
Appendix E.

PANDEMIC INFLUENZA VACCINE PRIORITIZATION PLAN

BACKGROUND

Vaccine is a key prevention strategy and control measure for decreasing the health consequences of a pandemic. Given the limited amount of vaccine that will be available early in a pandemic, CDHS must have an effective prioritization plan to determine target groups designated for initial vaccination.⁹

To address the need for a prioritization process, the Immunization Branch of CDHS formed the Joint Advisory Committee on Pandemic Influenza Vaccine and Antiviral Prioritization.¹⁰ CDHS contracted with the University of California, Berkeley Center for Infectious Disease Preparedness to work with CDHS and the advisory committee to develop a comprehensive vaccine prioritization plan.

No Comprehensive Prioritization Process Currently Exists

In November 2005, the U.S. Department of Health and Human Services (HHS) released broad-based national vaccination priority recommendations. HHS advises state and local health departments to create prioritization plans that provide specific definitions for priority groups, identify occupational categories and sub-categories within each broad priority designation, and select implementation strategies to deliver and dispense vaccine to the priority groups. A review of published prioritization plans reveals that they are limited in two key areas: 1) defining and incorporating the appropriate inputs into the prioritization process¹¹ and 2) articulating a well-developed methodology.¹²

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⁹ See the CIDP Pandemic Influenza Project webpage for the project description, complete prioritization methodology, and all supplemental documents. (Weblink: www.idready.org/pandemic_influenza).
¹⁰ A subgroup of the State Joint Advisory Committee comprising public health and medical care professionals, emergency planners, hospital administrators, physicians, academics, infectious disease experts, and a bioethicist.
¹¹ Prioritization inputs include intervention goals, vaccination strategies, vaccination criteria, and target groups.
¹² Refer to “Review of Vaccine Prioritization Plans” available at www.idready.org/pandemic_influenza for a complete discussion of the limitations of other jurisdictions’ prioritization plans.
Objectives of the Prioritization Planning Process

CDHS has determined that a California prioritization plan should be:

- Systematic: based on a logical methodology to identify alternatives and project outcomes;
- Justifiable: based on epidemiologic, social science, and ethics literature and supported by best-practices research;
- Flexible: can be adjusted based on the changing epidemiologic characteristics of a pandemic;
- Adaptable: can be applied to different populations in different settings; and
- Transparent: clearly defined and incorporates expert opinion and feedback.

Choosing an Analytical Method

CDHS developed the Decision Analysis Scoring Tool that simultaneously analyzes multiple goals, criteria, and alternatives to develop an optimal prioritization scheme. The Scoring Tool is based on an Analytic Hierarchy Process, which is a “choice-based” modeling technique that helps decision-makers allocate resources across competing alternatives. The Analytic Hierarchy Process evaluates target groups along competing vaccination criteria and assigns a numerical score to each group based on how well it matches the criteria. At the end of this process, the Scoring Tool produces a rank-ordered list of target groups prioritized for influenza vaccination that can be implemented within the state. These results will be evaluated on multiple implementation criteria to build an optimal vaccine implementation strategy.

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13 “Choice-based” modeling is a technique that forces decision makers to choose an option from a list of alternatives based on their opinions or preferences.
Assumptions

The Decision Analysis Scoring Tool is based on the following assumptions:

- In a pandemic, the availability of an effective vaccine will be limited.
- The primary goal of vaccination is to minimize health consequences (illness and death).
- Providing vaccine to persons before they become infected greatly decreases the likelihood of these persons developing serious complications (e.g. illness and death).
- Focusing interventions on reducing direct health consequences (illness and death) will also reduce indirect consequences (economic loss and social disruption).
- Groups determined to be of higher priority through the prioritization process will receive vaccinate first.

Decision Analysis Scoring Tool Methodology

The Decision Analysis Scoring Tool methodology comprises four stages:

- The Scoring Tool inputs (e.g. intervention goals, vaccination strategies, vaccination criteria, direct determinants, and target groups) are identified and defined in successive steps.
- The Scoring Tool survey is administered to determine the importance of the criteria and assess how well each target group meets the criteria. In addition, the scoring method is established. A target group’s score is based on 1) the criteria weights; 2) the strength of match with a given criterion; and 3) the number of criteria met.
- The survey results are analyzed to develop the rank ordered priority list. The criterion scores for each target group are summed to produce the final prioritization score. These scores are arranged into a rank-ordered list of priority groups.
- The results are evaluated on multiple implementation criteria to develop an optimal vaccine implementation strategy.

Figure 7.1 illustrates how the Decision Analysis Scoring Tool methodology produces a rank-ordered priority list (stage 4 not shown).
Figure 7.1 The Stages of Development of the Decision Analysis Scoring Tool
The methodology and rationale for each of these stages is discussed in detail in “Supplemental Document B “Decision Analysis Scoring Tool Methodology.” (Weblink: www.dhs.ca.gov/ps/dcdc)

Vaccine Prioritization Inputs

INTERVENTION GOALS

CDHS identified three primary goals for prioritizing vaccine and determining the criteria an individual will need to qualify for prioritized vaccine:

- Minimize health consequences: reduce the number of severe illnesses and deaths caused by complications of pandemic influenza;

- Minimize social disruption: reduce disruption in essential community services and minimize social chaos and distress caused by pandemic influenza; and

- Minimize economic loss: reduce economic losses caused by reductions in production and consumption of goods and services because of pandemic influenza.
VACCINATION STRATEGIES

All possible approaches to allocating limited medical resources were identified, translated into vaccine rationing strategies, and evaluated to determine their appropriateness for use during a pandemic. Vaccination strategies had to achieve all three intervention goals. In addition, the strategies had to meet appropriate ethical, legal, political feasibility, and implementation standards. Four rationing strategies meet these standards and are included in the prioritization methodology:

- Rationing to those who perform an essential emergency response role;
- Rationing by medical and prevention needs;
- Rationing by probability of successful immunization; and
- Rationing to those who perform an essential community role.

VACCINATION CRITERIA

To determine who would qualify for prioritization, vaccination criteria for each of the four vaccination strategies were developed. Emphasis was given to criteria that minimize health consequences. As a result, the Decision Analysis Scoring Tool methodology includes both epidemiologic as well as social role-oriented criteria.  

<table>
<thead>
<tr>
<th>Relevant Strategy</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical and prevention needs</td>
<td>• Risk of transmission&lt;br&gt;• Risk of infection&lt;br&gt;• Risk of complication</td>
</tr>
<tr>
<td>Probability of successful immunization</td>
<td>• Vaccine effectiveness</td>
</tr>
<tr>
<td>Performs essential emergency response role</td>
<td>• Provides DIRECT emergency response service&lt;br&gt;• Provides SUPPORT emergency response service</td>
</tr>
<tr>
<td>Performs essential community role</td>
<td>• Provides CRITICAL infrastructure service</td>
</tr>
</tbody>
</table>

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14 Refer to “An Analysis of Theoretical Approaches to Rationing” available at www.idready.org/pandemic_influenza for a complete discussion and evaluation of rationing strategies.

15 Refer to “DAST Methodology” available at www.idready.org/pandemic_influenza for vaccination criteria definitions.

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DIRECT DETERMINANTS
Each criterion is further broken down into direct determinants that detail the characteristics that target groups must demonstrate to qualify for vaccination under that criterion.

TARGET GROUPS
The target group list identifies populations that will likely meet one or more of the Decision Analysis Scoring Tool criteria and therefore should be targeted (or receive priority) for vaccine during the early stages of the pandemic.\textsuperscript{16,17} The target groups were selected based on health-related characteristics and professional roles.

Target groups include persons with health-related characteristics that place them at high risk of developing influenza complications and persons who can transmit influenza to high-risk persons. These target groups are classified by their health status or health characteristic and in some cases by their age. Role-based target groups perform roles essential to the emergency response during a pandemic or maintain critical infrastructure. These groups are classified by the industry in which they work, the occupational setting where they work, and in some cases, the occupation or job title they hold.

The Prioritization Survey
The Decision Analysis Scoring Tool methodology is centered on a self-administered survey that assesses the relative importance of the prioritization criteria and evaluates the target groups along the criteria.\textsuperscript{18}

The three main objectives of the survey are to:

- Determine the relative importance of the identified criteria in achieving the intervention goals;
- Determine how well each target group meets the relevant vaccination criteria; and
- Assess the strength and usability of a survey instrument to prioritize populations for influenza vaccine.

\textsuperscript{16} Refer to “Target Population Group Profiles” available at www.idready.org/pandemic_influenza for detailed descriptions and population estimates of each of the target groups.
\textsuperscript{17} The target group list was developed by the University of California, Berkeley, Center for Infectious Disease Preparedness researchers and vetted by representatives from the CDHS Joint Advisory Committee on Pandemic Influenza Vaccine and Antiviral Prioritization as well as high-level staff within the CDHS Immunization Branch.
\textsuperscript{18} Refer to “DAST Survey Questionnaire” available at www.idready.org/pandemic_influenza for the complete survey questionnaire.
A pilot survey was distributed via email to the CDHS Joint Advisory Committee on Pandemic Influenza Vaccine and Antiviral Prioritization. The results from the pilot survey were analyzed and prioritization scores were used to refine the survey.

CDHS will administer the survey to a representative statewide sample of pandemic preparedness experts beginning in June 2006. In addition to the medical care service and public health sectors, survey participants will include experts from commercial health, public administration, justice, and critical infrastructure industries. The results from this second round will be compared with priority recommendations in the HHS plan, as well as with other state pandemic plans. In addition, CDHS will recommend implementation strategies based on this priority list.

Vaccination Plan Supplemental Documents available on the website at www.idready.org/pandemic_influenza.

- **Review of Vaccine Prioritization Plans.** This document discusses the key limitations of currently published prioritization plans based on a literature review of international, national, and state vaccine prioritization plans.

- **Decision Analysis Scoring Tool Methodology.** This document presents an overview of the Decision Analysis Scoring Tool methodology broken down into each of the four stages. In addition, this document provides detailed definitions for the vaccination criteria and direct determinants.

- **An Analysis of Theoretical Approaches to Rationing.** This document presents a complete discussion of the theoretical approaches to rationing limited medical resources, a detailed description of how they were converted into relevant vaccine allocation strategies, and a full evaluation of the rationing strategies.

- **Target Population Group Profiles (Phase I).** This document contains detailed profiles of the 69 target groups that likely meet one or more of the vaccination criteria. These target groups appear on the Decision Analysis Scoring Tool survey.

- **Decision Analysis Scoring Tool Survey Questionnaire (Phase I).** This document is the complete paper version of the Decision Analysis Scoring Tool survey that was administered to the CDHS Joint Advisory Committee on Pandemic Influenza Vaccine and Antiviral Prioritization on June 21, 2005.

- **Decision Analysis Scoring Tool Survey Questionnaire (Phase II).** This document is the complete paper version of the Decision Analysis Scoring Tool survey that was administered Statewide in June 2006.

- **Prioritization Score Calculation Method (Phase I).** This document reviews how the results of the Decision Analysis Scoring Tool survey will be used to derive vaccine prioritization scores for target groups.
• **Decision Analysis Scoring Tool Survey Analysis (Phase I).** This document reviews the results from the Decision Analysis Scoring Tool survey in greater depth.

• **Sensitivity Analysis (Phase I).** This document reviews in detail how population group prioritization scores vary when the criteria weights are simultaneously altered.

• **Implementation Strategy Analysis (to be completed).** This document evaluates implementation options on relevant criteria to select an “optimal” implementation strategy for the State.

• **Discussion of Decision Analysis Scoring Tool Limitations.** This document describes the limitations of the Decision Analysis Scoring Tool methodology and presents recommendations on improvements that can be made to minimize these limitations.
Chapter 8.

PANDEMIC INFLUENZA

ANTIVIRAL DRUG PROGRAM

INTRODUCTION

Use of antiviral drugs is a key strategy in containing and responding to an influenza pandemic. Antiviral drugs have demonstrated effectiveness against infections caused by influenza A viruses in decreasing severity of clinical illness and the complications of illness such as lower respiratory tract infections (pneumonia) when used for treatment of ill persons within 24-48 hours of symptom onset. Antiviral drugs are also effective in preventing clinical illness with influenza A viruses when used for prophylaxis before or soon after exposure.

Creating federal and state stockpiles of antivirals is key strategy for pandemic preparedness. Even with large stockpiles, antiviral drugs are expected to be in short supply, requiring targeted use. Federal priority recommendations will reflect the federal pandemic response goals of limiting mortality and severe morbidity, maintaining critical infrastructure and societal function, diminishing economic impacts, and maintaining national security.

To preserve limited supplies, CDHS currently supports the federal recommendation to target antiviral drugs for 1) treatment of cases to decrease the impact on the healthcare system; and 2) post-exposure prophylaxis in select settings such as initial containment of cases during the early stages of a pandemic when isolated cases or limited clusters of cases can be identified and investigated, high-risk occupational exposures in healthcare settings, and exposure of high-risk person in institutional or household settings.

ANTIVIRAL DRUG CLASSES

Currently, there are two classes of antiviral drugs: adamantanes and neuraminidase inhibitors. Adamantine has demonstrated effectiveness against influenza A, whereas the neuraminidase inhibitors are effective for both influenza A and B. Both adamantanes and neuraminidase inhibitors are most effective against influenza when administered in the earliest stages of illness.
Adamantanes include amantadine and rimantadine. Both are available in proprietary and generic formulations, as capsules, tablets, or syrup, and they are inexpensive. Influenza virus can rapidly develop resistance to these drugs.

The neuraminidase inhibitors oseltamivir and zanamivir are each licensed for production by only a single manufacturer, and as of 2006, they are not available as generic formulations in the United States. Zanamivir is currently available only in an inhalational form, so is limited to treatment of children aged seven and older without any underlying airway disease like asthma. Oseltamivir is taken orally and can be used for either treatment or prophylaxis of illness in patients one year of age and older. Resistance to oseltamivir can occur, but emerges more slowly than with adamantanes.

Current federally approved recommendations, links to supporting clinical studies, and prescribing information for antiviral drugs used for treatment and prophylaxis during emergence of a novel or pandemic influenza can be found at:

http://www.pandemicflu.gov/vaccine/#drugs
http://www.cdc.gov/flu/whatsnew.htm#new

Current recommendations and research by the WHO regarding antiviral drugs for a novel or pandemic influenza strain are cited at:


Given the current antiviral supply limitations, CDC, CDHS, and the California Medical Association do not recommended that individuals stockpile antiviral drugs in their homes nor that healthcare providers prescribe antiviral drugs to individuals with the indication of prophylaxis against pandemic influenza. These actions will further deplete the insufficient quantities of antiviral drugs available for treatment should an influenza pandemic begin and deprive individuals and patients with the highest priority for treatment and prophylaxis with these limited resources.

**OBJECTIVES**

The objectives of CDHS pandemic influenza activities for antiviral drugs are to:

- Establish a flexible strategy for the judicious and appropriate use of antiviral drugs from CDHS and Strategic National Stockpile stores in the event of a pandemic. The goal antiviral use is to contain spread of disease from initial cases of a novel influenza virus, decrease morbidity and mortality, and maintain essential services;
• Procure, allocate, distribute, and dispense antiviral drugs as rapidly, efficiently, and equitably as possible to target groups and populations during a pandemic; and

• Establish methods for monitoring the safety and investigating adverse events of antiviral drugs.

ASSUMPTIONS AND PLANNING PRINCIPLES

• The primary strategies for preventing pandemic influenza are the same as those for seasonal influenza, including early detection and treatment with antiviral drugs.

• When a pandemic begins, the supply of antiviral drugs will be limited.

• The federal government has established two primary goals for stockpiling existing antiviral drugs: 1) establishing and maintaining stockpiles adequate to treat 75 million persons (25 percent of the population), divided between federal and state stockpiles; and 2) establishing and maintaining a federal stockpile of 6 million treatment courses reserved for containment efforts.\(^{19}\)

• When sustained and efficient human-to-human transmission of a potential pandemic influenza virus is documented anywhere in the world, the federal government will develop and distribute recommendations on target groups for antiviral drugs.\(^{20}\)

• CDHS will procure and maintain a stockpile of antiviral drugs, up to the full federal allocation to cover 25 percent of California’s population.

• CDHS antiviral drug stockpiles will be prioritized and allocated:
  
  o to treat lab confirmed cases, close contacts, high risk individuals and exposed healthcare workers in the early pandemic phases (WHO Phases 3, 4, and early 5); and

  o to treat cases with priority to health care professionals and public safety workers in late WHO Phase 5 and Phase 6.

• CDHS will update and revise antiviral drug prioritization and usage recommendations for California based upon federal recommendations once the pandemic is underway.

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• CDHS Emergency Pharmaceutical Services Unit will provide, according to the CDHS Strategic National Stockpile Plan, antiviral drugs from federal and state stockpiles to local health departments for allocation to target groups.

• Local health departments are responsible for antiviral drugs provided from federal and CDHS stockpiles including:
  o storing, securing, and handling drugs;
  o dispensing, tracking, and monitoring supplies;
  o documenting that antiviral drug recipients are in target groups according to CDHS recommendations; and
  o reporting summary data on dispensing practices to the CDHS Immunization Branch as required by CDC.

CDHS PANDEMIC RESPONSE ACTION STEPS

WHO Phase 1 and Phase 2

Interpandemic Period: No novel influenza subtypes have been detected in humans, but a novel subtype that has caused human infection may be present or circulating in animals.

• CDHS will establish and maintain a stockpile of antiviral drugs in coordination with existing Strategic National Stockpile supplies.

• CDHS will provide guidelines for the appropriate use and prescription of antiviral drugs during seasonal, non-pandemic influenza periods.

• CDHS Emergency Pharmaceutical Services Unit, in collaboration with the Immunization Branch, will inventory pharmaceutical vendors and distributors to estimate quantities normally available.

• CDHS will recommend strategies for distributing and dispensing antiviral drugs.

• CDHS and local health departments will collaborate with private-sector healthcare providers, health plans, healthcare organizations, pharmacies, and other stakeholders to educate providers and the public on the rationale for antiviral drug use strategies.
• CDHS will educate the public and healthcare providers on activities pertaining to antiviral drug stockpile development and use.

**WHO Phase 3 and Phase 4**

**Pandemic Alert Period: Human infection with no or very limited human-to-human transmission**

• CDHS Emergency Pharmaceutical Services Unit will communicate regularly with the CDC and antiviral drug manufacturers and distributors to obtain updates on plans for augmented antiviral drug stockpiles, production, and distribution.

• CDHS DCDC will convene a workgroup of healthcare partners to develop strategies for distributing and dispensing state and local stockpiles of antiviral drugs, and risk communications messages.

• CDHS will develop and distribute protocols for distributing antiviral drugs from the stockpile, including:
  
  o identifying database systems for monitoring antiviral supply, distribution and administration;

  o using the U.S. Food and Drug Administration’s MedWatch system (www.fda.gov/medwatch) to monitor adverse events of antiviral drugs in a pandemic;

  o distributing and tracking antiviral drugs from CDHS and federal stockpiles if isolated cases emerge; and

  o recommending or developing a monitoring system and database to track drugs dispensed and distributed under Investigational New Drug or Emergency Use Authorization protocols, as determined by the U.S. Food and Drug Administration.

• CDHS VRDL, in collaboration with the CDC, will monitor for drug resistance of novel influenza virus and report trends and recommendations to the DCDC Pandemic Influenza Work Group.

• CDHS Emergency Pharmaceutical Services Unit will develop and test plans to receive, repackage, and distribute antiviral drugs from the Strategic National Stockpile.

• CDHS Emergency Preparedness Office, in collaboration with the Office of Public Affairs, will develop pre-event messages targeting healthcare providers and the public on antiviral uses, including indications, dosages, best practices, adverse events, and rationale for use.
WHO Phase 5

Pandemic Alert Period With Substantial Pandemic Risk: Larger clusters but still limited human-to-human transmission; sustained community transmission is possible

CDHS will:

- Communicate regularly with CDC, antiviral manufacturers, and distributors to obtain updates on antiviral drug supplies, production, and distribution;

- Communicate regularly with local health departments to review and revise antiviral administration and delivery plans and to provide updates on the status of antiviral supplies, production, antiviral use group designations and guidelines for use;

- Begin to pre-position antiviral drug in local health departments or regional centers;

- Communicate with healthcare partners, stakeholders, and the public to provide updates on the status of antiviral supplies, production, and antiviral use group designations and guidelines for use;

- Review recommendations and guidelines for antiviral use, considering antiviral supply, and epidemiologic and virology data;

- Distribute risk communication messages targeting healthcare providers and the public regarding antiviral use, including indications, dosages, best practices, adverse events, and the rationale for established priorities (see Chapter 10: Pandemic Influenza Risk Communication Plan); and

- Communicate updated antiviral drug use recommendations and guidelines to healthcare partners, stakeholders, and the public.
WHO Phase 6

Pandemic Period: Increased and sustained transmission in the general population

CDHS will:

- Continue all actions as indicated in previous pandemic phases;

- Receive antiviral drugs from the Strategic National Stockpile, activate and operate the State Receiving, Storing and Staging warehouse, and distribute antiviral drugs to local health departments or other designated receivers;

- Cooperate with CDC to design epidemiologic (e.g., case-control) studies to assess antiviral drug effectiveness and recommend changes in antiviral drug use strategies;

- On the basis of antiviral supply and surveillance and epidemiologic data, reprioritize antiviral drug use in consultation with CDC, the CDHS Joint Advisory Committee on Vaccine and Antiviral Prioritization Strategies, and the Division of Communicable Disease Control’s Pandemic Influenza Work Group; CDHS will update estimates of high-risk and priority individuals by jurisdiction and communicate to local health departments;

- Monitor MedWatch data for evidence of adverse reactions to antiviral drugs, particularly drugs given under Investigational New Drug protocols, and based on the findings, collaborate with the CDC; and

- Continue to assess antiviral drug resistance trends reported by VRDL and CDC to recommend changes in antiviral drug use strategies.

WHO Postpandemic Period

CDHS will:

- Develop a detailed retrospective characterization of the pandemic to evaluate the efficacy of pharmaceutical containment measures and emergency management strategies;

- Replenish or restock the CDHS antiviral drug stockpile;

- Continue statewide surveillance and vaccination programs as vaccine supplies are widely available to vaccinate all California residents against the pandemic virus strain prior to subsequent pandemic waves; and
• Participate in evaluating the antiviral drug distribution and allocation activities during the pandemic, including use in target groups and special populations, adverse events, and conduct, in collaboration with CDC, studies to evaluate antiviral efficacy and associated resistance.
Chapter 9.
COMMUNITY DISEASE CONTROL
AND PREVENTION

INTRODUCTION

This chapter addresses the containment of pandemic influenza in the community setting using non-pharmaceutical measures, such as isolation, quarantine, infection control, and community-based activity restrictions. Infection control measures used in healthcare settings are covered in Chapter 5. Chapters 7 and 8 address pharmaceutical control measures including vaccination and antiviral medications.

Non-pharmaceutical containment measures will be critical in the early phases of a pandemic when vaccine and antiviral drugs may be unavailable or ineffective and will be important adjuncts to pharmaceutical measures throughout the pandemic. Non-pharmaceutical containment measures reduce the risk of transmission by decreasing the probability of contact between infected and uninfected persons and by decreasing the probability that contact will result in infection. These measures can be applied at the individual or community level to persons who are ill and persons who are well. Individual measures may include isolating ill patients (those with symptoms), quarantining well persons who have had contact with ill persons, good hand and respiratory hygiene, and using personal protective equipment, such as masks and gloves. Community-based measures include community activity restrictions, such as restricting mass gatherings and closing schools, and limiting domestic and international travel. Appendix F and Tables 9.1 through 9.3 describe non-pharmaceutical containment measures in more detail.

The applicability of specific non-pharmaceutical containment measures will vary, depending on the characteristics of the novel influenza virus, the assessment of risk, resources, and public acceptance. Guided by surveillance, laboratory, epidemiologic and clinical data, the California Department of Health Services (CDHS) and local health departments will identify and implement the most appropriate measures at each phase of the pandemic to maximize impact on disease transmission and minimize impact on individual freedom of movement.
OBJECTIVES

The objectives of CDHS' pandemic influenza non-pharmaceutical containment measure recommendations are to:

- Prevent human cases caused by a novel virus before it is efficiently transmitted from human-to-human;

- Slow pandemic spread and gain time for strengthening preparedness measures, including augmenting vaccine and antiviral medication supplies when the virus is transmitted efficiently from person to person; and

- Reduce the morbidity and mortality associated with the pandemic.

ASSUMPTIONS AND PLANNING PRINCIPLES

- In the absence of adequate supplies of effective antivirals and vaccine, non-pharmaceutical containment measures are the primary means of mitigating the progression and impact of the pandemic.

- The effectiveness of most non-pharmaceutical containment measures is unknown and depends on characteristics of the evolving virus, including its pathogenicity (including infectious dose), principal mode of transmission (droplet or aerosol), onset and duration of viral shedding, attack rate (or infectivity) in different risk groups, the proportion of asymptomatic infections, clinical presentation, and compliance among the targeted populations. Because human influenza has a short incubation period, a short generation time (the average time between infection of the case and infection of the contacts), a high proportion of asymptomatic infections, and a non-specific clinical presentation, the utility of non-pharmaceutical containment measures may be limited.

- In addition to effectiveness, the selection of non-pharmaceutical containment measures will depend on feasibility (e.g., cost and availability of resources and supplies), potential for implementation within existing infrastructures, impact, and acceptance by the public.

- The clinical behavior of a novel influenza virus may be different from that of seasonal human influenza. The usual incubation period for human influenza averages two days with a range of one to four days. In the early pandemic alert periods when the circulating virus is more likely to be an avian rather than human strain, the incubation and infectious periods may be longer than seasonal human influenza. In the later pandemic phases, it is likely that the incubation and infectious periods of the novel virus will more closely resemble those of seasonal human influenza. These periods determine the potential
duration of various non-pharmaceutical containment measures. For the purposes of this chapter, the incubation period is defined as up to ten days; however, the time frame will be adjusted as more is known about the virus.

- Non-pharmaceutical containment measures must be adapted to the epidemiologic context of each pandemic phase, and recommendations regarding specific measures will change over the course of the pandemic. Once sustained human-to-human transmission is established, some non-pharmaceutical containment measures may have decreased effectiveness and will be dropped to conserve resources for addressing the main public health objective of reducing the number of cases and deaths.

- Measures with unknown effectiveness that the public chooses to adopt may be acceptable, as long as they do not divert resources and supplies, are not used as a substitute for other recommended control measures, are not discriminatory, and are reasonable.

- Communication is a critical aspect of all emergency planning and response. All programs involved in planning for and responding to pandemic influenza and all other public health emergencies must ensure timely and accurate communications. Communications procedures and protocols will be included in each phase of pandemic influenza planning and response to facilitate sharing of information and messages with CDHS divisions, other partners at the state and local level and the public (see Chapter 10: Pandemic Influenza Risk Communication Plan).

NON-PHARMACEUTICAL CONTAINMENT RECOMMENDATIONS: CDHS DECISION-MAKING

The appropriateness of non-pharmaceutical containment measures will vary, depending on the assessment of risk, resources, and public acceptance (Tables 9.1 and 9.2). Decisions about the use and timing of non-pharmaceutical containment measures should be supported by analysis of current clinical, laboratory, epidemiologic, and surveillance data.

In coordination with the Centers for Disease Control and Prevention (CDC), the Disaster Policy Council, and local health officers, CDHS Division of Communicable Disease Control (DCDC) Pandemic Influenza Work Group (PIWG) will regularly review available data and develop (to the extent feasible) evidence-based criteria for phase-specific recommendations. The PIWG will provide technical support and recommendations to the Director and CDHS executive staff on when to consider isolation, quarantine, and community-based activity restrictions.

If the Governor has not already proclaimed a state of emergency, CDHS will recommend one before implementing non-pharmaceutical measures with widespread public health and societal impact. Absent a Governor’s proclamation of emergency, California Health and Safety Code
gives CDHS the legal authority to “require strict or modified isolation, or quarantine, for any case of contagious, infectious, or communicable disease, when this action is necessary for the protection of the public health...” (Health and Safety Code § 120145) or to “take measures as are necessary to ascertain the nature of the [contagious, infectious, or communicable disease] disease and prevent its spread” (Health and Safety Code § 120125). The Governor’s Office of Emergency Services will coordinate implementation of activities and resources for measures that involve multiple agencies.

CDHS PANDEMIC RESPONSE ACTION STEPS

WHO Phase 1 and Phase 2

Interpandemic Period: No novel influenza subtypes have been detected in humans, but a novel subtype that has caused human infection may be present or circulating in animals.

- The DCDC PIWG, in conjunction with local health departments, will regularly assess available surveillance, laboratory, epidemiologic, and clinical data from the annual influenza season.

- CDHS DCDC will update and distribute guidelines for control of seasonal influenza in healthcare settings and other congregate settings. Guidelines will include relevant excerpts from federal guidelines on vaccination, prophylaxis, and treatment. CDHS Licensing and Certification Division, the Department of Social Services, the Department of Mental Health, and local health departments will distribute the guidelines to healthcare facilities and individual providers.

- CDHS DCDC and Office of Public Affairs will promote respiratory hygiene and hand washing to the public.

- CDHS DCDC and Office of Legal Services and local health officers will develop and distribute model protocols and best practices for isolation and quarantine for both individuals and communities. Protocols will address medical evaluation, enforcing orders, and non-compliant persons.

- CDHS, local health officers, and the Public Health Law Work Group will ensure that all needed state and local legal authorities exist to invoke isolation, quarantine, and community-based activity restrictions in a timely fashion.

- CDHS and local health departments will coordinate with partners and stakeholders who may be involved in enforcing isolation or quarantine orders in future pandemic phases.
• CDHS and local health departments will conduct drills and exercises on isolation and quarantine.

• The California Department of Food and Agriculture, the California Department of Fish and Game, the California Occupational Safety and Heath Administration (Cal/OSHA), and CDHS Division of Environmental and Occupational Disease Control Occupational Health Branch will develop recommendations for control of novel influenza virus in animals and animal settings, including safety measures for persons who may have contact with potentially infected animals during culling and other high-risk activities.

• Work with the California Department of Education and other partners in public and private sector to plan for potential use of community-wide interventions such as school closures.

WHO Phase 3 and Phase 4

Pandemic Alert Period: Human infection with no or very limited human-to-human transmission

• The DCDC PIWG, in conjunction with local health departments, will review clinical, laboratory, surveillance, and epidemiologic data and, in coordination with CDC and local health officers, will make technical recommendations about the potential use of non-pharmaceutical containment measures. The DCDC PIWG will make technical recommendations to the Director and CDHS executive staff on when isolation, quarantine, and community-based activity restrictions should be considered. CDHS will distribute recommendations to local health departments, as appropriate. Non-pharmaceutical containment measures that may be considered for use in community settings include:

  o Isolation of persons with suspected novel influenza virus: Depending on the characteristics and severity of illness, patients may be isolated at home or in the hospital. The duration of isolation will be based on the period of infectiousness associated with the specific novel influenza virus in question but may be longer than the usual incubation period for seasonal influenza.

  o Managing close contacts: Identifying and quarantining individuals or groups in contact with cases may be recommended. CDHS and local health departments will recommend contact tracing and management on a case-by-case basis, in consultation with CDC. Decisions will be based on the likelihood that the suspected case is infected with a novel influenza strain, the likelihood that the virus is or may become transmitted from person to person, and the feasibility of contact tracing. Quarantine may be lifted as soon as the exposed contact has remained without symptoms for a complete incubation period (if known) or up to ten days; other criteria may also be added (e.g., viral testing before release).
- Managing small clusters of human infection with novel influenza virus: Measures to contain small clusters of infection with novel influenza virus may include targeted antiviral prophylaxis and early detection of new cases. CDHS’ Pandemic Influenza Work Group, in coordination with local health officials, will make recommendations on a case-by-case basis depending on the potential to cover the affected area and the ability to rapidly dispense antivirals. The use of antivirals is covered in Chapter 8.

- Infection control: Respiratory hygiene and hand washing will be promoted to the public.

  - CDHS and local health departments will work with CDC quarantine stations and federal partners to evaluate and manage ill travelers arriving from affected regions who might be infected with a novel influenza virus. They will also provide information to travelers arriving in the United States from affected regions about the symptoms and risk factors associated with the novel influenza virus, self-monitoring and isolation should symptoms develop, and notifying public health officials in the event of illness.

  - If animal sources are identified in California, CDHS Division of Environmental and Occupational Disease Control, Occupational Health Branch, working with the California Department of Food and Agriculture, the California Department of Fish and Game, and Cal/OSHA, will implement animal-worker exposure control measures.

  - CDHS EPO, Office of Legal Services, Disaster Policy Council, and local health departments will invoke local and state legal authorities on isolation and quarantine, as needed, including the use of designated facilities to house cases and contacts that cannot or will not stay in their residences during isolation or quarantine.

  - The Joint Emergency Operations Center, in collaboration with local health departments, Operational Areas, Regional Emergency Operations Centers, and the Governor’s Office of Emergency Services, will monitor supplies to support isolation, quarantine, and other containment measures.

  - Continue working with partners in public and private sector to plan for potential use of community-wide interventions.

  - If recommended by CDHS or CDC, all agencies and organizations will continue other Phase 1 and Phase 2 activities.
WHO Phase 5

Pandemic Alert Period With Substantial Pandemic Risk: Larger clusters but still limited human-to-human transmission; sustained community transmission is possible

- The DCDC PIWG, in conjunction with local health departments, will review existing clinical, laboratory, surveillance, and epidemiologic data. The DCDC PIWG, in coordination with CDC and local health officers will provide revised recommendations to the Director and CDHS executive staff. CDHS will distribute revised recommendations to local health departments, as appropriate. In addition to those listed under Phases 3-4, recommendations may also include:

  o **Focused measures to increase social distance** (see Tables 9.1 and 9.2): CDHS and local health departments may recommend the use of focused measures, in consultation with CDC. Focused measures may be useful when transmission is limited and most cases can be traced to a known transmission setting.

  o **Broader community-based activity restrictions** (see Tables 9.1 and 9.2): Although the use of broader community-based measures in WHO Phase 5 is unlikely, CDHS and local health departments may consider and make recommendations for their use on a case-by-case basis, in consultation with the CDC.

  o **Infection control**: Respiratory hygiene and hand washing will be promoted to the public.

- CDHS EPO, Office of Legal Services, Disaster Policy Council, and local health departments will invoke local and state statutes on isolation, quarantine, and community-based activity restrictions, as needed.

- If recommended by CDHS or CDC, all agencies and organizations will continue other Phase 3 and 4 activities.
WHO Phase 6

Pandemic Period: Increased and sustained transmission in the general population.

Once efficient and sustained human-to-human transmission occurs, non-pharmaceutical containment measures are unlikely to halt further spread, and priorities shift to reducing morbidity and mortality. CDHS will recommend containment measures in the context of available vaccine and antiviral medications, public cooperation, resources, and the severity of illness. CDHS, in conjunction with local health departments, will regularly assess compliance with and effectiveness of non-pharmaceutical containment measures and will adjust recommendations as needed.

- The DCDC PIWG, in conjunction with local health departments, will review clinical, laboratory, surveillance, and epidemiologic data and update recommendations about non-pharmaceutical containment measures. The DCDC PIWG will also update recommendations to the Director and CDHS executive staff. CDHS will distribute revised recommendations to local health departments as appropriate. Recommendations may address:

  - **Activity restrictions for persons with fever**: Patient isolation and contact tracing and quarantine will likely cease, as these measures may no longer be feasible or useful. Persons with fever and respiratory symptoms and their contacts should be asked to stay at home and restrict their activities. The duration of the activity restrictions for persons with fever will be based on the infectious period associated with the specific novel influenza virus in question. During Phase 6, the period of infectiousness for the novel influenza virus will more likely resemble the usual incubation period for seasonal human influenza.

  - **Community-based activity restrictions**: CDHS and local health departments will implement community-based activity restrictions on an as-needed basis, in consultation with CDC. Although current data are lacking concerning effectiveness of these restrictions, measures such as closing schools, canceling large public gatherings, curtailing public transportation and other community activity restrictions may be recommended.

  - **Infection control**: Respiratory hygiene and hand washing will be promoted to the public. The benefit of wearing surgical masks by the public in community settings has not been established. This practice may not be mandated but may be permitted as long as it does not affect mask supplies needed for use in other settings, is not used in a discriminatory manner, and is not used as a substitute for other recommended disease containment measures.
• CDHS EPO, Office of Legal Services, Disaster Policy Council, and local health departments will invoke local and state legal authorities for isolation, and community-based activity restrictions including community-wide quarantine, as needed.

• If recommended by CDHS or CDC, all agencies and entities will continue other Phase 5 activities.

WHO Postpandemic Period

• CDHS will resume interpandemic measures after all waves of Phase 5 have ceased.

• CDHS will evaluate the efficacy of non-pharmaceutical containment measures during Phases 3 through 6.
Appendix F.

NON-PHARMACEUTICAL CONTAINMENT MEASURES: DEFINITIONS, EXAMPLES, AND CONSIDERATIONS

Non-pharmaceutical containment measures may limit the spread of disease in the general community and include isolation, quarantine, infection control, and community-based activity restrictions. **Isolation** separates or restricts movement or activities of ill persons with contagious disease to prevent transmission to others. **Quarantine** restricts movement and activities or separates well persons believed to have been exposed to infection, to prevent transmission to others. **Infection control** protects individuals from coming in direct contact with infectious materials or agents to limit transmission and include physical barriers (e.g., masks, gloves), hygiene (e.g., respiratory and hand hygiene), and disinfection measures. The principles of infection control are discussed Chapter 5. **Community-based activity restrictions** increase ‘social distance’ between members of a community by restricting or limiting public gatherings, public events, or group activities. To maximize their effectiveness, a combination of non-pharmaceutical measures tailored to the epidemiologic context of each pandemic phase will likely be recommended.

In California, both local and state health authorities can compel isolation and quarantine of individuals and communities when necessary to protect the public’s health. These authorities are described in detail in Chapter 1 and in the Health Officer Practice Guide for Communicable Disease Control in California (Public Health Law Work Group) at: http://www.dhs.ca.gov/ps/dcdc/dedcindex.htm.
<table>
<thead>
<tr>
<th>Measure</th>
<th>Definition</th>
<th>Examples and Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isolation</td>
<td>The separation of infected persons from other persons for the period of communicability in such conditions as will prevent transmission of the agent. <strong>Strict isolation</strong> is confinement of the isolated individual to a room with a separate bed, with direct and room contact only with persons taking care of the individual caregivers. Appropriate disinfection and disposal of bodily excretions, secretion, garments, and objects in contact with the isolated individual must be assured. Persons caring for the isolated individual must take prescribed precautions to prevent the spread of infectious material from the individual’s room (see 17 CCR §2516). <strong>Modified isolation</strong> is any other type of isolation, as prescribed and ordered by the local health officer and dependent on the disease involved (see 17 CCR §2517).</td>
<td>Ideally, during the pandemic (WHO Phase 6) persons who meet the criteria for a case of novel influenza and who do not require hospitalization should be isolated in their homes. During the earliest stages of a pandemic, when it is feasible, the home being considered should be evaluated by an appropriate authority to ensure that minimum standards (infrastructure, accommodations, resources for patient care and support) are met.</td>
</tr>
<tr>
<td>Quarantine</td>
<td>The limitation of freedom of movement of persons or animals that have been exposed to a communicable disease for a period of time equal to the longest usual incubation period of the disease, in such manner as to prevent effective contact with those not so exposed (see 17 CCR §2520).</td>
<td>Same considerations as above.</td>
</tr>
<tr>
<td>Individual-level containment measures</td>
<td>Measures applied to individuals, as opposed to groups or communities</td>
<td>Isolation of individual patients; quarantine of their close contacts.</td>
</tr>
<tr>
<td>Rapid identification and isolation of cases</td>
<td>The separation of suspected cases from others for a specific period (the infectious period).</td>
<td></td>
</tr>
<tr>
<td>Measure</td>
<td>Definition</td>
<td>Examples and Considerations</td>
</tr>
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<tr>
<td>Quarantine of close contacts</td>
<td>The quarantine of individuals exposed to patients with communicable diseases; the contact remains separated from others for a specific period (up to 10 days after potential exposure) during which she or he is regularly assessed for signs and symptoms of disease.</td>
<td>May include family members, work or schoolmates, and healthcare workers. May be appropriate in situations in which the risk of exposure and subsequent development of disease is high and the risk of delayed recognition of symptoms is moderate. Persons in quarantine who experience fever, respiratory, or other early influenza symptoms require immediate evaluation by a healthcare provider.</td>
</tr>
<tr>
<td>Community-based activity restrictions</td>
<td>Measures applied to groups of people or communities.</td>
<td>Measures that may be beneficial and practical when there is a larger number of cases and more extensive viral transmission. In such settings, individual-level measures may no longer be effective or practical.</td>
</tr>
<tr>
<td>Focused measures to increase social distance and decrease social interactions</td>
<td>Measures applied to <strong>specific</strong> groups (as opposed to individuals or whole communities), designed to reduce interactions and thereby transmission risk within the group. Focused measures apply to groups or persons in specific settings, most but not necessarily, all of whom are at risk of exposure. Includes quarantine of groups of exposed persons and measures that apply to the use of specific sites or buildings.</td>
<td>Applicable in groups or settings where transmission is believed to have occurred, where the linkages between cases are unclear at the time of evaluation, and where restrictions placed only on persons known to be exposed are considered insufficient to prevent further transmission. Applied broadly, may reduce the requirement for urgent evaluation of large numbers of persons without explicit activity restriction (quarantine).</td>
</tr>
<tr>
<td>Quarantine of groups of exposed persons</td>
<td>A type of focused measure that quarantines persons who may have been exposed to the same source of illness; may be useful when there is limited transmission in an area and most cases can be traced to exposure to a known transmission setting (a specific school or workplace).</td>
<td>Includes persons exposed to a known case at a public gathering, on an airplane or other conveyance, at a school, workplace, apartment complex, and so on.</td>
</tr>
<tr>
<td>Restricting the use of specific sites or buildings or public events</td>
<td>A type of focused measure that may involve restricting entrance to a building or other site or requiring fever screening before entrance.</td>
<td>Cancellation of public events; closure of office buildings, schools, shopping malls, closure of public transportation such as subways or bus lines.</td>
</tr>
<tr>
<td>Measure</td>
<td>Definition</td>
<td>Examples and Considerations</td>
</tr>
<tr>
<td>----------------------------------------------</td>
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<td>-----------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Community-wide measures to increase social distance</td>
<td>Measures applied to an entire community or region, designed to reduce personal interactions and thereby transmission risk. Includes measures applied to whole neighborhoods, towns, or cities.</td>
<td>Coordinated voluntary community and business closures, mandatory community-wide quarantine.</td>
</tr>
<tr>
<td>Coordinated community and business closures</td>
<td>Voluntary measures that coordinate simultaneous closure of offices, schools, transportation systems and other non-essential community activities, services and businesses for a specified period of time. All non-essential service personnel and community members are urged to stay at home.</td>
<td>Generally voluntary and can effectively reduce transmission without explicit activity restrictions (quarantine).</td>
</tr>
<tr>
<td>Community-wide quarantine (including cordon sanitaire)</td>
<td>Legally enforceable action that restricts movement into or out of the area of quarantine of a large group of people or community; designed to reduce the likelihood of transmission of influenza among persons in and to persons outside the affected area. Consists of closing community borders or the erection of a real or virtual barrier around a geographic area with prohibition of travel into or out of the area.</td>
<td>May be applicable to all members of a group in which extensive transmission is occurring, a substantial number of cases lack an epidemiologic link at the time of evaluation, and restrictions placed on persons known to be exposed are considered insufficient to prevent further spread. May be unnecessary, as less restrictive measures, such as coordinated community and business closures, may be equally effective.</td>
</tr>
<tr>
<td>Infection control measures</td>
<td>Use of physical barriers and hygiene measures to limit the risk of transmission.</td>
<td>Includes respiratory hygiene, cough etiquette, hand washing and hand hygiene, use of gloves, masks, and general hygiene and disinfection. Infection control is covered in more depth in Chapter 5.</td>
</tr>
</tbody>
</table>

CCR = California Code of Regulations
Table 9.2. Possible Community Containment Measures Based on Level of Novel Influenza Activity and Risk of Human Transmission - Adapted from U.S. Department of Health and Human Services Pandemic Influenza Plan, November 2005

<table>
<thead>
<tr>
<th>Level of Influenza Activity</th>
<th>Response</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHO Pandemic Phases 1 and -2; No novel influenza strains of public health concern in global circulation in humans</td>
<td>Preparedness planning</td>
<td>Use recommended response actions for interpandemic influenza prevention and control.</td>
</tr>
<tr>
<td>WHO Pandemic Phase 3; Circulation of a novel influenza virus subtype in animals and animal-to-human transmission resulting in isolated human infections or at most, rare instances of human to human transmission</td>
<td>Consider identifying and monitoring close contacts</td>
<td>Although individual containment measures may have limited impact in preventing the transmission of pandemic influenza (given the likely characteristics of a novel influenza virus), they may have great effectiveness with a less efficiently transmitted virus and may slow disease spread and buy time for vaccine development.</td>
</tr>
<tr>
<td>WHO Pandemic Phases 4; Limited novel influenza virus transmission abroad; all local cases (e.g., in California or the United States) are either imported or have clear epidemiologic links to other cases</td>
<td>Identify close contacts, consider quarantining close contacts</td>
<td>Same as above.</td>
</tr>
<tr>
<td>WHO Pandemic Phase 5; Limited novel influenza virus transmission in the area (e.g., within California or the United States), with either a small number of cases without clear epidemiologic links to other cases or with increased occurrence of influenza among their close contacts</td>
<td>Identify and quarantine close contacts if contact tracing is still recommended</td>
<td>Same as above.</td>
</tr>
<tr>
<td>Level of Influenza Activity</td>
<td>Response</td>
<td>Rationale</td>
</tr>
<tr>
<td>----------------------------</td>
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</tr>
<tr>
<td>WHO Pandemic Phase 6; Sustained novel influenza virus transmission in California, with a large number of cases without clear epidemiologic links to other cases; control measures aimed at individuals and groups appear effective</td>
<td>Focused measures to increase social distance; consider community-wide activity restrictions</td>
<td>Selective use of group quarantine (focused measures) early in a pandemic when the scope of the outbreak is focal and limited may slow the geographic spread and buy time for vaccine development.</td>
</tr>
<tr>
<td>WHO Pandemic Phase 6; Sustained novel influenza activity in California, with a large number of cases in persons without an identifiable epidemiologic link at the time of initial evaluation; individual control measures are believed to be ineffective</td>
<td>Consider community-wide measures such as coordinated community and business closures, and community-wide quarantine</td>
<td>When disease transmission is occurring in communities around the United States, individual quarantine is much less likely to have an impact and likely would not be feasible to implement. Rather, community-based activity restrictions and emphasizing what individuals can do to reduce their risk of infection may be more effective disease control tools.</td>
</tr>
<tr>
<td>WHO Pandemic Phase 6 (between waves or pandemic subsiding); Decreases in the number of new cases, unlinked (or “unexpected”) cases, and generations of transmission</td>
<td>Consider quarantining contacts</td>
<td></td>
</tr>
<tr>
<td>WHO Postpandemic Period; Transmission has been controlled or eliminated, no new cases</td>
<td>Active monitoring in high-risk populations; continue for 2 to 3 incubation periods after control or elimination of transmission</td>
<td></td>
</tr>
</tbody>
</table>
Table 9.3. Threshold Determinants for use in Decisions about Community Containment Measures - Adapted from U.S. Department of Health and Human Services Pandemic Influenza Plan, November 2005

<table>
<thead>
<tr>
<th>Variable</th>
<th>Data Element</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case and contacts</td>
<td>Number of cases (absolute or estimated)</td>
</tr>
<tr>
<td></td>
<td>Rate of incident cases</td>
</tr>
<tr>
<td></td>
<td>Number of hospitalized cases</td>
</tr>
<tr>
<td></td>
<td>Morbidity (including disease severity) and mortality</td>
</tr>
<tr>
<td></td>
<td>Number and percentage of cases with no identified epidemiologic link</td>
</tr>
<tr>
<td></td>
<td>Number of cases occurring among contacts</td>
</tr>
<tr>
<td></td>
<td>Number of contacts under surveillance or quarantine</td>
</tr>
<tr>
<td>Healthcare resources</td>
<td>Hospital or facility bed capacity</td>
</tr>
<tr>
<td></td>
<td>Staff resources</td>
</tr>
<tr>
<td></td>
<td>Patient: staff ratio</td>
</tr>
<tr>
<td></td>
<td>Number of ill or absent staff members</td>
</tr>
<tr>
<td></td>
<td>Availability of specifically trained specialists and ancillary staff members</td>
</tr>
<tr>
<td></td>
<td>Availability of ventilators</td>
</tr>
<tr>
<td></td>
<td>Availability of other respiratory equipment</td>
</tr>
<tr>
<td></td>
<td>Availability of personal protective equipment and other measures</td>
</tr>
<tr>
<td></td>
<td>Availability of therapeutic medications (influenza and non-influenza specific)</td>
</tr>
<tr>
<td>Public health resources</td>
<td>Investigator to case and contact ratios</td>
</tr>
<tr>
<td></td>
<td>Number of contacts under active surveillance</td>
</tr>
<tr>
<td></td>
<td>Number of contacts under quarantine</td>
</tr>
<tr>
<td></td>
<td>Ability to rapidly trace contacts (number of untraced or interviewed contacts)</td>
</tr>
<tr>
<td></td>
<td>Ability to implement and monitor quarantine (staff member to contact ratio)</td>
</tr>
<tr>
<td></td>
<td>Ability to provide essential services (food, water, and so on.)</td>
</tr>
<tr>
<td>Community cooperation, mobility, and compliance</td>
<td>Degree of compliance with voluntary individual isolation</td>
</tr>
<tr>
<td></td>
<td>Degree of compliance with active surveillance and voluntary individual quarantine</td>
</tr>
<tr>
<td></td>
<td>Degree of movement out of the community</td>
</tr>
<tr>
<td></td>
<td>Degree of compliance with community-containment measures</td>
</tr>
</tbody>
</table>

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Chapter 10.

PANDEMIC INFLUENZA

RISK COMMUNICATION PLAN

INTRODUCTION

Risk communication is a critical component of pandemic influenza preparedness. Effective communication guides the public, the news media, response agencies, healthcare providers, and other groups in responding to outbreaks, adhering to public health measures, and understanding state and local response efforts.

Risk communication during an influenza pandemic must be approached differently than during other disasters and emergencies. Pandemic influenza will be a widespread and long-term event that will strain national, state, regional, and local resources and that requires a plan for ensuring sustained societal functions. Special emphasis needs to be placed on communication with state and local partners to ensure the public receives consistent and current information on the status of the pandemic, the state’s efforts, and the responsibility of individuals and families.

OBJECTIVES

The objectives of the California Department of Health Services’ (CDHS) pandemic influenza risk communication plan are to:

- Prepare Californians for a pandemic;
- Educate the public on steps they can take to decrease the spread of illness through personal and local preparedness;
- Prepare pre-event messages and materials on pandemic influenza for public dissemination;
- Share messages with healthcare providers to enhance patient awareness regarding personal protective measures;
• Coordinate risk communication activities across state, regional, and local levels; and

• Collaborate with partners at the federal, state, and local level on messages, materials, and strategies.

RISK COMMUNICATION CONCEPTS

Communications with the public, partners, and providers during an influenza pandemic will follow the risk communication concepts listed below:\footnote{21}

• Provide the public with information about what is known and unknown and provide guidance for decision making to protect individual and family health;

• Coordinate and maintain consistency of messages to avoid confusion and build credibility and trust;

• Express empathy for victims;

• Provide information that is scientifically and technically correct and can be understood by all facets of the public, including non-English speakers;

• Minimize speculation, over-interpretation of data, and overly confident assessments and projections;

• Provide immediate and on-going information in response to intense and sustained demand; and

• Disseminate timely, accurate, and science-based information about pandemic influenza and the progress of the response.

RISK COMMUNICATION ASSUMPTIONS AND CHALLENGES

• Public Communication: A pandemic will be an international event. The public will turn to multiple sources for information, potentially resulting in conflicting or confusing messages. To reach California’s diverse populations, CDHS will:

\footnote{21 U.S. Department of Health and Human Services Pandemic Influenza Plan, November 2005, Supplement 10: Public Health Communications.}
o use multiple communication channels, such as websites, a hotline, and mass media, to disseminate messages and promote other information resources;

o communicate desired behavior to help the public follow public health guidance;

o produce materials in numerous languages and adapt materials for the hearing- and vision-impaired; and

o share information, materials, and strategies with state and local partners.

- **Public Education/Non-Pharmaceutical Community Containment**: The primary focus of a public education campaign will be self-protective actions and non-pharmaceutical community containment measures to slow the spread of the virus. Communications must help the public understand and comply with personal hygiene measures and community wide interventions such as business and school closures. Information will need to be shared broadly with public and private organizations affected by social distancing interventions that may result in marked economic impact.

- **Travel**: International travel can quickly spread the influenza virus globally. California is at particular risk with its many ports, international airports, and tourist destinations. Communications concerning travel precautions or restrictions should be accurate, prevent discrimination, and be widely shared.

- **Vaccine and Antiviral Shortages**: Communications must explain vaccine and antiviral shortages, identify and explain the necessity for target groups, and provide resources for information.

- **Overwhelming Healthcare Demands**: A pandemic will place demands on healthcare over a sustained period. Communications should include messages that help protect and maintain proper healthcare practices, identify appropriate use of medical services, provide information regarding alternate care sites, direct self-monitoring and reporting of symptoms, and address coping strategies and mental health needs.

- **Public Opinion**: Communications should increase public awareness of pandemic influenza, promote self-protection measures, explain state and local preparedness efforts, and build public confidence in preparedness efforts and CDHS' ability to respond.

**OPERATIONAL STRUCTURE**

This CDHS Pandemic Influenza Risk Communication Plan is consistent with the CDHS Public Health Emergency Response Plan and Procedures and the Strategic National Stockpile Risk Communication Plan. This plan is also consistent with the strategic approach and actions...
identified in the 2005 CDHS Crisis and Emergency Risk Communication Tool Kit distributed to local health departments.

Communication is a critical aspect of all emergency planning and response. Programs involved in planning for and responding to pandemic influenza must ensure timely and accurate communication. CDHS will include communication procedures and protocols, in each phase of pandemic influenza planning and response, to facilitate information sharing with state and local level partners, and the public. CDHS’ communication vehicles with local health departments include conference calls, e-mail, and posting information on the California Health Alert Network (CAHAN). CDHS will use similar mechanisms to share information with other state partners and the education and business sectors.

To ensure implementation of communication protocols and procedures during Joint Emergency Operations Center activation, CDHS will assume the following roles:

- **Office of Public Affairs**: In collaboration with the Joint Emergency Operations Center Public Information Officer, the Office of Public Affairs will maintain its role as CDHS lead in providing public information and responding to media inquiries.

- **Joint Emergency Operations Center’s Public Information Officer**: Lead responsibility for providing public information through the Emergency Preparedness Office’s (EPO) website, CAHAN, fact sheets, sample materials, templates, and other related materials. The Public Information Officer coordinates with members of the CDHS Crisis Communications Team, including:
  - CDHS Office of Public Affairs;
  - Strategic National Stockpile Public Information Liaison;
  - Governor’s Office of Emergency Services Joint Information Center; and
  - Local health department public information officers and risk communication leads.

- **CDHS’ Program Public Information Liaisons**: CDHS programs may designate a liaison to assist with public information activities related to their program and coordinate with the Joint Emergency Operations Center’s Public Information Officer. Activities may include coordinating with content specialists, recommending public information guidance, responding to rumors, arranging for spokespersons, and facilitating approval of new material.

- **Governor’s Office of Emergency Services Joint Information Center**: In an emergency, the Joint Information Center is the central point for state information on the incident. The CDHS risk communication team will continue to provide information and consult with the Governor’s Office of Emergency Service’s Public Information Officer, and other key partners, on public information planning related to pandemic influenza.
through regular meetings and briefings to include other key partners. The Joint Emergency Operations Center will communicate with the Joint Information Center, provide staff, and participate in message development. CDHS will provide materials such as fact sheets and templates to the Joint Information Center.

- **Other State Public Information Officers:** CDHS will share information with state partners, including the Office of Homeland Security; the Departments of Education, Fish and Game, Food and Agriculture, Mental Health, and Social Services; the Business, Transportation, and Housing Agency; the Emergency Medical Services Authority and others to ensure consistency and accuracy of information.

**TARGET AUDIENCES, COMMUNICATION PARTNERS, AND STAKEHOLDERS**

Collaboration during an event requires partner and stakeholder relationships to be established in advance. Developing common messages, sharing advanced planning strategies, understanding anticipated communication protocols, and identifying how organizational structures operate during a crisis will ensure a more collaborative effort during a pandemic.

CDHS will enhance its outreach activities to partners and stakeholders. A partial list of target audiences, partners, and stakeholders appears in Appendix F. CDHS will revise the list as needed.
CDHS PANDEMIC RESPONSE ACTION STEPS

WHO Phases 1 through 4

Interpandemic Period: No novel influenza subtypes have been detected in humans, but a novel subtype that has caused human infection may be present or circulating in animals.

Pandemic Alert Period: Human infection with no or very limited human-to-human transmission.

During the interpandemic and pandemic alert periods, communication strategies will focus on self-protective behaviors and non-pharmaceutical community containment actions, their purpose, and implementation.

CDHS will:

- Establish and maintain regular communications, through conference calls, e-mail list server updates, briefings, and CAHAN alerts, with state partners, local health departments, and others to coordinate consistent and accurate messages;

- Develop a comprehensive, multi-ethnic, multi-language public information campaign, working with partners and stakeholders (see Appendix F);

- Develop materials for educating the public and partners using U.S. Department of Health and Human Services (HHS) and CDC materials, California-specific information, and other materials;

- Display and model desired behaviors through written stories, radio spots, and other strategies;

- Develop television and radio public service announcements and materials for other public venues (billboards, posters, bus-boards, etc.), to educate the public on self-protective actions and pharmaceutical and non-pharmaceutical community containment efforts;

- Develop and translate into multiple languages communication resources and materials, including easy-to-read versions, such as:
  - static “cling-ons,” posters, and fliers on self-protective measures using graphics and easy to understand instructions;
o informational materials on coordinated community and business closures;

o tool kit with preparedness instruction for businesses (in collaboration with HHS, CDC and partners);

o tool kit with preparedness instructions for schools (in collaboration with HHS, CDC, and the California Department of Education); and

o response action sheets specific to pandemic influenza for inclusion in CDHS’ Crisis and Emergency Risk Communication Tool Kit for local health departments;

• Develop and share presentations to educate selected audiences on pandemic influenza preparedness;

• Develop and distribute briefing packets for policy makers and share packet template with local health departments;

• Post website information for the public, healthcare providers, response partners, and the media;

• Adapt materials and information developed by HHS, CDC, WHO, and others, including culturally sensitive materials in multiple languages for dissemination via media, hotline, website, list servers, local health departments, and others;

• Design educational materials for groups likely to be disproportionately affected by the pandemic and work with appropriate agencies on development and distribution;

• Develop infrastructure and surge capacity for the CDHS emergency information hotline to provide recorded messages and live operators with advice nurse guidance;

• Provide training on communications to state and local health department staff;

• In coordination with state partners, determine CDHS’ communications response to the first Californian diagnosed with the pandemic strain of influenza, the first case of H5N1 in poultry, and other key events;

• Reinforce emergency response training for communication staff, including training on the SEMS and the NIMS; and

• Promote public awareness of the priority groups for influenza vaccination and the rationale for selecting those groups.
WHO Phases 5 and 6

Pandemic Alert Period With Substantial Pandemic Risk: Larger clusters but still limited human-to-human transmission; sustained community transmission is possible

Pandemic Period: Increased and sustained transmission in the general population.

During the pandemic period, communication strategies will focus on continuation of self-protective measures, social distancing, enforcement of non-pharmaceutical community containment measures, such as school and work closures, and communication with partners and stakeholders.

During the response to an influenza pandemic, CDHS will fully activate risk communication efforts regarding non-pharmaceutical community containment measures. The Joint Emergency Operations Center will coordinate information related to California’s response to the influenza pandemic and will coordinate health-related public information.

CDHS will:

- Inform CDHS risk communication response partners, and local health department risk communication or public information leads of the Joint Emergency Operations Center activation and pandemic influenza risk communication actions, including the public information campaign;

- Issue media notifications and share them with partners via e-mail and CAHAN;

- Communicate regularly with HHS, CDC, California Health and Human Services Agency, California Department of Food and Agriculture, the Governor’s Office of Emergency Services, local health departments, and others on developing new materials, strategies, and communication priorities;

- Schedule regular briefings with partners, including local health department risk communication or public information leads;

- Provide CDHS spokespersons with updated key messages;

- In collaboration with local health departments, activate all components of the Risk Communication Plan;

- Promote self-protection measures such as respiratory hygiene and hand-washing;
• Provide public messages that promote positive coping skills and behaviors to reduce stress;

• Provide public awareness of non-pharmaceutical containment measures, such as coordinated community and business closures and “stay at home” messages;

• Reinforce social distancing messages, such as avoiding crowded areas and events;

• Model desired behavior with messages, information and support for non-pharmaceutical community containment and self-protection measures;

• Post information on CAHAN and the CDHS website with links to other credible sources;

• Use the CDHS emergency information hotline to provide recorded messages on self-protection and non-pharmaceutical community containment and live operator assistance regarding when to stay home or seek medical care;

• Schedule regular briefings with the press and share press releases with response partners via e-mail and CAHAN;

• Activate CDHS’ Strategic National Stockpile risk communication plan when antivirals or vaccine are available and request that affected local health departments do the same;

• Use CDHS Public Information Officer surge capacity staffing for continued operation and to support public information efforts of local health departments; and

• Provide staff support for the continued operation of the Governor’s Office of Emergency Services Joint Information Center;

**WHO Postpandemic Period**

The recovery and postpandemic period will address recovery efforts, including psychosocial needs and community return to normality. During this phase, CDHS will respond to additional waves of pandemic influenza and other outbreaks.

CDHS will:

• Continue all pandemic phase actions as needed to address additional waves of disease;

• Continue collaboration with mental health partners and others to provide recovery-focused messages to the public; and
• Support community recovery efforts by repeating and promoting self-protection messages as community norms.
Appendix G.

RISK COMMUNICATION RESOURCES, TOOLS, AND MATERIALS

Risk Communication Target Audiences

CDHS will target the following audiences for risk communication messages and information:

- the public;
- media, including ethnic media;
- local health departments;
- legislators, state, and local government officials;
- CDHS staff;
- healthcare community (healthcare providers and facilities, hospitals, clinics, doctors, nurses, etc.);
- business and community leaders;
- ethnic communities;
- first responders;
- agricultural workers;
- tourists and those taking mass transit;
- disabled;
- homebound;
• low-literacy;
• homeless;
• schools and children; and
• seniors.

Risk Communication Partners

CDHS will coordinate with local and statewide response partners to ensure message coordination, timely and accurate information dissemination and rumor control response, including:

• CDC and HHS;
• California Health and Human Services Agency;
• CDHS Divisions and Offices;
• Governor’s Office of Emergency Services;
• Governor’s Office of Homeland Security;
• California Department of Food and Agriculture;
• Emergency Medical Services Authority;
• Other state departments and agencies including:
  o Business, Transportation, and Housing Agency;
  o State and Consumer Services Agency;
  o Department of Aging;
  o Department of Corrections and Rehabilitation;
  o Department of Education;
  o Department of Industrial Relations;
o Department of Mental Health;

o Department of Rehabilitation;

o Department of Social Services;

o National Guard; and

o Office of the Attorney General.

- California Legislature;

- Local health and mental health departments;

- Local transportation agencies;

- County Health Executives Association of California;

- California Conference of Local Health Officers;

- Tribal entities;

- Medical associations and societies;

- Hospitals and clinics;

- Emergency responders (fire/rescue; and law enforcement); and

- Red Cross and other community-based organizations.

**Risk Communication Stakeholders**

CDHS will ensure that the following key stakeholders remain informed regarding the pandemic response progress:

- Local elected leaders and administrators;

- Civic organizations and unions;

- Business and community leaders;
• Community-based organizations;
• Agencies serving special populations;
• School districts, Parent Teacher Associations, and colleges and universities;
• Mortuaries and funeral homes;
• Health insurance organizations; and
• Healthcare providers.

Communications Team

CDHS will maintain a team of trained risk communication specialists who will function in the capacities identified.

Public Information and Risk Communication Co-Leads:

• CDHS Deputy Director of Public Affairs, and
• CDHS Emergency Preparedness Office Risk Communications Lead.

Full activation in response to a pandemic may involve communication team and supplemental CDHS staff fulfilling the following roles:

• Media content and rumor control coordinator;
• Local health department coordination and support;
• CDHS emergency information hotline liaison and staff;
• Direct public outreach and partner/stakeholder coordinator;
• Multi-cultural and special populations outreach coordinator;
• Healthcare provider outreach coordinator; and
• Web masters.
Risk Communication Tools, Materials, and Tasks

Material Resources

CDHS will develop and provide media support materials for local health departments and other response partners that may include the following:

- Fact sheets;
- Frequently asked questions;
- Talking points;
- Questions and answers;
- Sample press releases for the first human case and first death; the human health implications of the first California bird testing positive for H5N1, coordinated community and business and school closures, protective measures, etc.;
- Posters, “cling-ons,” signs, stickers, and so on, for distribution to local health departments, hospitals, clinics, restaurants, transportation portals (airports, train stations, ports, bus stations), gas stations, retail outlets, and other public gathering places;
- Websites and postings (CDHS, Governor’s Office of Emergency Services, partner and stakeholder sites search engine pick-up, bulletin boards, list servers, links);
- Hotline (activation procedures, script, surge capacity, translation, staffing);
- Newsletters;
- Materials in multiple languages and low-literacy text;
- Material testing;
- Key messages; and
- Radio scripts, billboards, bus boards, poster text and radio public service announcements.

Media Outreach

CDHS will provide media response activities that may include the following:

- Guidelines and instructions for media relations;
• Press conferences;
• Press releases;
• Daily briefings;
• Media web postings;
• Video and audio clips;
• Video conferencing;
• Radio actualities;
• Radio and TV Public Service Announcements;
• Electronic press kits;
• Message monitoring;
• Ethnic media outreach; and
• Media monitoring and contact logs.

Public Education

CDHS will conduct community outreach and public education activities that may include the following:

• Website materials, including materials for key audiences such as providers;
• Toll-free phone lines, such as the CDHS Emergency Information Hotline;
• Presentations targeted toward community-based organizations;
• Message dissemination;
• Town halls, community presentations, etc.;
• Translation services;
• Partner outreach and briefings; and
• Outreach to stakeholders and special populations.

Information and Communications Team Management

CDHS will ensure that information is timely, accurate and staff is appropriately trained by ensuring the following practices:

• Examine current issues and messages daily;
• Evaluate effectiveness of strategies and messages, update or revise as needed;
• Discuss feedback from information loops;
• Determine message of the day and disseminate to team;
• Train spokespersons and update as needed (subject matter experts, bi-lingual, training);
• Build communication staff surge capacity (recruitment and training);
• Ensure that key staff is knowledgeable about the NIMS and SEMS and the emergency response process;
• Update team on status of planning and response; and
• Participate in tabletop drills, exercises, and briefings.
Websites/Fact Sheets

The links listed below were active as of June 2006:

- Government
  www.pandemicflu.gov

- Pandemic Influenza Fact Sheet
  http://www.cdc.gov/flu/avian/gen-info/pandemics.htm

- Avian Influenza Fact Sheet
  http://www.cdc.gov/flu/avian/gen-info/facts.htm

- Guidance to Travelers
  http://www.cdc.gov/travel/other/avian_flu_h5n1_031605.htm

- Interim Guidance for U.S. Citizens Living Abroad
  http://www.cdc.gov/travel/other/avian_flu_ig_americans_abroad_032405.htm

- Sample CDC News Conference Transcript
  http://www.cdc.gov/od/oc/media/transcripts/t040127.htm

- Managing Anxiety in Times of Crisis
  http://mentalhealth.samhsa.gov/cmhs/managinganxiety/default.asp

- California Department of Health Services
  www.dhs.ca.gov

Additional Resources

- **CDC:** Presents information on the symptoms, treatment, and complications of the disease, prevention and control, the types of influenza viruses, questions and answers on symptoms, vaccination, and myths.
  http://www.cdc.gov/flu/avian/

- **National Vaccine Program Office:** Presents an historical overview of pandemics that occurred throughout the past century (Spanish Flu, Asian Flu, Hong Kong Flu), and three influenza scares (Swine Flu, Russian Flu, and Avian Flu).
  www.dhhs.gov/nvpo/pandemics

- **World Health Organization:** Defines an influenza pandemic, explains how a new influenza virus can cause a pandemic, presents the consequences of an influenza
pandemic, explains the global surveillance systems, and provides links to other pandemic plans from other nations.
www.who.int/csr/disease/influenza/pandemic/en

- **The Public Health Preparedness and Response Capacity Inventory**: Resource for state and local health departments undertaking comprehensive assessments of their preparedness to respond to bioterrorism, outbreaks of infectious disease, or other public health threats and emergencies.
  www.dhs.ca.gov/epo/PDF/NPSmpxv1.pdf

- **CDC Cooperative Agreements on Public Health Preparedness**: State and local public health preparedness for and response to bioterrorism, other outbreaks of infectious diseases, and other public health threats and emergencies.
  www.bt.cdc.gov/planning/continuationguidance

- **Epidemic Information Exchange**: Web-based communications network for information exchange among the CDC, state, and local health departments, and other public health professionals.
  www.cdc.gov/mmwr/epix/epix.html

- **Centers for Public Health Preparedness**: A national system for competency-based training tools for the public health workforce.
  www.asph.org/acphp

- **Strategic National Stockpile**: Information on the availability and rapid deployment of life-saving pharmaceuticals, antidotes, other medical supplies, and equipment necessary to counter the effects of nerve agents, biological pathogens, and chemical agents.
  www.bt.cdc.gov/stockpile

- **Association of State and Territorial Health Officials**
  www.astho.org

- **National Association of County and City Health Officials**
  www.naccho.org

- **Infectious Disease Society of America**
  www.idsociety.org

- **National Foundation for Infectious Diseases**
  www.nfido.org

- **Institute of Medicine (IOM)**
  www.iom.edu
- World Health Organization (WHO)
  www.who.org
Chapter 11.

BEHAVIORAL HEALTH AND PSYCHOSOCIAL CONSEQUENCES

Chapter in Development
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SECTION 1: OVERVIEW AND STATEMENT OF PURPOSE

The threat of a pandemic influenza requires preparation and a coordinated statewide response. On June 9, 2009, Kathleen Sebelius, Secretary, United States Department of Health and Human Services, stated: “Given the unique combination of regular seasonal flu, as well as the new H1N1 virus, it’s important for every family and business to prepare their own household and business plans and think through the steps they will take if a family member or co-worker contracts the H1N1 flu. This is a responsibility that we all share as parents, neighbors, co-workers, and community members. And states, territories, and tribes all have a critical role to play in protecting the American people.” Similarly, the United States Centers for Disease Control and Prevention (CDC) recommends that appropriate responses to a pandemic influenza be determined through a collaborative decision-making process involving public health agencies, local educational agencies (LEAs), parents, and communities. The CDC maintains a School Planning Web page with current guidance for LEAs and health officers at http://www.flu.gov/plan/school/schoolguidance.html (Outside Source).

This manual is intended to complement federal guidance to LEAs regarding pandemic influenza and to provide resources and guidance specific to the state of California. It is the policy of the California Department of Education (CDE) to take all possible steps to help limit the spread of influenza, mitigate disease and suffering, and lessen the impact on staff, children and families, and child care and after school providers.

The California Department of Public Health (CDPH) currently evaluates the strength of a pandemic influenza according to measures of transmission and severity. To determine the level of transmission, the CDPH relies on the World Health Organization’s (WHO’s) Pandemic Phases (see page 4). To determine the severity, the CDPH relies on the CDC’s Pandemic Severity Index (see page 4). Based on these two measures, the CDPH will provide guidance regarding student dismissals in the event of a pandemic influenza.

Depending on the pronouncements of state and local health officials, response to a pandemic influenza may range from individual student dismissals in the case of a moderate-severity pandemic, to school-, district-, or statewide student dismissals in the case of a high-severity pandemic. Pandemic influenza typically comes in two to four waves over the course of one to two years, with each wave lasting several weeks. Periods of student dismissal are likely during each wave of the pandemic in order to avoid the transmission of the illness. Additionally, small clusters at Phase/Level 5 (WHO) may result in the closure of some district offices and/or the CDE headquarters building.
World Health Organization (WHO) Pandemic Phases or Levels

<table>
<thead>
<tr>
<th>Phase</th>
<th>Phase Description</th>
<th>Risk Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1–2</td>
<td>Inter-pandemic</td>
<td>No new subtype</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Risk from novel type</td>
</tr>
<tr>
<td>Phase 3–4</td>
<td>Alert Phase</td>
<td>Human infection—</td>
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<tr>
<td></td>
<td></td>
<td>rare—or limited spread</td>
</tr>
<tr>
<td></td>
<td></td>
<td>to contact</td>
</tr>
<tr>
<td>Phase 5</td>
<td>Alert Phase</td>
<td>Small clusters; poorly</td>
</tr>
<tr>
<td></td>
<td></td>
<td>adapted to humans</td>
</tr>
<tr>
<td>Phase 6</td>
<td>Pandemic Period</td>
<td>Sustained transmission</td>
</tr>
</tbody>
</table>

Centers for Disease Control and Prevention (CDC) Pandemic Severity Index

![Pandemic Severity Index Graph](http://www.cdc.gov/media/pdf/MitigationSlides.pdf) (Outside Source)
Section 2: CDE Recommendations and Resources for Preparedness and Prevention

Local educational agencies (LEAs), which for purposes of this manual include county offices of education, districts, charter schools, traditional schools, and child care agencies, must be prepared to handle a possible flu outbreak in their communities. District, school, and preschool safety plans should be reviewed immediately and updated if necessary to include procedures for addressing a possible pandemic influenza. In the event that a local health officer orders a schoolwide student dismissal due to a flu emergency, it is important that all staff members are familiar with emergency plans and procedures.

The California Department of Education (CDE) is working closely with the California Department of Public Health (CDPH) and the state health officer and will monitor guidance issued by the Centers for Disease Control and Prevention (CDC) in order to keep LEAs informed about the latest information regarding response to pandemic influenza.

Planning Resources for LEAs

The CDE has a variety of resources available to help schools and child care agencies prepare for and prevent the spread of pandemic influenza. These resources are available on the CDE Flu Prevention Web page at http://www.cde.ca.gov/ls/he/hn/fluinfo.asp. Resources include:

- A listing of resources and information on preparing for and responding to a potential pandemic influenza, including a link to the CDC’s Flu Web site, http://www.flu.gov (Outside Source).
- Frequently asked questions and answers about how schools can prepare for pandemic influenza.
- Planning checklists to guide LEAs, child care agencies, and preschools in preparing for pandemic influenza. The checklists can be used to ensure that all relevant issues are covered in a school safety plan. The sections of the checklist cover all phases of a disease outbreak and are labeled Prevention and Mitigation, Preparedness, Response, and Recovery.
- Sample flu notification letters and information for parents, including how to protect their family and what to do in the case of schoolwide student dismissal. The sample letters are available in multiple languages and can be customized to district and school needs and used for any type of influenza.

Additionally, the CDPH and CDE maintain a joint Web page for pandemic influenza school preparedness at http://www.cdph.ca.gov/programs/immunize/Pages/ReadyCASchools.aspx (Outside Source). Resources for each of the four stages of school planning listed above
(Prevention and Mitigation, Preparedness, Response, and Recovery) are arranged by age group. Planning tools are available for school administrators, teachers, and older students.

To prevent the spread of the influenza virus, the CDE strongly advises the following actions be taken by LEAs and that LEAs encourage these practices among students and staff:

- School personnel who are sick should stay home.
- Students who are sick should stay home.
- Students and staff members should cover their mouths and noses when they cough and sneeze.
- Students and staff members should wash hands often and properly—for at least 20 seconds using soap and water.
- Schools sites should have soap and water and/or hand sanitizers for both student and staff use.

The latest guidance from the CDC includes the respiratory etiquette and hand hygiene guidelines explained above and recommends an exclusion period of three to five days for infected individuals. Staff and students with influenza-like illness or symptoms should remain home until at least 24 hours after they are free of fever without the use of fever-reducing medications and should avoid contact with others. The CDC also recommends routine cleaning of school areas and surfaces to prevent the spread of the influenza virus, as well as immediately moving ill students and staff to a designated sick room until they can be sent home. Special precautions should be taken for high-risk students and staff. Those in the high-risk category should seek early treatment with antiviral medications, and consideration should be given to selective school dismissal to better protect high-risk students. The CDC recommends additional interventions based on increased severity and impact of the influenza outbreak. These recommendations are available on the CDC’s School Guidance Web page at http://www.flu.gov/plan/school/schoolguidance.html (Outside Source).

Current recommendations for individuals experiencing flu-like symptoms can be found at the CDC’s advisory Web page at http://www.cdc.gov/h1n1flu/sick.htm (Outside Source).

**Authority of Health Officers to Order Student Dismissal to Protect Public Health**

In the event of a declared influenza outbreak, local health officers, independent of or in collaboration with the state health officer, have the authority to order student dismissal and/or close schools to protect public health.
Because the public health goal is to prevent the spread of influenza commonly associated with children in close proximity of one another, student dismissal orders are the most commonly anticipated orders. Local health officers have the authority to determine the length of time associated with student dismissals and school closures. LEAs and child care agencies must comply with student dismissal or school closure orders issued by a state or local health officer.

If a local or state public health officer issues a student dismissal order, LEAs should immediately cancel all other school gatherings involving students (i.e., sports events or school dances) scheduled during the affected time frame and advise parents to prevent their children from congregating with other children during the student dismissal period.

It is important to note, however, that while students are absent from the school site due to a student dismissal order, school personnel can safely work at the school site in order to continue educational services for students through distance learning, online programs, or take-home packets. More information about distance learning options is discussed later in the manual. Additionally, for information regarding National School Lunch Program operations, please see the Food and Nutrition Services section of this manual.
Section 3: Notification and Reporting Procedures for Student Dismissals Ordered by Local or State Health Officials

To protect public health, a state or local public health officer has the authority to order individual, schoolwide, districtwide, countywide, or statewide student dismissals. LEAs are required to follow the directives of the local and state health officers regarding student dismissals, school closures, student re-admittance, and school reopening.

Notification Procedures for Statewide Student Dismissals

In the event of a statewide student dismissal policy ordered by a public health officer, the State Public Health Officer at the California Department of Public Health (CDPH) will notify the State Superintendent of Public Instruction and the California Department of Education (CDE). The CDE will immediately notify, by e-mail and phone, all 58 county offices of education, State Special Schools, direct-funded charter schools, any schools directly chartered by the State Board of Education, state-funded child care centers, and the California School Age Families Education (Cal-SAFE) program agencies. In addition, CDE’s Child Development Division (CDD) will contact all of its contracted agencies, including family child care home education networks and alternative payment programs, through its e-mail list-serv. The After School Program Office will contact all of its grant contractors by e-mail. The CDE will also work with the CDPH to notify the media of the statewide student dismissal policy in order to inform the public.

The CDPH will also notify all local health offices of the statewide order to dismiss students. It is important to note, however, that depending on the severity of the influenza outbreak, a local health officer may issue an order to dismiss students that is limited to a particular school, district, county, or region.

Reporting Procedures for School- and Districtwide Student Dismissals

The U.S. Centers for Disease Control and Prevention (CDC) and the U.S. Department of Education (ED) have established a School Dismissal Monitoring System to report on novel influenza A (H1N1)-related school or school district dismissals throughout the United States for the 2009–2010 school year.

If a state or local public health officer in California issues a school- or districtwide student dismissal order, local education agencies (LEAs), including county offices of education, districts, and direct-funded charter schools, are responsible for reporting all school- and/or districtwide student dismissals to the CDC and ED via the Novel Influenza A (H1N1)-Related School Dismissal Reporting Form, available online at http://cdc.gov/h1n1flu/schools/dismissal%5Fform/ (Outside Source). The form may be completed and submitted online, or it may be downloaded and then submitted by e-mail or fax. Information required for the reporting form includes the name and ZIP code of
the school or district affected by the dismissal order, the date of dismissal, and the projected date of re-opening.

To the extent that LEAs become aware of dismissal policies affecting private schools within their area of jurisdiction, the CDC asks that such information be provided as well.

LEAs should note that this reporting procedure applies only in instances of a schoolwide or districtwide dismissal policy. Individual student or staff absences due to H1N1 or other influenza do not need to be reported to the CDC.

Reports regarding schoolwide or districtwide student dismissal policies due to H1N1 submitted to the CDC and ED will be automatically and simultaneously reported to the CDE. The CDE will maintain an up-to-date Web page listing of all affected California schools at http://www.cde.ca.gov/nr/ht/yr09h1n1.asp#public. The CDE will also simultaneously share such updates with the CDPH and the California Emergency Management Agency (CALEMA).

To assist LEAs in notifying parents and guardians about flu prevention, flu outbreak, student dismissals, and student re-admittance, sample notification letters are available in multiple languages on the CDE Web page at http://www.cde.ca.gov/ls/he/hn/pandemicflunotify.asp.
Section 4: Fiscal Impacts of Student Dismissals Ordered by Local or State Health Officials

In the instance of a pandemic, the California Department of Education (CDE) will make it a priority to ensure that local educational agencies (LEAs) continue to receive timely allocations of principal apportionment funds, state categorical funds, and federal categorical program funds (this does not include federal or state meal reimbursement). Timely allocation of funds is imperative to ensure that LEAs receive at least minimum operational funding and to minimize the need for local borrowing, which may be unavailable during a pandemic flu.

If reductions in CDE staff are experienced due to pandemic flu, funding calculations and allocation methods will be altered in order to allocate funds expeditiously.

Statutory Authority

While current statutes (California Education Code [EC] sections 41422, 46390, and 46392) hold LEAs harmless for reductions in or loss of average daily attendance due in specific types of emergencies, existing law does not grant the CDE the requisite authority to adjust the state funding calculations for all of the state-funded programs allocated by CDE in the event of a declared statewide emergency or pandemic, nor does existing statute hold LEAs harmless for significant reductions in pupil enrollment due to a pandemic.

The legislature would need to enact statutory changes to allow the adjustment of funding calculations and allocation methods to ensure timely payments to LEAs in the event of a declared emergency or pandemic pursuant to EC Section 8482.8, which currently applies only to after school programs, and to broaden the existing “hold harmless” provisions (EC sections 46390 and 46392) for LEAs in the instance of a declared emergency or pandemic.

With regard to federally funded categorical programs, the CDE will work with the federal Department of Education to seek waivers of program and funding allocation requirements to ensure that federal funds are disbursed with minimal interruption. For information regarding the National School Lunch Program, please refer to the Food and Nutrition Services section of this manual.

Pandemic Apportionment Procedure

Principal Apportionment

Under the proper legislative authority, each LEA’s allocation of funds for programs allocated through the principal apportionment unit will be equal to its prior year total

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1 See the Appendix for listing of relevant sections of California law.
allocation less any amount already received for the current fiscal year. The CDE will determine an appropriate schedule of apportioning funds based on the timing of the pandemic and the state's cash flow needs.

Upon resumption of normal business at the conclusion of the pandemic, the CDE will evaluate the fiscal impact of the pandemic on LEAs and may determine appropriate adjustments to LEA revenue limits and principal apportionment program entitlements. These adjustments will be made in the process of reconciling funding received during the pandemic against calculated entitlements to funding. Adjustments to entitlements may include reductions in the event that schools are closed and not serving students for extended periods of time.

**Federal Categorical Funds**

In the event that entitlements to federally funded categorical programs are already calculated, each LEA will be allocated funds in the amount already calculated less any amount already received by the LEA for that fiscal year. In the event that entitlements for federally funded categorical programs are not yet calculated, each LEA's allocation will be equal to its prior year total allocation less any amount already received for the current fiscal year. In either case, the CDE will determine an appropriate schedule of apportioning funds based on the timing of the pandemic, federal requirements, and the state's cash flow needs. The funding calculation and methodology used for each apportionment will be documented, and applicable data will be stored in a manner that allows for full data backup and recovery to facilitate reconciliation of funds based upon resumption of the normal apportionment calculations.

**State Categorical Funds**

In the event that entitlements to state-funded categorical programs are already calculated, each LEA will be allocated funds based on the amounts already calculated less any amount already received by the LEA for that fiscal year. For most state-funded categorical programs where entitlements are already calculated, a schedule for apportionment would already be in place. This is the case for all of the "flexed" categorical programs as well as the programs paid through the special purpose apportionment. Funds for these programs would be apportioned on the schedule already in place. For state-funded categorical programs that are already calculated but do not have a schedule of apportionment in place at the time of the pandemic, the CDE will determine an appropriate schedule of apportioning funds based on the timing of the pandemic and the state's cash flow needs.

Under the proper legislative authority, in the event that entitlements have not yet been calculated, each LEA will receive an amount equal to that entity's prior year total allocations. The CDE will determine an appropriate schedule of apportioning funds based on the timing of the pandemic and the state's cash flow needs.
The funding calculation and methodology used for each apportionment will be documented, and applicable data will be stored in a manner that allows for full data backup and recovery to facilitate reconciliation of funds upon resumption of the normal apportionment calculations. For most state-funded categorical programs, entitlements are based upon funding received in a base year as opposed to pupil counts. For programs not calculated using base-year participation, upon resumption of normal business, the CDE will evaluate the fiscal impact of the pandemic on LEAs and may determine appropriate adjustments to LEA program entitlements. These adjustments will be made in the process of reconciling funding received during the pandemic against calculated entitlements to funding. Adjustments to entitlements may include reductions in the event that schools are closed and not serving students for extended periods of time.

**Processing Apportionments**

For revenue limit funding and programs paid through the principal apportionment, the CDE will continue to send payment schedules directly to the State Controller’s Office (SCO) for payment. For federal and state-funded categorical programs, the CDE will continue to send payment schedules to CDE Accounting for processing, and CDE Accounting will send payment schedules for those programs to the SCO for payment. In both cases, the CDE will communicate with the SCO to establish the most appropriate manner in which to send the apportionment schedule information to the SCO with consideration given to the likely necessity of staff working from home or remote locations other than in the office.

**Resumption of Activities**

The CDE will revise entitlement calculations for the principal apportionment, federal programs, and categorical programs as required. All disbursements made under the pandemic calculation procedures will be reconciled to the revised entitlements, and adjustments will be made as necessary. In reconciling and revising entitlements, the CDE will take into consideration potential savings experienced by school districts as a result of student dismissals due to the pandemic.
Section 5: Accountability and Assessment Policies During Extended Student Dismissals Ordered by Local or State Health Officials

State Accountability and Assessment Programs

Orders issued by a public health officer to dismiss students for a significant period of time may have an effect on the administration of the following tests:

- Standardized Testing and Reporting (STAR) Program
- California High School Exit Examination (CAHSEE)
- California English Language Development Test (CELDT)
- Physical Fitness Test (PFT)
- California High School Proficiency Examination (CHSPE)
- National Assessment of Educational Progress (NAEP)
- General Educational Development (GED)

Results for the STAR and CAHSEE are used for calculating Adequate Yearly Progress (AYP), and the CELDT is used to calculate Annual Measurable Achievement Objectives (AMAOs) as mandated by the No Child Left Behind Act of 2001. In addition, STAR and CAHSEE are used in calculating the Academic Performance Index (API) mandated by the California Public Schools Accountability Act of 1999.

Based on the experiences following the Southern California wildfires in 2003 and Hurricane Katrina in 2005, the California Department of Education (CDE) recognizes that when testing operations are disrupted, state and federal officials make necessary arrangements to support school districts. Disruptions may impact test administration dates and delay in the scoring and reporting of test results.

Disruption in the testing schedule due to student dismissal policies may affect test contractors in the following manner:

- The inability to receive test materials for a period
- Delays in scoring answer books
- The inability to send test reports for a period
- Delays in providing the CDE with test results
- The inability to provide CDE with test results
- The number of answer documents scored drops significantly so that the contractor is unable to receive income as planned

In the event of such testing schedule disruptions due to a statewide student dismissal policy, the CDE will issue notice to LEAs of changes of test administration dates as well as the deadlines for test contractors’ receipt of answer documents.

In the event of a testing disruption due to a regional, district-, or schoolwide student dismissal policy, LEAs are asked to contact the CDE’s Standards and Assessment
Division to inform the CDE of the effects of the situation and request the change of the LEA’s test administration dates as well as the deadlines for test contractors’ receipt of answer documents.

Quality Education Investment Act (QEIA)

QEIA implementation may be affected in several ways if participating schools are ordered by a health officer to dismiss students due to a pandemic flu outbreak. The following guidelines will account for attendance anomalies at participating schools or breaks in service from monitoring agencies to address QEIA implementation in a fair and reasonable manner should a pandemic flu emergency arise.

Funding—QEIA funding is based on the participating school’s prior-year CBEDS enrollment. The CDE would fund participating schools based on CBEDS enrollment figures adopted for the pertinent year, including any adjustments made by the CDE in annual enrollment figures resulting from a pandemic flu outbreak.

Program requirements—For QEIA program requirements that rely on monthly enrollment or attendance rates, including class-size reduction, counselor-to-student ratios, and increasing pupil attendance rates, participating schools would exclude attendance figures for months in which a pandemic flu emergency demonstrably affected student attendance rates and calculate annual attendance and enrollment rates based on data from all other months of the school year.

Program monitoring—County offices of education (COEs) responsible for monitoring QEIA schools may have their ability to provide this service interrupted by a pandemic flu outbreak. In that case, COEs would delay their monitoring process until they regain capacity to complete that work. However, regardless of when the monitoring is completed, the data used in the monitoring process will be from the period for which the monitoring was originally scheduled.

Statewide Data System

If a California state of emergency is declared in response to pandemic flu, which results in student dismissal policies or the closing of public kindergarten through grade twelve California schools for any period of time, the CDE shall (at the discretion of the State Superintendent of Public Instruction) move all impacted Data Management Division data submission timelines as necessary. Depending on specific local circumstances, the CDE may also reduce the amount of LEA data required for submission on a case-by-case basis.

Federal Accountability and Assessment Programs

In the event a public health officer issues a student dismissal policy, the CDE will work with the federal Department of Education (ED) to adjust reporting schedules to meet federal AYP requirements, as necessary. In 2005, the ED issued waivers to schools
affected by Hurricane Katrina so that they would not be held accountable for existing AYP requirements. The CDE believes the ED may provide a similar waiver process for schools whose testing schedules were affected by school closures due to pandemic influenza.

**Comparability**

Demonstrating comparability is a prerequisite for receiving Title I, Part A funds. Title I, Part A allocations are made annually; therefore, comparability is an annual requirement.

LEAs complete and submit their comparability reports each year during October. LEAs with schools that fail the initial comparability test are given additional time to hire staff, adjust student enrollment, provide additional funding, and correct or provide more current data to resolve non-comparability issues. LEAs must submit revised forms during December. For those LEAs that do not submit their reports by the October due date, the CDE will withhold their first apportionment of Title I, Part A funds in the fall. For those that do not submit their revised reports by the December due date, the CDE will have the LEAs’ second apportionment withheld in early spring until such reports are submitted.

To complete the comparability reports, student enrollment data, the number of instructional staff, and their salaries must be collected on the same date. In the event of a pandemic-related student dismissal policy, the enrollment and staff data used should be that of a time period before or after the affected time frame that accurately reflects normal operations. If a school is closed during the time the reports are due to the CDE, the district is asked to contact the CDE, and a due date will be mutually decided upon based on when the school reopens.

Each year, the CDE conducts on-site visits to randomly selected LEAs to verify and validate submitted comparability data. If an LEA scheduled for an on-site visit is impacted by a student dismissal policy due to pandemic influenza issues, the visit will be rescheduled to a mutually agreed-upon future date.

**Local Educational Agency (LEA) Plan or Plan Addendum**

School closures or student dismissal policies ordered as the result of a pandemic influenza outbreak might result in a district's inability to revise its LEA Plan or Plan Addendum within the federally defined timelines of Title I, Part A, 20 U.S.C. §1116(b)(3) and/or implement its state technical assistance requirements as specified in California Education Code Section 52055.57. Should either of these conditions occur, the LEA should notify CDE’s Accountability and Improvement Division, and the CDE will review and support evidence-based waivers to the State Board of Education for an extension of the time line. LEAs and schools may also be eligible to apply for a waiver (with certain restrictions) from the U.S. Secretary of Education, as permitted under Title I, Part D, Section 9401 of the United States Elementary and Secondary Education Act, as amended by the No Child Left Behind Act.
Section 6: Continuity Of Educational And Student Services During Extended Student Dismissals Ordered By Local Or State Health Officials

This section of the manual outlines how critical state functions that affect education will be maintained during a potential influenza outbreak.

Impact of Pandemic Influenza on Food and Nutrition Services

On July 23, 2009, the United States Department of Agriculture (USDA) released a memorandum, “Responding to School Closings for H1N1 Outbreaks,” which outlines how schools and community organizations may continue to provide reimbursable meals to low-income children during school closures or dismissals related to the H1N1 influenza virus. Additionally, this new policy waives the requirement for meals to be served in a congregate setting.

The USDA policy indicates that in the event that a public health officer closes a school or dismisses students, any school food authority (SFA) or eligible community organization that provides reimbursable meals to children may claim the meals served though the Seamless Summer Feeding Option (SSFO) or the Summer Food Service Program (SFSP).

Before a school or community organization can claim meals for reimbursement during a school closure or dismissal, the SFA must have an approved agreement to participate in the SSFO or SFSP, complete a waiver request, and plan to operate during a closure or dismissal.

For more detailed information regarding this policy, refer to the USDA guidance at http://www.fns.usda.gov/disasters/pandemic/default.htm (Outside Source). The CDE Flu Prevention Web page at http://www.cde.ca.gov/ls/he/hn/fluinfo.asp will soon reflect this guidance.

In the event of an influenza outbreak, the CDE will work with the USDA to develop policies to meet the food service needs of districts.

Title 7 of the Code of Federal Regulations (Section 210) requires that schools that participate in the National School Lunch Program (NSLP) must serve one nutritionally adequate meal each school day. Furthermore, the Child Nutrition Programs administered by the CDE’s Nutrition Services Division (NSD) are designed to support institutional feeding operations. The authorizing statutes assume that programs will operate in a congregate setting, whether in schools or child care facilities.
During the outbreak of pandemic disease, public health officials may anticipate the need for "social distancing" as a means of minimizing the spread of illness by limiting person-to-person contact, and therefore may order school, district, or statewide student dismissal policies. Thus, when student dismissal policies are in effect, schools and other facilities may be closed, and operation of child nutrition programs will probably not be possible.

School facilities and equipment normally used in the operation of the NSLP, After School Snack Program, or the School Breakfast Program (SBP) may be used for other activities during a pandemic outbreak. In addition, in a Presidentially declared disaster, school districts that participate in the NSLP are allowed flexibility in providing meals to children or the community; however, during a pandemic outbreak, such flexibility to offer or provide meals will be determined by the local health officer (subject to such measures as social distancing and quarantine, for example). During a federally declared disaster, reimbursement for meals is contingent upon available funding in the State's Reserve for Economic Uncertainties. For more information on disaster guidelines during federally declared disasters, please visit the CDE Disaster Relief Guidelines Web page at http://www.cde.ca.gov/ls/nu/sn/disaster.asp.

The NSD has received numerous phone calls regarding SFAs' responsibility to provide school meals during school closures or student dismissals resulting from the H1N1 virus. The following are NSD's answers to frequently asked questions.

Q. If our school is closed or students are dismissed due to the H1N1 virus, is an SFA required to serve meals to students?

A. No. According to California Education Code (EC) Section 49550, SFAs are required to serve one nutritionally adequate meal each school day; therefore, if a school is closed because of the H1N1 virus, the SFA is not required to serve school meals. However, the CDE encourages SFAs with significant numbers of low-income students to provide meals to these students under the new USDA policy described above.

Q. During a school closure, can students come to school at the beginning of the week to pick up bag lunches to consume at home for the week, and can I claim reimbursement for those meals?

A. If the SFA has been approved to claim meals though the SFSP or SSFO during a school closure, the SFA has the option to provide multiple meals during the closure. The SFA must ensure before the meals are claimed that the school was closed for the entire length of time (for example, five days' worth of food is provided for a five-day school closure). Additionally, the food provided cannot be claimed for days that school would not normally be in session.

Q. If the SFA either (1) applies to participate in the SSFO or SFSP during an H1N1 closure and provides a minimal number of meals to students due to “targeting,”
or (2) does not apply to provide meals in the SSFO or SFSP and provides no meals to students due to closure, can it recoup the lost meal reimbursement?

A. Regardless of whether or not an SFA has exercised its option to provide school meals through the SFSP or SSFO during a school closure, the SFA may still be eligible to recoup lost meal reimbursement. **EC Section 49505** allows schools that are closed due to a state or federally declared disaster to apply for reimbursement to offset fixed expenses, such as salaries that continue to accrue during the temporary closure. Please note that meal reimbursement is contingent upon available funding in the state's Reserve for Economic Uncertainties. Information regarding an SFA’s responsibility to serve meals during a disaster is available on the CDE Disaster Relief Guidelines Web page at [http://www.cde.ca.gov/is/nu/sn/disaster.asp](http://www.cde.ca.gov/is/nu/sn/disaster.asp).

Q. Is the flu considered a disaster in California?


**Note:** Although a pandemic flu outbreak can be considered a disaster, the H1N1 flu virus has not yet been declared a state of emergency/disaster; therefore, if a school is closed as a result of the H1N1 virus, at this time the SFA cannot claim reimbursement for meals served.

According to the USDA memo, states affected by natural disasters can make program commodities and other foods available for distribution to community groups or public agencies. SFAs should follow the procedures outlined below to obtain replacements for commodities lost or unfit for consumption as a result of the disasters. The CDE assumes the President would declare a national disaster in the event of a pandemic influenza outbreak.

**Commodities Used for Congregate Feeding and Household Distribution**

The USDA will replace all USDA commodities removed from inventory at the state or local level that are used for approved disaster congregate feeding or USDA-approved household distribution following a **Presidentially declared disaster**. The state agency is required to submit a written request for replacement within 30 days of the end of the disaster, although interim requests for replacement may be made.

Unfortunately, the USDA does not have the authority or the resources to replace non-USDA commodities used for these purposes. The USDA also cannot reimburse
organizations for the other costs, including labor costs, associated with commodity disaster feeding. This authority is dependent on Congressional action.

Local educational agencies (LEAs) will be notified to maintain adequate records for submission to their State Distributing Agency. The State Distributing Agency will report to the State Office of Emergency Services, which will submit state claims to the Federal Emergency Management Agency (FEMA). FEMA has the primary responsibility for providing disaster assistance.

**Lost or Damaged Commodities**

The USDA also does not have the authority to replace USDA or non-USDA commodities that are lost, destroyed, contaminated, or otherwise rendered unusable in a disaster due to flooding, fire, wind, power outage, or other causes. The state agency should contact the State Office of Emergency Services for possible assistance and should contact any private insurance companies to file a claim for the lost commodities. As stated above, LEAs will be notified to maintain adequate records for submission to their State Distributing Agency. The State Distributing Agency will report to the State Office of Emergency Services, which will submit state claims to FEMA.

Section 7: Impact of Pandemic Influenza on School Facilities

In the event of an influenza pandemic, school facilities and resources could be impacted in several ways.

- The *California Code of Regulations* allows enforcement officials to commandeer school facilities and school transportation vehicles for support of activities in mitigating disasters.

- School facilities may be used to set up infirmary or triage centers. In this situation, local health and enforcement officials will occupy school facilities as needed. If this occurs, LEAs should develop procedures to disinfect all surface areas and to flush ventilation systems prior to students’ return to school.
Section 8: Impact of Pandemic Influenza on Special Education

In regard to students with special needs, district personnel must remember that underlying the Individuals with Disabilities Education Act (IDEA) is a prohibition of discrimination. If a school district does not provide services to its general student population during a student dismissal policy resulting from a public health emergency such as pandemic flu, it is not required to provide such services to its students with disabilities. However, if a district maintains programs for its general student population, it must also maintain programs for students with disabilities.

For this reason, a school district must create strategies that provide students with disabilities the same educational benefits provided for the general student population during a prolonged school closure. Such strategies could include the use of televisied cable programming and Internet sites.

Further, if a district extends the school year for its general student population to compensate for instructional time lost during a schoolwide student dismissal policy as a result of an influenza outbreak, the school year must also be extended for students with disabilities. These requirements also apply for children who attend private schools.

Because services for students with disabilities are outlined in the individualized education program (IEP), each student’s IEP team should reflect on how those services would be enacted in the event of a schoolwide student dismissal.

If school buildings are not accessible due to a public health emergency, assessments may need to be done through an IEP team teleconference, which would be held to discuss alternative programs that can be provided.

If it proves impossible to provide full services during a student dismissal policy, the IEP team must subsequently make a determination as to whether compensatory services are required. Key to this determination is whether the student who did not receive full services continued to make progress in his or her absence.

If a schoolwide or statewide student dismissal policy were ordered by a public health officer due to a flu pandemic, staff in the Special Education Division would provide technical assistance regarding these matters to county and district superintendents, charter school administrators, principals, Special Education Local Plan Area directors, and nonpublic school directors.

State Special Schools

The State Special School for the Blind and the State Special Schools for the Deaf will follow the following mitigation protocols to avoid spread of influenza:
• Consistently encourage students and staff to follow proper hygiene procedures recommended by the CDC. School personnel who are sick should stay home; students who are sick should be isolated from other students; students and staff members should cover their mouths and noses when they cough and sneeze; students and staff members should wash hands often and properly—for at least 20 seconds using soap and water; and school sites should have soap and/or hand sanitizers for both student and staff use.

• Establish a communication protocol with the student health system on campus for surveillance and reporting of any illness in the residence halls while students remain on campus.

• Establish evaluation centers for students who have been exposed to flu-like illness or exhibit flu-like symptoms.

• Identify on-campus housing for use as isolation units for students exhibiting flu-like symptoms who may not be able to be isolated off-campus before the regular Friday dismissal.

• Ensure that on-campus isolation areas do not have re-circulated air.

• Identify private bathrooms for use by people exhibiting flu-like symptoms in on-campus isolation areas.

If a flu outbreak occurs that affects the State Special Schools, the following procedures would be followed:

• If one or more students at the State Special Schools have flu-like symptoms, school administrators will immediately contact the local county health department and follow the recommendations of the county health officer. It is the local health officer who will determine whether students should be sent home or maintained on campus and whether the school should remain open.

• If the local health officer orders individual or schoolwide student dismissals, State Special Schools staff will notify parents and guardians to make arrangements to receive their children according to the usual Friday afternoon procedures and to maintain their children at home until the student dismissal policy is lifted.

• State Specials Schools staff will instruct parents of ill students to contact their primary care providers. Students must be symptom-free for 24 hours before returning to school.

• Schoolwide student dismissal orders apply to day students as well. Day students must be maintained at home and will not be allowed on campus while the dismissal policy is in effect.
• If the local health officer determines that students should be maintained on campus rather than being sent home, the State Special Schools may call upon all staff to assist with student care and supervision. Designated isolation units in on-campus student health services facilities or other buildings will be maintained for students with influenza-like symptoms.

• State Special Schools will suspend all classes, field trips, work experience, and any other off-campus activities while the dismissal orders are in effect.

The state Diagnostic Centers would not be governed by school closures since social distancing does not apply. However, it is likely they would suspend activities until the school closure orders have been rescinded.
Section 9: Impact of Pandemic Influenza on Child Care (including Cal-SAFE)

This manual section applies to CDE contractors providing child care and developmental services to children and families through center-based programs, family child care home educational networks, Alternative Payment Programs, and Resource and Referral programs.

The CDE’s Child Development Division (CDD) has defined the actions it will take before a pandemic occurs and has provided child care and development programs with information and resources they can use to prepare themselves for a pandemic. This information is contained in Management Bulletin 09-03, which is posted on the CDE Web page at http://www.cde.ca.gov/sp/cd/ci/mb0903.asp. Notification concerning this management bulletin was sent to CDE-funded child care programs via the list-serv in July 2009.

The Management Bulletin covers the following:

1. Pandemic flu planning and mitigation and instructions on how programs can respond to potential closures ordered by the State Public Health Officer.

2. Program funding during emergency closures ordered by the State Public Health Officer.

3. Resources to prepare for a pandemic emergency, including sample flu notifications that can be sent to staff and families, a flu prevention information toolkit, pandemic influenza planning checklists, and frequently asked questions and answers about pandemic flu.

4. Information from the California Childcare Health Program on the topic of pandemic flu, including reference to the California Childcare Health Program’s November-December 2007 issue of Child Care Health Connections, which provides information for child care programs about pandemic flu and the steps programs can take to prepare for a pandemic flu emergency. The Child Care Health Program has also prepared Health and Safety Notes on Preparing for Pandemic Flu in Child Care Programs. These articles, as well as links to other helpful Web sites containing information about pandemic flu response planning, are posted on the Child Care Health Program Web site at http://www.ucsfchildcarehealth.org/ (Outside Source).

California Code of Regulations (CCR) Title 22, Section 101174, requires that each licensed child care program develop a disaster and mass casualty plan. CDE-funded child care and development programs, centers, and family child care home education networks are required to practice emergency evacuation procedures regularly. Since large numbers of children may be in close proximity with one
another in child development programs, it is essential for programs to be prepared and to take effective precautions in the event of a pandemic flu emergency.

Elements of a Plan to Address a Pandemic Flu Emergency

In Management Bulletin 09-03, the CDD recommends that child development contractors develop a plan addressing the steps to be taken before, during, and after a pandemic occurs. Contractors can form a committee of staff members and parents to develop the plan. Elements to consider include:

1. Identify all of the ways a flu pandemic might affect the program, and develop a plan of action to respond.

2. Select a person to identify and monitor reliable sources of information concerning the pandemic.

3. Develop and strengthen infection control policies and action steps to support the maintenance of good health practices.

4. Develop a plan of communication with staff and families via different means of communication (such as e-mail, telephone hotlines, local radio, cable TV stations, etc.).

Closure Policy for CDE-Funded Child Care Facilities

EC Section 8271 gives the CDE the ability to fund child care programs if they are closed due to a disaster or unforeseen emergency. The CDD has the authority to ensure that contractors continue to receive apportionments in an emergency.

Using its authority in EC Section 8271, the CDE will continue apportionments to contractors during an influenza-related emergency closure ordered by a public health officer and will coordinate with other units and divisions within the CDE for timely payments.

In the event that a public health officer orders schools and child care facilities to dismiss students due to a public health emergency, the CDD will do all that it can to provide assistance. In order to help lessen the financial impact of emergency closures on our child development contractors, under the authority provided in EC Section 8271, contractors may request and receive reimbursement for days of non-operation due to an emergency closure of the school or child care facility.

Management Bulletin 09-16, entitled “Reduced Days of Operation or Attendance due to Emergency Conditions,” explains the CDE’s current policy related to EC Section 8271. The bulletin lists examples of circumstances beyond the control of operating agencies, including pandemics. Whenever a contracting agency’s days of operation or attendance are reduced for any of the reasons cited, that fact must be communicated to the CDD in
the form of a resolution adopted by the agency’s governing board (or other entity for agencies not having a governing board). The resolution and transmittal must include specific information described in Management Bulletin 09-16. Questions concerning Management Bulletin 09-16 should be directed to the agency’s assigned Field Services Consultant.

In the event of a pandemic emergency, the CDD will coordinate with the California Department of Social Services’ Community Care Licensing Division to ensure that all child care centers and family child care homes, both those operating under Title 5 and those operating under Title 22 regulations, receive essential and critical information regarding the pandemic. The CDD will provide as much guidance to child development contractors as possible and communicate with them regularly via the existing list-serv.
Section 10: Impact of Pandemic Influenza on the Healthy Start Program

There are school-based Healthy Start programs in every county that have on-site health resource centers and/or a well-established infrastructure to connect students and their families to local support and services for physical, dental, vision, psychological, and emotional health needs. In addition, many Healthy Start programs have clothing banks, washers and dryers, access to food resources, service links for homeless students, and an existing telephone and/or e-mail network that enables them to coordinate integrated, non-duplicative services in times of stress and local emergencies. Many rural children receive all of their health care services at the local school health centers. Healthy Start can provide resources to LEAs to help them respond to a pandemic situation. The CDE Healthy Start Web site at http://www.cde.ca.gov/ls/pf/hs/ provides information and a link to the University of California at Davis-based Healthy Start Field Office Web site, which houses the Healthy Start site directory at http://hsfo.ucdavis.edu/directory/ (Outside Source).
Section 11: Impact of Pandemic Influenza on After School Programs

This manual section applies to CDE grantees providing after school programs through the After School Education and Safety Programs and the 21st Century Community Learning Center Program.

In the event of a student dismissal order issued by a local or state health official due to pandemic influenza, after school programs taking place at impacted school sites will also be closed during the period of time that the student dismissal policy is in effect. If an after school program operates at a site other than the site of the regular day school, the after school program must also close to mitigate the spread of disease. It is the responsibility of the corresponding regular day school site to notify the after school program site of the student dismissal policy due to a public health emergency. After school programs should continue to adhere to the processes in place to report program closures due to emergencies and the loss of attendance for those days.

Using its authority in EC Section 8482.8, the CDE will continue payments to grantees during an emergency closure and will coordinate with other units and divisions within the CDE for timely payments.
Section 12: Impact of Pandemic Influenza on Curriculum Support Programs

Public School Choice (Choice) and Supplemental Educational Services (SES)

Influenza-related student dismissals ordered by a public health officer that last for an extended period of time may affect a school’s ability to meet Title I-related timelines with regard to the following:

- Timely notification of parents of a school’s Program Improvement (PI) status (No Child Left Behind [NCLB], Section 1116[b][6]) and the availability of Choice (NCLB, Section 1116[b][1][E]) and/or SES (NCLB, Section 1116[b][5][B]).

- Parental selection of a transfer for Choice in PI and/or an SES provider.

- LEA contracts with SES providers for service.

- SES provider accountability reporting to the CDE.

- Requirement for the revision and implementation of the Single Plan for Student Achievement by a school within 90 days of its identification for PI (NCLB, Section 1116[b][3][A]).

- Suspension of SES service for students.

In the event of a long-term student dismissal policy ordered by a public health officer, California education officials would apply to the U.S. Department of Education (ED) with a request to waive time line requirements, and LEAs and schools would be encouraged to submit their requests for waivers of the federal time lines to the State Board of Education (SBE). In addition, LEAs would be encouraged to seek a waiver of Categorical Program Monitoring for the school year in question.

Education for Homeless Children and Youth Programs

In the event of a pandemic influenza, McKinney-Vento Education for Homeless Children and Youth Act grantees would continue to be funded according to the protocol established by the CDE School Fiscal Services Division. Currently, the CDE and the ED do not provide for flexibility through waiver authority. The ED intends to seek authority for further flexibility from Congress through the legislative process. Useful program guidance on existing flexibility on some issues, such as the placement of homeless students (which may arise during a severe pandemic), can be found on the ED’s Web page at [http://www.ed.gov/programs/homeless/guidance.doc](http://www.ed.gov/programs/homeless/guidance.doc) (Outside Source).

LEAs need to keep in mind that homeless adults, families, and children may be at a higher risk of contracting influenza because of crowded living conditions, stressed
immune systems, and high mobility. This is also the case for other communicable diseases. The rapidly developing pandemic influenza epidemic calls for increased precautions and vigilance.

The National Health Care for the Homeless Council strongly recommends that local homelessness constituencies, including shelter, housing, and health care and service providers, engage with local emergency planning authorities to ensure that the particular risks for and needs of homeless people are addressed in emergency planning and responses.

**English Learner Acquisition and Development Pilot Program (AB 2117)**

A substantial student absence from school due to pandemic influenza could significantly disrupt schools implementing a promising practice and could potentially keep grantees from fully implementing the promising practice for which they applied. Interruptions in instructional time and delivery of promising practice could affect the data collected via the grant program. The CDE may adjust the data obtained from local and state assessments in order to account for the lapse of time in instruction.

**Reading First**

Based upon the amount of time students were absent due to influenza-like illnesses, LEAs should adjust pacing schedules at each site level to cover all required curricular materials. The CDE would adjust professional development for teachers and coaches.
Section 13: Impact of Pandemic Influenza on Professional Development Programs

Administrator Training Program (AB 430)

An influenza outbreak would have minimal impact on this professional development program, unless a participating administrator is in his or her final year for completion. In that case, the administrator’s district could be negatively impacted if it had to be billed back for funds already received. The CDE would create a policy to provide for an extension of the two-year requirement to complete the program. Students would not be affected.

Beginning Teacher Support and Assessment (BTSA)

Access to students is critical, although the program is flexible enough to provide opportunities for participating teachers to complete their induction experience even if there was a disruption due to an influenza pandemic. The participating teachers would have to be able to design and deliver instruction to students in alternative formats given the situation, as the program requires that participating teachers demonstrate competencies in the following areas:

- teaching special populations;
- teaching English learners;
- supporting equity, diversity, and access to the core curriculum;
- creating a supportive and healthy environment for student learning;
- using technology to support student learning; and
- teaching the core academic content and subject specific pedagogy.

Local BTSA program directors have the authority to adjust participating teacher’s individual programs as long as all teacher induction standards are still met.

California Math Science Partnership (CaMSP)

Most of the intensive hours associated with this professional development program are conducted by teachers during the summer months; therefore, dismissing students in the event of a pandemic should not affect this portion of the program. As the remaining intensive hours and classroom follow-up are done during the school year, disruption at any point in the year would most likely shift a very tightly scheduled CaMSP project design. A shift in project design could negatively impact the research results these grants are designed to achieve.

In the case of a student dismissal order issued by a public health officer due to a public health emergency, the use of technology may not be viable for conducting teacher intensive hours (based upon the design of the project). Classroom follow-up sessions, by the nature of the activity, are dependent on lessons facilitated by teachers and observed by other teachers and cannot be done remotely. Completion of this aspect of
the program may be completed at the time normal school operations are resumed. In order to account for the lapse of time in instruction, the CDE may adjust the data gained from local and state assessments and used to determine the impact or evaluation of the professional development program on student achievement.
Section 14: Distance-Learning Options During Extended Student Dismissals Ordered by Local or State Health Officials

In the event of an influenza-related school, district, or statewide student dismissal policy ordered by a public health official, LEAs need to develop distance-learning programs to ensure that students continue to receive instruction while a student dismissal policy is in effect. This section presents a variety of ideas for distance-learning options that LEAs may choose to implement.

Several existing curriculum programs and projects have videotaped demonstration lessons in various subject areas. These lessons could potentially be aired on public broadcast stations during student dismissals to continue instruction for students or could be used by professional development programs to facilitate a distance-learning process for program participants. Some coordination would be required on the part of LEAs to make the materials utilized in the lessons, such as worksheets or texts, available to students. These materials could be distributed in advance, posted online, or sent out to parents via e-mail.

County offices of education (COEs) or school districts may also decide to use traditional distance-learning programs for their students. A number of successful models are already in place for distance-learning programs that can be conducted either online or by mail. Such programs could be quickly and easily utilized during a student dismissal if students were required to register for the program along with initial school registration. COEs may also have tutoring programs in place that could be modified to provide necessary instruction for students during a student dismissal.

Most districts require their teachers to have “emergency lesson plans” ready to be used by a substitute in the event of an unplanned teacher absence. Schools or districts could compile these individual lesson plans by grade-level and then distribute them to students in the event of an extended student dismissal. This compilation of lesson plans could facilitate the development of several weeks’ worth of instructional materials and assignments and would ensure that all students within a grade level at a school or district would receive the same instruction, focused on the same standards, for the period of the student dismissal. Schools or districts could also compile Independent Study Packets like those that are commonly given to students who are absent from school due to an extended vacation.

To facilitate continued reading time, LEAs could prepare leveled and decodable sets of books to send home with students in the event of a student dismissal. LEAs often have surplus or obsolete books that are still usable and good for reading practice. Several books could be sent home with each student, along with easy-to-follow suggestions for parents to encourage and support reading practice during a student dismissal. Students and families could also exchange sets of books among themselves to extend the
amount of reading practice. This same method could be used for other subject areas as well.

LEAs may also use these suggested methods of distance learning to facilitate continued language acquisition for English learners during a student dismissal. Learning programs or activities that provide exposure to written and spoken English may help compensate for classroom time lost due to a student dismissal.
School Safety Plan

32282. (a) The comprehensive school safety plan shall include, but not be limited to, both of the following:

(1) Assessing the current status of school crime committed on school campuses and at school-related functions.

(2) Identifying appropriate strategies and programs that will provide or maintain a high level of school safety and address the school's procedures for complying with existing laws related to school safety, which shall include the development of all of the following:

(A) Child abuse reporting procedures consistent with Article 2.5 (commencing with Section 11164) of Title 1 of Part 4 of the Penal Code.

(B) Disaster procedures, routine and emergency, including adaptations for pupils with disabilities in accordance with the Americans with Disabilities Act of 1990 (42 U.S.C. Sec. 12101 et seq.). The disaster procedures shall also include, but not be limited to, both of the following:

(i) Establishing an earthquake emergency procedure system in every public school building having an occupant capacity of 50 or more pupils or more than one classroom. A district or county office may work with the Office of Emergency Services and the Seismic Safety Commission to develop and establish the earthquake emergency procedure system. The system shall include, but not be limited to, all of the following:

(I) A school building disaster plan, ready for implementation at any time, for maintaining the safety and care of pupils and staff.

(II) A drop procedure whereby each pupil and staff member takes cover under a table or desk, dropping to his or her knees, with the head protected by the arms, and the back to the windows. A drop procedure practice shall be held at least once each school quarter in elementary schools and at least once a semester in secondary schools.

(III) Protective measures to be taken before, during, and following an earthquake.

(IV) A program to ensure that pupils and both the certificated and classified staff are aware of, and properly trained in, the earthquake emergency procedure system.

(ii) Establishing a procedure to allow a public agency, including the American Red Cross, to use school buildings, grounds, and equipment for mass care and welfare shelters during disasters or other emergencies affecting the public health and welfare. The district or county office shall cooperate with the public agency in furnishing and maintaining the services as the district or county office may deem necessary to meet the needs of the community.

(C) Policies pursuant to subdivision (d) of Section 48915 for pupils who committed an act listed in subdivision (c) of Section 48915 and other school-designated serious acts which would lead to suspension, expulsion, or mandatory expulsion
recommendations pursuant to Article 1 (commencing with Section 48900) of Chapter 6 of Part 27.

(D) Procedures to notify teachers of dangerous pupils pursuant to Section 49079.

(E) A discrimination and harassment policy consistent with the prohibition against discrimination contained in Chapter 2 (commencing with Section 200) of Part 1.

(F) The provisions of any schoolwide dress code, pursuant to Section 35183, that prohibits pupils from wearing "gang-related apparel," if the school has adopted that type of a dress code. For those purposes, the comprehensive school safety plan shall define "gang-related apparel." The definition shall be limited to apparel that, if worn or displayed on a school campus, reasonably could be determined to threaten the health and safety of the school environment. Any schoolwide dress code established pursuant to this section and Section 35183 shall be enforced on the school campus and at any school-sponsored activity by the principal of the school or the person designated by the principal. For the purposes of this paragraph, "gang-related apparel" shall not be considered a protected form of speech pursuant to Section 48950.

(G) Procedures for safe ingress and egress of pupils, parents, and school employees to and from school.

(H) A safe and orderly environment conducive to learning at the school.

(I) The rules and procedures on school discipline adopted pursuant to Sections 35291 and 35291.5.

(J) Hate crime reporting procedures pursuant to Chapter 1.2 (commencing with Section 628) of Title 15 of Part 1 of the Penal Code.

It is the intent of the Legislature that schools develop comprehensive school safety plans using existing resources, including the materials and services of the partnership, pursuant to this chapter. It is also the intent of the Legislature that schools use the handbook developed and distributed by the School/Law Enforcement Partnership Program entitled "Safe Schools: A Planning Guide for Action" in conjunction with developing their plan for school safety.

**Fiscal Consequences of an Epidemic**

**8482.8.** (a) If there is a significant barrier to pupil participation in a program established pursuant to this article at the school of attendance for either the before school or the after school component, an applicant may request approval from the Superintendent, prior to or during the grant application process, to provide services at another schoolsite for that component. An applicant that requests approval shall describe the manner in which the applicant intends to provide safe, supervised transportation between schoolsites; ensure communication among teachers in the regular school program, staff in the before school and after school components of the program, and parents of pupils; and align the educational and literacy component of the before and after school components of the program with the regular school programs of participating pupils.

(b) For purposes of this article, a significant barrier to pupil participation in the before or after school component of a program established pursuant to this chapter means either of the following:

(1) Fewer than 20 pupils participating in the component of the program.
(2) Extreme transportation constraints, including, but not limited to, desegregation bussing, bussing for magnet or open enrollment schools, or pupil dependence on public transportation.

(c) In addition to the authority to transfer funds among school programs pursuant to Sections 8483.7 and 8483.75, and in addition to the flexibility provided by subdivisions (a) and (b), a program grantee that is temporarily prevented from operating a program established pursuant to this article at the program site due to natural disaster, civil unrest, or imminent danger to pupils or staff may shift program funds to the sites of other programs established pursuant to this article to meet attendance targets during that time period.

(d) If a program grantee is temporarily prevented from operating its entire program due to natural disaster, civil unrest, or imminent danger to pupils or staff, the department may recommend, and the state board may approve, a request by the grantee for payment equal to the amount of funding the grantee would have received if it had been able to operate its entire program during that time period.

(e) Upon the request of a program grantee, the state board may approve other unforeseen events as qualifying a program grantee to use the authority provided by subdivisions (c) and (d).

41422. A district that is prevented from maintaining its schools during a fiscal year for at least 175 days or is required to operate sessions of shorter length than otherwise prescribed by law because of fire, flood, earthquake, or epidemic, or because of any order of any military officer of the United States or of the state to meet an emergency created by war, or of any civil officer of the United States, of the state, or of any county, city and county, or city authorized to issue that order to meet an emergency created by war, or because of other extraordinary conditions, or because of inability to secure or hold a teacher, or because of the illness of the teacher, which fact shall be shown to the satisfaction of the Superintendent of Public Instruction by the affidavits of the members of the governing board of the school district and of the county superintendent of schools, shall receive the same apportionment from the State School Fund as it would have received had it not been so prevented from maintaining school for at least 175 full-length days.

46390. Where a school in a district maintaining more than one school is closed for a part of a term by order of a city or county board of health or of the State Board of Health, or because of fire, flood, impassable roads, epidemic, or other emergency, or by an order provided for in Section 41422, the average daily attendance of the school shall be estimated separately, as provided in Section 46392, and added to the average daily attendance of the other schools of the district.

46392 (a) Whenever the average daily attendance of any school district, county office of education, or regional occupational center or program during any fiscal year has been materially decreased during any fiscal year because of any of the following, the fact shall be established to the satisfaction of the Superintendent of Public Instruction by affidavits of the members of the governing board of the school district or county office of education, and the county superintendent of schools:

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(1) Fire.
(2) Flood.
(3) Impassable roads.
(4) An epidemic.
(5) An earthquake.
(6) The imminence of a major safety hazard as determined by the local law enforcement agency.
(7) A strike involving transportation services to pupils provided by a nonschool entity.
(8) An order provided for in Section 41422.
(b) In the event a state of emergency is declared by the Governor in a county, any decrease in average daily attendance in the county below the approximate total average daily attendance that would have been credited to a school district, county office of education, or regional occupational center or program had the state of emergency not occurred shall be deemed material. The superintendent shall determine the length of the period during which average daily attendance has been reduced by the state of emergency. This period, which is determined by the superintendent, shall not extend into the next fiscal year following the declaration of the state of emergency by the Governor, except upon a showing by a school district, county office of education, or regional occupational center or program, to the satisfaction of the superintendent, that extending the period into the next fiscal year is essential to alleviate continued reductions in average daily attendance attributable to the state of emergency.

(c) The average daily attendance of the district, county office of education, or regional occupational center or program for the fiscal year shall be estimated by the superintendent in a manner that credits to the school district, county office of education, or regional occupational center or program for determining the apportionments to be made to the district, county office of education, or regional occupational center or program from the State School Fund approximately the total average daily attendance that would have been credited to the school district, county office of education, or regional occupational center or program had the emergency not occurred or had the order not been issued.

(d) This section applies to any average daily attendance that occurs during any part of a school year.

State Technical Assistance Requirements
52055.57 (a) (1) Provisions that are applicable to local educational agencies under this section are for the purpose of implementing federal requirements under the federal No Child Left Behind Act of 2001 (20 U.S.C. Sec. 6301 et seq.). The satisfaction of these criteria by local educational agencies that choose to participate under this article shall be a condition of receiving funds pursuant to this section.

(2) The department shall identify local educational agencies that are in danger of being identified within two years as program improvement local educational agencies under the federal No Child Left Behind Act of 2001, and shall notify those local educational agencies, in writing, of this status and provide those local educational agencies with research-based criteria to conduct a voluntary self-assessment.
(3) The self-assessment shall identify deficiencies within the operations of the local educational agency, and the programs and services of the local educational agency.

(4) A local educational agency identified pursuant to paragraph (2) is encouraged to revise its local educational agency plan based on the results of the self-assessment.

(5) The program described in this subdivision shall be referred to as the "Early Warning Program."

(b) (1) A local educational agency identified as a program improvement local educational agency under the federal No Child Left Behind Act of 2001 shall do all of the following:

(A) Conduct a self-assessment using materials and criteria based on current research and provided by the department.

(B) No later than 90 days after a local educational agency is identified for program improvement, contract with a county office of education or another external entity after working with the county superintendent of schools, for both of the following purposes:

(i) Verifying the fundamental teaching and learning needs in the schools of that local educational agency as determined by the local educational agency self-analysis, and identifying the specific academic problems of low-achieving pupils, including a determination of why the prior plan of the local educational agency failed to bring about increased pupil academic achievement.

(ii) Ensuring that the local educational agency receives intensive support and expertise to implement local educational agency reform initiatives in the revised local educational agency plan as required by the federal No Child Left Behind Act of 2001.

(C) Revise and expeditiously implement the local educational agency plan to reflect the findings of the verified self-assessment.

(D) After working with the county superintendent of schools or an external verifier, contract with an external provider to provide support and implement recommendations to assist the local educational agency in resolving shortcomings identified in the verified self-assessment.

(2) (A) Subject to the availability of funds in the annual Budget Act for this purpose, a local educational agency described in paragraph (1) annually may receive fifty thousand dollars ($50,000), plus ten thousand dollars ($10,000) for each school that is supported by federal funds pursuant to Title I of the federal No Child Left Behind Act of 2001 within the local educational agency, for the purpose of fulfilling the requirements of this subdivision. If funding is not provided in the annual Budget Act or other statute, local educational agencies shall not be subject to the requirements of subparagraphs (B) and (D) of paragraph (1).

(B) Subject to the availability of funds appropriated in the annual Budget Act for this purpose, a local educational agency identified as a program improvement local educational agency during the 2005-06 fiscal year, shall receive priority for funding based upon the performance of the socioeconomically disadvantaged subgroup of the local educational agency on the Academic Performance Index. Priority for funding shall be provided to the lowest performing local educational agencies that are identified as program improvement local educational agencies. It is the intent of the Legislature that
funds apportioned pursuant to this paragraph be used to support activities identified in paragraph (1).

(C) It is the intent of the Legislature that a local educational agency identified as a program improvement local educational agency receive no more than two years of funding pursuant to this paragraph.

(c) A local educational agency that has been identified for corrective action under the federal No Child Left Behind Act of 2001 shall be subject to one or more of the following sanctions as recommended by the Superintendent and approved by the state board:

(1) Replacing local educational agency personnel who are relevant to the failure to make adequate yearly progress.

(2) Removing schools from the jurisdiction of the local educational agency and establishing alternative arrangements for the governance and supervision of those schools.

(3) Appointing, by the state board, a receiver or trustee, to administer the affairs of the local educational agency in place of the county superintendent of schools and the governing board.

(4) Abolishing or restructuring the local educational agency.

(5) Authorizing pupils to transfer from a school operated by the local educational agency to a higher performing school operated by another local educational agency, and providing those pupils with transportation to those schools, in conjunction with carrying out not less than one additional action described under this paragraph.

(6) Instituting and fully implementing a new curriculum that is based on state academic content and achievement standards, including providing appropriate professional development based on scientifically based research for all relevant staff, that offers substantial promise of improving educational achievement for high-priority pupils.

(7) Deferring programmatic funds or reducing administrative funds.

(d) (1) The department shall develop, and the state board shall approve at a public meeting, objective criteria by which a local educational agency identified for corrective action and subject to a sanction listed under subdivision (c) shall be evaluated to determine the pervasiveness and severity of its performance problems and the sanction to be imposed.

(2) A local educational agency identified for corrective action and subject to a sanction listed under subdivision (c) may apply for a one-year, nonrenewable grant of federal improvement funding to assist in its improvement process and may expend that grant funding over the time period allowable under federal law. It is the intent of the Legislature to integrate federal funding that is available for this purpose, including, but not limited to, funding for program improvement and school improvement grants pursuant to Section 6303 of Title 20 of the United States Code.

(3) The amount of a grant for a local educational agency with extensive and severe performance problems shall be one hundred fifty thousand dollars ($150,000) per school identified for program improvement pursuant to federal law. The amount of a grant for a local educational agency with moderate performance problems shall be one hundred thousand dollars ($100,000) per school identified for program improvement pursuant to federal law. The amount of a grant for a local educational agency with minor
or isolated performance problems shall be fifty thousand dollars ($50,000) per school identified for program improvement pursuant to federal law.

(4) A local educational agency that receives funding under this subdivision shall use the funds in accordance with Section 6316(b) and (c) of Title 20 of the United States Code. Pursuant to the technical assistance requirements under the federal No Child Left Behind Act of 2001 outlined in Section 6312(b) and (c) and Section 6317 of Title 20 of the United States Code, the Superintendent may recommend, and the state board may approve, that a local educational agency contract with a district assistance and intervention team or other technical assistance provider to receive guidance, support, and technical assistance. A district intervention and assistance team or other technical provider with which a local educational agency is required to contract shall perform the duties specified in subdivision (e) of Section 52059.

(5) Notwithstanding any other law, a local educational agency that receives funding under this subdivision or that receives other federal funds for school improvement shall not use those funds to compensate a receiver or trustee assigned by the state board pursuant to paragraph (3) of subdivision (c).

(e) A local educational agency that has received a sanction under subdivision (c) and has not exited program improvement under the federal No Child Left Behind Act of 2001 shall appear before the state board within three years to review the progress of the local educational agency. Upon hearing testimony and reviewing written data from the local educational agency, the district assistance and intervention team, or county superintendent of schools, the Superintendent shall recommend, and the state board may approve, an alternative sanction under subdivision (c), or may take any appropriate action.

(f) Subject to the availability of funds in the annual Budget Act for this purpose, a local educational agency that is not identified as a program improvement local educational agency under the federal No Child Left Behind Act of 2001 may annually receive up to fifteen thousand dollars ($15,000) per school identified as a program improvement school for the purposes of supporting schools identified as program improvement schools in the local educational agency and determining barriers to improved pupil academic achievement. That local educational agency shall receive no less than forty thousand dollars ($40,000) and no more than one million five hundred thousand dollars ($1,500,000) for those purposes. The Superintendent shall compile a list that ranks each local educational agency based on the number of, and percentage of, schools identified as program improvement schools and shall provide this funding to local educational agencies equally from each list until all funds appropriated for this purpose are depleted. These funds shall be provided for no more than three years.

(g) For purposes of this article, "local educational agency" means a school district, county office of education, or charter school that elects to receive its funding directly pursuant to Section 47651, and that provides public educational services to pupils in kindergarten or any of grades 1 to 12, inclusive.

8271. In the event that operating agencies are unable to operate due to incomplete renovations authorized by administrating state agencies, or due to circumstances beyond the control of the operating agency, including earthquakes, floods, or fire, such
programs shall not be penalized for incurred program expenses nor in subsequent annual budget allocations.

The following sections of California law clarify the roles and responsibilities of public employees and volunteers in the event of emergency.

GOVERNMENT CODE

Disaster Service Workers
3100. It is hereby declared that the protection of the health and safety and preservation of the lives and property of the people of the state from the effects of natural, manmade, or war-caused emergencies which result in conditions of disaster or in extreme peril to life, property, and resources is of paramount state importance requiring the responsible efforts of public and private agencies and individual citizens. In furtherance of the exercise of the police power of the state in protection of its citizens and resources, all public employees are hereby declared to be disaster service workers subject to such disaster service activities as may be assigned to them by their superiors or by law.

3101. For the purpose of this chapter the term "disaster service worker" includes all public employees and all volunteers in any disaster council or emergency organization accredited by the California Emergency Council. The term "public employees" includes all persons employed by the state or any county, city, city and county, state agency or public district, excluding aliens legally employed.

8655. The state or its political subdivisions shall not be liable for any claim based upon the exercise or performance, or the failure to exercise or perform, a discretionary function or duty on the part of a state or local agency or any employee of the state or its political subdivisions in carrying out the provisions of this chapter.

HEALTH AND SAFETY CODE

Good Samaritan Law
1799.100 In order to encourage local agencies and other organizations to train people in emergency medical services, no local agency, entity of state or local government, or other public or private organization which sponsors, authorizes, supports, finances, or supervises the training of people, or certifies those people, excluding physicians and surgeons, registered nurses, and licensed vocational nurses, as defined, in emergency medical services, shall be liable for any civil damages alleged to result from those training programs.

1799.102 No person who in good faith, and not for compensation, renders emergency care at the scene of an emergency shall be liable for any civil damages resulting from any act or omission. The scene of an emergency shall not include emergency departments and other places where medical care is usually offered.
K-8: Response

Focuses on what to do if a pandemic occurs, including how to announce school closure, ongoing disease surveillance, crisis management, and other action tools.

» Continuity of Education

* Moodle
  A free open source web application designed to help educators create online instruction

» Guides

* Crisis Management Workbook
  Workbook to help school administrators respond to a critical incident; 188 pages (Fairfax County, VA)

* School Action Steps for Pandemic Flu
  Steps for preparing for pandemic influenza and responding to outbreaks of varying scope; 2 pages (Contra Costa Health Services)

* School Response to Pandemic Flu Flow Chart
  Sample flow chart guiding school response to a flu pandemic; 1 page (Contra Costa Health Services)

» Letters

* Sample Letter to Parents #2 First Bird Case: English | Spanish
  To help prepare parents for pandemic flu after first bird case is found in the U.S.; 1 page (Contra Costa Health Services)

* Sample Letter to Parents #3 Initial Outbreak: English | Spanish
  To let parents know that schools are open despite the outbreak; 1 page (Contra Costa Health Services)

* Sample Letter to Parents #4 Expanded Outbreak: English | Spanish
  To let parents know that schools are open and urge ill children to stay home; 1 page (Contra Costa Health Services)

* Sample Letter to Parents #5 School Closure: English | Spanish
  To inform parents schools are closed; 1 page (Contra Costa Health Services)

» Media Materials

* Sample Key Messages for School Officials B–School Closures
  1 page (Contra Costa Health Services)

* Sample Press Release B
  To announce school closure; 1 page (Contra Costa Health Services)

» Surveillance and Reporting

* Daily Pandemic Flu Census
  Sample form to report daily cases of influenza-like illness; 1 page (Contra Costa Health Services)

* Daily Pandemic Flu Census Log
  Sample form to log student absences; 1 page (Contra Costa Health Services)

* Definition of Surveillance Levels
Information sheet explaining the difference between standard, heightened, and intensive surveillance; 1 page (Contra Costa Health Services)

- **Influenza Case Definition**
  List of typical flu symptoms that should be reported; 1 page
  (Contra Costa Health Services)

- **Surveillance and Reporting**
  List of information to monitor the illness rate at schools; 1 page
  (Contra Costa Health Services)

- **Weekly Pandemic Flu Census**
  Sample form for weekly reporting of students with flu-like illness; 1 page
  (Contra Costa Health Services)
SCHOOL ACTION STEPS FOR PANDEMIC FLU

The following is a chronological list of important step-by-step actions schools should take before, during and after a pandemic flu outbreak. Pandemic flu can have several cycles or waves so this list may need to be repeated. Actions will be based on the severity of the pandemic (See the CDC Pandemic Severity Index)

PRIOR TO OUTBREAK/PREPAREDNESS & PLANNING PHASE

- Create a pandemic flu plan (Use the CDC School Pandemic Flu Planning Checklist and Flow Chart in this section of the binder)

- Work with local health officials and emergency preparedness officials. They may need to use the schools as a way to disseminate information to families. You can begin with Parent Letter #1 in the Parent section of this binder.

- Decide the roles and responsibilities of school staff (including all ancillary staff) to prevent the spread of flu.

- Train nurses and staff in flu-symptom recognition. (See surveillance section of this binder). Remember that a person who is infected does not show symptoms right away. But children who are getting ill may show different behavior than usual, such as eating less or being irritable.

- Insure that standard surveillance/disease recognition procedures are in place and implemented. (See surveillance section of this binder)

- Improve the hygiene of students and staff. Use simple non-medical ways to reduce the spread of flu by “cough and sneeze etiquette,” clean hands, and clean work areas. (See public information section of this binder for posters)

- Determine whether the school should be cleaned differently or more often.

- Decide to what extent you will encourage or require children and staff to stay home when they are mildly ill.

- Identify students who are most vulnerable to serious illness (immune compromised, chronic illness, etc.)

- Review the health needs of students. Some students may have a greater risk of infections. Encourage those families to talk to their health care provider. Some parents may need to be more cautious in keeping their children out of school.

- Develop alternative learning strategies such as collaborative agreements with Contra Costa Television or other local cable stations, teleconferencing, lessons on CDs.

- Educate staff, students and parents about: the differences between seasonal flu, bird flu and pandemic flu; best hygienic practices to prevent any sort of flu; what could occur in a pandemic. (Use the information in the public information section of this binder)
Outbreak of Flu Disease

**LESS THAN 10% STUDENTS (Category 1 pandemic)**

*Actions will be based on severity of pandemic. See CDC Pandemic Severity Index*

- County Health Officer issues notification to begin Surveillance Reporting
- Begin Heightened Surveillance Reporting
- Send out Parent Letter #3 Initial Outbreak, informing parents that some students are sick but classes remain in session, include tip sheets and info resource list
- Work with Contra Costa Health Services regarding a Press Release A announcing classes remain in session but parents need to prepare for possible student dismissal / Use key messages A
- Post flu prevention signs on campus

**Expansion of the Outbreak (Category 1 or 2 pandemic)**

*Actions will be based on severity of pandemic. See CDC Pandemic Severity Index*

- Consider student dismissal
- Local Health Officer issues ADA Support Letter to schools / Epidemic Declaration
- Begin Intensive Surveillance Reporting
- Send Parent Letter #4 Expanded Outbreak, include prevention tip sheets, etc.

**Continued Expansion of the Outbreak (Category 2-5 pandemic)**

*Actions will be based on severity of pandemic. See CDC Pandemic Severity Index*

- Local Health Officer issues Declaration and press release dismissing students (Decision to dismiss students will be based on severity of pandemic. In a Category 1 (low severity) pandemic, students may be dismissed if more than 30% of students absent)
- Dismiss students
- Send out Parent Letter #5 Student Dismissal, announcing dismissal(s)
- Cancel any non-academic events

**Following the Outbreak**

- Contra Costa Health Services issues declaration and press release that students and staff can return to school
- Issue Parent Letter #6
- Continue communicating with local health department
- Return to heightened surveillance reporting

If students get sick again, start checklist again at Outbreak section

10/07
Moraga School District  
1540 School Street  
Moraga, CA  
(925) 376-5943  

Pandemic Flu Plan  
November 2006

Preparation

- Institute a mandatory “Cover the Cough” curriculum for all classrooms  
- Develop and implement universal hand washing procedures  
- Order supplies such as N95 masks, gloves, anti-bacterial and waterless hand soap & dispensers, etc.  
- Distribute to parents and staff information regarding “Bird Flu,” personal preparedness checklist, and the District plan.  
- Teachers develop a standardized grade specific template for web based instructional units

The next steps are identified as **Stage responses**.

**Stage One** - This stage would be initiated if/when the H5N1 virus mutates to person-to-person transmission and arrives on the West Coast of the US.

- Custodians change cleaning duties to emphasize classroom disinfecting  
- Teachers begin working in grade level teams to develop web based instructional assignments  
- Computer technology staff begin modifying 30 computers for check-out to students

**Stage Two** – This stage would be initiated when a case appears in the Bay Area

- Begin “Social Distancing”  
- Cancel all assemblies  
- Institute minimum days (no lunch at schools)  
- Close childcare  
- Teachers remain after students leave and develop/correct web based lesson plans

**Stage Three** – This stage would be initiated when either the County Health Department instructs the schools to close or a seminal event occurs involving a student, staff member or a relative of close proximal distance. Pandemic Flu is in World Health Organization Stage VI.

- Schools are closed  
- Teachers continue developing/correcting web based lessons  
- Parents complete independent study applications (on line)
• Computers “checked out” to families who don’t have computers

**Recovery Stage** – This stage begins when schools are re-opened

• Continue web based lessons
• Schools reopen on a minimum day schedule
• Administration looks at restructuring the instructional year to recover lost instructional time

This initial plan will be reviewed and modified as new information and guidelines become available. There are more unanswered questions than there are answered questions. Agencies and circumstances beyond the District’s control will determine many of the District’s responses.
Pandemic Flu Checklist for Local Educational Agencies in California

Pandemic flu starts when a new flu virus develops and begins to spread around the world. There are steps that individuals, families, and communities (including schools) can and should take to prepare.

Schools must help protect the health and safety of staff and students. Experts believe that up to 30 percent of the population may be sick at the same time. When pandemic flu occurs, there will likely be NO VACCINE for the first six months of the pandemic, and anti-viral medication will be in very limited supply. To control the spread of illness, social distancing, such as closing schools and having people stay at home, will be the primary approach to preventing the spread of the flu virus. Schools may have to be closed for a few weeks to a month or more if there is an outbreak of flu in the area.

We hope that the following checklist will help schools and before- and after-school programs plan for a possible flu pandemic. Please note that a separate checklist for child care agencies and preschools is available at http://www.cde.ca.gov/ls/he/hn/fluinfo.asp. Not everything on this list will apply to every school and before- and after-school program. This list will serve as a guide to schools and before- and after-school programs as they develop their own plans. It is important for all schools and before- and after-school programs to communicate with and know the roles and policies of local agencies, such as the local health department and local office of emergency services. Both of these agencies will have important roles if there is a pandemic.

1. Mitigation and Prevention:

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1.1 Identify or create a countywide, districtwide, or regional committee to provide guidance regarding pandemic flu preparations to district school sites, including charter schools and private schools. The committee should include (if available):

- District administrators from instructional departments
- District administrators from operations departments, such as custodial supervisor, human resources director, information officer, information technology/computer specialist, legal adviser, risk manager, and transportation director
- Site administrators
- School nurse/health services administrator
- Adult education director
- Food services director
1.2 Review communicable disease policies as well as district and school emergency/crisis response and safe school plans.

1.3 Determine if any additional policies or procedures are needed.²

1.4 Develop procedures for communicating with the local health department and the media during normal and emergency conditions.

1.5 Prepare for the possibility of schools functioning with up to 30 percent of all school staff absent.³

1.6 Assess the financial impact of alternate scheduling, school closures, and before- and after-school programs closures.

1.7 Assess the requirements of medically fragile students and students with special needs and incorporate the requirements into the emergency/pandemic response plan.

1.8 Develop communication and dissemination plans for staff, students, and families, including information about schedule changes, busing changes, and possible school closures.⁴

¹ This person should be the health officer or local health department designee who is the authority responsible for declaring a public health emergency and who will activate the district's pandemic influenza response plan in the event of a pandemic. [Find a list of local health officers at http://www.cdph.ca.gov/programs/cclo/Pages/default.aspx(Outside Source)].

² For example, policies regarding staff and student absences (non-punitive), sick leave, infirmaries for temporary placement of ill students, and transporting ill students.

³ High rates of absenteeism may be clustered by neighborhood or may occur district- or countywide. Look at alternatives, such as staggered school times, changes in busing, and telecommunications, and develop a substitute pool list for all levels and types of staff.

⁴ Possible avenues of communication may include automated phone messages, e-mail, Web sites, text-messaging, local media outlets, and cable television.
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5 Develop procedures to ensure continuity of instruction (e.g., Web-based distance instruction, e-mailed lessons and assignments, automated phone messages, print media, cable television).

6 For example, school may be designated as a contingency hospital, vaccination center, casualty collection site/temporary morgue, site for feeding vulnerable populations (keeping in mind that not all schools have kitchens). Community may also need to utilize the LEA's healthcare and mental health staff, etc.
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- in the school community, establish the location of a “safe room” for counseling services to be provided.

- 4.2 Hold staff meetings and provide information on the extent of pandemic flu in the community.

- 4.3 Provide staff with information on activities that may assist students and inform staff of the signs and symptoms of emotional distress to watch for.

- 4.4 Announce counseling support services available to faculty and staff. Utilize employee assistance programs for assistance in coping with loss and stress.

- 4.5 Announce counseling support services that are available to students and families.

- 4.6 Provide rest places for those staff and students who tire easily.

- 4.7 Make educational materials available to families and staff on topics such as how to support their student with recovery from pandemic flu, common symptoms of loss and grief, and constructive ways to cope with stress.

- 4.8 Identify students, families, and staff who may need long-term physical and mental health support or intervention and develop school and community resources to provide these services.

- 4.9 Assign staff to monitor the effects of cumulative stress on caregivers, such as office staff, school nurses, teachers, aides, school counselors, and other crisis team members.

- 4.10 Consider offering school-based health and mental health services, if available, by community, university, or public/nonprofit mental health agencies and identify funding to support these services.

- 4.11 Modify work roles and responsibilities or add volunteer or support staff as needed.

- 4.12 Follow up with student referrals made to community agencies.

- 4.13 Conduct debriefings with the crisis recovery team.

- 4.14 Document “lessons learned” and incorporate them into revisions and training.
References:


