

State and Local Health Departments Guidance

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Guide A: State and Local Health Departments Guidance

I. Introduction

The national response to a pandemic will largely reflect the ability of states and local areas to respond. Because of the potential impact of a pandemic and the need to coordinate a number of partners to effectively respond, planning for such an event needs to occur well in advance.

Planning by state and local health departments and by the health care system and coordination between the two is critical to assure effective implementation of response activities and delivery of quality medical care in the context of increased demand for services. Guidance included in this plan and from other organizations, as well as technical assistance and funding are available to facilitate planning. Coordination in planning and consistency in implementation with other emergency response plans, such as those for bioterrorist threats and SARS can improve efficiency and effectiveness. In addition, other public health emergency programs such as the HRSA Hospital Preparedness Program and the CDC Public Health Preparedness and Response Cooperative Agreements are providing states with resources to strengthen their ability to respond to bioterror attacks, infectious diseases and natural disaster. For example, initiatives and funding being provided by the Health Resources and Services Administration (HRSA) will help states to improve coordination of health care services and emergency response capacity and facilitate preparedness for influenza, smallpox, SARS, as well as other health emergencies. In FY '04, HHS introduced a cross-cutting critical benchmark for state pandemic influenza preparedness planning as part of the Departments' awards to states to improve hospitals' response to bioterrorism and other diseases. The goal of this planning activity is to assure effective implementation of an effective response including the delivery of quality medical care in the context of the anticipated increased demand for services in a pandemic (www.hhs.gov/asphep/FY04benchmarks.html).

Completing pandemic preparedness and response plans and testing them in tabletop and field exercises are key next steps. All totaled since Sept. 11, 2001, HHS has invested more than \$3.7 billion in strengthening the nation's public health infrastructure.

Because the response to pandemic influenza will use much the same infrastructure as that needed for response to bioterrorism events, this guide highlights areas that are specific to pandemic influenza and therefore require specific additional consideration. These priority areas are surveillance, delivery of vaccine and antivirals, and communication. The plan should systematically address preparedness and response for each plan component for each of the pandemic influenza phases. Ideally the pandemic influenza plan should be designed as an annex to an all-hazards plan or to a bioterrorism plan, but it can also be a stand-alone plan. Additional guidance can be obtained from the Association of State and Territorial Health Officials' (ASTHO) pandemic preparedness checklist www.astho.org/pubs/PandemicInfluenza.pdf.

States and local areas should integrate their pandemic planning efforts with other ongoing public health emergency preparedness activities. Periodic exercising of parts of the plan at the state and regional levels will identify weaknesses and provide a basis for further planning. In addition to recognizing the dynamic nature of planning, it is also important to recognize the importance of coordination with bordering jurisdictions. States are encouraged to meet regionally to discuss border issues and regional coordination.

II. Pandemic Influenza: A High Priority for Planning

Several features set pandemic influenza apart from other public health emergencies or community disasters:

- Influenza pandemics are expected but unpredictable and arrive with very little warning.
- Outbreaks can be expected to occur simultaneously throughout much of the U.S., preventing shifts in human and material resources that usually occur in the response to other disasters. Localities should be prepared to rely on their own resources to respond. The effect of influenza on individual communities will be relatively prolonged (weeks to months) in comparison to other types of disasters.
- Because of the high degree of infectiousness of pandemic influenza, the number of persons affected will be high, and is estimated at
 - Up to 200 million persons infected
 - Between 38 million and 89 million clinically ill
 - Between 18 million and 42 million requiring outpatient care
 - Between 314,000 and 733,000 hospitalized
 - Between 89,000 and 207,000 deaths
- Health care workers and other first responders may be at higher risk of exposure and illness than the general population, further straining the health care system.
- Effective prevention and therapeutic measures, including vaccine and antiviral agents, will be delayed and in short supply.
- Widespread illness in the community could increase the likelihood of sudden and potentially significant shortages of personnel in other sectors who provide critical public safety services.

III. Federal and State Roles

A. Federal Roles

The federal government is responsible for nationwide coordination of the pandemic influenza response. Specific areas of responsibility include the following:

- Surveillance in the U.S. and globally
- Epidemiological investigation in the U.S. and globally
- Development and use of diagnostic laboratory tests and reagents
- Development of reference strains and reagents for vaccines
- Vaccine evaluation and licensure

- Determination of populations at highest risk and strategies for vaccination and antiviral use
- Assessment of measures to decrease transmission (such as travel restrictions, isolation, and quarantine)
- Deployment of federally purchased vaccine
- Deployment of antiviral agents in the Strategic National Stockpile
- Evaluation of the efficacy of response measures
- Evaluation of vaccine safety
- Deployment of the Commissioned Corps Readiness Force and Epidemic Intelligence Service officers
- Medical and public health communications

B. State Roles

States will be individually responsible for coordination of the pandemic influenza response within and between their jurisdictions. Specific areas of responsibility include the following:

- Identification of public and private sector partners needed for effective planning and response.
- Development of key components of pandemic influenza preparedness plan: surveillance, distribution of vaccine and antivirals, and communications.
- Integration of pandemic influenza planning with other planning activities conducted under CDC and HRSA's bioterrorism preparedness cooperative agreements with states.
- Coordination with local areas to ensure development of local plans as called for by the state plan and provide resources, such as templates to assist in planning process.
- Development of data management systems needed to implement components of the plan.
- Assistance to local areas in exercising plans.
- Coordination with adjoining jurisdictions.

IV. The Planning Process

The first step in the planning process is to establish an "Executive Committee" at the state level and consider including the following:

- *Governor's Office* (supplemented by representatives of the mayor's office for large metropolitan areas)
- *State Health Officer* (supplemented by county or district health officers, as needed)
- *State Epidemiologist*
- *State Office of Emergency Preparedness/Management* (and/or local emergency planning committees)
- *Public Health Laboratory Personnel*
- *Public Health Information Officer*
- *Immunization Project Director*
- *Office of General Counsel* at state health department

- *Public Affairs/Communications Officer*

Membership of this Executive Committee may substantially overlap with the bioterrorism preparedness Executive Committee. The function of the committee will be to

- Assure integration of pandemic influenza planning activities with other relevant planning activities (such as bioterrorism preparedness)
- Oversee planning, response, recovery and mitigation efforts
- Ensure that the jurisdiction's pandemic plan is developed, reviewed exercised, and periodically revised

Once the Executive Committee has been formed, it should identify stakeholders with whom the plan will be developed. Collaboration with, and buy-in from, a wide variety of organizations in the private and public sector is a key component of this process. As with the Executive Committee, many of these partners are likely to already be involved in bioterrorism planning activities. Such organizations may include

- Communicable diseases personnel and infectious disease physicians
- Laboratory personnel
- Immunization program personnel
- Contract (private) laboratories which may process clinical specimens for influenza (as may be applicable)
- Hospitals
- Medical societies and nursing organizations
- Pharmacists
- Community immunizers
- Emergency medical services and emergency departments within hospitals
- Local media officials

Additional groups will include

- Volunteer organizations involved in response and recovery to various disasters
- Social service agencies
- Law enforcement
- Funeral directors
- Local military installations
- Large industries or employers in the area
- State aviation authority and/or others involved in the provision of air support and transport
- Representatives of major public utilities (to ensure continued service during the pandemic)
- The jurisdiction's chief financial officer, auditor, and heads of any centralized procurement and/or resource support agencies
- Tribal authorities
- Education administrators

Legal Issues affecting planning

The Executive Committee should also review state and local statutory provisions regarding:

- Quarantine laws and how they apply in a public health emergency.
- Statutes for mandatory vaccination during an infectious disease emergency.
- Laws and procedures for closing businesses or schools and suspending public meetings during a declared state of emergency.
- Medical volunteer licensure, liability, and compensation laws for in-state, out of state, and returning retired and non-medical volunteers.
- Workman's compensation laws as they apply to health care workers and other essential workers who have taken antivirals for prophylaxis.

V. Main components of the plan**A. Establish Command, Control, and Management Procedures****1. Background and issues**

Existing command and control system structures should be applied to pandemic influenza. State plans need to delineate operational priorities and who will be responsible for making public health and health care decisions related to the response to pandemic influenza, who will be responsible for preparing and maintaining the state plan, who will be responsible for all major policy decisions, ensuring coordination among affected units, maintaining lists of key partners, and mobilizing additional resources.

2. Activities by pandemic phase

(See Attachment 1 for World Health Organization [WHO] influenza pandemic phases and the Internet Resources in the Core Plan for a link to a more detailed discussion.)

Phase 0, level 0 - Inter-pandemic phase

- Establish the Executive Committee.
- Address each operational priority. *(See sections V.B. to V.F.)*
- Ensure that a state (and/or local) pandemic plan is developed, either as an annex or supplement to the state's existing All Hazards Emergency Operations Plan, or as a stand-alone plan.
- Identify crucial gaps in state and/or local) infrastructure and resources, laws and/or statutes which, if not corrected in advance, may interfere with an effective response.
- Develop and maintain lists, including contact information, of partners, resources, and facilities.
- Develop an approach to informing key government officials, legislators, and various stakeholders of the need to address and resolve these gaps in advance of the pandemic.
- Coordinate planning activities with bordering jurisdictions, including counties, states, unique populations (such as Native American nations, new immigrant populations, and certain religious enclaves), and other countries (such as Canada

and Mexico) in collaboration with federal authorities.

- Review, exercise, and modify the plan as needed on a periodic basis.

Phase 0, levels 1 and 2 – Novel influenza virus identified

- Meet with appropriate partners and stakeholders and review major elements of the plan and evaluate level of preparedness.
- Modify the plan as needed on an urgent basis.
- Coordinate with other states and federal agencies and bordering jurisdictions.
- Confirm availability of facilities.
- Document expenses of pandemic response.

Phase 0, level 3 -- Human-to-human transmission confirmed

- Convene Executive Committee and meet with partners and stakeholders to review plan.
- Activate enhanced surveillance and communications plan.
- Begin vaccine and antiviral distribution.
- Notify key government officials and legislators of the need for additional monetary resources (if not already available).
- Activate enhanced plans for operational priorities (*See sections V.B.-V.F.*)
- Arrange for appropriate facilities use.
- Notify key officials of need for additional resources, if necessary.
- Document expenses of pandemic response

Phases 1, 2, and 3 -- Confirmation of onset of a pandemic

- Convene Executive Committee and meet with partners and stakeholders and review and fully activate plan.
- Monitor staffing needs.
- Coordinate activities with neighboring jurisdictions.
- Interface with appropriate counterparts at the national level.
- Document expenses of pandemic response.

B. Surveillance

1. Background and issues

There are four main national surveillance components:

1. *Virologic surveillance*: Each week, approximately 75 U.S. collaborating laboratories that are part of the World Health Organization's Influenza Surveillance Network and 50 National Respiratory and Enteric Virus Surveillance System laboratories report the number of clinical specimens tested for influenza and the number of positive results by virus type (A or B) and subtype (A/H1, A/H3N2 or not subtyped).
2. *Surveillance for influenza-like illness (ILI)*: Approximately 1,100 sentinel health care providers/clinics located in 50 states regularly report the number of patient visits for ILI by age group and the total number of patient visits each week.

3. *Surveillance for influenza and pneumonia deaths*: The Vital Statistics Offices of 122 U.S. cities report each week the percentage of total deaths that may be influenza-related.
4. State and territorial epidemiologists assesses influenza activity levels in their respective states each week and reports it as "widespread", "regional", "local", "sporadic" or "no activity."
In addition, a variety of other sources such as nursing homes and schools will spontaneously report influenza outbreaks or other influenza-associated events during the year.

Key questions to be answered by surveillance during a pandemic fall into two main categories: 1) detection of the novel strain, and 2) disease monitoring. The questions states will need to answer include:

- Has the novel virus arrived?
- Where is disease activity increasing or decreasing?
- How many persons are estimated to be infected, hospitalized, and dead?
- Is the pandemic causing more and/or more serious disease than an annual influenza epidemic?
- How many persons have died?
- Which population groups are most severely affected?

Current surveillance systems should be enhanced prior to the start of a pandemic, to assure that the high demand for timely information that can be anticipated in a pandemic can be met.

2. Activities by pandemic phase

Phase 0, level 0 – Inter-pandemic phase

The essential requirement for effective national and state pandemic surveillance is a well-functioning inter-pandemic system that includes:

- A state public health laboratory that isolates and subtypes influenza viruses during the influenza season, that maintains the capability of isolating and subtyping influenza viruses year round, and that reports these data weekly to CDC year-round.
- A state public health laboratory that continues to perform viral culture in the face of increasing usage of rapid influenza diagnostic tests and PCR testing.
- A state public health laboratory that is, or is working towards, transmitting their influenza data (positives and negatives) electronically to CDC via the Public Health Laboratory Information System.
- An influenza sentinel provider program with at least the minimum number of health care providers (1/250,000 persons or a minimum of 10 providers in states with smaller populations) that regularly report their weekly data to CDC via the Internet year-round. These providers should be encouraged to send specimens collected from patients with ILI at the beginning, middle, and end of the season to the state laboratory for viral culture at no charge to the provider.
- An active state influenza surveillance coordinator who:

- Monitors sentinel provider data weekly for completeness and/or errors
- Provides feedback and maintains contact with sentinel providers weekly to encourage reporting and follow-up on unusual reports
- Contributes to state pandemic planning issues and activities
- Establishes and maintains strong working relationships with the state laboratory
- Encourages sentinel providers to submit specimens for viral culture to the state laboratory
- Weekly assessment of overall influenza activity level in the state and reporting of that data to CDC by noon each Tuesday.

A well developed contingency plan for enhancing virologic and disease-based surveillance systems in the event of a novel virus or pandemic alert is a critical component of a state pandemic include plan. Plans should address several issues including:

- Laboratory surge capacity.
- Laboratory safety issues.
- Increased frequency of reporting.
- Developing a means to count or estimate numbers of influenza-related deaths in each state. The approach taken will depend on data systems available at the state level.
- Monitor hospitalized cases. Methods to monitor hospitalized cases are under development by CDC and will be shared once available. Efforts will need to be made to ensure that state data systems that can interface with national data systems.
- States may wish to explore interest of partners within state (such as academic institutions) to examine specific issues during a pandemic (such as document outbreaks, determine age-specific attack rates, morbidity and mortality, describe unusual clinical syndromes, monitor ability of hospitals and outpatient clinics to cope with increased patient load).

Phase 0, levels 1 and 2 – Novel influenza virus identified

The Centers for Disease Control and Prevention continuously monitors surveillance data reported nationally and is in frequent communication with public health colleagues around the world so that novel viruses are detected and investigated as quickly as possible. If a state is notified by CDC that a novel influenza virus has been identified, but efficient transmission of the virus from person-to-person is not yet established (that is, a novel virus alert), states should enhance inter-pandemic influenza surveillance activities by

- Increasing case detection among persons who recently traveled to the outbreak area and present with clinical illness possibly caused by influenza including pneumonia, acute respiratory distress syndrome, or other severe respiratory illness. Appropriate specimens should be collected to diagnose influenza infection. In some situations, if the novel influenza virus is a highly pathogenic avian strain, such as with the 2004 H5N1 influenza virus in Asia, local hospital laboratories should not attempt viral isolation because of the potential risk that the strain could spread. Specimens

should be sent to the state public health laboratory or to CDC where isolation and subtyping can be done under more stringent biocontainment conditions. Influenza infection can be diagnosed locally using antigen detection, immunofluorescence, or PCR. Guidance will be provided by CDC appropriate to each specific novel virus alert.

- Ensuring that all inter-pandemic influenza surveillance activities are underway regardless of the time of year and that all participating laboratories and sentinel providers are reporting data to CDC each week.
- Subtyping all influenza A viruses identified in clinical specimens and, as always, reporting any influenza A viruses that cannot be subtyped to CDC immediately. CDC will provide instructions on the safe handling of a potential novel influenza virus.
- Obtaining reagents from CDC (when they become available) to detect and identify the novel strain.
- Recruiting and enrolling additional sentinel providers, if necessary, to reach the minimum of one regularly reporting provider for every 250,000 persons (minimum of 10 in states with smaller populations).
- Monitoring and instituting recommendations from CDC for any additional surveillance activities that should be undertaken given the specific circumstances. For example, in response to the identification of human influenza A (H5N1) cases in Vietnam and Thailand in 2004, CDC asked states to work with hospitals to obtain samples for influenza virus testing on all patients who: (1) were hospitalized with unexplained pneumonia, acute respiratory distress syndrome (ARDS), or severe respiratory illness and (2) who had traveled to Asia within 10 days from onset of symptoms; or from less severely ill patients who had had contact with poultry in an affected country. Because viral culture of influenza A(H5N1) viruses requires biosafety level 3+ facilities, CDC recommended PCR methods be used for initial testing at state health departments and all influenza A positive samples and samples from states without PCR testing capability be sent to CDC for further testing.
- Reviewing contingency plans for further enhancing influenza surveillance if efficient person-to-person transmission of the novel virus is confirmed.

Phase 0, level 3-- Human-to-human transmission confirmed

If efficient person-to-person transmission of a novel influenza virus is confirmed, the following additional surveillance enhancements should be made:

- Assessing the need to screen travelers arriving in the U.S. from affected countries.
- Investigating the epidemiology of all early cases either originating in the U.S. or that are imported into the country.
- At hospitals and emergency departments, increasing laboratory diagnosis of influenza, including through use of rapid antigen detection tests, for persons with compatible clinical syndromes, particularly among those who may have had recent exposure at the site of an outbreak. Laboratories should institute plans for testing substantially more specimens than usual. CDC will provide guidelines to assist with triage of specimens for testing and for choosing which isolates to send to CDC.

- U.S./WHO collaborating laboratories should begin reporting test results daily to CDC.
- The completeness and timeliness of reports from all participating laboratories and sentinel providers should be assessed, and non-reporters should be contacted to improve their performance as necessary.
- States should investigate outbreaks and increases in ILIs, including those detected through the influenza sentinel provider surveillance system.

Phases 1, 2, and 3 -- Confirmation of onset of a pandemic

- Enhanced monitoring for antiviral resistance.
- Ensuring that studies are in place to monitor vaccine effectiveness
- Monitoring health impacts including deaths and hospitalizations. Community impacts could be assessed by measuring absenteeism in key industries or sectors.
- During the period between pandemic waves (*Phase 3*) and after the pandemic (*Phase 5*), the quality of surveillance should be assessed and recommendations made for improvement.

C. Vaccine Delivery

1. Background and issues

Vaccine will serve as the central preventive strategy during the next pandemic. Unlike annual production of influenza vaccine, wherein strains are selected in the spring, leading to vaccine distribution in the late summer, a pandemic strain could be detected at any time. Current manufacturing procedures require six to eight months before large amounts of vaccine are available for distribution.

Contrasts between delivery of pandemic vaccine and the annual influenza vaccine include the following:

- The target population will be expanded, possibly to include the entire U.S. population.
- It is impossible to predict how quickly the novel virus will arrive in the U.S. Because of the six to eight month production period to produce a vaccine, it is should be anticipated that demand for vaccine will be greater than the supply early in the course of the pandemic. It is also possible that no vaccine will be available.
- Once vaccine is available it will need to be distributed as quickly as possible.
- Immunologic responses following initial vaccination of serologically negative individuals is poor and represents a priming of the immune system, so the emergence of a pandemic strain with new hemagglutinin and or neuraminidase antigens will likely require a second (booster) dose of vaccine two to four weeks later. (*See Annex 1: Overview of Influenza Illness and Pandemics for a discussion of hemagglutinin and neuraminidase antigens*)

Because a final decision regarding the degree of federal vaccine purchase in an epidemic may not be made until pandemic vaccine is being produced, plans for delivery and administration of vaccine should address the different possible scenarios including complete federal purchase and distribution to states, partial federal purchase with

distribution to states, and minimal federal purchase (similar to the annual influenza vaccination program). Currently influenza vaccine is primarily administered through the private sector. Given the magnitude of the vaccination effort in a pandemic, plans need to encompass the private and public sectors. Coordination with and education of the private sector needs to be an important aspect of planning.

Because a relative shortage of vaccine should be anticipated especially early in the pandemic, prioritizing of persons receiving the initial doses of vaccine will be necessary. As information about the impact of the novel virus becomes available, recommendations will be formulated at the national level, which may need to be adapted at the state level depending on local factors. *(Additional information on target groups can be found in Annex 4: Vaccine Strategies and Safety.)*

Educating the public and the health care community about the rationale for priority groups, once priority groups have been determined, will be an important aspect of public education. The need to ration vaccine will require substantial public education and adequate security measures.

Eventually, sufficient vaccine will be available for mass vaccination of the population. Given the magnitude of the vaccination effort, detailed planning needs to occur at the local as well as at the state level. States and local areas may elect to build upon the infrastructure identified for mass vaccination of the population against smallpox. The organization of state's vaccination programs will need to be customized depending on the availability of infrastructure and resources within the public and private sector. A central aspect of planning will be determining how public and private sectors will work together to manage this effort and accomplish this goal. From an operational point of view, in contrast to smallpox vaccination, immunization clinics for influenza vaccine will require fewer staff to support (lesser degree of screening, no-take checks), but there will be a need for tracking to ensure receipt of two doses of vaccine.

Monitoring of vaccine adverse events will be necessary and could to some extent build upon the infrastructure now in place as a result of the smallpox vaccination program. In contrast to traditional VAERS (Vaccine Adverse Event Reporting System) process where providers report directly to the VAERS contractor at the national level with subsequent feedback to the state, states may wish to be more directly involved in the reporting and any needed investigations. At a minimum the state health coordinator or state adverse events coordinator (state VAERS contact) should be involved in planning around vaccination, and states should review their existing infrastructure and consider how their program could be enhanced.

The success of the pandemic influenza vaccination program will be determined in large part by the strength of state and local vaccination programs during the inter-pandemic period for three main reasons: (1) increased acceptance of and public confidence in the vaccine; (2) stimulation of vaccine production by manufacturers to meet demand; and (3) strengthening of distribution channels. During the inter-pandemic period efforts to increase pneumococcal polysaccharide vaccination which can reduce the incidence of

invasive pneumococcal disease secondary to influenza should be emphasized. Because large-scale pneumococcal vaccination may not be feasible once a pandemic alert has occurred, the inter-pandemic period is the ideal time to deliver this preventive measure.

2. Activities by pandemic phase

Phase 0, level 0 – Inter-pandemic phase

- Enhance influenza vaccination coverage levels in traditional high-risk groups, particularly subgroups in which coverage levels are particularly low (e.g. minorities and persons younger than 65 years of age with chronic underlying medical conditions). Increasing routine, annual vaccination coverage levels in these groups will further reduce the annual toll of influenza and will facilitate access to these populations when the pandemic occurs.
- Enhance pneumococcal vaccination coverage levels in traditional high-risk groups to reduce the incidence and severity of secondary bacterial pneumonia.
- Define the process by which review and modification of the national recommendations for vaccine priority groups will occur.
- Consider state-specific modifications or refinements in priority groups, depending on local circumstances. For example, there may be specific groups of persons in selected states whose absence, due to influenza illness, could affect public safety, security, or result in the disruption of essential community services. Examples of such unique, special-skill groups might include nuclear power plant operators, air traffic controllers at major airports, and workers who operate major telecommunications or electrical grids.
- Determine size of priority groups and develop a plan for vaccinating them (For example, will hospitals be responsible for vaccinating their staff, and who will vaccinate those responsible for community safety?)
- Develop a plan for providing influenza vaccine to priority groups in the event of severe or moderately severe vaccine shortages. Consider the potential need to prioritize within priority groups. Frontline healthcare workers will need to be defined.
- Develop a plan for mass vaccination of the general public once sufficient amounts of vaccine are available, including identification of vaccine administration personnel. Elicit written commitments from agencies and institutions that plan to provide vaccinators. Note that plans made for smallpox post exposure vaccination clinics should be adapted. Security issues should be taken into consideration.
- Ensure that appropriate legal authorities are in place that will allow for implementation of major elements of the proposed distribution plan. For example, will state law allow non-licensed volunteers to administer influenza vaccine? Does state law allow for "mandatory" vaccination of certain groups, if vaccination of such groups is viewed by state public health officials as being essential for public safety?
- Ensure that contingency plans have been considered for emergency distribution of unlicensed vaccines using emergency IND (investigational new drug) provisions. Such provisions call for strict inventory control and record-keeping, along with completion of a signed consent form.
- Coordinate the proposed vaccine distribution plan with bordering jurisdictions, including counties, states, unique populations (such as Native American nations and

certain religious enclaves), and other countries (such as Canada and Mexico) in collaboration with federal authorities.

- Engage state health coordinator (and/or state adverse events coordinator) in planning around monitoring and investigation of adverse events. .
- Identify a data management system to track vaccine supply, distribution, and use and to track administration of two doses of vaccine (if recommended). States with vaccine distribution systems and immunization registries may be able to modify their systems for these purposes. Other options include adapting other state-specific systems or the pre-event vaccination system. Key pieces of information to collect to facilitate reminder notification for second doses include name, date of birth, address, and telephone number.
- Review, exercise, and modify vaccine distribution plans as needed on a periodic basis.

Phase 0, levels 1 and 2 – Novel influenza virus identified

- Meet with appropriate partners and stakeholders and review major elements of the vaccine distribution plan.
- Modify the plan as needed to account for updates, if any, on recommended target groups, projected vaccine supply, and human resources available.

Phase 0, level 3--Human-to-human transmission confirmed

- Ensure that human resources and logistics are in place to begin vaccination, taking into account need for additional staff due to illness.
- Coordinate planned activities with bordering jurisdictions.
- Conduct training for relevant agencies and partner groups regarding vaccine delivery protocols and procedures.

Phases 1, 2, and 3 -- Confirmation of onset of a pandemic

- Fully activate the vaccination program, including distribution, administration, monitoring of vaccine distribution and administration, and tracking of dose, appropriate storage and handling, and safety monitoring.
- Coordinate activities with bordering jurisdictions.

D. Antivirals

1. Background and issues

Because vaccine will likely not be available when the novel virus first affects communities, antivirals may play an important role for the control and prevention of influenza, especially – but not only -- during the period before vaccine is available. (*See Annex 5: Antiviral Drugs and Strategies for more detailed information on antivirals.*)

Existing production capacity for influenza antiviral drugs is less than would be needed to provide prophylaxis or treatment for the entire population and the current supply of antivirals in the Strategic National Stockpile is limited. Similarly to planning for vaccine distribution, it is important to consider planning for different scenarios, including:

- Federal purchase of the existing supply and distribution to states.
- State purchase of antivirals using emergency funds.

- Federal stockpile with distribution to states.
- Status quo (majority of drugs available in private sector).

Prophylaxis

The amantadanes, amantadine and rimantadine, are best suited for prophylaxis (preventive care) because of the high potential for viral resistance to emerge during treatment, the potential supply, and their cost. The central nervous system side effects, although substantially less with rimantidine than amantadine, may preclude the use of these drugs for certain target groups (e.g. commercial airline pilots). The neuraminidase inhibitor oseltamivir is an alternative option.

Identification of influenza within a community (based on either isolation of the pandemic strain or an increase in ILI) should be the trigger for initiating prophylaxis. To be effective prophylaxis must be continued until exposure has ceased.

As with decisions about vaccine use, recommendations for priority groups for antivirals will be established at the national level, and states will need to establish a process for reviewing these recommendations and revising as needed based on local factors.

Therapy

Neuraminidase inhibitors (oseltamivir and zanamivir) should be used for therapy because of the potential for viral resistance when adamantanes are used for therapy. Therapy is effective at decreasing severe complications and reducing hospitalizations only if offered within two days of developing symptoms. Distribution of drugs for therapy is a challenge given the limited amount available, the large number of points of care, and the need to initiate the course of treatment within 48 hours of onset of symptoms.

For antivirals available from the SNS or state reserves, in addition to providing guidelines on appropriate use, states will need to determine how drugs will be distributed (central locations versus at points of care) and whether they will require any controls for dispensation of drugs (such as positive rapid test). Public education will be very important given the scarcity of this resource. In the absence of an expanded stockpile there will likely be limited antivirals available. For this reason, HHS is examining priority groups that should receive antivirals for prophylaxis. Additional information on priority groups for antivirals can be found in *Annex 5 Antiviral Drugs and Strategies*

Prioritizing within priority groups will probably be necessary given the limited supply. For antivirals purchased with public funds, the state will be responsible for local distribution of the antivirals in collaboration with the private sector. If there is no state or federal purchase, the state's role will largely be one of public and provider education around appropriate use of antivirals. As with vaccine, it will be critical to clearly communicate with the public about the rationale for priority groups. Coordination with and education of the private sector needs to be an important aspect of planning.

2. Activities by pandemic phase

Phase 0, level 0 – Inter-pandemic phase

- Define process through which national recommendations for priority groups will be reviewed
- Quantify high priority populations for prophylaxis, and develop drug distribution contingency plans for the different possible scenarios.
- Quantify high priority populations for therapy, and develop drug distribution contingency plans for the different possible scenarios.
- Plans for education and notification of the medical community and of the public around appropriate prescribing information.
- Coordinate with bordering jurisdictions.
- Review workman’s compensation laws as they apply to health care workers and other essential workers who have taken antivirals for prophylaxis.
- Consider developing data management system to track antiviral supplies, distribution, and use .

Phase 0, levels 1 and 2 – Novel influenza virus identified

- Meet with appropriate partners and stakeholders and review major elements of the antivirals plan.
- Modify plan as needed to account for updates, if any, on recommended target groups and projected drug supply.
- Notify the medical community of the status of the plan and antiviral availability.
- Disseminate antiviral use guidelines to the medical community and conduct training for public health staff involved in antiviral distribution protocols and procedures.

Phase 0, level 3-- Human-to-human transmission confirmed

- Ensure that the human resources and logistics are in place to begin drug distribution and administration, taking into account the need for added staff due to illness.
- Coordinate with bordering jurisdictions.

Phases 1, 2, and 3 -- Confirmation of onset of a pandemic

- Fully activate antiviral drug distribution plan.
- Continue coordination with bordering jurisdictions.
- Implement data management system for antiviral distribution, use, and supply (if applicable).

E. Communications**1. Background and issues**

Through CDC’s Bioterrorism Preparedness and Response cooperative agreement states are asked to implement a plan for connectivity of key stakeholders involved in public health detection and response, among hospital emergency departments, state and local public health officials, law enforcement, and other key participants. The communication system developed will be used for any type of public health emergency, including pandemic influenza. Therefore, the key planning activities relate to preparation of materials, and identification of channels of communication.

CDC will make a number of materials available before and during influenza pandemic, including

- Basic communication materials (such as question and answer sheets and fact sheets) on influenza, influenza vaccine, antiviral agents, and other relevant topics in various languages
- General preventive measures such as “do's and don'ts” for the general public
- Information and guidelines for health care providers
- Training modules (Web-based, printed, and video)
- Presentations, slide sets, videos, documentaries
- Symposia on surveillance, treatment, and prophylaxis.

Because of anticipated shortages of both vaccine and antivirals, planning around messages informing the population about availability and addressing the rationale for priority groups and measures to be taken until such are available will be critical. Other important topics include: basic information about influenza (including symptoms and transmission), information about the course of the pandemic (contagiousness, geographic spread, case counts), information about which symptoms should prompt seeking medical assistance and which symptoms should be managed at home, information about school and business closures and suspended public meetings, and information about travel restrictions and quarantine laws.

Credible and trained spokespersons should be identified. Key stakeholders should also be identified and selected for their perceived credibility among and their ability to reach their constituency. Timely sharing of new information will all communication partners will be important both in terms of actively engaging them and in terms of ensuring that consistent messages are sent by all agencies/partners involved. Responses to anticipated media questions should be prepared.

2. **Activities by pandemic phase** (*See Annex 7: Communications and Education for more information*)

Phase 0, level 0 -- Inter-pandemic phase

- Identify and train spokesperson (and backup) to the media and to the public.
- Plan responses to anticipated questions.
- Develop materials and messages.
- Identify most effective communication channels for reaching different communities.
- Plan to establish hot line and Web site to respond to pandemic inquiries (for instance, regarding the location of immunization clinics), and assure that systems are in place to deal with anticipated surge capacity.
- Plan for coordination of messages between state and local public health officials, and all involved partners.
- Educate public health officials, politicians, and the media about what information will and will not be available during a pandemic.
- Review CDC materials and adapt and revise as needed.

Phase 0, levels 1 and 2 – Novel influenza virus identified

- Review materials and revise as needed.
- Activate hotline.
- Disseminate information to public and partners on ongoing basis.
- Educate public health officials, politicians, community leaders, and the media about what information will and will not be available during a pandemic.
- Prepare spokespersons.
- Coordinate with bordering jurisdictions.

Phase 0, level 3-- Human-to-human transmission confirmed

- Review major elements of the plan with partners and stakeholders.
- Disseminate information to public, partners and the media on ongoing basis.
- Monitor media coverage and address misinformation.
- Coordinate with bordering jurisdictions.

Phases 1, 2, and 3 -- Confirmation of onset of a pandemic

- Review and modify messages and materials as needed.
- Continue to monitor media coverage and address misinformation.
- Continue to disseminate credible information as it becomes available to the public and all partners.
- Coordinate with bordering jurisdictions.

F. Emergency Response**1. Background and issues**

Emergency response, including maintenance of critical services and surge capacity issues in the health care system, is addressed in the CDC and HRSA cooperative agreements, and pandemic plans should not duplicate that planning process. Pandemic planners should collaborate with the above planning groups to ensure that they consider pandemic influenza as one of the scenarios they plan for and address issues specific to pandemic influenza. Because the level of planning around bioterrorism and other threats varies by state, pandemic planners should discuss all pandemic issues related to emergency response with these other planners rather than assume they have been dealt with. Some of these issues are outlined below.

Pandemic influenza differs from most bioterrorism threats in the magnitude and duration of its impact including the likelihood of second and later waves of disease. One of the greatest concerns is the limited surge capacity that currently exists in the health care system with the lack of ready availability of additional staffing due to the nursing and other health care professional shortage. Identification of sources of back-up personnel is of paramount importance, given the increased demands on the system posed by the pandemic with concurrent reduction in the work force due to illness, absenteeism, and exhaustion. Additional emphasis on augmenting volunteer lists may be warranted. In

addition to human resources, material resources will be strained as well, and a process for allocation of scarce resources should be defined.

Bioterrorism planners will identify overflow locations which may be used for inpatient or outpatient care. Establishing health care facilities in nontraditional sites is a significant task that requires that numerous issues be addressed including staffing, equipment, infection control, and legal issues. Pandemic planners will need to determine specific needs that such buildings and facilities may have with respect to treatment of influenza (such as in relation to ventilators and instituting proper infection control). Advance planning protocols to triage to overflow locations will ensure a smoother process. In addition, home health care may play an important role, given the potentially high number of ill persons. In the event of a massive pandemic, the quality of material care (such as nursing, ventilators, nutrition, and hydration) will deteriorate. Planners may wish to give advance consideration to approaches such as using family members to provide care. Both the magnitude and duration of a pandemic can cause severe stress within the population indicating a need to plan for its treatment or alleviation.

An influenza pandemic may pose significant threats to the human infrastructure responsible for critical community services due to widespread absenteeism and exhaustion in the workforce. Examples of such services (and personnel) in the non-health sector might include highly specialized workers in the public safety, utility, transportation and food service industries, and will likely vary from jurisdiction to jurisdiction. State and local officials should carefully consider which services (and key personnel within relevant firms or organizations) are "essential" (that is, which services, if interrupted, and which workers, if absent, would pose a serious threat to public safety or would significantly interfere with the ongoing response to the pandemic).

2. Activities by pandemic phase

Phase 0, level 0 – Inter-pandemic phase

- Identify issues specific to pandemic influenza.
- Meet with bioterrorism and other emergency planners.
- Ensure that specific challenges posed to emergency response plans by an influenza pandemic are addressed in emergency response plans.
- Review pertinent legal authorities including quarantine laws and how they apply in a public health emergency, laws and procedures for closing businesses or schools and suspending public meetings during a declared state of emergency, and medical volunteer licensure, liability, and compensation laws for in-state, out of state, and returning retired and non-medical volunteers.

Phase 0, levels 1 and 2 – Novel influenza virus identified

- Meet with appropriate partners to review major elements of the health sector and essential non-health-sector response plan.

Phase 0, level 3-- Human-to-human transmission confirmed

- Meet with appropriate partners to review major elements of the health sector and essential non-health sector response plan.

Phases 1, 2, and 3 -- Confirmation of onset of a pandemic

- Implement generic elements of response plans and the specific plans for identified pandemic influenza issues, including continuous collection of data concerning medical and material supplies and their allocation to rapidly identify changing patterns of need and modify or redirect policy.

DRAFT

*Attachment 1***Pandemic Phases**

Phase	Level	Definition
0 <i>Inter-pandemic Phase</i>	<i>0</i>	Epidemic influenza viruses circulate in human populations causing yearly outbreaks; no evidence that a novel influenza virus has infected humans
	<i>1</i>	<i>Novel Virus Alert:</i> Identification of a novel influenza virus in a person
	<i>2</i>	Confirmation that the novel influenza virus has infected two or more people, but the ability of the virus to spread rapidly person-to-person and cause multiple outbreaks of disease leading to epidemics remains questionable.
	<i>3</i>	<i>Pandemic Alert:</i> Confirmation of person-to-person spread in the general population with at least one outbreak lasting for more than 2 weeks in one country
1		Confirmation that the novel influenza virus is causing several outbreaks in one country and has spread to other countries, with consistent disease patterns indicating serious morbidity and mortality is likely in at least one segment of the population
2		Outbreaks and epidemics are occurring in multiple countries and spreading across the world
3		End of the first wave of the pandemic
4		Confirmation of a second or later wave caused by the same novel virus strain
5		Confirmation that the pandemic has ended