Incident Annex, Disease Outbreak, Pandemic Influenza

I. Purpose

The purpose of this Pandemic Influenza Annex to the Colorado Department of Public Health and Environment (CDPHE) Internal Emergency Response Plan is to reduce mortality and morbidity, and minimize social disruption in Colorado, by providing a guide for the CDPHE response to an influenza pandemic. The plan describes how CDPHE will undertake disease surveillance, emergency management, vaccine and antiviral medication delivery, laboratory and communications activities.

II. Introduction

Influenza is a highly contagious respiratory virus that is responsible for annual epidemics in the United States and other countries. Each year, an average of 200,000 people are hospitalized and 36,000 die in the U.S. from influenza infection or a secondary complication.

Influenza viruses can undergo minor genetic variations each year. This occurs continuously, and is the reason that the make-up of the influenza vaccine is changed yearly. Infrequently the influenza virus will combine with animal viruses to cause a genetic shift and create a new virus to which humans have little or no immunity. This type of shift almost always creates a pandemic.

Because of the potentially high degree of infectiousness of pandemic influenza, the number of persons affected will be high, CDC estimates up to 100 million people will be infected and between 89,000 and 207,000 will die in the United States. According to experts, the threat of pandemic influenza is not a question of if, but rather a question of when.

III. Assumptions

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

A. Influenza pandemics are expected but unpredictable and arrive with very little warning.

B. 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.

C. Localities must 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.

D. A second wave of influenza often occurs several months after the pandemic appears to be over.

E. 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.

F. Effective prevention and therapeutic measures, including vaccine and antiviral agents, will be delayed and in short supply.

G. Widespread illness in the community could increase the likelihood of sudden and potentially significant shortages of personnel in other sectors that provide critical public safety services.

IV. Public Health and Medical Coordination

A. The national response to a pandemic will largely reflect the ability of states and local communities 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 has occurred in advance in the State of Colorado.

B. Planning by CDPHE, local health departments and by the health care system and the coordination between the three components is critical to assure effective implementation of response activities and delivery of quality health care in the context of increased demand for services.

C. Response to a pandemic will call upon the expansion of ongoing disease control activities and functions within the public health and the medical communities. This enhancement of these services will require the activation of a CDPHE Crisis Management Center (CMC), a Medical Emergency Coordination Center within the CMC, and re-establishment of

a linkage with other state and local agencies under the auspices of the Colorado Emergency Operations Plan.

D. Because the response to pandemic influenza will use much the same infrastructure as is needed for response to bioterrorism events, this Incident Annex to the CDPHE Internal Emergency Response Implementation Plan highlights areas that are specific to pandemic influenza and therefore require specific consideration.

1. Priority areas in pandemic flu response are surveillance, delivery of vaccine and antiviral medication, and communication.

2. This plan addresses preparedness and response for each planning component for each of the pandemic influenza phases.

E. The Colorado public health and medical systems will integrate pandemic planning efforts with other ongoing public health emergency preparedness activities and periodically exercise parts of the plan at the state and regional levels.

F. The plan will be updated annually, at a minimum, and after every exercise.

V. Roles and Responsibilities

A. Federal

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

1. Surveillance in the U.S. and globally.

2. Epidemiological investigation in the U.S. and globally.

3. Development and use of diagnostic laboratory tests and reagents.

4. Development of reference strains and reagents for vaccines.

5. Vaccine evaluation and licensure.

6. Determination of populations at highest risk and strategies for vaccination and antiviral use.

7. Assessment of measures to decrease transmission (such as travel restrictions, isolation, and quarantine).

8. Deployment of federally purchased vaccine.

9. Deployment of antiviral agents in the Strategic National Stockpile.

10. Evaluation of the efficacy of response measures.

11. Evaluation of vaccine safety.

12. Deployment of the Commissioned Corps Readiness Force and Epidemic Intelligence Service officers.

13. Medical and public health communications.

B. Colorado Department of Public Health and Environment (CDPHE)

CDPHE is responsible for coordination of the pandemic influenza response statewide and between regional jurisdictions. Specific areas of preparedness responsibility include the following:

1. Identify public and private sector partners needed for effective planning and response.

2. Integrate pandemic influenza planning with other planning activities conducted under CDC and HRSA's bioterrorism preparedness cooperative agreements with states.

3. Collaborate with local health departments to ensure coordinated development of regional and local plans and provide resources, such as templates, to assist in planning process.

4. Maintain data management systems needed to implement components of the plan.

5. Assist local jurisdictions in exercising plans.

6. Coordinate with neighboring states and Colorado tribes.

7. Organize a collaborative prioritization and utilization of private vaccine resources with the health care community.

C. Local

Local health agencies are responsible for coordination of pandemic influenza response with other organizations in their region. Specific areas of preparedness responsibilities include the following:

1. Identify public and private partners to assist with preparedness activities (planning, training, and exercises) as well as local or regional response to an outbreak.

2. Identify regional resources necessary to deliver vaccine and antiviral medications to all residents in their local communities. This will include identification of facilities, transportation, and storage resources and vendors capable of delivering key items immediately prior to or during a response, and identification of community leaders to assist in disseminating emergency messages to specific populations.

3. Identify, train, and equip staff to activate a pandemic flu response upon notification.

4. Identify databases to manage all resources and document/track all expenses in real time.

5. Establish relationships with partner agencies capable of providing response assistance particularly those that can assist with security and crowd control.

VI. Public Health/Medical Response

A. Command and Control

Existing departmental command system structures should be applied to pandemic influenza. There are legal concerns when responding to a pandemic, including licensure, burial, and quarantine laws. Draft Executive Orders addressing many related concerns are available for

activation in Colorado. Attachment 2 outlines issues and necessary provisions covered by Executive Orders that might be necessary during a response.

1. Inter- or pre-pandemic (See Attachment 1 for phases of a pandemic.)

    a. The CDPHE Disease Control and Environmental Epidemiology Division (DCEED) will coordinate surveillance and epidemiological investigation activities, including implementing ongoing influenza surveillance.

    b. The DCEED Emergency Preparedness Committee representatives will review and update the pandemic annex annually.

    c. The plan will be exercised as described in the Internal Emergency Response Implementation Plan. Wherever possible (see Basic Plan), public health preparedness and response exercises will be developed so that skills utilized and tested in all disease investigation/response exercises will further pandemic flu preparedness efforts.

    d. Using CDC guidelines for vaccine and antiviral priority lists, the CDPHE will make recommendations to the Governor's Expert Emergency Epidemic Response Committee (GEEERC). The CDPHE will advise the Governor of the GEEERC's recommendations as appropriate. (See example, Attachment 3.)

    e. Immunization and Mass Prophylaxis unit (IMP) (Internal Emergency Response Implementation Plan, Annex C) will coordinate planning for the distribution of vaccines, antiviral medication, and supplies.

    f. IMP will direct procurement of vaccines, antiviral medication, and supplies.

    g. The State Department of Agricultural with the State Veterinarian's Office will advise CDPHE of outbreaks of animal illness that can affect humans (i.e. avian influenza).

2. Novel influenza virus identified

    a. The Emergency Coordination Group (ECG) will consider activation of the Crisis Management Center (CMC) at level I for monitoring and coordination.

    b. DCEED will notify county health departments and nursing services and ask them to increase local surveillance and increase case detection among persons who recently traveled to the outbreak area and present with clinical illness possibly caused by the novel influenza virus.

    c. A novel virus alert will be issued to the public health/medical agencies using CoHAN.

    d. The CDPHE will implement its Public Information Plan (Internal Emergency Response Implementation Plan, Support Annex O) and link public information functions with federal and local counterparts in preparedness mode.

3. Human-to-human transmission and spread confirmed

    a. The Emergency Coordination Group (ECG) will activate the CMC at Level I, and identify an Incident Manager (IM) who will identify an Incident Management Team.

    b. The Incident Management Team will initiate communication with local and national counterparts as directed by the IM.

    c. The IM will convene the ECG and meet with partners and stakeholders to review the Colorado plan.

    d. Based on the activation level of the CMC, the Operations Section will activate enhanced surveillance and coordinate with Communications.

    e. The CDPHE will initiate a statewide inventory of antiviral medication and other essential medications throughout the state, using COpharm.

f. Depending on availability local public health/medical will be advised to begin vaccine and antiviral distribution.

g. ECG will consider the need to appropriate some or all of the Colorado commercial antiviral supply to allow for distribution to the priority list.

h. The ECG will notify key state government officials and legislators of the need for additional monetary resources (if not already available).

i. The CDPHE's and local health agencies Logistics Teams will arrange for appropriate facilities use and additional staffing.

j. The CDPHE Logistics Team and local health agencies will notify key officials and emergency management of need for additional resources, if necessary.

k. All agencies will document expenses of a pandemic response.

4. Confirmation of onset of a pandemic

a. The IM will convene the (ECG) and meet with partners and stakeholders to review and fully activate the plan.

b. The CMC should be fully operational at Level II and local emergency managers may consider activation of Emergency Operations Centers (EOCs).

c. All public health/medical agencies will monitor staffing needs and report routinely to their local EOC and the CMC.

d. Local health agencies will coordinate activities with neighboring regional jurisdictions and with CDPHE. The CDPHE IM will coordinate response with neighboring states and Colorado tribes.

e. The CDPHE Incident Management Team will interface with appropriate counterparts at the national level.

f. All public health/medical agencies will document expenses of pandemic response and report as directed to local emergency managers and the CMC.

B. Surveillance

1. Background and issues

There are five main statewide surveillance components:

a. Virologic surveillance: Sentinel providers and clinical laboratories submit specimens from patients with compatible clinical illness to the state laboratory for viral isolation, typing, and subtyping.

b. Surveillance for influenza-like illness (ILI): Approximately 24 sentinel health care providers/clinics located in 17 counties report weekly the number of patient visits for ILI and the total number of patient visits each week. In addition, a large health maintenance organization in the Denver metropolitan area reports similar information electronically from its medical record database for approximately 250 primary care providers.

c. Surveillance for influenza-associated hospitalizations: this is a reportable condition in Colorado (since October 2004) which can be translated into a population-based measure of the more severe morbidity caused by influenza.

d. Surveillance for facility-based outbreaks of influenza: this primarily represents reporting of long-term care facility outbreaks, but may also include other types of facilities.

2. Inter- or pre-pandemic

a. Continue statewide surveillance activities as described in Section IV (B)(1) (a-e).

b. Develop and update written contingency plan for enhancing virologic surveillance and assuring laboratory surge capacity (Laboratory, Annex D).

c. Develop strategies to monitor-influenza related deaths and hospitalizations and outline in the SOP's.

3. Novel influenza virus identified

The Centers for Disease Control and Prevention (CDC) continuously monitor 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 CDPHE 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 (e.g., H5N1 - Avian Influenza A), CDPHE will enhance inter-pandemic influenza surveillance activities by:

a. Increasing case detection among persons who recently traveled to the outbreak area and present with severe clinical illness possibly caused by influenza including pneumonia, acute respiratory distress syndrome, or other severe respiratory illness.

(1) Appropriate specimens should be collected to diagnose influenza infection.

(2) In some situations, if the novel influenza virus is a highly pathogenic avian strain, such as with the 2004 H5N1 avian influenza virus in Asia, local hospital laboratories and the state laboratory 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 for shipment to CDC where isolation and subtyping can be done under more stringent biocontainment conditions.

(3) Influenza infection can be diagnosed locally using antigen detection, immunofluorescence, or PCR.

(4) Guidance will be provided by CDC appropriate to each specific novel virus alert.

b. If the Crisis Management Center (CMC) is operational at Level I, the CMC Operations Team will ensure 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 CDPHE each week.

c. The CDPHE laboratory will subtype all influenza A viruses identified in clinical specimens and, as always, report 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.

d. The CDPHE laboratory will obtain reagents from CDC (as soon as they become available) to detect and identify the novel strain.

e. DCEED will recruit and enroll additional sentinel providers, as needed.

f. DCEED will monitor and institute recommendations from CDC for any additional surveillance activities that should be undertaken given the specific circumstances.

g. DCEED will review contingency plans for further enhancing influenza surveillance if efficient person-to-person transmission of the novel virus is confirmed.

4. Human-to-human transmission and spread confirmed

The most important role of surveillance during this phase is to identify whether the novel influenza virus strain causes infection in the state. If efficient person-to-person transmission of a novel

influenza virus is confirmed, the following additional surveillance enhancements should be made:

a. The Emergency Coordination Group (ECG) will activate the CMC at Level I, and identify an Incident Manager (IM) who will identify an Incident Management Team.

b. The Incident Management Team will assess the need to screen travelers arriving in Colorado from affected countries based on guidance from CDC.

c. The CMC Operations Section will review the epidemiology of all early cases identified in Colorado.

d. At hospitals and emergency departments, laboratory diagnosis of influenza will be increased 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.

   (1) Laboratories should implement surge capacity plans for testing substantially more specimens than usual.

   (2) CDC will provide guidelines to assist with triage of specimens for testing and for choosing which isolates to send to CDC.

e. The completeness and timeliness of reports from all participating laboratories and sentinel providers will be assessed by the CMC Operations Section and non-reporters will be contacted to improve their performance as necessary.

f. The CMC Operations Section will investigate outbreaks and increases in ILIs, including those detected through the influenza sentinel provider surveillance system and advise the IM at least once a day.

5. Confirmation of onset of a pandemic

Surveillance priorities will include detecting when the pandemic strain first causes disease in a community, so that control measures can be initiated. Upon confirmation of the onset of a pandemic outbreak:

a. The CMC Operations Section may conduct monitoring for antiviral resistance, based upon guidance from CDC.

b. The CMC Operations Section will assist, as appropriate, with studies to monitor vaccine effectiveness, based upon guidance from CDC.

c. The CMC Operations Section will develop means to monitor health impacts including deaths and hospitalizations.

d. The CMC Operations Section will monitor community impacts (e.g. measuring absenteeism in key industries or sectors).

e. The CMC Operations Section will consider community containment options recommended by the CDC (see Attachment 4), and will make recommendations to the IM who will advise the ECG.

6. Post pandemic

a. The CMC Operations Section will assess the quality and performance of surveillance activities and develop recommendations for any needed changes.

b. The Emergency Preparedness Committee will update the plan.

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 targeted strains are identified 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.

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

(1) The target population will be expanded, possibly to include the entire U.S. population.

(2) It is 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.

b. Because a relative shortage of vaccine should be anticipated especially early in the pandemic, it may be necessary to target initial doses of vaccine to high-risk groups and /or to emergency responders.

c. Using CDC guidelines for vaccine and priority lists, the CDPHE will make recommendations to the Governor's Expert Emergency Epidemic Response Committee (GEEERC). The CDPHE ECG will advise the Governor of the GEEERC's recommendations as appropriate.

d. As information about the impact of the novel virus becomes available, recommendations will be formulated at the national level.

e. Educating the public and the health care providers about the need to target priority groups for vaccination, will be an important aspect of public education. The need to ration vaccine will require substantial public education and adequate security measures.

f. Immunologic responses following initial vaccination may be poor, requiring a second dose of vaccine two to four weeks later, often referred to as a booster shot. There will

need to be tracking to ensure receipt of two doses of vaccine.

g. Given the magnitude of the vaccination effort, detailed planning needs to occur at the local as well as at the state level.

2. Adverse events

a. Monitoring of vaccine adverse events will be necessary and will build upon the infrastructure now in place as a result of the smallpox vaccination program.

b. 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 because it will create:

(1) Increased acceptance of and public confidence in any flu vaccine.

(2) Increased vaccine production by manufacturers to meet the demand.

(3) Stronger distribution channels.

3. Inter- or pre-pandemic

a. Enhance influenza vaccination coverage levels in traditional high-risk groups, particularly subgroups in which vaccination levels are particularly low.

b. Enhance pneumococcal vaccination levels in traditional high-risk groups to reduce the incidence and severity of secondary bacterial pneumonia.

c. Review and modify, if necessary for Colorado usage, the national recommendations for vaccine priority groups.

d. Determine size of priority groups by region and develop a strategy for delivery of vaccinations

e. Ensure that regions have developed plans for mass vaccination of the public, including identification of vaccine administration personnel by region.

f. Annually review the plan for mass vaccination of the general public to be used when sufficient amounts of vaccine are available, including identification of vaccine administration personnel by region.

g. Coordinate the vaccine distribution plan with neighboring states and Colorado tribes.

h. Review, exercise, and modify vaccine distribution plans as needed on a periodic basis and provide updates via CoHAN.

4. Novel influenza virus identified

a. The CDPHE Immunization and Mass Prophylaxis Unit (IMP) staff will meet with appropriate partners and stakeholders and review major elements of the vaccine distribution plan.

b. The CDPHE DCEED Emergency Preparedness Committee representatives will modify the plan as needed to account for updates on recommended target groups, projected vaccine supply, and human resources available.

5. Human-to-human transmission and spread confirmed

a. The CDPHE will activate the Crisis Management Center (CMC) at Level I and brief all response teams.

b. The CDPHE Logistics Section will contact all regional planners to ensure that human resources and logistics are in place to begin vaccination, taking into account the need for additional staff due to illness.

c. The Emergency Coordination Group (ECG) or IM will coordinate planned activities with neighboring states and Colorado tribes.

d. The CDPHE and local health agencies will conduct training for relevant agencies and partner groups regarding vaccine delivery protocols and procedures.

6. Confirmation of onset of a pandemic

a. Activate CDPHE CMC and Medical Emergency Coordination Center at Level II.

b. The CDPHE and local health agencies will fully activate the vaccination program, including distribution, administration, monitoring of vaccine distribution and administration, and vaccination tracking, appropriate storage and handling, and safety monitoring.

c. The ECG and IM will coordinate activities with neighboring states and Colorado tribes.

D. Antiviral medication

1. Background and issues

a. Because vaccine will likely not be available when a novel virus first affects communities, antiviral medication may play an important role for the control and prevention of influenza, especially, but not only, during the period before vaccine is available.

b. Existing production capacity for influenza antiviral drugs is less than would be needed to provide prophylaxis or treatment for the entire population.

c. The current supply of antiviral medication in the Strategic National Stockpile is limited.

d. Similarly to planning for vaccine distribution Colorado has planned for different scenarios, including:

(1) Federal purchase of the existing supply and distribution to states.

(2) State purchase of antiviral medication using emergency funds, if available or approved.

(3) Federal stockpile with distribution to states.

(4) Private Sector distribution, through pharmacies.

2. Prophylaxis

a. The amantadines, 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.

b. 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.

3. Therapy

a. Any person experiencing a potentially life-threatening influenza-related illness should be treated with antiviral medications.

b. Any person at high risk for serious complications from influenza and who is within the first two days of illness onset should be treated with antiviral medications.

4. Inter- or pre-pandemic

a. Using CDC guidelines for antiviral priority lists, the CDPHE will make recommendations to the Governor's Expert Emergency Epidemic Response Committee (GEEERC). The CDPHE will advise the Governor of the GEEERC's recommendations as appropriate.

b. Immunization and Mass Prophylaxis Unit (IMP) (Internal Emergency Response Implementation Plan, Annex C) will develop a plan for prophylaxis and/or treatment.

c. DCEED will quantify high priority populations for prophylaxis, and develop drug distribution contingency plans for the different possible scenarios.

d. DCEED will quantify high priority groups for therapy, and develop drug distribution contingency plan for the different scenarios.

e. DCEED will develop plans for education and notification of the medical community.

f. CDPHE Office of Communications has developed plans to notify the public, using the CDPHE web site and the media, regarding prescribing information.

g. CDPHE Risk Communications will develop FAQ sheets (or use CDC-prepared materials, if available) for health care providers, and the public.

h. ECG will coordinate with neighboring states and Colorado tribes.

i. The State Attorney General's Office will review worker compensation laws as they apply to health care workers and other essential workers who have taken antiviral medication for prophylaxis.

j. DCEED will develop a data management system to track antiviral distribution and use.

k. Develop COpharm to inventory supplies of antiviral medication statewide if needed.

5. Novel influenza virus identified

a. DCEED will meet with appropriate partners and stakeholders and review major elements of the antiviral medication plan.

b. DCEED Emergency preparedness Committee will modify the plan as needed to account for updates, if any, on recommended target groups and projected drug supply.

c. DCEED will notify the health care providers of the status of the plan and antiviral availability utilizing CoHAN.

d. DCEED will disseminate antiviral use guidelines to the health care providers and conduct training for public health staff involved in antiviral distribution protocols and procedures using CoHAN and CoTRAIN.

6. Human-to-human transmission and spread confirmed

a. The ECG will activate the CMC at Level I, including appointing and Incident manager (IM) who will identify and Incident Management Team.

b. The CMC Planning Section will initiate internal and external contacts to 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.

c. The Emergency Coordination Group (ECG) and Incident Manager (IM) will coordinate with neighboring states and Colorado tribes.

7. Confirmation of onset of a pandemic

a. CMC activated at Level II

b. The CMC Operations Section, in cooperation with the Logistics Section, will fully activate the antiviral drug distribution plan.

c. The ECG and the Incident Manager will continue coordination with neighboring states and Colorado tribes.

d. The CMC Documentation Unit will implement use of a data management system for antiviral distribution, use, and supply.

E. Communications

1. Background and issues

a. Centers for Disease Control and Prevention (CDC) will make a number of materials available before and during influenza pandemic, including:

(1) 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.

(2) General preventive measures such as “do's and don'ts” for the general public.

(3) Information and guidelines for health care providers.

(4) Training modules (Web-based, printed, and video).

(5) Presentations, slide sets, videos, and documentaries.

(6) Symposia on surveillance, treatment, and prophylaxis.

b. Because of anticipated shortages of both vaccine and antiviral medication, it will be critical to develop messages informing the population about availability of medications and addressing the rationale for priority groups and measures to be taken until supplies are available. Other important topics include:

(1) Basic information about influenza (including symptoms and transmission).

(2) Information about the course of the pandemic (contagiousness, geographic spread, case counts, etc.).

(3) Information about which symptoms should prompt seeking medical assistance and which symptoms should be managed at home.

(4) Information about school and business closures, suspended public meetings, and travel restrictions and quarantine laws.

2. Inter- or pre-pandemic

a. The Crisis Management Center (CMC) Communications lead will identify and train spokespersons (and backups) to work with the media and provide information to the public. (See Support Annex O, Public Information, of the Internal Emergency Response Implementation Plan.)

b. The Public Information Team will plan responses to anticipated questions and distribute to public information staff in accordance with the CDPHE Internal Emergency Response Implementation Plan.

c. The Public Information Team will develop materials and key information, brief the Emergency Coordination Group (ECG), and obtain necessary approval.

d. The Public Information Team will identify most effective communication channels for reaching different communities and distribute to local health departments and public information officers.

e. The Public Information Team will develop a plan to establish a hot line and Web site to respond to pandemic inquiries (i.e. the location of immunization clinics), and assure that systems are in place to deal with anticipated surge capacity.

f. The Public Information Team will identify necessary equipment, supplies and personnel to establish and operate the Emergency Communications Center, in the Carson Room, during a pandemic.

g. The Public Information Team in conjunction with the Colorado Division of Emergency Management will develop a plan for coordination of messages between state and local public health officials, and all involved partners.

h. The Communications lead will develop a plan to educate public health officials, elected and appointed officials, and the media about what information will and will not be available during a pandemic.

i. The Public Information Team will review CDC materials and adapt, revise, and distribute as needed.

3. Novel influenza virus identified

a. The Public Information Team will review CDC materials and adapt, revise and distribute as needed.

b. The Public Information Team may activate the Emergency Communications Center function in preparation for activation in the Carson Room as needed.

c. The Public Information Team will consider activation of the hotline, in accordance with the plan.

d. The Public Information Team will disseminate information to public and partners on an ongoing basis in accordance with a designated briefing plan.

e. The Public Information Team will educate public health officials, elected and appointed officials, community leaders, and the media about what information will and will not be available during a pandemic in accordance with the plan approved by the ECG and the Incident Manager (IM), if appointed.

f. The Public Information Team will prepare spokespersons and ensure they are familiar with approved key messages.

g. The ECG (and IM if appointed) will coordinate with neighboring states and Colorado tribes.

4. Human-to-human transmission and spread confirmed

a. The ECG will activate the CMC at Level I and appoint an IM. The IM will select an Incident Management Team who will review major elements of the plan with partners and stakeholders.

b. The Public Information Team will activate the Emergency Communications Center function in preparation for activation in the Carson Room as needed.

c. The Public Information Team will disseminate information to public, partners, and the media on an ongoing basis in accordance with the briefing plan.

d. The Public Information Team will monitor media coverage and inform the Public Information Lead in order to address misinformation.

e. The Public Information Lead, in conjunction with the ECG and IM, will coordinate with neighboring states and Colorado tribes.

5. Confirmation of onset of a pandemic

a. The Public Information Team will activate the Emergency Communications Center in the Carson Room as needed.

b. The Public Information Team will staff a Joint Information Center (JIC) in conjunction with DEM and the Governor's Press Secretary.

c. The Public Information Team will review and modify messages and materials as needed.

d. The Public Information Team will continue to monitor media coverage and provide information to address misinformation.

e. The Public Information Team will continue to disseminate credible information as it becomes available to the public and all partners.

f. The Public Information Team lead will coordinate with communications functions and/or JICs of bordering jurisdictions and Colorado tribes.

F. Emergency Response

1. Background and issues

a. Pandemic influenza differs from most biological threats in the magnitude and duration of its impact including the likelihood of second and later waves of disease.

b. 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.

2. Inter- or pre-pandemic

a. CDPHE has established the CMC facility on the first floor of Building A, with the capacity to set up phones, computers, tables and all other needed supplies and equipment to facilitate an immediate response to an emergency.

b. The CMC will be the center of coordination during an emergency response event for the CDPHE. It is where CDPHE personnel determine the nature of the emergency and coordinate the response activities between various internal and external partners.

c. DCEED Immunization and Mass Prophylaxis (IMP) will formulate priority lists for vaccines and antiviral medication and any other policy issues to be presented to

the Governor's Expert Emergency Epidemic Response Committee (GEEERC) for approval.

d. DCEED will recruit CDPHE staff for the operation of the CMC.

(1) Numbers of staff recruited should reflect duplication for multiple shifts and allow for some people being out of town or unavailable due to the emergency.

(2) Staff for each position should be listed in priority order.

(3) Emphasis should be placed on individuals who do similar work in their regular jobs and have been previously trained to work in the CMC. A list of previously trained individuals is available from the Emergency Preparedness and Response Section (EPRS) staff.

e. The CDPHE EPRS will train all CDPHE staff recruited on the operation of the CMC and the capabilities of the equipment. In addition, all CMC staff members will be briefed on the expectations of their particular assigned job and the expectations on their time and commitment.

f. The CDPHE Emergency Preparedness Committee Representatives will provide general information to all the staff in their division on the role of the CMC and how an emergency may affect the normal operations of their division and the CDPHE.

g. The Emergency Preparedness Response Section will provide planning templates to local heath departments and Regional Planners to ensure consistent plans throughout the state.

h. The Emergency Preparedness Response Section will update contact lists, to include, but not limited to:

(1) Vendors for personal protective equipment and other medical supplies;

(2) Mortuaries and crematoriums;

(3) Volunteer agencies;

(4) Drug manufacturers and/or distributors;

(5) Pharmacies;

(6) Hospitals and clinics; and

(7) Medical Reserve Corps.

i. The Emergency Preparedness Response Section will develop and distribute documentation tools.

3. Novel influenza virus identified

a. The Emergency Response Coordinator (ERC) will brief the ECG on activation protocols and prepare to activate the CMC at Level I to monitor the situation, keep the ECG advised and notify other appropriate CDPHE staff, as appropriate.

b. The Emergency Preparedness Response Section (EPRS) will compile lists of trained staff by position and check for availability. The EPRS will contact staff and request that they review materials on the CMC and their specific position.

c. The EPRS will activate the Information Management System (IMS).

d. The ERC will meet with Colorado Emergency Response Coordinators and brief them on potential activation issues.

4. Human-to-human transmission and spread confirmed

a. Review and advise the ECG on whether or not to activate the CMC up at Level I.

b. The ERC will suggest leadership candidates to ECG.

c. Request a statewide inventory on the following items:

(1) Beds (hospital and long-term care).

(2) ICU Capacity.

(3) Ventilators.

(4) Pharmacies and pharmacists.

(5) Antiviral medication and other essential medications.

(6) Personal protective equipment (e.g., masks, gloves).

(7) Specimen collection and transport materials.

(8) Contingency medical facilities (within the jurisdiction).

(9) Facilities for possible mass vaccination of the public.

(10) Mortuary/crematorium capacity.

(11) Vendors of medical supplies (e.g., syringes, gloves).

(12) Activate notifications via the Colorado Health Alert Network (CoHAN) to rapidly disseminate information on pandemic activity in Colorado as well as CDC alerts regarding the pandemic.

(13) Public Information Team will meet with DEM to consider establishment of a Joint Information Center (JIC) in conjunction with DEM and the Governor's Press Secretary to ensure that all key agencies are

receiving the same information and issuing consistent messages to the public.

5. Confirmation of onset of a pandemic

   a. Activate CMC to Level II.

   b. Notify the State Emergency Operations Center (SEOC) or if the SEOC is not open, the Colorado Division of Emergency Management, that the CMC is fully activated.

   c. Provide CDPHE representatives to the SEOC if it is open.

6. Stand-down

   a. Deactivate CMC.

   b. Collect and file all records.

   c. Complete a final report (including costs, staffing patterns, resources used/depleted/acquired etc.)

   d. Submit costs for reimbursement as indicated.

   e. Schedule an after-action meeting and develop a feedback report for distribution to the local health departments and community partners.

   f. Replace all supplies used or destroyed during the response.

   g. Revise the plan.

   h. Revise the training.

Attachment 1

Pandemic Phases

Phase	Level	Definition
0 Inter-pandemic Phase	*0*	Epidemic influenza viruses circulate in human populations causing yearly outbreaks; no evidence that a novel influenza virus has infected humans
	1	*Novel Virus Alert:* Identification of a novel influenza virus in a person
	2	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.
	3	*Pandemic Alert:* 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

Attachment 2

Draft executive orders available for the Governor's signature if needed:

Executive Order 0.0 Declaration of a State of Disaster Emergency due to Criminal Acts of Biological Terrorism.

This order activates the Colorado Emergency Operations Plan.

Executive Order 1.0 Ordering Hospitals to Transfer or Cease the Admission of Patients to Respond to the Current Disaster Emergency

Authorizes the CDPHE to order hospital emergency departments to cease admissions and transfer patients to a hospital or facility as directed by CDPHE. CDPHE would control the determination of when a hospital has reached capacity and when the hospital may resume admission.

Executive Order 1.1 Ordering Hospitals to Transfer or Cease the Admission of Patients to Respond to the Current Disaster Emergency

Directly authorizes hospitals to cease admissions and transfer patients. Provides that hospital emergency departments may determine on their own, without central direction from CDPHE, whether they have reached capacity to examine and treat patients. Authorizes hospital emergency departments to resume admissions when they have determined that they have the capacity to do so.

Executive Order 2.0 Concerning the Procurement and Taking of Certain Medicines and Vaccines Required to Respond to the Current Disaster Emergency

Authorizes the seizure of named drugs from "outlets" (as defined in the pharmacy statutes.) Embargoes the supply of the named drugs in the possession of the outlets except for those supplies that CDPHE regulation requires certain facilities and organizations to keep for chemoprophylaxis of their employees.

Executive Order 3.0 Concerning the Suspension of Certain Statutes and Regulations to Provide for the Rapid Distribution of Medication in Response to the Current Disaster Emergency

Implements Colorado's Strategic National Stockpile Plan. Provides for the rapid distribution of medication by suspending the pharmacy statutes and regulations pertaining to the compounding, dispensing and delivery of any drug. Suspends the "single patient- single prescription" requirement and authorizes the Executive Director or Chief Medical Officer of the CDPHE or the director of a local department of health to direct listed health care providers to compound, dispense or deliver prescription drugs.

Executive Order 4.0 Concerning the Suspension of the Physician and Nurse Licensure Statues to Response to the Current Disaster Emergency

Authorizes physicians and nurses who hold a license issued by another state to practice under the supervision of a Colorado licensed physician or nurse to meet the current emergency epidemic.

Executive Order 5.0 Concerning the suspension of Certain Licensure Statutes to Enable More Colorado Licensed Physician Assistants and Emergency Medical Technicians to Assist in Responding to the Current Disaster Emergency

Authorizes Colorado licensed physician assistants and EMT's to practice outside of their normal supervision but under the supervision of another physician to meet the emergency epidemic.

Executive Order 6.0 Concerning the Isolation and Quarantining of Individuals and Property in Response to the Current Disaster Emergency Epidemic

Authorizes CDPHE to establish, maintain, and enforce isolation of all individuals infected with the disease or to quarantine all individuals exposed to the disease.

Executive Order 7.0 Ordering Facilities to Transfer or Receive Patients with Mental Illness and Suspending Certain Statutory Provisions to Respond to the Current Disaster Emergency

Authorizes the transfer of mental patients to different facilities when necessary to combat the current epidemic and promote the public health.

Executive Order 8.0 Concerning the Suspension of Certain Statutes Pertaining to Presumptions of Death and Burial Practices in Response to the Current Disaster Emergency

Authorizes suspension of statutes to allow for the rapid burial of epidemic victims without following normal funeral procedures, religious practices or death certificates in all cases.

Attachment 3
(From the Canadian Pandemic Plan)

Proposed priority list for use of antivirals during a pandemic:

1. Treatment of persons hospitalized for influenza
2. Treatment of ill health care and emergency services workers
3. Treatment of ill high-risk person in the community
4. Prophylaxis of health care workers
5. Control outbreaks in high-risk residents of institutions (nursing homes and other chronic care facilities)
6. Prophylaxis of essential service workers
7. Prophylaxis of high-risk persons hospitalized for illnesses other than influenza
8. Prophylaxis of high-risk persons in the community

Attachment #4

Community Containment Measures, Including Non-Hospital Isolation and Quarantine
(Extrapolated from CDC document on containment of SARS)

During an influenza pandemic, the CDC will issue recommendations for isolation or quarantine, the following is a discussion of the possible options available.

At the federal level, the HHS Secretary also has statutory responsibility for preventing the introduction, transmission, and spread of communicable diseases from foreign countries into the United States and would be expected to set guidelines for international travel. Local authorities may be responsible for quarantine of passengers of incoming flights from designated countries.

Isolation and Quarantine

Isolation is the separation and restriction of movement or activities of ill infected persons who have a contagious disease, for the purpose of preventing transmission to others.

- Isolation allows for the focused delivery of specialized health care to persons who are ill, and it protects healthy persons from becoming ill.
- Ill persons are usually isolated in a hospital, but they may also be isolated at home or in a designated community-based facility, depending on their medical needs.
- "Isolation" is typically used to refer to actions performed at the level of the individual patient.

Quarantine is the separation and restriction of movement or activities of persons who are not ill but who are believed to have been exposed to infection, for the purpose of preventing transmission of diseases.

- Persons are usually quarantined in their homes, but they may also be quarantined in community-based facilities.
- Quarantine can be applied to an individual or to a group of persons who are exposed at a large public gathering or to persons believed exposed on a conveyance during international travel.
- Quarantine can also be applied on a wider population- or geographic-level basis. Examples of this application include the closing of local or community borders or erection of a barrier around a geographic area (*cordon sanitaire*) with strict enforcement to prohibit movement into and out of the area.

Isolation and quarantine are optimally performed on a voluntary basis, in accordance with instructions of healthcare providers and health officials. However, many levels of government (local, state, federal) have the basic legal authority to compel mandatory isolation and quarantine of individuals and communities when necessary to protect the public's health. *(Cite Colorado statutes.)*

Quarantine does not require 100% compliance to be effective. Studies show a benefit from quarantine even when the compliance is as low as 50% with maximum benefit occurring at 90% compliance.

For effective isolation or quarantine, provision of the following essential services need to be considered:

- Food and water
- Shelter
- Medicines and medical consultations
- Mental health and psychological support services
- Other supportive services (e.g., day care)
- Transportation to medical treatment, if required

Quarantine Options - individuals

Passive Monitoring – recommended when the rise of exposure and subsequent development of disease is low, and the risk to others if recognition of disease is delayed is also low.

The contact is asked to perform self-assessment for symptoms at least twice daily and to contact authorities immediately if respiratory symptoms or fever occur.

Active Monitoring without Explicit Activity Restrictions – recommended when the risk of exposure to and subsequent development of disease is moderate to high, resources permit close observation of individuals, and the risk of delayed recognition of symptoms is low to moderate.

A healthcare or public health worker evaluates the contact on a regular (at least daily) basis by phone and/or in person for signs and symptoms suggestive of disease.

Active Monitoring with Activity Restrictions (Quarantine) ***– recommended 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.***

The contact remains separated from others for a specified period, during which s/he is assessed on a regular basis (in person at least once daily) for signs and symptoms of disease. Persons with early symptoms require immediate evaluation by a trained healthcare provider. Restrictions may be voluntary or legally mandated; confinement may be at home or in an appropriate facility.

Working Quarantine - recommended when activity restrictions (home or facility quarantine) are indicated, but the individuals provide essential services such as healthcare or emergency management.

The contact is permitted to work but the worker must observe activity restrictions while off duty. Monitoring for fever and other symptoms while at work is required along with the use of appropriate personal protective equipment (PPE).

Quarantine Options – groups/communities

Focused Measures to Increase Social Distance – recommended for groups or settings where transmission is believed to have occurred, where the linkages between cases is unclear at the time of evaluation, and where restrictions placed only on persons known to have been exposed is considered insufficient to prevent further transmission.

Intervention is applied to specific groups, designed to reduce interactions and thereby transmission risk within the group. When focused, the intervention is applied to groups or persons identified in specific sites or buildings, most but not necessarily all of whom are at risk of exposure.

Community-Wide Measures to Increase Social Distance – recommended when there is extensive transmission of disease, a significant number of cases lack clearly identifiable epidemiologic links at the time of evaluation, and restrictions on persons known to have been exposed are considered insufficient to prevent further spread within an entire community.

Intervention can be applied to an entire community or region and is designed to reduce personal interactions and thereby transmission risk. Some options are:

- Canceling of events (concerts, movie theaters, etc.)
- Canceling school
- Canceling church services and activities
- Shutting down or limiting mass transit
- Declaring "snow days"
  This would include closing of "non-essential" business, schools, churches etc.

Widespread Community Quarantine, Including Cordon Sanitaire (sanitary barrier) ***– recommended for groups where extensive transmission is occurring, a significant number of cases lack identifiable epidemiologic links at the time of evaluation, and restrictions placed on persons known to have been exposed are considered insufficient to prevent further spread. Widespread quarantine is unlikely to be necessary because other less restrictive measures (e.g., "snow days") may be equally effective.***

Legally enforceable order 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 disease among persons in and to persons outside the affected the area. When applied to all inhabitants of an area (typically a community or neighborhood), the intervention is referred to as cordon sanitaire (sanitary barrier).