

**APPENDIX 4
TO ANNEX H
HEALTH & MEDICAL SERVICES**

**PANDEMIC INFLUENZA
RESPONSE PLAN**

COLLIN COUNTY, TEXAS

NOVEMBER 2005

RECORD OF CHANGES

APPENDIX 4 TO ANNEX H

PANDEMIC INFLUENZA RESPONSE PLAN

Change #	Date of Change	Entered By	Changes Made
1	3.14.2007	Eileen Prentice	Review, minor edits
2	1.11.2008	Eileen Prentice	Extensive re-write
3	4.21.2009	Melanie Warriner	Review, minor edits
4	4.29.2010	Melanie DeBord	Review, added definitions
5	3.11.2011	Caitlin Bouschor	Extensive re-write, new guidance
6	3.29.2011	Caitlin Bouschor	Minor Edits
7	9.24.2012	Lacie Reitmeyer	Minor Edits
8	4.20.2015	Greg Huffman	Review

APPENDIX 4 TO ANNEX H
PANDEMIC INFLUENZA RESPONSE PLAN

I. AUTHORITY

See Collin County Emergency Management Basic Plan Annex H, Health and Medical Services.

II. PURPOSE

The purpose of the pandemic influenza plan is to outline local roles and responsibilities, operational concepts, and procedures to detect and report transmission of novel influenza A viruses; assist State and Federal partners in rapid characterization of the virus; accomplish coordinated public health and medical services; and contain the virus, minimizing spread and impact of highly transmissible pandemic influenza.

III. EXPLANATION OF TERMS

A. Acronyms

ACIP	Advisory Committee on Immunization Practices
ACF	Alternative Care Facility
CCHLS	Collin County Homeland Security
CCHCS	Collin County Health Care Services
CCME	Collin County Medical Examiner
CCID	Coordinating Center for Infectious Diseases
CDC	Centers for Disease Control and Prevention
DHHS	US Department of Health and Human Services
DSHS	Texas Department of State Health Services
EMC	Emergency Management Coordinator
EMS	Emergency Medical Services
EOC	Emergency Operations or Operating Center
FDA	US Food and Drug Administration
HCW	Health Care Worker
HEICS	Hospital Emergency Incident Command System
HEPA	High Efficiency Positive Airflow
ICS	Incident Command System
IDCU	Infectious Disease Control Unit, DSHS
ILI	Influenza-like Illness
LHA	Local Health Authority
NIMS	National Incident Management System
NPI	Non-Pharmaceutical Intervention(s)
PHIN	Public Health Information Network
PPE	Personal Protective Equipment

SNS
WHO

Strategic National Stockpile
World Health Organization

B. Definitions

1. Alternative care facility (ACF). Facilities not currently providing health care services that will be established by government or private entities to provide health care services and augment surge capacity on a temporary basis.
2. Antiviral medication. Medication that may prevent or inhibit the growth and reproduction of viruses and is used to treat or prevent disease in those exposed or at risk of exposure.
3. Characterization. Identification of the strain of an influenza virus.
4. Confirmed case. Refers to a laboratory-confirmed influenza A virus, which has been sub-typed and is different than currently circulating seasonal influenza, in a person with clinical illness.
5. Contact. A person who has been exposed to an influenza case in some way during the infectious period.
 - a. **Close contact**: person who has had direct exposure to respiratory secretions or body fluids of a person with confirmed influenza or has touched or talked to a person with confirmed influenza within 3 feet. For instance, a person who has cared for or lived with an influenza patient is considered a close contact.
 - b. **Household contact**: type of close contact where direct exposure occurs through such additional actions as kissing/hugging or sharing eating/drinking utensils. Working in the same building, walking by, or sitting across a room from a person with influenza is NOT considered a direct exposure and therefore is considered a contact only.
6. Critical infrastructure. Sectors that fulfill one or more of the following criteria: have increased demand placed on them during a pandemic; directly support reduction in deaths and hospitalizations; provide critical functions to support the healthcare sector and other emergency services; and/or supply basic necessities and services critical to the support of healthcare, emergency services, or life.
 - a. Public safety (firefighters, police, correctional facility staff, dispatchers) employees: critical to maintenance of social functioning and order; contribute to pandemic response, i.e., by ensuring order at vaccination clinics and responding to medical emergencies.
 - b. Utility service (water, power, and sewage management) employees: provide essential services to the healthcare system, prevent additional illnesses resulting from unsanitary conditions from lack of these services.

- c. Transportation workers: maintain critical supplies of food, water, fuel, and medical equipment; provide public transportation, which is essential for provision of medical care and transportation of healthcare workers and ill persons.
 - d. Telecommunication and information technology services: critical for essential system maintenance and repairs for accessing and delivering medical care, support all other critical infrastructure.
 - e. Mortuary services: processing and disposal of dead, substantially impacted due to increased numbers of deaths.
7. Endemic. A disease that is continually present in a community or region.
 8. Epidemiologic linkage. A patient who has had contact with one or more persons who either have/had the disease and agent transmission by usual modes is plausible. A case may be considered confirmed if at least one case in the transmission chain is laboratory confirmed.
 9. Exposure. Exposure will be defined at the time of the outbreak and will reflect incubation period and infectious dose; criteria may include travel to an affected area.
 10. Healthcare workers (HCW)/essential health care support staff. Healthcare workers with direct patient contact (including acute-care hospitals, nursing homes, skilled nursing facilities, urgent care centers, physician's offices, clinics, home care, blood collection centers, and EMS) and persons working in essential healthcare support services (e.g., dietary, housekeeping, admissions, blood collection center staff, etc.). HCW in public health with direct patient contact, including those who may administer vaccine or distribute influenza antiviral medications and their essential public health support staff are also included.
 11. Hospital emergency incident command system (HEICS). Existing incident command structure utilized by medical and non-medical staff at all Collin County hospitals to provide a coordinated emergency response.
 12. High efficiency positive airflow (HEPA). Refers to the air circulation direction in hospital isolation rooms for patients who are contained due to spreading of infectious diseases to medical and non-medical personnel.
 13. Influenza. Also known as flu, is an acute viral disease of the respiratory tract characterized by fever, headache, tiredness (may be extreme), dry cough, sore throat, nasal congestion, and/or body aches; nausea and vomiting are also commonly reported among children.
 14. Influenza-like illness (ILI). Defined as respiratory illness with fever >100°F AND cough and/or sore throat in the absence of a known cause other than influenza.
 15. Isolation. Limitation of movement of persons who are ill or suspected of being ill due to a physician's diagnosis or suspicion that the person is affected by a pandemic virus or other respiratory illness.

16. Joint Information Center (JIC). A central location for involved agencies to coordinate public information activities and a forum for news media representatives to receive disaster or emergency information.
17. Key stakeholders. Include, but are not limited to first responders, businesses, chamber of commerce members, and public works staff. CCHCS will coordinate education efforts for responders upon city official request.
18. Medical providers in private practice. All persons involved in the provision of direct health care services to members of the general public, be they employed in free standing private clinics, hospitals or other settings.
19. Novel influenza strain. Newly identified viruses that require close monitoring to determine whether they are capable of pandemic spread; these may include avian/animal influenza strains that can infect humans, or new, or re-emergent human viruses. Novel subtypes include, but are not limited to H2, H5, H7, and H9. H1 and H3 subtypes originating from non-human species or genetic re-assortment between animal and human viruses are also novel subtypes. Novel subtypes will be detected through methods used for currently circulating human influenza surveillance.
20. Pandemic influenza. Worldwide outbreak of a novel influenza virus against which the human population has no pre-existing immunity causing sudden, pervasive illness with the potential for substantial impact causing increased morbidity and mortality, significant social disruption, and severe economic costs. Three influenza pandemics have occurred in the last century - “Spanish flu” (1918), “Asian influenza” (1957), and “Hong Kong influenza” (1968).
21. Pandemic severity index (PSI). A proposed classification scale for reporting the severity of influenza pandemics in the United States. The PSI was accompanied by a set of guidelines intended to help communicate appropriate actions for communities to follow in potential pandemic situations. Released by the United States Department of Health and Human Services (HHS) on February 1, 2007.
22. Probable case. Case meeting clinical criteria and epidemiologically linked to a confirmed case, but for which no laboratory testing for influenza infection has been performed.
23. Public health disaster. Declaration of disaster by the Governor; determination by the Commissioner of Health that there exists an immediate threat from a communicable disease that:
 - a. poses a high risk of death or serious disability to a large number of people, and
 - b. creates a substantial public exposure risk because of the disease’s high contagion level or transmission method.
24. Quarantine. Limitation of personal freedom and movement in society of individuals who have been exposed to pandemic influenza, other respiratory virus, or any contagious illness.

25. Subtype. Identification of influenza A viruses according to the Hemagglutinin (H) and neuraminidase (N) components of the virus, such as H1N1 or H3N2.
26. Surveillance. The collection, analysis and dissemination of data.
27. Syndromic. Based on clinical signs and symptoms.
28. Suspected case. Case meeting the most recent epidemiologic and clinical criteria for influenza pending laboratory confirmation. Any case of human infection with an influenza A virus that is different from currently circulating human influenza H1 and H3 viruses is classified as a suspected case until the confirmation process is complete.
29. World Health Organization (WHO) phases. The WHO utilizes a 1-6 phase system for easy incorporation of new recommendations and approaches into existing national preparedness and response plans.

IV. SITUATION AND ASSUMPTIONS

A. Situation

1. Influenza is a highly contagious respiratory virus responsible for annual epidemics globally. Each year an average of 200,000 people are hospitalized and 36,000 die in the U.S. from influenza infection or secondary complications. An influenza pandemic, from which there is no immunity and for which preventive vaccines are not available, will increase hospitalizations and deaths worldwide.
2. Influenza A is known to continually undergo antigenic drift, a gradual change in viral genes, which is responsible for annual changes in influenza vaccine. Antigenic shifts are sudden genetic changes resulting in novel influenza A viruses, which are almost always followed by pandemics.
3. Pandemic influenza prevention and control hinges on surveillance of the genetic characteristics of circulating viruses, effective control measures, infection control programs, and community education and cooperation.
4. Pandemic influenza could result in the disruption of business, schools, and food services; instill public fear and panic; and result in serious medical and health risks and other situations that adversely affect the daily lives of our citizens.
5. Pandemic influenza could result in mass fatalities especially for vulnerable populations such as the immunocompromised, children, and the elderly.
6. Hospitals, nursing homes, ambulatory services, pharmacies, and other facilities for medical/health care and special needs populations may be overwhelmed with capacity and be

unable to operate normally because of staffing concerns resulting from personal or family exposures.

7. The pandemic will cause the degradation of local infrastructure and severely impact economic stability and viability.
8. Emergency responders, medical providers, and special needs caregivers who are affected by emergency situations may experience stress, anxiety, and display other physical and psychological symptoms that may adversely impinge on their daily lives. In some cases, disaster mental health services may be needed during response operations.
9. During a pandemic, the mortality incidence may be increased requiring the assistance of DMAT (Disaster Medical Assistance Teams) and DMORT (Disaster Mortuary Services Teams) as outlined in Annex H to the Basic Plan.
10. Collin County does not currently stockpile an inventory of vaccine or antiviral medications.

B. Assumptions

This Plan provides for common assumptions to ensure that all governmental and private sectors are provided a standard framework for Collin County's pandemic planning and response. This section is necessary for the development of a Collin County's pandemic responses and planning. It accounts for the interdependence of sectors during routine and emergency operations. Note that some assumptions overlap due to interoperability initiatives.

The initial focus of the Collin County Pandemic Influenza Plan is a county wide health response aimed at reducing morbidity and mortality, and effecting Continuity of Government (COG) to ensure civil and societal stabilization. The assumptions of this section reflect this focus.

General Assumptions

1. Susceptibility to the pandemic influenza virus will be universal.
2. Efficient and sustained person-to-person transmission signals an imminent pandemic.
3. Of those who become ill with influenza, 50 percent will seek outpatient medical care.
4. With the availability of effective antiviral drugs for treatment, this proportion may be higher in the next pandemic.
5. The number of hospitalizations and deaths will depend on the virulence of the pandemic virus. Estimates differ about 10-fold between more and less severe scenarios. Two scenarios are presented based on extrapolation of past pandemic experience (Shown in Table 1). Planning should include the more severe scenario. Risk groups for severe and fatal infection cannot be predicted with certainty but are likely to include infants, the elderly, pregnant women, and persons with chronic medical conditions.

6. The typical incubation period (interval between infection and onset of symptoms) for influenza is approximately two days.
7. Persons who become ill may shed virus and can transmit infection for up to one day before the onset of symptoms. Viral shedding and the risk of transmission will be greatest during the first two days of illness. Persons who are ill may shed the virus up to five days after onset of illness. Children usually shed the greatest amount of virus and therefore are likely to post the greatest risk for transmission.
8. On average, infected persons will transmit infection to approximately two other people.
9. Multiple waves (periods during which community outbreaks occur across the country) of illness could occur with each wave lasting six to eight weeks. Historically, the largest waves have occurred in the fall and winter, but the seasonality of a pandemic cannot be predicted with certainty.
10. The stages of the pandemic should occur sequentially, though they may overlap or occur so rapidly as to appear to be occurring simultaneously or being skipped. For example, the pandemic could spread so rapidly that Federal Government Response Stages 3 and 4 may be activated simultaneously or a change from Stage 3 to 5 is ordered.
11. Seasonal influenza vaccination may or may not offer some level of protection against a novel pandemic influenza strain.
12. It is highly unlikely that the most effective tool for mitigating a pandemic (a well matched pandemic strain vaccine) will be available when a pandemic begins.
13. The novel influenza virus may initially be spread by animals to people in Texas, or by people entering the state and already contagious with the virus.
14. Surveillance of pandemic influenza will provide information critical to the support of control measures, such as restricting travel, closing schools, canceling public gatherings, and initiating antiviral vaccine usage in target groups.
15. Systematic application of disease control measures may reduce the disease transmission rates with accompanying reductions in the intensity and velocity of pandemic influenza.
16. Control and monitoring of pandemic influenza will involve many state and federal agencies, not just those associated with public health activities.
17. Some individuals may not believe the reality of the threat posed by a pandemic influenza incident, and may take actions counterproductive to the government process to quarantine, control and treat infected people with the disease. Health education will be needed on multiple levels and at multiple points to achieve full cooperation.
18. Over the course of the pandemic, up to 50 percent of the work force may be absent due to illness, caretaking responsibilities, fear of contagion, and loss of public transportation or public health control measures. Local government and private industries must plan for the continuation of critical community infrastructure and services due to employee absenteeism.

Two scenarios are presented based on extrapolation of past pandemic experience:

*Table 1. Number of Episodes of Illness, Healthcare Utilization, and Death Associated with Moderate and Severe Pandemic Influenza Scenarios in Texas**

Characteristic	Moderate (1958/68- like)	Severe (1918-like)
Illness	7 million (30%) **	7 million (30%) **
Outpatient medical care	305 million (50%)	305 million (50%)
Hospitalization	67,300	770,000
ICU care	10,000	115,500
Mechanical ventilation	5,125	58,200
Deaths	16,260	186,000

Source: Texas Department of State Health Services, Pandemic Influenza Annex to the Continuity of Operations (COOP) Plan; May 2008

*Estimates based on extrapolation of CDC data from past pandemics. Note that these estimates do not include the potential impact of interventions not available during the 20th century pandemics.

**Estimates based on a 30% attack rate.

Federal Government Assumptions

(Taken From National Pan Flu Plan)

1. The clinical disease attack rate will be 30% in the overall population. Illness rates will be highest among school-aged children (about 40%) and decline with age. Among working adults, an average of 20% will become ill during a community outbreak.
2. Of those who become ill with influenza, 50% will seek outpatient medical care.
3. The number of hospitalizations and deaths will depend on the virulence of the pandemic virus. Estimates differ about 10-fold between more and less severe scenarios. The virulence of the influenza virus that causes the next pandemic cannot be predicted.
4. Risk groups for severe and fatal infections cannot be predicted with certainty. During annual fall and winter influenza season, infants and the elderly, persons with chronic illnesses, and pregnant women are usually at higher risk of complications from influenza infections. In contrast, in the 1918 pandemic, most deaths occurred among young, previously healthy adults.
5. The typical incubation period (the time between acquiring the infection until becoming ill), for influenza averages 2 days. We assume this would be the same for a novel strain that is transmitted between people by respiratory secretions.
6. On average about 2 secondary infections will occur as a result of transmission from someone who is ill. Some estimates from past pandemics have been higher, with up to about 3 secondary infections per primary case.
7. In an affected community, a pandemic outbreak will last about 6 to 8 weeks. At least two pandemic disease waves are likely. Following the pandemic, the new viral subtype is likely to continue circulating and to contribute to seasonal influenza.

8. The seasonality of a pandemic cannot be predicted with certainty. The largest waves in the U.S. during 20th century pandemics occurred in the fall and winter. Experience from the 1957 pandemic may be instructive in that the first U.S. cases occurred in June but no community outbreaks occurred until August and the first wave of illness peaked in October. The 2009 H1N1 pandemic was also an example to be learned from in the sense that the first outbreak began in March 2009 with cases continuing to increase throughout the summer.

Texas State Assumptions

(Taken from Texas DSHS Pandemic Influenza Plan Operating Guidelines)

1. DSHS will be operational during a pandemic influenza outbreak.
2. All approved critical functions have actionable COOP plans and capabilities in accordance with FPC 65.
3. A pandemic influenza event does not necessarily require the use of alternate facilities.

However, DSHS may utilize alternate facilities, along with other available locations, as precautions to separate staff, i.e., implement social distancing protocols. DSHS will work with Health and Human Services Commission (HHSC) and Texas Facilities Commission (TFC) to identify alternate facilities.

4. DSHS operations and support requirements will continue to be people-dependent.
These activities require human interactions to be carried out, however many interactions may not require face-to-face contact or can be conducted with precautionary measures.
5. Travel restrictions, such as limitations on mass transit, implemented at Federal, State, local and/or Tribal levels will affect the ability of staff to get to work.
6. DSHS shall consider strategies for use of antivirals for prophylaxis as part of a multifaceted approach, including social distancing strategies, to ensure the provision of essential public health services. These strategies shall comply with the DSHS Antiviral Allocation, Distribution, and Storage (AADS) Guidelines, and the DSHS Planning Guidelines for Nonpharmaceutical Interventions. The strategies may vary according to stages of the pandemic and the availability of antivirals.
7. Community/Regional illness will last 6 to 8 weeks, up to 12 weeks
8. Using current technology, no human vaccine for at least 6 months/limited vaccine for 6 months subsequent to production
9. There are between 1.4 million and 1.6 million undocumented people living in Texas who, by federal law, must be considered for communicable disease treatment.

Collin County Assumptions

The following assumptions are based on guidance from the CDC, Texas DSHS, medical education of Collin County staff, and lessons learned from past pandemic incidents and their subsequent research.

1. Susceptibility to pandemic influenza subtype will be universal.
2. The clinical disease attack rate is assumed to be 30% in the overall population. School-aged children will experience high attack rates (about 40%) and will be efficient vectors of transmission. An attack rate of 20% is assumed among working adults, who will become ill during a community outbreak. Risk groups cannot be predicted with certainty.
3. Of those who become ill, 50% will seek outpatient medical care.
4. Incubation period is typically 2 days. Persons who become ill may shed virus and transmit infection for 1-2 days prior to illness onset; viral shedding and transmission risk will be greatest during the first 1-3 days of illness. Children will shed the greatest amount of virus and are likely to pose the greatest risk for transmission. There will be an average of 2 days between the onset of a primary case and the symptom onset in secondary cases; there will be too little time to perform contact tracing.
5. On average, 2 secondary infections will occur resulting from transmission from someone who is ill.
6. In an affected community, a pandemic outbreak will last about 6-8 weeks. At least two pandemic waves are likely. Following the pandemic, a new viral subtype is likely to continue to circulate and contribute to seasonal influenza.
7. DFW International Airport is a major hub for international travel and ranks in the top 10 for passenger counts. This provides additional risk for exposure and transfer of pandemic influenza.
8. Resources and supplies, present in inadequate amounts, will be prioritized based on response.
9. Personnel shortages will occur in staffing community infrastructures including, but not limited to transportation, commerce, utilities, public safety, hospitals, clinics, and other health care facilities.
10. Certain public health measures (closing schools, quarantining household contacts of infected individuals, sheltering in place) will increase rates of absenteeism in workplaces.
11. Public and private medical, health, and mortuary services resources located in our county will be available for use during emergency situations; however, these resources may be adversely impacted by the emergency.
12. Disruption of sanitation services may increase the potential for disease and injury.

13. The public will require guidance on health hazard avoidance as well as potential reactions to any countermeasures administered.
14. State, and possibly federal, assistance may be available, upon request, to supplement local health and medical resources. Being a widespread event, it may be difficult to obtain mutual aid from the usual sources.
15. Case definitions are subject to change and can be found on the CDC website.
16. Priority groups will be identified by DSHS and CDC.
17. Supplies of antiviral medications and vaccines, once developed, will be severely limited.
18. Every effort will be made to ensure equal distribution, access, and follow-up for special populations through barrier identification and management.
19. The private health care system will serve as the primary source for antiviral medications for the treatment of ill patients.

V. CONCEPT OF OPERATIONS

It is widely understood that influenza pandemics in the past have been devastating, leading to millions of deaths worldwide. Pre-pandemic planning is essential if influenza pandemic-related morbidity, mortality, and social disruption are to be minimized. The rate at which pandemic will spread has been drastically increased due to modern social customs as well as frequent domestic and international travel. During the first wave of the pandemic, outbreaks may occur simultaneously in many locations throughout the nation, preventing a targeted concentration of national emergency resources in one or two places, leaving local resources to respond. In this scenario, the vaccine will not yet be available and the supply of antiviral drug will be limited.

Local outbreaks can last for weeks or months, circulating in individual households and entire communities, creating a significant and continuing burden on the health and prosperity of our communities. Widespread illness in a particular community could lead to shortages in the healthcare sector or other essential services.

Collin County must rely on its epidemiology functions to detect the earliest cases of the disease, to minimize illness and morbidity, decrease social disruption and economic loss.

A. General

1. CCHCS, in conjunction with DSHS, local providers, and hospitals, has the primary responsibility for determining the type, scope and public health impact of the situation; implementing control and prevention measures; and initiating epidemiologic investigation.

2. Pandemic influenza will span multiple jurisdictions and regions and require a comprehensive emergency response strategy.
3. The DHHS Pandemic Influenza Plan specifies that sustained human-to-human transmission anywhere in the world will be the triggering event to initiate a response by the United States.
4. The WHO, CDC, and/or FDA are responsible for vaccine development; vaccine formulation and production could require 3-6 months prior to becoming widely available.
5. It is expected that priority groups may be redefined during a crisis. CCHCS has utilized the North Central Texas Trauma Regional Advisory Council (NCTRAC) and Collin County Fire Marshal's office data to estimate the numbers of persons in priority groups. See Attachment D for these estimates.
6. The DSHS laboratory is the confirmatory agency in Texas regardless of private institution laboratory response while DSHS results are pending.
7. Disease control will rely upon all available means including, but not limited to, normal infection control processes, PPE for healthy individuals, public education messages, and disaster mental health services.

B. Disease Surveillance

1. Seasonal influenza data is routinely collected or received from:
 - a. hospitals
 - b. school districts
 - c. long-term care facilities
 - d. private physicians
 - e. child care centers
 - f. pharmacies*

*Collecting seasonal influenza data from pharmacies is contingent upon data being purchased. Therefore this is not always a source of data.

2. Seasonal influenza situational awareness is enhanced through surveillance activities, DSHS weekly flu reports, and CDC Morbidity and Mortality Weekly Reports, as well as any conference calls held by DSHS or the CDC.
3. Syndromic surveillance systems are monitored daily for ILI numbers based on fever with respiratory symptoms.
4. Viral specimens are collected routinely throughout the year and submitted to DSHS laboratory for characterization. Hospital infection control personnel, school nurses, and private physician offices are encouraged to submit specimens throughout the year.

5. The Collin County Medical Examiner's (CCME) office is a key surveillance partner in determining excess influenza mortality. CCME communicates with CCHCS's epidemiology team regarding abnormal influenza death rates.
6. Data received is analyzed and interpreted for trends. GIS may be used for spatial analysis.
7. Updates are distributed to key stakeholders.
 - a. CCHCS distributes information and updates to Collin County private and community physicians
 - b. Collin County Public Information Officer distributes information and updates to the general public

C. Non-pharmaceutical Interventions (NPI)

1. NPIs are critical for pandemic influenza containment.
2. The use of NPIs has three major goals:
 - a. minimize disease exposure,
 - b. disrupt disease transmission, and
 - c. reduce the total number of cases, thus reducing morbidity and mortality.
3. Timing of NPI initiation is critical for effectiveness. Early implementation may result in social hardship and public fatigue; late implementation may result in lowered public health benefit. Per CDC, NPIs may be initiated at pandemic phase 6 when R_0 is 1.5-2.0 and illness rate is 20% among adult and 40% among children.
4. NPI effectiveness depends on viral transmission characteristics; CCHCS will provide data and recommendations for appropriate strategies to be undertaken.
5. Infection control measures
 - a. Consists of interventions to minimize transmission between individuals, such as:
 - 1) hand hygiene,
 - 2) respiratory etiquette,
 - 3) use of PPE, and
 - 4) disinfection of contaminated surfaces.
 - b. Should be used in combination with all other pandemic strategies.
 - c. Guidance should be provided from federal, state, and local authorities on community PPE use. Interim guidelines include:

- 1) Whenever possible, rather than relying on the use of masks or respirators, close contact and crowded conditions should be avoided during an influenza pandemic.
- 2) Facemask use should be considered when entering crowded settings, for both protection of nose and mouth from other people's coughs and reduction of coughing on others; time spent in crowded settings should be as short as possible.
- 3) Respirator use should be considered by individuals for whom close contact with an infectious person is unavoidable, including selected individuals who must care for a sick person (e.g. a family member with a respiratory illness) at home.

6. Social distancing

- a. Consists of interventions to minimize contact between individuals, such as:
 - 1) school/child care closures,
 - 2) work closures/alteration of schedules, and/or
 - 3) restrictions on public gatherings and mass transportation.
- b. The majority of disease transmission will likely occur in the school, home, and workplace.
- c. Disruption of person-to-person transmission offers opportunities to suppress epidemic spread.
- d. Consideration must be given to duration of implementation, economic impacts, and socioeconomic disparities.
- e. Child social distancing
 - 1) Schools, in particular, serve as amplification points of seasonal epidemics, and children may play a significant role in introducing and transmitting influenza within households.
 - 2) Student dismissal from schools/school-based activities and childcare program closure coupled with children community social distancing may achieve social contact reduction and community mixing.
 - (a) During the 2009 H1N1 pandemic, it was found that school age children would gather regardless of school dismissal. They would congregate at games, malls, and other social venues.
 - (b) During the 2009 H1N1 pandemic, it was also difficult to cancel major sporting events such as the State Track Meet and local football games. There was a lot of public pushback and unrest that led to previously canceled events to be reinstated.
 - 3) Daycare groups should be encouraged to limit the number of children in a group; children should not move from group to group.
 - 4) At minimum, schools should discontinue the use of pod seating and place desks in rows.
 - 5) Recommendations for school closures will be made in coordination with DSHS and local school superintendents.

f. Adult social distancing

- 1) Large public gathering cancellation and alteration of workplace environments and schedules (i.e., staggered schedules) can decrease social density.
- 2) Employers will be encouraged to preserve a healthy workplace to the greatest extent possible without disrupting essential services and enable leave policies that align incentives and facilitate adherence with the NPIs.
- 3) Universities and private schools should consider allowing students to study from home and develop alternative study methods that could be utilized during a pandemic. Public schools of all grades should also consider this guidance, however it is understood that the infrastructure is not existent for home study in most cases.

7. Containment procedures

- a. The LHA will give recommendations/directives regarding isolation and quarantine measures.
- b. Isolation and quarantine procedures should not be utilized if transmission is widespread.
- c. May be voluntary or compulsory.
- d. Isolation
 - 1) Separation of ill persons.
 - 2) May occur in healthcare setting, home (personal or friend/relative), or dedicated facility depending on illness severity and/or current healthcare infrastructure capacity.
 - 3) Those not involved in primary care should be relocated, if possible, to minimize contact.
 - 4) Ill individuals and household members need clear, concise information about home care for an ill individual and when and where to seek medical care. Special consideration should be made for persons living alone, as they may be unable to care for themselves.
 - 5) If not contraindicated, patient should wear a surgical mask during contact with non-infected persons.
 - 6) Voluntary
 - (a) Ill individuals not requiring hospitalization will be requested to remain at home voluntarily for the infectious period after symptom onset.
 - (b) Voluntary home isolation of the ill is predicated on the assumption that many individuals who are not critically ill can and will need to be cared for in the home.
 - (c) Employers will be asked to support the recommendation that ill employees stay home.
- e. Quarantine

- 1) May be utilized to restrict the movement of those known to have been exposed to confirmed and probable cases.
- 2) Work quarantine may be implemented for healthcare workers or essential personnel; individuals will travel between work and home with daily symptom monitoring.
- 3) No specific precautions are needed for household members if the quarantined individual remains asymptomatic.
- 4) Voluntary
 - (a) Members of households with ill individuals may be recommended to stay home for an incubation period following household member symptom onset.
 - (b) If other family members become ill during this period, individuals may be recommended to extend the voluntary home quarantine for another incubation period from the time that the last family member becomes ill.

8. Public education

- a. Pre-event public education regarding health hazard avoidance, antiviral/vaccine priorities and distribution, social distancing, and personal preparedness is a critical component to the pandemic response.
 - b. Travel advisories and precautions prior to the pandemic period may contribute to transmission reduction.
 - c. Effective event communication will help maintain public awareness, avoid social disruption and panic, and provide information on evolving pandemic response activities.
9. NPIs can be combined with prophylactic use of antiviral medications, provided that sufficient quantities of effective medications exist and distribution is feasible.

D. Pharmaceutical Interventions

1. Limited resources
 - a. It is improbable that a vaccine will be available when the pandemic begins.
 - b. Antiviral medication quantities will likely be insufficient and may not be effective.
 - c. DHHS indicates expected shortages and delays in vaccine/antiviral medication availability.
2. Priority groups
 - a. Available countermeasures will be prioritized as per guidance from DSHS and the CDC.
 - b. Current DHHS vaccine priority group recommendations can be found in Attachment D.
3. Antiviral medications
 - a. Antivirals may be used to:
 - 1) treat those known to be infected,
 - 2) disrupt transmission among close contacts (e.g. household contacts),

- 3) as medical prophylaxis to those who may have been exposed to reduce susceptibility (e.g. nursing home residents), and/or
 - 4) as medical prophylaxis to those exposed to treat sub-clinical cases (e.g. containment event, such as a school setting).
 - b. The most recent dosing and administration guidelines will be used at the time of the event.
 - c. Texas' antiviral allocation contained in the SNS will be forward placed by the CDC after the WHO declares the beginning of Phase 4; DSHS will coordinate statewide distribution.
4. Vaccine
 - a. The Federal government will facilitate shipment of vaccine from the manufacturer to State and/or local entities.
 - b. Collin County will track all vaccine recipients and provide population vaccine coverage information to State authorities as requested.
 5. Countywide distribution will be executed as detailed in the SNS Distribution Plan as well as through vaccine push to pharmacies and private health care providers in Collin County.

E. Alternative Care Facilities

1. The goal of mass medical care is to allocate scarce resources in a manner different from usual circumstances but appropriate to the situation. There are no existing laws mandating the use of alternate care facilities; however, according to the HHS Pandemic Flu Plan, the responsibility for mass care resides with the local health department. CCHLS will work with CCHCS in this responsibility as it is understood that CCHLS' resources are limited.
2. If required, mass medical will be accomplished through coordination of state and local agencies according to standards developed during the disaster. It needs to be noted that CCHCS has only approximately 9 nurses on staff and is unable to conduct mass medical care operations without significant help in the form of personnel and resources from the State.
3. An influenza pandemic will place a substantial burden on in- and out-patient health care services. Illness and absenteeism among health care workers will further strain the ability to provide quality care.
4. ACFs could serve as a component in augmenting the surge capacity of hospitals.
5. ACFs may function as primary triage sites, providing limited supportive care (e.g. oral hydration or IV fluids), offering alternative isolation locations to influenza patients, and/or serving as recovery clinics to assist in expediting patient discharge from hospitals.

F. Communications

1. Goals
 - a. Provide effective communication to all stakeholders.

- b. Provide accurate, consistent, and comprehensive information including case definitions, treatment options, infection control measures, and reporting requirements.
 - c. Instill and maintain public confidence in the County's systems and abilities to respond and manage pandemic influenza.
 - d. Ensure an efficient mechanism for managing information between Collin County, health system partners, and response agencies.
 - e. Contribute to maintaining order, minimizing public panic and fear, and facilitating public compliance by providing accurate, rapid, and complete information.
2. Communicating information will be carried out according to the policies and procedures in Annex I, Public Information, to the Basic Plan.
3. Pre-event strategies
- a. Efforts should focus on pandemic influenza and personal preparedness.
 - b. Utilize traditional and nontraditional communications channels to educate and encourage annual influenza vaccination.
 - c. Increase education efforts detailing maintenance of good health habits.
 - d. Coordinate with adjacent jurisdictions to develop shared messages and educational materials.
 - e. Develop special/vulnerable populations communications strategy.
4. Pandemic strategies
- a. Develop messages to ensure timely and accurate information regarding
 - 1) basic influenza information, high-risk groups, and recommended preventive practices,
 - 2) pandemic epidemiology,
 - 3) symptoms that should prompt seeking of medical assistance,
 - 4) availability of vaccines/antiviral medications and priority group rationale,
 - 5) instructions for receiving medications at mass vaccination sites,
 - 6) directives for community level containment activities, and
 - 7) explanations of concepts such as isolation and quarantine.
 - b. Provide updates and regular media briefings.
 - c. Keep the public informed about
 - 1) steps that should be taken to protect against infection,
 - 2) treatment options for infected individuals,
 - 3) status of outbreak in the community, and
 - 4) disease control and containment strategies that are being implemented.
 - d. Actively outreach to underserved populations in cooperation with community organizations.
 - e. Monitor media reports and public inquiries to identify emerging issues, rumors, and misperceptions and respond accordingly.

G. Activities by Phases of Emergency Management

1. Mitigation

- a. Inventory existing medical and specimen shipping supplies.
 - b. Maintain flu outreach numbers given by CCHCS.
 - c. Coordinate response plans with area jurisdictions and physicians.
 - d. Continue hospital planning meetings and encourage reporting measures.
 - e. Test existing redundant communication systems.
 - f. Review pharmacy survey.
 - g. Encourage participation in Influenza Sentinel Provider Network and reporting of positive Influenza A and B rapid flu tests done at private medical facilities and physician offices.
 - h. Investigate off season occurrences of Influenza A and sites of increased morbidity and mortality associated with influenza or ILI.
 - i. Facilitate viral testing from surveillance sites, early-, mid- and late-season during flu season.
 - j. Submit surveillance cultures as requested by DSHS.
 - k. Encourage annual influenza vaccination for the general public and all health care providers.
 - l. Host mass vaccination clinics and exercises as resources allow.
 - m. Provide respiratory hygiene and personal protection education to the general public.
2. Preparedness
- a. Preparedness efforts are the responsibility of Collin County and organized by CCHLS with the assistance of CCHCS and other Collin County departments as necessary.
 - b. Have emergency plans accessible and initiate review.
 - c. Ensure contact information is accurate for medical stakeholders.
 - d. Initiate purchase of supplies (masks, hand sanitizer, disposable thermometers) for CCHCS.
 - e. Research PO's for medical supplies for overnight shipping.
 - f. Review quarantine and isolation procedures – ensure protocol awareness among local jurisdictions and hospitals.
 - g. Educate citizens about personal protective strategies and population level interventions that may be initiated.
 - h. Provide disease tracking information that is continuously updated to medical professionals.
 - i. Develop educational materials for use at alternative care sites.
 - j. Estimate target population of essential personnel and high risk individuals.
 - k. Review guidelines for mass vaccination clinics.
 - l. Identify sites and conduct assessments for alternate care facilities.
 - m. Identify sites for temporary morgues.
 - n. Educate health department staff, providers, and residents regarding behaviors that decrease transmission risk.
 - o. Investigate suspected influenza among residents with travel history to affected areas.
 - p. Facilitate viral testing among suspected cases of pandemic influenza as requested by DSHS.
 - q. Investigate and report to DSHS any cases of ILI
 - 1) outside of regular season,
 - 2) associated with travel to an affected region, and/or
 - 3) resulting in severe morbidity or mortality.
 - r. Communicate immunization needs to DSHS.

- s. Prepare for mass vaccination clinics.
 - t. Ensure cities have adequate PPE for first responders. Should Collin County's resources be exhausted in this function, the National Incident Management System will be consulted. Aid will be requested from the State.
 - u. Assist with coordination of needed supplies for alternate care sites.
3. Response
- a. Secure PO's for needed supplies for influenza identification, containment, disinfection, and treatment.
 - b. Utilize enhanced surveillance.
 - c. Establish phone bank and informational link on County website for public information.
 - d. Administer vaccine or antivirals, as available, according to DSHS recommendations.
 - e. Report amount of vaccine or antivirals utilized to DSHS, as requested.
 - f. Report, as requested by DSHS, age-specific attack rates, morbidity, and mortality.
 - g. Assist DSHS in determining vaccine efficacy.
 - h. Maintain heightened surveillance activities between waves.
 - i. Perform community containment activities as indicated by novel virus virulence.
4. Recovery
- a. Obtain all critical documents, information, and paperwork.
 - b. Conduct after-action review of response activities.
 - c. Evaluate responses and outcomes to initial pandemic waves to determine best practices; prepare for additional waves.
 - d. Advise the public when the emergency situation has been terminated
 - e. Restock supplies, if necessary.

H. WHO Phases and Collin County Response

Please note that for this section that the Federal Government Response Stages are not included. This is due to the system's over all inefficiency in the 2009 H1N1 Pandemic where it was found that the Federal Government Response Stages were not realistic.

Table 2

WHO Phases		Collin County Response
INTER-PANDEMIC PERIOD		
1	No new influenza virus subtypes have been detected in humans. An influenza virus subtype that has caused human infection may be present in animals. If present in animals, the risk of human disease is considered to be low.	CCHCS's epidemiological team will continue daily surveillance efforts and monitor DSHS and the CDC for further guidance and information.
2	No new influenza virus subtypes have been detected in humans. However, a circulating animal influenza virus subtype poses a substantial risk of human disease.	
PANDEMIC ALERT PERIOD		
3	Human infection(s) with a new subtype, but no human-to-human spread, or at most rare instances of spread to a close contact.	CCHCS's epidemiological team will continue daily surveillance efforts and monitor DSHS and the CDC for further guidance and information.
4	Small cluster(s) with limited human-to-human transmission but spread is highly localized, suggesting that the virus is not well adapted to humans.	CCHCS's epidemiological team will continue daily surveillance efforts. Public education regarding infection control measures and social distancing practices will begin. CCHLS and CCHCS will monitor DSHS and the CDC for further guidance and information.
5	Larger cluster(s) but human-to-human spread still localized, suggesting that the virus is becoming increasingly better adapted to humans, but may not yet be fully transmissible (substantial pandemic risk).	CCHCS's epidemiological team will continue daily surveillance efforts. Public education regarding infection control measures and social distancing practices will continue. CCHLS and CCHCS will monitor DSHS and the CDC for further guidance and information.
PANDEMIC PERIOD		
6	Pandemic phase: Increased and sustained transmission in general population.	CCHCS will monitor DSHS and the CDC for guidance and policy information. Public education regarding infection control measures and social distancing practices will continue.
		CCHCS will monitor DSHS and the CDC for guidance and policy information. If any clusters of infectious population exist in or around Collin County, notification will be made to private health care providers, the general populous, and Collin County government entities. Public education regarding infection control measures and social distancing practices will continue.
		CCHCS will monitor DSHS and the CDC for guidance and policy information, including but not limited to priority groups, antiviral distribution, and resource

		<p>allocation. Public education regarding infection control measures and social distancing practices will continue. Absentee rates from schools and hospital surge will be taken into account and the LHA will act as determined appropriate.</p> <p>Distribution of pharmaceutical interventions may require use of Strategic National Stockpile (SNS) supplies and resources. CCHCS and CCHLS will work together to create the Collin County Pandemic Influenza Incident Action Plan, which at the time of the pandemic will be determined by:</p> <ol style="list-style-type: none"> 1. The time of year the pandemic hits 2. The amount of available vaccine 3. The amount of available antivirals 4. The virulence of the pandemic 5. The portion of the population affected 6. The length of time the pandemic runs in Collin County and surrounding communities 7. Guidance and operating procedures of DSHS and the CDC
		<p>CCHCS will monitor DSHS and the CDC for guidance and policy information. CCHLS will resupply any SNS supplies that were deployed in previous incident. An incident Hotwash and After-Action Report will be compiled to note lessons learned and a corrective action plan. Public education will continue.</p>

I. Collin County’s Pandemic Influenza Response Actions

Table 3

Key Pandemic Response Actions	Key Capabilities Needed for Implementation of an Effective Response
Surveillance, Investigation, and Protective Public Health Measures	
<p>1. Increase surveillance in Collin County and surrounding areas. Monitor the outbreak investigation to track the emerging epidemiological patterns and impacts of disease caused by the novel influenza virus subtype.</p>	<p>1. Agreements with Federal, State, and Local partners, including schools, DSHS, CDC, and other U.S. government agencies, to improve the information sharing capability so that accurate and timely influenza surveillance information can be obtained from countries or communities where a potential pandemic virus strain is likely to emerge.</p>
<p>2. Determine feasibility of containing the initial outbreak of a potential pandemic, working in consultation with federal, state, and local partners and implement infection control and social distancing measures.</p>	<p>2. Assets (people, facilities, equipment, supplies, and exercised procedures) pre-staged or deployed to investigate, and if feasible, mount an immediate emergency response.</p>
<p>3. In conjunction with DSHS guidance,</p>	<p>3. Transport equipment and licensed personnel to</p>

obtain samples of the potential pandemic virus from infected people and distribute them to DSHS or the CDC laboratories type testing. Assess availability of vaccine and anti-virals, if available, against the pandemic virus.	transport specimens and media from local health providers to the DSHS laboratory. Personnel assess vaccine and antiviral stockpiles within Collin County, if available. See the Specimen Depot Standard Operation Guidelines (SOG)
4. Implement further control measures as deemed necessary by the LHA (e.g., school closure to further isolation of cases, voluntary quarantine of contacts, antiviral drug treatment and prophylaxis) especially working with special populations such as retirement homes and first responders who are at higher risk of infection.	4. Public Information Officer and LHA to advise Independent School Districts, retirement homes, first responders, etc. of guidance and procedures. Implement related protections to limit the introduction of pandemic influenza.
5. Enhance domestic surveillance to detect pandemic outbreaks, track the spread of virus in near real-time, and assess impacts on health and infrastructure.	5. Real-time or near real-time electronic connectivity with major Collin County healthcare institutions, DSHS, and the CDC to obtain daily influenza disease and resource availability information. Widely available, reliable, rapid, sensitive, and accurate diagnostic tests.
6. Implement public health measures to limit the spread of infection (e.g., canceling public gatherings) as well as individual measures to decrease the risk of acquiring or spreading infection (e.g., personal hygiene, isolation of ill persons).	6. Assets (people, facilities, equipment, supplies, and exercised procedures) to effect wide-spread individual and community-based infection control measures and educate individuals on personal protection strategies.
7. Monitor pandemic response actions and assess their effectiveness.	7. Assets (people, facilities, equipment, supplies, and exercised procedures) to analyze data continually during the course of the pandemic to guide response activities and to assess the safety and efficacy of interventions.

Key Pandemic Response Actions	Key Capabilities Needed for Implementation of an Effective Response
Vaccines and Antiviral Drugs	
1. Consider administration of current seasonal vaccine, if available, to pre-defined groups critical to the pandemic response. This could provide partial immune protection and/or prime the immune system for a protective response once a targeted pandemic vaccine becomes available.	1. Agreements with regional partners, including hospitals and other U.S. government agencies, to improve the capability and capacity of local public health providers so that accurate and timely influenza surveillance information can be obtained.
2. In conjunction with DSHS and the CDC, order vaccine against the specific pandemic virus strain for	2. Assets (people, facilities, equipment, supplies, and exercised procedures) to order and distribute sufficient pandemic vaccine for the Collin County

Collin County. Define distribution methods at this time as noted in the Collin County Incident.	population. Note Vaccine production could take up to 6 months of the onset of influenza pandemic. Consider liability concerns for vaccine distribution.
3. Allocate and administer pandemic vaccine to pre-defined priority groups. If possible, consider push sites for communities who would have trouble accessing normal distribution methods and to discourage a mass surge of persons in on area requesting the vaccine. Ensure security for protection of scarce vaccines.	3. Collin County will follow state and local vaccine distribution plans, guided by recommendations for use of pandemic vaccine when supply is short, that are specific, implementable, and which have been practiced in tabletop and field exercises. SNS POD sites will most likely be used. Collin County will establish contracts with private and public partners in advance to ensure that there is no double dipping of reimbursement or payment for the services rendered.
4. Monitor vaccine coverage and track vaccine use so persons who receive initial pandemic vaccine can return for a second dose, if required. Monitor for adverse events following vaccination and conduct studies to assess vaccine safety and effectiveness.	4. Assets (people, facilities, equipment, supplies, and exercised procedures) to monitor vaccine coverage, adverse events, and effectiveness.
5. Allocate stockpiled antiviral drugs, if available, for use in pre-defined high-risk and critical infrastructure populations.	5. Follow state and local antiviral drug distribution plans, guided by recommendations for use of pandemic vaccine when supply is short, that are specific, implementable, and have been practiced in tabletop and field exercises. This guidance comes from the CDS and DSHS. Currently, Collin County does not stockpile any antiviral drugs.
6. Monitor antiviral drug distribution and adverse events. Submit findings to appropriate authorities.	6. Assets (people, facilities, equipment, supplies, and exercised procedures) to monitor antiviral distribution, adverse events, and effectiveness.

Key Pandemic Response Actions	Key Capabilities Needed for Implementation of an Effective Response
Healthcare and Emergency Response	
1. Distribute State given stockpiled equipment and other medical material needed to treat and care for infected individuals to hospitals that provide direct patient care as deemed necessary.	1. Equipment and supplies maintained in Collin County’s Strategic National Stockpile and state stockpiles in Collin County’s custody sufficient to enhance medical surge capacity.
2. Test patient specimens using highly accurate (sensitive and specific) rapid diagnostic tests to identify pandemic outbreaks in communities and contribute to management decision.	2. Widely available accurate rapid diagnostic methods to detect and characterize influenza viruses.
3. Assist communities with surge mortuary services to accommodate a large number of expected fatalities.	3. Assets (people, facilities, equipment, supplies, and exercised procedures) for the timely, safe, and respectful disposition of the deceased.

	MOUs and other contracts that Collin County has with funeral homes, refrigerated trucks, etc for emergency mortuary surge. These contracts are maintained by CCME office and CCHLS.
4. Provide psychosocial support to responders and affected communities.	4. Institutionalization of psychosocial support services and development of workforce resiliency programs. Public education could also be deployed to further this goal.

Key Pandemic Response Actions	Key Capabilities Needed for Implementation of an Effective Response
Communication and Outreach	
1. Public education and information campaign to 1) communicate measures the public can implement to minimize risk and decrease the spread of infection; 2) provide honest, accurate, understandable and timely information; and 3) counter confusion and panic. Education materials and information campaigns will be translated into Spanish.	1. Pre-tested risk communication materials that provide the public easy-to-understand information regarding pandemic influenza and how individuals can protect themselves and help others during an influenza pandemic and appropriate use of vaccines and antiviral drugs. Pre-tested procedures through which public authorities within Collin County will provide information and guidance to the public (including marginalized, disadvantaged, and foreign-language populations) during an influenza pandemic.
2. In conjunction with CCHCS and the CCPIO, communicate the distribution methods and priority groups to the general public.	2. Assets (people, facilities, equipment, supplies, and exercised procedures) to send communication and materials to the public at large
3. Send tests of patient specimens using highly accurate (sensitive and specific) rapid diagnostic tests to identify pandemic outbreaks in communities and contribute to management decision.	3. Widely available accurate rapid diagnostic methods to detect and characterize influenza viruses.
4. Assist communities with surge mortuary services to accommodate a large number of expected fatalities.	4. Assets (people, facilities, equipment, supplies, and exercised procedures) for the timely, safe, and respectful disposition of the deceased.
5. Provide psychosocial support to responders and affected communities.	5. Institutionalization of psychosocial support services and development of workforce resiliency programs.

J. Collin County and the Pandemic Severity Index:

The Centers for Disease Control and Prevention (CDC) recommendations for community level intervention strategies by pandemic severity index have been adopted by the state of Texas.

There is an array of possible non-pharmaceutical interventions that can be used by communities to prepare for, respond to, and recover from an influenza pandemic. Some of these interventions can be

used regardless of pandemic severity, while other more extreme measures would be used only during severe pandemics. It is generally accepted that each pandemic experience will be different (e.g. waves may peak at different times). The Pandemic Severity Index can assist Collin County to make critical strategic decisions which reflect these differences.

Pandemic Severity- Categories Defined

Category 1 Pandemics (*Case Fatality Ratio <0.1%*)

During a *Category 1* influenza pandemic, fewer than 7,200 Texans are expected to die given a 30% illness rate and a case fatality ratio of less than 0.1%. Voluntary isolation is always recommended for anyone ill with influenza. People who are ill are encouraged to stay home, away from others, until their illness passes. Voluntary quarantine of household members in homes with ill persons and other social distancing measures are generally not recommended during a *Category 1* pandemic; however, communities should base their recommendations on the local experience with the disease.

Category 2–3 Pandemics (*Case Fatality Ratio 0.1% to <1.0%*)

During a *Category 2* pandemic, possible 7,200–36,000 deaths are estimated statewide; during a *Category 3* pandemic 36,000–72,000 deaths are estimated. Again, planning for voluntary isolation of ill persons is recommended, whereas other measures (voluntary quarantine of household contacts, social distancing measures for children and adults) might be implemented if local decision-makers have determined that characteristics of the pandemic within their community warrant these additional interventions.

Category 4–5 Pandemics (*Case Fatality Ratio $\geq 1.0%$*)

The number of deaths among Texans during a *Category 4* pandemic is expected to be between 72,000 and 144,000 (assuming a case fatality ratio of 1.0% to <2.0%). The expected number of deaths rises to more than 144,000 Texans during a *Category 5* pandemic (assuming a case fatality ratio of at least 2.0%). Because of the increased risk of death among those who become ill, it is recommended that communities plan for implementation of all non-pharmaceutical interventions listed in Table 1 during a *Category 4* or *Category 5* pandemic. Under these severe conditions, communities should prepare to enforce these recommendations throughout the initial and subsequent pandemic waves. This might include the dismissal of students from schools and school-based activities and closure of childcare programs for up to 12 weeks during a particular wave.

Intervention Strategies by Setting, Pandemic Severity, and Phase

Interventions* by Setting	Pandemic Severity Index		
	1	2 and 3	4 and 5
Home Voluntary isolation of ill at home (adults and children); combine with use of antiviral treatment as available and indicated	Recommend^{†§}	Recommend^{†§}	Recommend^{†§}
Voluntary quarantine of household members in homes with all ill persons [¶] (adults and children); consider combining with antiviral prophylaxis if effective, feasible, and quantities sufficient	Generally not recommended	Consider^{**}	Recommend^{**}
School Child social distancing ➤Dismissal of students from schools and school-based activities, and closure of child care programs.	Generally not recommended	Consider: ≤ 4 weeks^{††}	Recommend: ≤ 12 weeks^{§§}
➤Reduce out-of-school social contacts and community mixing	Generally not recommended	Consider: ≤ 4 weeks^{††}	Recommend: ≤ 12 weeks^{§§}
Workplace/Community Adult social distancing ➤Decrease number of social contacts (e.g., encourage teleconferences, alternatives to face-to-face meetings)	Generally not recommended	Consider	Recommend
➤Increase distance between persons (e.g., reduce density in public transit, workplace)	Generally not recommended	Consider	Recommend
➤Modify, postpone, or cancel selected public gatherings to promote social distance (e.g., postpone indoor stadium events, theatre performances)	Generally not recommended	Consider	Recommend
➤Modify, work place schedules and practices (e.g., telework, staggered shifts)	Generally not recommended	Consider	Recommend

Generally not recommended = Unless there is a compelling rationale for specific populations or jurisdictions, measures are generally not recommended for entire populations as the consequences may outweigh the benefits.

Consider = Important to consider these alternatives as part of a prudent planning strategy, considering characteristics of the pandemic, such as age-specific illness rate, geographic distribution, and the magnitude of adverse consequences. These factors may vary globally, nationally, and locally.

Recommended = Generally recommended as an important component of the planning strategy.

*All these interventions should be used in combination with other infection control measures, including hand hygiene, cough etiquette, and personal protective equipment such as facemasks. Additional information on infection control measures is available at www.pandemicflu.gov.

[†] This intervention may be combined with the treatment of sick individuals using antiviral medications and with vaccine campaigns, if supplies are available

[§] Many sick individuals who are not critically ill may be managed safely at home.

[¶] The contribution made by contact with asymptotically infected individuals to disease transmission is unclear. Household members in homes with ill persons may be at increased risk of contracting pandemic disease from an ill household member. These household members may have asymptomatic illness and may be able to shed influenza virus that promotes community disease transmission. Therefore, household members of homes with sick individuals should be advised to stay home.

**To facilitate compliance and decrease risk of household transmission, this intervention may be combined with provision of antiviral medications to household contacts, depending on drug availability, feasibility of distribution, and effectiveness; policy recommendations for antiviral prophylaxis are addressed in a separate guidance document.

^{††} Consider short-term implementation of this measure—that is, less than 4 weeks.

^{§§} Plan for prolonged implementation of this measure—that is, 1 to 3 months; actual duration may vary depending on transmission in the community as the pandemic wave is expected to last 6–8 weeks.

Note: From *Community Strategy for Pandemic Influenza Mitigation* (CDC, February 2007)

VI. ORGANIZATION AND ASSIGNMENT OF REPONSIBILITIES

A. Organization

1. Collin County's normal emergency organization, described in Section VI and Attachment 3 of the Basic Plan shall coordinate pandemic influenza response efforts.
2. The organization of command operations will be in accordance with standard ICS /NIMS organizational principles.

B. Assignment of Responsibilities

1. The County Judge will:
 - a. Establish general policy guidance for emergency operations.
 - b. Approve emergency public information to be released to the public through the news media or other means.
 - c. Direct activation of the EOC.
 - d. Coordinate efforts and request assistance from other local governments or the State when necessary.
2. The EMC will:
 - a. Coordinate countermeasure distribution, as needed.
 - b. Serve as a staff advisor to the County Judge on emergency management matters and keep the County governing body apprised of preparedness status and emergency management needs.
 - c. Manage the EOC, develop procedures for its operation, and activate the EOC when required.
 - d. Serve as the principal County liaison with other EOCs and EMCs; local, state and federal government officials; and appropriate private and public organizations.
 - e. Develop and execute strategies, programs, training programs, exercises, and communication materials to maintain Collin County's emergency preparedness as well as coordinate local planning and preparedness activities.
 - f. Develop and maintain MOUs.
3. CCHLS and CCHCS will:
 - a. Assist with planning and development of detailed pandemic influenza response procedures, as well as disaster response procedures including prevention, mitigation, preparation, response and recovery.
 - b. Promote community preparedness activities to minimize the effect of yearly epidemics and establish linkages (community service organizations, medical providers, hospitals, critical infrastructure) for service provision during a pandemic.
 - c. Research, prepare and submit grant proposals for available government funding to support aforementioned programs and projects.
 - d. Assist with disaster mental health services acquisition.
4. The LHA and Health Care Services will:

- a. Collaborate with the EMC, oversee medical operations, provide technical support, and recommend control measures.
 - b. Oversee disease and syndromic surveillance.
 - c. Oversee and coordinate disease investigation with appropriate local, State, and Federal authorities.
 - d. Provide isolation and quarantine orders.
 - e. Oversee and provide updated information to medical providers and hospitals.
5. The County Sheriff will:
- a. Be responsible, along with Support Command (designated personnel from local law enforcement, fire, EMS, public works, and communications) for coordinating and deploying all support resources through the EOC.
 - b. Coordinate with and report directly to the EMC and be based out of the EOC.
 - c. Maintain law and order during emergency situations.
 - d. Provide security for key facilities.
 - e. Carry out traffic and crowd control where needed.
 - f. Manage the local warning system (Annex A).
 - g. Manage local emergency communications network (Annex B).
6. The PIO will:
- a. Disseminate public information and health education to the media and stakeholders.
 - b. Be responsible for developing official press statements and managing the operations of the Press Briefing Room.
 - c. Develop and implement a public notification plan.
 - d. Be based out of the EOC.
 - e. Promote community preparedness activities to minimize the effect of yearly epidemics and establish linkages (community service organizations, medical providers, hospitals, critical infrastructure) for service provision during a pandemic.
7. The County Purchasing Officer will:
- a. Serve as the EOC Logistics Chief.
 - b. Be responsible for coordinating all logistical resources through the EOC.
 - c. Coordinate with and report directly to the EMC and be based out of the EOC.
8. The County Auditor will:
- a. Serve as the Finance Chief.
 - b. Be responsible for coordinating all financial resources with the EOC.
 - c. Document resources used during an event for reimbursement purposes.
 - d. Coordinate with and report directly to the EMC and be based out of the EOC.

VII. DIRECTION AND CONTROL

A. General

- 1. The Collin County Judge shall, pursuant to NIMS, provide general guidance for disaster response and recovery operations.

2. The EMC will provide overall response activity direction of all involved departments.
3. The LHA may impose control measures on individuals, property, common carriers, and conveyances.
4. During emergency operations, department heads retain administrative and policy control over their employees and equipment and will carry out mission assignments as directed by the EMC.
5. If Collin County's resources are insufficient or inappropriate to deal with an emergency situation, we may request assistance from other jurisdictions, organized volunteer groups, and/or state/federal government.

B. Line of Succession

See Annex H, Health and Medical Services and the North Central Texas Fusion Center Continuity of Operations Plan.

VIII. READINESS LEVELS

A. Level IV – Normal Conditions

See mitigation and preparedness activities in Section V.H.1 and V.H.2.

B. Level III – Increased Readiness

1. Review plans and procedures and update if needed.
2. Monitor the situation.
3. Alert key personnel.
4. Check readiness of equipment, supplies, and facilities; correct deficiencies.
5. Ensure volunteer source lists are current and accurate.
6. Review external agreements.

C. Level II – High Readiness

1. Monitor the situation.
2. Consider activation of the EOC for increased situation monitoring and pre-planning.
3. Alert personnel for possible emergency duty.
4. Issue public information and provide warnings.
5. Alert external resources covered by ILAs, MOUs, and MAAs.
6. Pre-stage assets, where appropriate.

D. Level I – Maximum Readiness

1. Activate the EOC to increase situation monitoring, planning, and resource management.
2. Coordinate with Federal, State, and local jurisdictions, health care service providers, and private partners to control pandemic spread.

IX. ADMINISTRATION AND SUPPORT

A. Administration

Administration of this plan will be the responsibility of the EMC and LHA.

B. Reports

1. Initial Emergency Report: An Initial Emergency Report should be prepared and disseminated for major emergencies and disasters where state assistance may be required. This short report is designed to provide basic information about an emergency situation. See Annex N, Direction and Control.
2. Situation Report: For major emergencies and disasters where emergency response operations continue over an extended period, a Situation Report should be prepared and disseminated daily. This report is designed to keep the Disaster District, other jurisdictions providing resource support for emergency operations, and jurisdictions that may be affected by the emergency situation informed about the current status of operations. See Annex N, Direction and Control.

C. Maintenance and Preservation of Records

1. Maintenance of Records. All records generated during an emergency will be collected and filed in an orderly manner so a record of events is preserved for use in determining response costs, settling claims, and updating emergency plans and procedures.
2. Documentation of Costs. All departments and agencies will maintain records of personnel and equipment used and supplies expended during emergency response operations as a basis for possible cost recovery from a responsible party or insurer or possible reimbursement of expenses by the state or federal government.
3. Preservation of Records. Vital records should be protected from the effects of disaster to the maximum extent feasible. Should records be damaged during an emergency situation, professional assistance in preserving and restoring those records should be obtained as soon as possible.

D. Training and Exercises

1. The EMC will oversee pandemic influenza related training, exercise(s), and evaluation(s).
2. Pandemic influenza training is held annually.
3. Public health emergency response call down rosters are reviewed for accuracy and tested quarterly.

E. Resources

A listing of resources can found in Attachment B, Collin County Resources and in Annex M, Resource Management, of the Basic Plan.

F. Post Incident Review

For large-scale incidents, the EMC shall organize and conduct a review of emergency operations in accordance with the guidance provided in Section IX.F of the Basic Plan. The purpose of this review is to identify needed improvements in this plan, procedures, facilities, and equipment.

X. PLAN DEVELOPMENT AND MAINTENANCE

- A. CCHLS and CCHCS are responsible for developing and maintaining this plan. Recommended changes to this appendix should be forwarded as needs become apparent.
- B. This plan will be revised annually, updated in accordance with the schedule outlined in Section X of the Basic Plan, and reviewed based on assessments, trainings, and exercises.
- C. Departments and agencies assigned responsibilities in this appendix are responsible for developing and maintaining SOPs covering those responsibilities.

XI. REFERENCES

- A. Appendix E: WHO and Federal Government Response Phases for Pandemic Influenza, January 2008
- B. CDC Pandemic Severity Index
- C. www.Flu.gov
- D. Antiviral Allocation, Distribution, and Storage Plan. Texas Department of State Health Services, March 2007.
- E. CDC website: <http://www2a.cdc.gov/od/fluaid/default.htm#Sectiond>.
- F. Community Strategy for Pandemic Containment. Centers for Disease Control, February 2007.
- G. CSTE Executive Committee; January 9, 2007.
- H. DSHS Pandemic Influenza Plan Operating Guidelines, Appendix: Non-pharmaceutical Mitigation Strategies. Texas Department of State Health Services, March 2007.
- I. HHS Pandemic Influenza Plan. Department of Health and Human Services, 2005.
- J. Influenza Pandemic Operations Plan. Centers for Disease Control, March 2007.
- K. Our Community Checkup. Dallas/Fort Worth Hospital Council, 2005.
- L. Pandemic Influenza Response. Texas Department of State Health Services, March 2007.
- M. Providing Mass Medical Care with Scarce Resources: A Community Planning Guide. Agency for Healthcare Research and Quality, February 2007.
- N. Summary of Interim Public Health Guidance on the use of Facemasks and Respirators in Non-occupational settings. Centers for Disease Control, April 2007.

- O. The Prospect of Using Alternative Medical Care Facilities in an Influenza Pandemic. Lam, C., Waldhorn, R., Toner, E., Inglesby, T., and O’Toole, T. Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science; November 2006.
- P. WHO global influenza preparedness plan: The role of WHO and recommendations for national measures before and during pandemics. WHO/CDS/CSR/GIP/2005.5.

Attachments

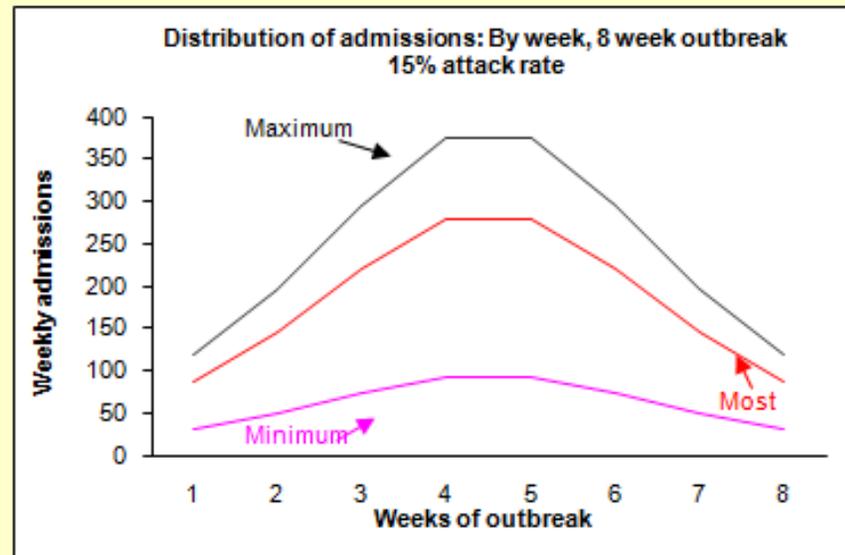
Attachment A.....Mortality Impact of Pandemic Influenza on Collin County
Attachment B..... Resources
Attachment C..... Pandemic Phases
Attachment D.....DHHS Vaccine Priority Group Recommendations
Attachment E..... Suspect Highly Pathogenic Avian Influenza (H5N1) Flow Chart
Attachment F..... WHO Phases, Federal Government Response Stages, and
Corresponding CDC Intervals

ATTACHMENT A
MORTALITY IMPACT OF PANDEMIC INFLUENZA ON COLLIN COUNTY

The following estimations were made using Flu Aid provided by the CDC. The estimations are based on a model indicating no vaccine is available and the pandemic is evenly distributed over four weeks. The model does not account for ill health care workers and does not estimate numbers of persons isolated to the home or the economic impact of illness. The numbers ill are based on those with clinical illness, causing them to miss a half day of work or visit a physician’s office for their illness.

Expected Collin County Mortality Rates: Pandemic Influenza Impact/ Attack Rate Scenario of 15% and a 8 Week Outbreak

Pandemic Influenza Impact / Attack Rate	15%
Total Hospital Admissions	
Most Likely Scenario	1,461
Minimum Scenario	489
Maximum Scenario	1,965
Total Deaths	
Most Likely Scenario	266
Minimum Scenario	125
Maximum Scenario	474



Hosp Adm. / Week	1	2	3	4	5	6	7	8
Most Likely Scenario	88	146	219	278	278	219	146	88
Minimum Scenario	29	49	73	93	93	73	49	29
Maximum Scenario	118	196	295	373	373	295	196	118

Calculated using FluSurge2.0

Total Hospital Admission (most likely): 1,461	Total Deaths (most likely): 266
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Pandemic Influenza Impact / Weeks		1	2	3	4	5	6	7	8	9	10
Hospital Admission	Weekly admissions	88	146	219	278	278	219	146	88		
	Peak admissions/day				43	43					
Hospital Capacity	# of influenza patients in hospital	64	107	161	204	211	186	142	93		
	% of hospital capacity needed	5%	8%	12%	15%	16%	14%	11%	7%		
ICU Capacity	# of influenza patients in ICU	13	28	43	57	61	60	47	33		
	% of ICU capacity needed	6%	13%	19%	26%	28%	27%	21%	15%		
Ventilator Capacity	# of influenza patients on ventilators	7	14	21	28	31	30	24	16		
	% usage of ventilator	5%	12%	18%	24%	26%	25%	20%	14%		
Deaths	# of deaths from influenza			16	27	40	51	51	40	27	16
	# of influenza deaths in hospital			11	19	28	35	35	28	19	11

Notes: 1. All results showed in this table are based on most likely scenario.

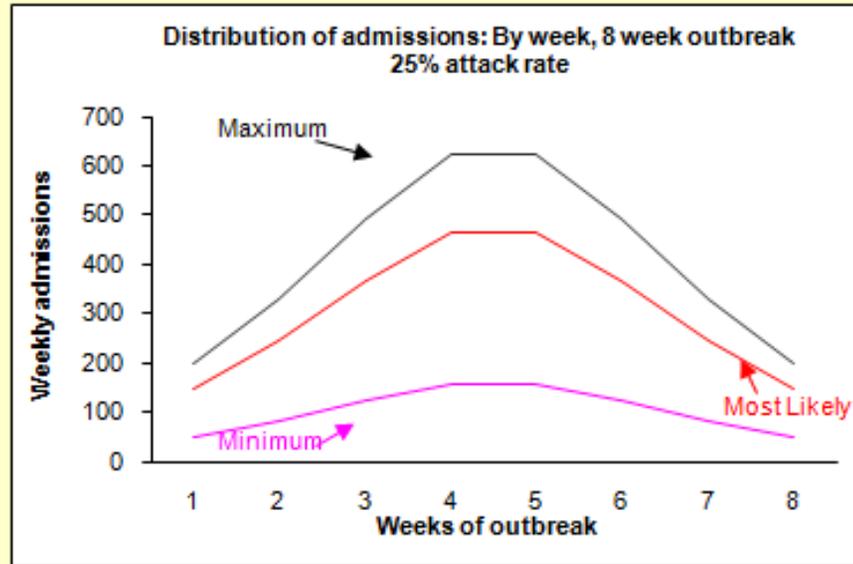
2. Number of influenza patients in hospital, in ICU, and number of influenza patients on ventilators are based on maximum daily number in a relevant week.
3. Hospital capacity used, ICU capacity used, and % usage of ventilator are calculated as a percentage of total capacity available (see manual for details).
4. The maximum number of influenza patients in the hospital each week is lower than the number of weekly admissions because we assume a 5-day stay in general wards (see manual for details).

The charts and calculations above are based on the following estimates and resources in Collin County:

1. 2009 census population: 791,631
 - a. 0-19 yrs age group: 221,657
 - b. 20-64 years age group: 506,643
 - c. 65+ years age group: 63,331
2. Total licensed hospital non-ICU beds: 1,333
3. Total licensed hospital ICU beds: 221
4. Total number of hospital ventilators: 120

Expected Collin County Mortality Rates: Pandemic Influenza Impact/ Attack Rate Scenario of 25% and a 8 Week Outbreak

Pandemic Influenza Impact / Attack Rate	25%
Total Hospital Admissions	
Most Likely Scenario	2,436
Minimum Scenario	816
Maximum Scenario	3,275
Total Deaths	
Most Likely Scenario	443
Minimum Scenario	209
Maximum Scenario	791



Hosp Adm. / Week	1	2	3	4	5	6	7	8
Most Likely Scenario	146	244	365	463	463	365	244	146
Minimum Scenario	49	82	122	155	155	122	82	49
Maximum Scenario	196	327	491	622	622	491	327	196

Calculated using FluSurge2.0

Total Hospital Admission (most likely): 2,436	Total Deaths (most likely): 443
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Pandemic Influenza Impact / Weeks		1	2	3	4	5	6	7	8	9	10
Hospital Admission	Weekly admissions	146	244	365	463	463	365	244	146		
	Peak admissions/day				72	72					
Hospital Capacity	# of influenza patients in hospital	107	179	269	340	352	310	237	156		
	% of hospital capacity needed	8%	13%	20%	26%	26%	23%	18%	12%		
ICU Capacity	# of influenza patients in ICU	22	46	71	94	102	99	79	54		
	% of ICU capacity needed	10%	21%	32%	43%	46%	45%	36%	25%		
Ventilator Capacity	# of influenza patients on ventilators	11	23	36	47	51	50	39	27		
	% usage of ventilator	9%	19%	30%	39%	43%	41%	33%	23%		
Deaths	# of deaths from influenza			27	44	66	84	84	66	44	27
	# of influenza deaths in hospital			19	31	47	59	59	47	31	19

Notes: 1. All results showed in this table are based on most likely scenario.

2. Number of influenza patients in hospital, in ICU, and number of influenza patients on ventilators are based on maximum daily number in a relevant week.

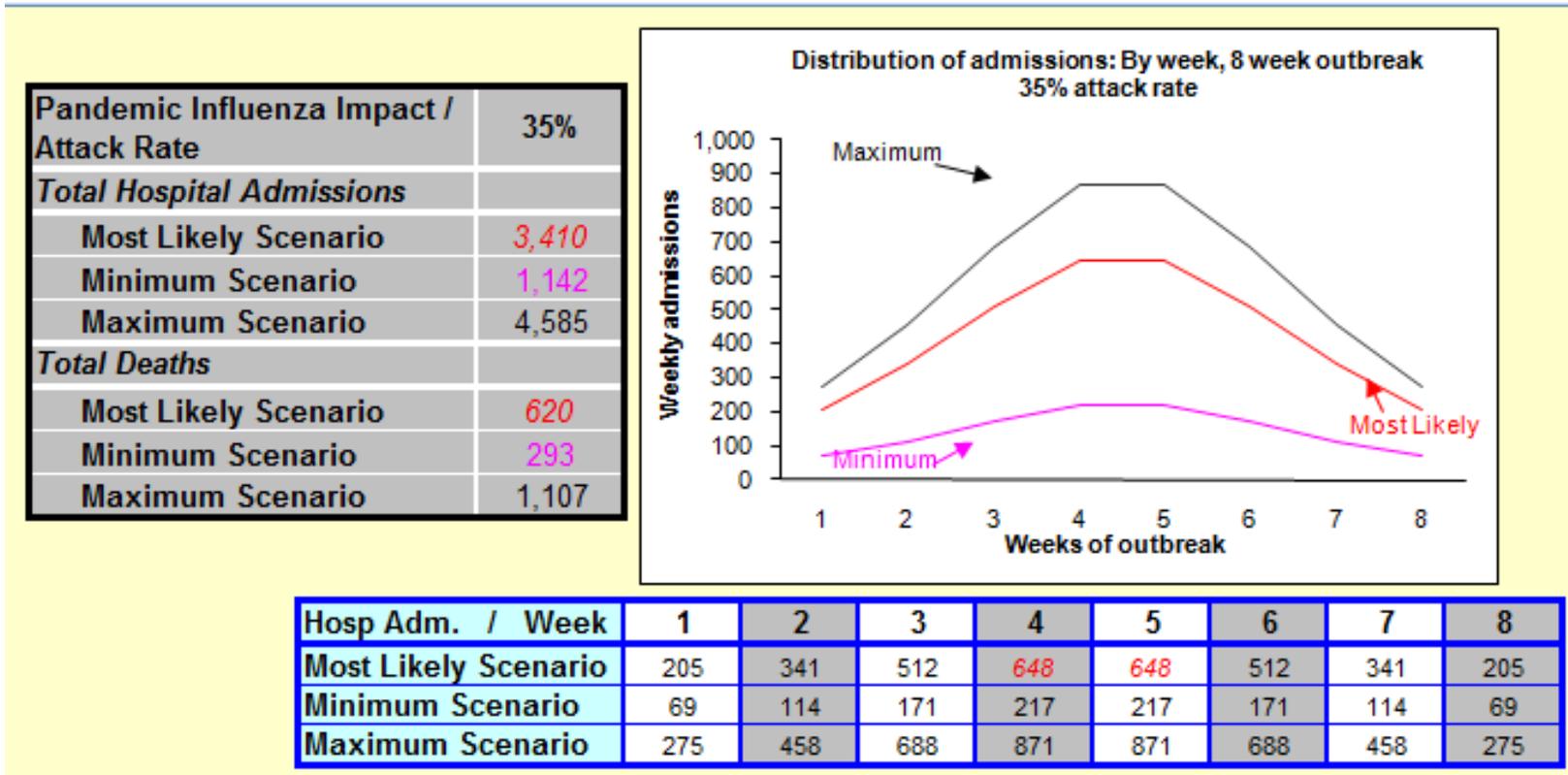
3. Hospital capacity used, ICU capacity used, and % usage of ventilator are calculated as a percentage of total capacity available (see manual for details).

4. The maximum number of influenza patients in the hospital each week is lower than the number of weekly admissions because we assume a 5-day stay in general wards (see manual for details).

The charts and calculations above are based on the following estimates and resources in Collin County:

1. 2009 census population: 791,631
 - a. 0-19 yrs age group: 221,657
 - b. 20-64 years age group: 506,643
 - c. 65+ years age group: 63,331
2. Total licensed hospital non-ICU beds: 1,333
3. Total licensed hospital ICU beds: 221
4. Total number of hospital ventilators: 120

Expected Collin County Mortality Rates: Pandemic Influenza Impact/ Attack Rate Scenario of 35% and a 8 Week Outbreak



Calculated using FluSurge2.0

Total Hospital Admission (most likely): 3,410	Total Deaths (most likely): 620
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Pandemic Influenza Impact / Weeks		1	2	3	4	5	6	7	8	9	10
Hospital Admission	Weekly admissions	205	341	512	648	648	512	341	205		
	Peak admissions/day				101	101					
Hospital Capacity	# of influenza patients in hospital	150	251	376	476	493	433	332	218		
	% of hospital capacity needed	11%	19%	28%	36%	37%	33%	25%	16%		
ICU Capacity	# of influenza patients in ICU	31	65	100	132	143	139	110	76		
	% of ICU capacity needed	14%	29%	45%	60%	65%	63%	50%	35%		
Ventilator Capacity	# of influenza patients on ventilators	15	33	50	66	71	69	55	38		
	% usage of ventilator	13%	27%	42%	55%	60%	58%	46%	32%		
Deaths	# of deaths from influenza			37	62	93	118	118	93	62	37
	# of influenza deaths in hospital			26	43	65	82	82	65	43	26

Notes: 1. All results showed in this table are based on most likely scenario.

2. Number of influenza patients in hospital, in ICU, and number of influenza patients on ventilators are based on maximum daily number in a relevant week.
3. Hospital capacity used, ICU capacity used, and % usage of ventilator are calculated as a percentage of total capacity available (see manual for details).
4. The maximum number of influenza patients in the hospital each week is lower than the number of weekly admissions because we assume a 5-day stay in general wards (see manual for details).

The charts and calculations above are based on the following estimates and resources in Collin County:

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 - a. 0-19 yrs age group: 221,657
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 - c. 65+ years age group: 63,331
2. Total licensed hospital non-ICU beds: 1,333
3. Total licensed hospital ICU beds: 221
4. Total number of hospital ventilators: 120

ATTACHMENT B RESOURCES

Personnel	Estimated Number
Primary Care Physicians*	500
Physician Assistants*	132
Registered Nurses*	4,220
Licensed Practical Nurses*	709
Pharmacists*	657
Medical-Radiology Technicians*	448
First Responders – Fire/EMS**	952
First Responders – Police**	1033
Public Works**	711
Administrative Staff	422
Total	9784

*DFW Hospital Council Community Checkup 2008

** Collin County Fire Marshal's office

Hospital	Address	Phone
Baylor Medical Center at Frisco (BMCF)	5601 Warren Pkwy, Frisco 75034	972.618.2000
Baylor Regional Medical Center (BRMC)	4700 Alliance Blvd, Plano 75093	469.814.2000
Centennial Medical Center (CMC)	12505 Lebanon Rd, Frisco 75035	972.963.3333
Children's Medical Center Legacy	7601 Preston Road, Plano 75024	469.303.7000
Healthsouth Plano Rehabilitation Hospital	2800 W. 15 th St, Plano 75075	972.612.9000
LifeCare Hospital Plano	6800 Preston Rd, Plano 75024	214.473.8822
Medical Center of McKinney (MCMC)	4500 Medical Center Pkwy, McKinney 75069	972.547.8000
Medical Center of Plano (MCP)	3901 W 15 th St, Plano 75075	972.596.6800
Methodist McKinney Hospital	8000 W. El Dorado Pkwy, McKinney 75070	972.569.2700
Plano Specialty Hospital	1621 Coit Rd, Plano 75075	972.758.5200
Presbyterian Hospital of Allen (PHA)	1105 N Central Expy, Allen 75013	972.747.1000
Presbyterian Hospital of Plano (PHP)	6200 W Parker Rd, Plano 75093	972.981.8000
Texas Health Center for Diagnostics & Surgery	6020 W Parker Rd, Plano 75093	972.403.2700
The Heart Hospital Baylor Plano	1100 Allied Dr, Plano 75093	469.814.3278
Twin Creeks Hospital	1001 Raintree Circle, Allen 75013	972.908.2000

Hospital resources are located in Appendix 1 to Annex H and are updated annually.

Alternative Care Centers:

Alternative Care Centers will be selected during the pandemic alert phase. Selection of alternative care centers will be coordinated with the city emergency planning staff. Alternative care centers will be assessed for ease of access by the general public, amenability to good infection control practices (including the ability to separate patients from one another), ability to secure the site, and ease of transport of patients to facilities with higher levels of service. Potential alternative care centers include hotels, gymnasiums, and facilities that may have been identified in other plans as shelters.

Mortuary Services:

Mortuary Services will be coordinated by the office of the Collin County Medical Examiner (CCME) with assistance from Collin County Homeland Security. Regulations pertaining to autopsy and burial of

human remains may change if pandemic influenza causes significant mortality such that a public health disaster is declared by the governor's office. The CCME currently maintains a log of persons received and the mortuary to which they were released. The only mortuary on contract with Collin County with capacity for refrigeration and cremation in Collin County is Eternal Rest Funeral Home located in McKinney.

Morgue Capacity							
Facility	CCME	BRMC	CMC	MCMC	MCP	PHA	PHP
Capacity	8	2	0	0	6	0	3

ATTACHMENT C PANDEMIC PHASES

PANDEMIC PHASES	OVERARCHING PUBLIC HEALTH GOALS
Interpandemic period	
Phase 1. No new influenza virus subtypes have been detected in humans. An influenza virus subtype that has caused human infection may be present in animals. If present in animals, the risk ^a of human infection or disease is considered to be low.	Strengthen influenza pandemic preparedness at the global, regional, national and subnational levels.
Phase 2. No new influenza virus subtypes have been detected in humans. However, a circulating animal influenza virus subtype poses a substantial risk ^a of human disease.	Minimize the risk of transmission to humans; detect and report such transmission rapidly if it occurs
Pandemic alert period	
Phase 3. Human infection(s) with a new subtype, but no human-to-human spread, or at most rare instance of spread to a close contact. ^b	Ensure rapid characterization of the new virus subtype and early detection, notification and response to additional cases.
Phase 4. Small cluster(s) with limited human-to-human transmission but spread is highly localized, suggesting that the virus is not well adapted to humans. ^b	Contain the new virus within limited foci or delay spread to gain time to implement preparedness measures, including vaccine development.
Phase 5. Larger cluster(s) but human-to-human spread still localized, suggesting that the virus is becoming increasingly better adapted to humans, but may not yet be fully transmissible (substantial pandemic risk).	Maximize efforts to contain or delay spread, to possibly avert a pandemic, and to gain time to implement pandemic response measures.
Pandemic period	
Phase 6. Pandemic: increased and sustained transmission in general population. ^b	Minimize the impact of the pandemic.
Postpandemic period	
Return to Interpandemic period	

^a The distinction between **phase 1** and **phase 2** is based on the risk of human infection or disease resulting from circulating strains in animals. The distinction is based on various factors and their relative importance according to current scientific knowledge. Factors may include pathogenicity in animals and humans, occurrence in domesticated animals and livestock or only in wildlife, whether the virus is enzootic or epizootic, geographically localized or widespread, and/or other scientific parameters.

^b The distinction between **phase 3**, **phase 4** and **phase 5** is based on an assessment of the risk of a pandemic. Various factors and their relative importance according to current scientific knowledge may be considered. Factors may include rate of transmission, geographical location and spread, severity of illness, presence of genes from human strains (if derived from an animal strain), and/or other scientific parameters.

* obtained from WHO global influenza preparedness plan: The role of WHO and recommendations for national measures before and during pandemics, WHO/CDS/CSR/GIP/2005.5

ATTACHMENT D
VACCINE PRIORITY GROUP RECOMMENDATIONS

Tier	Subtier	Population	Rationale
1	A	<ul style="list-style-type: none"> ▪ Vaccine and antiviral manufacturers and others essential to manufacturing and critical support (~40,000) ▪ Medical workers and public health workers who are involved in direct patient contact, other support services essential for direct patient care, and vaccinators (8-9 million) 	<ul style="list-style-type: none"> ▪ Need to assure maximum production of vaccine and antiviral drugs ▪ Healthcare workers are required for quality medical care (studies show outcome is associated with staff-to-patient ratios). There is little surge capacity among healthcare sector personnel to meet increased demand
	B	<ul style="list-style-type: none"> ▪ Persons > 65 years with 1 or more influenza high-risk conditions, not including essential hypertension (approximately 18.2 million) ▪ Persons 6 months to 64 years with 2 or more influenza high-risk conditions, not including essential hypertension (approximately 6.9 million) ▪ Persons 6 months or older with history of hospitalization for pneumonia or influenza or other influenza high-risk condition in the past year (740,000) 	<ul style="list-style-type: none"> ▪ These groups are at high risk of hospitalization and death. Excludes elderly in nursing homes and those who are immunocompromised and would not likely be protected by vaccination
	C	<ul style="list-style-type: none"> ▪ Pregnant women (approximately 3.0 million) ▪ Household contacts of severely immunocompromised persons who would not be vaccinated due to likely poor response to vaccine (1.95 million with transplants, AIDS, and incident cancer x 1.4 household contacts per person = 2.7 million persons) ▪ Household contacts of children <6 month olds (5.0 million) 	<ul style="list-style-type: none"> ▪ In past pandemics and for annual influenza, pregnant women have been at high risk; vaccination will also protect the infant who cannot receive vaccine. ▪ Vaccination of household contacts of immunocompromised and young infants will decrease risk of exposure and infection among those who cannot be directly protected by vaccination
	D	<ul style="list-style-type: none"> ▪ Public health emergency response workers critical to pandemic response (assumed one-third of estimated public health workforce=150,000) ▪ Key government leaders 	<ul style="list-style-type: none"> ▪ Critical to implement pandemic response such as providing vaccinations and managing/monitoring response activities ▪ Preserving decision-making capacity also critical for managing and implementing a response

2	A	<ul style="list-style-type: none"> ▪ Healthy 65 years and older (17.7 million) ▪ 6 months to 64 years with 1 high-risk condition (35.8 million) ▪ 6-23 months old, healthy (5.6 million) 	<ul style="list-style-type: none"> ▪ Groups that are also at increased risk but not as high risk as population in Tier 1B
	B	<ul style="list-style-type: none"> ▪ Other public health emergency responders (300,000 = remaining two-thirds of public health work force) ▪ Public safety workers including police, fire, 911 dispatchers, and correctional facility staff (2.99 million) ▪ Utility workers essential for maintenance of power, water, and sewage system functioning (364,000) ▪ Transportation workers transporting fuel, water, food, and medical supplies as well as public ground public transportation (3.8 million) ▪ Telecommunications/IT for essential network operations and maintenance (1.08 million) 	<ul style="list-style-type: none"> ▪ Includes critical infrastructure groups that have impact on maintaining health (e.g., public safety or transportation of medical supplies and food); implementing a pandemic response; and on maintaining societal functions
3		<ul style="list-style-type: none"> ▪ Other key government health decision-makers (estimated number not yet determined) ▪ Funeral directors/embalmers (62,000) 	<ul style="list-style-type: none"> ▪ Other important societal groups for a pandemic response but of lower priority
4		<ul style="list-style-type: none"> ▪ Healthy persons 2-64 years not included in above categories (179.3 million) 	<ul style="list-style-type: none"> ▪ All persons not included in other groups based on objective to vaccinate all those who want protection

*The committee focused its deliberations on the U.S. civilian population. ACIP and NVAC recognize that Department of Defense needs should be highly prioritized. DoD Health Affairs indicates that 1.5 million service members would require immunization to continue current combat operations and preserve critical components of the military medical system. Should the military be called upon to support civil authorities domestically, immunization of a greater proportion of the total force will become necessary. These factors should be considered in the designation of a proportion of the initial vaccine supply for the military.

Other groups also were not explicitly considered in these deliberations on prioritization. These include American citizens living overseas, non-citizens in the U.S., and other groups providing national security services such as the border patrol and customs service.

ATTACHMENT E
SUSPECT HIGHLY PATHOGENIC AVIAN INFLUENZA (H5N1) FLOW CHART

Suspect Highly Pathogenic Avian

Clinical presentation: Fever $\geq 100^{\circ}$ F AND cough AND/or sore throat without other diagnosis.

OR

Clinical presentation: Hospitalized patients with radiographically confirmed pneumonia or severe respiratory illness without other diagnosis.

AND

Epidemiological: Travel to a country with confirmed H5N1 cases in the past 10 days.

AND

Epidemiological: Close contact with live or dead poultry, wild birds, or a known or suspected human case of H5N1 in one of the aforementioned countries within 10 days of symptom onset.

NO

YES

Unlikely to be H5N1

H5N1 should be considered

If possible, collect specimen (nasopharyngeal swab preferred) and submit as regular flu specimen to DSHS lab. Do not need to contact IDCU staff prior to sending.

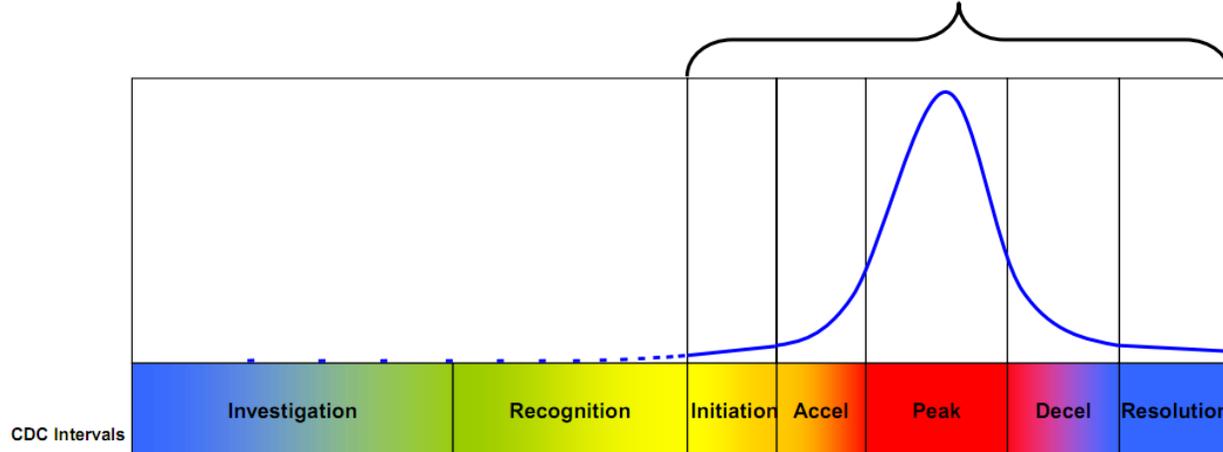
Strongly advised to collect specimens - nasopharyngeal swab, throat swab, and blood. **Must** contact IDCU staff prior to sending specimens.

ATTACHMENT F
WHO PHASES, FEDERAL GOVERNMENT RESPONSE STAGES, AND COORESPONDING CDC INTERVALS

Table 2: WHO Phases, Federal Government Response (FGR) Stages or (USG Stage), and Corresponding CDC Intervals

	Inter		Pandemic Alert Period			Pandemic Period			
WHO Phase	1	2	3	4	5	6			
	New Domestic Animal Outbreak in At-Risk Country		Suspected Human Outbreak Overseas	Confirmed Human Outbreak Overseas	Widespread Outbreaks Overseas	First Human Case in N.A.	Spread Throughout United States		Recovery
USG Stage	0		1	2	3	4	5		6

For planning, intervals provide additional specificity for implementing state and community level interventions during stages 4, 5 and 6.



Pre- Pandemic Intervals

- Investigation
- Recognition

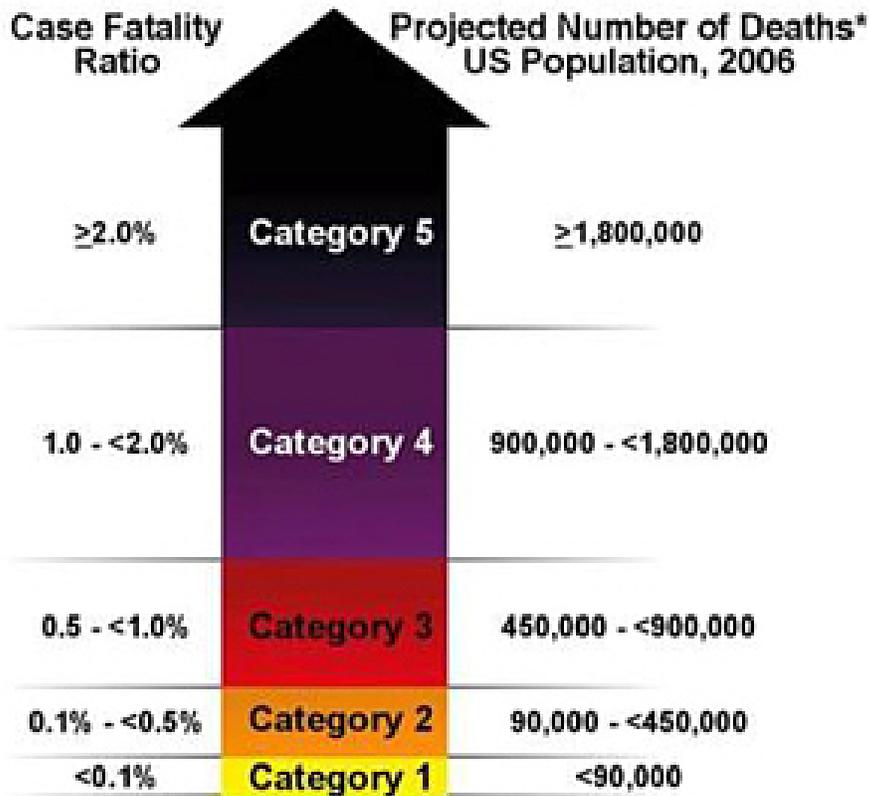
Pandemic Intervals

- Initiation
- Acceleration
- Peak Transmission
- Deceleration
- Resolution

ATTACHMENT G
PANDEMIC SEVERITY INDEX

The Goals of Community Measures are to:

- 8. Delay onset of outbreaks
- 9. Reduce the peak burden on hospitals/Infrastructure
- 10. Decrease a) number of cases of death and illness and b) overall health impact



*Assumes 30% illness rate
and unmitigated pandemic
without interventions

Pandemic Severity Index			
Interventions* by Setting	1	2 and 3	4 and 5
Home Voluntary isolation of ill at home (adults and children); combine with use of antiviral treatment as available and indicated	Recommend^{†§}	Recommend ^{†§}	Recommend^{†§}
Voluntary quarantine of household members in homes with all ill persons [¶] (adults and children); consider combining with antiviral prophylaxis if effective, feasible, and quantities sufficient	Generally not recommended	Consider^{**}	Recommend^{**}
School Child social distancing ➤Dismissal of students from schools and school-based activities, and closure of child care programs.	Generally not recommended	Consider: ≤ 4 weeks^{††}	Recommend: ≤ 12 weeks^{§§}
➤Reduce out-of-school social contacts and community mixing	Generally not recommended	Consider: ≤ 4 weeks^{††}	Recommend: ≤ 12 weeks^{§§}
Workplace/Community Adult social distancing ➤Decrease number of social contacts (e.g., encourage teleconferences, alternatives to face-to-face meetings)	Generally not recommended	Consider	Recommend
➤Increase distance between persons (e.g., reduce density in public transit, workplace)	Generally not recommended	Consider	Recommend
➤Modify, postpone, or cancel selected public gatherings to promote social distance (e.g., postpone indoor stadium events, theatre performances)	Generally not recommended	Consider	Recommend
➤Modify, work place schedules and practices (e.g., telework, staggered shifts)	Generally not recommended	Consider	Recommend

Generally Not Recommended = Unless there is a compelling rationale for specific populations or jurisdictions, measures are generally not recommended for entire populations as the consequences may outweigh the benefits.

Consider = Important to consider these alternatives as part of a prudent planning strategy, considering characteristics of the pandemic, such as age-specific illness rate, geographic distribution, and the magnitude of adverse consequences. These factors may vary globally, nationally, and locally.

Recommended = Generally recommended as an important component of the planning strategy.

*All these interventions should be used in combination with other infection control measures, including hand hygiene, cough etiquette, and personal protective equipment such as face masks. Additional information on infection control measures is available at www.pandemicflu.gov.

†This intervention may be combined with the treatment of sick individuals using antiviral medications and with vaccine campaigns, if supplies are available

§Many sick individuals who are not critically ill may be managed safely at home

¶The contribution made by contact with asymptotically infected individuals to disease transmission is unclear. Household members in homes with ill persons may be at increased risk of contracting pandemic disease from an ill household member. These household members may

have asymptomatic illness and may be able to shed influenza virus that promotes community disease transmission. Therefore, household members of homes with sick individuals would be advised to stay home.

**To facilitate compliance and decrease risk of household transmission, this intervention may be combined with provision of antiviral medications to household contacts, depending on drug availability, feasibility of distribution, and effectiveness; policy recommendations for antiviral prophylaxis are addressed in a separate guidance document.

††Consider short-term implementation of this measure—that is, less than 4 weeks.

§§Plan for prolonged implementation of this measure—that is, 1 to 3 months; actual duration may vary depending on transmission in the community as the pandemic wave is expected to last 6-8 weeks.