

**TAB 1 – Pandemic Influenza Plan  
to  
ATTACHMENT C– Epidemiology & Surveillance  
to  
APPENDIX 8 – Health & Medical Services  
to  
ANNEX H – Health & Medical Services**

**Dallas County Health and Human Services  
Public Health Preparedness Division**



## **DCHHS Pandemic Influenza Response Plan**

§418.176 and 418.181, Texas Government Code and not subject to release under the Texas Open Records Act

## DCHHS Pandemic Influenza Response Plan

### Approved Corrections

<b>Date</b>	<b>Action</b>	<b>Approved by:</b>
10/10/2005	Reviewed with State of Texas Plan	
11/21/2006	Added response elements as a result of the Medical City Exercise	
12/06/2006	Added school closure brief, allocation plan, and additional information on response operations.	
09-15-07	Added DMOC response elements now that DMOC plan is more fully developed.	
3-1-10	Added goals which are more reflective of goals desired during the H1N1 pandemic; added language pertaining to the Dallas County Medical Society's Role in providing guidance to the Health Authority	
3-2-10	Updated antiviral administration guidance to reflect indications during the H1N1 pandemic	

# DCHHS Pandemic Influenza Response Plan

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### Authority and References

Essential functions that are covered by the influenza pandemic response plan are: surveillance of influenza disease and viruses, vaccine and pharmaceutical delivery, and emergency response and communications.

- A. Federal Emergency Management Agency, *Federal Response Plan*, April 1999: A signed agreement among 27 Federal departments and agencies, including the American Red Cross, that provides the mechanism for coordinating delivery of Federal assistance and resources to augment efforts of State and local governments overwhelmed by a major disaster or emergency. It supports implementation of the Robert T. Stafford Disaster Relief and Emergency Assistance Act plus individual agency statutory authorities. It provides for damage assessment teams, emergency communications, medical assistance, equipment and supplies, creation of facilities such as a Disaster Field Office and Recovery Center.
- B. Homeland Security Presidential Directive 5 ([http://www.fema.gov/pdf/reg-ii/hspd\\_5.pdf](http://www.fema.gov/pdf/reg-ii/hspd_5.pdf)), the Department of Homeland Security (DHS) has primary responsibility for coordinating domestic incident management and will coordinate all nonmedical support and response actions across all federal departments and agencies. HHS will coordinate the overall public health and medical emergency response efforts across all federal departments and agencies. Authorities exist under the Public Health Service Act for the HHS Secretary to declare a public health emergency and to coordinate response functions. In addition, the President can declare an emergency activating the Federal Response Plan, in accordance with the Stafford Act, under which HHS has lead authority for Emergency Support Function #8 (ESF8)
- C. State of Texas Emergency Management Plan. The Texas Disaster Act of 1975 provides the management structure which would be used under the TPIP. The Governor, as Chief Executive of the State, is responsible for meeting the dangers confronting the people of Texas. He/She has appointed the Director of the Texas Department of Public Safety as Director of the Governor's Division of Emergency Management (DEM) and the Chairperson of the State Emergency Management Council. The specific management responsibilities are outlined:
  1. Annex H (Health and Medical) to the State of Texas Emergency Management Plan
  2. Appendix 1 (Texas Department of Health Emergency Response Plan) to Annex H
  3. Appendix 6
  4. Annex I (Emergency Public Information) to the State of Texas Emergency Management Plan
  5. TDH Executive Order XO-0603

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- D. State of Texas Administrative Code and the Texas Health and Safety Code. These statutes give specific legal authority for the control of communicable diseases to the designated County Health Authority.
- E. Dallas County Emergency Response Plan
- F. Dallas County Department of Health & Human Services All-Hazards Response Plan
  - 1. Dallas County's Mass Vaccination / Dispensing Clinic Operations Plan
  - 2. Dallas County's Strategic National Stockpile Plan
  - 3. Dallas County's Epidemiological Response Plan

### **Purpose**

#### **A. Background**

Epidemics, caused by an influenza virus, occur in the United States every year. Despite the extensive reporting about this disease, it is still nearly impossible to predict the seasonal variation of the virus from year to year. The timing, severity, and geography of influenza vary with an unpredictable pattern.

A pandemic influenza strain, Avian Flu, or Bird Flu would likely be just as unpredictable if not more so.

Not only can pandemics result in high rates of illness and death, they can lead to major disruptions to the health care system, the economy, and to society at large. Perhaps the best known pandemic in modern times was the infamous "Spanish flu" of 1918-1919, which caused 20 million deaths worldwide and over 500,000 deaths in the U.S. Although the Asian influenza pandemic of 1957 and the Hong Kong influenza pandemic of 1968 were not as deadly as the Spanish influenza pandemic, both were associated with high rates of illness and social disruption.

In order to facilitate an effective health care response to a pandemic, essential planning is necessary. Due to the potential for an influenza epidemic to simultaneously impact multiple communities locally and nationwide, DCHHS should be prepared to respond in the absence of state and federal resources.

The DCHHS Pandemic Influenza plan outlines actions that can take place during each pandemic phase, as they are determined by the World Health Organization and CDC guidelines.

#### **B. Goal**

The primary goals of the DCHHS Pandemic Influenza Plan are to:

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1. Conduct surveillance and analysis of local epidemiological conditions
2. Inform key stakeholders and the public at large about local conditions and measures needed to control the transmission of the virus
3. Provide technical guidance to clinicians for care and treatment of patients
4. Develop vaccine and antiviral countermeasure campaigns to meet local needs and conditions

### **C. Objectives**

The objectives of the DCHHS Pandemic Influenza Plan are to:

1. Assist and facilitate appropriate planning and response throughout Dallas County (local governments, healthcare sector, the business sector, the education community, and others) by:
  - a. Developing a county plan through a collaborative process that identifies roles and responsibilities for all parties.
  - b. Recommending planning considerations for appropriate disease control measures, appropriate patient care, and treatment during the pandemic.
  - c. Advocating planning considerations for appropriate communications, resource management and preventive measures to minimize infrastructure disruption.
2. Provide a comprehensive and operational plan that will be reviewed every year to ensure incorporation of new developments and consistencies with best practices.
  - a. Describe the response, coordination and decision-making structure that will incorporate DCHHS, the healthcare system in Dallas County, other local response agencies, and state and federal agencies.
  - b. Describe the public health interventions in a pandemic response and the timing of such interventions.

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### Abbreviations

ACIP:	Advisory Committee on Immunization Practices
BT:	Bioterrorism
CDC:	Centers for Disease Control and Prevention
COOP:	Continuity of Operations Plan
DMOC	Dallas Medical Operations Center
DCHHS:	Dallas County Health and Human Services
DCMS	Dallas County Medical Society
DCOSEM:	Dallas County Office of Security & Emergency Management
DEM:	Division of Emergency Management
DHHS:	Federal Department of Health and Human Services
DSHS:	Texas Department of State Health Services
EOC:	Emergency Operations Center
ERT:	Epidemiology Response Team
ESC:	Emergency Support Center
ESF:	Emergency Support Function
FDA:	Food and Drug Administration
FEMA:	Federal Emergency Management Association
HAN:	Health Alert Network
ICP:	Infection Control Practitioners (now Infection Preventionists)
ILI:	Influenza-Like Illness
LHD:	Local Health Departments
PHL:	Public Health Laboratory
PHIN:	Public Health Information Network
PIL:	Pandemic Influenza Leader
PIO:	Public Information Officer
PMH	Parkland Health and Hospital District (Dallas County Hospital District)
POD:	Point of Dispensing
PIPG:	Pandemic Influenza Planning Group
RD:	Regional Directors
SOC:	State Operations Center
SOG:	Standard Operating Guideline
TALHO:	Texas Association of Local Health Offices
THA:	Texas Hospital Association
TMA:	Texas Medical Association
TNA:	Texas Nurse's Association
TPIP:	Texas Pandemic Influenza Plan
VAERS:	Vaccine Adverse Events Reporting System
VIS:	Vaccine Information Statement
WHO:	World Health Organization

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## Situation

The Center for Disease Control planning scenario estimates that in the U.S., an influenza pandemic could infect up to 200 million people and cause between 200,000 and 1,900,000 deaths. Public health officials remain concerned that emerging and novel strains including the H5N1 Influenza Strain could result in a severe pandemic.

Although many believe that future influenza pandemics are inevitable, it is impossible to predict the exact timing of these outbreaks.

	<b>Infected</b>	<b>Clinically Ill</b>	<b>Outpatient Visits</b>	<b>Hospitalized</b>	<b>Deaths</b>
U.S.	200 million	40-90 million	18-45 million	865,000 – 9.9 million	200,000 – 1.9 million
Dallas County	1,5 million	300,000 – 600,000	30,000 – 300,000	96,000	40,000

An influenza pandemic presents challenges that are not faced in other public health emergencies. First, it has the potential to suddenly cause illness in a very large number of people. The sheer number of people requesting medical attention could easily overwhelm the healthcare infrastructure. Second, the fear of such a pandemic, in addition to the actual number of sick people, could cripple essential community services due to worker absenteeism. Vaccines may not be available for six to eight months. Basic services, like health care, law enforcement, fire, emergency response, public transportation, education, utilities, communications, etc, could be disrupted. Finally, the duration of a pandemic sets it apart from most other threats. It could last weeks, even months, as opposed to a flash flood or tornado, whose ability to damage society is limited to a fixed period of time.

## Assumptions

These assumptions are based on a worst-case scenario:

### A. Pandemic Influenza

1. Given the occurrence of pandemics throughout history, and based on the frequency with which they occur, an influenza pandemic seems likely within the next few years.
2. It is unlikely that a novel strain of Influenza virus would first appear world-wide in Dallas County. The State of Texas estimates a 3 month warning period before the arriving pandemic would occur. However,

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<sup>1</sup> From the CDC Pandemic Response Plan. 2006.

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continued surveillance of the community for flu and flu-like illness remains an essential component of local preparedness.

3. Susceptibility to a pandemic influenza will be universal.
  - a. A 25% attack rate (as expected according to DSHS) would affect and estimated 600,000 people in Dallas County with ILI (Influenza Like Illness).
  - b. With an estimated 4% hospitalization rate, Dallas County area could have as many as 96,000 people requiring hospitalization.
  - c. A case fatality rate of 1.7% would lead to over 40,000 deaths in Dallas County.
  - d. The estimates of 4% hospitalization rate and a case fatality rate of 1.7% (as indicated by the DSHS Response Plan) are the upper estimates when compared to other national estimates and projections. rates for hospitalizations, outpatient visits, and deaths from Meltzer MI, Kownaski M, Crosby, R.1999. FluAid 1.0: Software and manual to aid state and local-level public health officials plan, prepare and practice for the next influenza pandemic (Beta test version). Centers for Disease Control and Prevention, US Department of Health and Human Services. Attack rates of 15%, 25%, and 35% suggested by Meltzer, et al.
  - e. It is impossible to determine accurately the impact an influenza pandemic would have in Dallas County. The above information is merely a projection taken from historical models of influenza illness but may have little relevance to future events.
4. The number of hospitalizations and deaths will depend on the virulence of the virus.
5. Dallas County must be prepared to rely on its own resources to respond. The simultaneous impact of a pandemic on multiple communities will be relatively long and sustained in comparison to other disasters. Traditional state and federal resources may not be available.
6. There will be disruption of national and community infrastructures including transportation, commerce, utilities and public safety as there will be a global spread of infection with outbreaks throughout the world.
7. Once a pandemic strain has been identified, the major components of stopping the progression would include: vaccination, isolation, personal protection, and anti-viral medications.
8. In the event of a pandemic flu event, Dallas County HHS may be operating under a declared State of Emergency at the county, state, or national level.

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9. Personnel shortages may occur in staffing community infrastructures, including transportation, commerce, utilities, public safety, hospitals, clinics, and other healthcare facilities.
  10. The spread of an altered flu virus may be by natural means or intentional. If it is intentional, then law enforcement will be involved.
- B. Disease Surveillance
1. Surveillance data will direct the pandemic alert, phase changes, response and recovery activities.
  2. Surveillance systems could be enhanced as the CDC and WHO organizations change the phase designations.
- C. Vaccines
1. DCHHS does not currently possess a stockpile of pandemic strain vaccine.
  2. When the pandemic occurs, vaccines may not initially be available. When available, they will be allocated on a priority basis, following federal guidelines or updated guidance from the CDC.
  3. It is possible that two doses of the vaccine will be necessary to achieve the desired level of protection.
- D. Antivirals
1. A limited amount of antivirals will be available for the treatment of the virus during a pandemic.
  2. State stockpiles, if available, would be distributed according to the defined priority groups.
  3. Local stockpiles, if available, would be distributed according to the State Allocation Plan in conjunction with locally observed needs and priorities.
- E. Risk Communications
1. Public perception of the pandemic remains extremely important. Panic is likely to endanger additional lives and limit the public health response.
  2. Responding to the immediate and continuous demand from the public, municipal leaders, and the media for information on the actual and potential impact, scope, transmission, treatment and recovery will be critical.
  3. DCHHS PIO will coordinate messages with DSHS, the CDC, and DCHHS response partners to provide a unified message.

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### F. Healthcare System

1. Once influenza, including pandemic influenza, cases begin to appear it is assumed that the entire county is at risk due to the contagiousness of the disease.
2. Response to the demand for services, in addition to staffing shortages, may require non-standard approaches and utilization of non-traditional setting for delivery of health services including:
  - a. Discharge of all but critically ill patients
  - b. Expansion of hospital capacity by using non-conventional but available space;
  - c. Increased ratio of patient to hospital staff beyond established standards of care
  - d. Recruitment of volunteers who can provide medical services under the general supervision of health and medical workers.
  - e. Relaxation of practitioner licensure requirements as deemed appropriate
3. Hospital Care: The number of ill people requiring outpatient medical care and hospitalization could overwhelm the local health care system.
  - a. Hospitals and clinics may have to modify their operational structure to respond to high patient volumes and maintain functionality of critical systems.
  - b. The medical workforce may experience absenteeism ranging from 25 – 40%.
  - c. Demand for inpatient beds and ventilators could increase; and prioritization criteria for access to limited services and treatment could be needed.
  - d. Discharges could further impact the nursing home and assisted care living facilities.
  - e. Hospital morgues may overflow; transfer of deceased to funeral homes could impact their operations as well.
4. Primary Care Facilities
  - a. Staff attrition could force closure of some primary healthcare practices.
  - b. Resulting loss of treatment facilities could increase the healthcare demands on hospital emergency departments.
5. Nursing Home Care:
  - a. Staff attrition may occur due to absenteeism / illness.
  - b. Fragile patients exposed to influenza could lead to increased deaths.

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6. Home Health Industry:
  - a. Staff attrition will occur due to absenteeism / illness.
  - b. Those requiring skilled nursing services may seek help at local hospitals.

### **Concept of Operations**

#### **A. Pandemic Notification**

1. WHO uses a series of six phases of pandemic alert as a system for informing the world of the seriousness of the threat and of the need to launch progressively more intense preparedness activities.
2. The designation of phases, including decisions on when to move from one phase to another, is made by the Director-General of WHO.
3. Each phase of alert coincides with a series of recommended activities to be undertaken by WHO, the international community, governments, and industry. Changes from one phase to another are triggered by several factors, which include the epidemiological behaviour of the disease and the characteristics of circulating viruses.
4. For coordination of the national, state, and local response, identification and declaration of the phases will be done at the worldwide level
5. Phases

#### **Inter-Pandemic 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 of human disease is considered to be low.

*Phase 2:* No new influenza virus subtypes have been detected in humans. However, a circulating animal influenza virus subtype poses a substantial risk of human disease.

#### **Pandemic Alert Period**

*Phase 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.

*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.

*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).

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## Pandemic Period

*Phase 6:* Pandemic phase: increased and sustained transmission in general population.

**Pandemic Stages:** In order to describe the U.S. Government's approach to a pandemic response, pandemic stages have been created to better describe the more immediate threat information posed by the U.S. population.

Stage 0: New Domestic Animal Outbreak in At-Risk Country

Stage 1: Suspected Human Outbreak Overseas

Stage 2: Confirmed Human Outbreak Overseas

Stage 3: Widespread Human Outbreaks in Multiple Locations Overseas

Stage 4: First Human Case in North America

Stage 5: Spread throughout United States

Stage 6: Recovery and Preparation for Subsequent Waves

## B. Pandemic Severity Index

1. As explained in the HHS Community Strategy for Pandemic Influenza Mitigation, the pandemic severity index serves as a way to characterize the severity of the pandemic. It is divided into 5 categories:
  - a. Category 5: >2% Case Fatality Ratio (number of those who die divided by the number infected with disease)
  - b. Category 4: 1-2%, CFR
  - c. Category 3: 0.5-1%, CFR
  - d. Category 2: 0.1-0.5%, CFR
  - e. Category 1: <0.1%, CFR
2. Mortality numbers based on the Dallas County (2,300,000) with an estimated 30% illness rate
  - a. Category 5: >13,800
  - b. Category 4: 6,900-13,800
  - c. Category 3: 3,450-6,900
  - d. Category 2: 690-3,450
  - e. Category 1: <690

## C. Organization of a DCHHS Pandemic Response

1. DCHHS will be the lead agency in coordinating the local health and medical response to a pandemic. That coordination will extend to the

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DSHS, federal officials, and various local agencies and municipalities. DCHHS will work with its partners to monitor the use of the health care system resources.

2. The Dallas County Department of Health & Human Services will provide a consistent approach to the effective management of actual or potential public health or medical situations to ensure the health and welfare of its citizens. That incident management will be under the principles and protocols outlined in the National Incident Management System, (NIMS).
3. DCHHS will establish an Incident Command Post (ICP) at its facility and will utilize Incident Command System (ICS). During the preparedness and possibly during the recovery and mitigation phases, DCHHS and its external partners may not utilize a formal ICS structure. They may continue to operate using their normal relationships and communication channels. (See Attachment #1 for ICS structure and related functions).
4. DCHHS could activate the DMOC (Dallas Medical Operations Center) and call on representatives from each hospital in the County per the DMOC activation plan.

During a pandemic response, this group will provide strategies for:

- a. Coordinating the health care system response during a pandemic and other public health emergencies
- b. Assuring the most effective use of health care system resources
- c. Advising DCHHS ICP on the impact to the healthcare system, on the need for altering health care operations during a pandemic, etc
- d. Facilitating support for local hospitals during a pandemic.

This subcommittee will co-locate with DCHHS ICP at their facility at 2377 N. Stemmons Freeway and will coordinate with the Liaison Officer in the DCHHS ICP.

5. Dallas County Medical Society Emergency Response Committee—The health authority could task this community to develop clinical guidance or respond to specific questions pertaining to community mitigation strategies, healthcare, and medical countermeasures. Currently the health authority is the Chair of this committee.
6. Executive emergency Policy Group – DCHHS ICP will ask for the Dallas county judge to call for select county and municipal officials, from the cities in Dallas county, to meet as an ad hoc Executive Emergency Policy Group.
7. DCHHS ICP will seek resource support through the Dallas County Office of Security and Emergency Response (DCOSEM). All requests for additional personnel, material, and equipment that cannot be obtained

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through DCHHS will be sent to the DCOSEM. DCOSEM will coordinate with all municipal EOC's to support the DCHHS ICP.

8. All requests for state and federal assistance will be sent from the DCOSEM to the Disaster District Committee (DDC) in Garland.
9. DCHHS ICP will transition to Unified Command, if and when, it is determined to have other disciplines (law enforcement) or jurisdictions (Federal, state, etc) added to the command role.

### D. DCHHS Response Concepts

#### 1. Surveillance

- a. DCHHS Epidemiologists will monitor Dallas County using current surveillance strategies, conduct epidemiological investigations as needed, and monitor any implemented disease control activities.
- b. Potential Pandemic Trigger Points for Dallas County Epidemiological Surveillance

Identification of:

- i. the first imported case of a novel flu virus with pandemic potential (i.e H5N1)
  - ii. Effective person-to-person transmission of a novel flu virus with pandemic potential.
  - iii. Sustained person-to-person transmission of a novel flu virus with pandemic potential.
  - iv. An outbreak of a novel flu virus with pandemic potential anywhere in the world, within the United States, within Texas, or within Dallas County.
  - v. Increasing trend of mortality and morbidity rates among affected cases.
  - vi. Novel flu virus with pandemic potential in an animal population in the United States.
  - vii. Widespread infection in an animal population within the United States, within Texas, within Dallas County.
  - viii. An alert is issued by the CDC.
- i. DCHHS Pandemic Response Containment Strategies
    - a. Based on a wide range of factors (infected numbers, morbidity numbers, mortality numbers, disease prevalence in nearby communities or states, etc), DCHHS may implement any number of strategies to attempt and slow the spread of the disease
    - b. It is unlikely that DCHHS could prevent the entry of a person-to-person pandemic strain of Influenza into our population if cases were occurring elsewhere in the world. Implementing infection control strategies to decrease the spread of infection

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may reduce the number of people infected early in the course of the outbreak. Temporizing or slowing the rate of disease transmission would decrease the rate of new cases which could both lesson the rate of hospitalizations and allow more time for additional therapeutic interventions such as a vaccine arrive.

- c. Travel advisories and precautions, screening persons arriving from affected areas, closing schools and restricting public gatherings, and quarantine of exposed persons are important strategies for reducing transmission. The application of these interventions will be guided by the evolving epidemiologic pattern of the pandemic, as well as under the direction of the WHO, CDC, and DSHS.
  - d. Antiviral medications
    - i. A limited supply of antiviral medications will be purchased and stored at DCHHS.
    - ii. These medications may only be used under direction of the County Health Authority with recommendations from the CDC and DSHS
    - iii. There will be additional supplies available from local pharmacies, hospitals, and other governmental agencies.
    - iv. Administration strategies. The County Health Authority will decide the allocation of available supplies of medications and write standing orders for administration.
3. Allocation Strategies
- a. The CDC Pandemic Allocation Plan will be used as guidance, as well as any other available documents produced by parent governmental agencies.
  - b. Allocation plans would include administration for such groups as:
    - i. Treatment of the early sick
    - ii. Ring prophylaxis of early identified cases
    - iii. Prophylaxis of First Responders including: Fire, Police, and EMS personnel in the County
    - iv. Prophylaxis of essential County Governmental workers including (See Pandemic Influenza SOP):
      - DCHHS Incident Command Staff
      - Essential Sheriff and County Peace Officers
      - Essential County Medical Examiners Officers
      - The County Judge and Commissioners
      - Essential County District Attorneys and Judges
  - v. Tables of Allocation Guidelines for Antivirals:

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**Table 1: Strategy of Antiviral Administration**

Plan	Ring Prophylaxis	First Responders	Priority Groups
Description	Medications given to contacts of persons exposed to cases (ie. Household members, airplane passengers, family members)	Supplies given to healthcare workers, paramedics, fire, police, and other essential services	Supplies given to high risk individuals, those determined to have highest likelihood of fatality
Pro	Could prevent epidemics before they happen	Ensures continued essential services such as healthcare, security, and government	Provides the protection to those most likely to die or become hospitalized
Con	Labor intensive, may not work, difficult to determine who should receive prophylaxis based on exposure history	Difficult to determine listing and priority of first responders and individuals who fulfill critical functions.	May not be effective, supply may not be adequate to cover all individuals

**Table 2: Summary of Dallas County Strategy Using Antiviral Medications by WHO Pandemic Phase**

Treatment indicated for:	Phase 3	Phase 4	Phase 5	Phase6
<b>Healthcare, Emergency Medical Service, and Public Health Workers with patient care or outbreak response duties</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1c</b>
<b>Law Enforcement, firefighters, and other first responders</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1d</b>
<b>Key government officials and essential personnel responsible for the continuity of emergency operations</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>1e</b>
<b>Utility workers, transportation, telecommunications workers essential for operations</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>

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Patients admitted to a hospital who present within 48 hours of symptom onset	1	1	1	1a
	1	1	1	1b
Confirmed influenza infection for individuals at high risk for complications due to influenza				
Confirmed influenza infection in an individual with no underlying risk factors	2	2	2	2
Used to control small, well-defined disease clusters	1	2		
High-risk individuals with known recent exposure to a pandemic virus	1	2	2	2

Shading indicates antiviral is indicated, if supply available  
Numbers in the columns represent priority of indication

Indications and priority of distribution are likely to change based on available supply of antivirals, efficacy, and behavior of the novel strain of influenza virus

#### 4. Antiviral Allocation Plan by Pandemic Phase

##### i. Pandemic Alert Period

1. Phase 3: If an individual infected with a novel strain of influenza virus is imported to Dallas County, similar treatment/prophylaxis regimens being practiced in countries where cases are occurring will be recommended.
  - a. Consultation will be completed by the Health Authority with DSHS Specialists and CDC DGMQ specialists.
  - b. Current treatment regimes include using Oseltamivir and/or Adamantines. Dosing of medication would be determined.
  - c. The Health Authority may recommend Oseltamivir prophylaxis for all close contacts of the patient(s) as well as for treating healthcare workers who may have been exposed
  - d. Contacts such as fellow airline passengers on international flights, coworkers, school classmates, and other cohabitants in mass gatherings will not be recommended for prophylaxis, however such individuals will be advised to contact their physicians for information and to have active surveillance for symptoms be performed
  - e. Healthcare workers not in direct contact with cases, first responders, essential governmental workers, etc will not be recommended to take Oseltamivir during this phase.

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- f. The Health Authority will issue an advisory for clinicians and pharmacists in order to prevent the depletion of available antiviral medications if warranted.
  - g. If stringent control of antiviral supplies appears indicated (supplies look to be exhausted through hoarding, etc), the Health Authority will ask the County Judge for an order to regulate available antiviral supplies in the County. Such an order will only be requested after consultation with the Pandemic Advisory Committee.
  - h. DCHHS will use its stockpile of Oseltamivir for support only if other supplies are not available and recommendation is supported by State and Federal Partners
  - i. DCHHS will only use up to 3% of its available stockpile supplies during this period, unless a readily available method to re-supply stores is available.
2. Phase 4:
- a. Case of human novel strain of influenza virus suspected or confirmed (see testing procedures and case definition) in Dallas County:
    - i. Same as Phase 3 prophylaxis strategy except prophylaxis will be considered for close contacts such as fellow airline passengers, neighboring patients in healthcare settings, school classmates, coworkers, family members.
    - ii. DCHHS will use up to 7% of its available stockpile supply during this period.
  - b. Case of Human novel strain of influenza virus is reported elsewhere in the United States
    - i. Prophylaxis and treatment plan will be readied
    - ii. Consideration for the purchase of just-in-time additional stockpiles of antivirals will be considered under the guidance of the Pandemic Advisory Committee
3. Phase 5 and case of human novel strain of influenza virus observed in Dallas County: Same prophylaxis/treatment strategy as in Phase 4, except DCHHS will use up to 10% of its available stockpile during this period, if no re-supply methods appear to be available
- a. DCHHS will request State and Federal Stockpile supplies through the Strategic National Stockpile
  - b. Administration of antivirals during this phase will be limited to treatment of the early sick, healthcare worker post-exposure prophylaxis, close contacts of infected persons.
  - c. The Health Authority will issue an advisory on the proper timing and administration of antivirals by healthcare providers and governmental agencies.
  - d. Concern must be directed toward the depletion of available supplies if replenishment does not appear to be possible before the number of cases increases.

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- e. The Health Authority may ask the County Judge, as part of the Public Health Disaster Declaration to regulate public and private supplies of antivirals in the County.
  - ii. Pandemic Period
    - 1. Phase 6 and case(s) of human novel strain of influenza virus observed in Dallas County
      - a. Priority of available antivirals will follow Federal and State Prioritization Plans.
      - b. Priority should be given to the treatment of sick healthcare workers, first responders, and essential personnel
5. Vaccines.
- It is unlikely that a fully matched vaccine to a novel strain of influenza virus will be available for all citizens at the beginning of a pandemic. Vaccine research is currently underway on the Federal level, but it is predicted that the technology required to manufacture enough vaccine supplies in a rapid timeframe is at least 5 years away.
- a. It is likely that some vaccine supplies may be available with limited efficacy during the mid-course of a pandemic.
  - b. Allocation of these supplies will likely be distributed by the SNS to DCHHS.
  - c. An allocation plan, once it is known how many vaccines are available and how effective they will be, will be created by the County Health Authority.
  - d. Priority of first vaccines would likely be given to essential workers who are required to manage known sick individuals (healthcare workers, first responders, EMS)
  - e. Ring prophylaxis or vaccination of the already sick individuals will likely not be of benefit.
  - f. The CDC under the guidance of the ACIP will determine vaccine priority groups based on epidemiological conditions
  - g. DSHS may further refine the CDC's guidance for the state
  - h. DCHHS will consider both the CDC and DSHS guidance for making vaccine allocation decisions but will also consider local epidemiological conditions including:
    - i. Amount of vaccine available locally
    - ii. Duration of vaccine available for targeted groups
    - iii. Demand for vaccine
    - iv. Demographics of morbidity and mortality experienced locally
  - i. DCHHS will track and monitor vaccine allocations and administrations through DSHS databases
    - a. Efforts will be made to place vaccine administration information into an electronic database for analysis

## DCHHS Pandemic Influenza Response Plan

- b. DCHHS will monitor side effects and reports of adverse events through the VEARS Reporting system
  - j.
5. School and Business Closure.
- School and non-essential business closure will likely be the only population based control measures available for use during a pandemic.
- a. School closures and non-essential business closure will be recommended by the Health Authority to the County Judge.
  - b. The legal statutes to perform such measures are outlined in the Texas Administrative Code, §97.9
  - c. See attachment 8 for greater discussion on school closures.
6. DCHHS Healthcare System Strategies & Support
- a. DCHHS will educate health care providers about influenza pandemics and involve them in Dallas county pandemic response planning.
  - b. DCHHS will coordinate hospital pandemic planning and hospital pandemic response coordination by working with the DMOC.
  - c. DCHHS will provide technical assistance to the health care system partners regarding strategies to cope with staffing shortages.
  - d. DCHHS Medical Reserve Corps will offer to recruit, schedule and deploy available assets to support the healthcare system infrastructure.
  - e. DCHHS will coordinate with the local hospitals to track the following information during a pandemic outbreak:
    - i. Number of available beds
    - ii. Staffing Issues
    - iii. Shortages of medical supplies / equipment
7. Risk Communication Plan
- DCHHS Public Information Officer maintains the responsibility for the development and implementation of the DCHHS Crisis Emergency Risk Communications Plan. The purpose of this plan is to standardize the preparation, coordination, and delivery of information to the public, to DCHHS response partners, and to all external stakeholders. DCHHS will develop a pandemic communication matrix to include, but not limited to, drafting press releases, fact sheets, and Frequently Asked Questions.

During a pandemic outbreak response, three main messages to be highlighted and stressed will be:

## DCHHS Pandemic Influenza Response Plan

- a. What is happening?
- b. What is DCHHS doing to contain and prevent further exposure?
- c. What can the public do to protect themselves and assist DCHHS?

Information demands will be sustained for a long period time and consistency and message uniformity are key to establishing and sustaining public confidence in the response. All key audiences must receive consistent, comprehensive, and relevant information in a timely manner.

8. External Communications
  - a. Conference Calls
    - i. During the response phase, daily conference calls will be warranted. The DCHHS Incident Commander will set a schedule and the list of participants for these particular calls. The purpose of these conference calls will be to collect and disseminate information.
    - ii. DCHHS may coordinate with the state for larger conference calls impacting the region once a schedule has been promulgated by DSHS.
  - b. Interagency Cooperation
    - i. During a pandemic response, DCHHS will coordinate with partners and technical experts to identify critical information needs.
    - ii. Specific disease prevention measures for particular settings (communal living, long-term care facilities, schools, jails, etc) can be anticipated and developed in conjunction with the appropriate external partners.
    - iii. Dallas County will work with local hospitals and hospital systems by activating the Dallas Medical Operations Center to facilitate consistent approached to disease treatment, prevention, response, and recovery efforts.

## DCHHS Pandemic Influenza Response Plan

### Organization & Assignment of Responsibilities

Inter-Pandemic Period – Phases 1 and 2

No new influenza virus subtype has been detected in humans. There may be risk to humans from a currently circulating animal virus.

#### **Incident Commander**

The DCHHS Public Health Preparedness Division will lead pandemic flu related activities until such a time as an incident commander is needed. This division will convene existing or ad hoc groups of government, business, and community agency policymakers and other stakeholders and involve them in pandemic planning and preparedness.

#### Operational Objectives for Inter-Pandemic Phase

1. Ensure a system is ready that can detect every individual suspected case of imported pandemic influenza during specific phases of an epidemic.
2. Ensure that DCHHS pandemic influenza response plan, DCHHS Continuity of Operations Plan, and other essential agency response plans are developed and exercised. Plans will be reviewed annually.
3. Develop local plans to assess existing health care resources, coordinate response with key stakeholders in Dallas county and develop contingencies for anticipated shortages of essential services.

#### **Public Information Officer**

The public information component is critical, DCHHS will establish key strategies and set clear expectations about life in a pandemic, promoting personal prevention and home care, and promoting emergency preparedness.

#### Actions:

1. Coordinate communications activities for a pandemic response.
2. Work with response partners to guide the information disseminated by the media. The key is to provide accurate and timely information to the public and to government leaders.
3. Communicate information to the public about disease control measures.
4. Educate the general public about the importance of influenza vaccination
5. Maintain current information about influenza and pandemic influenza on the DCHHS website.
6. DCHHS will deliver ongoing community education regarding the importance of hygiene, cough etiquette and annual influenza vaccination.

## **DCHHS Pandemic Influenza Response Plan**

### **Operations Section**

Surveillance: DCHHS Epidemiological staff have two primary missions during an influenza pandemic – disease surveillance and epidemiological investigation

1. Dallas County depends on five surveillance methods to estimate numbers of influenza cases in the community. These numbers represent only a sample of all cases occurring and are used for trend analysis rather than actual case counting. The flu numbers are tabulated weekly.
  - a. From hospital emergency rooms, patients are reported to DCHHS if they have flu-like illness and a test positive for influenza by a rapid test, DFA, or a culture. These reports are sent through faxes, e-mails, and phone calls at least once each week.
  - b. School districts report flu-like illness (fever over 100.5°F and one or more respiratory symptom) by individual schools directly to DCHHS or to the school district nurse director. School nurse directors send aggregate numbers of flu-like illness for his/her entire school district.
  - c. Participating Physician Offices who weekly submit virology samples for culture and analysis. (Sentinel Clinical Sites).
  - d. Mortality data due to pneumonia.
  - e. Participating virology laboratories who report positive Influenza testing results.
2. Information from surrounding counties is collected via direct communication consisting of telephone or email.
3. Updates on the transmission, type, and magnitude of the flu outbreak situation will be monitored through contact with DSHS, CDC, and WHO. This is accomplished through teleconferences, monitoring the HAN and checking the websites of the above organizations. Also, Epi-X and Pro-med are checked for updates.
4. The REDBAT/ RODS syndromic surveillance systems are monitored daily for flu-like illness numbers, based on fever with respiratory symptoms.

### **Analysis**

1. Compare hospitals, schools, and sentinel site flu numbers to previous years for basic trend analysis.
2. Compare results of virology labs and DSHS samples (from sentinel sites). If sub typing is available, determine if it was a recently circulating subtype.
3. Ages of positive cases may show a susceptible population trend.
4. The number of hospitalizations and ICU patients among the emergency department visits will be compared to previous years and will show the virulence of the virus.
5. Phone calls from physicians other than the sentinel sites can supply information on the geography, incidence, and virulence of the flu virus in the county. The addresses of these offices will be documented.

## **DCHHS Pandemic Influenza Response Plan**

6. Check to see if the RODS/ REDBAT system's alarm has activated for flu-like illness numbers.
7. GIS will be used for spatial analysis of cases using addresses or zip codes of known patients with influenza symptoms.

### **Planning Section**

1. Develop and update local county pandemic influenza response plan in coordination with local partners: municipal, business, education, and healthcare.
2. Ensure compatibility with the Mass Casualty plan being developed by the Dallas County Medical Examiner's office.
3. Coordinate with partners (law enforcement, faith-based groups, community groups, private sector) to implement DCHHS Pandemic response plan.
4. Identify and train DCHHS employees to establish surge capacity in order to support DCHHS PHP during a pandemic.
5. Develop just-in-time guidance if a pre-pandemic case occurs in the U.S. or locally.

## DCHHS Pandemic Influenza Response Plan

### **Pandemic Alert Period – Phase 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.**

#### **Incident Commander** – As defined in Phase 1 & 2 Operational Objectives

If case(s) of suspected or confirmed H5N1 or other novel sub-type of influenza virus is reported in Dallas County:

1. Activate DCHHS Incident Command Structure per the DCHHS Operations Plan
2. Maintain the safety of DCHHS incident management personnel by implementing the Dallas County Health & Human Services Airborne or Unknown Respiratory Illness Response Plan.
3. External agency notifications. The IC will ensure effective external agency notifications. (See Appendix A)
4. Ensure the development of notification messaging. Such messages should include:
  - i. Current situation report
  - ii. Current needs or required responses from the notified agency
  - iii. When to expect another briefing
5. Enhance the surveillance system.
6. Communicate with healthcare system (hospitals, clinics, medical offices) guidance on identification, management of an ill person with suspicion of the novel virus via the DMOC and DFWhC.
7. Confirm local hospitals have facilities and protocols established to manage cases of influenza, identify capacity, and have plans in place to protect their own employees via the DMOC and DFWhC.
8. Institute the Antiviral Allocation Plan as described in Section

If case(s) of suspected/confirmed H5N1 or other novel strain of influenza virus is/are reported outside of Dallas County:

1. Review DCHHS pandemic influenza response plan and contact key stakeholders and response partners to ensure that their plans have been developed. Plans should be reviewed and updated annually.
2. Continue development of local response plans, assessing resources, identifying gaps, and coordinate with key stakeholders and response agencies to develop contingencies.

#### **Public Information Officer**

1. Maintain tasks identified in Phases 1 & 2
2. Prepare public information campaign as necessary using appropriate information.
3. Update FAQ's with any new information, new guidance, etc.

## **DCHHS Pandemic Influenza Response Plan**

4. Develop appropriate materials as needed to include different languages.
5. Disseminate information about travel recommendations according to CDC guidelines.
6. Continue efforts to prepare the public for an influenza pandemic.
  - a. Education efforts continued from Phases 1 & 2.
  - b. Continue to advise key stakeholders (businesses, schools, utilities, food service, etc) about preventative strategies and Continuity of Operations Planning, particularly coping with staffing shortages.
7. Update and review the Crisis Emergency Risk Communications Plan.
  - a. Coordinate with state and local PIO's for any new guidance.
  - b. As needed, develop message maps and key information for media partners to educate the public about the various phases of a pandemic.

If case(s) of suspected or confirmed H5N1 or other novel sub-type of influenza virus is reported in Dallas County:

1. In conjunction with the Incident Commander (as defined above), consider activation of a joint information center with all identified local PIO partners.
2. With the approval of the Director of DCHHS and the Medical Director of DCHHS, issue an alert to the health community throughout Dallas county; consider providing a guidance to local healthcare system providers to implement employee protective measures as defined in their plans.
3. Coordinate with the Operations Section to notify the healthcare system of the status of antiviral availability and the plans to disseminate it to established priority groups.
4. If antivirals are available, coordinate with the Operations Section to consider disseminating anti-viral guidelines to the healthcare system.

If case(s) of suspected/confirmed H5N1 or other novel strain of influenza virus is/are reported outside of Dallas County:

1. In coordination with the Incident Commander, provide updated information with regard to the virus to the local healthcare system.
2. In coordination with the Incident Commander, provide information to the Dallas county's 211 agency.
3. DCHHS will deliver ongoing community education regarding the importance of hygiene, cough etiquette and possibly information on self-diagnosis.

If the novel virus is detected outside the United States

## **DCHHS Pandemic Influenza Response Plan**

1. In coordination with the Incident Commander, provide updated information with regard to the virus to the local healthcare system.
2. Update DCHHS website to include new information.

### **Planning Section**

If case(s) of suspected or confirmed H5N1 or other novel sub-type of influenza virus is reported in Dallas County:

1. Develop task lists to be given to the IC for each of the notified agencies listed in Appendix A.
2. Determine current available staffing levels
3. Assist with developing public messages and information to be given to the PIO.
4. Inventory available antiviral medications both at DCHHS and locally
5. Inventory available PPE supplies both at DCHHS and locally
6. Ensure notification list is complete (appendix A)

### **Logistics Section**

If case(s) of suspected or confirmed H5N1 or other novel sub-type of influenza virus is reported in Dallas County:

- (i) Locate and designate a Medical Officer to staff DCHHS Incident Command

### **Operations Section**

1. Maintain tasks identified in Phases 1 & 2
2. If available, update case definition based on CDC guidance.
3. Monitor disease reporting systems
  - a. Systems
    - i. From hospital emergency rooms, patients are reported to DCHHS if they have flu-like illness and a test positive for influenza by a rapid test, DFA, or a culture. These reports are sent through faxes, e-mails, and phone calls at least once each week.
    - ii. School districts report flu-like illness (fever over 100.5°F and one or more respiratory symptom) by individual schools directly to DCHHS or to the school district nurse director. School nurse directors send aggregate numbers of flu-like illness for his/her entire school district.
    - iii. Participating Physician Offices who weekly submit virology samples for culture and analysis. (Sentinel Clinical Sites).
    - iv. Mortality data due to pneumonia.
    - v. Participating virology laboratories who report positive Influenza testing results.

## **DCHHS Pandemic Influenza Response Plan**

- b. Information from surrounding counties is collected via direct communication consisting of telephone or email.
- c. Updates on the transmission, type, and magnitude of the flu outbreak situation will be monitored through contact with DSHS, CDC, and WHO. This is accomplished through teleconferences, monitoring the HAN and checking the websites of the above organizations. Also, Epi-X and Pro-med are checked for updates.
- d. The REDBAT/ RODS syndromic surveillance systems are monitored daily for flu-like illness numbers, based on fever with respiratory symptoms.

## DCHHS Pandemic Influenza Response Plan

### **Pandemic Alert Period – 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.**

### **Pandemic Alert Period – 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.**

**Incident Commander** – As defined in Phase 1 & 2  
Operational Objectives

If the virus appears in Dallas county:

1. Implement the Dallas County Health & Human Services Airborne or Unknown Respiratory Illness Response Plan in order to establish safety of DCHHS ICP staff.
2. Open lines of communication with appropriate political leaders to identify potential control measures and strategies.
3. Consider activation of the full DCHHS ICP and designating personnel to assume their roles in the ICS structure.
  1. Appoint the first Incident Commander and Command staff.
  2. Appoint general staff positions and consider activating technical experts for the planning section.
4. DCHHS Command staff (including the Director of DCHHS and the Medical Director of DCHHS) should consider a declaration of a local state of emergency and request activation of the DCOSEM.
5. Direct the notification of all key stakeholders and responders (municipal, healthcare system, education, business, etc) to be carried out.
6. Notify all key stakeholders and responders of DCHHS command and control responsibilities and activities in keeping with the DCHHS Pandemic Influenza response plan and appropriate state and federal guidance.
7. Identify potential needs for state and federal assistance.
8. If implemented, adjust efforts to reduce the spread of the disease. If necessary, implement control measures to slow the spread of the disease.
9. Implement the DCHHS COOP plan. Inform all necessary response agencies of status of DCHHS and its implementation of the Dallas County Health & Human Services Airborne or Unknown Respiratory Illness Response Plan and the DCHHS COOP plan.

If the virus appears in the United States and in Texas at large:

1. Mobilize DCHHS ICP with minimal staffing and notify all DCHHS staff of new alert level and situation.

## **DCHHS Pandemic Influenza Response Plan**

2. DCHHS will direct all employees to review their family disaster plans and to prepare for issues related to pandemic influenza.
3. Implement the Dallas County Health & Human Services Airborne or Unknown Respiratory Illness Response Plan in order to establish safety of DCHHS ICP staff.
4. Open lines of communication with appropriate political leaders to apprise them of the situation and to identify potential control measures and strategies if and when the virus appears in Dallas county.

### If virus appears outside the United States:

1. In coordination with the Incident Commander, provide updated information with regard to the virus to the local healthcare system.
2. Notify key stakeholders with regard to updated information.
3. Assess DCHHS readiness, review DCHHS pandemic plan, identify and address response gaps.
4. DCHHS will direct all employees to review their family disaster plans and to prepare for issues related to pandemic influenza.
5. Update DCHHS website to include new information.

### Public Information Officer

1. Continue Phase 3 activities.
2. Establish communications with external stakeholder PIO's and update accordingly.
3. Update public about the domestic and international situation and disease characteristics as they exist.
4. Communicate to the public the potential of the virus:
  - a. What is happening?
  - b. What is DCHHS doing to contain and prevent further exposure?
  - c. What can the public do to protect themselves and assist DCHHS?
5. Customize any DSHS or CDC guidance for Dallas county.
6. If available, disseminate materials on personal protective measures
7. Review CERC plan, identify and address response gaps.
8. Update any messaging

### If the virus appears in Dallas county:

1. Request activation of a Joint Information Center
2. Provide updated information on outbreak status to all response partner PIO's, the media, the general public.
3. Provide a daily outbreak status report to DCHHS Director and community partners as identified by DCHHS ICP
4. Review daily the CDC, WHO, DSHS websites for updates.
5. Review and update the DCHHS website daily and as the situation warrants, update it weekly
6. Disseminate any guidance received with regard to the national picture.
7. Provide updates, as available, with regard to vaccine production and delivery.

## DCHHS Pandemic Influenza Response Plan

### **Liaison Officer** (Upon activation of the DCHHS ICP)

1. Serve as point of contact for agencies that will assist in the response effort.
2. Monitor external agency support to ensure it is linked with the appropriate level within DCHHS ICP
3. Monitor external agency resource support so that DCHHS ICP is fully aware of all assets that may available during the response.

### **Operations Section**

#### If the virus appears in Dallas county:

1. Expand surveillance activities from Phase 3 levels. Adjust case definition if possible.
2. Surveillance Measures
  - a. Information identifying possible the regions affected will be determined and communicated to key stakeholders.
  - b. Conduct daily or weekly surveillance of hospitals (depending on the magnitude of the outbreak) for flu case counts, types of influenza, and severity of the disease.
  - c. Call virology labs daily or weekly for case counts and strains identified.
  - d. Drop off viral media and pick up specimens for testing at sentinel sites or other locations where flu testing is needed.
  - e. Maintain daily or weekly contact with the school districts to update numbers of students absent with flu-like illness.
  - f. Distribute updates on the epidemic to hospitals, Dallas County physicians, school nurses, and viral labs.
  - g. Analyze results from all surveillance methods and determining trends in the data.
  - h. Continue to generate public information documents for how the public can be protected.
3. Possible Containment Measures

#### If the virus appears in Dallas county

- a. Recommend citizen limit travel to areas outside of Dallas County as well as limit non-essential travel within Dallas County
- b. Children –  
Consider closure of schools in conjunction with other activities (i.e. any activity that limits mixing of children.)
- c. Adults –  
Explore options to reduce transmission among adults (no mass gatherings – movies, sports event, churches, conferences, etc)

## DCHHS Pandemic Influenza Response Plan

- d. Increase public education with regard to hand hygiene, cough etiquette, possible masking
- e. Develop means to evaluate effectiveness of these disease containment strategies.
- f. Consider voluntary quarantine of ill persons and family members with monitoring; only available if health and social care is available to support
- g. Prophylaxis and the Use of anti-virals
  - i. Prepare guidance, if not available from the CDC or DSHS, with regard to anti-viral use for early treatment of cases.
  - ii. Prepare guidance, if not available from the CDC or DSHS, with regard to the anti-viral use for prophylaxis of close contacts. Guidance should be based on risk assessment of close contact and severity of illness.
  - iii. Assess effectiveness of prophylaxis. Determine target population (based on guidance above), provide intervention (per guidance above), and assess the impact.
- h. Use of vaccine
  - i. Prepare guidance, if not available from the CDC or DSHS, with regard to vaccine use & distribution.

### Containment Measures: If the virus appears in Dallas county within the animal population and transmission is sustained with that population

- a. Recommend that all people involved with that animal population implement protective measures and to don personal protective equipment.

### Containment Measures: If the virus appears outside of the United States

- a. DCHHS ICP, in accordance with DSHS and HHS, will consider issuing an advisory recommending limited travel to the affected region. In addition, DCHHS will work with local stakeholders with regard to screening travelers arriving from the affected region.
- b. Coordinate with DCHHS PIO will increase education about the importance of hand hygiene, cough etiquette, and annual influenza vaccination.

### If the virus appears in the United States or Texas at large.

- 1. Continue enhanced surveillance per activities in phases 2 and 3 utilizing DCHHS methods for surveillance.
- 2. Consider altering the frequency with which surveillance is reported.
- 3. The DCHHS ICP will determine whether to increase laboratory testing for ILI in hospitals and emergency rooms.

## **DCHHS Pandemic Influenza Response Plan**

4. The DCHHS ICP will determine whether to begin surveillance of the hospital bed capacity in Dallas County.

### If the virus appears outside the United States

1. Follow guidance of CDC with regard to travel to affected areas / countries. In the absence of any guidance, recommend deferral of non-essential travel to affected areas / countries.
2. Issue guidance to public with regard to self-diagnosis after returning from affected areas.
3. Continue to educate DCHHS staff, key stakeholders and response partners, healthcare system.
4. Update any guidance as received from the CDC.

## **Logistics Section**

### If the virus appears in Dallas County

#### Personnel Unit

1. Coordinate with DCHHS IC on how to begin identifying and tracking all 1<sup>st</sup> responders, healthcare practitioners, and other key workers.
2. Using guidance from the CDC and DSHS, place identified groups into a prioritization table in order to administer vaccine as it becomes available.
3. Using guidance from the CDC and DSHS, place identified groups into a prioritization table in order to administer anti-virals if:
  - it they are available and,
  - if they are to be used as prophylactics for the identified groups above.
4. In the absence of guidance, coordinate with the technical subject matter experts in the Planning section to develop a prioritization table.

### If the virus appears in the United States or Texas at large

#### Personnel Unit

1. Begin executing necessary tasks outlined in the DCHHS Threat Level document.

#### Supplies & Equipment Unit

1. Begin executing necessary tasks outlined in the DCHHS Threat Level document.
2. Confirm that lab has essential testing supplies.
3. Confirm that Epidemiological investigators have necessary supplies.
4. Request surge capacity items (masks, gloves, etc) for the DCHHS ICP

## **Administration Section**

### If the virus appears in Dallas County

## **DCHHS Pandemic Influenza Response Plan**

1. Coordinate with Personnel Unit to ensure that all DCHHS ICP staff are preparing personnel time records daily.
2. Procure supplies as requested by DCHHS ICP.

### If the virus appears in the United States or Texas at large.

1. Begin executing necessary tasks outlined in the DCHHS Threat Level document.
2. Procure supplies as requested by DCHHS ICP.

## DCHHS Pandemic Influenza Response Plan

### Pandemic Period – Phase 6

#### Increased and sustained transmission in the general population

#### **Incident Commander**

##### Operational Objectives

1. Maintain safety of DCHHS ICP staff.
2. Implement DCHHS Pandemic Response Plan in full.
3. When vaccine is available, activate plans for PODs (points of dispensing)
4. Continue surveillance and tracking activities
5. Assess capacity of hospitals and coordinate their resource needs
6. Maintain ongoing communication with local, state, federal authorities.

#### **PIO**

1. Continue action steps listed for phases 4 & 5.
2. Continue to coordinate and disseminate information on the progress of the pandemic to the public, key stakeholders and partners, and the media.
3. Continue to stress preventive strategies and the need to implement them
4. Continuously review JIC operations, communication strategies for effectiveness; make changes as needed.

##### If the virus appears in Dallas County

1. Ensure media focus addresses the Dallas county audience, the urgency of compliance with DCHHS directives, and sensitivity to those impacted by the pandemic.
2. Share collected data with key stakeholders and response partners.
3. Establish and conduct daily briefings for the media.
4. Review the CDC and WHO websites
5. Disseminate updated health guidelines for the healthcare system

#### **Liaison Officer** (Upon activation of the DCHHS ICP)

1. Serve as point of contact for agencies that will assist in the response effort.
2. Monitor external agency support to ensure it is linked with the appropriate level within DCHHS ICP
3. Monitor external agency resource support so that DCHHS ICP is fully aware of all assets that may available during the response.

#### **Safety Officer** -TBD

#### **Legal Officer**-TBD

## **DCHHS Pandemic Influenza Response Plan**

### **Operations Section**

#### Surveillance

1. Monitor geographic spread of the disease
2. Identify contacts
3. Implement methods to monitor for possible changes in different features of the virus (epidemiological, clinical, virological)
4. Monitor websites and resources (CDC, WHO, DSHS, Epi-X, etc) for situational updates on vaccine / antiviral effectiveness, best practices, new strategies, etc.
5. Implement methods to monitor vaccine effectiveness
6. Implement methods to monitor antiviral resistance
7. Continue pandemic surveillance with additional factors
  - Monitor hospital admissions with suspected or confirmed cases of pandemic strain influenza
  - Monitor deaths of suspected or confirmed cases of pandemic strain influenza
  - Monitor workforce absenteeism in defined essential services sectors
  - Monitor pandemic vaccine usage
  - Monitor pandemic vaccine adverse events
8. Activate epidemiological investigations to identify contacts for tracing, treatment, and surveillance; data will be analyzed to determine what level of isolation, if any, is needed for suspect, probable, and confirmed cases.
9. Expand surveillance, if possible.

#### Mass Prophylaxis (upon widespread vaccine availability)

1. Implement DCHHS Mass Prophylaxis plan in coordination with local municipalities
2. Update vaccine recommendations based on guidance from CDC and DSHS.
3. Ensure key information is shared with PIO regarding vaccine dosages and schedules.
4. Using epidemiological guidelines, track and monitor adverse vaccine reactions. DCHHS ICP can report data to the CDC's Vaccine Adverse Event Reporting System (VAERS). (See TGM for reporting forms, hotline numbers, protocols, etc)

### **Logistics Section**

#### Objectives

1. Provide for safety and welfare of DCHHS ICP staff and DCHHS responders.
2. Establish adequate communications for the incident; advise on shortfalls; identify and resolve potential problems

## **DCHHS Pandemic Influenza Response Plan**

3. Anticipate and identify service and support requirements for planned operations
4. Reviewing the DCHHS SNS plan, assure pandemic vaccine procurement plans are in place and plan contingencies for logistics of delivery.

### **Personnel Unit**

1. Continue activities from Phases 4 and 5
2. Identify procedures for medical treatment of DCHHS responders, DCHHS ICP, and their families. Identify procedures for isolation.
3. Disseminate procedures to DCHHS responders, DCHHS ICP, and their families.

### **Supply Unit**

1. Continue activities from Phases 4 and 5
2. Request materials to ensure DCHHS can maintain infection control procedures (hand sanitizer, disinfectant, etc)
3. Coordinate, if possible, the provision of food and water at the DCHHS ICP.

### **Administration Section**

1. Coordinate with Personnel Unit to ensure that all DCHHS ICP staff are preparing personnel time records daily.
2. Procure supplies as requested by DCHHS ICP.

## DCHHS Pandemic Influenza Response Plan

### Post Pandemic Period – Subsided or Between Waves

#### Potential Indicators of the transition into the Post-Pandemic Period

1. Influenza related morbidity has returned to pre-pandemic levels
2. Influenza mortality has returned to pre-pandemic levels
3. Containment of imported cases with no further transmission of secondary cases
4. Containment of virus among affected animal populations with no further evidence of transmission
5. Containment of the outbreak with no further transmission of secondary cases
6. Establishment of herd immunity either through course of natural infection or vaccination.

#### Incident Commander

1. DCHHS will participate in recovery and demobilization efforts in coordination with DCOSEM. DCHHS will determine the need for additional resources and powers during subsequent pandemic waves.
2. DCHHS will reconstitute its essential services.
3. Upon recovery, DCHHS will consider offering assistance to neighboring jurisdictions with ongoing widespread activity.
4. DCHHS will host an After-Action Report(AAR) to debrief all key stakeholders and responders.
5. The Director of DCHHS, or his designee, will communicate the status of the response to the appropriate local, state, and federal authorities.

#### PIO

1. Communicate the status of the response to the general public.
2. Acknowledge the efforts of the coordinate response entities.
3. Return to normal operations
4. Provide information to prepare the public regarding the expectation of future pandemic waves.
5. Evaluate the communications response as a separate piece of the DCHHS hosted AAR.
6. Revise and update the CERC plan as needed.

#### Operations Section

##### Surveillance

1. Review case definitions, protocols and procedures, and update them according to any new WHO / CDC recommendations or guidance.
2. Conduct and complete analysis of antiviral efficacy, safety, and resistance data; review / update guidelines as necessary; assess supply for subsequent waves

## **DCHHS Pandemic Influenza Response Plan**

3. Assess vaccine coverage, efficacy, safety; review / update guidelines as necessary; continue vaccination of those yet to be vaccinated according to priority status and availability.
4. Review surveillance network for efficacy and remaining capability, prepare monitoring effort for next wave based on lessons learned, review and update DCHHS Epi Response Plan
5. Continue to monitor and track for long-term effects of influenza infection
6. Continue to monitor and track adverse events from vaccines and anti-virals.

### **Mass Prophylaxis**

1. Assess remaining number of vaccination sites to determine how many need to remain open.
2. Ensure continued staff rotation through the PODs until they are no longer needed.
3. Continue with the vaccination program according to the DCHHS ICP Incident Action Plan, according to remaining priority groups (if still applicable), according to vaccine availability (if still applicable)
4. Inventory remaining supplies, medications and vaccines. Re-order as needed to complete the mission.
5. DCHHS will conclude the mass prophylaxis campaign and demobilize PODs. Supplies will be inventoried and returned as appropriate.
6. DCHHS, will conclude the antiviral administration and demobilize as appropriate. Supplies will be inventoried and returned as appropriate.

### **Logistics Section**

1. Implement demobilization plans

### **Personnel Unit**

1. Ensure complete demobilization of personnel. Coordinate with Operations to determine feasibility for reconstituting DCHHS services based on releasing employees from DCHHS ICP.
2. Provide CISD for DCHHS ICP staff and DCHHS response workers and plan for ongoing support as needed.

### **Supplies & Equipment Unit**

1. Inventory all equipment, material, etc.
2. Store all remaining excess resources pending disposition guidance from the Director of DCHHS
3. Coordinate with the Operations Section to determine the kinds of equipment, materials, supplies needed for the next wave based on lessons learned.
4. Update procedures for tracking as needed.

### **Administration Section**

## **DCHHS Pandemic Influenza Response Plan**

1. Complete any outstanding billing / procurement paperwork
2. Ensure all financial reports have been completed for the incident
3. Ensure all personnel time reports are completed and accurate.
4. Ensure all time reports for other personnel attached to DCHHS ICP are forwarded to their respective Human Resource Departments

### **Direction and Control**

- A. DCHHS Public Health Preparedness & Response Division
  1. DCHHS will be the lead agency in the pandemic influenza response per the guidance, protocols, and authorities listed in this plan. The response will be initiated based on discussion between the Director of DCHHS, the Medical Director of DCHHS, and appropriate state and federal authorities.
  2. DCHHS and all response partners will operate under the Incident Command System throughout the duration of a pandemic response.
  3. In order to facilitate effective planning throughout Dallas county, all responding agencies will try to adjust shifts to create a uniform shift schedule.
  4. DCHHS will activate its ICP to coordinate the county-wide public health and medical response during a pandemic.
  5. DCOSEM and cities within Dallas county may activate their EOCs during a pandemic to coordinate the response.
  6. During pandemic phases 1-3, DCHHS will lead health system preparedness efforts and county-wide education efforts for pandemic influenza response.
  7. During pandemic phases 4-6, and once DCHHS ICP is fully operational, DCHHS ICP will communicate with the healthcare system partners by activating the Dallas County Metropolitan Medical Response Hospital subcommittee to co-locate within DCHHS ICP.
  8. DCHHS will determine the viability of disease control measures and establish the criteria for their implementation.
  9. Upon reaching pandemic phase 4:

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- a. DCHHS will assess whether to fully implement the DCHHS Pandemic Response Plan based on additional information at the time.
  - b. DCHHS will determine the appropriate time to provide briefings to the Dallas County Judge, city mayors, elected officials and regional response partners. Briefings will address the nature of the disease, its communicability and virulence, vaccine / anti-viral availability, DCHHS actions to date, recommended response actions for partners, and general health information to be shared with the public.
10. DCHHS will coordinate response actions with surrounding counties, DSHS, and the CDC.

### **B. DCHHS Public Information**

1. DCHHS will serve as the lead agency in Dallas county for risk communications messaging and public education regarding pandemic influenza. All responding agencies should coordinate with DCHHS PIO to ensure consistency of communications regarding pandemic influenza.

### **C. DCHHS Staffing Reassignment**

1. During a pandemic, DCHHS may suspend routine DCHHS services to provide staff for the DCHHS ICP, hotlines, mass prophylaxis clinics, etc.
2. The Director of DCHHS, upon receiving a recommendation from the Medical Director, will assess the need to reprioritize DCHHS functions and will direct staff accordingly.
3. DCHHS will continue to update its COOP plan to identify key programs and services and to prioritize them accordingly.
4. The DCHHS COOP plan identifies division functions that will remain operational during a pandemic and specify the minimum resources necessary to do so.

### **D. DCHHS Line of Succession – TBD**

## **Plan Maintenance & Development**

### **A. Plan Development**

## **DCHHS Pandemic Influenza Response Plan**

The Director of DCHHS will direct the development of, and approve the Pandemic Response Plan and all attached documents. The Director may be assisted by such individuals or committees as he / she directs.

### **B. Distribution of Planning Documents**

1. When approved, the Pandemic Response Plan shall be promulgated to DSHS Austin, Community Preparedness Section.
2. A copy of the Pandemic Response Plan shall be provided to the county judge / county emergency manager in Dallas County.
3. Copies of plans and annexes should be distributed to pertinent individuals and programs within the DCHHS, and to stakeholders and partner agencies and organizations. Copies should also be set-aside for the EOC and other emergency facilities.

### **C. Review and Update**

1. This plan will be updated based upon deficiencies identified during actual emergency situations, exercises and when changes in threat hazards, resources and capabilities, or agency structure occur.
2. This plan and its attachments must be revised or updated by a formal change at least every five years. The responsibility for coordinating the revision of the Pandemic Response Plan and attachments is assigned to the Senior Planner, DCHHS Public Health Preparedness Division.
3. Revised or updated planning documents will be distributed as outlined in Section X.B above.

## **DCHHS Pandemic Influenza Response Plan**

### **Attachment List:**

Attachment #1: WHO Phase Chart & Corresponding Phases of Emergency Management

Attachment #2: Protective Measures Chart – Decision Makers

Attachment #3: Timing of Protective Measures according to WHO Phase Chart

Attachment #4: Guidance Documents

Tab 1: 1<sup>st</sup> Responder Roles / Vital Agency Roles

Tab 2: Guidance for the Healthcare System

➤ Infection Control Guidelines

➤ Surge Capacity Planning

➤ Triage Guidelines

Tab 3: Communal Living Centers

Tab 4: Employee Exposure Management Plan

Tab 5: Social Distancing

Tab 6: Criteria for Activating Social Distancing for Business

Tab 7: Taking Care of an Influenza Patient at Home

Tab 8: WHO Phase Chart & Corresponding Phases for External Stakeholders

Attachment #5: Priority Allocation Tables for Vaccines & Anti-virals

Attachment #6: Vaccine & Anti-Viral Tracking System

Attachment #7: School Prevention & Control: Interim Guidance

# DCHHS Pandemic Influenza Response Plan

## Attachment #1: WHO Phase Chart & Corresponding Phases of Emergency Management

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

<sup>a</sup> 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.

<sup>b</sup> 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.

# DCHHS Pandemic Influenza Response Plan

## Attachment #2: Protective Measures Chart – Decision Makers

<b>Attachment #2 Decision Making for Social Distancing Measures, Risk Communications and Public Education</b>				
	DCHHS	Dallas County Judge	City Mayors	Notes
Direction and structuring of health care system resources and operations				Coordinated through DCHHS
Individual isolation of influenza cases				Coordinated through DCHHS
Quarantine close contacts of influenza cases				Coordinated through DCHHS
Risk Communications messaging to response partners, the public and the media				Via JIC with health messaging led by DCHHS
Recommend public defer travel to countries impacted by pandemic				DCHHS will issue recommendation supported by all elected leaders.
Encourage public and private sector to implement pandemic emergency staffing plans				DCHHS will issue recommendation supported by all elected leaders.
Close all public and private schools, colleges and universities				Recommendation made by DCHHS and coordinated with all parties
Close churches, theaters and other places where crowds gather				Recommendation made by DCHHS and coordinated with all parties
Suspend large gatherings (sports events, concerts)				Recommendation made by DCHHS and coordinated with all parties
Suspend government functions not dedicated to pandemic response or critical continuity				Decisions made by all parties on a county-wide basis
Encourage use of public transit only for essential travel				Decisions made by all parties on a county-wide basis to recommend limiting the use of public transit

  

	Lead Decision Maker: Exercises the legal authorities of their position
	Support Decision Maker: Publicly acknowledges and supports the decision. May jointly exercise legal authority in conjunction with the Lead Decision Maker.
	Joint Decision Makers: Decisions are made and communicated concurrently by all involved

## **DCHHS Pandemic Influenza Response Plan**

Attachment #3: Timing of Protective Measures according to WHO Phase Chart

## **DCHHS Pandemic Influenza Response Plan**

### Attachment #4: Guidance Documents

Tab 1: 1<sup>st</sup> Responder Roles / Vital Agency Roles

Tab 2: Communal Living Centers

Tab 3: Employee Exposure Management Plan

Tab 4: Social Distancing

Tab 5: Criteria for Activating Social Distancing for Business

Tab 6: Health Authority Strategy Diagram

## **DCHHS Pandemic Influenza Response Plan**

Tab #1: 1<sup>st</sup> Responder Roles / Vital Agency Roles

## **DCHHS Pandemic Influenza Response Plan**

Tab 2: Communal Living Centers

## **DCHHS Pandemic Influenza Response Plan**

Tab 3: Employee Exposure Management Plan

## **DCHHS Pandemic Influenza Response Plan**

Tab 4: Social Distancing

## **DCHHS Pandemic Influenza Response Plan**

Tab 5: Criteria for Activating Social Distancing for Business

## **DCHHS Pandemic Influenza Response Plan**

Tab #6: Taking Care of an Influenza Patient at Home

## **DCHHS Pandemic Influenza Response Plan**

Attachment #5: Priority Allocation Tables for Vaccines & Antivirals

## **DCHHS Pandemic Influenza Response Plan**

Attachment #6: Vaccine & Anti-Viral Tracking System

## DCHHS Pandemic Influenza Response Plan

Attachment #7: School Prevention & Control: Interim Guidance

### School Closures in the Setting of a Pandemic

John Carlo, M.D., MSE

The transmission of the H5N1 virus in Asia, Africa, and Europe in both animals and humans has raised awareness as to the threat of another influenza pandemic. Because effective vaccines and medications likely would be in short supply, the entire world remains susceptible and vulnerable. The experience with the Spanish Influenza Pandemic of 1918 in which more than 50 million people died (including 500,000 Americans) gives historical record to this possibility<sup>1</sup>.

One of the most hotly debated issues regarding local control measures regards school closures. Federal, state, and local response plans all describe using school closures or “snow days” as a control measure, but give little guidance as to when to close schools. Establishing a “trigger point” that would promote the most effective control of a spreading epidemic would help essential organizations better plan and prepare.

Additionally, school planning and preparedness is lacking in most communities. A recent summary report by the State of Maryland indicates that:

1. Current local school plans do not address pandemic influenza.
2. Current pandemic influenza preparedness plans do not sufficiently address school systems.
3. Communication gaps prevent timely and effective exchange of information during an influenza pandemic.
4. School systems lack specific guidance and procedures on a myriad of issues relevant to an influenza pandemic<sup>2</sup>.

#### **Historical perspective**

During the 1918 pandemic, various cities in the United States used school closures as control measures. However, a city-by-city survey by the U.S. Public Health Service in 1919-1921 demonstrated no differences in illness rates between cities that closed schools and those that did not. In fact, supportive data for most population-based control measures is lacking, primarily consisting of historical and contemporary observations, rather than controlled scientific studies<sup>3,4</sup>. Current school closures at the peak of seasonal influenza outbreaks usually are a response to high student and/or staff absenteeism and not an effort to prevent influenza transmission.

Increased influenza rates of school-age children were observed during the 1918 pandemic. The U.S. Public Health Service city surveys demonstrated that from 1900 to 1917, the 5- to 15-year-old age group accounted for 11% of total influenza cases; in 1918 the 5- to 15-year-old attack rate jumped to 25% of the cases<sup>5</sup>. Other reports showed some cities to have school-age attack rates as high as 70%<sup>6</sup>.

## **DCHHS Pandemic Influenza Response Plan**

### **Influenza transmission by school-age children**

Typically, school-age children have higher attack rates of seasonal influenza than the general population. This age group sheds the influenza virus more frequently and is infectious for longer periods of time than adults<sup>7</sup>. Adults who live in households with school-age children exhibit attack rates 2-3 times higher than adults who live where school-age children do not reside<sup>8</sup>.

### **Influence of school closure and respiratory disease**

Do school closures reduce the spread of influenza illness in a community? Heymann, et al, completed a retrospective case review in Israel during an organized teachers' strike. Because Israel has a universal healthcare system, researchers could review the records of more than 180,000 child-age health visits. Dividing the visits into periods before, during, and after the school strike (which lasted 13 days in January), they observed a significant reduction in rate of diagnoses of respiratory illness during the school closure period (RR= 0.76, 95% CI 0.75-0.77). They also noted a reduction in Emergency Department visits during the closure period (28% reduction, 95% CI 11-46%). However, this study could not collect information on laboratory diagnosis and could not allow for temporal changes in case frequencies normally observed during influenza epidemics<sup>9</sup>.

An epidemic model by Glass 2006<sup>10</sup> demonstrates that school closure could reduce the transmission of influenza in a local community. By creating a "stylized U.S. town" of 10,000 with typical patterns of social interactions, it was demonstrated that if the school and social contact of children and adolescents are removed by containing them within households, the contact frequencies of this group are reduced by 90%, and the overall community attack rate (including all populations) is reduced by 93%. Clearly, a true social contact network is very difficult to model, and achieving a near complete sequestration of this population would be very unlikely in the real world setting.

### **Impact of school closures on the community**

Closing public schools for even a brief interval would significantly impact the entire community. With schools closed, many parents would also be reduced from the workforce, having to stay in the households as caretakers. In addition, many children, particularly in urban settings, receive essential services at their schools, such as federally assisted lunch programs. Further, school closures would not prevent students from being exposed to influenza in other, non-academic settings. School closures would be effective only if other public gatherings are also restricted during the same time. Malls, movie theaters, stores, and churches would also potentially need to be closed if the goals of reducing influenza transmission are to be realized. Finally, children and adolescents in larger households, particularly where another member is ill with influenza, may be at higher risk sequestered in their homes rather than attending school.

### **Pediatric hospital care**

"Children are not small adults." Emergency medical services and ambulances carry substantially lower inventories of pediatric-specific equipment, and have a much lower experience with the management of pediatric patients<sup>11</sup>. Dallas County, like most major urban communities, has significantly fewer pediatric hospital and ICU beds when compared to adult facilities. For a population of over 2.3 million<sup>12</sup>, the county's one dedicated pediatric

## **DCHHS Pandemic Influenza Response Plan**

hospital has 402 licensed beds and 52 ICU beds. Two other hospitals in the area have admitting pediatric wards and ICU bed capacities ranging from 15-100 regular hospital beds and 20-40 ICU beds. Given the estimated attack rates of 30% or more specific to the pediatric population<sup>13</sup>, these resources would be exceeded very rapidly.

### **Timing of school closure**

School districts and local health officials need to develop plans and determinants as to when to close schools. The ultimate responsibility for opening and closing schools should remain with the schools themselves. Yet, for school closures to be effective, they must be coordinated with high levels of compliance. For most Health Commissioners/ Health Authorities, there are legal measures under quarantine and isolation laws which could be applied to schools; however, it generally is assumed that an issued medical order for closure would be sufficient for schools to respond, if this were deemed an essential course of action. Medical orders from Health Authorities in the State of Texas must have provisions as to when to expect the re-opening of the facility<sup>14</sup>.

Given the difficulty in predicting the rate of spread of a pandemic, no single indicator or data set can be used to determine whether to close a school. However, these factors would influence the school closure determination:

1. Demonstration of impact from the pandemic in other regions of the world or the United States. If media broadcasts a high impact of the disease elsewhere, parents may be reluctant to send children to school; thus, school closures could occur as a result of reduced attendance.
2. Severity of the virus, including the fatality rate in local cases. If fatality rates exceed double or triple the rate of the seasonal influenza virus (0.05%), then control measures must be emphasized to reduce case numbers. If the severity of a novel strain of influenza virus remains within an order of magnitude of double or triple the seasonal mortality rate (as in the 1957 and 1968 pandemics), then school closures could be determined by the schools and school districts as they traditionally do so.
3. Observed impact on available pediatric hospitals. If hospital beds for pediatric patients in the county are near capacity, school closures likely would be necessary to lower transmission rates in the pediatric population.
4. Distribution of early cases. Early surveillance information would be essential in determining potential control measures. For identified laboratory-confirmed cases, it would be important to look for the source(s) of infection. If early cases do not have travel history or the sources for infection are concluded to be local, then local control measures would have to be undertaken. School closures and elimination of non-essential mass gatherings would be the only methods to reduce transmission. If contact tracing and surveillance demonstrate that the cases are isolated or are located in a specific area, targeted control measures could be used, such as closures of specific districts or facilities.

Further planning in corporation with both local public health and school officials is clearly needed so that potential actions by both parties are understood in advance. Clearly, the magnitude of such decisions preclude the designation of a single person or entity to “choose” when it is best to close schools, but the understanding and rationale for school closures both from the schools themselves and public health officials is what is needed during the planning process.

## **DCHHS Pandemic Influenza Response Plan**

### **Duration of school closure**

Determining the duration of school closure is as important as determining whether schools should be closed. The economical and social impact associated with closures can be minimized by:

1. Limiting the schools' closure period.
2. Providing the expected re-opening date as quickly as possible.

School closure control measures need not be considered absolute; half days could be considered. If it appears that the epidemic spread likely will result in a long period of public health control, every-other-day closure of schools, alternating school openings, or other arrangements may be possible. Disease progression may be slowed by non-consecutive or Monday, Wednesday, Friday open days. No historical data supports these measures as being effective; however, these measures could be attempted as alternatives to complete closures, and, with effective surveillance, the disease progression could be rapidly monitored to determine the efficacy. Further, mitigation plans should be drafted in order to open schools quickly, either for intervals during the pandemic or immediately afterward.

### **Conclusions**

Because of the lack of vaccine and antiviral medications, the only effective measure to reduce the community's impact from a pandemic would be social distancing. Schools are the most important communal setting for children ages 5-17, and, because children in this age group are the sentinel spreaders of seasonal influenza, it should be a targeted group for control measures. The critical issue for schools is not when they should be closed, but how schools can safely operate during a pandemic and how the decisions of school closure are going to be made in each local community. Practices such as infection control, absenteeism documentation, and information gathering should be part of a school's early planning process as well.

The issue of school closure in the setting of a pandemic clearly requires significant attention. The impact of such measures would be in an unprecedented social and economic scale. Pre-event planning for this process should include an understanding of the process and identification of who the key decision makers are going to be for the local community. There is no single trigger or scenario which could be described to explain when or how this process of school closure should commence. As such, it is important in the planning stages to outline the thought process itself with both the local public health and school officials, in order to utilize school closure as an effective control measure.

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## **DCHHS Pandemic Influenza Response Plan**

Attachment #9: DCHHS Pandemic Preparedness Guide

## **DCHHS Pandemic Influenza Response Plan**

## DCHHS Pandemic Influenza Response Plan

### Appendix A: Notification of External Agencies during Pandemic Phases 1-3

Agency	Method of Communication	Current Contact	Instructed to contact
Director of DCHHS	Telephone	Zachary Thompson	Other county agencies including: Dallas County Office of Security and Emergency Management, County Judge and Commissioners, Sheriffs Department, District Attorney's Office
DSHS	Telephone/email	Jim Zoretic	Central State Office Headquarters in Austin
Epi-X	Epi-X Administrator	National Public Health Agencies	
PHIN/HAN	PHIN Administrator Posts	Public Health Agencies	
CDC Division of Quarantine and Global Migration	Telephone/email		
DFW Airport Department of EMS/Emergency Management	Telephone/email	Forrest Broom/	Airport Officials
DMOC	Telephone/email	Walter Cassidy	Dallas County Hospitals
Dallas County Infection Control Practitioners	Email	Contact List	Notify hospitals
Dallas County Medical Society	Telephone	Michael Darrouzet	County Physicians
City of Dallas Office of Emergency Management	Telephone/email	Kenny Shaw	City of Dallas Officials
City of Garland Health Department	Telephone/email	Richard Briley	City of Garland Officials
City of Richardson Health Department	Telephone/email	Bill Alsup	City of Richardson Officials

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City of Irving Health Department	Telephone/email		City of Irving Officials
Tarrant County Health Department	Telephone/email	Sandra Parker	Tarrant County Officials
Collin County Health Department	Telephone/email	Muriel Marshall	Collin County Officials
Denton County Health Department	Telephone/email	Janet Glowitz	Denton County Officials

# DCHHS Pandemic Influenza Response Plan

Tab 6: Health Authority Strategy Guide

