

# Commissioner's Court Workshop

## November 21, 2005

### WHAT IS INFLUENZA AND AVIAN FLU?

#### HUMAN

- Human Influenza is a seasonal illness caused by a virus which can evolve to create new strains. Because the virus can change into a new strain, a new vaccine has to be produced each year in order to protect against the new strain. By tracking circulating human flu strands in the southern hemisphere, scientist can predict which strains will cause human influenza each year and can develop vaccines to protect against the predicted strains.

#### AVIAN

- Avian Influenza is caused by a specific strain which causes illness in birds. This strain which has been recently reported in the news is Influenza A subtype H5N1.
- The H5N1 avian virus is most commonly found in chickens. However, it first jumped from birds to humans in Hong Kong in 1997, infecting 18 people and causing six deaths. In late 2003, the virus infected poultry flocks in East Asia, and as of October 2005, has infected at least 121 humans and killed 62. This virus has expanded to include other animal, including cats, tigers, and leopards. Migratory birds are linked to spreading this virus between countries.
- Although there is no evidence that the current avian virus is genetically mutating to allow human to human transmission, federal, state, and local public health departments are preparing for the possibility and developing response plans with collaborating emergency responders
- While the current avian influenza has not shown to transmit human to human and thus, become epidemic, Health Officials are concerned about the possibility that the current virus may mutate into a strain which can transmit human to human and cause a pandemic. Typically, flu virus only makes minor changes year to year. To transmit easily from human to human, a major mutation must occur in the H5N1 virus.
- If and when a major mutation occurs, the new influenza virus which could transmit human to human could cause a pandemic with high rates of illness and death because the world's population will have no natural resistance to the virus.

#### VACCINE/ANTIVIRAL PRODUCTION

- Vaccines produce immunity to prevent infection. Antivirals, although not a cure, can reduce the severity and length of illness and reduce the likelihood of complications like pneumonia and hospitalization.
- Flu vaccine production can only start after a specific strain is identified. After production of vaccine begins, it usually takes six months before doses can be distributed to public providers

- Private sector drug manufacturers have the capacity to develop about 90 million doses, based on current seasonal demands. This capacity is only about 1/3 of what would be needed to supply flu vaccine to the entire US.
- A new H5N1 vaccine has been developed for the current strain of avian influenza which does not easily transmit between humans; however, this vaccine may not be effective against a mutated version that could cause a pandemic from human to human transmission
- Development of a better vaccine to protect against pandemic is estimated to take 6-8 months
- The US Department of Health and Human services has awarded \$97 million to a drug company to develop new technology to create vaccines more quickly
- The company that produces the antiviral Tamiflu, has quadrupled its capacity to produce; however production time is 8 - 12 months per batch
- The federal government has ordered and paid for enough Tamiflu to treat 20 million people, however, there is some evidence that the current avian flu strain is developing some resistance to Tamiflu.

### **WHAT IS THE RISK OF PANDEMIC FLU?**

- An influenza pandemic is a global outbreak of disease that occurs when a new influenza A virus emerges in the human population, causes serious illness, and then spreads easily from person to person worldwide.
- Pandemics are different from seasonal outbreaks or "epidemics" of influenza. Seasonal outbreaks are caused by subtypes of influenza viruses that already circulate among people, whereas pandemic outbreaks are caused by new subtypes, which have never circulated among people, or by subtypes that have not circulated among people for a long time.
- Influenza pandemics occur naturally. There were 3 pandemics in the 20th century. The pandemic of 1918-19 was the most severe pandemic on record, in which 50 million or more persons around the world died, including approximately 650,000 Americans. Past influenza pandemics have led to high levels of illness, death, social disruption, and economic loss.
- A pandemic can start when 3 conditions have been met: a new influenza virus subtype emerges; it infects humans, causing serious illness; and it spreads easily and sustainably among humans. The H5N1 virus meets the first 2 conditions: it is a new virus for humans and it has infected more than 100 humans, killing over half of them. All prerequisites for the start of a pandemic have therefore been met except one: the establishment of efficient and sustained human-to-human transmission of the virus.
- Health officials believe the risk of pandemic flu is serious. It is not possible to predict accurately when influenza pandemics will occur or how severe they will be. However, the current outbreak of avian influenza in Asia has influenza experts concerned that a pandemic could be developing.
- The most important warning signal that a pandemic is about to start comes when clusters of patients with clinical symptoms of influenza, closely related in time and place, are detected, as this suggests human-to-human transmission is taking

place. The detection of cases in health workers caring for H5N1 patients would also suggest human-to-human transmission.

- Education and outreach are critical to preparing for a pandemic. Understanding what a pandemic is, what needs to be done at all levels to prepare for pandemic influenza, and what could happen during a pandemic helps us make informed decisions both as individuals and as a nation.
- Galveston County Health District (GCHD) plays a significant role in educating the public, medical providers and response partners on influenza through the Health Alert Network, newsletters, brochures, news releases, collaborative meetings and health fairs.

## **WHAT ARE WE DOING TO BE PREPARED FOR PANDEMIC INFLUENZA?**

### *Scenario*

In the event avian (or bird) flu mutates into a version that is transmitted from human to human and makes its way to Galveston County, our county could suffer a significant impact. Using computer programs supplied by the Centers for Disease Control, we estimate that given a 25% infection rate among county residents that 67,318 people would be infected, about 800 would require hospitalization, and 163 would die.

To prevent the spread of disease, measures might need to be taken to isolate infected individuals and quarantine potentially infected individuals in their homes or in a medical facility. Public events, school classes and non-essential business activities might need to be curtailed to limit potential exposure to the disease.

Hospitals emergency rooms might be inundated with flu patients. Hospitals might need to cancel elective procedures to make room in their hospitals for flu patients requiring special care.

Large mass vaccination clinics might be needed across the county to provide vaccinations or antivirals to county residents. If mass clinics are needed, a large number of volunteers from the community would be needed to help operate the clinics. County and city law enforcement would be needed to maintain order at the sites, protect clinic workers and safeguard medicines.

### **LOCAL DISEASE SURVEILLANCE**

- The Health District is working along with local hospitals, school districts and other medical facilities in a statewide influenza surveillance network. This initiative will enable health agencies to prepare for new vaccines, assess the severity of the annual epidemic, and detect new strains of the virus before a pandemic influenza strain can emerge. It is through these efforts of health care providers and laboratories in Texas and all other states, that the Centers for Disease Control and Prevention develops a national picture of influenza virus activity, the geographic distribution of influenza viruses, and the clinical impact of the circulating viruses.

- GCHD bioterrorism group is using software programs to project the impact of a flu epidemic in Galveston County. This program helps calculate the number of people that will get sick and die.
- GCHD epidemiology services are monitoring the sales of over-the-counter medications on a daily basis. This process may be the first trigger that an outbreak is occurring in the county. Epidemiology services are also monitoring local hospital bed capacity and emergency room syndromes on a weekly basis.
- GCHD is using the Department of State Health Services (DSHS) reporting system to report, monitor and track conditions that are a public health threat throughout Texas.

To prepare for such a scenario, planning is taking place on a local, state and federal level.

### **LOCAL PLANNING**

- Have developed a plan that outlines the specific roles of the Health District as well as state and federal responsibilities.
- Working with hospitals, emergency management, red cross, and law enforcement, to coordinate preparedness and response activities
- Have established memorandums of understanding with all area school districts and the College of the Mainland to use their facilities as sites to provide mass vaccinations or distribute medications to residents of Galveston County.
- Established a Medical Reserve Corps in Galveston County to recruit volunteers to be trained and ready to assist in a public health emergency.
- Coordinating planning with surrounding health departments and the Texas Department of State Health Services regional office.
- Coordinating efforts with mental health providers to provide mental health services in an emergency to victims and responders.

### **STATE PLANNING**

- Development of a state pandemic flu plan
- Coordinating statewide disease surveillance activities for flu
- Providing guidance for local governments
- Updating designs for mass vaccination clinics
- Developing information toolkits for healthcare providers and the general public

### **FEDERAL PLANNING**

- Advancing international preparedness, surveillance, response and containment activities.
- Supporting the establishment of countermeasure stockpiles and production capacity by:
  - Facilitating the development of sufficient domestic production capacity for vaccines, antivirals, diagnostics and personal protective equipment to support domestic needs, and encouraging the development of production capacity around the world;

- Advancing the science necessary to produce effective vaccines, therapeutics and diagnostics; and
  - Stockpiling and coordinating the distribution of antivirals in concert with states and other entities.
- Ensuring that federal departments and agencies, including federal health care systems, have developed and exercised preparedness and response plans that take into account the potential impact of a pandemic on the federal workforce, and are configured to support state, local and private sector efforts as appropriate.
- Facilitating state and local planning through funding and guidance.
- Providing guidance to the private sector and public on preparedness and response planning, in conjunction with states and communities.



## Key Facts on Avian Influenza

- What is avian influenza (bird flu)?
  - Bird flu is an infection caused by avian (bird) influenza (flu) viruses. These flu viruses occur naturally among birds. Wild birds worldwide carry the viruses in their intestines, but usually do not get sick from them. However, bird flu is very contagious among birds and can make some domesticated birds, including chickens, ducks, and turkeys, very sick and kill them.
  - Certain types of influenza viruses causes avian flu. There are 15 known avian influenza virus subtypes circulating in bird populations. Influenza A (H5N1) is infecting birds in Asia and has infected some humans.
- How is avian flu spread? How do people get avian flu?
  - Infected birds shed flu virus in their saliva, nasal secretions, and feces. Susceptible birds become infected when they have contact with contaminated excretions or surfaces that are contaminated with excretions.
  - It is believed that most cases of bird flu infection in humans have resulted from contact with infected poultry or contaminated surfaces.
  - Spread of the avian flu from person to person has been rare and spread has not continued beyond one person. Health entities worldwide are concerned that the virus can change and one day infect humans and spread easily from one person to another.
- What are the symptoms of bird flu in humans?
  - Symptoms of bird flu in humans have ranged from typical flu-like symptoms (fever, cough, sore throat and muscle aches) to eye infections, pneumonia, severe respiratory diseases, and other severe and life-threatening complications. The symptoms of bird flu may depend on which virus caused the infection.
- Can the human flu vaccine protect me against avian influenza?
  - Flu viruses change from year to year. For that reason, immunity (natural protection created against a disease after a person has had that disease) that is built up from having the flu caused by one virus does not provide protection when a different virus is circulating. This also means that a vaccine made against flu viruses circulating before may not protect against the newer viruses. Thus the flu vaccine is updated annually to include current human viruses.

- How is bird flu treated in humans?
  - There are no publicly available vaccines against avian flu. There are 4 different influenza antiviral drugs for the treatment and/or prevention of influenza. However, some of the H5N1 viruses isolated from poultry and humans in 2004 in Asia have shown that the viruses are resistant to 2 of the medications.
  
- What can be done to protect the public from avian flu?
  - The government has introduced restrictions on live bird and poultry imports from countries with ongoing avian flu outbreaks. Federal and state animal health officials work with the poultry industry to carefully monitor breeding flocks, slaughter plants, live bird markets, livestock auctions, and poultry dealers.
  
- Where have human cases occurred?
  - In the current outbreak, laboratory confirmed cases have been reported in 4 countries: Cambodia, Indonesia, Thailand and Vietnam
  - Since December 2003, there have been 121 human cases of avian flu.
  
- What should I do if I think I have avian flu?
  - You should be evaluated by a health care provider in the first few days after onset of illness in order to confirm avian influenza. Inform your healthcare provider if you develop any fever or worsening respiratory symptoms. Mention any recent exposures to infected poultry or to someone suspected of having avian influenza
  
- What can the Health District do about protecting the public from avian flu?
  - The Health District urges the public to practice “respiratory etiquette” (hand washing often with warm water and soap for 20 seconds, drying hands with a clean disposable towel, or use an alcohol based hand cleaner when soap and water is not available). In addition, the Health District is working along with local hospitals and other medical facilities in a statewide influenza surveillance network. The data collected from this initiative will enable health agencies to prepare for new vaccines, assess the severity of the annual epidemic, and detect new strains of the virus before a pandemic influenza strain can emerge.



## FACT SHEET

### Key Facts about Influenza and Influenza Vaccine

#### What is Influenza (also called Flu)?

The flu is a contagious respiratory illness caused by influenza viruses. It can cause mild to severe illness, and at times can lead to death. The best way to prevent this illness is by getting a flu vaccination each fall.

Every year in the United States, on average:

- 5% to 20% of the population gets the flu;
- more than 200,000 people are hospitalized from flu complications, and;
- about 36,000 people die from flu.

Some people, such as older people, young children, and people with certain health conditions, are at high risk for serious flu complications.

#### Symptoms of Flu

Symptoms of flu include:

- fever (usually high)
- headache
- extreme tiredness
- dry cough
- sore throat
- runny or stuffy nose
- muscle aches
- Stomach symptoms, such as nausea, vomiting, and diarrhea, also can occur but are more common in children than adults.

#### Complications of Flu

Complications of flu can include bacterial pneumonia, dehydration, and worsening of chronic medical conditions, such as congestive heart failure, asthma, or diabetes. Children may get sinus problems and ear infections.

#### How Flu Spreads

Flu viruses spread in respiratory droplets caused by coughing and sneezing. They usually spread from person to person, though sometimes people become infected by touching something with flu viruses on it and then touching their mouth or nose. Most healthy adults may be able to infect others beginning 1 day **before** symptoms develop and up to 5 days **after** becoming sick. **That means that you can pass on the flu to someone else before you know you are sick, as well as while you are sick.**

#### Preventing the Flu: Get Vaccinated

The single best way to prevent the flu is to get a flu vaccination each fall. There are two types of vaccines:

- The "flu shot" – an inactivated vaccine (containing killed virus) that is given with a needle. **The flu shot** is approved for use in people older than 6 months, including healthy people and people with chronic medical conditions.
- The nasal-spray flu vaccine – a vaccine made with live, weakened flu viruses that do not cause the flu (sometimes called LAIV for "Live Attenuated Influenza Vaccine"). LAIV is approved for use in healthy people 5 years to 49 years of age who are not pregnant.

About two weeks after vaccination, antibodies develop that protect against influenza virus infection. Flu vaccines will not protect against influenza-like illnesses caused by other viruses.

## What Everyone Should Know about Influenza and Influenza Vaccine

(continued from previous page)

### When to Get Vaccinated

October or November is the best time to get vaccinated, but getting vaccinated in December or even later can still be beneficial. Flu season can begin as early as October and last as late as May.

### Who Should Get Vaccinated?

In general, anyone who wants to reduce their chances of getting the flu can get vaccinated. However, certain people should get vaccinated each year. They are either people who are at high risk of having serious flu complications or people who live with or care for those at high risk for serious complications. People who should get vaccinated each year are:

#### **1.) People at high risk for complications from the flu:**

- People 65 years and older;
- People who live in nursing homes and other long-term care facilities that house those with long-term illnesses;
- Adults and children 6 months and older with chronic heart or lung conditions, including asthma;
- Adults and children 6 months and older who needed regular medical care or were in a hospital during the previous year because of a metabolic disease (like diabetes), chronic kidney disease, or weakened immune system (including immune system problems caused by medicines or by infection with human immunodeficiency virus [HIV/AIDS]);
- Children 6 months to 18 years of age who are on long-term aspirin therapy. (Children given aspirin while they have influenza are at risk of Reye syndrome.);
- Women who will be pregnant during the influenza season;
- All children 6 to 23 months of age;
- People with any condition that can compromise respiratory function or the handling of respiratory secretions (that is, a condition that makes it hard to breathe or swallow, such as brain injury or disease, spinal cord injuries, seizure disorders, or other nerve or muscle disorders.)

**2.) People 50 to 64 years of age.** Because nearly one-third of people 50 to 64 years of age in the United States have one or more medical conditions that place them at increased risk for serious flu complications, vaccination is recommended for all persons aged 50 to 64.

**3.) People who can transmit flu to others at high risk for complications.** Any person in close contact with someone in a high-risk group (see above) should get vaccinated. This includes all health-care workers, household contacts and out-of-home caregivers of children 6 to 23 months of age, and close contacts of people 65 years and older.

### Who Should Not Be Vaccinated

Some people should not be vaccinated without first consulting a physician. They include:

- People who have a severe allergy to chicken eggs.
- People who have had a severe reaction to an influenza vaccination in the past.
- People who developed Guillain-Barré syndrome (GBS) within 6 weeks of getting an influenza vaccine previously.
- Children less than 6 months of age (influenza vaccine is not approved for use in this age group).
- People who have a moderate or severe illness with a fever should wait to get vaccinated until their symptoms lessen.

If you have questions about whether you should get a flu vaccine, consult your health-care provider.

## **What Everyone Should Know about Influenza and Influenza Vaccine**

(continued from previous page)

For more information, visit [www.cdc.gov/flu](http://www.cdc.gov/flu), or call CDC at (800) CDC-INFO (English and Spanish) or (888) 232-6358 (TTY).

# GALVESTON COUNTY HEALTH DISTRICT EMERGENCY OPERATIONS PLAN



## Appendix S

### Response Plan for Pandemic Influenza and Highly Infectious Respiratory Diseases

November 2005

Healthy People – Healthy Communities

**Galveston County Health District**

## TABLE OF CONTENTS

Introduction.....	3
Assumptions.....	6
Federal and State Roles.....	7
The Plan.....	8
Command and Control.....	9
Surveillance .....	11
Prevention and Containment: Implementation of Community Level Control Measures, Use of Antivirals, Use of Vaccine.....	15
Emergency Response: Health Systems and Critical Infrastructure .....	23
Communicating with the Public.....	25
Appendices.....	26
A: Estimates of Priority Populations for Antivirals.....	26
B: Estimates of Priority Populations for Vaccine.....	27
C: Considerations for Avian Influenza .....	28
D: Health Care System Guidance .....	29
E: Contact Information .....	31
F: Acronyms.....	32

## INTRODUCTION

### Background

Influenza is a highly contagious viral disease, with epidemics of influenza affecting hundreds of thousands of people nearly every year. The ability for influenza viruses to “drift,” or frequently make slight structural changes over time, results in the appearance of the different strains that circulate among the human population. Vaccines are developed to match the strains expected to circulate each year.

In contrast to the gradual drift process, the influenza virus can also change suddenly and dramatically, through “shift.” Shift results in a new, or “novel” influenza virus to which very few people, if any, are immune. The potential for a pandemic exists if the novel virus has the ability to spread easily from person to person and can cause serious illness. It is important to note, however, that the influenza virus does not need to be novel to cause large-scale epidemics.

The World Health Organization (WHO) has defined phases of a pandemic to assist with planning and response activities:

<b>WHO Pandemic Phase</b>	<b>Overarching Public Health Goals</b>
<b>Inter-Pandemic Period</b> 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 humans, the risk of human infection or disease is considered 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	Strengthen influenza pandemic preparedness at the global, regional, national and subnational levels  Minimize the risk of transmission to humans; detect and report such transmission rapidly if it occurs
<b>Pandemic Alert Period</b> 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)	Ensure rapid characterization of the new virus subtype, notification and response to additional cases  Contain the new virus within limited foci or delay spread to gain time to implement preparedness measures, including vaccine development  Maximize efforts to contain or delay spread, to possibly avert a pandemic, and to gain time to implement pandemic response measures
<b>Pandemic Period</b> Phase 6: Pandemic – increased and sustained transmission in	Minimize the impact of the pandemic

the general population	
<b>Subsided Period</b> This is the interval between waves. At least two waves are expected in Texas.	Focus on taking stock of resources, quick evaluation of plan performance with adjustments needed, continued use of personal non-pharmaceutical prevention strategies, continued vaccination of population according to priority list, and assessment of communication strategies with adjustments as needed.
<b>Post-Pandemic Period</b> End of Pandemic and Return to Inter-Pandemic Period	Analyze local response efforts and social impact for communities.

The Centers for Disease Control and Prevention (CDC) estimates that in the United States alone up to 200 million people would be infected if a pandemic were to occur, 50 million people would require outpatient care, two million people would be hospitalized and between 100,000 and 500,000 persons would die.

The Galveston County Health District (GCHD) estimates that the impact of an influenza pandemic on the 269,275 residents of Galveston County using a 25% attack rate would include:

- 67,318 infected
- 66,453 outpatient visits
- 866 persons hospitalized (estimated range: 309 to 1156)
- 163 deaths (estimated range: 83 to 282)

These estimates underscore the need for planning to lessen the impact of a pandemic.

The impact of a pandemic is not measured only by how many people will die. If millions of people across the country get sick at the same time, major social consequences will occur. If many doctors and nurses become ill, it will be difficult to care for the sick. If the majority of a local police force is infected, the safety of the community might be at risk. If air traffic controllers are all sick at once, air travel could grind to a halt, interrupting not only business and personal travel but also the transport of life-saving vaccines or antiviral drugs. Therefore a vital part of pandemic planning is the development of strategies to address such potential problems.

### **Purpose**

The purpose of the *Response Plan for Pandemic Influenza and Highly Infectious Respiratory Diseases* is to provide a guide for GCHD on how to respond before, during and after a pandemic situation. The GCHD Response Plan follows U.S. National Vaccine Program Office (NVPO) guidance for developing pandemic influenza response plans (<http://www.hhs.gov/nvpo/pandemicplan/annex1.pdf>) and is intended as a companion to the *Texas Department of State Health Services Pandemic Influenza Plan*. The Response Plan details the activities identified as the responsibility of the local health departments within the state plan. It is imperative to interpret the GCHD Response Plan in the context of the state plan.

It is important to note that while the plan focuses on influenza, it is also intended to serve as the template for responding to large-scale outbreaks of other highly infectious respiratory diseases such as Severe Acute Respiratory Syndrome (SARS).

The Response Plan should be read and understood prior to a pandemic situation. It is a dynamic document that will be updated to reflect new developments in the understanding of the disease agent, its spread, treatment and prevention. The plan will also incorporate changes in response roles and improvements in response capability developed through ongoing planning efforts.

The Galveston County Office Emergency Management (GCOEM) is responsible for the Galveston County Basic Plan, an “all-hazards” disaster plan that encompasses all County agencies. Within this plan, Annex H includes the responsibilities of GCHD during a disaster affecting the public’s health. The Response Plan presented here is integrated as an appendix to Annex H, along with plans for mass vaccination activities and local administration of the Strategic National Stockpile. As such, the elements of this plan are based on the existing emergency response structure, authorities and responsibilities identified in the Galveston County Basic Plan and Annex H.

DRAFT

## ASSUMPTIONS

There may be a three month warning period of a coming pandemic.

The period of a pandemic influenza outbreak in a community will likely last from six to eight weeks. There may be more than one wave in a given community.

The health impact of a pandemic event will be great:

- Up to 25-30% of persons may become ill in a major pandemic influenza wave
- Rates of influenza-related hospitalizations and deaths may vary substantially. Estimates based on past pandemic influenza events indicate that 0.01-8% of the population may be hospitalized and 0.001-1% of the population may die.
- The duration of illness for an uncomplicated case of influenza is five days.
- Medical care services will likely be severely taxed or overwhelmed.
- 10% or more of the workforce may be out of work due to illness at the peak of a major pandemic influenza wave. This estimate includes work loss while caring for oneself or for ill family members.

Issues surrounding prophylaxis and treatment are complex:

- The time from a candidate vaccine strain to the production of the first vaccine dosage could be six months or more.
- Once vaccine is available, it may take five months to produce an adequate supply of vaccine for the entire U.S. population (currently production capacity is approximately five million doses per week).
- Two doses of vaccine administered 30 days apart may be required to develop immunity to a novel virus.
- The federal government will purchase all influenza vaccine during a pandemic.
- A six to eight week course of antivirals is recommended for prophylaxis; a five day course is recommended for treatment.
- There is a limited supply of antiviral medications. Antiviral distribution to states will occur through the Strategic National Stockpile.

Local governments have the primary responsibility to provide public health, mental health and emergency medical services within their jurisdictions. State government will augment public health, mental health and emergency medical services that exceed the capabilities of the local government. The Federal Response Plan will support public health and medical activities as required by the State of Texas in accordance with pre-established activation procedures.

Plans for responding to pandemic influenza are based on existing command and control templates developed at the local, state and regional levels, and integrate with existing emergency plans, activities and inventories.

## **FEDERAL, STATE, & LOCAL ROLES**

**\*\***The following is an excerpt from the NVPO *National Influenza Preparedness and Response Plan*, Annex 1, *State and Local Health Departments Guidance*, August 2004

### **Federal Roles\*\***

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

- Surveillance in the U.S. and globally
- Epidemiological investigation in the U.S. and globally
- Development and use of diagnostic laboratory tests and reagents
- Development of reference strains and reagents for vaccines
- Vaccine evaluation and licensure
- Determination of populations at highest risk and strategies for vaccination and antiviral use
- Assessment of measures to decrease transmission (such as travel restrictions, isolation and quarantine)
- Deployment of federally purchased vaccine
- Deployment of antiviral agents in the Strategic National Stockpile
- Evaluation of the efficacy of response measures
- Evaluation of vaccine safety
- Deployment of the Commissioned Corps Readiness Force and Epidemic Intelligence Service Officers
- Medical and public health communications

### **State Roles\*\***

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

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

## **The Galveston County Health District Roles**

The Galveston County Health District will be responsible for coordination of the pandemic influenza response in Galveston County. Specific areas of responsibility include the following:

- Take the lead in planning and coordinating with community partners to ensure an effective response to pandemic influenza.
- Conduct disease surveillance and investigations with 4Cs Clinic, UTMB, Mainland Medical Center, school districts and other reporting entities in Galveston County.
- Utilize software programs to project the impact of a flu epidemic in Galveston County.
- Utilize the Health Alert Network and other communicating systems to monitor influenza in the county and provide alerts to local health providers, elected leaders, emergency management, and other stakeholders.
- Monitor over the counter (OTC) drug sales in the county.
- Conduct ongoing education on hand hygiene, cough etiquette and annual influenza vaccination and communicate this with community health partners as well as the public.
- Review appropriate legal authorities regarding community level control measures as well as quarantine laws.
- Make recommendations regarding the need for isolation or quarantine of contacts of cases at home or in a healthcare setting.
- Make recommendations regarding the need for cancellation of large gatherings and closure of schools, including college and universities and office buildings.
- Establish agreements with local schools and other facilities in the county to house mass vaccination or mass medication dispensing clinics to help prevent the spread of disease.
- Recruit and train volunteers to help dispense medications or provide vaccinations in a mass clinic setting.
- Inform the general public in regards to health information and instructions needed to help prevent illness and stop the spread of disease.
- Participate in planning with the state health department and neighboring counties.
- Conduct local exercises with community partners to identify gaps in plans and needed training.

## **THE PLAN**

### **I. Command and Control**

Existing departmental command systems should be applied to pandemic influenza planning and response. These structures should delineate operational priorities and identify who is responsible for making decisions related to the public health response to a pandemic, for carrying out response activities before, during and after a pandemic and for preparing and maintaining the pandemic response plan.

#### **A. Interpandemic Period**

1. GCHD will take the lead in planning the public health response to pandemic influenza for Galveston County. GCHD will coordinate with local health providers and the Mental Health and Mental Retardation Authority of Galveston County to ensure that planning and response activities are coordinated within Galveston County.
2. The Epidemiology Program within the GCHD will coordinate surveillance and epidemiological investigation activities, including implementing ongoing influenza surveillance, planning for pandemic epidemiological investigation and coordinating specimen testing with the City of Houston Department of Health and Human Services laboratory, and the TDSHS Bureau of Laboratories
3. Epidemiology Staff, in consultation with local health authority, will define and quantify local priority population groups to receive vaccine or antiviral medications in case of a vaccine shortage during a pandemic
4. The GCHD Immunization Program Coordinator will coordinate planning for the procurement of vaccines, antivirals and supplies
5. The Immunization Program Manager along with the GCHD Public Health Preparedness (PHP) program, will coordinate planning for the distribution of vaccines, antivirals and supplies
6. Epidemiology Staff will maintain information about the capacity of local hospitals and treatment centers. PHP will maintain information about the capacity of essential services personnel within the County
7. PHP will maintain contact with the Galveston County Medical Examiner's Office regarding plans to address mass mortality events
8. The GCHD Epidemiology program will coordinate activities for public health alerts and advisories in response to identifying avian influenza in the animal population
9. The GCHD PIO will coordinate the planning for public risk communications activities for a pandemic response
10. GCHD PHP staff will review and update the Response Plan on an ongoing basis
11. GCHD PHP will work in coordination with County Emergency Management and with community partners to enhance community capacity for responding to pandemic flu
12. The GCHD Chief Executive Officer will provide the Plan to key policymakers and other stakeholders

#### **B. Pandemic Alert Period**

1. The Chief Executive Officer will initiate communication with local elected and community leaders.
2. The Epidemiology program will monitor the Health Alert Network (HAN) and other channels of information and will provide ongoing assessments of the situation to the Chief Executive Officer/health authority, relevant GCHD personnel, and the medical community as appropriate.
3. The Epidemiology program will increase local surveillance activities and, if applicable, initiate case tracking activities
4. The Epidemiology program will alert the health community through the HAN providing an advisory to area hospitals and health care providers outlining official public health information, statistics and clinical guidance.
5. The Epidemiology program will coordinate with area hospitals to ensure samples are collected properly and directed to the correct laboratory for testing
6. PHP and the GCHD Materials Management Section will confirm availability of resources to support a pandemic response
7. PHP will notify the Galveston County Department of Education to inform them about the possibility of utilizing County schools as mass vaccination sites, in accordance with memoranda of understanding currently in place
8. The PIO, in consultation with the CEO, will develop and disseminate appropriate information to the public

#### C. Pandemic Period

1. The Chief Executive Officer will activate an incident command structure to:
  - Continue surveillance and tracking activities
  - Determine the need for and scope of mass vaccination activities
  - Coordinate delivery of vaccine and/or antivirals with TDSHS
  - Carry out mass vaccination activities in accordance with the GCHD *Mass Vaccination Plan*
  - Assess the capacity of area hospitals and identify their resource needs
  - Develop and disseminate appropriate information to the public
  - Ensure ongoing communication with local, state and federal authorities
2. The Chief Executive Officer, as Public Health Authority, will consider implementing quarantine and isolation measures for residents of Galveston County as appropriate

#### D. Subsidied Period

1. The Chief Executive Officer will convene with relevant parties to evaluate the response after the first wave.
2. The Chief Executive Officer will communicate the status of response to first wave to appropriate local, state, and federal authorities.
3. Continue vaccination efforts
4. PHP will review procedures from the first wave and make adjustments as necessary.
5. PHP will determine the need for obtaining and maintaining essential personnel, facilities, equipment, and supplies.

6. All employees involved in response efforts should document their time and expenses and submit to PHP for possible reimbursement from FEMA.

#### E. Post-Pandemic

1. The Chief Executive Officer/designee will convene relevant parties to debrief from response activities
2. The Chief Executive Officer will communicate the status of the response to appropriate local, state and federal authorities
3. PHP will review and update the Response Plan based on lessons learned from response activities

## II. Surveillance

There are four primary national surveillance components:

- Virologic surveillance – Each week, approximately 75 U.S. collaborating laboratories that are part of the WHO Influenza Surveillance Network and 50 National Respiratory and Enteric Virus Surveillance System laboratories report the number of clinical specimens tested for influenza and the number of positive results by virus type and subtype.
- Surveillance for influenza-like illness (ILI) – Approximately 1000 sentinel health care providers/clinics located in 50 states regularly report the number of patient visits for ILI by age group and the total number of patient visits each week.
- Surveillance for influenza and pneumonia deaths – The Vital Statistics Offices of 122 U.S. cities report each week the percentage of total deaths that may be influenza-related
- State and territorial epidemiologists assess influenza activity levels in their respective states each week and report it as “widespread,” “regional,” “local,” “sporadic” or “no activity.”
- Information regarding these national surveillance components is updated weekly and can be accessed at [www.cdc.gov/ncidod/diseases/flu/weeklychoice.htm](http://www.cdc.gov/ncidod/diseases/flu/weeklychoice.htm).

At the state level, TDSHS collaborates with partners to conduct the following surveillance activities:

- Passive surveillance of respiratory specimens to the TDSHS Public Health Laboratory for viral isolation, identification of influenza type and subtype
- Passive surveillance of ILI outbreaks in long-term care facilities
- Passive surveillance of ILI outbreaks in schools or other institutional settings
- Each week, a voluntary state network of sentinel physicians report the number of patients presenting with ILI and the total number of patient visits by age group each week. As of June 2005 there were approximately 70 participating sentinel physicians reporting throughout the year with at least one site in each region of Texas
- Passive reporting of prescription trends by pharmacists

In addition to these federal and state surveillance activities, GCHD will establish and coordinate the following local surveillance activities:

#### A. Interpandemic Period

1. GCHD will collaborate with hospital laboratories to establish a system whereby counts of positive rapid influenza test kits and influenza viral cultures are provided to GCHD on a weekly basis during the months of September through May
1. GCHD will collaborate with area hospitals to establish a system whereby counts of emergency room visits and deaths due to acute febrile respiratory illness (International Statistical Classification of Diseases, 10<sup>th</sup> Revision, codes 460-487) are provided to GCHD on an ongoing basis
2. GCHD will collaborate with area Independent School Districts to develop a system whereby counts of reports of ILI occurrences are provided to GCHD on a regular basis
3. GCHD will establish a system for monitoring over-the-counter (OTC) drug sale information through the Retail OTC Drug Sales system (RODS). This system will allow GCHD to monitor sales of cough and fever suppressants by zip code. At this time 70%-90% of all major pharmaceutical sales chains participate in the RODS system
4. GCHD will establish and maintain linkages with the Texas Animal Health Commission to stay informed about suspect clinical symptoms identified and investigated through their passive surveillance in local avian populations, including poultry wholesalers. See Appendix C for background on the role of TAHC in the identification and control of avian influenza.
5. GCHD will establish linkages with local poultry wholesalers, live bird markets and, when possible, owners of backyard flocks. GCHD will conduct inspections of wholesalers and live bird markets in response to citizen complaints regarding unsanitary conditions or violations of state regulations, reporting any suspect clinical signs in the bird population to TAHC and TDSHS. In addition, on an ongoing basis GCHD will provide education and literature to proprietors of poultry wholesalers, live bird markets and backyard flocks regarding appropriate biosecurity practices, clinical signs and symptoms of avian influenza and how and when to contact TAHC and/or GCHD. This literature will also be made available at local feed stores.

#### B. Pandemic Alert Period

1. GCHD will ensure that all interpandemic influenza surveillance activities are underway regardless of the time of year, enhancing activities as needed based on information from HAN alerts, Epi-X alerts, communication from state and federal partners and other sources and investigating the epidemiology of early cases through case tracking activities
2. GCHD will monitor the HAN, CDC's Epi-X and other appropriate sources for updates regarding international, federal and state surveillance activities
3. GCHD will monitor and institute recommendations from CDC for any additional surveillance activities that should be undertaken given the specific circumstances
4. GCHD will inform state and federal partners about increased local surveillance activities. If necessary, GCHD will request additional resources for local surveillance and case tracking activities (e.g. CDC Epidemiological Intelligence Officers, reagents to

detect and identify the novel strain, instructions for safe handling and testing of a potential novel influenza virus)

5. If necessary, GCHD will utilize the HAN to notify area hospitals, physicians, emergency rooms and urgent care centers, requesting that they increase laboratory diagnosis of influenza for persons presenting with ILI, especially those with recent travel history to regions where the pandemic strain of influenza is circulating or those with unusual or severe symptoms. GCHD will provide instructions for the safe handling of a potential novel influenza virus
6. GCHD will coordinate the collection of ILI specimens among area providers and laboratories and facilitate the transfer of ILI specimens to TDSHS and/or CDC
  - GCHD will coordinate with area hospitals, physicians, emergency rooms and urgent care centers to provide instructions for directing samples from patients presenting with severe or unusual ILI to the appropriate laboratory for testing. GCHD will provide instructions for the safe handling of a potential novel influenza virus
  - GCHD will communicate with laboratory staff regarding the testing and reporting of ILI specimens. GCHD will provide instructions for the safe handling and testing of a potential novel influenza virus
7. GCHD will assess the completeness and timeliness of reports from all participating laboratories and sentinel providers. GCHD will collaborate with these partners to enhance and facilitate complete and timely reporting
8. GCHD will issue regular alerts regarding surveillance and case tracking activities to the health community through the HAN.
9. In coordination with the CDC Quarantine Officer, GCHD will assess the need to screen travelers arriving in the area from affected countries

#### C. Pandemic Period

1. GCHD will enhance ongoing surveillance activities to include the following:
  - Monitoring health impacts, including deaths and hospitalizations
  - Monitoring community impacts, including absenteeism in schools and essential services
  - Monitoring reports of antiviral resistance
  - Monitoring reports of vaccine effectiveness

#### D. Subsided Period

1. Evaluate situation monitoring response in first wave. Make adjustments as necessary for subsequent waves.
2. Maintain heightened surveillance activities.

#### E. Post-Pandemic Period

2. GCHD will develop a detailed summary of the pandemic, utilizing surveillance data to evaluate the efficacy of local response activities. Analysis may include:
  - Severity of influenza outbreaks among demographic groups
  - Age-specific attack rate, morbidity and mortality

- Efficacy of vaccination distribution and implementation of infection control measures
- Extent of medical, social and economic impact

DRAFT

### **III. Prevention and Containment**

Three methods for preventing influenza and containing its spread include community control measures, antiviral medication and vaccines.

#### **Implementation of Community Level Control Methods**

The goal of community level containment measures is to slow the spread of pandemic influenza as much as possible and to provide additional time for the development, manufacture, distribution and administration of influenza vaccine and antiviral medications. Strategies to achieve this goal must take into consideration the modes of transmission of influenza, the short incubation period, the non-specific clinical presentation, the likelihood of asymptomatic infected persons who may be transmitting infection and past experience in the use of containment measures during pandemic influenza.

There are two key strategies for preventing transmission, each with varying degrees of efficacy. The first involves decreasing the probability that contact will result in infection, and may include activities such as providing education to the public about practicing cough etiquette and proper hand and respiratory hygiene. The second involves decreasing contact between infected and uninfected individuals, and may include activities such as isolating suspected cases and quarantining case contacts, issuing travel advisories and canceling schools and large gatherings.

#### **A. Interpandemic Period**

1. GCHD will conduct ongoing education regarding the importance of hand hygiene, cough etiquette and annual influenza vaccination
2. GCHD will review appropriate legal authorities regarding the implementation of community level control measures, including quarantine laws. GCHD will maintain templates of documentation needed to enact community level control measures
3. GCHD will develop and maintain contact information with partners through whom GCHD may communicate information about community level control measures, including hospitals, independent school districts, private school associations, parks and recreation departments, the child day care licensing authority, homeowners associations, chambers of commerce, sports organizations, etc.
4. GCHD will develop plans for communicating information to the public about community level control measures

#### **B. Pandemic Alert Period**

*Possible containment measures if cases are first detected outside the U.S.*

1. GCHD may recommend isolation of persons who are recent travelers to affected areas if they have ILI. If influenza is suspected or confirmed, GCHD may recommend isolation at home or in a hospital until isolate subtyping is accomplished. Isolation should

continue for at least seven days, until viral shedding is no longer detected or until the isolate is laboratory confirmed not to be a novel influenza A virus

2. GCHD may recommend quarantine for contacts of cases
3. GCHD may issue an advisory recommending limiting travel to affected areas and screening travelers arriving from the affected region for illness compatible with influenza
4. GCHD will increase education about the importance of hand hygiene, cough etiquette and annual influenza vaccination

*Possible containment measures if cases are first detected in the U.S. outside Galveston County*

1. GCHD may recommend that persons who are positive for influenza A be placed in isolation at home or in a hospital until isolate subtyping can be accomplished. Isolation should continue for at least seven days, until viral shedding is no longer detected or until the isolate is laboratory confirmed not to be the novel virus
2. GCHD may recommend quarantine for contacts of cases
3. GCHD will increase public education regarding the importance of hand hygiene and cough etiquette

*Possible containment measures if cases are first detected in Galveston County*

1. GCHD may recommend that persons who have ILI be placed in isolation at home or in a hospital until subtyping of their isolate can be accomplished. Isolation should continue for at least seven days, until viral shedding is no longer detected or until the isolate is laboratory confirmed not to be the novel virus
2. GCHD may recommend quarantine for contacts of cases
3. If an animal source is identified and there is ongoing transmission within the animal population, GCHD may recommend that persons who may be in contact with potentially infected animals wear appropriate personal protective equipment. Refer to Appendix B for more information about procedures when an animal source is identified
4. GCHD may recommend that citizens limit travel to destinations outside of Galveston County, as well as limit non-essential travel within Galveston County
5. GCHD may recommend cancellation of large gatherings depending on the level of person-to-person transmission. Based on the epidemiology of the known infected cases, GCHD may consider closure of schools, including colleges and universities, and closure of office buildings
6. GCHD will increase public education regarding the importance of hand hygiene and cough etiquette

C. Pandemic Period

1. GCHD may recommend that all persons who are ill and their contacts remain in isolation at home
2. GCHD may recommend limitation or suspension of large gatherings and recreation activities
3. GCHD may recommend the closure of schools, including colleges and universities and closure of office buildings

4. GCHD may recommend the limitation of non-essential work activities, encouraging telecommuting when possible
5. GCHD may recommend an area quarantine

#### D. Subsided Period

1. Encourage use of non-pharmaceutical interventions including hand hygiene, respiratory hygiene, and cough etiquette.
2. Evaluate prevention and containment response to first wave.
3. Make adjustments in response for subsequent waves as necessary. Follow same guidelines as appropriate from the Pandemic period.

#### E. Post-Pandemic Period

1. GCHD will suspend all community level control measures
2. GCHD will assess the compliance with community level control measures and evaluate the efficacy of community level control measures

### **Use of Antivirals**

Antiviral medications may play an important role for the control of influenza, particularly in the period of time in a pandemic event before vaccine becomes widely available. Antiviral medications can be used for both prophylaxis and treatment. Currently, a 6-8 week course of antivirals is recommended for prophylaxis, and a 5-day course of antivirals is recommended for treatment. Because of the limited supply of antivirals, utilizing antivirals for prophylaxis may not be feasible except in very limited circumstances. Therefore planning must be focused on the use of antivirals for treatment of exposed persons rather than on prophylaxis. Further, plans should designate the treatment delivery site for antivirals to be the point of care (e.g. hospitals) rather than a Point of Dispensing (POD) site such that is used in mass prophylaxis planning.

Because it is best suited for treatment, Tamiflu®, Oseltamivir will likely be the primary antiviral utilized during a pandemic event. Relenza®, Zanamivir, will likely be utilized for Oseltamivir-resistant viruses and for pregnant women.

Though in summer 2005 the NVPO has recommended that the federal government stockpile 133 million courses of antiviral, the existing supply and production capacity for antiviral drugs is far less than would be needed to provide treatment for the anticipating number of persons exposed during a pandemic event. Therefore, it is crucial to develop recommendations for prioritizing population groups to receive antivirals for therapy during a pandemic event.

#### A. Interpandemic Period

1. On an ongoing basis GCHD will review CDC guidance defining priority populations to receive antivirals for therapy and, where indicated, prophylaxis during a pandemic before antivirals and/or vaccine are widely available to all citizens. In July 2005 CDC adopted the following populations for receipt of antiviral treatment, listed in order of priority:
  - a) Hospitalized patients with influenza

- b) Healthcare workers with direct patient contact
- c) Highest-risk outpatients
- d) Pandemic health responders, public safety and key government decision makers
- e) Increased-risk outpatients
- f) Persons involved in outbreak response activities (post-exposure prophylaxis only)
- g) Healthcare workers working in emergency rooms, intensive care units, emergency medical services and dialysis (prophylaxis)
- h) Pandemic society responders and other healthcare workers
- i) Other outpatients

If additional antiviral is available, following CDC guidance GCHD will prioritize the following groups for antiviral prophylaxis:

- a) Highest-risk outpatients
  - b) Other healthcare workers with patient contact
2. GCHD will determine and maintain estimates of the number of persons within each priority population, revising the estimates on an annual basis. These estimates are included in Appendix A
  3. GCHD will coordinate among area hospitals to ensure that plans are in place to provide antiviral therapy
  4. GCHD will collaborate with other area jurisdictions to coordinate plans for the provision of antiviral therapy

#### B. Pandemic Alert Period

1. GCHD will review and modify its plan for the provision of antivirals as needed to account for updates received regarding the novel virus. Such updates may include recommended target groups and projected antiviral supply
2. GCHD will notify the medical community of the status of antiviral availability and plans to disseminate it to the established priority groups
3. GCHD will disseminate antiviral use guidelines to the medical community
4. GCHD will assess its human resources and logistics capabilities to ensure that appropriate staff and supplies are available to support activities associated with the provision of antiviral therapy at treatment centers, if necessary

#### C. Pandemic Period

1. GCHD will communicate with the regional TDSHS office regarding the availability and, if applicable, the delivery of antivirals through the Strategic National Stockpile. GCHD will provide TDSHS with an estimated number of persons within each priority population as well as the population as a whole.
2. GCHD will coordinate with TDSHS and area treatment centers to ensure that antivirals are appropriately allocated among treatment centers.
3. GCHD will collaborate with other area jurisdictions to coordinate efforts to provide antiviral therapy
4. GCHD will evaluate antiviral delivery and administration procedures and modify plans as necessary

#### D. Subsidized Period

1. GCHD will collaborate with TDSHS, and other public and private sector stakeholders to evaluate response to previous waves and make adjustments as necessary.
2. GCHD will continue with vaccinations and distribution of antivirals if indicated by CDC.
3. GCHD will continue to monitor and document any adverse reactions thru VAERS system.
4. GCHD will continue to use the HAN to broadcast health alerts to stakeholders.

#### E. Post-Pandemic Period

1. GCHD will discontinue and demobilize antiviral administration, ensuring that supplies are inventoried and returned as appropriate
2. GCHD will evaluate antiviral delivery and administration procedures and modify plans as necessary

### **Use of Vaccine**

Vaccine will serve as one preventive strategy during an influenza pandemic. Unlike annual production of influenza vaccine, wherein strains are selected in the spring and vaccine is manufactured and delivered during the summer to be used during the fall and winter influenza season, a pandemic strain could be detected at any time. Because current manufacturing procedures require four to eight months before large amounts of vaccine are available for distribution, there could be a large gap between identification of a pandemic strain and availability of vaccine. Further, once vaccine becomes available, production capacity may allow for just 1-2% of the population being vaccinated per week. Therefore it is necessary to plan for the allocation of vaccine based on priority population groups.

#### A. Interpandemic Period

1. GCHD will initiate and/or continue activities to enhance annual influenza vaccination coverage levels in traditional high-risk groups, particularly subgroups in which coverage levels are low. Activities will be carried out prior to the beginning of the traditional influenza season each year and will include:
  - Evaluating and implementing epidemic control strategies, e.g. recommendations from TDSHS and CDC.
  - Disseminating educational materials to area health care providers, including a summary of the most current influenza vaccine recommendations, suggested strategies for reaching at-risk populations and a list of resources to help promote and deliver influenza vaccine to patients
  - Providing education to area hospital staff about the importance of vaccinating healthcare workers and patients with high-risk medical conditions
  - Providing education to area nursing home and assisted living facility staff about the importance of vaccinating persons over the age of 65

- Recommending that all healthy schoolchildren over age 5 receive the appropriate influenza vaccine and working with area pediatricians and school nurses to operationalize this recommendation
  - Recommending that all persons responsible for community safety and security receive annual influenza vaccination, including emergency medical personnel, police and firefighters
  - Utilizing traditional and non-traditional communications channels to educate the general public about the importance of annual influenza vaccination
  - Maintaining current information about influenza and influenza vaccination on the GCHD website. Information will be targeted to the healthcare community and to the general public
  - Educating corporate partners about the importance of a vaccinated workforce
  - Advocating to state and federal partners the development of a standardized method to track and report vaccine shipments from private companies to local entities in order to quickly assess distribution during a vaccine shortage
2. GCHD will initiate and/or continue activities to enhance pneumococcal vaccination coverage levels in traditional high-risk groups to reduce the incidence and severity of secondary bacterial pneumonia. Such activities will occur in concert with the activities described in the bullets above
  3. On an ongoing basis GCHD will review CDC guidance defining priority populations to receive vaccine for prophylaxis during a pandemic before vaccine is widely available to all citizens. In July 2005 CDC adopted the following populations for receipt of vaccine, listed in order of priority:
    - 1a) Healthcare workers involved in direct patient contact, critical healthcare support staff and vaccine and antivirals manufacturing personnel. Applicable healthcare workers include those in the following settings: inpatient, outpatient, home care, EMS, blood collection, supporting laboratories, vaccinators and public health providers with direct patient contact plus their critical support personnel.
    - 1b) Highest risk group, including persons >64 years with 1+ high-risk condition, persons 6 months-64 years with 2+ high-risk conditions and persons who have been hospitalized in the prior year with pneumonia, influenza or an ACIP high-risk condition.
    - 1c) Household contacts of children aged <6 months, severely immunocompromised persons and pregnant women
    - 1d) Key government leaders and critical pandemic public health responders
    - 2a) Other high-risk persons, including persons ≥65 years with no high-risk conditions, persons 6 months-64 years with 1 high-risk condition and persons 6-23 months
    - 2b) Critical infrastructure personnel, including public health emergency responders not including in 1A; public safety personnel (fire, police, 911 dispatchers, correctional facility staff); utility workers essential for maintaining power, water and sewage systems; transportation workers critical for transporting fuel, food, water and medical supplies and for public ground transportation; and telecommunications/IT personnel essential for maintaining functional communication and network operations
    - 3) Other key government health care decision makers not included in 1D and mortuary services

- 4) Healthy persons aged 2-64 not included in the above categories
4. GCHD will determine and maintain estimates of the number of persons within each priority population, revising the estimates on an annual basis. These estimates are included in Appendix B
5. GCHD will review and update the methodology within its *Strategic National Stockpile Plan* for providing vaccination during a pandemic in the event of a severe or moderately severe vaccine shortage
6. GCHD will review and update its *Strategic National Stockpile Plan* to ensure that it addresses issues relevant to the provision of influenza vaccine. This plan includes information relevant to providing vaccination to the general public once vaccine becomes widely available, including:
  - Sites to use as mass vaccination clinics
  - Staffing needs and duties
  - Protocols for proper storage of vaccine
  - Protocols for vaccine clinic operations
  - Supplies needed for vaccine clinic operations
  - Model clinic flow design
7. GCHD will identify and maintain information about local sources of supplies needed for administering vaccine
8. GCHD will ensure that appropriate legal authorities are in place that will allow for the implementation of measures relevant to mass vaccination activities during a pandemic
9. GCHD will collaborate with other area jurisdictions to coordinate plans for mass vaccination efforts

#### B. Pandemic Alert Period

1. GCHD will review and modify its *Strategic National Stockpile Plan* as needed to account for updates received regarding the novel virus. Such updates may include recommended target groups and projected vaccine supply
2. GCHD will assess its human resources and logistics capabilities to ensure that appropriate staff and supplies are available to begin vaccination activities, if necessary

#### C. Pandemic Period

1. GCHD will communicate with the regional TDSHS office regarding the availability and delivery of vaccine. GCHD will provide TDSHS with an estimated number of persons within each priority population
2. Prior to widespread vaccine availability, GCHD will provide vaccine as it is available to priority groups based on the methodology described in the *Strategic National Stockpile Plan*
3. Upon widespread vaccine availability, GCHD will fully activate mass vaccination activities according to the *Strategic National Stockpile Plan*
4. GCHD will collaborate with other area jurisdictions to coordinate mass vaccination efforts
5. GCHD will track and monitor adverse vaccine reactions. GCHD will provide persons receiving vaccine with information about reporting such reactions to the District. GCHD

will then report any reactions to the CDC Vaccine Adverse Event Reporting System (VAERS)

6. GCHD will evaluate vaccine delivery and administration procedures and modify plans as necessary

#### D. Subsidized Period

1. GCHD will collaborate with TDSHS, and other public and private sector stakeholders to evaluate response to previous waves and make adjustments as necessary.
2. GCHD will continue with vaccinations if indicated by CDC. Narrow areas of focus for vaccinations.
3. GCHD will continue to monitor and document any adverse reactions thru VAERS system.
4. GCHD will continue to use the HAN to broadcast health alerts to stakeholders.

#### E. Post-Pandemic

1. Following the *Strategic National Stockpile Plan*, GCHD will discontinue and demobilize mass vaccination activities, ensuring that supplies are inventoried and returned as appropriate
2. GCHD will evaluate vaccine delivery and administration procedures and modify plans as necessary

DRAFT

## **VI. Emergency Response: Health Systems and Critical Infrastructure**

While Galveston County's disaster plan addresses all hazards, pandemic influenza differs from many threats due to the magnitude and duration of its impact and the likelihood of subsequent waves of disease. Of great concern during a pandemic event is its effect on the capacities of the healthcare system and other critical community services.

### **A. Interpandemic Period**

1. GCHD will work with area hospitals to ensure that policies, plans and protocols for pandemic influenza are developed and maintained. Key policies will include those regarding reporting to GCHD and those regarding infection control procedures.
2. GCHD will collaborate with local healthcare providers and other agencies to develop and maintain an inventory of the following resources:
  - Hospital and long-term care bed capacity
  - Intensive care unit capacity
  - Ventilators
  - Personal protective equipment
  - Specimen collection and transport materials
  - Sources of consumable medical supplies
  - Medical personnel who may be utilized during an emergency situation
  - Pharmacies and pharmacists
  - Contingency medical facilities
  - Mortuary/funeral services
  - Social services/mental health services/faith services
3. In collaboration with GCOEM, GCHD will develop and maintain a list of personnel whose absence would pose a serious threat to public safety or would significantly interfere with pandemic response activities
4. Using inputs from A.1 and A.2, GCHD will estimate the impact of pandemic influenza on healthcare services and critical infrastructure within Galveston County. GCHD will utilize the CDC FluAid program to derive these estimates

### **B. Pandemic Alert Period**

1. Through the HAN GCHD will regularly provide updated information about the epidemiology and spread of the novel virus to the local healthcare community, including emergency medical providers and hospitals
2. Through HAN GCHD will recommend that emergency medical providers and hospitals activate severe respiratory illness protocols and provide guidance about the appropriate use of personal protective equipment
3. GCHD will establish regular communication with GCOEM, providing updated information about the epidemiology of the novel virus

### C. Pandemic Period

1. In accordance with Galveston County Basic Plan, Annex H, GCOEM will activate a local Emergency Operations Center (EOC) to manage the needs of health, medical and essential service agencies during the pandemic. GCHD will designate a liaison to the EOC to communicate timely and accurate information about the epidemiology of the pandemic
2. GCHD will continually review information about the epidemiology of the pandemic. Based on this data GCHD will develop and provide the EOC with protective action recommendations for the health, medical and essential services sectors

### D. Subsided Period

1. Collaborate with other public and private sector stakeholders to evaluate response to previous wave and make adjustments as necessary.
2. Respond to subsequent waves with identified adjustments.

### E. Post-Pandemic Period

1. GCHD will participate in recovery and demobilization efforts in coordination with the EOC
2. GCHD will provide GCOEM with an assessment of the impact, response and control of the public health response during the pandemic

## VII. Communicating with the Public

Communicating information to the public about pandemic influenza will be carried out according to procedures described in the GCHD *Risk Communication Plan*. This document details the means, organization and process by which GCHD will provide information and instructions to the public before, during and after a public health threat or emergency such as pandemic influenza.

The unique nature of a pandemic requires crisis and risk communications planning. Guided by its *Risk Communication Plan*, GCHD will develop messages to ensure that the public receives timely and accurate information about the following during a pandemic event:

- Basic information about influenza, high-risk populations and recommended preventive practices
- The epidemiology of the pandemic
- The symptoms that should prompt seeking medical assistance
- The availability of vaccines and antivirals and the rationale for providing medication to priority groups during vaccine and antiviral shortages
- Instructions for receiving vaccine and antivirals at mass vaccination sites
- Directives for community level containment activities
- Explanations of concepts such as isolation and quarantine

The *Risk Communication Plan* is maintained by the GCHD PIO.

## APPENDIX A: ESTIMATES OF PRIORITY POPULATIONS FOR ANTIVIRALS

The following table includes estimates of the number of persons in each priority population within Galveston County as of August 2005.

	<b>Group</b>	<b>Treatment or Prophylaxis</b>	<b>Estimate</b>
A	Hospitalized patients with influenza	Treatment	752
B	Healthcare workers with direct patient contact; emergency medical services personnel	Treatment	1200
C	Highest-risk outpatients	Treatment	540
D	Pandemic health responders, public safety personnel and key government decision makers	Treatment	450
E	Increased-risk outpatients	Treatment	3,500
F	Outbreak response personnel	Post-exposure prophylaxis	300
G	Healthcare personnel working in emergency rooms, intensive care units, emergency medical services and dialysis	Prophylaxis	1,000
H	Pandemic society responders and other healthcare workers	Treatment	2,000
I	Other outpatients	Treatment	32,500
J	Other healthcare workers with patient contact	Prophylaxis	3,000

## APPENDIX B: ESTIMATES OF PRIORITY POPULATIONS FOR VACCINATION

The following table includes estimates of the number of persons in each priority population within Galveston County as of August 2005.

	<b>Group</b>	<b>Estimate</b>	<b>Cumulative</b>
1A	Healthcare workers with direct patient contact plus essential healthcare support staff	1500	1500
1B	Persons in the highest-risk groups		
	Persons >64 years with 1+ high-risk conditions	10,000	11,500
	Persons 6 months-64 years with 2+ high-risk conditions	10,000	21,500
	Persons with a hospitalization in prior years with pneumonia or influenza or an ACIP high-risk condition	3,000	24,500
1C	Household contacts of children less than 6 months and persons who are severely immunocompromised; pregnant women	10,000	34,500
1D	Key government leaders and critical public health pandemic responders	450	34,950
2A	Persons in the remaining high risk groups		
	Persons $\geq$ 65 years with no high-risk conditions	16,275	51,225
	Persons 6 months-64 years with 1 high-risk condition	19,000	70,225
	Persons 6-23 months	6,000	76,225
2B	Persons in critical infrastructure groups		
	Other public health emergency responders	200	76,425
	Public safety personnel (fire, police, 911 dispatchers, correctional facility staff)	1,300	77,725
	Utility workers essential for maintaining power, water and sewage systems	200	77,925
	Transportation workers critical for transporting fuel, food, water and medical supplies and for public ground transportation	400	78,325
	Telecommunications/IT personnel essential for maintaining functional communication and network operations	150	78,475
3	Other key government health decision makers and mortuary services	200	78,675
4	Healthy persons aged 2-64 years not included in above categories	190,600	279,675

## **APPENDIX C: CONSIDERATIONS FOR AVIAN INFLUENZA**

### **Background**

Avian influenza viruses are endemic worldwide and are frequently associated with disease in domestic poultry. Not all strains cause disease and the ones that do can vary from low to high pathogenicity. The virus frequently mutates and can change from a low to a high pathogenic strain as well as develop the ability to infect mammals, such as pigs and humans.

Since the virus is usually found in fowl, the Texas Animal Health Commission (TAHC) and United States Department of Agriculture (USDA) are responsible for surveillance and control in the state of Texas. Depending on the size of the response necessary and the pathogenicity of the virus strain, local and state governments may not have enough resources to handle all of the operations and activities involved in control of the disease. Therefore, the command structure will involve multiple jurisdictions and agencies.

There are many things to consider when working with avian influenza. The virus may be extremely difficult to isolate and control, especially if it moves into wild birds or mammals. Once the virus is identified, a “hot zone” will be identified by TAHC/USDA and all of the domestic fowl in this area will have to be identified, depopulated and disposed of properly. There will be a considerable amount of emotional stress for owners, responders and communities and all of the owners will expect reimbursement for the animals.

A more thorough discussion of the state’s response is contained in the TAHC *Foreign and Emerging Animal Diseases Response Plan*, Appendix 3 to Annex O. However, at this time the priorities in this Plan are centered on stopping the spread of the disease in animals and the economic implications, not the human health risks and the possibility for virus mutation.

The lead agencies for responding to an avian influenza event will be TAHC and USDA. The TAHC Plan assigns responsibility for human health and investigating the zoonotic potential of the virus to TDSHS.

### **GCHD Response to the Identification of Avian Influenza in the Animal Population**

If avian influenza were identified among the animal population within Galveston County, GCHD will undertake the following activities:

- The Epidemiology Program will work closely with TDSHS to monitor persons who have had contact with the infected birds for any sign of respiratory illness
- The GCHD Epidemiology Program will prepare information for distribution to area veterinarians describing the outbreak, discussing the clinical signs and encouraging local practitioners to report any suspect cases

## APPENDIX D: HEALTH CARE SYSTEM GUIDANCE

The following is excerpted from the U.S. Department of Health and Human Services' *National Influenza Preparedness and Response Plan, Annex 2, Health Care System Guidance*, August 2004

An influenza pandemic will create significant challenges for the health care system. The number of children and adults seeking care for febrile and respiratory illnesses will increase substantially; some disease will be severe, requiring inpatient care; and many of those infected will have underlying risk factors for adverse outcome, including death. Influenza also will occur among health care workers and their family members, resulting in shortages of trained staff to care for others. Physical resources, such as hospital beds and respiratory therapy equipment, may not be sufficient to meet demand. Shortages of antiviral medications and vaccine will limit the ability to implement these preventive interventions.

Although these stresses on the health care system are inevitable in an influenza pandemic, coordination, planning and exercising preparedness plans can improve the effectiveness of a pandemic response and limit mortality and morbidity.

GCHD will work with hospitals, treatment centers and long-term care facilities to share information about preparing for and responding to pandemic influenza. Central to this will be the *Health Care System Guidance*.

The goal of the *Health Care System Guidance* is to assist medical provider organizations, health care systems, hospitals, long-term care facilities, home health agencies and other groups that provide health care services plan for and respond to pandemic influenza. This Guidance, which can be accessed at <http://www.hhs.gov/nvpo/pandemicplan/annex2.pdf>, contains information to aid in the development of a comprehensive pandemic influenza preparedness and response plan. The Guidance provides recommendations for developing a plan with the following components:

- I. Preparedness and Response Activities
  - A. Decision-Making and Coordination
  - B. Surveillance and Triage
  - C. Triage and Clinical Evaluation of Patients
  - D. Human and Physician Resources for Inpatient Care
    - Staffing
    - Bed Availability
    - Equipment and Supplies
  - E. Education, Training and Communications
- II. Health Care Systems, Antiviral Drugs and Influenza Vaccine
- III. Infection Control
  - . Background
  - . General Principles of Routine Infection Control

- . Standard Precautions
  - . Respiratory Hygiene/Cough Etiquette
  - . Droplet Precautions
  - . Other Components of Infection Control for Influenza Pandemic
    - Staff Education
    - Bed Management
    - Patient Transport
    - Cleaning, Disinfection and Sterilization
    - Patient Education
    - Visitors
    - Health Care Workers with Influenza-Like Illness
    - Elective Utilization of Health Care Facilities
    - Home Health Care
- IV. Outbreak Control
- V. Medical Care at Non-Traditional Facilities

DRAFT

## APPENDIX E: CONTACT INFORMATION

Contact to GCHD is available 24 hours a day, 7 days a week by calling 409-938-7221 during office hours (8:00 am-5:00 pm, Monday through Friday) or 888-241-0442 after hours. Key contacts for pandemic influenza activities include:

Harlan “Mark” Guidry, M.D., M.P.H., Chief Executive Officer, 409-938-2401,  
[mguidry@gchd.org](mailto:mguidry@gchd.org)

W. Jay Holland, Chief Operations Officer, 409-938-2401,  
[jholland@gchd.org](mailto:jholland@gchd.org)

Dana Wiltz-Beckham, D.V.M., Chief Epidemiologist, 409-938-2322,  
[dbeckham@gchd.org](mailto:dbeckham@gchd.org)

Patricia “Trish” McIntosh, Epidemiologist, 409-938-2345,  
[pmcintosh@gchd.org](mailto:pmcintosh@gchd.org)

Brian Rutherford., Public Health Planner, 409-938-2275,  
[brutherford@gchd.org](mailto:brutherford@gchd.org)

Kurt Koopmann, Public Information Officer, 409-938-2211,  
[kkoopman@gchd.org](mailto:kkoopman@gchd.org)

## APPENDIX F: ACRONYMS

CDC	Centers for Disease Control and Prevention
EOC	Emergency Operations Center
HAN	Health Alert Network
GCHD	Galveston County Health District
ILI	Influenza-Like Illness
NVPO	National Vaccine Program Office
GCOEM	Galveston County Office Emergency Management
PHP	Public Health Preparedness Program
PIO	Public Information Officer
RODS	Retail Over-the-Counter Drug Sales System
TAHC	Texas Animal Health System
TDSHS	Texas Department of State Health Services
SARS	Severe Acute Respiratory Syndrome
USDA	United States Department of Agriculture
VAERS	Vaccine Adverse Event Reporting System
VFC	Vaccines for Children Program
WHO	World Health Organization

DRAFT

# **GALVESTON COUNTY HEALTH DISTRICT**

*4C's Clinics, Public Health Programs, Galveston E.M.S.*

Harlan "Mark" Guidry, MD, MPH  
Chief Executive Officer & Health Authority



Warren J. Holland III  
Chief Operating Officer

[www.gchd.org](http://www.gchd.org)

**TO: ALL Galveston County Residents and Public Partners**

**FROM: Harlan "Mark" Guidry, MD, MPH, Chief Executive Officer**

**DATE: November 7, 2005**

**SUBJECT: Galveston County Medical Reserve Corps**

---

In the aftermath of Hurricanes Katrina and Rita, we learned how important it is to be able to identify and mobilize resources quickly. In the event of a future public health emergency such as pandemic flu, it may be crucial to pull together the needed resources and people to quickly vaccinate over 250,000 county residents. Such a timely endeavor would prevent illness, death, and the spread of disease.

Computer models and experience tell us that as many as 2300 volunteers might be needed to help operate mass vaccination or medication dispensing clinics in Galveston County. Health professionals as well as individuals without medical training will be needed.

To address this need for volunteers, the Galveston County Medical Reserve Corps was formed. The Galveston County Medical Reserve Corps is actually part of a larger national Medical Reserve Corps based in the Office of the United States Surgeon General.

The Galveston County Health District, the host agency for the Medical Reserve Corps, is asking that community service organizations, faith based organizations, and city and county agencies, support this effort by encouraging individuals to sign up for the Medical Reserve Corps. The Medical Reserve Corps will work in coordination with agencies and community groups to provide needed health services in an emergency.

By signing up for the Medical Reserve Corps, one would be notified of impending health threats and given an early opportunity to assist in protecting the public. In addition, one would be added to a notification network to receive timely information about disease threats and about specialized training opportunities. In the scenario of needing to vaccination the entire county population, some of the roles that Medical Reserve Corps volunteers might be asked to perform might include administering vaccinations, distributing urgently needed medications, manning a phone bank using pre-scripted responses to caller's questions, assisting with crowd control, passing out forms, and other duties.

To be ready for public health threats such as pandemic flu, we will need to prepare and train a variety of professional and lay volunteers now. By volunteering and encouraging others to do so, you can help play an important part in helping Galveston County to be better prepared to respond these threats. To volunteer today, contact Brian Rutherford, Public Health Planner at (409) 938-2275, email [brutherford@gchd.org](mailto:brutherford@gchd.org)



"I have a mandate from our President to focus on medical preparedness, including homeland security, the war on terrorism, and improving public health."

The **Medical Reserve Corps** is critical to our many national preparedness efforts."

**Vice Admiral Richard H. Carmona**  
Surgeon General  
United States Public Health Service

The **Medical Reserve Corps** Program Office is based in the Office of the United States Surgeon General. It functions as a clearing house for information and best practices to help communities establish, implement and maintain **MRC** units across the nation.

The **MRC** Program Office hosts a website, sponsors an annual leadership conference, provides technical assistance and coordinates with local, state, regional and national organizations and agencies to help communities achieve their local visions for public health and emergency preparedness.

**MRC** Regional Coordinators, stationed nationwide in the 10 HHS Regional Offices, also facilitate and encourage coordination between **MRC** units.



# Galveston County

# Medical Reserve Corps



### Galveston County MRC Contact

Brian Rutherford  
Galveston County Health District  
Public Health Planner  
1207 Oak Street,  
La Marque, TX 77568  
**Phone:** 409.938.2275  
**Fax:** 409.938.2243  
brutherford@gchd.org

Visit us at:  
[www.medicalreservecorps.gov](http://www.medicalreservecorps.gov)

### Strengthening the Public Health Infrastructure and Improving Emergency Preparedness

The **Medical Reserve Corps** program is sponsored by the Office of the Surgeon General, in corporation with the White House's USA Freedom Corps and the Department of Homeland Security's Citizen Corps.



# Medical Reserve Corps

## National Priorities...Meeting Local Needs

### About the Medical Reserve Corps

❖ The Medical Reserve Corps (MRC) was founded after President Bush's 2002 State of the Union Address, in which he asked all Americans to volunteer in support of their country. MRC is a specialized component of Citizen Corps, a national network of volunteers dedicated to ensuring hometown security. Citizen Corps, along with the Corporation for National and Community Service, and the Peace Corps are all part of the President's USA Freedom Corps, which promotes volunteerism and service throughout the nation.

❖ **MRC** units are community-based and function as a way to locally organize and utilize volunteers – medical professionals and others – who want to donate their time and expertise to promote healthy living throughout the year and to prepare for and respond to emergencies. **MRC** volunteers supplement existing local emergency and public health resources.

❖ **MRC** volunteers include medical and public health professionals such as physicians, nurses, pharmacists, dentists, veterinarians, and epidemiologists. Other community members, such as interpreters, chaplains, office workers, and legal advisors, can fill other vital support positions.

### Galveston County Medical Reserve Corp (MRC)

#### Mission

*The purpose of the Medical Reserve Corps is to strengthen communities by establishing a system for medical and public health volunteers to offer their expertise throughout the year, as well as during times of community need.*

#### Objectives

- Recruit citizens to join the MRC
- Provide regular training to enhance volunteer knowledge and skills in emergency preparedness and response
- Conduct exercises with response partners to assess and improve readiness
- Have volunteers ready to respond to incidents and participate in community health events

#### 3 Tiers of Membership

- **Tier 1** Licensed Medical Professionals
- **Tier 2** Individuals with medical experience, but no medical license
- **Tier 3** Individuals without medical experience

### What Can MRC Volunteers Do?

- ❖ Vaccinate patients
- ❖ Distribute medication
- ❖ Screen patients
- ❖ Provide medical/mental health referrals
- ❖ Perform office duties
- ❖ Answer phones
- ❖ Perform translations
- ❖ Assist with crowd control
- ❖ Data entry

**Assist** local hospitals and health departments with surge personnel needs.

**Participate** in mass prophylaxis and vaccination exercises and community disaster drills.

**Train** with local emergency response partners.

**And more...**

