

## Pandemic Influenza Review Summary of Materials

### Introduction

*Pandemic flu* occurs when a new influenza virus emerges and starts spreading as easily as normal influenza – by coughing and sneezing. Because the virus is new, the human immune system has no pre-existing immunity and, therefore, will create a more serious disease than that caused by normal influenza. *Avian (or bird) flu* refers to a large group of different influenza viruses that primarily affect wild birds, although on rare occasions, these bird viruses can infect other species, including pigs and humans. The vast majority of avian influenza viruses do not affect humans.

Once a fully contagious virus emerges, its global spread is considered inevitable. Countries might, through measures such as border closures and travel restrictions, delay the arrival of the virus, but cannot stop it. The disease can spread easily from person to person through coughing and sneezing. Currently, there is no pandemic flu although Avian influenza virus H5N1 is the current concern. Since 2004, 231 confirmed cases in humans and 133 deaths have been reported, mostly in Asia and the Middle East. Half of the cases occurred in people under 20 years of age and 90% of cases occurred in people under 40 years of age. Case fatality rate in 2005 was 43% and in 2006 has been 63%.

### History

Influenza pandemics have occurred for centuries, three times in the 20<sup>th</sup> century alone (1918, 1957, and 1968). In the 1918 influenza pandemic, an estimated 20 million people died with 500,000 of those deaths in the United States. In the 1968 pandemic, classified as a mild pandemic, an estimated 34,000 deaths occurred in the United States. The CDC thinks that another pandemic is highly likely, if not inevitable.

### Projections

Defining the potential magnitude of a pandemic is difficult because of the large differences in severity for the three 20<sup>th</sup> century pandemics. This difference is largely related to the severity of the infections and the virulence of the influenza virus. In each pandemic, however, about 30% of the U. S. population developed illness, with about half seeking medical care.

Pandemic planning is based on the following assumptions:

- Susceptibility to the pandemic influenza subtype will be universal
- The disease attack rate will be 30% in the overall population. Illness will be highest among school-aged children (40%) and decline with age. Twenty percent (20%) of working adults will become ill during a community outbreak.
- Of those who become ill with influenza, 50% will seek outpatient medical care.
- The number of hospitalizations and deaths will depend on the virulence of the pandemic virus, differing about 10-fold between more and less severe scenarios. See chart below.\*

Characteristics	Moderate (1958 & 1968-like)	Severe (1918-like)
Illness	90,000,000 (30%)	90,000,000 (30%)
Deaths	209,000	1,903,000
Outpatient medical care	45,000,000 (50%)	45,000,000 million (50%)
Hospitalization	865,000	9,900,000
ICU care	128,750	1,485,000
Mechanical ventilation	64,875	742,500

\*United States Department of Health and Human Services, November, 2005

A CDC report, *The Economic Impact of Pandemic Influenza in the United States: Priorities for Intervention*, gives the estimated possible effects on the next influenza pandemic with consideration given for vaccine-based interventions:

**1. Possible effects:**

Characteristics	Lowest Estimate	Highest Estimate
Illness	38,314,000	89,734,000
Deaths	89,000	207,000
Outpatient medical care	18,000,000	42,000,000
Hospitalization	314,000	734,000

**2. High risk populations account for approximately 84% of all deaths. The age distribution of these high risk populations is:**

Age Group	Percentage of total cases	Percentage at high risk
0-19	40.0	6.4
20-64	53.1	14.4
65+	6.8	40.0

Note: persons over 65 in nursing homes and with chronic medical conditions, adults and children with chronic disorders of the pulmonary or cardiovascular system, metabolic disorders (diabetes, HIV, etc.) and conditions that can compromise respiratory function are recognized as people in the high risk group. Also, pregnant women, children under 2 years old, and children and adolescents who are receiving long-term aspirin therapy are also in the high risk group. \*

\*Advisory Committee on Immunization Practices/CDC

**Economic Impact of Pandemic Influenza**

Without large-scale immunization, the estimates of the total economic impact in the United States of an influenza pandemic ranges from \$71.3 billion dollars to \$165.5 billion. Loss of life accounted for approximately 83% of all economic loss. The largest economic returns will come from the interventions that prevent the largest number of deaths. A limitation of the model presented is that, beyond the value of a lost day of work, it does not include any valuation for disruptions in commerce and society. For example, if many long-distance truck drivers were unavailable to drive for 1 or 2 weeks, there might be disruptions in the distribution of perishable items, especially food. <sup>1</sup> (*Economic Impact of Pandemic Influenza in the United States: Priorities for Intervention*, [www.CDC.gov](http://www.CDC.gov))

A total funding of \$350 million by the federal government has been appropriated for upgrading state and local pandemic influenza preparedness. The first phase money of \$100 million was awarded to states for planning and exercising of pandemic response plans and to identify gaps in preparedness. The second phase of funding is being awarded to begin addressing those identified gaps in pandemic influenza preparedness planning. <sup>2</sup> (*Pandemic Influenza Update, July 2006, U.S. Centers for Diseases Control and Prevention*).

**Possible roles for United Way:**

- Awareness and preparedness education for -
  - Agencies serving high risk populations because of pre-existing conditions:
    - Nursing homes
    - Senior services
    - Special needs – diabetes, cancer, and lung associations
  - Agencies serving high-risk populations because of large concentrations of people in close proximity to each other and limited use of safety precautions (covering nose when sneezing, etc.)
    - Child care and preschool programs
    - Schools – elementary schools, high schools, colleges, technical and vocational schools
    - After school programs – Boys and Girls Clubs, YMCA and YWCA
    - Community activity centers – youth sports

- Businesses – in the event of high rates of illness and worker absenteeism, social and economic disruption will occur and will be amplified in today's closely interrelated and interdependent systems of trade and commerce. Social disruption may be greatest when rates of absenteeism impair essential services, such as power, transportation, and communications.<sup>1</sup> Adapted from the WHO "Ten things you need to know about pandemic influenza." <http://www.who.int/csr/disease/influenza/pandemic10things/en/index.html>
  - Individuals/families
- Coordinate with City, County and Federal governments and non profit organizations including the CDC, ARC, GA Division of Public Health, GEMA, United Ways of Georgia, and United Way of America
- Develop educational materials for grantees and other service providers - preparedness checklists and outline of disaster plan, facts, and children's education program (children's kit, certificate, and games children (www.ready.gov/kids)
- Hold conference for business and agencies to educate and prepare an action plan
- Prepare 211 for pandemic
- Create Continuity Plan for UWMA in the event of a pandemic –
  - Technology - home PC connections, web message centers, etc.)
  - Stock emergency supplies in office – respirators/mask, first aid supplies, handy wipes, sanitizers, tissues, water, food, etc., sleeping arrangements for employees essential to providing emergency services to our offices and the community
  - Employee training
- Purchase or provide funds for emergency supplies and for preparing disaster plan for grantees – give them consultation help
- Develop a central communication system for notifying agencies and the general public of government bulletins, available services, emergency assistance, etc., and, in advance, publicize availability of this service
  - 211 Call Center
  - Email – grantees, network participants, employees, other local agencies/organizations and United Ways of Georgia
  - Yahoo message center – messaging center for receiving and distributing vital information
- Hold conferences for planning coordination and collaboration of agencies in the event of an emergency
- Train-the-trainer classes to teach organizations training methods and content to educate their constituents and employees
- Develop conceptual model for service providers for responding to a pandemic
- Fund raising – commitments from donors (foundations, businesses)
- Research government funds available for preparedness

## APPENDIX ONE

### Faith-Based & Community Organizations Pandemic Influenza Preparedness Checklist

The collaboration of Faith-Based and Community Organizations with public health agencies will be essential in protecting the public's health and safety if and when an influenza pandemic occurs. Summary of the checklist for religious organizations, social service organizations, and community organizations follows.<sup>3</sup> (*Faith-Based & Community Organizations Pandemic Influenza Preparedness Checklist*, <http://pandemicflu.gov/plan/faithcomchecklist.html>)

1. Plan for the impact of a pandemic on your organization and mission:
  - a. Assign key staff to develop, maintain, and act upon a preparedness and response plan
  - b. Determine degree of impact to your organization
  - c. Determine potential impact of outside resources, ones that deliver services
  - d. Outline organizational structure during an emergency and update periodically
  - e. Identify and train essential staff
  - f. Have an exercise or drill to review and revise your plan
2. Communicate with and educate staff, members, and persons in the communities that you serve:
  - a. Make information available to your organization and others and advise to follow information from public health authorities
  - b. Distribute materials with basic information
  - c. When appropriate, hold public meetings
  - d. Develop tools to distribute information
3. Plan for the impact of a pandemic on your staff, members, and the communities you serve:
  - a. Plan for staff absences
  - b. Work with local health authorities to encourage yearly influenza vaccination for staff and persons in the communities that you serve
  - c. Evaluate and improve access to mental health and social services during a pandemic
  - d. Identify persons with special needs, include their needs in preparedness plan, and build trust with them in advance
4. Set up policies to follow during a pandemic:
  - a. Non-penalized staff leave
  - b. Mandatory sick-leave policies for staff suspect of illness
  - c. Set flexible work hours and working from home
  - d. Evaluate your usual activities and services to identify those that may spread from person-to-person
  - e. Follow CDC travel recommendations during an influenza pandemic
  - f. Set procedures for activating your organization's response plan
5. Allocate resources to protect service providers in your community, including your staff, members, and persons in the communities
  - a. Determine the amount of supplies needed to promote respiratory hygiene and cough etiquette and how they will be obtained
  - b. Consider focusing your services during a pandemic on those most needed during an emergency
6. Coordinate with external organizations and help your community:
  - a. Understand the plans and roles of federal, state, and local public health agencies and emergency responders and what to expect from each
  - b. Maximize communications between your organization and state and local public health systems to share what they can provide and what your organization can contribute

- c. Share what you have learned with faith-based and community organizations – preparedness, response, and medical advice and services
- d. Collaborate with other community organizations to provide services in the event of a pandemic influenza outbreak

## APPENDIX TWO

### Child Care and Preschool Pandemic Influenza Planning Checklist <sup>4</sup>

([www.pandemicflu.gov/plan/preschool.html](http://www.pandemicflu.gov/plan/preschool.html))

Child care and preschool programs can help protect the health of their staff and the children and families they serve by following the checklist to help programs prepare for the effects of a flu pandemic:

1. Planning and Coordination:
  - a. Form committee of staff and parents to produce a plan
  - b. Identify one person to identify reliable sources of information and health alerts
  - c. Learn who has legal authority to close child care programs if there is a flu emergency
  - d. Investigate local/state health departments and agencies that regulate child care agencies to see if they have plans
  - e. Identify how your program might be affected and develop a plan
  - f. Enclose parents to have an alternate plan for finding child care
  - g. Work with the community to find sources of meals for low-income children
  - h. Learn about organizations that deal with stress and other problems of a pandemic
  - i. Stage a drill to test your plan and improve as needed
  - j. Communicate with other child care and preschool programs in your area to share information
  
2. Student Learning and Program Operations:
  - a. Plan how to deal with program closings, staff absences, and gaps in student learning
  - b. Plan ways families can continue their child's learning at home if program is closed
  - c. Plan ways to continue basic functions if program is closed – communicating with staff and payroll
  
3. Infection Control Policies and Actions:
  - a. Teach staff, children and parents how to limit the spread of the infection
  - b. Keep a good supply of things to help control the spread of infection (e.g., soap, paper towels, and tissues)
  - c. Recommend yearly flu shots for children 6 months to 5 years and for staff
  - d. Keep accurate records of when children or staff are absent
  - e. Teach staff to check children and adults each day as they arrive to see if they are sick
  - f. Have an isolation plan for children who become sick at your program until their family arrives
  - g. Require staff members to stay home if they are sick until flu symptoms are gone
  
4. Communication Planning:
  - a. Have a plan for keeping in touch with staff and families (hotlines, websites, text messaging, etc.)
  - b. Make sure staff and families have seen and understand your plan
  - c. Give staff and students' families reliable information on –
    1. Controlling the spread of flu by washing/cleansing and covering mouth when sneezing and coughing
    2. How to recognize symptoms
    3. Caring for ill family members
    4. Developing a family plan

## APPENDIX THREE

### Individuals and Families Planning

An informed and prepared public is essential to minimizing the health effects of a pandemic and the resulting consequences to society. Consequently, the public needs to become familiar with actions that will lessen the impact of an influenza pandemic on you and your family. <sup>4</sup> (CDC.com)

1. Plan for a pandemic - emergency supplies
  - a. Water and food
    - Bottled water
    - Ready-to-eat canned meats, fruits, vegetables and soups
    - Protein or fruit bars
    - Dry cereal or granola
    - Peanut butter or nuts
    - Dried fruit
    - Crackers
    - Canned juices
    - Baby food
    - Pet food
  - b. Prescription (check with your doctor) and non prescription drugs and other health supplies
  - c. Soap and water, or alcohol-based hand wash
  - d. Thermometer
  - e. Flashlight
  - f. Batteries
  - g. Manual can opener
  - h. Garbage bags
  - i. Tissues, toilet paper, disposable diapers
  - j. Fluids with electrolytes
2. Educate your family about limiting the spread of germs, pandemic flu preparations and what to do if a family member gets sick
3. Have supplies on hand to limit the spread of germs and prevent infections (hand wipes, sanitizers, masks, etc.)
4. Volunteer with local groups to assist in emergency response and preparation
5. Prepare family emergency health information sheet:
6. Prepare family emergency health information sheet:
  - a. Blood type, allergies, past/current medical conditions, current medications/dosages
  - b. Emergency contacts – family, hospitals, physician(s), state public health dept, pharmacy, employer, school, veterinarian

## References

1. <http://www.cdc.gov/> - links to pandemicflu.gov website
2. <http://www.ready.gov/> - "Ready America , Ready Business, Ready Kids – Get a Kit, Make a Plan, Be Informed" - site of the Office of Homeland Security
3. [www.pandemicflu.gov](http://www.pandemicflu.gov) - One-stop access to U.S. Government avian and pandemic flu information, managed by the Department of Health and Human Services.
4. <http://www.who.int> – "Health Topics, Avian Influenza" – site of the World Health Organization, the United Nations specialized agency for health
5. <http://www.os.dhhs.gov/> - US Department of Health and Human Services – disaster preparedness
6. <http://www.os.dhhs.gov/pandemicflu/plan/> - US Department of Health & Human Services – HHS Pandemic Influenza Strategic Plan