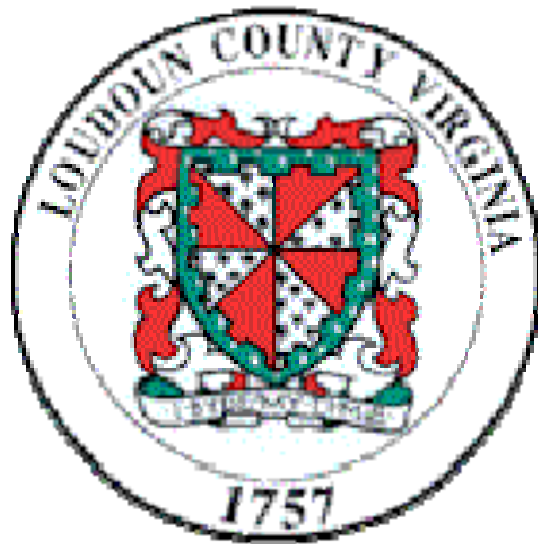


# Pandemic Influenza Response Plan



Loudoun County, Virginia

Revised September 2009

Incident Annex 23.0

## Revisions Page

<b>Revision Number</b>	<b>Supersedes</b>	<b>Effective Date</b>
Version: 01/22/2007	NEW	January 2007
Version: 05/01/2008	01/22/2007	May 2008
Version: 9/22/2009	05/01/2008	October 2009

## Table of Contents

<b>Section</b>	<b>Pages</b>
<b>Section A. Introduction .....</b>	<b>5-22</b>
I. Executive Summary	
II. Background	
III. Purpose, Goals and Objectives	
IV. Situation and Assumptions	
V. Coordination and Decision Making	
VI. Authority	
VII. Morbidity and Mortality Projections	
<b>Section B. Communications Planning .....</b>	<b>23-32</b>
I. Background	
II. Key Communication Activities	
III. Key Messages	
IV. Target Audiences	
V. Message Development	
VI. Message Dissemination	
VII. Communications Plan	
<b>Section C. Preparedness Planning Concept .....</b>	<b>33-39</b>
I. Background	
II. Components	
III. Key Resources for Each Response Step	
IV. Additional Assets	
V. Public Outreach and Notification – General “All Hazards” Efforts	
VI. Loudoun County Pandemic Flu Preparedness Task Force	
VII. Loudoun County’s Continuity of Operations Planning Efforts	
VIII. Other Efforts	
<b>Section D. Pandemic Influenza Response .....</b>	<b>40-47</b>
I. Background	
II. Concept	
III. Agency Roles	
<b>Section E. Post Pandemic Recovery .....</b>	<b>48-51</b>
I. Background	
II. Summary	
<b>Section F. Appendices .....</b>	<b>52-81</b>
Appendix A: Pandemic Influenza Morbidity and Mortality Projections	
Appendix B: Draft of Potential Risk Communications Messages	
Appendix C: Recommendations for Use of Antiviral Medications	
Appendix D: Glossary	
Appendix E: Loudoun Pandemic Flu Preparedness Task Force (LPFPTF) Members	
Appendix F: Abbreviations	
Appendix G: References:	

- 1. General
  - 2. Pandemic Influenza Web Sites
  - 3. Psychosocial Workforce Support Services
  - 4. Teleworking
  - 5. Management of Travel-Related Risk of Disease Transmission
  - 6. Infection Prevention and Control
  - 7. Pandemic Influenza Planning and Preparedness Checklists
  - 8. COOP
- Appendix H: Interim Guidance on Planning for the Use of Surgical Masks and Respirators During an Influenza Pandemic
- Appendix I: Role of Federal, State, and Local Government Agencies
- Appendix J: Seminars and Educational Outreach Activities

<b>Tables</b>	<b>Page</b>
Table 1. Summary of WHO Pandemic Influenza Phases.....	<b>9</b>
Table 2. CDC Pandemic Severity Index .....	<b>10</b>
Table 3. Summary of WHO Pandemic Influenza Phases and CDC Community Level Indicators.....	<b>11</b>
Table 4: Investigation Levels by Presence of Pandemic .....	<b>12</b>
Table 5. Summary of Authorities .....	<b>19</b>
Table 6. Code of Virginia Statute and Corresponding Authority .....	<b>21</b>
Table 7. Communications Strategies by Pandemic Phase .....	<b>26</b>
Table 8. Response Activities by Pandemic Phase .....	<b>42</b>
Table 9. Recovery Challenges .....	<b>49</b>

## Section A. Introduction

### I. EXECUTIVE SUMMARY

An influenza pandemic has the potential to cause more death and illness than possibly any other public health threat. An influenza pandemic can occur when a new strain of virus emerges, either through mutation or genetic reassortment, to which most or all of the world's human population has had no previous exposure and thus has no immunity. Early pandemic planning (2006) was based on the likelihood of the highly pathogenic H5N1 (avian or bird) influenza strain emerging in populations throughout many parts of the world. The potential for the emergence of a new variant strain of this virus which could be easily transmitted person-to-person triggered the World Health Organization (WHO) to urgently prompt organizations worldwide to initiate preparedness planning efforts should a pandemic occur. In Spring 2009, another novel influenza virus (2009 H1N1 – [swine]) emerged and within weeks spread throughout the world.

In late March and early April 2009, cases of human infection with this H1N1 virus were first reported in Southern California and near San Antonio, Texas. All U.S. states have since reported cases of H1N1 flu infection in humans. As part of the federal government response to the H1N1 virus, the Department of Health and Human Services issued a [nationwide public health emergency declaration](#) on April 26, 2009. On June 11, 2009, the [World Health Organization](#) (WHO) signaled that a global pandemic of novel influenza A (H1N1) was underway by raising the worldwide pandemic alert level to [Phase 6](#). *This action was a reflection of the spread of the new H1N1 virus, not the severity of illness caused by the virus.* At the time, more than 70 countries had reported cases of novel influenza A (H1N1) infection and there were ongoing community level outbreaks of novel H1N1 in multiple parts of the world.

Although the timing, nature and severity of a pandemic cannot be predicted, a planned and coordinated response is critical to minimizing the public health impact, as well as the social and economic disruption to our everyday lives. The unique characteristics of a pandemic, including the capability to affect many locations at once, the extended length of such an event and the possibility of multiple waves, will strain local, state and federal resources.

Loudoun County embarked on its initial pandemic influenza planning efforts in spring 2006. This coordinated effort involved various county agencies, Loudoun County Public Schools, the Town of Leesburg and other partner organizations including Inova Loudoun Hospital and the American Red Cross, as well as a variety of private sector groups. The County's pandemic influenza planning initiatives were undertaken in concert with the emergency planning efforts of the Virginia Department of Health, the United States Department of Health and Human Services and the WHO.

Loudoun County used a two-pronged approach in the development of its Pandemic Influenza Response Plan. The first approach addressed the specific activities that must be undertaken by the Loudoun County Health Department (LCHD) and the public health community in preparation for and response to a pandemic. The second addressed the activities that must be undertaken by Loudoun County agencies to identify and maintain critical government and public services during a pandemic. In addition, the plan is subdivided both by WHO pandemic phase, by CDC severity index, and traditional emergency response categories (mitigation, preparedness, response, recovery and post-recovery).

The Loudoun County Pandemic Influenza Response Plan encompasses a detailed summary of Loudoun County's public health response and references the County's plans for the continuation of critical government services during a pandemic. It describes a coordinated local strategy to prepare for and respond to an influenza pandemic and serves as Incident Annex 23.0 to Loudoun County's Emergency Operations Plan, as well as LCHD Emergency Operations Plan. The Loudoun County Pandemic Influenza Response Plan is intended to be a synthesized guide for responding agencies, an overview to provide information to the public on the County's preparedness and a tool to assist the public in their own planning and preparedness.

The Plan itself includes five (5) separate sections, attachments and a comprehensive list of resource appendices:

*Section A* provides background information. In this section, the elements required for a pandemic to occur are reviewed and pandemic influenza is distinguished from seasonal influenza. The pandemic influenza phases as defined by the WHO, as well as the pandemic severity index as defined by CDC, are summarized. Planning assumptions, guiding principles and key preparedness strategies are provided. Finally, official authorities and applicable public health statutes are summarized.

*Section B* outlines communication strategies and provides information on key messages, audiences, message development and message dissemination in a pandemic.

*Section C* describes the planning and preparation Loudoun County is undertaking to minimize disruption to critical governmental functions. Specifically, it outlines critical issues Loudoun County Government is addressing at countywide and agency levels to protect the workforce during an outbreak and to ensure maintenance of critical government services in a prolonged or severe pandemic.

*Section D* provides a broad listing of primary public health, communication and emergency management actions to be carried out during the six phases of an influenza pandemic as described by the WHO and the CDC severity index phases. This information is augmented by a detailed summary of specific activities to be undertaken by LCHD and the public health community during a pandemic.

*Section E* provides information on post-pandemic recovery and outlines processes for determining the end of the pandemic and for conducting an after-action assessment of the County's response.

Resource appendices, including a list of published and electronic references, a listing of abbreviations and a glossary of terms are provided at the end of the document.

Available information regarding best practices for preparedness in a pandemic changes frequently as more becomes known and thus the content reflects information as of the revision date. As such, it is critical to recognize that this is a dynamic document which will be updated as appropriate to reflect current information, guidelines and best practices regarding pandemic influenza preparedness and response.

## **II. BACKGROUND**

- A. Influenza pandemics are unpredictable and pose a significant threat to public health:
  1. They have the potential to cause a great deal of illness and death.
  2. They strike not only vulnerable populations but the young and healthy as well.
  3. They are regular events that have been occurring throughout history with varying degrees of impact. In the 20<sup>th</sup> century, three epidemics occurred: the 1918 Spanish Flu epidemic that resulted in more than 500,000 deaths in the United States and over 20 million deaths worldwide; the 1957 Asian Flu epidemic; and the 1968 Hong Kong Flu epidemic.
  4. They often reoccur in subsequent waves.
  
- B. Influenza is a highly contagious viral disease spread through the inhalation of the virus in dispersed droplets from the coughing and sneezing of an infected individual or by picking up the virus from a contaminated surface.
  1. Signs and symptoms of uncomplicated influenza illness include fever, muscle aches, headache, malaise, nonproductive cough, sore throat and runny nose. Children often exhibit ear infections as well as nausea and vomiting.
  2. Illness typically resolves after several days but may lead to complications.
  3. The incubation period, the time from exposure to onset of symptoms, is one to four days, with an average of two days.
  4. Adults are typically infectious from the day before symptoms begin until five to seven days after onset of illness. Children and immunocompromised persons may be infectious for longer periods.

5. Influenza can exacerbate underlying medical conditions, particularly pulmonary or cardiac disease and can lead to secondary bacterial or viral pneumonia. The risk for complications, hospitalization and deaths from influenza is higher among older adults (65 years and older), young children and those persons with certain underlying health conditions.
- C. 2009 H1N1Influenza refers to a new influenza virus causing illness in people. This new virus was first detected in people in Mexico and the United States in March and April 2009. Within weeks many other countries reported people sick with this new virus. This virus is spreading from person-to-person in much the same way the regular seasonal influenza viruses spread. There is no indication this virus is spread from consumption of pork products.
- D. Avian influenza refers to influenza A viruses that circulate among birds. Wild birds, in particular certain species of waterfowl and shorebirds, are considered the natural reservoir for avian influenza A. Usually, avian influenza viruses exist in birds without causing significant illness or disease. These viruses can infect different animals but they typically do not cause illness in humans.
1. There have been documented cases where viruses do cross over from birds, particularly domesticated poultry and then infect humans.
  2. There is concern that, through a process of re-assortment, avian viruses can mix with human influenza viruses and result in a new, or novel, virus strain.
  3. Avian viruses were involved in the last 3 influenza pandemics and the virus responsible for 1918 pandemic originated in birds. In 1997, the H5N1 influenza virus emerged in chickens in Hong Kong and has shown the ability to infect multiple species, including long-range migratory birds, chickens, pigs, cats and humans. Most of these cases are believed to be caused by exposure to infected poultry flocks.
  4. To date, there has been no sustained human-to-human transmission of avian H5N1 influenza.
- E. Seasonal influenza refers to the yearly influenza outbreaks that occur in temperate regions, mainly from December to March, which are caused by strains currently circulating worldwide. Multiple influenza strains will usually be present each season.
1. These viruses are spread widely among humans, are constantly changing and cause a relatively mild respiratory illness among healthy people.
  2. These influenza viruses result in an average of 36,000 deaths per year in the United States, mainly in older persons, children and persons with underlying health conditions.
  3. Vaccination against influenza is the primary method of prevention for seasonal flu. A vaccine specific to the currently circulating strains is developed each year.
  4. Immunity develops from either having been infected with influenza or receiving the vaccine.
  5. Anti-viral drugs are also available for prophylaxis and treatment of seasonal influenza A infection. The extent to which these countermeasures will be available and effective against a new virus strain in a pandemic is unknown.
- F. Pandemic influenza can occur when a new and highly contagious strain of influenza virus emerges that has the ability to infect humans and be passed easily from person-to-person.
1. Because most of the world's population has not been exposed to the new virus strain, little or no immunity exists and the rate of illness increases significantly over the baseline expected level.
  2. On June 11, 2009, the WHO declared the H1N1 (swine) influenza virus a pandemic. This pandemic is currently referred to as *2009 H1N1Influenza*.
- G. Phases of Pandemic Influenza:
1. The WHO has defined phases of pandemic influenza that "address the public health risks of influenza infection in animals, link phase changes directly with changes in public health response and focus on early events during a 'pandemic alert' period when rapid coordinated global and national actions might help to contain or delay the spread of a new human influenza strain." This classification system is comprised of 6 phases of increasing public health risk associated with the emergence and spread of a new influenza virus subtype that may lead to a pandemic. (See Table 1).
  2. The Director General of WHO formally declares the current global pandemic phase and adjusts the phase level to correspond with pandemic conditions around the world. For each phase, the global influenza preparedness plan identifies response measures WHO will take and recommends actions that countries around the world should implement.

3. The U.S. Centers for Disease Control and Prevention (CDC) have further defined community level indicators to provide additional specificity for implementing state and local community interventions during CDC stages four, five and six. (See Table 2).
4. The Loudoun County Pandemic Influenza Response Plan utilizes these classification systems to structure response activities. The WHO six phases are outlined in Table 1 (below). These six phases are used throughout the document to summarize the County's overall response as well as provide specifics of the public health response during each of the phases. The CDC community level indicators are outlined in Table 2 (below) and help tailor responses according to pandemic level.

**GO TO NEXT PAGE**





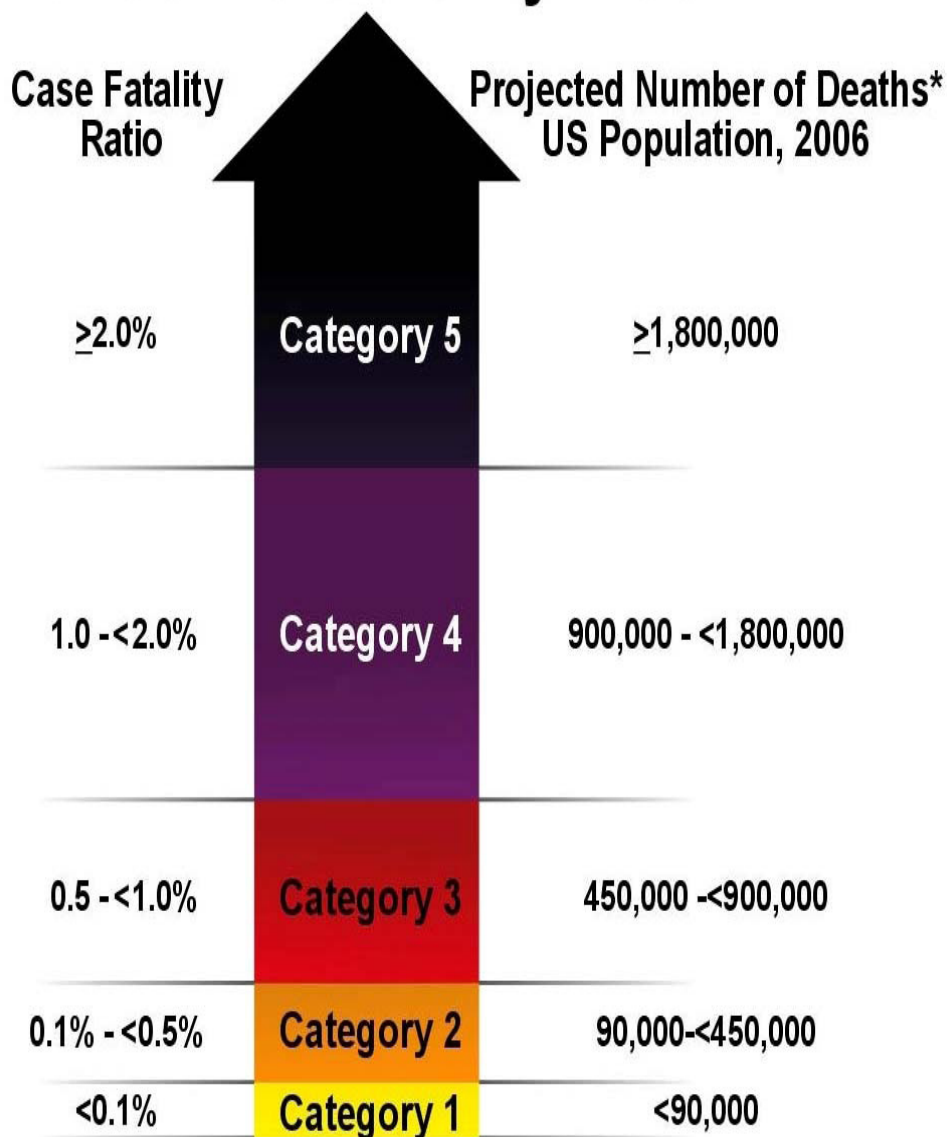
Table 1. Summary of WHO Pandemic Influenza Phases

Phase	Description	Main Actions	Emergency Management Functions
Inter-pandemic Phase	1 No animal influenza virus circulating among animals has been reported to cause infection in humans.	Strengthen influenza pandemic preparedness at the global, regional, national and sub national levels.  Minimize the risk of transmission to humans; detect and report such transmission rapidly if it occurs.	Mitigation
	2 An animal influenza virus circulating in domesticated or wild animals is known to have caused infection in humans and is therefore considered a specific potential pandemic threat.		
Pandemic Alert Phase	3 An animal or human-animal influenza reassortant virus has caused sporadic cases or small clusters of disease in people, but has not resulted in human-to-human transmission sufficient to sustain community-level outbreaks.	Ensure rapid characterization of the new virus subtype and early detection, notification and response to additional cases.	Preparedness  See Section B and C of this Plan
	4 Human-to-human transmission of an animal or human-animal influenza reassortant virus able to sustain community-level outbreaks has been verified.	May not yet be fully transmissible (substantial pandemic risk). Contain the new virus within limited areas or delay spread to gain time to implement preparedness measures, including vaccine development.	
	5 The same identified virus has caused sustained community level outbreaks in at least two countries in one WHO region.	Maximize efforts to contain or delay spread, to possibly avert a pandemic and to gain time to implement pandemic response measures.	
Pandemic Phase	6 In addition to the criteria defined in Phase 5, the same virus has caused sustained community level outbreaks in at least one other country in another WHO region.	Minimize the impact of the pandemic by implementing response measures including social distancing.	See Section D of this Plan
Post-Peak Period	Levels of pandemic influenza in most countries with adequate surveillance have dropped below peak levels.	Evaluations of response; recovery; preparation for possible second wave.	Recovery  See Section E of this Plan
Possible New Wave	Level of pandemic influenza activity in most countries with adequate surveillance is rising again.	Response.	Response  See Section D of this Plan
Post-Pandemic Period	Levels of influenza have returned to the levels seen for seasonal influenza in most countries with adequate surveillance.	Evaluation of response; revision of plans; recovery.	Recovery  See Section E of this Plan

H. Implementation of the Loudoun County Pandemic Influenza Plan may involve consideration of the Pandemic Severity Index (*see figure below*) in conjunction with guidance from VHD and actions being taken by other National Capital Region (NCR) jurisdictions. This index uses case fatality ratios as critical drivers for categorizing the severity of a pandemic. Interventions which may be recommended based on the severity of pandemic include: isolation and treatment of ill persons with antiviral drugs; voluntary home quarantine of members of households containing confirmed or probable cases; dismissal of students from school; closure of childcare facilities; and implementation of social distancing measures to reduce contacts between adults in the community and the workplace.

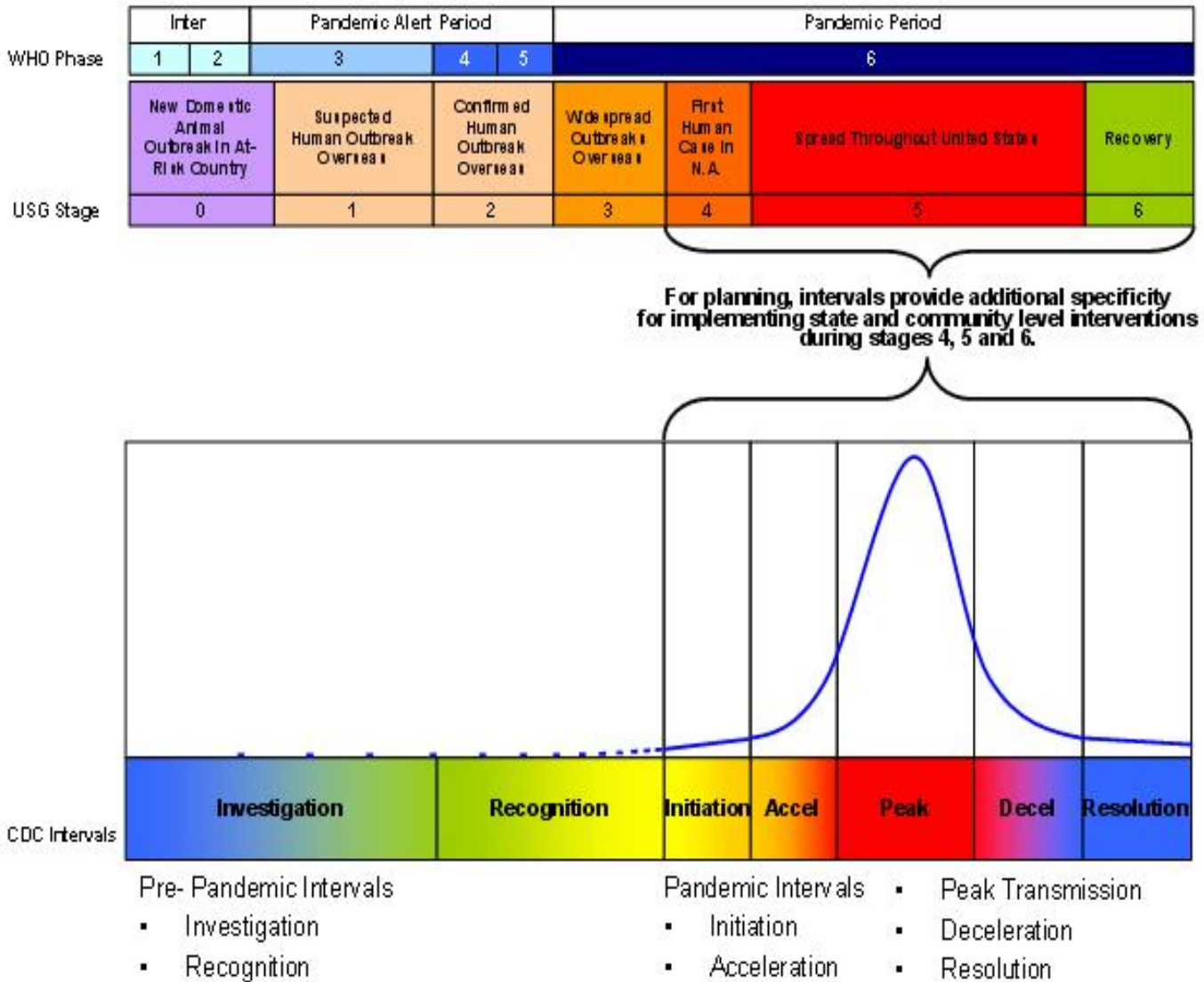
Table 2. CDC Pandemic Severity Index

# Pandemic Severity Index



\* Assumes 30% Illness Rate

**Table 3. Summary of WHO Pandemic Influenza Phases and CDC Community Level Indicators**



**I. Pandemic Intervals, Triggers, and Actions**

In November 2005, the President of the United States released the National Strategy for Pandemic Influenza, followed by the Implementation Plan in May 2006. These documents introduced the concept of “stages” for Federal Government response. The six USG stages have provided greater specificity for U.S. preparedness and response efforts than the pandemic phases outlined in the WHO global pandemic plan. The stages have facilitated initial planning efforts by identifying objectives, actions, policy decisions, and messaging considerations for each stage. While the stages have provided a high-level overview of the Federal Government approach to a pandemic response, more detailed planning for Federal, State, and local responses requires a greater level of specificity than is afforded with the current USG stages.

**J. The Pandemic Intervals**

1. The incorporation of known principles regarding epidemic influenza transmission, along with the adoption of well-defined triggers for action, will enhance the development of more detailed plans and guidance. Moreover, these refinements will facilitate better coordinated and timelier containment and mitigation strategies at all levels, while acknowledging the heterogeneity of conditions affecting different U.S. communities during the progression of a pandemic.
2. Typically, epidemic curves are used to monitor an outbreak as it is occurring or to describe the outbreak retrospectively. While epidemic curves are useful during an outbreak or retrospectively for noting the possible effects

of interventions (graphically showing when they are or were implemented relative to the rise and fall of the epidemic), model epidemic or pandemic curves can also be used to describe likely events over time. These hypothetical models may be particularly valuable prospectively for anticipating conditions and identifying the key actions that could be taken at certain points in time to alter the epidemic or pandemic curve. Classic epidemic curves have been described in the literature as having a: growth phase, hyperendemic phase, decline, endemic or equilibrium phase, and potentially an elimination phase.

3. For the purposes of pandemic preparedness, the Federal Government will use intervals representing the sequential units of time that occur along a hypothetical pandemic curve. For State and local planning, using the intervals to describe the progression of the pandemic within communities in a State helps to provide a more granular framework for defining when to respond with various interventions during U.S. Government stages 4, 5 and 6. These intervals could happen in any community from the time sustained and efficient transmission is confirmed.
4. While it is difficult to forecast the duration of a pandemic, it is expected that there will be definable periods between when the pandemic begins, when transmission is established and peaks, when resolution is achieved, and when subsequent waves begin. While there will be one epidemic curve for the United States, the larger curve is made up of many smaller curves that occur on a community-by-community basis. Therefore, the intervals serve as additional points of reference within the phases and stages to provide a common orientation and better epidemiologic understanding of what is taking place. State health authorities may elect to implement interventions asynchronously within their States by focusing early efforts on communities that are first affected. The intervals thus can assist in identifying when to intervene in these affected communities. The intervals are also a valuable means for communicating the status of the pandemic by quantifying different levels of disease, and linking that status with triggers for interventions.
5. The intervals are designed to inform and complement the use of the Pandemic Severity Index (PSI) for choosing appropriate community mitigation strategies. The PSI guides the range of interventions to consider and/or implement given the epidemiological characteristics of the pandemic. The intervals are more closely aligned with triggers to indicate *when* to act, while the PSI is used to indicate *how* to act.

### K. Definitions of the Different Pandemic Intervals

1. For States that are “affected” (i.e., they have met the definition for the interval), selected actions to initiate during the interval are provided. For States that are “unaffected” (i.e., they have not met the definition for the interval at a time when other States have met the definition), selected actions and preparations are provided.

**Table 4: Investigation Levels by Presence of Pandemic**

Investigation Interval	Affected State <i>A State where a sporadic case of novel influenza is detected</i>	Unaffected State <i>A State not currently investigating novel influenza cases.</i>
<p><b>Investigation” Interval – Investigation of Novel Influenza Cases:</b> This pre-pandemic interval represents the time period when sporadic cases of novel influenza may be occurring overseas or within the United States. During this interval, public health authorities will use routine surveillance and epidemiologic investigations to identify human cases of novel influenza and assess the potential for the strain to cause significant disease in humans. Investigations of animal outbreaks also will be conducted to determine any human health implications. During this interval, pandemic preparedness efforts should be developed and strengthened. Case-based control measures (i.e., antiviral treatment and isolation of cases and antiviral prophylaxis</p>	<ul style="list-style-type: none"> <li>• Voluntarily isolate and treat human cases</li> <li>• Voluntarily quarantine if human-to-human transmission is suspected, monitor, and provide chemoprophylaxis to contacts</li> <li>• Assess case contacts to determine human to human transmission and risk factors for infection</li> <li>• Share information with animal and human health officials and other stakeholders, including reporting of cases according to the Nationally Notifiable Diseases Surveillance System and sharing virus samples</li> <li>• Disseminate risk communication</li> </ul>	<ul style="list-style-type: none"> <li>• Continue to maintain State surveillance</li> <li>• Continue to build State and local countermeasures stockpile</li> <li>• Continue to develop and promote community mitigation preparedness activities, including plans and exercises</li> <li>• Continue refining and testing healthcare surge plans</li> </ul>

<p>of contacts) are the primary public health strategy for responding to cases of novel influenza infection. The national case definition for novel influenza is located at <a href="http://www.cdc.gov/ncphi/diss/nndss/casedef/novel_influenzaA.htm">http://www.cdc.gov/ncphi/diss/nndss/casedef/novel_influenzaA.htm</a>.</p>	<p>messages</p>	
<p><b>Investigation Interval</b></p>	<p><b>Affected State</b>  <i>A State where human to human transmission of a novel influenza virus infection is occurring and where the transmission of the virus has an efficiency and sustainability that indicates it has potential to cause a pandemic. This represents the detection of a potential pandemic in the United States before recognition elsewhere in the world.</i></p>	<p><b>Unaffected State</b>  <i>A State not meeting the criteria above. This may represent either that recognition of a potential pandemic is occurring in another State, or is occurring outside the United States.</i></p>
<p><b>“Recognition” Interval – Recognition of Efficient and Sustained Transmission:</b>                  This interval occurs when clusters of cases of novel influenza virus in humans are identified and there is confirmation of sustained and efficient human-to-human transmission indicating that a pandemic strain has emerged overseas or within the United States. During the recognition interval, public health officials in the affected country and community will attempt to contain the outbreak and limit the potential for further spread in the original community. Case-based control measures, including isolation and treatment of cases and voluntary quarantine of contacts, will be the primary public health strategy to contain the spread of infection; however, addition of rapid implementation of community-wide antiviral prophylaxis may be attempted to fully contain an emerging pandemic.</p>	<ul style="list-style-type: none"> <li>• Continue/initiate actions as above (Investigation)</li> <li>• Implement case-based investigation and containment</li> <li>• Implement voluntary contact quarantine and chemoprophylaxis</li> <li>• Confirm all suspect cases at public health laboratory</li> <li>• Consider rapid containment of emerging pandemic influenza</li> <li>• Report cases according to Nationally Notifiable Diseases Surveillance System</li> <li>• Conduct enhanced pandemic surveillance</li> <li>• Prepare to receive SNS countermeasures</li> <li>• Disseminate risk communication messages, including when to seek care and how to care for ill at home</li> <li>• Implement appropriate screening of travelers and other border health strategies, as directed by CDC</li> </ul>	<ul style="list-style-type: none"> <li>• Continue/initiate actions as above (Investigation)</li> <li>• Prepare for investigation and response</li> <li>• Conduct enhanced pandemic surveillance</li> <li>• Prepare to receive SNS countermeasures</li> <li>• Disseminate risk communication messages</li> <li>• Implement appropriate screening of travelers and other border health strategies, as directed by CDC</li> </ul>
<p><b>Investigation Interval</b></p>	<p><b>Affected State</b>  <i>A State with at least one laboratory-confirmed pandemic case.</i></p>	<p><b>Unaffected State</b>  <i>A State with no laboratory-confirmed pandemic cases.</i></p>
<p><b>“Initiation” Interval – Initiation of the Pandemic Wave:</b> This interval begins with the identification and laboratory-confirmation of the first human case due to pandemic influenza virus in the United States. If the United States is the first country to recognize the emerging pandemic strain, then the “Recognition” and “Initiation” intervals are the same for affected States. As this interval progresses, continued implementation of</p>	<ul style="list-style-type: none"> <li>• Continue/initiate actions as above (Recognition)</li> <li>• Declare Community Mitigation Alert if PSI Category 1 to 3, declare Standby<sup>27</sup> if PSI Category is 4 or 5</li> <li>• Continue enhanced State and local surveillance</li> <li>• Implement (pre-pandemic) vaccination campaigns if (pre-pandemic) vaccine is available</li> </ul>	<ul style="list-style-type: none"> <li>• Continue/initiate actions as above (Recognition)</li> <li>• Declare Community Mitigation Standby if PSI Category 4 or 5</li> <li>• Prepare for investigation and response</li> <li>• Prepare for healthcare surge</li> <li>• Review and prepare to deploy mortuary surge plan</li> <li>• Deploy State/local caches</li> </ul>

<p>case-based control measures (i.e., isolation and treatment of cases, voluntary prophylaxis and quarantine of contacts) will be important, along with enhanced surveillance for detecting potential pandemic cases to determine when community mitigation interventions will be implemented.</p>	<ul style="list-style-type: none"> <li>• Offer mental health services to health care workers</li> </ul>	<ul style="list-style-type: none"> <li>• Prepare to transition into emergency operations</li> </ul>
<p style="text-align: center;"><b>Investigation Interval</b></p>	<p style="text-align: center;"><b>Affected State</b></p> <p><i>A State that has two or more laboratory-confirmed pandemic cases in a State that are not epidemiologically linked to any previous case; or, has increasing numbers of cases that exceed resources to provide case-based control measures</i></p>	<p style="text-align: center;"><b>Unaffected State</b></p> <p><i>A State that has not met the criteria above</i></p>
<p><b>“Acceleration” Interval – Acceleration of the Pandemic Wave:</b> This interval begins in a State when public health officials have identified that containment efforts have not succeeded, onward transmission is occurring, or there are two or more laboratory-confirmed cases in the State that are not epidemiologically linked to any previous case. It will be important to rapidly initiate community mitigation activities such as school dismissal and childcare closures, social distancing, and the efficient management of public health resources. Isolation and treatment of cases along with voluntary quarantine of contacts should continue as a key mitigation measure. Historical analyses and mathematical modeling indicate that early institution of combined, concurrent community mitigation measures may maximize reduction of disease transmission (and subsequent mortality) in the affected areas.</p>	<ul style="list-style-type: none"> <li>• Continue/initiate actions as above (Initiation)</li> <li>• Activate community mitigation interventions for affected communities</li> <li>• Transition from case-based containment/contact chemoprophylaxis to community interventions</li> <li>• Transition surveillance from individual case confirmation to mortality and syndromic disease monitoring</li> <li>• Begin pre-shift healthcare worker physical and mental health wellness screening</li> <li>• Implement vaccination campaigns if (pre-pandemic) vaccine is available</li> <li>• Monitor vaccination coverage levels, antiviral use, and adverse events</li> <li>• Monitor effectiveness of community mitigation activities</li> </ul>	<ul style="list-style-type: none"> <li>• Continue/initiate actions as above (Initiation)</li> <li>• Prepare for investigation and response</li> <li>• Prepare for healthcare surge</li> <li>• Review and prepare to deploy mortuary surge plan</li> <li>• Deploy State/local caches</li> <li>• Prepare to transition into emergency operations</li> <li>• Implement vaccination campaigns if (pre-pandemic) vaccine is available</li> <li>• Monitor vaccination coverage levels, antiviral use, and adverse events</li> </ul>
<p style="text-align: center;"><b>Investigation Interval</b></p>	<p style="text-align: center;"><b>Affected State</b></p> <p><i>A State in which 1) &gt;10% of specimens from patients with influenza-like illness submitted to the State public health laboratory are positive for the pandemic strain during a seven day period, or, 2) “regional” pandemic influenza activity is reported by the State Epidemiologist using CDC-defined criteria, or, 3) the healthcare system surge capacity has been exceeded.</i></p>	<p style="text-align: center;"><b>Unaffected State</b></p> <p><i>As transmission increases in the United States, States are likely to be in different intervals. Thus, States should anticipate the actions needed for subsequent intervals and plan accordingly.</i></p>
<p><i>“Peak/Established Transmission” Interval – Transmission is Established and Peak of the</i></p>	<ul style="list-style-type: none"> <li>• Continue/initiate actions as above (Acceleration)</li> <li>• Manage health care surge</li> </ul>	

<p><i>Pandemic Wave:</i> This interval encompasses the time period when there is extensive transmission in the community and the State has reached its greatest number of newly identified cases. The ability to provide treatment when the healthcare system is overburdened will be particularly challenging. To reduce the societal effects of the pandemic, available resources must be optimized to maintain the critical infrastructure and key resources in the face of widespread disease.</p>	<ul style="list-style-type: none"> <li>• Maintain critical infrastructure and key resources</li> <li>• Laboratory confirmation of only a sample of cases as required for virologic surveillance</li> <li>• Implement surveillance primarily for mortality and syndromic disease</li> </ul>	
<p><b>Investigation Interval</b></p>	<p><b>Affected State</b></p> <p><i>A State where &lt;10% of specimens from patients with influenza-like illness submitted to the State public health laboratory are positive for the pandemic strain for at least two consecutive weeks, or, the healthcare system capacity is below surge capacity.</i></p>	<p><b>Unaffected State</b></p>
<p><i>“Deceleration” Interval – Deceleration of the Pandemic Wave:</i> During this interval, it is evident that the rates of pandemic infection are declining. The decline provides an opportunity to begin planning for appropriate suspension of community mitigation activities and recovery. State health officials may choose to rescind community mitigation intervention measures in selected regions within their jurisdiction, as appropriate; however mathematical models suggest that cessation of community mitigation measures are most effective when new cases are not occurring or occur very infrequently.</p>	<ul style="list-style-type: none"> <li>• Continue/initiate actions as above (Peak/Established Transmission)</li> <li>• Assess, plan for, and implement targeted cessation of community mitigation measures if appropriate</li> <li>• Transition surveillance from syndromic to case-based monitoring and confirmation</li> <li>• Initiate targeted cessation of surge capacity strategies</li> <li>• Maintain aggressive infection control measures in the community</li> </ul>	
<p><b>Investigation Interval</b></p>	<p><b>Affected State</b></p> <p><i>A State where active virologic surveillance detects pandemic cases occurring sporadically.</i></p>	<p><b>Unaffected State</b></p>
<p><i>“Resolution” Interval – Resolution of the Pandemic Wave:</i> In this interval, pandemic cases are occurring only sporadically. The primary actions to be taken during this interval include discontinuing all community mitigation interventions, facilitating the recovery of the public health and healthcare infrastructure, resuming enhanced surveillance protocols to detect possible subsequent waves,</p>	<ul style="list-style-type: none"> <li>• Continue/initiate actions as above (Deceleration)</li> <li>• Rescind community mitigation interventions</li> <li>• Continue case confirmation of selected cases to verify resolution of pandemic wave</li> <li>• Resume enhanced virologic surveillance to detect emergence of increased transmission</li> </ul>	

and preparing for next waves of infection should they occur.	<ul style="list-style-type: none"> <li>• Prepare for possible second wave</li> <li>• Continue to promote community mitigation preparedness activities on standby for second wave</li> <li>• Conduct after-action review for lessons learned</li> <li>• Replenish stockpiles/caches as able</li> </ul>	
--	---	--

### **III. PURPOSE, GOALS and OBJECTIVES**

#### **Purpose**

- A. By definition, it is impossible for a pandemic to have no impact on a community. The goal is to minimize the impact. Attention to planning results in better preparedness which, in turn, enhances the county's ability to minimize such impact. Therefore, the purpose of the Pandemic Influenza Response Plan is to provide a guide for Loudoun County Government on how to respond before, during and after an influenza pandemic. Specifically, the Pandemic Influenza Response Plan provides guidance to the LCHD and its local and regional partners, regarding surveillance and rapid detection, response, mitigation and recovery from an influenza pandemic. It reflects and is an annex to the Loudoun County Emergency Operations Plan and an appendix to LCHD Emergency Operations Plan and provides guidance to county agencies and the community on maintaining critical services during such an event. The Pandemic Influenza Response Plan follows HHS guidance for developing pandemic influenza response plans and is intended as a companion to the VDH Emergency Operations Plan, Influenza Attachment (March 2006 and Non-Health Component, August 2007). Pandemic planning is based upon all-hazard planning and is compatible with the National Incident Management System (NIMS).
- B. The Loudoun County Pandemic Influenza Response Plan will be implemented in coordination with the Loudoun County Emergency Operations Plan and other County agency-specific preparedness plans and activities, including LCHD Emergency Operations Plan, as well as other community, state and federal partners. Individual county agencies developed their agency-specific Continuity of Operation Plans (COOP) that will supplement the Pandemic Influenza Response Plan. The Pandemic Influenza Response Plan will be reviewed and updated as necessary to ensure information contained within the document is consistent with current knowledge and changing infrastructure.
- C. Priorities of Loudoun County during pandemic influenza will be to ensure the continuation and delivery of essential county and public health services while providing for the emergency needs of the population.
- D. In advance of a pandemic, Loudoun County will work with public and private partners to coordinate preparedness activities.

#### **Goals and Objectives**

- A. The Response Plan has five main goals:
1. Contain and control disease outbreaks.
  2. Limit the number of illnesses and deaths.
  3. Preserve continuity of critical government functions.
  4. Minimize social disruption.
  5. Minimize economic losses.
- B. The objectives which contribute to the achievement of this Plan's goals are to:
1. Define preparedness activities that should be undertaken before a pandemic occurs that will enhance the effectiveness of response measures.
  2. Describe the response, coordination and decision making structure that incorporates LCHD, the health care system in Loudoun County, other local response agencies and state and federal agencies during a pandemic.
  3. Define roles and responsibilities for LCHD, local health care partners, local response agencies, businesses and the public during all phases of a pandemic.
  4. Describe public health interventions in a pandemic response and the timing of such interventions.



5. Serve as a guide for local health care system partners, response agencies and businesses in the development of pandemic influenza preparedness and response plans.
6. Provide technical support and information on which preparedness and response actions are based.
7. Determine the communication strategy, for both internal and external sources, to communicate information to County agencies, the public, public health partners, other jurisdictions and authorities during a pandemic that are critical to an effective emergency response.
8. Identify governmental functions, services, or operations that address critical health, safety and welfare needs of the public that must be maintained.
9. Contribute to the preparation of agency-specific COOP plans that address the unique consequences of a pandemic.

#### **IV. SITUATION AND ASSUMPTIONS**

- A. Since a pandemic influenza outbreak will be caused by a novel, or new, influenza strain, the specific biological characteristics of the virus cannot be known with any certainty prior to its emergence. These assumptions are based on what has been learned from current and previous influenza outbreaks and what is currently known about seasonal influenza viruses.
- B. It is assumed that federal, state and local governments will not be able to address all pandemic influenza needs or meet all resource requests. Responsibility for preparing for and responding to a pandemic spans all levels and sectors. In addition to government entities, healthcare, business, faith-based organizations, schools and universities, volunteer and other groups and individuals have critical roles to play in pandemic preparedness. An informed and responsive public is essential to minimizing the adverse health effects of a pandemic and the resulting consequences to society.
- C. For planning purposes, the worst-case scenario is projected. If this scenario does not fully develop, the response can be adjusted accordingly. The following assumptions are made:
  1. Pandemic influenza in Loudoun County will present a massive test of the emergency preparedness system. Advance planning for Loudoun County's emergency response could save lives and prevent substantial economic loss.
  2. Although pandemic influenza strains have emerged mostly from areas of Eastern Asia, variants with pandemic potential could emerge in Loudoun County, Virginia, the National Capital Region (NCR), or elsewhere in the United States.
  3. Susceptibility to the pandemic influenza subtype initially will be universal.
  4. Efficient and sustained person-to-person transmission signals an imminent pandemic.
  5. The typical incubation period (*interval between infection and onset of symptoms*) for seasonal influenza is an average of two days. The specific incubation period for a novel virus may approach 7-10 days.
  6. Persons who become infected may shed virus and transmit infection for up to one day before becoming ill.
  7. Viral shedding and risk for transmission will be the greatest during the first two days of illness but can continue throughout the illness.
  8. Asymptomatic or minimally symptomatic individuals can transmit infection and develop immunity to subsequent infection.
  9. On average, infected persons will transmit infection to approximately two other people.
  10. Risk groups for severe and fatal infection are likely to include infants, the elderly, pregnant women and persons with chronic medical conditions.
  11. Of those who become ill with influenza, 50% will seek outpatient medical care.
  12. The number of hospitalizations and deaths will depend on the virulence of the pandemic virus.
  13. A pandemic could last from 8 weeks to 18 months and occur in at least two waves.
  14. Many geographic areas within Virginia and its neighboring jurisdictions may be affected simultaneously, thus Loudoun County will need to rely on its own resources.
  15. A pandemic will pose significant threats to human infrastructure responsible for critical community services (in health and non-health sectors) due to widespread absenteeism.
  16. Effective preventive and therapeutic measures (vaccines and antiviral medications) may be in short supply.
  17. There may be critical shortages of health care resources such as staffed hospital beds, mechanical ventilators, morgue capacity, temporary holding sites with refrigeration for storage of bodies and other resources.
  18. Assuming that prior influenza vaccine may offer some protection, even against a novel influenza variant, the annual influenza vaccination program, supplemented by pneumococcal vaccination when indicated, will remain a cornerstone of prevention.

19. LCHD will take the lead in distributing influenza vaccine. Health departments will work in partnership with local health care providers and other partners to facilitate distribution.
20. Surveillance of influenza disease and virus will provide information critical to an effective response.
21. Effective response to pandemic influenza may include the use of non-pharmaceutical interventions and will require coordinated efforts from a wide variety of organizations, both public and private, health and non-health related and the general public.

## **V. COORDINATION AND DECISION MAKING**

### **A. Local**

1. This plan for responding to pandemic influenza will serve as an annex to the Loudoun County Emergency Operations Plan and the LCHD Emergency Operations Plan, which address issues such as: command and control procedures, legal authority, surveillance and epidemiologic investigation procedures, medication and vaccine management, intra- and interagency coordination, hospital and emergency medical services coordination, infection control, security, communications, education and training.
2. Loudoun County will coordinate activities with other NCR jurisdictions to encourage uniform activities, messages and response.
3. While this annex serves as a guide for specific influenza intervention activities, during a pandemic the judgment of health department leadership, based on knowledge of the specific virus, may alter the strategies that have been outlined.
4. LCHD will coordinate with VDH and the CDC Washington Quarantine Station officials to implement appropriate isolation and quarantine activities as needed.

### **B. State**

1. During an influenza pandemic, the VDH State Epidemiologist will generally be responsible for implementation of response activities, under the direction of the Deputy Commissioner for Emergency Preparedness and Response. In 2009 VDH established the Office of H1N1 Response to coordinate all H1N1 pandemic activities in coordination with the Divisions of Emergency Preparedness and Response (EP&R), Epidemiology, and Immunization (DI).
2. The Director of DI will be responsible for coordinating vaccine distribution through the Bureau of Pharmacy Services.
3. The Director of the Division of Surveillance and Investigations (DSI) will be responsible for coordinating enhanced surveillance methods for the detection of influenza and for facilitating investigation and control interventions.
4. The VDH Communications Director will be responsible for coordinating pandemic influenza media-related activities.
5. The Advisory Committee of the Health and Medical Subpanel of the Secure Virginia Panel will formulate specific procedures for the implementation of vaccine prioritization in Virginia.
6. The Virginia Division of Consolidated Laboratory Services (DCLS) will provide laboratory support for confirming, identifying and subtyping influenza viruses.

### **C. National**

1. During a pandemic, the CDC, under the direction of the HHS, will provide guidance on vaccine availability and distribution.
2. If the vaccine is in short supply, which is likely during a pandemic, the CDC, in conjunction with advisory committees, will provide guidance for a rank order listing of risk groups for vaccination.
3. The rank order will likely be based on:
  - a. The need to maintain those elements of community infrastructure that are essential to carrying out the pandemic response plan and public safety;
  - b. Limiting mortality among high-risk groups;
  - c. Reducing morbidity in the general population; and
  - d. Minimizing social disruption and economic losses.

## VI. AUTHORITY

### A. Background

1. Planning, preparedness and response to the phases of a pandemic occur at all levels. Coordination, communication and cooperation from the top down and bottom up among the levels are critical. Towards achieving this, it is important to understand and clearly define roles and responsibilities at each level including global/worldwide; federal; state; regional; local and even down to the individual/family level. These are discussed in Section C: Preparedness Planning Concept.
2. Equally critical in emergency preparedness and response is an understanding of the decision making and authority that occurs within certain defined scope and parameters. Various state and local public officials have overlapping authorities with regard to protecting public health and safety. The Governor, the State Board of Health, the State Health Commissioner, the Loudoun County Board of Supervisors, the County Administrator, the town officials and the Local Health Director each can implement authorities within the scope of their jurisdictions, aimed at protecting public health, including effecting increased social distancing by closing public or private facilities.
3. During a pandemic, the presence of overlapping authorities will necessitate close communication and coordination among appointed and elected leaders and the Loudoun County Health Director to ensure that decision and response actions are clear and consistent.
4. Further, several sections within the Code of Virginia give the State Board of Health and the State Health Commissioner the authority to perform certain acts to protect the health of the public.

### B. Authorities

1. Responsibility for implementation of this Pandemic Influenza Response Plan in Loudoun County rests with the County Administrator of Loudoun County, or appointed designee, upon notification from the Health Director.
  - a. This plan will be activated based upon the pandemic phase and severity and presence of cases and/or deaths in Loudoun County or contiguous counties.
  - b. The plan may be implemented in advance of the pandemic affecting Loudoun County.
  - c. The decision to do so will be based on the situation at the time with reference to information from the Health Director and VDH, in addition to WHO and CDC.
2. The roles of relevant authorities are listed in Table 2 below.

**Table 5. Summary of Authorities**

Authority	Activity
Governor of the Commonwealth of Virginia	<ul style="list-style-type: none"> <li>• The Governor has authority to proclaim a state of emergency after finding that a disaster affects life, health, property, or the public peace.</li> <li>• The Governor may assume direct operational control over all or part of local emergency management functions if the disaster is beyond local control.</li> <li>• After proclaiming a state of emergency, the Governor has the authority to restrict public assembly, order periods of curfew and prohibit activities he or she believes should be prohibited in order to maintain life and health.</li> </ul>
Virginia State Board of Health	<ul style="list-style-type: none"> <li>• The State Board of Health has authority to adopt rules to protect the public health, including rules for the imposition and use of isolation and quarantine and for the prevention and control of infectious diseases.</li> <li>• Health officials, law enforcement officials and all other officers of the state or any county, city, or town shall enforce all rules adopted by the State Board of Health.</li> </ul>
State Health Commissioner	<ul style="list-style-type: none"> <li>• The State Health Commissioner enforces all laws for the protection of the public health and all rules, regulations and orders of the State Board of Health.</li> <li>• The State Health Commissioner also investigates outbreaks and epidemics of disease and advises the Loudoun County Health Director about measures to prevent and control outbreaks.</li> <li>• The State Health Commissioner enforces public health laws, rules, regulations and orders in local matters when there is an emergency.</li> </ul>
Loudoun County Board of Supervisors	<ul style="list-style-type: none"> <li>• The Loudoun County Board of Supervisors supervises all matters pertaining to the preservation of the life and health of the community, its residents and visitors.</li> <li>• The Board may also enact such local rules and regulations as are necessary to preserve and promote the public health and to provide the enforcement of those rules and regulations.</li> </ul>

Authority	Activity
Loudoun County Administrator	<ul style="list-style-type: none"> <li>• The Board of Supervisors has a role in communicating with the public. Board members are the public face of government and help ease public concern and give guidance on how to respond during an emergency event.</li> <li>• The Statement of Emergency Authority pertaining to county employees may be found in Loudoun County’s Human Resource Handbook, item 1.0.03, which states:  “When a declaration of local emergency is made, the policies contained in this handbook may be amended or suspended by the County Administrator as deemed necessary to meet the operational needs of the County government. All actions taken with respect to HR policies during such declared emergencies must comply with applicable state and federal laws that remain in effect and must not infringe on the constitutional rights of any employee. Actions taken by the County Administrator pursuant to this section must be approved/ratified by the Board of Supervisors at their first meeting after the implementation of the policy amendments or suspensions, or as soon thereafter as possible.”</li> <li>• In the event of an emergency the County Administrator, or, in his absence, the acting County Administrator, serves as the Emergency Management Director and directs emergency operations.</li> <li>• In the absence of both the County Administrator and the acting County Administrator, the Deputy County Administrator acts as the Emergency Management Director.</li> <li>• The Emergency Management Director has full authority to organize and direct emergency operations through regularly constituted government structure and use equipment, supplies and facilities of existing departments, offices and agencies of the county to the maximum extent practical.</li> <li>• If circumstances dictate, the Emergency Management Director and the Loudoun County Board of Supervisors may declare a local emergency when in their judgment the threat or actual occurrence of an emergency or disaster is, or threatens to be, of sufficient severity and magnitude to warrant coordinated local government actions.</li> </ul>
Loudoun County Emergency Management Coordinator	<ul style="list-style-type: none"> <li>• A Coordinator of Emergency Management has been appointed to carry out identified tasks; including, coordinating the activity of all other public and private agencies engaged in emergency management activities. In order to carry out appropriate emergency plans and procedure and better ensure public health, safety and public welfare the Coordinator of Emergency Management will activate and manage the County Emergency Operations Center (EOC).</li> <li>• Loudoun County government has adopted the National Incident Management System (NIMS) in order to manage and coordinate emergency operations. In addition, the County has adopted a comprehensive Emergency Operations Plan (EOP) that identifies roles and responsibilities of county agencies, emergency responders, partner organizations, volunteers and others engaged in emergency management activities.</li> <li>• The Coordinator of Emergency Management is responsible for updating this plan as mandated.</li> <li>• The Director or Coordinator of Emergency Management implements emergency plans and takes appropriate emergency actions required to manage both declared and undeclared emergency events that threaten public safety within Loudoun County. As necessary, the Coordinator of Emergency Management liaises with state and federal authorities and nearby political subdivisions as necessary to ensure the most effective disaster preparedness and response capabilities and activates mutual aid agreements or reciprocal assistance in the case of a disaster too great to be dealt with unassisted.</li> </ul>
Loudoun County Health Director	<ul style="list-style-type: none"> <li>• The Loudoun County Health Director acts under the direction of the State Health Commissioner for all health matters.</li> <li>• The Loudoun County Health Director enforces the public health statutes, rules and regulations of the state and local health ordinances.</li> <li>• The Loudoun County Health Director has the authority to control and prevent the spread of any dangerous, contagious or infectious disease that may occur within his or her jurisdiction.</li> <li>• The Loudoun County Health Director, when necessary, conducts investigations and institutes disease control measures, including medical examination, testing, counseling, treatment, vaccination, decontamination of persons or animals, isolation, quarantine and inspection and closure of facilities.</li> <li>• The Loudoun County Health Director may initiate involuntary detention for isolation and quarantine of individuals or groups pursuant to provisions of state regulations.</li> <li>• The Loudoun County Health Director has the authority to carry out steps needed to verify a diagnosis reported by a health care provider and to require any person suspected of having a reportable disease or condition to submit to examinations to determine the presence of the disease.</li> <li>• The Loudoun County Health Director may also investigate any suspected case of a reportable disease or other condition if necessary and require notification of additional conditions of public health importance occurring within the jurisdiction.</li> <li>• The Loudoun County Health Director establishes, in consultation with local health care providers, health facilities, emergency management personnel, law enforcement agencies and other entities deemed necessary, plans, policies and procedures for instituting emergency measure to prevent the spread of communicable disease.</li> </ul>

Authority	Activity
Loudoun County Health Director (continued)	<ul style="list-style-type: none"> <li>• The Loudoun County Health Director may take all necessary actions to protect the public health in the event of a contagious disease occurring in a school or day care center. Those actions may include, but are not limited to, closing the affected school, closing other schools, ordering cessation of certain activities and excluding persons who are infected with the disease.</li> <li>• Prior to taking action, the Loudoun County Health Director consults with the Office of H1N1 Response, the State Health Commissioner, the superintendent of the school district or the chief administrator of the day care center and provides them and their board of directors a written decision directing them to take action.</li> <li>• The Loudoun County Health Director serves as the District Health Director and is deemed to be the local health director for each town in the district.</li> <li>• The Health Director's powers are not contingent on a declaration of emergency by the County Administrator or an administrative head of a town.</li> </ul>

3. The public health statutes from the Code of Virginia Statute and Corresponding Authority Statutes are listed in Table 6 below. The Code of Virginia is available on-line, in a searchable format, at <http://legis.state.va.us/Laws/CodeofVa.htm>.

**Table 6. Code of Virginia Statute and Corresponding Authority**

Statute Authority	Code	Description
Reporting of Disease	§32.1-35; §32.1-36; §32.1-37	<ul style="list-style-type: none"> <li>• Requires reporting of selected diseases to the Board of Health by physicians practicing in Virginia and others, such as laboratory directors, or persons in charge of any medical care facility, school or summer camp.</li> </ul>
Investigation of Disease	§32.1-39	<ul style="list-style-type: none"> <li>• Authorizes the Board of Health to provide for surveillance and investigation of preventable diseases and epidemics, including contact tracing.</li> </ul>
Authority to Examine Records	§32.1-40; §32.1-48.015	<ul style="list-style-type: none"> <li>• Authorizes the Commissioner or his designee to examine medical records in the course of investigation, research, or studies, including individuals subject to an order of isolation or quarantine.</li> </ul>
Emergency Orders and Regulations	§32.1-13; §32.1-42; §32.1-20	<ul style="list-style-type: none"> <li>• Authorizes the Board of Health to make orders and regulations to meet any emergency for the purpose of suppressing nuisances dangerous to the public health and communicable, contagious and infectious diseases and other dangers to public life and health.</li> <li>• Authorizes the Commissioner to act with full authority of the Board of Health when it is not in session.</li> </ul>
Disease Control Measures	§32.1-43; §32.1-47; §32.1-48	<ul style="list-style-type: none"> <li>• Authorizes the Commissioner to require quarantine, isolation, immunization, decontamination and/or treatment of any individual or group of individuals when the Commissioner determines these measures are necessary to control the spread of any disease of public health importance.</li> <li>• Permits the Commissioner to require immediate immunization of all persons in the event of an epidemic; permits the exclusion from public or private school of children not immunized for a vaccine-preventable disease in the event of an epidemic.</li> </ul>
Isolated or Quarantine Persons	§32.1-44	<ul style="list-style-type: none"> <li>• Permits any isolated or quarantined person to choose their own treatment, whenever practicable and in the best interest of the health and safety of the isolated or quarantine person and the public.</li> <li>• However, conditions of any order of isolation or quarantine remain in effect until the person or persons subject to an order of quarantine or order of isolation shall no longer constitute a threat to other persons.</li> </ul>
Isolation or Quarantine of Persons with Communicable Disease of Public Health Threat	§32.1-48.05 through §32.1-48.017	<ul style="list-style-type: none"> <li>• Defines a communicable disease of public health threat as a communicable disease of public health significance coinciding with exceptional circumstances.</li> <li>• Authorizes the Commissioner to issue orders of isolation or quarantine for individuals or groups of individuals infected with or exposed to a communicable disease of public health threat.</li> <li>• Outlines conditions necessary for invoking orders, process for seeking <i>ex parte</i> court review in the circuit court of residence and appeal process.</li> <li>• Authorizes the Commissioner, during a state of emergency, to define an affected area(s) wherein individuals are subject to an order of isolation and/or quarantine.</li> <li>• Authorizes the Commissioner, in concert with the Governor, during a state of emergency to require the use of any public or private property to implement any order of quarantine or order of isolation. Outlines accommodations for occupants of property not subject to the order(s) and compensation.</li> </ul>
Pharmacy Disease Authority	§54.1-3307.3	<ul style="list-style-type: none"> <li>• Defines pharmacist authority in diseases of public health significance.</li> </ul>

## VII. MORBIDITY AND MORTALITY PROJECTIONS

- A. Pandemic preparedness planning is based on assumptions regarding the evolution and impacts of a pandemic. 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 (1918, 1957 and 1968). While the 1918 pandemic resulted in an estimated 500,000 U.S. deaths, the 1968 pandemic cause an estimated 34,000 U.S. deaths. This difference is largely related to the severity of the infections and the virulence of the influenza viruses causing the pandemics. In each pandemic, about 30% of the U.S. population developed illness, with about half seeking medical care. Children have tended to have the highest rates of illness, though not of severe disease and death. Geographical spread in each pandemic was rapid and virtually all communities experienced outbreaks.
- B. Pandemic projections are based on the following assumptions:
1. Susceptibility to the pandemic influenza virus will be universal.
  2. The clinical disease attack rate will be 30% in the overall population. Illness rates will be highest among school-aged children (about 40%) and decline with age. Among working adults, an average of 20% will become ill during a community outbreak.
  3. Of those who become ill with influenza, 50% will seek outpatient medical care.
  4. The number of hospitalizations and deaths will depend on the virulence of the pandemic virus. Because the virulence of the influenza virus that causes the next pandemic cannot be predicted, two scenarios are presented based on extrapolation of past pandemic experience.
  5. Risk groups for severe and fatal infections cannot be predicted with certainty. During seasonal influenza season, infants and the elderly, persons with chronic illnesses and pregnant women are usually at higher risk of complications. In the 1918 pandemic, most deaths occurred among young healthy adults.
  6. The typical incubation period (the time between acquiring the infection until becoming ill) averages 2 days. It is assumed this would be the same for a pandemic strain.
  7. The seasonality of a pandemic cannot be predicted with certainty; that is, an influenza pandemic may occur at any time of the year, not just during winter.
- C. HHS developed a model for predicting estimates of the impact of illnesses, deaths, hospitalizations, outpatient visits, Intensive Care Unit (ICU) care and mechanical ventilation due to pandemic influenza based upon data from prior moderate and severe pandemics. The model was used to develop Loudoun County estimates of morbidity and mortality from pandemic influenza. Calculations were based on Loudoun County population estimates from 2008 Loudoun County Department of Economic Development population statistics (*2008 population total: 289,995*). While incidence rates of a pandemic cannot be predicted with certainty, the range used in the calculations includes the range of incidence rates from past pandemics. Illness rates reflect the population with a case of influenza causing some measureable impact (e.g. lost work time, visit to a doctor). These projections are subject to several limitations:
1. These numbers represent an estimate of the impact that would occur during an eight week period, which is the estimated activity period for pandemic influenza in a particular community. Additional waves, which are expected over the estimated 18-month period that a pandemic will last, will increase the burden;
  2. The range of attack rates used includes the range of attack rates in past pandemics; however, exact attack rates cannot be predicted; and
  3. During an actual pandemic, hospitalization rates, death rates, and the percentage of the population at high-risk for influenza complications could vary significantly from the rates and percentages used to develop these projections.
- D. Projected data for illnesses, outpatient visits, hospitalizations, ICU care and mechanical ventilation are shown in Appendix A. All data were calculated by applying national data, modeled from past epidemics, to Loudoun population data. In general, the Appendix A projections of Loudoun County residents requiring hospitalization range from 835 in a moderate (1957/68-like) pandemic to 9,569 in a severe (1918-like) pandemic. Loudoun County pandemic death projections range from 200 in a moderate pandemic to 1,835 in a severe pandemic.

## Section B. Communications Planning

### **I. BACKGROUND**

- A. Because pandemic influenza will affect the entire world at the same time, response will not be limited to any one country, state, region or local jurisdiction.
- B. While the federal government is responsible for nationwide coordination of the pandemic influenza response, VDH will be responsible for coordination of the pandemic influenza response within and among jurisdictions in Virginia. Loudoun County will be responsible for implementing Virginia's response at the local level.
- C. Coordinated communications among localities is a critical component as the local response is implemented. Communications during an influenza pandemic will follow the communications structure already established in the Loudoun County Emergency Operations Plan with the Office of Public Information (PIO) responsible for overall coordination.
- D. Public information messages will be coordinated regionally with the Metropolitan Washington Council of Governments (MWCOC) and VDH.
- E. The primary communications goal during a pandemic will be to ensure the timely, accurate and consistent flow of information to health professionals, county agencies and general public. Information will be provided on vaccine management, antiviral medication use for treatment and chemoprophylaxis, influenza surveillance, infection control and treatment and care of patients.

### **II. KEY COMMUNICATION ACTIVITIES**

- A. Key communication activities emphasize:
  1. The message will change during an event and will not rely upon a single source, but will utilize all available methods. Draft risk communication messages are included in Appendix B.
  2. Identification of spokespersons that will be responsible for addressing pandemic influenza related media concerns.
  3. Distribution of timely and appropriate influenza bulletins to health care providers and community partners.
  4. Dissemination of information about vaccine availability and distribution plans to community partners.
  5. Dissemination of the influenza vaccine information sheet (VIS) to patients and area health care providers.
  6. Communication of information about groups at high-risk for complications from influenza to health care providers and community partners.

### **III. KEY MESSAGES**

- A. Key pandemic influenza communications to the general public will involve all of the following but are not limited to:
  1. Education about pandemic influenza.
  2. How to prepare for pandemic influenza and any emergency that might require an extended stay at home.
  3. How to stop the spread of the disease.
  4. How to care for sick family members.
  5. Whether to go to work/school/social functions.
  6. What isolation and quarantine means (voluntary vs. mandatory).
  7. How quarantine orders will be delivered/how they can be appealed.
  8. Education on the use of masks.
  9. Whether antiviral medication and/or vaccines are available and what to do in the absence of antiviral medications or vaccines.
  10. Antiviral and/or vaccine distribution priority groups and how/where to get antiviral medications and/or vaccines if prioritization category is met.
  11. Resumption of regular activities as the pandemic event resolves.

12. Other information including county operations, etc.

#### **IV. TARGET AUDIENCES**

- A. Key target audiences include, but are not limited to:
  1. General public (individuals/residents).
  2. Schools and parents.
  3. Physicians and health care providers.
  4. Business community.
  5. Faith based and non-profit community.
  6. Non-English speaking populations.
  7. Senior citizens.
  8. Other special needs populations (disability populations/special medical and social needs).
  9. Incorporated Towns of Hamilton, Hillsboro, Leesburg, Lovettsville, Middelburg, Purcellville and Round Hill.
  10. Internal stakeholders (county government employees).

#### **V. MESSAGE DEVELOPMENT**

- A. General communication messages will be provided nationally by HHS and the CDC; and statewide by VDH and Virginia Department of Emergency Management (VDEM).
- B. Specific messages relevant to Loudoun County and partner jurisdictions will be based on local communications needs, general public inquiries and the current situation.

#### **VI. MESSAGE DISSEMINATION**

- A. A variety of tools and methods will be utilized to disseminate information to the various audiences. These include but are not limited to: web sites, mailings to residents and homeowner's associations, school letters, e-mails, newsletters, speaker's bureaus, newspapers and television/broadcasting.
- B. The method of dissemination will be determined according to the nature of the communication and the intended audience.
- C. Special attention will be given to communication needs of those who can't read, hear or understand English. The method of dissemination will be determined according to the nature of the communication and the intended audience.

#### **VII. COMMUNICATIONS PLAN**

- A. Primary communication goals during a pandemic include ensuring a timely, accurate and consistent flow of information in coordination with the Commonwealth of Virginia and the National Capital Region (NCR). Information will primarily be provided to local health districts, which will then relay the information to health professionals and the general public within their jurisdiction on vaccine management, antiviral use for treatment and chemoprophylaxis, influenza surveillance, infection control and treatment and care of patients. VDH Epidemiology personnel will be available to assist where needed.
- B. LCHD will strive to present messages consistent with those of the Commonwealth of Virginia and the NCR.
- C. Key communication activities will include:
  1. Monitoring bulletins from VDH, the CDC and World Health Organization regarding virologic, epidemiologic and clinical findings associated with new variants isolated within or outside the country.
  2. Distribution of timely and appropriate influenza bulletins and alerts through the Health Alert Network.
  3. Participation in live, interactive videoconferencing on influenza, initiated among VDH health districts and central office personnel.
  4. Distribution of planning materials to schools, hospitals, clinics, pharmacies and others on preparing for and responding to pandemic influenza.
  5. Reporting influenza activity levels, including posting of data to the Loudoun flu website ([www.loudoun.gov/flu](http://www.loudoun.gov/flu)).
  6. Dissemination of information on the Vaccine Adverse Event Reporting System through the Health Alert Network.
  7. Communication of information about groups at high-risk for complications from influenza.
  8. Identification of two spokespersons who will be responsible for addressing pandemic influenza related media concerns.
  9. Distribution of timely and appropriate influenza bulletins to health care providers and community partners.
  10. Dissemination of information about vaccine availability and distribution plans to community partners.



11. Dissemination of the influenza vaccine information sheet to clinic patients and area health care providers.

D. Background:

1. As the initial communication effort during Phases 1 and 2 involves monitoring the status of potential outbreaks worldwide and circulating health and emergency information as needed, the communications plan is designed to be activated in Phase 3.

E. Communications Strategies:  
Communication strategies for Phases 3, 4, 5, and 6 follow:

**GO TO NEXT PAGE**



**Table 7. Communications Strategies by Pandemic Phase**

### Communication Strategies Pandemic Phase 3

**External Goals**

- Educate residents about local planning efforts. Encourage residents to prepare themselves and their families for pandemic influenza.
- Encourage and improve compliance with recommended hygiene practices among residents to help prevent the spread of viruses.
- Increase the number of residents signed up for the local alert and notification systems.
- Identify target audience groups and develop and deliver communications to those audiences.
- Encourage planning efforts among private sector entities.

**FAQ Bank:**

- A centralized frequently asked questions (FAQs) bank will be established so all County agencies have a resource available to answer citizen and media questions.
- The Loudoun County PIO will keep and maintain the question bank and work with appropriate agencies to develop responses to ensure consistency. The development of answers to FAQs will be coordinated by the PIO among appropriate agencies. FAQs and official county answers (approved by appropriate county and/or agency leaders) will be posted to Loudoun County's pandemic influenza Web page at [www.Loudoun.gov/flu](http://www.Loudoun.gov/flu).

**Key Messages:**

- Loudoun County is planning for the event of pandemic influenza.
- Every resident must take individual responsibility to prepare themselves and their families for pandemic influenza. There are actions individuals can take: stay informed, make a family plan, prepare emergency kits and sign up for the local alert notification system, practice good hygiene habits such as hand washing, covering coughs and sneezes with a tissue or sleeve to prevent the spread of germs.
- Additional key messages will be developed that relate specifically to the particular strain of influenza as well as to specific target audiences, for example, schools, senior citizens, or physicians.

**Message Dissemination:****Web Site**

- The primary official county Web page for all messages related to pandemic influenza is Loudoun County's pandemic influenza Web page on the county's Web site ([www.Loudoun.gov/flu](http://www.Loudoun.gov/flu)). Note that the county's Web page contains links to other pertinent agency Web sites, including links to the Web sites of LCHD, the VDH, CDC and HHS. The Web page also features a method to communicate via email at [flu@loudoun.gov](mailto:flu@loudoun.gov), a function that allows visitors to submit a question online, as well as access streaming videos, PowerPoint presentations and planning checklists.
- Content needs are assessed by the PIO and user feedback. The PIO serves as coordinator of this Web page and will work closely with Health Department staff to ensure accuracy of pandemic influenza content.
- The official U.S. Government Web sites, [www.pandemicflu.gov](http://www.pandemicflu.gov), and [www.cdc.gov/h1n1flu](http://www.cdc.gov/h1n1flu) are also reliable sources of pandemic influenza information.
- The VDH website, [www.vdh.virginia.gov/flu](http://www.vdh.virginia.gov/flu) offers state information.
- LCHD staff will ensure messages are consistent and do not contradict state and federal messages.
- The Web page follows the Loudoun County Web content policy which includes a message approval process from appropriate agencies.
- Other County agencies and the Board of Supervisors' public Web pages may provide links to the County Pandemic Influenza Web page. Partner jurisdictions may also link to this Web page.

**Paper/Direct Mail**

- The PIO maintains a list of newsletters produced by county agencies and the Board of Supervisors that are mailed to residents.
- LCHD staff will submit pandemic influenza news items as appropriate to these newsletters.
- A mailing list of homeowners' associations (HOAs) within Loudoun County is maintained by the PIO. As materials and messages are developed during the various phases, this list can be used to send information to the HOAs for distribution to their members as appropriate.
- Epidemiology Bulletins are produced quarterly to provide updated information to medical providers.

**Special Events/Venues**

- Special events can include town meetings, summits, speaking engagements, kiosks and exhibits at fairs.
- Requests for Health Department participation in these events should be forwarded to LCHD for coordination and response.

**Exhibits**

- LCHD developed a tri-fold tabletop display promoting family and individual preparedness to be used as necessary.
- Pandemic influenza literature will be available, including a Loudoun County brochure outlining County planning resources, Web site and contact information, a planning checklist for individuals and families, hand washing instruction and other informational materials.

**Public Speakers**

- LCHD has identified a group of key communicators with expertise in pandemic influenza to provide speakers as requested.
- LCHD has developed a PowerPoint presentation, which will be made available to requestors and will use approved video materials in speaking engagements.
- Appropriate handouts will be determined based on the organization requesting a speaker and the intended audience. Most handouts will be materials approved for the general public, as well as pandemic influenza checklists available at [www.pandemicflu.gov](http://www.pandemicflu.gov).
- If requests for speakers cannot be met due to limited staff and resources, those who request a speaker will be directed to Loudoun County's pandemic influenza Web site at [www.Loudoun.gov/flu](http://www.Loudoun.gov/flu).

**Phone Scripts**

- LCHD will implement a phone line for pandemic influenza messages and updates as needed. This script will be updated as information is added or changed. The H1N1 information line number is 703-771-5512.

**Collateral Materials/Handouts**

- [www.pandemicflu.gov](http://www.pandemicflu.gov) (preparedness checklists for individuals, businesses and other organizations).
- Information contained on Virginia Department of Health Web site: [www.vdh.virginia.gov](http://www.vdh.virginia.gov).
- LCHD informational hand-out on pandemic influenza in English and Spanish.
- Hand Washing Instructions.

**Media**

- a. Television Broadcast Productions
  - The Loudoun County Government Cable Channel will air television productions as needed (public service announcements (PSAs), studio shows, etc.)
- b. News Releases
  - News releases will be issued by the Loudoun County PIO on a regular basis with planning updates.
  - Radio public service announcements will be developed by LCHD and the PIO.
  - All interviews will be scheduled and coordinated by LCHD and PIO.
  - Media inquiries will be handled as they are during normal day-to-day government operations. Medically-specific inquiries will be directed to LCHD. Inquiries regarding county planning and related issues will be handled by the PIO. Previously identified spokespersons will be used for media interviews.

**Medical Provider Communications**

- a. Key Messages
  - Physicians and health care providers will play an integral role in educating their patients and the public about pandemic influenza.
  - Physician practices will be impacted in the event of pandemic influenza and are encouraged to plan for addressing staffing issues, patient care issues and an influx of questions from patients.
- b. Message Dissemination
  - Physician Blast Fax: LCHD maintains a list of physicians with contact information and can use this list to send by fax important and/or urgent information.
  - Health Department medical officials make presentations to physicians at scheduled Grand Rounds, usually in a hospital or other health-care institutional setting.
- c. Direct Mailings
  - The Loudoun County Health Director will send letters to private physicians as needed, providing updates and information useful to the physician community.
  - A quarterly Loudoun Epidemiology Bulletin is sent to all medical providers to provide pertinent information.
- d. Medical Community Summits
  - LCHD, in conjunction with the PIO, will develop and sponsor a medical community summit designed to bring medical providers together to provide detailed information helpful to them in their care of Loudoun County residents during an influenza pandemic.

**Business Community****a. Key Messages**

- Loudoun County is planning for pandemic influenza and the business community is an integral part of the planning process.
- Pandemic influenza will affect private sector entities and all planning efforts must include community businesses and industry.
- Businesses will play an integral role in educating employees.
- Businesses must understand sick leave policies and plan for continuity of operations in worst-case scenarios (i.e., 40 percent of work force out sick).

**b. Message Dissemination**

- Direct Mailings to Business Community.
- LCHD will work with the Department of Economic Development, local chambers of commerce and other agencies to identify businesses in Loudoun County.
- As materials and messages are developed during the various phases, the mailing list can be used to disseminate information to the businesses as appropriate.

**c. Special Events**

- Business Summits were conducted to convene community business leaders to share best practices and provide them with information and resources to facilitate the development of their own continuity of operations and pandemic preparedness plans.

**Faith Based Communities****a. Key Messages**

- Loudoun County is planning for pandemic influenza and the faith and non-profit communities are an integral part of the planning process.
- Pandemic influenza will affect faith-based and non-profit organizations and any planning efforts must include them.
- Faith-based and non-profit organizations will play an integral role in educating their members.

**b. Message Dissemination**

- Direct Mailings to faith-based organizations.
- As materials and messages are developed during the various phases, the mailing list can be used to disseminate information to the faith-based organizations as appropriate.

**c. Special Events**

- A Summit will be held to assist the faith-based and non-profit communities with their planning efforts and to provide information and resources to facilitate the development of their own continuity of operations and pandemic preparedness plans.

**Communicating with Special Needs Communities: Non-English Language****a. Key Messages**

- Key messages for non-English speaking individuals are the same as the key messages for the general public/individuals, however they will be translated into Spanish, at a minimum and additional languages as messages and audiences are identified.

**b. Media Relations**

- Normal media relations efforts will be ongoing with ethnic media, as well as other media covering Loudoun County.
- Media outlets translate current English new releases for use in their medium, however, special outreach efforts such as editorial boards or production of non-English public service announcements will be utilized to reach this ever-growing percentage of the county's population.

**c. Neighborhood Centers**

- The county will target neighborhood centers where foreign language materials can be posted and/or distributed.

**d. Speakers Bureau**

- The county will identify non-English speaking staff and/or community leaders who can function as liaison with LCHD and conduct outreach and information dissemination activities in their local communities.
- The county's PowerPoint presentation can also be translated into additional languages as requests are received or needs identified.

**Communicating with Special Needs Communities: Senior Citizens****a. Key Messages**

- Key messages for senior citizens are the same as the key messages for the general public/individuals, but are tailored for seniors and/or their caretakers.

**b. Special Events**

- Presentations or "summits" to the long-term care community.
- Visits and/or presentation to senior centers, senior day care facilities, community groups, etc.

**c. Media Relations**

- Targeted media will be utilized.
- Additional radio and television programs will be identified that reach a high percentage of seniors to maximize the impact of the messaging.

**Communicating with Special Needs Communities: Individuals with Physical or Mental Disabilities****a. Key Messages**

- The key messages for physically or mentally challenged individuals are the same as key messages for the general public/individuals; however, they will be tailored for the specific audience.

**b. Disability Services**

- LCHD, the PIO, Loudoun County Family Services and key disability services organizations will identify methods of message dissemination to ensure proper messages reach individuals with special needs.

**Communicating with Internal County Partners****a. Key Messages**

- The key messages for internal partners are the same as key messages for general public/individuals; however they will be tailored for the specific audience.

**b. Message Dissemination**

- The PIO is responsible for internal communications to county employees.
- The PIO will work with LCHD to ensure that all partners and agencies have access to appropriate messages for their internal audiences.

**c. Means of disseminating information to internal partners include the following:**

- Printed Newsletters.
- Articles will be printed in the Loudoun County Employee newsletter; these same articles can be used and reprinted in other county agency or town employee newsletters.
- Electronic News.
- Intranet: Information will be posted to the Loudoun County Intranet.
- Television/Video Production: the Loudoun County Government Channel will air pandemic influenza information when appropriate.

**Communication Strategies  
Pandemic Phase 4****Background**

- When the WHO declares Phase 4, Loudoun County will also move into Phase 4.
- Communications as outlined in Phase 3 would continue, but messages will increase in frequency.
- Audiences remain the same as in Phase 3.
- Any additional communications to be developed specific to Phase 4 will be “reactive,” that is, communications would be based on what is actually happening.

Following is information regarding modifications and/or additions to the communication strategies used in Phase 3 to provide the audiences with Phase 4 information:

**Assumptions**

- Same assumptions as in Phase 3, except:
- Local clusters of a novel influenza virus have been identified in humans somewhere in the world however, its spread is localized.
- Phase 5 could occur soon.

**Key Communication Goals**

- Same as in Phase 3

**Collateral Materials/Handouts:**

- Guide to self-care in the home.
- Fact Sheet on Isolation and Quarantine: What does it mean for residents?
- Fact sheet on disease surveillance methods in Loudoun County.

Additional materials will be developed by the LCHD and the PIO based on the current situation, county messages, target audience and other relevant factors.

## Communication Strategies Pandemic Phase 5

### Background

- When the WHO declares Phase 5, Loudoun County will also move into Phase 5.
- Audiences and communications as outline in Phases 3 and 4 will continue.
- Messages will increase in frequency.
- There will be a greater urgency for targeted groups such as first responders, physician community, etc. to prepare for a pandemic.
- Any additional communications to be developed specific to Phase 5 would be “reactive,” that is, communications would be based on what is actually happening.

Following is information regarding modifications and/or additions to the communication strategies used in Phases 3 and 4 to provide the audiences with Phase 5 information:

### Assumptions

- Same assumptions as in Phase 3 and 4 except: the novel virus strain is becoming increasingly more efficient at spreading from human to human.
- Phase 6, the declaration of a pandemic, could occur soon.

### Key Communication Goals

a. Same as Phase 3, with the following added considerations:

- There will be a greater emphasis on the need to prepare for key target audiences.
- Messages on the county’s public Web site and phone scripts will be kept current and reflect the actual situation going on in the world.
- Individuals will be strongly encouraged to have a family emergency plan in place.
- Educate the general public about self care in the home if they or a family member falls ill.
- Provide education on disease containment measures that could be employed in Phase 6 (such as isolation and quarantine; snow days (school closings), etc.).

### Message Dissemination – Collateral Material and Handouts:

- Guide to self care in the home.
- Fact Sheet on Isolation and Quarantine.
- Fact sheet on disease surveillance methods.
- Additional materials will be developed by the LCHD and the PIO based on the current situation, county messages, target audience and other relevant factors.

## Communication Strategies Pandemic Phase 6

### Background

- When the WHO declares Phase 6, this means that there is an influenza pandemic occurring and Loudoun County must deliver emergency messages to its identified target audiences.
- Loudoun County’s Emergency Communications Plan will go into effect at the initial declaration of pandemic anywhere in the world.

### Assumptions

- Local clusters of a novel influenza virus have been identified in humans somewhere in the world and spread among humans has become efficient.
- Human cases may appear in Loudoun County within a two week to one month timeframe.
- There may not be an effective antiviral medication that works against the pandemic influenza strain.
- There will be no vaccine available to residents for at least four to six months, given current vaccine manufacturing capabilities.
- Media will focus on the limited supply of antiviral medication and vaccine and will call on local government officials to explain what is being done about it.
- Dissemination and sharing of timely and accurate information among state and local public health and government officials, medical care providers, the media and the general public will be one of the most important facets of the pandemic response.
- Different types of information will have to be communicated, often to different audiences.
- Basic messages will change over the duration of the pandemic as the disease circumstances, vaccine availability and other variables evolve.
- There will be widespread circulation of conflicting information, misinformation and rumors. Scheduled briefings will be conducted.
- Communication must be coordinated among all relevant agencies to ensure consistent messages to the general public.
- There will be a great demand for accurate and timely information regarding: Circulation of a pandemic strain and disease complications and mortality.

**Communication Messages During Initial 6 to 8 months (without vaccine)**

- Disease control efforts, including availability and use of vaccines, antiviral drugs and other preventive and treatment measures.
- Where to get influenza vaccine.
- “Do’s and Don’ts” for the general public.
- Maintenance of essential community services.
- Demand for information by healthcare providers will require that existing methods for educating healthcare providers will have to be expanded.
- Certain groups will be hard to reach, including people whose primary language is not English, people who are homeless and people with hearing and visual disabilities.
- There will be an increased demand for information regarding what vaccine and/or drug a person can take and/or stockpile.
- There will be an increased demand for information regarding what to do when someone dies.
- Science based risk communication messages will be used to calm fears and give directions on what to do.

**Key Communication Goals**

- Employ risk communication principles.
- Regional collaboration remains critical.
- Provide education to the general population to help contain the spread of disease.
- Provide education to the general population this will not be “business as usual” and could last more than a year.

**Key Messages**

- A pandemic has been declared somewhere in the world.
- Loudoun County may experience localized illness and death.
- Isolation and quarantine measures might go into effect initially and everyone’s cooperation is necessary to help prevent the spread of the pandemic influenza virus.
- There is no vaccine at this time and there may not be one available for four to six months.
- Pandemic influenza usually occurs in waves and could last more than one year.
- Practice good hygiene habits (hand washing, covering coughs and sneezes with a tissue or sleeve) to prevent the spread of germs.
- This will not be “business as usual” but will return to normal.
- Further key messages that will relate eventually to the particular pandemic influenza virus strain as well as to specific target audiences (e.g., senior citizens, physicians) will be developed based on Loudoun County emergency response plans for Pandemic Period Phase 6.

**Message Dissemination**

- Dissemination means will be the same as in Phases 3-5, however, Health Fairs/exhibits and speaking engagements will no longer be used and Medical Reserve Corps and first responder personnel may be used for flyer and literature distribution as appropriate.

**Television/Broadcast Productions**

- Loudoun County Government Cable channel will run television productions as needed (public service announcements, shows, etc.).
- These productions will be developed by LCHD. Productions will be approved by LCHD and the PIO.

**Media Relations**

- Media relations will be conducted in accordance with the Loudoun County PIO’s emergency communications operations and will be coordinated with Towns.

**Vaccine Messages****a. Background**

- Under current vaccine production technology, it will take four to six months before a vaccine against a pandemic influenza strain is developed and initially available to the world’s population.
- In addition, during a pandemic, it is expected the demand for vaccine throughout the entire world will far exceed the limited supply.
- Therefore, even though vaccine may be, or soon become, available, it may not reach Loudoun County for a longer time period.

**b. Assumptions**

- Dissemination and sharing of timely and accurate information among state, regional and local public health and government officials, medical care providers, the media and the general public will be one of the most important facets of the pandemic response.
- There will be widespread circulation of conflicting information, misinformation and rumors.
- Communication must be coordinated among all relevant agencies to ensure consistent messages to the general public.
- There will be a great demand for accurate and timely information regarding where to get influenza vaccine.
- There will be a special need for information for the general public about how and why a priority group for vaccine was identified.
- Appropriate risk communications will need to be employed to alleviate any sense of special treatment being afforded to one or more segments of the population.
- Public education will be an important part of the immunization campaign. Certain groups will be hard to reach, including people whose primary language is not English, people who are homeless, people who have hearing and visual disabilities. Continued work is ongoing to develop plans for these groups.
- Security will be of utmost concern at vaccine distribution sites.

**c. Key Communication Goals**

- Risk communications methods will be employed.
- Regional collaboration will be maintained.
- Alerting appropriate priority groups to get vaccine and provide education on prioritization strategy, especially to individuals who do not fall into a priority group.

**Strategies Once Vaccine is Developed and Available in Limited Quantities**

**a. Key Messages**

- The vaccine prioritization and distribution plan for Loudoun County will be clearly communicated among all target audiences.
- Increased education about the vaccine, its availability and self care in the home will be provided.
- Education about antiviral medication, dependent on what pandemic influenza strain is actually circulating and whether an antiviral medication exists and/or is available, will be provided.

**b. Message Dissemination**

- Means of message dissemination will be the same as in Phases 3-5, however, Health Fairs/exhibits and speaking engagements will no longer be used and Medical Reserve Corps and first responder personnel may continue to be used for flyer and literature distribution as appropriate.

1. Communications materials specific to Loudoun County and partner jurisdictions will be prepared in advance for use during the Pandemic Alert Period (phase 3, 4, 5) and Pandemic Period (Phase 6). Reviewing and obtaining approvals for these materials in advance can help identify potential areas of disagreement and allow time to work through issues. Such activities can help identify potential barriers to compliance with response measures and assist in message development to build support and trust.
2. General communication messages will be provided by the HHS, CDC and VDH.
3. Specific messages relevant to Loudoun County and partner jurisdictions will be based on local communications needs, general public inquiries and the current situation.
4. Spokespersons involved in implementing the pandemic influenza communications plan are listed below. Specific circumstances will determine which spokespersons may be involved in any given situation.
  - a. Medical Spokespersons – Health Director, LCHD, or designee.
  - b. Non-medical Spokespersons
    - i. Loudoun County PIO
    - ii. County Administrator
    - iii. Deputy County Administrators



## Section C. Preparedness Planning Concept

### I. BACKGROUND

Loudoun County as part of the National Capital Region (NCR), the Northern Virginia Region and the Commonwealth of Virginia, takes emergency planning and preparedness seriously, especially with regard to the threat of a pandemic influenza outbreak. Loudoun County will be expected to serve in either a direct or indirect support role for the NCR, the Northern Virginia Region and the Commonwealth in the event of a man made or natural disaster. Loudoun County has supported the NCR in the past by assisting first responders to save and protect lives and fight fires resulting from the September 11, 2001 terrorist attack on the Department of Defense Pentagon Building. Loudoun County first responders and other governmental agencies also assisted regional efforts to support emergency response operations in Hurricanes Katrina and Rita in 2005.

The primary directive of all of Loudoun County's emergency planning, preparedness, response and recovery, including a pandemic influenza outbreak, is to maintain an "all hazards" approach. This means Loudoun County must plan and prepare for, respond to and recover from any type of hazard. At the same time, Loudoun County must maintain this "all hazards" capability in support of the United States National Response Framework (NRF), as developed by the United States Department of Homeland Security (DHS) and must fully comply with the National Incident Management System (NIMS). This means that all incidents regardless of size, complexity and nature must be adequately planned and prepared for by the County in cooperation with our fellow government partners – Loudoun's incorporated towns, federal and state governments and the Northern Virginia and Metropolitan Washington, DC Region as well as our private and non-profit sector partners.

By planning and preparing for "all hazards," Loudoun County has increased its capability to address most elements that may occur as a result of pandemic influenza. The County's planning for pandemic influenza is comprehensive and encompasses multiple efforts on multiple fronts. The County continues to follow the lead of the Federal government's comprehensive approach to prepare and plan for a pandemic influenza outbreak through the *National Strategy for Pandemic Influenza* and *National Strategy for Pandemic Influenza Implementation Plan* and the *Pandemic Influenza Plan* developed by the Commonwealth of Virginia.

### II. COMPONENTS

- A. **Emergency Operations Plan (EOP)** - The fundamental plan that governs all County planning and preparedness efforts is the County's EOP. This EOP is an "all hazards" guide for all emergency support functions (ESFs) that are called to work across agency and governmental boundaries to assist in both emergency incidents and widespread disaster efforts. The specific ESFs that have a "key" role in mitigating the impact of a pandemic influenza outbreak are the Mass Care ESF (ESF 6) and the Public Health and Medical Services ESF (ESF 8). These emergency support functions consist of multiple County departments and non-profit organization which prepare for and respond to nearly every type of disaster that may impact the County.
  
- B. **Loudoun County Administrator** – The County Administrator serves as the Director of Emergency Management according to Virginia State Code Section § 44-146.19 and has the authority to declare a Local Emergency, working collaboratively with the Policy Group to provide strategic direction and oversight. This would likely be employed during the start of a pandemic influenza outbreak that occurs in Loudoun County or the region. The Board of Supervisors must vote by a simple majority to ratify the declaration of Local Emergency within 14 days. This authority provides the County Administrator the ability to manage incidents, especially those that are large-scale, such as a pandemic influenza event within Loudoun County. The County Administrator actively participates as a member of the Chief Administrator Officers (CAOs) Committees for the Northern Virginia Region, assisted by the Northern Virginia Regional Commission (NVRC), and the NCR through the Metropolitan Washington Council of Governments (MWCOC). Both committees coordinate regional emergency preparedness, planning, response and recovery efforts.

- C. **Loudoun County Board of Supervisors** – The Loudoun County Board of Supervisors is consulted and informed as required by the County Administrator, or designee. Board members, being local elected officials also serve a key role in communicating with the public and addressing concerns or fears that might arise from individuals, businesses, and community leaders affected by an emergency incident. They also may provide help to residents and businesses on how to respond during an emergency event. The Board of Supervisors plays a key role in educating the public through participation at public meetings and other gatherings. Loudoun County Board of Supervisors members have been present at mass immunization exercises to familiarize themselves with this phase of response for a potential pandemic influenza event. Loudoun County Board of Supervisors members also have been briefed on the *Loudoun County Emergency Operations Plan* and on “*Loudoun County’s State of Emergency Preparedness.*” These briefings all provide valuable information to Board members as to how the County government will plan for, respond to and recover from any potential hazard.
- D. **Loudoun County Emergency Management Executive Committee (EMEC)** – The County Administrator, who also serves as the Director of Emergency Management for Loudoun County, meets monthly with key departmental personnel and the Superintendent of Loudoun County Public Schools (LCPS) to discuss emergency management preparedness, planning, response and recovery activities. County agencies represented on this Executive Committee include: the Departments of Fire and Rescue and Emergency Management (LCFR) , General Services (DGS) , Family Services (DFS), Animal Care and Control (AC&C) , Information Technology (DIT), Management and Financial Services (MFS), the PIO, LCHD, and the Office of the Sheriff (LCSO). These key personnel make most major decisions related to the County’s emergency preparedness and operations. The County Administrator serves as the Chairman of the Committee. The EMEC created the Pandemic Flu preparedness Task Force, which had primary responsibility in developing this *Loudoun County Pandemic Influenza Response Plan*, and subsequently, the H1N1 Workgroup to plan for the 2009 H1N1 pandemic.
- E. **Loudoun County Office of Emergency Management (OEM)** – The Loudoun County Office of Emergency Management (OEM) falls organizationally under the Department of Fire and Rescue and Emergency Management and consists of six full-time positions that develop the *Loudoun County Emergency Operations Plan*, facilitate the development of supporting documentation, train personnel in Emergency Operations Center (EOC) activities, exercising of plan, policies and procedures and take the lead in managing the operations of the County’s EOC. The Director of the Office of Emergency Management is the County Administrator while daily operations are managed by the OEM Coordinator. OEM is also responsible for assisting all County agencies in their preparedness, planning and response efforts in support of the EOP. The *County Pandemic Influenza Response Plan* is an Annex to the County’s EOP and therefore, OEM has the same responsibilities in assisting with its implementation.
- F. **Loudoun County Emergency Operations Center (EOC)** - The County has EOC that is used by interdepartmental personnel to manage “all hazards” incidents. In the fall of 2007 Loudoun County unveiled its new state-of-the art EOC. Arranged functionally and managed by the Incident Command System, the space provides ample room for personnel to quickly and efficiently address the challenges during emergencies regardless of size, scope and complexity. Information is easily disseminated to the public through the Joint Information Center (JIC) and other conference rooms serve as breakout areas for the creation of strategies and tactics. Redundancy ensures continued operations during adverse conditions.
- G. **Standardized NIMS Incident Management and Procedures** – The use of standardized incident command system (ICS) procedures allows effective integration of response by responders from any locality for any type of incident, including the possibility of a pandemic influenza outbreak. If pandemic influenza occurs within the entire Region, it is likely that Loudoun County will have its own command and control using ICS but also will be part of the Regional or Area Command with other partnering localities. Approximately 1500 county employees have taken the Federal Emergency Management Agency’s (FEMA) NIMS Introductory course through self-study, including 75 employees of LCHD. This standardized incident command structure affords Loudoun County the ability to work cooperatively with other localities as required and provides the necessary management system to manage events such as a pandemic influenza outbreak.
- H. **Other Specialized Standardized Procedures** – In order to plan and prepare for “all hazards” incidents, plans and procedures have been established for how first responders handle any incident involving chemical, biological, radiological, nuclear, or explosives regardless of the location. All firefighters and emergency medical personnel undergo basic weapons

of mass destruction (WMD) classes and an awareness course. The County hazardous materials (HAZMAT) response team has been trained to a HAZMAT technician level, which allows them to execute HAZMAT functions that they previously did not have the capability to perform. This training, particularly the bioterror element, contributes to the capability of first responders to operate in a pandemic scenario.

- I. **Mutual Aid Agreements/Strategic Partnerships** – The County has finalized mutual aid agreements with nearly every neighboring jurisdiction surrounding the County and is signatory to the Statewide Mutual Aid (SMA) Agreement, to ensure additional assistance, if needed. Beyond mutual aid agreements, the County continues to forge important collaborative and strategic partnerships with other localities through the MWCOG and through the NVRC. This is accomplished in part through Loudoun County’s participation on these organizations’ many multi-jurisdictional committees and task forces such as the Northern Virginia CAO Committee, Emergency Managers Committee, Fire Chiefs Committee, and others. Likewise, the County is able to request State resources through the Virginia Department of Emergency Management (VDEM) and from the Federal government also through VDEM. All of these partnerships will be key in providing adequate resources to respond and recover from a potential pandemic influenza event.
  
- J. **Prior Experience Planning and Preparing for Emergency Response and Recovery** – Loudoun County has performed well in both planning and preparedness efforts to enable timely responses to multiple emergency incidents, including: regional response efforts (e.g., supporting and assisting Northern Virginia localities during the 2001 attack on the Pentagon and the U.S. Gulf Coast Region during Hurricanes Katrina and Rita); hurricane remnants; small tornadoes; airplane/airline crashes (large and small); communicable disease events; and wildfire incidents. This experience in preparing for a variety of incidents using established policies and procedures and robust exercise and training efforts has resulted in the County’s first responders and other emergency personnel having the ability to strategically plan and prepare for future incidents such as a pandemic influenza event.
  
- K. **Local Interoperability and Communication Planning and Preparedness Efforts** – The County has upgraded, coordinated, and integrated telecommunications capabilities through its Department of Information Technology (DIT). These efforts will be employed extensively during a pandemic influenza event by Loudoun County first responders and recovery personnel. Some of these capabilities include:
  1. **800 MHz Digital Voice Radio System** – The County’s 800MHz voice radio system has greatly enhanced our first responders’ ability to communicate both within the county and the Region.
  2. **Mobile Data Computers (MDCs)** – The County has also successfully installed over 250 MDCs within Sheriff’s Office vehicles, allowing direct access to much needed information such as geographic information system maps (GIS) used to enable timely responses.
  3. **Regional Incident Communication and Coordination System (RICCS)** – Loudoun County utilizes the RICCS system, which is operated through the MWCOG, to enhance communication of emergencies throughout the NCR.
  4. **Northern Virginia Regional Web Emergency Operations Center System (WebEOC)** – Through the WebEOC project Northern Virginia localities have the ability to work together with a virtual link of their EOCs. This has provided the County the ability to share real-time information during a crisis with other localities in our Region.

### **III. KEY RESOURCES FOR EACH RESPONSE STEP**

- A. Loudoun County follows the guidance of DHS cited in its *Pandemic Influenza Preparedness, Response, and Recovery Guide for Critical Infrastructure and Key Resources* (Section 2.5.2) by accomplishing the following:
  1. Establishing reasonable measures to limit the spread of an outbreak within and beyond Loudoun County’s border:
    - *Loudoun County Isolation and Quarantine Plan*; and
    - Loudoun County Public Schools (LCPS) Infection Control Measures.
  2. Establishing comprehensive and credible preparedness plans:
    - *Loudoun County Emergency Operations Plan*;
    - *Loudoun County Emergency Operations Plan – Department Specific Plans*;
    - Loudoun County ongoing Continuity of Operations planning efforts;
    - *Loudoun County Department of Health Emergency Operations Plan*;
    - *Loudoun County Pandemic Influenza Response Plan*; and

- *Loudoun County Public Health and Medical Dispensing Plans.*
3. Integrating non-health entities, including law enforcement, utilities, and other public and private sector services in pandemic planning:
    - Required FEMA mandatory NIMS and ICS training;
    - Pandemic Flu Preparedness Task Force (specific discussion and table top exercise sessions); and
    - Mass Immunization Exercises.
  4. Identifying key spokespersons for the community:
    - PIO communications group and JIC;
    - Loudoun County Board of Supervisors, as necessary;
    - Loudoun County PIO liaison within EOC Operations;
    - VDH PIO personnel; and
    - Public Information personnel in key agencies.
  5. Developing coordinated crisis communications plans:
    - Media Relations team efforts as part of the County's Pandemic Flu Preparedness Task Force; and
    - PIO group ongoing training and exercise experience.
  6. Establishing community-based stockpiles and distribution systems:
    - Loudoun County's established Point of Dispensing (POD) Plans;
    - Loudoun County's storage facilities equipped for pharmaceuticals; and
    - Loudoun County's Mass Immunization exercises.
  7. Providing public education campaigns on pandemic influenza:
    - Pandemic Influenza Summits and educational seminars held throughout the County for a variety of targeted populations;
    - Multiple LCHD Public Outreach events, including Spanish speaking population outreach; and
    - County's web page devoted to Pandemic Influenza outreach and education.

#### **IV. ADDITIONAL ASSETS**

- A. **Urban Area Security Initiative (UASI)** – The County continues to be an active participant in the UASI and has received more than \$22 million (2005 dollars) in UASI funds, which have improved our first responder capability to perform during “all hazards” emergencies. Funds were also acquired to support the County's Medical Reserve Corps (MRC), which has assisted LCHD in preparing for and carrying out three mass immunization exercises. Other UASI funds have been designated by the WMCOG CAO Committee solely to improve mass surge capabilities during a pandemic influenza outbreak.
- B. **Additional Federal and State Emergency Grant Funds** – Approximately \$727,000 in additional Commonwealth of Virginia Homeland Security Grants (SHSGP) have been secured to offset the cost of a variety of services provided to the community such as disaster mental health services for those affected by the Pentagon attack, a community resiliency project, and other important programs to assist those affected by terrorism. Several of the county's incorporated towns have been successful in securing funding through the SHSGP as well (e.g., Town of Leesburg receipt of \$130,000 during the two most recent grant cycles for equipment to support logistics and the continuity of critical infrastructure and to enhance the town's interoperable communications systems). These efforts all aid the preparedness of Loudoun County for a potential influenza pandemic.
- C. **Additional County Positions Working on Planning, Preparedness, and Response Activities** – Various positions have been added to support the County and LCPS emergency planning and preparedness efforts since September 11 to assist in planning, preparedness and response efforts: LCFR (3 positions); LCSO ( 1 position); LCPS(2 positions); DIT (2 positions); DGS ( 1 position); and LCHD (4 positions). These positions all have direct responsibility and have been instrumental in developing the County's *Pandemic Influenza Response Plan*, in addition to coordinating, planning and executing three mass immunization exercises and a multitude of community meetings, pandemic influenza community forums and summits. LCHD's epidemiologist also chaired the County's Pandemic Flu Preparedness task force.
- D. **Public Works Functions under Emergency Operations Plan** – The Loudoun County DGS is designated in the County's EOP as the Primary Agency for Public Works and Engineering - ESF #3. Under the EOP, DGS would coordinate

responses by all appropriate County agencies in the Public Works arena. DGS would also coordinate responses with Public Works agencies in the incorporated towns and Loudoun Water. DGS will provide ESF #3 personnel, equipment and material support to respond to tasking under the County's Pandemic Influenza Response Plan and will provide this support using either in-house or contracted services.

## **V. PUBLIC OUTREACH AND NOTIFICATION – GENERAL “ALL HAZARDS” EFFORTS**

- A. To better plan and prepare for “all hazards” incidents, including pandemic influenza outbreaks, Loudoun County has worked with our regional partners to support public outreach campaigns featuring literature, media buys, and other marketing techniques. Loudoun County also has provided updates on the County's emergency operations and preparedness efforts at numerous public meetings, many of which were televised on the local cable system. Some examples of these efforts, with an emphasis on “all hazards,” include:
1. **“Your Guide to Emergency Preparedness”** – The County has provided citizens with thousands of copies of Northern Virginia Regional Commission's “Your Guide to Emergency Preparedness.” These NVRC published guides are available at every Loudoun County public library branch and public counters within County government facilities and are also available in electronic formats on the County's website ([www.loudoun.gov](http://www.loudoun.gov)), or from a link to the NVRC website. They are available in five (5) languages besides English: Arabic, Farsi, Korean, Spanish and Vietnamese.
  2. **“Loudoun County's State of Emergency Preparedness” presentation** – The Loudoun County Administrator has presented a comprehensive presentation outlining many of the resource, planning and preparedness efforts on the Loudoun County's State of Emergency Preparedness to the following groups during 2005 and 2006: Loudoun County Board of Supervisors Public Safety Standing Committee; Town of Leesburg Council Meeting; Loudoun County Coalition of Towns (COLT) Meeting, Purcellville; Town of Middelburg Council; Loudoun County Economic Development Commission; Loudoun County Pandemic Influenza Summit. Press releases were provided for several of these presentations and live and taped television broadcast some of these presentations into a wider Loudoun County audience.
  3. **Alert Loudoun** - Loudoun County's citizen alert system has approximately 55,000 subscribers. It allows anyone with the capability to receive alerts from the Sheriff's Office, the Office of Public Information, and other County agencies, including LCPS.
  4. **Cable TV Channels** – The County has the ability to send out emergency messages directly over the local cable channels. The Town of Leesburg also uses a local channel.
  5. **Radio** – The County will continue to work with all local media during incidents and disasters to get the correct information to residents.
  6. **Reverse 911 Community Notification** – The County and town emergency first responders share the ability to notify citizens using the Reverse 911 Community Notification system.
  7. **Loudoun County's Emergency Preparedness Web Page** ([www.loudoun.gov/flu](http://www.loudoun.gov/flu)) – The County's website is a valuable resource for those who have internet access. It provides links to Federal, State, regional and local sites providing emergency preparedness and planning information.
  8. **Door to Door Communications** – If an incident or hazard becomes localized, the County in some instances may deliver information door-to-door, utilizing a cadre of volunteers or public employees.

## **VI. LOUDOUN COUNTY PANDEMIC FLU PREPAREDNESS TASK FORCE**

In March 2006, the County Administrator established and directed a task force of County employees to assist the Department of Health in preparing the County for a potential outbreak of pandemic influenza. This task force included officials and subject matter experts from Loudoun County government, LCPS, the Town of Leesburg, Inova Loudoun Hospital, VHD and others. The Task Force met monthly throughout 2006 to coordinate and develop the *Loudoun County Pandemic Influenza Response Plan*, assist in pandemic influenza public outreach efforts and provide ongoing assistance to all agencies that are key players in planning and preparing for response to a pandemic influenza outbreak. The Task Force provided periodic briefings to the County Administrator's EMEC. The Task Force was dissolved in early 2007 after completing development of the *Loudoun County Pandemic Influenza Response Plan*, under the assumption that it may be re-convened as needed. Responsibility for ongoing and future pandemic influenza planning now rests with the Loudoun County EMEC. In August 2009 an H1N1 Pandemic Workgroup was established to continue multi-disciplinary efforts towards mass vaccination initiatives.

## **VII. LOUDOUN COUNTY'S CONTINUITY OF OPERATIONS (COOP) PLANNING EFFORTS**

- A. Loudoun County has developed a comprehensive Continuity of Operations Plan (COOP). COOP provides guidance and essential information to all County agencies and departments in order to sustain operation during either a man-made or natural disaster. A pandemic influenza outbreak would require the County to continue and sustain its most essential operations in the face of the loss of personnel and resources for an extended period of time. The County's COOP plan is essential to preparing for an event such as a pandemic influenza outbreak.
- B. To date, COOP planning efforts completed by the County include the following:
- Essential functions have been defined by every County agency;
  - Essential functions have been sorted into draft prioritization categories;
  - Essential function personnel have been identified and coded in existing personnel systems;
  - By default, non-essential personnel have been identified;
  - The EMEC has finalized prioritization of essential functions;
  - Succession plans have been required for County departments and agencies (three-deep) for essential functions;
  - Most key points of contact (POCs) for essential functions have been defined by these agencies;
  - Contact information for POCs has been defined by County agencies;
  - Key vendors have been defined for essential functions by County agencies;
  - County vendor contact data for essential functions has been defined by County agencies;
  - A database has been developed to house the information and personnel have been assigned to manage the database;
  - County departments have identified and prioritized information management systems;
  - DGS and DIT have identified essential function equipment that they own;
  - DIT and MFS have completed their internal COOP efforts;
  - Office of the County Administrator has completed its internal Coop effort;
  - Non-profit organizations essential to the delivery of complementary or substitutable essential County government services have been identified;
  - Vacant alternate site research has been completed by DGS;
  - Essential non-profit organization contacts have been identified; and
  - The County has hired a telework coordinator who has worked with numerous County agencies and personnel to create telework opportunities.
- C. The next immediate phase of the COOP effort that is either underway or planned in the near-term includes:
- DGS will have a plan for alternate facilities placement for County agencies;
  - DGS will have a plan for the provision of utilities during an extended event;
  - MFS is investigating with the County Attorney's Office policies and procedures allowable by Federal and State labor law to aid in long-term continuity efforts (i.e., worker's compensation etc);
  - Pertinent County departments will be required to develop back-fill plans for moving non-essential personnel into essential function roles;
  - County departments will be required to identify and prioritize essential records;
  - County departments will be required to identify all essential function equipment owned by departments;
  - Delegated authority will be defined and identified for essential function by County agencies and departments;
  - Department of Management and Financial Services (DMFS), Division of Procurement will be investigating with the County Attorney's Office the policies and procedures allowable by Federal and State procurement law to aid in long-term continuity efforts (i.e., requiring vendors to support County agencies);
  - 24/7 County essential operations departments and/or facilities will be required to complete FEMA COOP Awareness Course and training effort; and
  - COOP coordinators will be identified by County agencies and departments with essential functions to maintain.
- D. The long-term phase of the COOP planning effort includes the following:
- On-line FEMA COOP courses required of COOP Coordinators and agency heads;
  - COOP plans for remaining internal support functions (e.g., DGS, Office of Mapping and Geographic Information etc);
  - Procurement re-drafts contracts at beginning of contract periods to mandate COOP guarantees, if allowable by law;

- Human Resources re-draft necessary policies and procedures with Board of Supervisors approval, if warranted to allow for COOP efforts (e.g., changes to worker's compensation etc.);
- Provide COOP training or outreach to business organizations within Loudoun County;
- Develop and work toward complete redundancy in essential data and telecommunications per DIT COOP plan;
- Develop cross-training programs for long-term succession management;
- Research and provide feasibility analyses on suppliers to essential function vendors;
- Add additional COOP coordinator full-time personnel in key agencies and departments;
- Lease and fully equip targeted vacant commercial space for alternative work facilities;
- Fully exercise the COOP plan including reconstitution; and
- Review and update COOP plan annually.

## **VIII. OTHER EFFORTS**

- A. Community Outreach Activities Related to Pandemic Influenza Planning and Preparedness** – An extensive number of community outreach efforts have been made by LCHD, the Loudoun County Pandemic Flu Preparedness Task Force, Loudoun County OEM and other County and medical personnel (i.e. PIO and the Department of Economic Development). These efforts all serve to provide valuable information to the public on preparing for a potential pandemic influenza event. Refer to Appendix J for examples of outreach activities.
- B. Health Department Mass Immunization Exercises** – LCHD has conducted three mass immunization exercises. The first, held in October 2005, was a mass immunization dispensing exercise held at Potomac Falls High School in Sterling with over 745 patients served. In October 2006, LCHD held a second mass immunization exercise at Heritage High School in Leesburg with an estimated 900 patients served. In November of 2008, LCHD held another mass immunization exercise (in conjunction with a staging site exercise) at Briar Woods High School with 412 patients served. Many of the County's MRC with its 1000 members participated and assisted with these exercises. The Virginia Defense Force, the Prince William County Health Department, the LCFR, the Loudoun County Red Cross, LCSO and many other agencies actively participated in some of these exercises. These POD exercises allow the County to understand and model the approximate time and efficiencies for providing mass immunizations during a pandemic influenza event, or other events, that necessitate prevention through immunizations or other similar treatment measures.
- C. LCPS Security and Infection Control Measures** – Since the events of September 11, 2001 and other school-related tragedies, LCPS have added additional security cameras in all schools, developed "lock down" policies and procedures and instituted environmental measures to attempt to prevent the spread of airborne contaminants, including pandemic influenza. Examples of recent infection control measures employed within LCPS include installation of hand sanitizers and provision of literature and guidance to both students and school employees.

## Section D. Pandemic Influenza Response

### I. BACKGROUND

- A. The county's response to a pandemic disease outbreak will be managed and coordinated utilizing strategies and organizational best practices identified in the Loudoun County Emergency Operations Plan (EOP). All actions and activities will be coordinated by trained county staff in the Emergency Operations Center (EOC) using the Incident Command System (ICS) model.
- B. The County will manage the response to this emergency through its comprehensive, integrated emergency management system. This system places decision-making representatives from all county and partner agencies in the EOC where they are able to maintain situational awareness and collaborate to ensure an effective and coordinated response to the emergency.
- C. Both LCHD and Loudoun County maintain a comprehensive vaccination plan that has been exercised to facilitate mass dispensing to citizens of Loudoun County.

### II. CONCEPT

- A. The overarching principle that will be employed during the response phase of a pandemic emergency is coordination. Loudoun County's integrated approach to response management exploits the expertise in each discipline in order to maximize capabilities. Although Public Health is the lead agency and will be the most visible, the county, its non-profit partners and the private sector all play an integral role in successfully responding to this threat. Working together in a coordinated and integrated manner will position Loudoun County and its citizens to endure this emergency with a minimized or limited impact.
- B. All Loudoun County preparedness and planning initiatives construct a foundation upon which a coordinated and comprehensive response may be launched.
- C. The Loudoun County Pandemic Influenza Response is a broad composition of roles and responsibilities assigned to a number of county agencies and community partners. Although this listing is thorough, it is not exhaustive and will experience dynamic changes based on situational changes throughout this public health emergency.
- D. The actions and activities described throughout this section are based on the assumption that a pandemic event has been declared.
- E. Responses will be commensurate with the severity of outbreak and guidance provided by federal, state, and local health officials.
- F. Refer to Table 8 below for summary of activities by pandemic phase.

### III. AGENCY ROLES

#### **A. Public Health**

A pandemic disease outbreak is, by definition, a public health emergency. LCHD is the agency with primary responsibility to guide the county through this event in conjunction with the County EOP. The following are overarching roles and responsibilities that will be taken during the response phase.

1. Coordinate the county's emergency public health response through the Public Health and Medical Services Emergency Support Function (ESF #8) and the Loudoun County EOP.
2. Enhance local surveillance.



3. Distribute and administer limited supplies of vaccine (when available) and antiviral medicines consistent with national guidelines and in consultation with VDH.
4. Distribute and administer vaccine consistent with Medical Points of Dispensing/Distribution (POD) plans once vaccine is readily available.
5. Monitor the effectiveness of vaccine and/or antiviral therapies.
6. Implement and monitor non-medical infection control measures to include isolation, quarantine and social distancing.
7. Identify and declare diseases of public health significance.
8. Provide on-going technical support to the health care system.
9. Laboratory testing.
10. Coordinate and collaborate with regional partners.
11. Provide effective communications to the public, media, elected officials, health care providers, business and community leaders throughout the event through participation in the Joint Information Center (JIC).
12. Establish a Public Information Center (PIC) to respond to medical inquiries.
13. Coordinate with the health care system and other community partners to ensure an appropriate response to surge and capacity issues within the healthcare community.
14. Coordinate with the health care system, funeral homes and Office of the Chief Medical Examiner (OCME) to ensure appropriate management of fatalities.
15. Provide regular, accurate and timely informational briefings to government and community leadership.
16. Act as the primary liaison with the VDH, HHS, CDC and the WHO.

## **B. Public Information**

Communication is an integral component in the successful implementation of this plan. The Loudoun County PIO is responsible for providing timely, accurate information to the public during response to a pandemic emergency. Those agencies involved in public information will execute organizational plans and procedures to implement strategies identified in the communications section of this plan and the following:

1. Coordinate the county's emergency public information response consistent with Support Annex 18 – Emergency Public Information Annex to the Loudoun County EOP.
2. Establish and maintain a JIC.
3. Coordinate and collaborate with regional, state and federal JICs.
4. Update all methods of communication (websites, press releases, media conferences, cable television channel, etc) on a regular and frequent basis.
5. Generate specific messages as directed under the guidance of federal, state and local public health officials
  - What to do if ill
  - What events or facilities are cancelled or closed
  - What infection control measures are in place
6. Develop and disseminate messages to educate priority groups for vaccine distribution (when available) based on guidance from federal, state and local health officials.

## **C. Emergency Management**

During a pandemic emergency, the county's emergency management system led by the Director of Emergency Management (County Administrator) will coordinate all response activities. In addition to the actions listed below, OEM will facilitate all activities and ensure that agencies and disciplines involved in the response to this emergency do so in an effective and coordinated manner.

1. Coordinate the county's response consistent with the Loudoun County EOP.
2. Activate the Loudoun County EOC at a Response Condition necessary to adequately manage the emergency.
3. Coordinate and facilitate conference calls and briefings with leadership and staff on a daily basis.
4. Provide recommendations to the Director of Emergency Management (County Administrator) as needed.
5. Declare a Local Emergency if needed.
6. Re-deployment of county staff and available resources as needed.
7. Activate, assign and coordinate volunteers as necessary.
8. Coordinate and collaborate with all local political entities and the respective elected leadership.
9. Coordinate and collaborate with regional partners.
10. Act as the primary liaison with VDEM and federal agencies.
11. Ensure effective implementation of the Loudoun County COOP Plan, the Loudoun County Pandemic Influenza Response Plan, the Loudoun County Medical Points of Dispensing Plan and any other plan or procedure necessary to manage this event.

**D. Other Disciplines and Agencies**

Response to a pandemic emergency requires involvement from dozens of county and partner agencies. Each agency or discipline will follow policies and procedures developed internally to address specific response elements. A sampling of those response activities are listed below:

1. All Departments within Loudoun County have developed and refined COOP plans for operating in an emergency or disaster environment. A COOP plan prioritizes a Department’s essential services, identifies interdepartmental dependencies that contribute to accomplishment of mission and outlines that Department’s initial response to a pandemic. Department responsibilities are further integrated by the County’s EOP with disaster response decisions being made by County leadership within an EOC. Senior staff across County Departments have been trained in NIMS and basic ICS, further facilitating a coordinated approach to responding to a pandemic. The process utilized in the EOC will facilitate decision making and problem solving while supporting and directing all County Departments’ response operations to the unique circumstances caused by the occurrence of a pandemic in Loudoun County.
2. Law enforcement will provide a secure environment for PODs as outlined in the POD Plan.
3. Fire and Emergency Medical Services (EMS) will manage increased incident activity in an effective and coordinated manner.
4. Human Services agencies will coordinate efforts to provide necessary services to the public.
5. Department of Information Technology will implement strategies to accommodate an increased number of county employees teleworking and perhaps more County residents accessing County public health guidance.
6. County Administration will implement plans and procedures necessary to utilize the available workforce in the most appropriate manner.
7. Funeral home representatives will collaborate and coordinate to ensure effective fatality management.

**Table 8: Response Activities by Pandemic Phase and Agency**

Response Activities	Phases I and II Interpandemic	Phase III Pandemic Alert	Phases IV and V Pandemic Alert	Phase VI Pandemic Period
<b>PUBLIC HEALTH</b>				
<b>Surveillance and Epidemiology</b>	<ul style="list-style-type: none"> <li>○ Conduct baseline surveillance during influenza season</li> </ul>	<ul style="list-style-type: none"> <li>○ Maintain baseline surveillance mechanisms for detecting novel influenza virus in humans</li> <li>○ Investigate and monitor suspected cases and contacts</li> <li>○ Support state and local veterinary surveillance efforts to monitor influenza in animal populations</li> </ul>	<ul style="list-style-type: none"> <li>○ Investigate and monitor suspected cases and contacts</li> <li>○ Maintain close collaboration with Virginia Department of Health</li> <li>○ Enhance surveillance mechanisms to detect novel influenza virus</li> <li>○ Implement protocols for influenza case and outbreak management</li> </ul>	<ul style="list-style-type: none"> <li>○ Monitor virus spread within the community</li> <li>○ Maintain use of enhanced surveillance measures</li> </ul>
<b>Community Disease Control and Prevention</b>	<ul style="list-style-type: none"> <li>○ Train and educate public health staff and volunteers on outbreak and emergency response</li> </ul>	<ul style="list-style-type: none"> <li>○ Ensure establishment of legal provisions necessary to carry out public health recommendations</li> <li>○ Implement disease control measures as appropriate, including isolating and quarantine</li> <li>○ Communicate updated information to community</li> </ul>	<ul style="list-style-type: none"> <li>○ Implement travel restriction and other travel-related containment measures as necessary</li> <li>○ Provide guidance on infection control measures</li> <li>○ Provide guidance on</li> </ul>	<ul style="list-style-type: none"> <li>○ Provide guidance on disease control to community partners</li> <li>○ Scale back individual case management practices</li> <li>○ Recommend implementation of social distancing measures</li> </ul>

Response Activities	Phases I and II Interpandemic	Phase III Pandemic Alert	Phases IV and V Pandemic Alert	Phase VI Pandemic Period
		healthcare providers, public and media  ○ Implement travel-related control measures, in collaboration with neighboring jurisdictions	self care at home	○ Activate and assign volunteers as necessary to implement public protective actions
<b>Vaccine and Antiviral Medication Distribution</b>	<i>Intentionally Blank</i>	○ Determine risk priority groups for vaccination and antiviral medication	○ Use antiviral medications for treatment of early cases and targeted prophylaxis, as recommended  ○ Distribute vaccine, if available and antiviral medications for localized containment as recommended	○ Monitor vaccine use, distribution, safety and effectiveness  ○ Monitor antiviral medication use, distribution, safety and effectiveness  ○ Monitor for drug resistance
<b>Health Care Surge Capacity</b>	<i>Intentionally Blank</i>	○ Prepare healthcare facilities for increased patient load and demand for resources  ○ Facilitate development of protocols for transporting patients and bodies for first responder community  ○ Develop plan for fatality management  ○ Identify facilities for alternate treatment sites  ○ Assist county Human Services agencies and their partners in assessing readiness	○ Prepare to activate the Volunteer Medical Reserve Corps to identify and update training for available volunteers	○ Begin implementation of and provide guidance on fatality management program
<b>Meeting Basic Needs for Those in Isolation and Quarantine</b>	<i>Intentionally Blank</i>	<i>Intentionally Blank</i>	○ Implement isolation and quarantine measures as necessary	<i>Intentionally Blank</i>
<b>COMMUNICATIONS</b>				
<b>Surveillance</b>	○ Monitor worldwide status of potential outbreaks and circulate health and emergency information as needed	<i>Intentionally Blank</i>	<i>Intentionally Blank</i>	<i>Intentionally Blank</i>
<b>Community Disease Control and Prevention</b>	○ Work with PIO to provide information as appropriate to county workforce on outbreak and emergency response	○ Identify primary county spokespersons  ○ Increase internal communications among pandemic flu planners	○ Messaging stays the same, but with enhanced risk  ○ Continue and/or enhance public	<b>Prior to availability of vaccine:</b> ○ Loudoun County Emergency Communications plan goes into effect at the

Response Activities	Phases I and II Interpandemic	Phase III Pandemic Alert	Phases IV and V Pandemic Alert	Phase VI Pandemic Period
<p><b>Community Disease Control and Prevention (continued)</b></p>		<p><i>(county staff and non-county individuals)</i> by compiling all contact information for all planners</p> <ul style="list-style-type: none"> <li>○ Develop and deliver public information messages to answer current-phase public FAQs regarding county planning; what is pandemic flu vs. seasonal flu; public concern about animals.; what can people do to prepare, etc.</li> <li>○ Develop public information messages to answer anticipated subsequent-phase public FAQs regarding what to do; self care in the home, etc.</li> <li>○ Create general public education materials to deliver the current phase messages (news releases; newsletter articles; cable television programming)</li> <li>○ Create audience specific education materials to deliver targeted messages (i.e., physician community; ethnic/foreign language communities)</li> <li>○ Plan and promote community education events/forums, such as Loudoun County Town Hall Meetings</li> <li>○ Complete a Loudoun County Pandemic Influenza communications plan that augments the Loudoun County Emergency Communications plan</li> <li>○ Determine the feasibility of alternative/non electronic ways of communicating with people who do not use the Internet or may not have access to cable television</li> </ul>	<p>information with additional news releases; Web site updates; videos, etc.</p>	<p>point Phase 6 begins anywhere in the world</p> <ul style="list-style-type: none"> <li>○ Joint Information Center at initial onset of pandemic</li> <li>○ County plan includes Web site updates; ongoing/updated media conferences/news releases</li> <li>○ Distribute specific messages related to the actual flu strain identified as causing the pandemic base on federal/state/regional guidelines/messages</li> <li>○ Additional messages would involve what to do if sick; also, if/when facilities/public events, etc., are going to be cancelled/closed, etc.</li> <li>○ Establish public health hotline and county emergency hotlines to handle the volume of public inquiries</li> <li>○ Enlist recovered volunteers to distribute materials and handouts door to door with instructions on what to do; self care at home if sick; what to do if asked to be in isolation and/or quarantine; strict observance of hygiene measures (hand washing/covering coughs/sneezes)</li> <li>○ Cable TV will be the primary source of televised public information</li> <li>○ Communications addressing mental health (scared public/grieving public, etc.) will be increasingly important</li> </ul>

Response Activities	Phases I and II Interpandemic	Phase III Pandemic Alert	Phases IV and V Pandemic Alert	Phase VI Pandemic Period
<p>Vaccine and Antiviral Medication Distribution</p> <p>Vaccine and Antiviral Medication Distribution (continued)</p>	<p><i>Intentionally Blank</i></p> <p><i>Intentionally Blank</i></p>	<p><i>Intentionally Blank</i></p> <p><i>Intentionally Blank</i></p>	<p><i>Intentionally Blank</i></p> <p><i>Intentionally Blank</i></p>	<ul style="list-style-type: none"> <li>○ Pre-education on vaccine prioritization groups, if and when vaccine becomes available, with Regional coordination</li> </ul> <p><b>At the point vaccine becomes available:</b></p> <ul style="list-style-type: none"> <li>○ Messages shift to educate priority risk groups for vaccine distribution, and county plan for distributing</li> <li>○ Work closely with media to instruct people to know how/where/when/whether to get vaccine</li> </ul>
<p><b>EMERGENCY MANAGEMENT</b></p>				
<p>Situation Management</p>	<ul style="list-style-type: none"> <li>○ Management to provide proactive information as appropriate</li> </ul>	<ul style="list-style-type: none"> <li>○ Maintain up-to-date knowledge on current national and state advisories and recommendations, such as travel advisories</li> <li>○ Begin briefings for county senior management team, county administration, Board of Supervisors, emergency responders, etc.</li> <li>○ Assist agencies with the development of agency specific plans to ensure continuation of critical government and public services</li> <li>○ Announce current phase level to staff and provide education to staff</li> </ul>	<ul style="list-style-type: none"> <li>○ Promptly inform staff of phase-level changes</li> <li>○ Conduct (or participate in) teleconferences/video conferences that include federal, state and local health officials; state and county officials; emergency management and response chiefs, public affairs personnel, etc.</li> <li>○ Alert agencies to re-familiarize themselves with the County's Emergency Operations Plan and to review their agency specific plans to ensure they are up-to-date</li> </ul>	<ul style="list-style-type: none"> <li>○ Public Safety Agencies (Fire and Rescue Department, Police Department, Office of the Sheriff) play an integral role in county operations during a pandemic. Due to stresses placed upon the health care system and other critical functions, calls for emergency medical assistance are anticipated to be higher than normal and civil disturbances and breakdowns in public order may occur</li> <li>○ Likewise, the local 9-1-1 emergency call center may be overburdened with calls for assistance, including requests to transport influenza victims and local law</li> </ul>

Response Activities	Phases I and II Interpandemic	Phase III Pandemic Alert	Phases IV and V Pandemic Alert	Phase VI Pandemic Period
<p style="text-align: center;"><b>Situation Management (continued)</b></p>	<p style="text-align: center;"><i>Intentionally Blank</i></p>	<p style="text-align: center;"><i>Intentionally Blank</i></p>	<ul style="list-style-type: none"> <li>○ Identify resources necessary to implement the county's Emergency Operation Plan, COOP and County Pandemic Influenza Plans</li> <li>○ Increase staff in the OEM County Watch Center to increase information exchange with external and internal partner agencies</li> <li>○ Consider activating the Emergency Operations Center (EOC), at the appropriate level or severity, to begin incident management activities</li> <li>○ Identify federal, state and county resources necessary to implement public protective actions</li> <li>○ Work with external groups such as business, contractors and vendors in order to manage available resources</li> <li>○ In conjunction with Department of Human Resources implement COOP for Loudoun County Government, including employment re-assignment planning</li> </ul>	<ul style="list-style-type: none"> <li>enforcement agencies may be called upon to enforce movement restrictions or quarantines, thereby diverting resources from traditional law enforcement duties</li> <li>○ Through the establishment of joint response protocols and linkages among the key components of public health, emergency management, fire and rescue and law enforcement and through county guidance, joint training and the use of exercises all public safety agencies have a better understanding of their respective roles and applicable governing legal authorities so they can coordinate their efforts in the event of a pandemic outbreak</li> <li>○ Continue daily conference calls and briefings with groups identified earlier</li> <li>○ Continue to coordinate with the Office of Public Information and Virginia Department of Emergency Management to provide proactive information to our employees, residents, partners, businesses, etc.</li> <li>○ If activated, or during activation, maintain the Emergency Operations Center (EOC), at the appropriate level, to coordinate incident management activities</li> <li>○ Implement all elements of the county Emergency Operations</li> </ul>

Response Activities	Phases I and II Interpandemic	Phase III Pandemic Alert	Phases IV and V Pandemic Alert	Phase VI Pandemic Period
	<i>Intentionally Blank</i>	<i>Intentionally Blank</i>	<i>Intentionally Blank</i>	Plan, Pandemic Influenza Plan, COOP and others; as appropriate  ○ Close or reduce non-critical county services and re-deploy available county resources as appropriate
<b>Surveillance</b>	○ Monitor and circulate health and intelligence reports and emergency information through official sources	<i>Intentionally Blank</i>	○ Monitor hospital bed space and other resource availability through WebEOC information management system	<i>Intentionally Blank</i>
<b>Community Disease Control</b>	○ Work with the PIO and Virginia Department of Emergency Management to provide proactive information as appropriate	<i>Intentionally Blank</i>	○ Activate the county's Emergency Operation Plan and County Pandemic Influenza Plans  ○ Work with the PIO to establish/activate a Joint Information Center and Emergency Information Line to assist and provide timely information to our employees, residents, partners and others	○ Activate and assign volunteers as necessary to implement public protective actions  ○ Increase security at identified facilities/locations; including but not limited to police and fire stations, government centers, emergency communications center, Emergency Operations Center, critical infrastructure, identified businesses, etc.  ○ Implement and support public health/safety directives from CDC, state/local health directors, president, governor, county officials, etc.  ○ Initiate recovery planning activities
<b>Vaccine and Antiviral Medication Distribution</b>	<i>Intentionally Blank</i>	<i>Intentionally Blank</i>	○ In conjunction with VDH activate Loudoun County operations in order to receive and manage distribution of medicines.	<i>Intentionally Blank</i>

## **Section E. Post Pandemic Recovery Phase**

### **I. BACKGROUND**

- A. Recovery consists of measures and actions taken to repair and restore communities after an emergency and may also include some mitigation actions.
- B. Recovery generally focuses on the physical and psychosocial effects that arise as a result of an emergency; however, in a pandemic event the primary impact will be on people, not infrastructure and will therefore need to be heavily structured to deal with psychosocial aspects.
- C. A number of resources are available to help individuals to adjust after an emergency experience including: family and friends, Critical Incident Stress Management (CISM) Professionals and Programs, health care professionals, wellness programs, grief counselors, clergy, employee and family assistance programs and volunteer agencies (e.g., Red Cross).

### **II. SUMMARY**

- A. Recovery from an influenza pandemic will begin when it is determined by the County Administrator that adequate supplies, resources and response system capacity exist to manage ongoing activities without continued assistance from pandemic response systems.
- B. In consultation with county officials, LCHD will recommend specific actions to be taken to return the health care system and government functions to pre-event status.
- C. LCHD will assess the impact of the pandemic on the community's health as measured by morbidity, mortality and report findings to all response partners.
- D. LCHD staff will support partners in Loudoun County government and the health care and business communities in assessing the economic impact of the pandemic.
- E. OEM will conduct an after-action evaluation of the pandemic response. The evaluation will include recommendation for amendments to the Pandemic Influenza Response Plan.
- F. Contingency planners and response teams should assess how the different pandemic challenges in the response phase may affect their business and incorporate these into their plans and recovery actions. Unlike nearly all other disasters, pandemic recovery actions and investments must be tempered by priorities for pandemic preparedness for follow-on waves of the disease. Some examples of major recovery challenges are listed in the Table 9 below.



Table 9. Recovery Challenges

Action	Issues to Consider	Supporting Actions
Assess response impacts, little physical damage yet still costly and protracted	<ul style="list-style-type: none"> <li>○ There may be little physical damage to municipal infrastructures, business facilities and worker homes. Physical damage likely will result from equipment breakdowns from deferred maintenance and repair and potentially from localized security and social disruptions. However, the recovery phases will likely still be lengthy and costly for most businesses.</li> </ul>	<ul style="list-style-type: none"> <li>○ Assess all physical, economic and social impacts.</li> <li>○ Adjust recovery actions based upon actual impacts and circumstances.</li> <li>○ Assess costs to prepare for next wave.</li> <li>○ Implement all planned and adjusted recovery actions to restore the business to full, normal operations.</li> </ul>
Prepare for next pandemic waves	<ul style="list-style-type: none"> <li>○ Unlike most other natural and manmade disasters, a pandemic could linger for more than a year with multiple outbreaks.</li> </ul>	<ul style="list-style-type: none"> <li>○ Monitor international, national and local health information sources for any updates on next pandemic waves.</li> <li>○ Balance recovery actions with essential preparedness for next wave actions.</li> </ul>
Address human impacts from influenza related illness and deaths	<ul style="list-style-type: none"> <li>○ Overcoming effects from worker and worker family illness and death will be a significant challenge for all businesses.</li> <li>○ There may be a substantial increase in single-parent families and orphans.</li> <li>○ Widespread fear and grief will potentially cause long-term psychological trauma.</li> </ul>	<ul style="list-style-type: none"> <li>○ Ensure rest and recuperation of staff.</li> <li>○ Fill any vacant staff positions.</li> <li>○ Ensure employees affected by the pandemic are aware of the benefits of the Employee Assistance Program.</li> </ul>
Overcome impacts of skilled worker and essential material shortages and competition	<ul style="list-style-type: none"> <li>○ Lost income and competition for available skilled workers and scarce materials favors larger businesses.</li> </ul>	<ul style="list-style-type: none"> <li>○ Assess shortage impacts on the business.</li> <li>○ Forecast costs and time to recover.</li> <li>○ Implement options and actions to correct shortages. Skilled workers may take advantage of higher demand and compensation elsewhere.</li> <li>○ Finding sufficient suitable replacements may be difficult.</li> </ul>
Examine competition impacts on small businesses	<ul style="list-style-type: none"> <li>○ For small businesses, the competition for personnel and supplies will delay or even end their recovery opportunities.</li> </ul>	<ul style="list-style-type: none"> <li>○ The business community as a whole should assist to mitigate the impacts of competition and recovery on smaller businesses.</li> <li>○ Managing this competition through focused government interventions and/or business cooperation may prove vital to a national economic recovery.</li> </ul>
Mitigate impacts on worker lost income	<ul style="list-style-type: none"> <li>○ Lower- and middle-income workers lacking sufficient reserves to weather extended unemployment will be hardest hit.</li> </ul>	<ul style="list-style-type: none"> <li>○ Where practical develop internal programs to assist in assuring workers and their families that they will not face financial ruin.</li> <li>○ Assess actual impacts on the business' workers and families.</li> <li>○ Assist workers to access available business and government worker recovery support programs.</li> </ul>

Action	Issues to Consider	Supporting Actions
Assess impact of insurance changes and critical infrastructure shortfalls on the business	<ul style="list-style-type: none"> <li>○ Insurance companies may change policies/coverage as a result of the impact of a pandemic.</li> <li>○ Where plant shutdowns are required, “restarts” for critical infrastructure manufacturing plants may be extensive and problematic for the plant and for the businesses they support.</li> </ul>	<ul style="list-style-type: none"> <li>○ Assess impacts of policy changes initiated by insurance companies.</li> <li>○ Mitigate impacts on the business from potential failures in their supporting insurance and critical infrastructures.</li> </ul>
Examine impacts from production and other plant shutdowns	<ul style="list-style-type: none"> <li>○ Lost income and competition for available skilled workers and scarce materials favor larger businesses.</li> </ul>	<ul style="list-style-type: none"> <li>○ Assess and mitigate plant shutdown impacts.</li> <li>○ Assess and mitigate impacts from shutdowns in plants owned by others that provide the business with essential supplies and equipment.</li> <li>○ Communicate with customers, suppliers and government recovery teams on potential challenges resulting from delayed plant restarts.</li> </ul>
International recovery potentially lagging behind the United States	<ul style="list-style-type: none"> <li>○ International raw material availability, manufacturing and assembly, supply chain support, as well as international purchases of U.S. goods may be delayed.</li> </ul>	<ul style="list-style-type: none"> <li>○ Monitor international recovery operations and assess impacts from any delays.</li> <li>○ Mitigate delays in international supply chain recovery.</li> </ul>
Coordinate government and community support	<ul style="list-style-type: none"> <li>○ In the recovery phase, numerous opportunities exist for direct and indirect governmental and community support and relief, which include direct personnel and material support, indirect regulatory and jurisdictional waivers and tax and financial incentives.</li> </ul>	<ul style="list-style-type: none"> <li>○ Re-affirm contacts and planned actions with community businesses and community emergency management personnel.</li> <li>○ Track availability of Federal and state government direct and indirect recovery support.</li> <li>○ Assess and project potential support needs to inform and coordinate with government and community teams.</li> </ul>
Continue enhanced risk communications and information sharing	<ul style="list-style-type: none"> <li>○ Honest, accurate and timely risk communications and open information sharing within and across businesses and community and government is critical to a successful recovery.</li> </ul>	<ul style="list-style-type: none"> <li>○ Ensure communications and information-sharing channels remain open with all external stakeholders.</li> <li>○ Provide continuous updates concerning business recovery and next pandemic wave preparedness efforts.</li> <li>○ Share all information in an honest, consistent and timely manner.</li> </ul>
Maintain public and media relations	<ul style="list-style-type: none"> <li>○ Information sharing within the government, between the government and businesses, with Federal and state government entities and for public and media relation will remain essential to control misinformation and rumors.</li> </ul>	<ul style="list-style-type: none"> <li>○ Re-affirm contacts and planned actions with public and media points of contact.</li> <li>○ Assess pre-planned messages and adjust as necessary.</li> </ul>

Action	Issues to Consider	Supporting Actions
		<ul style="list-style-type: none"> <li>○ Monitor and forecast potential public/media relations issues.</li> <li>○ Keep all internal and external stakeholders informed in a timely, consistent manner.</li> </ul>
Measure, monitor and adjust	<ul style="list-style-type: none"> <li>○ Implementing and measuring recovery actions and monitoring to adjust these based on observed and anticipated changes and impacts will continue to be the hallmark of the business or government entity that successfully copes with the effects of a pandemic.</li> </ul>	<ul style="list-style-type: none"> <li>○ Implement the business recovery plan and prepare for the next wave.</li> <li>○ Continuously monitor recovery actions and costs and prepare action in advance of the next wave.</li> <li>○ Adjust actions to restore essential functions and ensure success for the next pandemic wave.</li> </ul>
Update emergency plans	<ul style="list-style-type: none"> <li>○ Making note of successful (and unsuccessful) activities during a pandemic response and modifying emergency preparedness plans appropriately may result in more effective planning for the next wave/disaster.</li> </ul>	<ul style="list-style-type: none"> <li>○ Assign responsibility within the organization for recording response actions and outcome.</li> <li>○ Review actions and outcomes during recovery and appropriately modify preparedness and response emergency plan prior to next wave/disaster.</li> </ul>

## Appendix A. Pandemic Influenza Morbidity and Mortality Projections

Pandemic preparedness planning is based on assumptions regarding the evolution and impacts of a pandemic. 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. While the 1918 pandemic resulted in an estimated 500,000 U.S. deaths, the 1968 pandemic caused an estimated 34,000 U.S. deaths. This difference is largely related to the severity of infections and the virulence of the influenza viruses causing the pandemics. In each pandemic, about 30% of the U.S. population developed illness, with about half of those persons seeking medical care. Children have tended to have the highest rates of illness, though not of severe disease and death. Geographical spread in each pandemic was rapid and virtually all communities experienced outbreaks.

Pandemic planning is based on the following assumptions:

- Susceptibility to the pandemic influenza virus will be universal.
- The clinical disease attack rate will be 30% in the overall population. Illness rates will be highest among school-aged children (about 40%) and decline with age. Among working adults, an average of 20% will become ill during a community outbreak.
- 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. Because the virulence of the influenza virus that causes the next pandemic cannot be predicted, two scenarios are presented based on extrapolation of past pandemic experience.
- Risk groups for severe and fatal infections cannot be predicted with certainty. During seasonal influenza season, infants and the elderly, persons with chronic illnesses and pregnant women are usually at higher risk of complications. In the 1918 pandemic, most deaths occurred among young healthy adults.
- The typical incubation period (the time between acquiring the infection until becoming ill), averages 2 days. It is assumed this would be the same for a pandemic strain.
- The seasonality of a pandemic cannot be predicted with certainty.

Number of episodes of illness, healthcare utilization and death associated with moderate and severe pandemic influenza scenarios\*

Characteristic	Moderate (1958/68-like)		Severe (1918-like)	
	Loudoun	U.S.	Loudoun	U.S.
<b>Illness</b>	86,999	90,000,000	86,999	90,000,000
<b>Outpatient medical care</b>	43,499	45,000,000	43,499	45,000,000
<b>Hospitalization</b>	835	865,000	9,569	9,900,000
<b>ICU care</b>	125	128,750	1,436	1,485,000
<b>Mechanical ventilation</b>	63	64,875	718	742,500
<b>Deaths</b>	200	209,000	1,835	1,903,000

\* Source: HHS Pandemic Influenza Plan: Estimates based on extrapolation from past pandemics in the U.S. Estimates do not include the potential impact of interventions not available during the 20<sup>th</sup> century pandemics.

Source: Loudoun population of 289,995 based on U.S. Census Bureau and Loudoun County Department of Economic Development, 2008.

## Appendix B: Draft of Potential Risk Communications Messages

Source: Virginia Department of Health

### Targeted for Pandemic Influenza

#### **Key messages:**

- Target seven to nine second sound bites (21-27 words).
- Because we are faced with a limited supply of vaccine, it is vital that we look at ways to do the most good for the most people.
- To make sure healthcare providers are available to be there to care for those who develop influenza, it is imperative that we vaccinate healthcare workers immediately.
- To ensure that our community is safe and has water, electricity and other services we all rely on, we must prioritize vaccinating essential service workers.
- *(Fill in age group)*-olds are more seriously affected by this strain of influenza. They are most at risk and, therefore, must be vaccinated early on.
- Although this vaccine has not been approved by the FDA and will be given as an investigational new drug, its benefit far outweighs the associated risks.

#### **Supporting facts:**

- Case numbers and mortality by age group and by locality.
- Groups of essential service workers.
- Clear explanations of risks associated with both the disease and the vaccination.

#### **Credible community sources that will validate this key message:**

- Loudoun County Health Director will be supported by local infectious disease specialists to ensure accurate and credible messages.
- Communication among all parties will take place through regular conference calls so that they can be updated on a regular basis.

## C. Recommendations for Use of Antiviral Medications

Source: [www.cdc.gov/h1n1](http://www.cdc.gov/h1n1)

*Chemoprophylaxis is not a substitute for a vaccination. However, in the event of an influenza pandemic, vaccine may not be available, or may only be available in limited quantities. Therefore, in a pandemic, the use of antivirals for prophylaxis or treatment will be based upon guidance from the CDC and Virginia Department of Health.*

---

### Updated Interim Recommendations for the Use of Antiviral Medications in the Treatment and Prevention of Influenza for the 2009-2010 Season

---

September 8, 2009 2:00 PM ET

#### Objective

To provide updated guidance on the use of antiviral agents for treatment and chemoprophylaxis of influenza including 2009 H1N1 influenza infection and seasonal influenza, and assist clinicians in prioritizing use of antiviral medications for treatment or chemoprophylaxis for patients at higher risk for influenza-related complications. Additional revisions to these recommendations should be expected as the epidemiology and clinical presentation of 2009 H1N1 influenza is better understood. This guidance can be adapted according to local epidemiologic data, antiviral susceptibility patterns, and antiviral supply considerations. Clinical judgment is always an important part of treatment decisions.

#### Summary

- Treatment with oseltamivir or zanamivir is recommended for all persons with suspected or confirmed influenza requiring hospitalization.
- Treatment with oseltamivir or zanamivir generally is recommended for persons with suspected or confirmed influenza who are at higher risk for complications (children younger than 5 years old, adults 65 years and older, pregnant women, persons with certain chronic medical or immunosuppressive conditions, and persons younger than 19 years of age who are receiving long-term aspirin therapy).
- Persons who are not at higher risk for complications or do not have severe influenza requiring hospitalization generally do not require antiviral medications for treatment or prophylaxis. However, any suspected influenza patient presenting with warning symptoms (e.g., dyspnea) or signs (e.g., tachypnea, unexplained oxygen desaturation) for lower respiratory tract illness should promptly receive empiric antiviral therapy.
- Clinical judgment is an important factor in antiviral treatment decisions for all patients presenting for medical care who have illnesses consistent with influenza.
- Treatment should be initiated as early as possible because studies show that treatment initiated early (i.e., within 48 hours of illness onset) is more likely to provide benefit.
- Treatment should not wait for laboratory confirmation of influenza because laboratory testing can delay treatment and because a negative rapid test for influenza does not rule out influenza. The sensitivity of rapid tests can range from 10 % to 70%. View information on the use of [rapid influenza diagnostic tests \(RIDTs\)](#).
- Testing for 2009 H1N1 influenza infection with real-time reverse transcriptase-polymerase chain reaction (rRT-PCR) should be prioritized for persons with suspected or confirmed influenza requiring hospitalization and based on guidelines from local and state health departments.
- Groups at higher risk for 2009 H1N1 influenza complications are similar to those at higher risk for seasonal influenza complications.
- Actions that should be taken to reduce delays in treatment initiation include:
  - Informing persons at higher risk for influenza complications of signs and symptoms of influenza and need for early treatment after onset of symptoms of influenza (i.e., fever, respiratory symptoms);
  - Ensuring rapid access to telephone consultation and clinical evaluation for these patients as well as patients who report severe illness;

- Considering empiric treatment of patients at higher risk for influenza complications based on telephone contact if hospitalization is not indicated and if this will substantially reduce delay before treatment is initiated.
- In selected circumstances, providers might also choose to provide selected patients at higher risk for influenza-related complications (e.g., patients with neuromuscular disease) with prescriptions that can be filled at the onset of symptoms after telephone consultation with the provider.
- Antiviral chemoprophylaxis generally should be reserved for persons at higher risk for influenza-related complications who have had contact with someone likely to have been infected with influenza.
- Based on global experience to date, 2009 H1N1 influenza viruses likely will be the most common influenza viruses among those circulating in the coming season, particularly those causing influenza among younger age groups. Circulation of seasonal influenza viruses during the 2009-10 season is also expected. Influenza seasons are unpredictable, however, and the timing and intensity of seasonal influenza virus activity versus 2009 H1N1 circulation cannot be predicted in advance.
- Persons with suspected 2009 H1N1 influenza or seasonal influenza who present with an uncomplicated febrile illness typically do not require treatment. However, some groups appear to be at higher risk for influenza-related complications.
- Currently circulating 2009 H1N1 viruses are susceptible to oseltamivir and zanamivir, but resistant to amantadine and rimantadine; however, antiviral treatment regimens might change according to new antiviral resistance or viral surveillance information.
- Information on the dose and dosing schedule for oseltamivir and zanamivir is provided in this document. An April 2009 [Emergency Use Authorization](#) authorizes the emergency use of oseltamivir in children younger than 1 year old, subject to the terms and conditions of the EUA

## Background

As of August, 2009, more than 98% of circulating influenza viruses in the United States were 2009 H1N1 influenza (previously referred to as novel influenza A (H1N1)). Among people who become infected with 2009 H1N1, certain groups appear to be at increased risk of complications and may benefit most from early treatment with antiviral medications. Approximately 70% of persons hospitalized from 2009 H1N1 influenza have had a recognized high risk condition (approximately 60% of children and approximately 80% among adults). These high risk conditions are the same conditions that increase the risk of complications from seasonal influenza infection.

- Children younger than 5 years old. However, the risk for severe complications from seasonal influenza is highest among children younger than 2 years old.
- Adults 65 years of age or older
- Pregnant women
- Persons with the following conditions:
  - Chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, hematological (including sickle cell disease), neurologic, neuromuscular, or metabolic disorders (including diabetes mellitus);
  - Immunosuppression, including that caused by medications or by HIV;
  - Persons younger than 19 years of age who are receiving long-term aspirin therapy, because of an increased risk for Reye syndrome.

Among children, rates of influenza hospitalization from 2009 H1N1 have varied by age group with the highest rates of hospitalization in children younger than 2 years of age. Updated information on hospitalization rates by age group can be found at [www.cdc.gov/flu/weekly](http://www.cdc.gov/flu/weekly).

People 65 and older are at lower risk of infection from 2009 H1N1 compared to younger age groups. However, as with seasonal influenza, people 65 or older who develop 2009 H1N1 influenza infection are at increased risk of influenza-related complications compared to younger adults.

Preliminary studies suggest that people who are morbidly obese (body mass index equal to or greater than 40) and perhaps people who are obese (body mass index 30 to 39) may be at increased risk of hospitalization and death due to 2009 H1N1 influenza infection. Additional studies to determine the risk of morbid obesity and /or obesity for these complications of 2009 H1N1 virus infection are underway. Patients with morbid obesity, and perhaps obesity, often have underlying conditions that put them at increased risk for complications due to 2009 H1N1 influenza infection, such as diabetes, asthma, chronic respiratory illness or liver

disease. Patients with obesity or morbid obesity should be carefully evaluated for the presence of underlying medical conditions that are known to increase the risk for influenza complications, and receive empiric treatment when these conditions are present, or if signs of lower respiratory tract infection are present.

Transmission of 2009 H1N1 influenza is being studied as part of the ongoing epidemiologic investigation, but data available indicate that this virus appears to be transmitted in ways similar to other influenza viruses. All respiratory secretions and bodily fluids (including diarrheal stool) of 2009 H1N1 cases should be considered potentially infectious.

*Close contact, for the purposes of this document, is defined as having cared for or lived with a person who is a confirmed, probable, or suspected case of influenza, or having been in a setting where there was a high likelihood of contact with respiratory droplets and/or body fluids of such a person. Examples of close contact include sharing eating or drinking utensils, physical examination, or any other contact between persons likely to result in exposure to respiratory droplets. Close contact typically does not include activities such as walking by an infected person or sitting across from a symptomatic patient in a waiting room or office.*

### **Special Considerations for Children**

*Aspirin or aspirin-containing products (e.g. bismuth subsalicylate – Pepto Bismol) should not be administered to any confirmed or suspected ill case of influenza aged 18 years old and younger due to the risk of Reye syndrome. For relief of fever, other anti-pyretic medications such as acetaminophen or non-steroidal anti-inflammatory drugs are recommended.*

*Children younger than 4 years of age should not be given over-the-counter cold medications without first speaking with a healthcare provider.*

### **Antiviral Treatment**

Recommendations for use of antiviral medications may change as data on antiviral effectiveness, clinical spectrum of illness, adverse events from antiviral use, or resistance among circulating viruses become available. As of August 2009, more than 98% of circulating influenza viruses were 2009 H1N1 viruses susceptible to both oseltamivir and zanamivir. These treatment guidelines therefore focus on use of antiviral medications effective against 2009 H1N1 viruses. For antiviral treatment of 2009 H1N1 virus infection, either oseltamivir or zanamivir are recommended ([Table 1](#)).

Clinical judgment is an important factor in treatment decisions. Most patients who have had 2009 H1N1 virus infection have had a self-limited respiratory illness similar to typical seasonal influenza. Persons with suspected 2009 H1N1 influenza or seasonal influenza who present with an uncomplicated febrile illness generally do not require treatment. However, some groups appear to be at increased risk of influenza-related complications. Local public health authorities might provide additional guidance about prioritizing treatment within groups at higher risk for severe infection.

1. Treatment is recommended for all hospitalized patients with confirmed, probable or suspected 2009 H1N1 or seasonal influenza.
2. Treatment generally is recommended for patients who are at higher risk for influenza-related complications (see above).
3. Treatment should be initiated empirically when the decision is made to treat patients who have illnesses that are clinically compatible with influenza. Treatment should not await laboratory confirmation because laboratory testing can sometimes delay treatment and because a negative rapid test does not rule out influenza. (See "[Evaluation of Rapid Influenza Diagnostic Tests for Detection of Novel Influenza A \(H1N1\) Virus --- United States, 2009](#)" for more information about the sensitivity of rapid tests.)

These recommendations should be used together with clinical judgment in making treatment decisions for both patients who are at higher risk for influenza-related complications and patients who are not at higher risk. When evaluating previously healthy children with possible influenza, clinicians should be aware that, similar to seasonal influenza, the risk for severe disease is likely to be highest among infants and younger children. Once the decision to administer antiviral treatment is made by the health care provider, treatment with zanamivir or oseltamivir should be initiated as soon as possible after the onset of symptoms.

Evidence for benefits from antiviral treatment in studies of uncomplicated seasonal influenza is strongest when treatment is started within 48 hours of illness onset. Initiating treatment as soon as possible after illness onset is also thought likely to reduce the risk of severe outcomes including severe illness or death. However, some studies of hospitalized patients with seasonal influenza treated with oseltamivir have suggested benefit, including reductions in mortality or duration of hospitalization, even for patients whose treatment was started more than 48 hours after illness onset. The recommended duration of treatment is five days. Hospitalized patients with severe infections (such as those with prolonged infection or who require intensive unit care admission) might require



longer treatment courses. Antiviral doses recommended for treatment of 2009 H1N1 influenza virus infection in adults or children 1 year of age or older are the same as those recommended for seasonal influenza ([Table 1](#)). Some experts have advocated use of increased (doubled) doses of oseltamivir for some severely ill patients, although there are no published data demonstrating that higher doses are more effective. Oseltamivir use for children younger than 1 year old was recently authorized by the U.S. Food and Drug Administration (FDA) under an Emergency Use Authorization (EUA). These EUA provisions apply only when the product is provided in accordance with the local public health authority's response plans. Dosing for children younger than 1 year old is age-based in the EUA guidance. However, some experts who are currently conducting studies on oseltamivir use in this age group prefer weight based dosing for this age group, particularly for premature or underweight infants. ([Table 2](#)) ([See Emergency Use Authorization of Tamiflu \(oseltamivir\)](#)).

Persons at higher risk for complications from influenza or who have already developed severe illness should be treated as quickly as possible after signs or symptoms develop. To reduce delays in starting treatment, health care providers should:

1. Provide information for patients at higher risk for influenza complications about signs and symptoms of influenza and need for early treatment after symptom onset when ill with influenza;
2. Ensure rapid access to telephone consultation and clinical evaluation for these patients as well as patients who report severe illness;
3. Consider empiric treatment of patients at higher risk for influenza complications based on telephone contact if hospitalization is not indicated and if this will substantially reduce delay before treatment is initiated;
4. Request that patients at higher risk for influenza complications contact the provider if signs or symptoms of influenza develop, obtain the medication as quickly as possible and initiate treatment. In selected circumstances, providers may consider giving a prescription for an influenza antiviral to selected patients who are higher risk for influenza complications. When considering providing a prescription to patients for future use, providers might take into account patient reliability, ability to understand the information about symptoms of influenza, and access to a pharmacy. Providers might prefer to provide a prescription that requires a telephone consultation with the provider before it can be filled.
5. Counsel patients about influenza antiviral benefits and adverse effects, the potential for continued susceptibility to influenza virus infection after treatment is completed (because of other circulating influenza viruses or if illness was due to another cause), and the need to again seek early access to health care consultation if symptoms recur.

State prescribing and dispensing laws and requirements might differ. Clinicians should take applicable state prescribing and dispensing laws and requirements into account in considering these recommendations.

Patients receiving treatment should be advised that they remain potentially infectious to others while on treatment. Despite treatment with antiviral agents, including treatment with the neuraminidase inhibitors, patients may continue to shed influenza virus for up to four or more days after beginning therapy. Therefore, patients should continue good hand washing and respiratory hygiene practices during the entire period on therapy to prevent the transmission of virus to close contacts. View information about homecare of ill persons for providers and patients is available at: [Taking Care of a Sick Person in Your Home](#) and [Physician Directions to Patient/Parent](#).

### **Treatment of influenza when oseltamivir-resistant viruses are circulating**

Oseltamivir resistance is common among seasonal influenza A (H1N1) viruses. These viruses typically remain susceptible to rimantadine and amantadine. However, since April 2009, very few seasonal H1N1 viruses have circulated in the United States. Therefore, treatment, when indicated, with either oseltamivir or zanamivir is appropriate. However, if viral surveillance data indicate that oseltamivir-resistant seasonal H1N1 viruses have become more common or are associated with identified community outbreaks, zanamivir or a combination of oseltamivir and rimantadine or amantadine should be considered for use as empiric treatment for patients who might have oseltamivir-resistant seasonal human influenza A (H1N1) virus infection. [National surveillance data](#) on influenza viruses circulating in the United States is available and is updated weekly. State and local health departments are also a source of viral surveillance data in some areas. Guidance on empiric treatment recommendations when multiple influenza strains are circulating is available at <http://www2a.cdc.gov/HAN/ArchiveSys/ViewMsgV.asp?AlertNum=00279>.

### **Antiviral Chemoprophylaxis**

The infectious period for persons infected with the 2009 H1N1 virus appears to be similar to that observed in studies of seasonal influenza. Infected persons may shed influenza virus, and potentially be infectious to others, beginning one day before they develop symptoms to up to 7 days after they become ill. Children, especially younger children, can shed influenza virus for longer periods. However, for this guidance, the *infectious period* for influenza is defined as one day before until 24 hours after fever ends.

- Post exposure antiviral chemoprophylaxis with either oseltamivir or zanamivir can be considered for the following:
  - Persons who are at higher risk for complications of influenza and are a close contact of a person with confirmed, probable, or suspected 2009 H1N1 or seasonal influenza during that person's infectious period.
  - Health care personnel, public health workers, or first responders who have had a recognized, unprotected close contact exposure to a person with confirmed, probable, or suspected 2009 H1N1 or seasonal influenza during that person's infectious period. Information on appropriate personal protective equipment is available at: [Infection Control for Patients in a Healthcare Setting](#) and might be updated frequently as additional information on transmission becomes available.
- Antiviral agents should not be used for post exposure chemoprophylaxis in healthy children or adults based on potential exposures in the community, school, camp or other settings.
- Chemoprophylaxis generally is not recommended if more than 48 hours have elapsed since the last contact with an infectious person.
- Chemoprophylaxis is not indicated when contact occurred before or after, but not during, the ill person's infectious period as defined above.

Patients given post-exposure chemoprophylaxis should be informed that the chemoprophylaxis lowers but does not eliminate the risk of influenza and that protection stops when the medication course is stopped. Patients receiving chemoprophylaxis should be encouraged to seek medical evaluation as soon as they develop a febrile respiratory illness that might indicate influenza. For antiviral chemoprophylaxis of 2009 H1N1 influenza virus infection, either oseltamivir or zanamivir is recommended ([Table 1](#)). Duration of post-exposure chemoprophylaxis is 10 days after the last known exposure to 2009 H1N1 influenza.

Oseltamivir was authorized for use for chemoprophylaxis under the EUA for children younger than 1 year of age, subject to the terms and conditions of the EUA. (See Treatment and Chemoprophylaxis for Children Younger than 1 Year of Age, below.) Age-based dosing recommendations are provided in the [fact sheets](#) included with the EUA letter of authorization, however weight-based dosing is an alternative preferred by some experts who are currently conducting studies of oseltamivir use in this age group.

#### **An emphasis on early treatment is an alternative to chemoprophylaxis after a suspected exposure for some persons.**

Persons with risk factors for influenza complications who are household or close contacts of confirmed or suspected cases, and health care personnel who have occupational exposures, can be counseled about the early signs and symptoms of influenza, and advised to immediately contact their health care provider for evaluation and possible early treatment if clinical signs or symptoms develop. Health care providers should use clinical judgment regarding situations where early recognition of illness and treatment might be an appropriate alternative. In some exposure circumstances (e.g., person exposed is at higher risk for complications), health care providers might choose to give the exposed patient a prescription for an influenza antiviral. Providers can request that the patient contact the provider if signs or symptoms of influenza develop, obtain antiviral medications as quickly as possible, and initiate treatment. These patients should also be counseled about influenza antiviral medication side effects, and informed that they remain susceptible to influenza after treatment is completed.

Persons at ongoing occupational risk for exposure (e.g., health care personnel, public health workers, or first responders who are working in communities with influenza outbreaks) should carefully follow guidelines for appropriate personal protective equipment. Appropriate administrative controls (e.g. having health care personnel stay home from work when ill, and triaging for identification of potentially infectious patients) and personal protective equipment should be used to reduce the need for post-exposure chemoprophylaxis among health care workers.

#### **Antiviral Resistance**

2009 H1N1 influenza viruses are susceptible to the neuraminidase inhibitor antiviral medications, oseltamivir and zanamivir, but are resistant to the adamantane antiviral medications, amantadine and rimantadine. This susceptibility pattern is the same as that observed among seasonal influenza A (H3N2) and B viruses in recent years. Oseltamivir resistance appears to be rare at this time. However, oseltamivir-resistant 2009 H1N1 viruses have been identified, typically among persons who develop illness while receiving oseltamivir for chemoprophylaxis or immunocompromised patients with influenza who are being treated. **These findings underscore the importance of careful and limited use of antiviral medications for chemoprophylaxis and the need for persons taking antiviral medications to continue to follow recommendations for hand and respiratory hygiene to prevent the spread of antiviral resistant viruses.** Additional information on oseltamivir resistance among 2009 H1N1 viruses is available at <http://www.cdc.gov/h1n1flu/HAN/070909.htm>. Monitoring for antiviral resistance is ongoing and clinicians and state health departments should continue to follow state and national guidance for submission and testing of clinical specimens from persons with suspected 2009 H1N1 virus infection, particularly from those who develop influenza while taking chemoprophylaxis or who have prolonged viral shedding while on treatment.

## Antiviral Use for Control of 2009 H1N1 Influenza Outbreaks

Use of antiviral drugs for treatment and chemoprophylaxis of influenza has been a cornerstone for the control of seasonal influenza outbreaks in nursing homes and other long-term care facilities that house large numbers of patients at higher risk for influenza complications. (See MMWR: [Prevention and Control of Influenza: Recommendations of the Advisory Committee on Immunization Practices \(ACIP\), 2008](#)). At this time, no outbreaks of 2009 H1N1 have been reported in such settings. This may be the result of some level of immunity among persons 65 years and older and/or possibly fewer exposures of such persons to 2009 H1N1 thus far. However, if such outbreaks were to occur, it is recommended that ill patients be treated with oseltamivir or zanamivir and that chemoprophylaxis with either oseltamivir or zanamivir be started as early as possible to reduce the spread of the virus as is recommended for seasonal influenza outbreaks in such settings. Additional guidance for infection control measures in long-term care facilities can be found at: [Using Antiviral Medications to Control Influenza Outbreaks in Institutions](#).

In addition to use in nursing homes, antiviral chemoprophylaxis also can be considered for controlling influenza outbreaks in other closed or semi-closed settings (e.g., correctional facilities, or other settings in which persons live in close proximity) where persons at higher risk for influenza complications are housed. For more information about influenza outbreaks in facilities see:

1. [Prevention and Control of Influenza: Recommendations of the Advisory Committee on Immunization Practices \(ACIP\), 2009](#)
2. [Seasonal Influenza in Adults and Children—Diagnosis, Treatment, Chemoprophylaxis, and Institutional Outbreak Management: Clinical Practice Guidelines of the Infectious Diseases Society of America](#) (available at: <http://www.journals.uchicago.edu/doi/pdf/10.1086/598513>).
3. [Interim Guidance for Correctional and Detention Facilities on Novel Influenza A \(H1N1\) Virus](#)
4. [Interim Guidance for Homeless and Emergency Shelters on the Novel Influenza A \(H1N1\) Virus](#)

Outbreaks in schools, camps, workplaces and other group settings should not be managed by providing chemoprophylaxis to all persons potentially exposed to influenza viruses. The healthy populations typically present in these settings should be educated about the signs and symptoms of influenza, and urged to consult their health care provider if severe illness develops. Post-exposure chemoprophylaxis can be considered for those who meet the above criteria for exposure and who have a medical condition that confers a higher risk for influenza complications. An emphasis on early evaluation and treatment, as described above, is an alternative. Persons in these settings also should be educated about hygiene and infection control measures that can reduce transmission of influenza viruses.

Table 1. Antiviral medication dosing recommendations for treatment or chemoprophylaxis of 2009 H1N1 infection.

(Table extracted from [IDSA guidelines for seasonal influenza](#).)

Agent, group		Treatment (5 days)	Chemoprophylaxis (10 days)
<b>Oseltamivir</b>			
<b>Adults</b>		75-mg capsule twice per day	75-mg capsule once per day
<b>Children ≥ 12 months</b>	15 kg or less	60 mg per day divided into 2 doses	30 mg once per day
	16-23 kg	90 mg per day divided into 2 doses	45 mg once per day
	24-40 kg	120 mg per day divided into 2 doses	60 mg once per day
	>40 kg	150 mg per day divided into 2 doses	75 mg once per day
<b>Zanamivir</b>			
<b>Adults</b>		Two 5-mg inhalations (10 mg total) twice per day	Two 5-mg inhalations (10 mg total) once per day
<b>Children</b>		Two 5-mg inhalations (10 mg total) twice per day (age, 7 years or older)	Two 5-mg inhalations (10 mg total) once per day (age, 5 years or older)

## Treatment and Chemoprophylaxis for Children younger than 1 Year of Age

Children younger than 1 year of age are at higher risk for influenza-related complications and have a higher rate of hospitalization compared to older children. Oseltamivir is not approved for use in children younger than 1 year of age. However, limited safety data on oseltamivir treatment of seasonal influenza in children younger than 1 year of age suggest that severe adverse events are rare. Oseltamivir is authorized for emergency use in children younger than 1 year of age under an EUA issued by FDA, subject to the terms and conditions of the EUA.

Because infants experience high rates of morbidity and mortality from influenza, infants with 2009 H1N1 influenza virus infections may benefit from treatment using oseltamivir. ([Table 2](#) and [Emergency Use Authorization of Tamiflu \(oseltamivir\)](#)).

Table 2. Dosing recommendations for antiviral treatment or chemoprophylaxis of children younger than 1 year using oseltamivir.

Age	Recommended treatment dose for 5 days	Recommended prophylaxis dose for 10 days
Younger than 3 months	12 mg twice daily	Not recommended unless situation judged critical due to limited data on use in this age group
3-5 months	20 mg twice daily	20 mg once daily
6-11 months	25 mg twice daily	25 mg once daily

Some experts prefer weight-based dosing for children aged younger than 1 year, particularly for very young or premature infants based on preliminary data from a National Institutes of Health- funded Collaborative Antiviral Study Group (CASG). When using weight-based dosing for infants aged younger than 1 year for treatment, those 9 months or older should receive 3.5 mg/kg/dose BID, and those aged younger than 9 months should receive 3.0 mg/kg/dose BID. When using weight-based dosing for infants aged younger than 1 year for chemoprophylaxis, those 9 months or older should receive 3.5 mg/kg/dose QD, and those aged younger than 9 months should receive 3.0 mg/kg/dose QD (Source: D Kimberlin et al. Oseltamivir (OST) and OST Carboxylate (CBX) Pharmacokinetics (PK) in Infants: Interim Results from a Multicenter Trial. Abstract accepted to Infectious Diseases Society of America meeting, October 2009). Health care providers should be aware of the lack of data on safety and dosing when considering oseltamivir use in a seriously ill young infant with confirmed 2009 H1N1 influenza virus infection or who has been exposed to a confirmed 2009 H1N1 influenza case, and carefully monitor infants for adverse events when oseltamivir is used. Additional information on oseltamivir for this age group can be found at:


<http://www.fda.gov/downloads/Drugs/DrugSafety/InformationbyDrugClass/UCM153547.pdf>  

### Pregnant Women

Pregnant women are known to be at higher risk for complications from infection with seasonal influenza viruses, and severe disease among pregnant women was reported during past pandemics. Hospitalizations and deaths have been reported among pregnant women with 2009 H1N1 influenza virus infection, and one study estimated that the risk for hospitalization for 2009 H1N1 influenza was four times higher for pregnant women than for the general population. While oseltamivir and zanamivir are "Pregnancy Category C" medications, indicating that no clinical studies have been conducted to assess the safety of these medications for pregnant women, the available risk-benefit data indicate pregnant women with suspected or confirmed influenza should receive prompt antiviral therapy. Pregnancy should not be considered a contraindication to oseltamivir or zanamivir use. Because of its systemic activity, oseltamivir is preferred for treatment of pregnant women. The drug of choice for chemoprophylaxis is less clear. Zanamivir may be preferable because of its limited systemic absorption; however, respiratory complications that may be associated with zanamivir because of its inhaled route of administration need to be considered, especially in women at risk for respiratory problems.

### Adverse Events and Contraindications

For further information about influenza and antiviral medications, including contraindications and adverse effects, please see the following:

- [Antiviral Agents for Seasonal Influenza: Side Effects and Adverse Reactions.](#)
- Harper SA, Bradley JS, Englund JA, et al. [Infectious Diseases Society of America Guidelines. Seasonal Influenza in Adults and Children—Diagnosis, Treatment, Chemoprophylaxis, and Institutional Outbreak Management: Clinical Practice Guidelines of the Infectious Diseases Society of America.](#) 

- Jamieson DJ, et al. H1N1 2009 influenza virus infection during pregnancy in the USA. Lancet 2009;374:451-8.
- [CDC. Intensive-Care Patients With Severe Novel Influenza A \(H1N1\) Virus Infection](#) --- Michigan, June 2009. 2009;58:749-52.
- Rasmussen SA. Pandemic Influenza and Pregnant Women: Summary of a Meeting of Experts. Am J Public Health 2009 (epub ahead of print).

Adverse events from influenza antiviral medications should be reported through the [U.S. FDA Medwatch website](#).

## Appendix D: Glossary

**Adverse event:** An undesirable or unwanted consequence of a preventative, diagnostic, or therapeutic procedure.

**Affected area:** Any part or whole of a community which has been identified as where individuals reside, or may be located, who are known, or suspected, to have been exposed to, or infected with a communicable disease of public health threat.

**Antiviral medication:** Drug(s) that are used to prevent or treat a disease caused by a virus, by interfering with the ability of the virus to multiply in number or spread from cell to cell. Drugs with activity against seasonal influenza viruses include the neuraminidase inhibitors, Oseltamivir and Zanamivir and the adamantanes, Amantadine and Rimantadine.

**Asymptomatic:** Without signs or symptoms of disease. May still have infection.

**Case definition:** Specifications of the characteristics that describe a case of disease (e.g. person, place, time, symptoms, signs). These are specific to each disease and can be specific to each situation; can vary according to knowledge of the disease and change over the course of an investigation.

**Case:** A person who has been diagnosed as having a particular disease or condition.

**Confirmed** – A case that is classified as confirmed for reporting purposes, usually by laboratory testing data or other testing results (e.g. X-ray). The elements of classification will vary from disease to disease.

**Probable** – A case that meets the clinical criteria but has not been confirmed by laboratory or other means. The elements of classification will vary from disease to disease.

**Suspected** - A person who has known contact with an infectious agent or is experiencing symptoms of the disease under investigation. The elements of classification will vary from disease to disease.

**Contact:** A person who is known to have been in association with an infected person such as to have had an opportunity of acquiring the infection.

**Contact tracing:** The process by which an infected person or health department employee notifies others they may have been exposed to an infected person in a manner known to transmit the infectious agent in question.

**Cordon sanitaire:** The border around an area that contains persons with a communicable disease to restrict travel in or out of the area and thereby prevent the spread of the communicable disease.

**Drift:** One process in which influenza virus undergoes mutation. The amount of change can be subtle or dramatic, but eventually as drift occurs, a new variant strain will become dominant. This process allows influenza viruses to change and re-infect people repeatedly through their lifetime and is the reason influenza virus strains in vaccine must be updated each year. See **Shift**.

**Essential needs:** Basic human needs for sustenance including but not limited to food, water, healthcare, (e.g. over-the-counter and prescription medications, mental health services), shelter/housing, clothing and essential supplies.

**Epidemiologic investigation:** An inquiry into the incidence, prevalence, extent, source, mode of transmission, causation of and other information pertinent to a disease occurrence.

**Exposure:** Proximity or contact with a source of disease agent in such a way that effective transmission of the agent or harmful effects of the agent may occur.

**H1N1 (swine) influenza virus strain:** Classification of the pandemic strain of influenza A currently circulating among people. The H refers to a specific hemagglutinin protein and the N refers to a specific neuraminidase protein on the virus surface.

**H5N1 virus strain:** Classification of the strain of avian influenza A currently circulating among the world's poultry population which has caused disease in humans. There are at least 16 known subtypes of H and 9 subtypes of N in wild aquatic birds.

**HAN:** The Virginia Health Alert Network (HAN) is a means of contacting personnel in emergencies and sharing documents.

**HPAI:** Highly Pathogenic form of Avian Influenza. Classification of avian flu virus based on the severity of the resulting illness. HPAI is extremely infectious among humans. See also **LPAI**.

**Hemagglutinin** An important surface structure protein of the influenza virus that is an essential gene for the spread of the virus throughout the respiratory tract. This enables the virus to attach itself to a cell in the respiratory system and penetrate it. Referred to as the “H” in influenza viruses. See **Neuraminidase**.

**Immunizations:** A procedure that increases the protective response of an individual's immune system to specified pathogens.

**Incubation period:** The interval from exposure to an infectious organism and the onset of symptoms. For pandemic influenza, it is estimated to range from two to ten days.

**Infection:** The entry and multiplication or persistence of an organism, such as the influenza virus, in the body of an individual.

**Inapparent** – An infection without recognizable signs or symptoms but identifiable by laboratory means. Also called sub-clinical.

**Clinically Apparent** – An infection with recognizable signs or symptoms, such as fever, cough or runny nose.

**Isolation:** The physical separation of a person or persons known to be ill with a contagious disease to protect uninfected people from exposure to the disease.

**LPAI:** Low Pathogenic form of Avian Influenza. Classification of avian flu virus based on the severity of the resulting illness. Most avian flu strains are classified as LPAI and typically cause little or no clinical signs in infected birds. However, some LPAI virus strains are capable of mutating under field conditions into HPAI viruses. See also **HPAI**.

**Mutation:** Any alteration in a gene from its natural state.

**National Incident Management System (NIMS):** A consistent nationwide template to establish Federal, State and local governments and private sector and nongovernmental organizations to work together effectively and efficiently to prepare for, prevent, respond to and recover from domestic incidents, regardless of cause, size or complexity, including acts of catastrophic terrorism.

**Novel influenza virus strain:** A new strain of influenza A that has not previously infected humans, but has undergone genetic mutation or reassortment and has developed the ability to cause illness in humans.

**Neuraminidase:** An important surface structure protein of the influenza virus that is an essential enzyme for the spread of the virus throughout the respiratory tract. It enables the virus to escape the host cell and infect new cells. Referred to as the “N” in influenza viruses. See **Hemagglutinin**.

**Outbreak:** The occurrence of more cases of a disease than expected.

**Pathogenic:** Causing disease or capable of doing so.

**Pandemic:** Worldwide epidemic.

**Period of communicability:** The time during which an infectious agent may be transferred, directly or indirectly, from an infected person to another person.

**Personal protective equipment:** Equipment used to prevent an individual from inhaling, or coming into contact with an infectious agent. Includes gowns, gloves, masks, face shields, goggles and personal respirators.

**Prophylaxis:** A medical procedure, medication, or practice that prevents or protects against a disease or condition (e.g., vaccines, antibiotics, drugs).

**Quarantine:** The physical separation, including confinement or restriction of movement, of individuals who are present within an affected area or who are known, or reasonably suspected, to have been exposed to a communicable disease of public health threat

and who do not yet show symptoms or signs of infection. Purpose is to prevent or limit the transmission of the communicable disease of public health threat to unexposed and uninfected individuals.

**Complete** – The full-time confinement or restriction of movement or actions of an individual who has been, or may reasonably be suspected to have been, exposed to a communicable disease of public health threat but does not have signs or symptoms of infection.

**Modified** – A selective, partial limitation of freedom of movement or actions of an individual who has been, or is suspected to have been, exposed to a communicable disease of public health threat but does not have signs or symptoms of infection. Includes limiting movement to the home, work and/or one or more other locations, the prohibition or restriction from using public or mass transportation.

**Respiratory hygiene:** Personal practices or habits to decrease the transmission of diseases spread through respiratory secretions of airborne droplets or particles. Includes covering the mouth when coughing or sneezing, disposing of tissues, avoiding coughing or sneezing into hands and washing hands or using hand-sanitizers.

**Seasonal Flu:** A respiratory illness that can be transmitted person to person. Most people have some immunity and a vaccine is available. This is also known as the common flu or winter flu.

**Self-care:** The care of oneself or family without professional healthcare provider assistance or oversight. This may include monitoring and treating for fever, treating for other symptoms with over-the-counter medications and determining when to seek medical care.

**Self-shielding:** Self-imposed exclusion from activities or locations by infected persons (e.g., by staying home from work or school).

**Shift:** The process in which the existing H (hemagglutinin) protein and N (neuraminidase) protein are replaced by significantly different H and N proteins. This can result in a new variant strain of virus.

**Strain:** A group of organisms within a species or variety.

**Surveillance, Influenza:** The on-going systematic collection, analysis and interpretation of disease activity and trend data for quickly detecting the introduction of a novel virus strain into Loudoun County and for quickly detecting outbreaks in order to facilitate early public health intervention.

**Passive** – Reporting of all influenza cases to the local health department by all physicians, persons in charge of medical care facilities and directors of laboratories as required by the Code of Virginia, Regulations for Disease Reporting and Control.

**Sentinel** – A system that collects information from a limited sample of hospital, clinic and/or private laboratories. Several community physician practices in Loudoun County serve as sentinel surveillance points for influenza and provide data on cases of influenza to LCHD, VDH and CDC.

**Enhanced** – Additional surveillance activities that may be implemented or scaled up to heighten ability to detect disease.

**Veterinary surveillance** – Surveillance for a particular disease or condition among birds and other animal populations.

**Susceptible individual:** A person or animal that is vulnerable to or potentially able to contract a disease or condition.

**Transmission:** The mechanism by which an infectious agent is spread to humans.

**Droplet** – Transmission through inhalation of large respiratory droplets that are dispersed during coughing, sneezing or talking. Transmission of influenza requires close contact (three feet or less) between source and recipient persons.

**Contact** – Transmission through direct contact with respiratory droplets.

**Airborne** – Transmission through inhalation of aerosolized small respiratory droplets. It is believed influenza is not transmitted in the manner.

**Vaccine:** A preparation consisting of antigens of a disease-causing organism which, when introduced into the body, stimulates the production of specific antibodies or altered cells. This produces immunity to the disease causing organism. The antigen in the preparation can be whole disease causing organisms (killed or weakened) or parts of these organisms.

**Virulent:** Highly lethal; causing severe illness or death.



**Virus:** Simple submicroscopic parasites of plants, animals and bacteria that often cause disease and consist essentially of a core of RNA or DNA surrounded by a protein coat. Viruses are typically not considered living organisms because they are unable to replicate without a host cell.

**Waterfowl:** Birds that swim and live near water, including ducks, geese and swans.

**Zoonoses:** Diseases transferable from animals to humans.

## Appendix E: Loudoun Pandemic Flu Preparedness Task Force (LPFPTF) Members

Last Name	First Name	Agency
Barnes	Jim	County PIO
Belmonte	Linda	Inova Loudoun Hospital-ICP
Biraben	Roger	County Mental Health
Bowers	Kirby	County-Administration (Ad Hoc)
Boyer	Benita	County-Health Dept.
Burke	Robert	County-Schools
Caldwell	Lucy	VDH-Northern region PIO
Chirles	Bob	County-Family Services
Corriher	Joy	Inova Loudoun Hospital-Administration
Courneya	Brian	County-Sheriff's Office
Dugan	Lisa	Inova Loudoun Hospital-Emergency Planner
Fletcher	Jeff	County-Emergency Management
Goodfriend	David	County-Health Dept.
Hale	Linda	County-Fire/Rescue
Hood	Stephen	County-Health Dept
Kealy	Mary	County-Schools
Lovato	Gayle	Inova Loudoun Hospital-ICP
Price	Joe	Leesburg-Police Dept
Raker	Tony	Inova Loudoun Hospital-PIO
Rosenstrauch	Larry	County-Dept of Econ Dev
Sandy	John	County-Administration
Sturgeon	Cathy	County-Schools, Health
Warren	Cheryl	County-Emergency Management
Wells	John	Leesburg-Administration/Towns

## Appendix F: Abbreviations

<b>CAO</b>	Chief Administrative Officer
<b>CBP</b>	U.S. Customs and Border Protection
<b>CD</b>	Communicable Disease
<b>CDC</b>	Centers for Disease Control and Prevention
<b>CDC DQ</b>	CDC Division of Global Migration and Quarantine
<b>CEAN</b>	Community Emergency Alert Network
<b>CISM</b>	Critical Incident Stress Management
<b>COOP</b>	Continuity of Operations
<b>CSB</b>	Community Services Board
<b>CSP</b>	Coordinated Services Planning
<b>DCLS</b>	Division of Consolidated Laboratory Services
<b>DFS</b>	Loudoun County Department of Family Services
<b>DHS</b>	U.S. Department of Homeland Security
<b>HHS</b>	U.S. Department of Health and Human Services
<b>EMEC</b>	Emergency Management Executive Committee
<b>EMS</b>	Emergency Medical Services
<b>EOC</b>	Emergency Operations Center
<b>EOP</b>	Emergency Operation Plan
<b>ESF</b>	Emergency Support Function
<b>ESSENCE</b>	Electronic Surveillance System for Early Notification Community-Based Epidemics
<b>FAQs</b>	Frequently Asked Questions
<b>FDA</b>	U.S. Food and Drug Administration
<b>FEMA</b>	Federal Emergency Management Agency
<b>HAN</b>	Health Alert Network
<b>HAZMAT</b>	Hazardous Materials
<b>HDSIMS</b>	Health Department School Illness Monitoring System
<b>HOA</b>	Homeowners Association
<b>HPAI</b>	Highly Pathogenic avian influenza viruses
<b>HIPAA</b>	Health Insurance Portability and Accountability Act
<b>ICS</b>	Incident Command System
<b>ILI</b>	Influenza-like Illness
<b>IND</b>	Investigational New Drug
<b>JIC</b>	Joint Information Center
<b>LCHD</b>	Loudoun County Health Department
<b>LC</b>	Loudoun County
<b>LHD</b>	Local Health Department
<b>LCPS</b>	Loudoun County Public Schools
<b>LPAI</b>	Low pathogenic avian influenza viruses
<b>MRC</b>	Loudoun County Medical Reserve Corps
<b>MWAA</b>	Metropolitan Washington Airports Authority
<b>MWCOG</b>	Metropolitan Washington Council of Governments
<b>NCR</b>	National Capital Region
<b>NEDSS</b>	National Electronic Disease Surveillance System
<b>NIMS</b>	National Incident Management System
<b>NRF</b>	National Response Framework

<b>NVRC</b>	Northern Virginia Regional Commission
<b>OCME</b>	Office of the Coroner and Medical Examiner
<b>OEM</b>	Office of Emergency Management
<b>OEMS</b>	Office of Emergency Medical Services
<b>OPI</b>	Office of Public Information
<b>PIC</b>	Public Information Center
<b>PIO</b>	Office of Public Information/ Public Information Officer
<b>POC</b>	Point of Contact
<b>POD</b>	Point of Distribution
<b>PPE</b>	Personal Protective Equipment
<b>PSA</b>	Public Service Announcement
<b>RICCS</b>	A National Capital Regional secure electronic communications network
<b>UASI</b>	Urban Area Security Initiative
<b>VDEM</b>	Virginia Department of Emergency Management
<b>VDH</b>	Virginia Department of Health
<b>VDH DSI</b>	Virginia Department of Health, Division of Surveillance and Investigation
<b>WebEOC</b>	Web Emergency Operations Center software system
<b>WHO</b>	World Health Organization
<b>WMD</b>	Weapon of Mass Destruction

## Appendix G: References

### General:

1. Avian Influenza (H5N1) and Pandemic Influenza What Every Virginia Healthcare Professional Should Know, Epidemiology Bulletin, VDH, Nov 2005, Vol 105, No.11.
2. Implementation Plan for National Strategy for Pandemic Influenza, Draft Jan 05 2006.
3. Model operational guidelines for disease exposure control: November 2, 2005 draft. Prepared by the Center for Strategic and International Studies, Homeland Security Program, pre-publication draft.
4. Pandemic Influenza and Other Highly Infectious Respiratory Transmitted Disease Response Plan, County of San Diego Health and Human Services Agency, Version 2.00, October 2005.
5. Pandemic Influenza Response Plan, Public Health, Seattle and King County, Version 10, December 1, 2005.
6. Prevention and Control of Influenza, Recommendations for the Advisory Committee on Immunization Practices (ACIP), MMWR May 28, 2004 53(RR06):1-40.
7. U.S. Department of Health and Human Services Pandemic Influenza Plan, November 2005.
8. Virginia Department of Health, Emergency Operations Plan, Attachment Pandemic Influenza, March 2006.
9. Virginia Department of Health, Emergency Operations Plan, Attachment Pandemic Influenza, Non-Medical, 2007.
10. Virginia Department of Health, Isolation and Quarantine Guide for Communicable Diseases of Public Health Threat; Version 1/4/06.
11. Centers for Disease Control and Prevention, U.S. Department of Health and Human Services, Interim Pre-pandemic Planning Guidance: Community Strategy for Pandemic Influenza Mitigation in the United States, February 2007.

### Pandemic Influenza Web Sites:

1. Loudoun County – [www.loudoun.gov/flu](http://www.loudoun.gov/flu)
2. CDC – [www.cdc.gov/H1N1flu](http://www.cdc.gov/H1N1flu)
3. United States Government – [www.pandemicflu.gov](http://www.pandemicflu.gov) (materials available in several languages)
4. Virginia Department of Health - [www.vdh.virginia.gov/PandemicFlu](http://www.vdh.virginia.gov/PandemicFlu)
5. World Health Organization – [www.who.int/csr/disease/swineflu/en](http://www.who.int/csr/disease/swineflu/en)

### Psychosocial Workforce Support Service:

1. Federal, State and Local Guidance  
Department of Health and Human Services Pandemic Influenza Plan (Supplement 11):  
<http://www.hhs.gov/pandemicflu/plan/sup11.html>
2. Disaster Mental Health  
Loudoun County Mental Health Mental Retardation/ Substance Abuse: <http://loudoun.gov/mhmr>  
<http://www.trauma-pages.com/disaster.php>  
<http://mentalhealth.samhsa.gov/cmhs/EmergencyServices/after.asp>  
<http://www.hhs.gov/mentalhealth/>
3. Responding to National Crises: Advice for Caregivers  
[http://www.nasponline.org/resources/crisis\\_safety/caregiver\\_war.aspx](http://www.nasponline.org/resources/crisis_safety/caregiver_war.aspx)
4. First Responders  
Tips for Managing and Preventing Stress: A Guide for Emergency and Disaster Response Workers:  
<http://mentalhealth.samhsa.gov/publications/allpubs/tips/disaster.pdf>
5. School Children  
National Association of School Psychologists web site: <http://www.nasponline.org/resources/crisis%5Fsafety/>

### Teleworking:

1. Commonwealth of Virginia Telecommuting Policy: [http://www.dhrm.virginia.gov/hrpolicy/policy/telecommute1\\_61.doc](http://www.dhrm.virginia.gov/hrpolicy/policy/telecommute1_61.doc)
2. HR Guide.com Telework/Telecommute Resource List: <http://www.hr-guide.com/data/011.htm>

### Management of Travel-Related Risk of Disease Transmission:

1. United States Centers for Disease Control  
Travel Notices: <http://wwwn.cdc.gov/travel/notices.aspx>  
Questions and Answers about Avian Influenza (bird flu) for Travelers:

[http://www.cdc.gov/travel/other/avian\\_flu/key\\_facts\\_travelers\\_notice.htm](http://www.cdc.gov/travel/other/avian_flu/key_facts_travelers_notice.htm)

Immunization for Travelers: [http://www.cdc.gov/nip/publications/flyers/f\\_imz\\_travelers.pdf](http://www.cdc.gov/nip/publications/flyers/f_imz_travelers.pdf)

2. United States Department of State:  
Travel and Business: <http://www.state.gov/travelandbusiness/>
3. Avian Flu Fact Sheet for Travelers:  
[http://travel.state.gov/travel/tips/health/health\\_1181.html?css=print](http://travel.state.gov/travel/tips/health/health_1181.html?css=print)
4. Department of Health and Human Services  
PandemicFlu.Gov – Travel: (English): <http://www.pandemicflu.gov/travel/> ;  
(Spanish): [http://espanol.pandemicflu.gov/pandemicflu/enes/24/www\\_pandemicflu\\_gov/travel/](http://espanol.pandemicflu.gov/pandemicflu/enes/24/www_pandemicflu_gov/travel/)
5. World Health Organization:  
WHO recommendations relating to travelers coming from and going to countries with highly pathogenic H5N1 avian influenza: [http://www.who.int/csr/disease/avian\\_influenza/travel2005\\_11\\_3/en/index.html](http://www.who.int/csr/disease/avian_influenza/travel2005_11_3/en/index.html)

### **Infection Prevention and Control:**

1. Stopping the Spread of Germs at Work: <http://www.cdc.gov/germstopper/work.htm>
2. Stopping Germs at Home, Work and School: [http://www.cdc.gov/germstopper/home\\_work\\_school.htm](http://www.cdc.gov/germstopper/home_work_school.htm)
3. Hand Hygiene Guidelines Fact Sheet: <http://www.cdc.gov/od/oc/media/pressrel/fs021025.htm>
4. Infection Control Guidance, Acute-Care Facilities: <http://www.cdc.gov/flu/professionals/infectioncontrol/healthcarefacilities.htm>
5. Preventing the Spread of Influenza in Child Care Settings:  
<http://www.cdc.gov/flu/professionals/infectioncontrol/healthcarefacilities.htm>
6. Long-Term Care Facilities: <http://www.cdc.gov/flu/professionals/infectioncontrol/longtermcare.htm>
7. Interim Guidance for the Use of Masks to Control Influenza Transmission:  
<http://www.cdc.gov/flu/professionals/infectioncontrol/maskguidance.htm>
8. Respiratory Hygiene/Cough Etiquette in Healthcare Settings:  
<http://www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm>
9. Things You Can Do to Prevent Infection:  
(Brochure): [http://www.jointcommission.org/NR/rdonlyres/F7BC658-5554-4A82-89ED-67E36F033CF8/0/Infection\\_Control\\_Brochure.pdf](http://www.jointcommission.org/NR/rdonlyres/F7BC658-5554-4A82-89ED-67E36F033CF8/0/Infection_Control_Brochure.pdf) ;  
(Poster): [http://www.jointcommission.org/NR/rdonlyres/F2B137C9-D08B-4A10-A417-86926BFD7CE3/0/IC\\_Poster.pdf](http://www.jointcommission.org/NR/rdonlyres/F2B137C9-D08B-4A10-A417-86926BFD7CE3/0/IC_Poster.pdf)  
Notice to Patients Poster: <http://www.cdc.gov/ncidod/dhqp/pdf/Infdis/RespiratoryPoster.pdf>  
Germstopper and Cover Your Cough Posters: <http://www.cdc.gov/germstopper/materials.htm>
10. Respiratory Protection:  
Jordan WS Jr. The mechanism of spread of Asian influenza. *Am Rev Respir Dis* 1961 83:29-40.  
Moser MR, Bender TR, Margolis HS, Noble GR, Kendal AP, Ritter DG. An outbreak of influenza aboard a commercial airliner. *Am J Epidemiol* 1979;110:1-6  
Loosli CG, Lemon HM, Robertson OH, Appel E. Experimental airborne influenza infection. I. Influence of humidity on survival of virus in air. *Proc Soc Exp Biol* 1943;53:205-6  
Schulman JL. Experimental transmission of influenza virus infection in mice. IV. Relationship of transmissibility of different strains of virus and recovery of airborne virus in the environment of infector mice. *J Exp Med* 1967;125:479-88.  
Schulman JL. The use of an animal model to study transmission of influenza virus infection. *Am J Public Health Nations Health* 1968;58:2092-6  
Blumenfeld HL, Kilbourne ED, Luria DB, Rogers DE. Studies on influenza in the pandemic of 1957-1958. I. An epidemiologic, clinical and serologic investigation of an intrahospital epidemic with a note on vaccination efficacy. *J Clin Invest* 1959;38:199-212  
Bridges CB, Kuehnert MJ, Hall CB. Transmission of influenza: implications for control in health care settings. *Clin Infect Dis* 2003;37:1094-1101.  
Salgado CD, Farr BM, Hall KK, Hayden FG. Influenza in the acute hospital setting. *Lancet Infect Dis* 2002;2:145-55.  
Andrews CH, Clover RE. Spread of infection from the respiratory tract of the ferret. 1. Transmission of influenza A virus. *Br J Exp Pathol* 1941;22:91-7.  
Alford RH, Kasel JA, Gerone PJ, Knight V. Human influenza resulting from aerosol inhalation. *Proc Soc Exp Biol Med* 1966;122:800-4.  
Tellier R. Review of aerosol transmission of influenza A virus. *Emerg Infect Dis* [serial on the Internet]. 2006 Nov (accessed September 29, 2006). <http://www.cdc.gov/ncidod/EID/vol12no11/06-0426.htm>  
Bean B, Moore BM, Sterner B, Peterson LR, Gerding DN, Balfour HH Jr. Survival of influenza viruses on environmental surfaces. *J Infect Dis* 1982;146:47-51

- World Health Organization Writing Group. Nonpharmaceutical public health interventions for pandemic influenza, national and community measures. *Emerg Infect Dis* 2006;12:88-94. [www.cdc.gov/ncidod/EID/vol12no01/05-1370.htm](http://www.cdc.gov/ncidod/EID/vol12no01/05-1370.htm)
- Boyce JM, Pittet D. Guideline for hand hygiene in health-care settings: recommendations of the Healthcare Infection Control Practices Advisory Committee and the HICPAC/SHEA/APIC/IDSA Hand Hygiene Task Force. *Am J Infect Control* 2002;30:S1-46.
- Ryan MA, Christian RS, Wohlrabe J. Handwashing and respiratory illness among young adults in military training. *Am J Prev Med* 2001;21:79-83.
- Du Ry van Beest Holle M, Meijer A, Koopmans M, de Jager C, van de Kamp EEHM, Wilbrink B, Conyn-van Spaendonck MAE, Bosman A. Human-to-human transmission of avian influenza A/H7N7, The Netherlands, 2003. *Euro Surveill* 2005;10:264-8.
- Tweed SA, Skowronski DM, David ST, Larder A, Petric M, Lees W, Li Y, Katz J, Krajden M, Tellier R, Halpert C, Hirst M, Astell C, Lawrence D, Mak A. Human illness from avian influenza H7N3, British Columbia. *Emerg Infect Dis* 2004;10:2196-9.
- Institute of Medicine. Reusability of facemasks during an influenza pandemic: facing the flu. Report of the Committee on the Development of Reusable Facemasks for Use During an Influenza Pandemic. Washington, D.C.: The National Academies Press, 2006. <http://www.nap.edu/catalog/11637.html>.
- Roy CJ, Milton DK. Airborne transmission of communicable infection – the elusive pathway. *N Engl J Med* 2004;350:1710-2.
- Papineni RS, Rosenthal FS. The size distribution of droplets in the exhaled breath of healthy human subjects. *J Aerosol Med* 1997;1:105-16.
- Nicas M, Nazaroff WW, Hubbard A. Toward understanding the risk of secondary airborne infection: emission of respirable pathogens. *J Occup Environ Hyg* 2005;2:143-54.
- Yu IT, Li Y, Wong TW, Tam W, Chan AT, Lee JH, Leung DY, Ho T. Evidence of airborne transmission of the severe acute respiratory syndrome virus. *N Engl J Med* 2004;350:1731-9.
- Henle W, Henle G, Stokes J Jr, Maris EP. Experimental exposure of human subjects to viruses of influenza. *J Immunol* 1945;52:145-65.
- Lenhart SW, Seitz T, Trout D, Bollinger N. Issues affecting respirator selection for workers exposed to infectious aerosols: emphasis on healthcare settings. *Applied Biosafety* 2004;9:20-36.

## **Pandemic Influenza Planning and Preparedness Checklists:**

### **1. Individual Planning**

Checklist for Individuals and Families: <http://www.pandemicflu.gov/plan/pdf/Individuals.pdf>

Guide for Individuals and Families: <http://www.pandemicflu.gov/plan/pdf/guide.pdf>

Personal Protective Equipment and Influenza Outbreaks: <http://www.fda.gov/cdrh/ppe/fluoutbreaks.html>

### **2. Business Planning**

Business Pandemic Influenza Planning Checklist:

(English): <http://www.pandemicflu.gov/plan/pdf/businesschecklist.pdf>

(Spanish): <http://www.pandemicflu.gov/plan/pdf/SpanishBChecklist.pdf>

### **3. School Planning**

Child Care and Preschool Pandemic Influenza Planning Checklist: [http://www.pandemicflu.gov/plan/pdf/child\\_care.pdf](http://www.pandemicflu.gov/plan/pdf/child_care.pdf)

School District (K-12) Pandemic Influenza Planning Checklist:

(English): <http://www.pandemicflu.gov/plan/pdf/schoolchecklist.pdf>

(Spanish): <http://www.pandemicflu.gov/espanol/plan/pdf/SpanishK-12Checklist.pdf>

Colleges and Universities Pandemic Influenza Planning Checklist:

[http://www.pandemicflu.gov/plan/pdf/colleges\\_universities.pdf](http://www.pandemicflu.gov/plan/pdf/colleges_universities.pdf)

### **4. Health Care Planning**

Home Health Care Services Checklist:

(English): <http://www.pandemicflu.gov/plan/healthcare.html>

(Spanish): <http://www.pandemicflu.gov/plan/pdf/SpanishHHChecklist.pdf>

Medical Offices and Clinics Checklist: <http://www.pandemicflu.gov/plan/medical.html>

Emergency Medical Service and Medical Transport Checklist: <http://www.pandemicflu.gov/plan/emgncymedical.html>

Hospital Preparedness Checklist: <http://www.hhs.gov/pandemicflu/plan/sup3.html#app2>

Long-Term Care and Other Residential Facilities Pandemic Influenza Planning Checklist:

<http://www.pandemicflu.gov/plan/LongTermCareChecklist.html>

### **5. Community Planning**

Faith-Based & Community Organizations Pandemic Influenza Preparedness Checklist:

(English): <http://www.pandemicflu.gov/plan/pdf/faithbasedCommunityChecklist.pdf>

(Spanish): <http://www.pandemicflu.gov/plan/pdf/SpanishFBChecklist.pdf>

## Continuity of Operations (COOP)

### 1. Federal

Federal Continuity Directive 1: [http://www.fema.gov/pdf/about/org/ncp/coop/continuity\\_guidance\\_circular.pdf](http://www.fema.gov/pdf/about/org/ncp/coop/continuity_guidance_circular.pdf)

Continuity of Operations (COOP) Plan Template:

[http://www.fema.gov/doc/government/coop/coop\\_plan\\_blank\\_template.doc](http://www.fema.gov/doc/government/coop/coop_plan_blank_template.doc)

Continuity of Operations (COOP) Plan Template Instructions:

[http://www.fema.gov/doc/government/coop/coop\\_plan\\_template\\_instructions.doc](http://www.fema.gov/doc/government/coop/coop_plan_template_instructions.doc)

Continuity of Operations (COOP) Pandemic Influenza Guidance:

[http://www.fema.gov/pdf/government/coop/coop\\_influenza.pdf](http://www.fema.gov/pdf/government/coop/coop_influenza.pdf)

Continuity of Operations Self-Assessment Tool: <http://www.fema.gov/government/coop/coopassessment3.shtm>;

<http://www.fema.gov/pdf/government/coop/assessment.pdf>

COOP Multi-Year Strategy and Program Management Plan:

Template: <http://www.fema.gov/pdf/government/coop/MYSPMPTemplate.pdf>;

Template Guide: <http://www.fema.gov/pdf/government/coop/MYSPMPTemplateGuide.pdf>;

Budget Resource Requirements Addendum:

<http://www.fema.gov/xls/government/coop/MYSPMPBudgetAddendum.xls>

### 2. Federal Training

COOP Awareness Training: [http://www.fema.gov/ppt/government/coop/coop\\_awareness\\_training.ppt](http://www.fema.gov/ppt/government/coop/coop_awareness_training.ppt)

COOP Training from FEMA's Emergency Management Institute: Course Map:

[http://www.fema.gov/doc/government/coop/coop\\_training\\_map\\_090204.doc](http://www.fema.gov/doc/government/coop/coop_training_map_090204.doc)

### 3. Commonwealth of Virginia Authorities

Code of Virginia, §44-146.18, paragraph B.7: <http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+44-146.18>

### 4. Commonwealth of Virginia COOP Guidance and Training

Continuity of Operations (COOP) Planning Manual: <http://www.vaemergency.com/library/coop/resources/index/cfm>

Continuity of Operations (COOP) Worksheet:

<http://www.vaemergency.com/library/coop/resources/COOPWorksheetsv2.doc>

Continuity of Operations Planning Toolkit: <http://www.vaemergency.com/library/coop/resources/index.cfm>

### 5. Private Industry COOP/Business Continuity Planning (BCP) Resources

DRI International: <https://www.drii.org/>

Disaster Recovery Journal: <http://www.drj.com/>

Continuity Insights Magazine: <http://www.continuityinsights.com/Magazine.html>



## H: Interim Guidance on Planning for the Use of Surgical Masks and Respirators During an Influenza Pandemic

(Source: [www.cdc.gov/h1n1](http://www.cdc.gov/h1n1))

---

### Interim Recommendations for Facemask and Respirator Use to Reduce Novel Influenza A (H1N1) Virus Transmission

---

August 5, 2009 5:00 PM ET

*This document has been updated in accordance with the [CDC Recommendations for the Amount of Time Persons with Influenza-Like Illness Should be Away from Others](#). This document provides interim guidance and will be updated as needed*

*This document provides updated interim guidance on the use of facemasks and respirators for decreasing the exposure to novel influenza A (H1N1) virus. This guidance replaces other CDC guidance on mask and/or respirator use that may be included in other CDC documents in regards to the outbreak of novel H1N1 virus. No change has been made to guidance on the use of facemasks and respirators for health care settings. This document includes guidance on facemask and respirator use for a wider range of settings than was included in previous documents and includes recommendations for those who are at increased risk of severe illness from infection with the novel H1N1 virus compared with those who are at lower risk of severe illness from influenza infection. For more information about human infection with novel influenza A (H1N1) virus, visit the [CDC H1N1 Flu website](#). Other CDC novel H1N1 guidance will be updated with the information contained in this document as soon as possible.*

*Detailed background information and recommendations regarding the use of facemasks and respirators in non-occupational community settings can be found on [PandemicFlu.gov](http://PandemicFlu.gov) in the document [Interim Public Health Guidance for the Use of Facemasks and Respirators in Non-Occupational Community Settings during an Influenza Pandemic](#). Information on the use of facemasks and respirators in health care settings can be found at [http://www.cdc.gov/h1n1flu/guidelines\\_infection\\_control.htm](http://www.cdc.gov/h1n1flu/guidelines_infection_control.htm).*

Information on the effectiveness of facemasks and respirators for decreasing the risk of influenza infection in community settings is extremely limited. Thus, it is difficult to assess their potential effectiveness in decreasing the risk of novel influenza A (H1N1) virus transmission in these settings. In the absence of clear scientific data, the interim recommendations below have been developed on the basis of public health judgment, the historical use of facemasks and respirators in other settings for preventing transmission of influenza and other respiratory viruses, and on current information on the spread and severity of the novel influenza A (H1N1) virus.



In areas with confirmed human cases of novel influenza A (H1N1) virus infection, the risk for infection can be reduced through a combination of actions. No single action will provide complete protection, but an approach combining the following steps can help decrease the likelihood of transmission. These recommended actions are:

- Wash hands frequently with soap and water or use [alcohol-based hand cleaner\\*](#) when soap and water are not available.
- Cover your mouth and nose with a tissue when coughing or sneezing.
- Avoid touching your eyes, nose and mouth
- People who are sick with an influenza-like illness (ILI) (fever plus at least cough or sore throat and possibly other symptoms like runny nose, body aches, headaches, chills, fatigue, vomiting and diarrhea) should stay home and keep away from others as much as possible, including avoiding travel, for at least 24 hours after fever is gone except to get medical care or for other necessities. (Fever should be gone without the use of fever-reducing medicine).
- Avoid close contact (i.e. being within about 6 feet) with persons with ILI.

In addition, influenza antiviral medications are an important tool for the treatment and prevention of influenza, including novel H1N1. Also see [Guidance on the use of antiviral medications](#).

### Facemasks and Respirators

Recommendations for the uses of facemasks and/or respirators are listed in [Table 1](#) below for different settings where a person may be exposed to novel H1N1 virus. These recommendations also differ based on whether the person exposed to novel H1N1 is in a group at increased risk for severe illness from influenza infection. More information on preventing influenza transmission in

health care settings can be found in the [Interim Guidance for Infection Control for Care of Patients with Confirmed or Suspected Novel Influenza A \(H1N1\) Virus Infection in a Healthcare Setting](#).

In community and home settings, the use of facemasks and respirators generally are not recommended. However, for certain circumstances as described in [Table 1](#), a facemask or respirator may be considered, specifically for persons at increased risk of severe illness from influenza.

Use of N95 respirators or facemasks generally is not recommended for workers in non-healthcare occupational settings for general work activities. For specific work activities that involve contact with people who have ILI, such as escorting a person with ILI, interviewing a person with ILI, providing assistance to an individual with ILI, the following are recommended:

- workers should try to maintain a distance of 6 feet or more from the person with ILI;
- workers should keep their interactions with ill persons as brief as possible;
- the ill person should be asked to follow good cough etiquette and hand hygiene and to wear a facemask, if able, and one is available;
- workers at increased risk of severe illness from influenza infection (*see footnote 3 of [table 1](#)*) should avoid people with ILI (possibly by temporary reassignment); and,
- where workers cannot avoid close contact with persons with ILI, some workers may choose to wear a facemask or N95 respirator on a voluntary basis.

In the occupational healthcare setting, respiratory protection is recommended. Because infection control precautions, including respiratory protection, are imperfect, workers who are at increased risk of severe illness from influenza, and who are caring for a patient with known, probable, or suspected novel H1N1 or ILI, may consider temporary reassignment to avoid exposure.

Additional recommendations for use of facemasks by people who have ILI that may be due to novel H1N1 infection are included in [Table 2](#).

There are important differences between facemasks and respirators. Facemasks do not seal tightly to the face and are used to block large droplets from coming into contact with the wearer's mouth or nose. Most respirators (e.g. N95) are designed to seal tightly to the wearer's face and filter out very small particles that can be breathed in by the user. For both facemasks and respirators, however, limited data is available on their effectiveness in preventing transmission of H1N1 (or seasonal influenza) in various settings. However, the use of a facemask or respirator is likely to be of most benefit if used as early as possible when exposed to an ill person and when the facemask or respirator is used consistently. (Ref. 1. MacIntyre CR, et al. EID 2009;15:233-41. 2. Cowling BJ, et al. Non-pharmaceutical interventions to prevent household transmission of influenza. The 8th Asia Pacific Congress of Medical Virology, Hong Kong, 26-28 February 2009.)

**Facemasks:** Unless otherwise specified, the term "facemasks" refers to disposable facemasks cleared by the U.S. Food and Drug Administration (FDA) for use as medical devices. This includes facemasks labeled as surgical, dental, medical procedure, isolation, or laser masks. Such facemasks have several designs. One type is affixed to the head with two ties, conforms to the face with the aid of a flexible adjustment for the nose bridge, and may be flat/pleated or duck-billed in shape. Another type of facemask is pre-molded, adheres to the head with a single elastic band, and has a flexible adjustment for the nose bridge. A third type is flat/pleated and affixes to the head with ear loops. Facemasks cleared by the FDA for use as medical devices have been determined to have specific levels of protection from penetration of blood and body fluids. Facemasks help stop droplets from being spread by the person wearing them. They also keep splashes or sprays from reaching the mouth and nose of the person wearing the facemask. They are not designed to protect against breathing in very small particle aerosols that may contain viruses. Facemasks should be used once and then thrown away in the trash.

**Respirators:** Unless otherwise specified, "respirator" refers to an N95 or higher filtering face piece respirator certified by the CDC/National Institute for Occupational Safety and Health (NIOSH). A respirator is designed to protect the person wearing the respirator against breathing in very small particle aerosols that may contain viruses. A respirator that fits snugly on the face can filter out virus-containing small particle aerosols that can be generated by an infected person, but compared with a facemask it is harder to breathe through a respirator for long periods of time. Respirators are not recommended for children or people who have facial hair.

Where respirators are used in a non-occupational setting, fit testing, medical evaluation and training are recommended for optimal effectiveness.

When respiratory protection is required in an occupational setting, respirators must be used in the context of a comprehensive respiratory protection program as required under OSHA’s Respiratory Protection standard (29 CFR 1910.134). This includes fit testing, medical evaluation and training of the worker. When required in the occupational setting, tight-fitting respirators cannot be used by people with facial hair that interferes with the face seal.

When respirators are used on a voluntary basis in an occupational setting, requirements for voluntary use of respirators in work sites can be found on the [OSHA website](#).

Employers should continue to evaluate workplace hazards related to the novel H1N1 influenza A situation in accordance with CDC and OSHA guidance. Mandatory use of respiratory protection may be required when work activities in occupational settings confer risk that is task/function based, and risk analyses conducted by the employer could identify hazardous work activities. For example, performing activities which generate large amounts of aerosols require respiratory protection regardless of the setting in which it is performed (i.e. in a hospital, an outpatient setting, a prison).

For additional information on facemasks and respirators, see the [CDC/NIOSH website](#), the [Food and Drug Administration website](#), and the [Occupational Safety and Health Administration website](#).

**Groups at Higher Risk for Severe Illness from Novel Influenza A (H1N1) Infection**

Groups of people at higher risk for severe illness from novel influenza A (H1N1) infection are thought to be the same as those people at higher risk for severe illness from seasonal influenza. These groups include:

- Children younger than 5 years old
- Persons aged 65 years or older
- Children and adolescents (younger than 18 years) who are receiving long-term aspirin therapy and who might be at risk for experiencing Reye syndrome after influenza virus infection
- Pregnant women
- Adults and children who have asthma, chronic pulmonary, cardiovascular, hepatic, hematological, neurologic, neuromuscular, or metabolic disorders such as diabetes;
- Adults and children who have immunosuppression (including immunosuppression caused by medications or by HIV)
- Residents of nursing homes and other chronic-care facilities.

Table 1. CDC Interim Recommendations for Facemask and Respirator Use for Home, Community, and Occupational Settings for Non-Ill Persons to Prevent Infection with Novel H1N1 <sup>1 2</sup>

Setting	Persons not at increased risk of severe illness from influenza (Non-high risk persons)	Persons at increased risk of severe illness from influenza (High-Risk Persons) <sup>3</sup>

<b>Community</b>		
No novel H1N1 in community	Facemask/respirator not recommended	Facemask/respirator not recommended
Novel H1N1 in community: not crowded setting	Facemask/respirator not recommended	Facemask/respirator not recommended
Novel H1N1 in community: crowded setting	Facemask/respirator not recommended	Avoid setting. If unavoidable, consider facemask or respirator <a href="#">4</a> <a href="#">5</a>
<b>Home</b>		
Caregiver to person with influenza-like illness	Facemask/respirator not recommended	Avoid being caregiver. If unavoidable, use facemask or respirator <a href="#">4</a> <a href="#">5</a>

Other household members in home	Facemask/respirator not recommended	Facemask/respirator not recommended
<b>Occupational (non-health care)</b>		
No novel H1N1 in community	Facemask/respirator not recommended	Facemask/respirator not recommended
Novel H1N1 in community	Facemask/respirator not recommended but could be considered under certain circumstances <a href="#">4</a> <a href="#">5</a>	Facemask/respirator not recommended but could be considered under certain circumstances <a href="#">4</a> <a href="#">5</a>
<b>Occupational (health care) <a href="#">6</a></b>		
Caring <a href="#">7</a> for persons with known, probable or suspected novel H1N1 or influenza-like illness	Respirator	Consider temporary reassignment. Respirator

<sup>1</sup> The effectiveness of respirators and facemasks in preventing transmission of novel H1N1 (or seasonal influenza) in various settings is not known. Use of a facemask or respirator is likely to be of most benefit if used correctly and consistently when exposed

to an ill person. (Ref. a) MacIntyre CR, et al. EID 2009;15:233-41. b) Cowling BJ, et al. Non-pharmaceutical interventions to prevent household transmission of influenza. The 8th Asia Pacific Congress of Medical Virology, Hong Kong, 26-28 February 2009.)

**2** For the purpose of this document, respirator refers to N95 or any other NIOSH-certified filtering face piece respirator.

**3** Persons at increased risk of severe illness from influenza (i.e. high-risk persons) include those groups at higher risk for severe illness from seasonal influenza, including: children younger than 5 years old; persons aged 65 years or older; children and adolescents (younger than 18 years) who are receiving long-term aspirin therapy and who might be at risk for experiencing Reye syndrome after influenza virus infection; pregnant women; adults and children who have pulmonary, including asthma, cardiovascular, hepatic, hematological, neurologic, neuromuscular, or metabolic disorders, such as diabetes; adults and children who have immunosuppression (including immunosuppression caused by medications or by HIV); and, residents of nursing homes and other chronic-care facilities.

**4** The optimal use of respirators requires fit testing, training and medical clearance. Proper use is recommended to maximize effectiveness. The use of facemasks may be considered as an alternative to respirators, although they are not as effective as respirators in preventing inhalation of small particles, which is one potential route of influenza transmission. There is limited evidence available to suggest that use of a respirator without fit-testing may still provide better protection than a facemask against inhalation of small particles. Respirators are not recommended for children or persons who have facial hair ([see FDA website](#)).

**5** Use of N95 respirators or facemasks generally is not recommended for workers in non-healthcare occupational settings for general work activities. For specific work activities that involve contact with people who have influenza-like illness (ILI) (fever plus at least either cough or sore throat and possibly other symptoms like runny nose, body aches, headaches, chills, fatigue, vomiting and diarrhea), such as escorting a person with ILI, interviewing a person with ILI, providing assistance to an individual with ILI, the following are recommended: a) workers should try to maintain a distance of 6 feet or more from the person with ILI; b) workers should keep their interactions with the ill person as brief as possible; c) the ill person should be asked to follow good cough etiquette and hand hygiene and to wear a facemask, if able, and one is available; d) workers at increased risk of severe illness from influenza infection (*see footnote 3*) should avoid people with ILI (possibly by temporary reassignment); and, e) where workers cannot avoid close contact with persons with ILI, some workers may choose to wear a facemask or N95 respirator on a voluntary basis (See footnote 1). When respirators are used on a voluntary basis in an occupational work setting, requirements for voluntary use of respirators in work sites can be found on the [OSHA website](#).

**6** See [case definitions of confirmed, probable, and suspected novel influenza A \(H1N1\)](#). Also see [infection control in the health care setting](#). When respiratory protection is required in an occupational setting, respirators must be used in the context of a comprehensive respiratory protection program as required under OSHA's Respiratory Protection standard (29 CFR 1910.134). This includes fit testing, medical evaluation and training of the worker.

**7** "Caring" includes all activities that bring a worker into proximity to a patient with known, probable, or suspected novel H1N1 or ILI, including both providing direct medical care and support activities like delivering a meal tray or cleaning a patient's room.

Table 2. CDC Interim Recommendations For Facemask Use For Persons Ill With Confirmed, Probable, Or Suspected Novel Influenza A (H1N1)<sup>1</sup> To Prevent Transmission Of Novel H1N1 <sup>2</sup>

Setting	Recommendation

Home (when sharing common spaces with other household members)	Facemask preferred, if available and tolerable, or tissue to cover cough/sneeze
Health care settings (when outside of patient room)	Facemask, if tolerable
Non-health care setting	Facemask preferred, if available and tolerable, or tissue to cover cough/sneeze
Breastfeeding	Facemask preferred, if available and tolerable, or tissue to cover cough/sneeze

**1** See [definitions for confirmed, probable, and suspect novel influenza A \(H1N1\) infection](#). Also see [information on infection control in health care settings](#).

**2** Ill persons should be placed in well ventilated areas when possible and placed in areas where at least 6 feet distance can be maintained between the ill person and other well and ill persons. Selected references: a) Blumenfeld HL, et al. J Clin Invest 1959;38:199-212. b) Bridges CB, et al. Clin Infect Dis 2003;37:1094-1101. c) Foster MG and Cookson AH. Lancet 1918 (Nov. 2): 588-90. d) Gregg MB. Ann NY Acad Sci 1980;353:45-53. e) WHO. Infection prevention and control of epidemic- and pandemic-prone acute respiratory diseases in health care. June 2007. f) Fabian P, et al. Plos One 2008;3:e2691.

## Appendix I: Role of Federal, State and Local Government Agencies

### A. Federal Roles

- HHS Pandemic Influenza Plan, 11/2005
- Development of laboratory tests and reagents
- Development of reference strains for vaccines
- Vaccine evaluation and licensure
- Recommendations on target populations and priorities
- Deployment of federally purchased vaccine
- Mass vaccination clinic guidelines
- Rapid vaccine coverage assessment
- Evaluation of vaccine safety

### B. Commonwealth of Virginia Roles

- Response Plan – 2002, revised 3/2006
- Surveillance
- Community Disease Control
- Immunization
- Antiviral medications
- Public Information
- Medical Care Planning
- Public Health Laboratory
- Infection Control
- Clinical Guidance
- Maintenance of Essential Health and Medical services
- Travel associated risk
- Workforce Support
- Pandemic Influenza Summit – March 2006

### C. Local Roles

- Loudoun Pandemic Flu Preparedness Task Force (*LPFPTF*)  
Multidisciplinary workgroup with Health Department lead  
Initiated March 28, 2006
- Craft Public Messages
- Seminars & Educational Outreach Meetings, 2006-2008
- Develop Plan
- Exercise Plan
  - October 21, 2006: Code Flu 06 – Exercise of mass prophylaxis POD plan
  - October 24, 2007: TriPods 07 – Exercise of mass prophylaxis POD plan
  - November 8, 2008: CodeFlu08 – Exercise of Staging Site and mass prophylaxis POD plans
- Prevent Spread
- Prophylax Residents and Staff
- Continue Business Operations
- Workforce Protection
- Surge Plans
- Plan with Community Partners



## **Appendix J: Seminars and Educational Outreach Activities**

1. County and Town government organizations
2. Medical offices
3. Private large and small businesses
4. First responders (police, fire, EMS)
5. Veterinarians
6. Public and private schools, PTAs
7. Retirement communities and senior centers
8. Homeowners' associations
9. Fraternal and civic organizations
10. Health fairs
11. Newspaper articles
12. Cable television notices
13. General public summit
14. Loudoun Epi Bulletin
15. Public Summits