Pandemic Influenza Supplement

To the Public Health Disaster Response Guidelines Rice County, Minnesota

January 2007

Table of Contents

l.	Preface Page 3
II.	The Base Plan Page 4 a. Purpose b. Primary Objectives c. Plan Organization d. Background e. Scope f. Authority g. Concept of Operations h. Planning Assumptions
III.	Local Public Health Pandemic Influenza FunctionsPage 11
IV.	Attachments Page 17

Preface

An influenza pandemic will place extraordinary and sustained demands on the public health and medical care systems as well as providers of essential services in Rice County.

To prepare for the next pandemic, Rice County Public Health, in cooperation with various state and local organizations, has developed this Pandemic Influenza Supplement.

Emergency preparation is a continuum, and planning efforts will always be evolving. As new information arises and lessons are learned, this Supplement will be updated as necessary.

The MDH Plan

In April 2006, the Minnesota Department of Health (MDH) disseminated the MDH Pandemic Influenza Plan (http://www.health.state.mn.us/divs/idepc/diseases/flu/pandemic/mdh.html). It is divided into three sections:

Part 1: **The Base Plan**: An overview of MDH planning and response to a pandemic. This component gives background information, cites legal authority, explains general concepts of operation, and outlines overall functions for the MDH.

Part 2: **Technical Sections**: Additional detailed information organized into 11 technical sections specific to an influenza pandemic:

- A. Communications
- B. Epidemiological Surveillance
- C. Community Disease Containment
- D. Infection Control
- E. Clinical Issues
- F. Healthcare Planning
- G. Antivirals and Vaccines
- H. Laboratory
- I. Poultry Worker Health
- J. Care of the Deceased
- K. Environmental Public Health

Part 3: **Attachments**: Additional resources and other supporting information.

The MDH plan serves as a blueprint for pandemic influenza planning in the state. Rice County Public Health has used this guidance in preparing this Supplement to the Public Health Disaster Response Guidelines, which are a part of the Emergency Operations Plan for Rice County.

The Base Plan

Purpose

The purpose of this Supplement is to provide a coordinated and comprehensive local response to an influenza pandemic in order to reduce morbidity, mortality, and social disruption and to help ensure a continuation of governmental functions.

Primary Objectives

The Rice County Public Health Pandemic Influenza Supplement has five primary objectives:

- 1. Maximize the protection of life and property in Rice County.
- 2. Assure that the response effort is organized in accordance with the National Incident Management System (NIMS).
- 3. Suggest roles and responsibilities for other local governmental and non-governmental agencies participating in the response.
- 4. Assure that the Supplement is compatible with the MDH Pandemic Influenza Plan and the plans of other local public health departments in the state
- 5. Assure that the Supplement is compatible with the pandemic influenza response activities identified in the Rice County Emergency Operations Plan.

Plan Organization

The pandemic influenza Supplement is organized into three key components:

- The Base Plan: An overview of planning and response to a pandemic. This component gives background information, cites legal authority, explains general concepts of operation, and outlines overall functions for Rice County Public Health during an influenza pandemic.
- 2. **LPH Pandemic Influenza Functions**: This section lists specific roles and responsibilities of the local health department in a pandemic influenza response.
 - A. Communications
 - B. Epidemiological Surveillance
 - C. Community Disease Containment
 - D. Infection Control
 - E. Healthcare Planning
 - F. Antivirals and Vaccines
 - G. Care of the Deceased
 - H. Environmental Public Health
- 3. **Attachments**: Additional resources and other supporting information.

Background

Influenza is caused by viruses that infect the respiratory tract. Influenza symptoms include rapid onset of fever, chills, sore throat, runny nose, headache, non-productive cough, and body aches. Influenza is a highly contagious illness and can be spread easily from one person to another. It is spread through contact with small droplets and aerosols from the nose and throat of an infected person during coughing and sneezing.

Influenza viruses are unique in their ability to cause sudden infection in all age groups on a global scale. The importance of influenza viruses as biological threats is due to a number of factors, including a high degree of transmissibility, the presence of a vast reservoir of novel (new) variants (primarily aquatic birds), and the unusual properties of the viral genome.

Two types of influenza viruses cause disease in humans: type A and type B. Influenza A viruses are composed of two major antigenic structures essential to vaccines and immunity: hemagglutinin (H) and neuraminidase (N). The structure of these two components defines the virus subtype.

A minor change in the structure caused by a mutation (antigenic drift) results in the emergence of a new strain within a subtype. Such mutations can occur in both type A and B influenza viruses. A major change in the structure caused by genetic recombination (antigenic shift) results in the emergence of a novel subtype (i.e., one that has never before occurred in humans or adaptive mutation of an avian virus) most commonly associated with influenza pandemics. This shift only occurs with influenza type A viruses.

Influenza A viruses are unique because they can infect both humans and animals, thereby causing more severe illness. Antigenic shifts in influenza A viruses have been the cause of the three known pandemics in recent history: 1918, 1957, and 1968.

The well-known "Spanish flu" of 1918 was responsible for more than 20 million deaths worldwide, primarily among young adults. Mortality rates associated with the more recent pandemics of 1957 (A/Asia [H2N2]) and 1968 (A/Hong Kong [H3N2]) were reduced, in part, by antibiotic therapy for secondary bacterial infections and more aggressive supportive care. However, both the 1957 and 1968 pandemics were associated with high rates of morbidity and social disruption.

Pandemic Influenza

Pandemic influenza is a unique public health emergency. The impact of the next pandemic will likely have devastating effects on the health and wellbeing of the American public.

The Centers for Disease Control and Prevention (CDC) estimates that in the United States alone:

- Up to 200 million people will be infected:
- Fifty million people will require outpatient care;
- Two million people will be hospitalized; and
- Between 100,000 and 500,000 people will die.

Effective preventive and therapeutic measures – including vaccines and antiviral agents – will likely be in short supply, as may some antibiotics to treat secondary infections. Healthcare workers and other first responders will likely be at even higher risk of exposure and illness than the general population, further impeding the care of ill persons. Widespread illness in the community will also increase the likelihood of sudden and potentially significant shortages of various personnel who provide other essential community services.

Pandemic influenza is considered to be a relatively high probability event - even inevitable - by many experts, yet no one knows when the next pandemic will occur; there may be very little warning.

Most experts believe that we will have one to six months between the identification of a novel influenza virus that results in human-to-human transmission and the time that widespread outbreaks begin to occur in the United States. Outbreaks are expected to occur simultaneously throughout much of the nation and the world, thus preventing relocation of human and material resources.

The effect of influenza on individual communities will be relatively prolonged – six to eight weeks – when compared to the minutes-to-days observed in most other natural disasters. Should a pandemic occur, every community would have to rely primarily on its own resources as it combats the pandemic.

Scope

As the lead public health agency in the state, the MDH is responsible for protecting, maintaining, and improving the health of all Minnesotans. Based on Minnesota's strong state-local partnership, in the event of an influenza pandemic, the MDH will provide leadership and direction to front-line public health and private healthcare entities, with Rice County Public Health functioning in a local public health leadership role, under the guidance of MDH. Rice County Emergency Management will be the lead coordinating agency in a pandemic influenza outbreak and public health will work closely with emergency management to respond to an influenza pandemic.

Authority

Chapter 12 of Minnesota Statutes grants the Governor and the Minnesota Department of Homeland Security and Emergency Management (HSEM) overall responsibility to prepare for and respond to emergencies and disasters. Chapter 12 directs the Governor and HSEM to develop and maintain a comprehensive state emergency operations plan, known as the Minnesota Emergency Operations Plan (MEOP).

Furthermore, Minnesota Statutes, including Minnesota Chapter 12 (Minnesota Emergency Management Act) Minnesota Chapter 144 (General Duties of the Commissioner of Health), Minnesota Chapter 145A (Powers and Duties of a Community Health Board) outline the authorities of local health departments and grant the Commissioner of Health broad authority to protect, maintain, and improve the health of the public.

Concept of Operations

The Rice County Pandemic Influenza Supplement is part of the Rice County Public Health Disaster Response Guidelines, which will serve as the overarching operational plan during a pandemic influenza response. Both the Guidelines and the Supplement follow the National Incident Management System (NIMS) and are part of the Rice County Emergency Operations Plan.

Due to the prolonged nature of a pandemic influenza event, this Supplement utilizes the pandemic phases defined by the World Health Organization (WHO) in order to facilitate coordinated planning and response.

The United States will use the global pandemic phases as defined by the WHO and as determined by the secretary of Health and Human Services (HHS). In actual practice, the

distinction between the various phases of a pandemic due to influenza may be blurred or shift in a matter of hours, which underscores the need for flexibility. Recognizing that distinctions between the phases may be unclear, the WHO proposes classification based on assessment of risk and on a range of scientific and epidemiological data. A chart with this information is included in Attachments at the end of this document.

Planning Assumptions

For planning purposes, the worst-case scenario for a pandemic is projected. The response to the pandemic will be adjusted if the situation does not fully warrant worst-case scenario projections.

For purposes of this plan, the following assumptions are made:

General Preparedness

Rice County Public Health will use the National Incident Management System (NIMS) as a basis for supporting, responding to, and managing plan response activities.

- 1. Events may:
 - a. Occur at any time.
 - b. Require significant communication and information sharing across jurisdictions and between the public and private sectors.
 - c. Involve multiple geographic areas.
 - d. Impact critical infrastructures.
 - e. Overwhelm the capabilities of local and tribal governments.
 - f. Require short-notice asset coordination and response timelines.
 - g. Require prolonged, sustained incident management operations and support activities.
- 2. Rice County Public Health has planned and prepared for health emergencies locally and regionally under the guidance and direction of the MDH.
- 3. During any health emergency, the MDH district office response teams will work as liaisons with LPH, communicating local health needs to the MDH.

Pandemic Specific Preparedness

- 1. Pandemic events:
 - a. Will have worldwide impact.
 - b. Generally occur everywhere at the same time.
 - c. Exceed the capacity of all existing support systems.
 - d. Impact everyone involved, including responders.
- 2. Emergency response systems will not be able to assist all individuals during a pandemic event.
- 3. Pre-pandemic event preparedness is essential for a successful response.
- 4. Assistance from outside organizations will be limited if the outbreak is nationwide.
- 5. Up to thirty percent of the workforce will be too sick to come to work at some point during the pandemic. Rates of absenteeism will likely be driven to forty percent during the peak weeks of a community outbreak. Lower rates of absenteeism will occur during the weeks

- before and after a pandemic, when some employees stay home to care for ill family members or out of fear of infection at work.
- 6. Up to two percent of the thirty percent who have fallen ill might die and will overwhelm mortuary and burial services. Local planning for surge capacity will be needed.
- 7. Critical functions will have been identified and staff will have been cross-trained to maintain critical functions like law enforcement, fire, EMS, jails, water systems, sewer systems, electric utilities, etc. If cross training isn't an option due to licensure, memorandums of understanding will be in place with individuals/jurisdictions with the same certification. (This is an assumption, but these are not activities for which public health is responsible.)
- 8. Isolation and quarantine of individuals will be established as needed by the MDH and will be implemented by local units of government.
- 9. The use of quarantine as a tool for containment of pandemic influenza will be time limited (early in the pandemic).
- 10. The number of individuals requiring care will overwhelm hospitals and clinics.
- 11. Medical standards of care for the public may be adjusted.
- 12. Facilities will be identified that could be used as temporary hospitals.
- 13. Families will need to assume responsibility for the care of family members (with mild to moderate pandemic influenza) in their homes due to a limited availability of acute care beds.
- 14. Closing schools and daycare centers in the area might have a significant impact on the availability of the workforce.
- 15. Employers will consider "working from home" options, moving to shifts for population density reduction, and providing electronic methods for staff to access work systems from offsite during an outbreak.
- 16. Employers will consider that just-in-time manufacturing and transporting will limit the availability of supplies.
- 17. Employers will identify how many staff would be needed to maintain essential functions and will develop personal protective equipment (PPE) plans specific to their businesses.
- 18. Workplaces will identify how much vaccine and/or antiviral medication they will need to obtain, if it is available.
- 19. Employers will review sick leave policies and make a determination as to the use of sick leave for employees that want to stay home to care for people that are not dependents.
- 20. Employers will evaluate whether or not non-ill employees can be ordered to come to work.
- 21. Employers will evaluate and implement procedures (e.g., shifts, social distancing, PPE) to protect employees from increased exposure risk while still maintaining critical services.

- 22. Employers will encourage sick employees to stay home.
- 23. Administrative rule waivers will have been developed and alternate service delivery systems identified for critical services.

Local Public Health (LPH) Preparedness

- 1. During a pandemic, LPH will be a primary conduit of information and resources from the MDH to individuals, families, communities, and systems at the local level.
- 2. LPH roles will vary greatly across the state during a pandemic. This will be due to the vastly different capacities and capabilities at the local level.
- 3. LPH will be the local technical expert on pandemic influenza, in coordination with local hospitals and clinics.
- 4. LPH will work with local emergency management and other public and private organizations to institute community-based infection control and disease containment measures.
- 5. LPH, in an event of a pandemic, will coordinate the delivery of services (with support from the MDH) for those individuals or groups placed in isolation and quarantine.
- 6. Based on the Essential LPH Activities Framework, the Communicable Disease Prevention and Control (DP&C) Common Activities Framework, and the CDC Public Health Preparedness and Response Grant, LPH services across the state will include, at a minimum:
 - a. Providing pandemic influenza information at an awareness level to the public, partners, and stakeholders.
 - b. Supporting coordinated surveillance with the MDH within the general guidelines of the DP&C Common Activities Framework.
 - c. Providing public health leadership at the local level through existing emergency advisory committees.
 - d. Maintaining access to current essential personnel lists by county and city.
 - e. Planning and carrying out mass dispensing of vaccines and/or other medical supplies to:
 - Essential personnel. Note: Determination of essential personnel priority groups will be event dependent and driven by federal and state guidelines.
 - ii. General public, again with priority groups event dependent and determined by federal and state guidelines.
 - iii. Special populations (e.g., non-English speakers, the hard of hearing).
- 7. LPH will add a pandemic influenza supplement to its local emergency operations plan.
- 8. As needed/requested, LPH will help counties/cities in revising their Emergency Operations Plans (EOP) for pandemic influenza and in exercising those plans.
- 9. LPH will work with the local emergency operations center (EOC) to coordinate the following services in Rice County:
 - a. Home/institutional healthcare for special populations
 - b. Hospital and clinic assistance and support
 - c. Off-site care facilities assistance and support
 - d. Recruitment and training of volunteers

Local Public Health Pandemic Influenza Functions

The table below lists functions that Rice County expects to perform during an influenza pandemic. This is not an all-inclusive list, and an attempt has been made not to repeat those items that are part of the Public Health Disaster Response Guidelines for Rice County.

Please note that many of the functions initiated in the beginning periods will continue in subsequent periods.

Interpandemic period (phases 1 and 2)					
No new influenza virus subtypes have been detected in humans.					
Co m mu nic atio ns	Test HAN (Health Alert Network) notification process quarterly.				
	Update HAN lists as needed.				
	 Continue to include procedures for contacting local officials in Public Health Disaster Response Guidelines. 				
	As needed, develop and test procedures for volunteer and staff notification.				
	 Provide the public with information regarding personal preparedness and where to get information in case of an emergency 				
Epi de mio logi cal Sur veil lan ce	 As requested and resources and staff expertise allow, Rice County Public Health will work with MDH epidemiology staff to conduct routine influenza surveillance in order to monitor for disease. Work with local providers to ensure adherence to disease reporting requirements. 				
Co m mu nity Dis eas e Co ntai nm ent	 As required by Minnesota Statutes 144.419, develop a plan for providing essential services for persons in isolation or quarantine in Rice County. The services in the Rice County plan are food, clothing, shelter, means of communication, medication, medical care, thermometers, infection control supplies, and a method of transportation to and from medical care. Identify potential locations for quarantine of people who cannot be quarantined at home. 				

He alth car e Pla nni ng	 Work with local hospitals to encourage off-site care coordination and surge capacity planning. District One Hospital in Rice County and Northfield Hospital in Dakota County both participate in a SE regional hospital planning group that is working to address the acute care needs of persons in the eleven county Southeast Region that includes Rice County. 	
Ant ivir als an d Va cci nes	 Maintain infrastructure for rapid allocation and distribution of critical pharmaceuticals and medical supplies through drills. Regularly review and refine seasonal influenza planning and response. Offer seasonal influenza vaccine to priority populations and the general public. Educate the public regarding the importance of influenza vaccination and pneumonia vaccination for eligible populations. When necessary, coordinate distribution of vaccine supplies within Rice County. 	
Car e of the De cea sed	participate in pandemic flu exercises or planning sessions.	
En viro nm ent al Pu blic He alth	 Rice County Environmental Health staff that would be expected to respond to a pandemic influenza situation will learn NIMS and be invited to participate on the Rice County Emergency Medical Services Provider Council, which also acts as the advisory committee for emergency preparedness planning. Environmental Health staff of Rice County Planning and Zoning Department will, as appropriate, be invited to participate in pandemic flu exercises or planning sessions. 	

Pandemic alert period (phases 3, 4, and 5)

Human infection(s) with a new subtype, but the virus is not easily transmittable via human-to-human spread.

Note: Prior to stage 5, if necessary, the MDH will request the opening of the State Emergency Operations Center (SEOC) by HSEM.

Co m mu nic atio ns

- Provide appropriate information to the public regarding what to expect during a
 pandemic, measures that may be used to control a pandemic, the rationale for
 control measures, the limitations of control measures, and how to prepare for a
 possible pandemic. Use the ECHO program and other means to reach persons
 whose primary language is not English.
- Disseminate messages from MDH to healthcare organizations, essential personnel, volunteers and the public.
- Educate volunteers and staff on possible roles during a pandemic.

Epi de mio logi cal Sur veil lan ce

- As resources and staff expertise allow and as requested by MDH, support MDH in routine surveillance for influenza.
- Inform MDH of any unusual reports of influenza like illness.
- Work with local providers on adherence to disease reporting requirements.

Co m mu nity Dis eas e

Co

ntai nm ent

- Manage (with MDH) the close contacts of cases or suspect cases through quarantine and implementation of the Rice County Essential Services Plan for Persons in Isolation or Quarantine.
- Give feedback to MDH on effectiveness of isolation and quarantine in preventing disease spread.
- Work with Rice County Emergency Management to plan for community level disease containment.

Inf ecti on Co ntr ol

- Disseminate infection control training materials for healthcare workers, public safety personnel, and other partners.
- Follow infection control guidance for mass dispensing locations, LPH, public safety personnel, and for the care of suspect influenza patients in home settings.
- Disseminate recommendations for PPE.

He alth car e Pla nni ng	 Work with local health care organizations to provide a coordinated role for Minnesota Responds Medical Reserve Corps volunteers. Expand emergency response planning to include children, schools, long-term care facilities, home care agencies, and other special populations.
Ant ivir als an d Va cci nes	 Follow priority group recommendations for antiviral and vaccination administration. Work with MDH to educate providers on priority group framework.
Car e of the De cea sed	In Rice County, emergency mortuary operations are the responsibility of the Rice County Medical Examiner. Rice County Public Health will assist as resources and expertise allow. Please reference the Rice County Emergency Operations Plan, the Minnesota Funeral Directors Association (MFDA) Emergency Mortuary Response Plan, and the Minnesota Department of Health Disaster Mortuary Emergency Response Team (D-MERT) Plan.
En viro nm ent al Pu blic He alth	 Environmental health staff invited to participate in the Emergency Medical Services Provider Council and consulted in development of response plans. As resources and expertise allow, environmental health staff will work with the Minnesota Department of Health and other state and local agencies to assure the health and safety of the public at all types of sites in Rice County and to assure a safe supply of water and food. Environmental health staff from Rice County will be in a supportive rather than a lead role in these activities.

Pandemic period (phase 6)

Human-to-human contact. Pandemic: increased and sustained transmission in the general population.

Co m mu nic atio ns

- Continue consistency of messages disseminated by MDH, hotline staff, and external partners.
- Continue to provide information to the public regarding what to expect, the rationale for and anticipated effectiveness of control measures, and possible self-help activities.
- Disseminate messages and information regarding influenza symptoms, limiting of contact with ill persons, respiratory hygiene and other infection control measures, and home care of the ill.
- Provide appropriate information to health care facilities, external partners and the public regarding use of antivirals and vaccines, isolation and quarantine, and community containment measures, in response to events that trigger initiation or cessation of these measures.

Epi de mio logi cal Sur veil lan

ce

 As resources and staff expertise allow, work with MDH to conduct surveillance activities.

Co m mu nity Dis eas e

Co

ntai

nm

ent

- Under the direction of MDH, implement isolation and quarantine of ill and exposed persons in the community. Implement the Rice County Public Health Essential Services Plan for Persons in Isolation or Quarantine.
- Work with emergency management to carry out recommendations for social distancing and infection control strategies.
- Work with emergency management to implement cancellation of public events, closure of schools and other facilities, snow days and other disease containment measures guided by the epidemiology of the pandemic virus under the direction of MDH and state and local officials.

Inf ecti on

Co

ntr

ol

- If needed, disseminate training materials for healthcare workers and others.
- Distribute additional infection control guidance for off-site care facilities and other settings, as needed.
- Maintain communication with MDH, clinicians, Infection Control Practitioners (ICPs), and others about infection control issues.
- Ensure that hotline/warmline staff, if this is implemented in Rice County, is informed of current infection control recommendations.

He alth car e Pla nni ng	 Assist the healthcare system in patient care coordination. As resources allow, assist the healthcare system in Rice County to recruit and utilize volunteer health professionals (MRMRC).
Ant ivir als an d Va cci nes	 Continue efficient and appropriate vaccination and use of antivirals, if available. Provide consistent, standardized media messages to facilitate public understanding of priority groups and vaccine and antiviral usage and allocation.
Car e of the De cea sed	 As staff resources and expertise allow, assist MDH with training additional persons needed to assist in this area.
En viro nm ent al Pu blic He alth	 As in phases 3, 4, and 5, Environmental Health staff will play a supportive role, when needed, in assuring health and safety at physical locations in Rice County, and in maintaining a safe supply of food and water.

Attachments

WHO Pandemic Phases

Interpandemic period				
Phase 1	No new influenza virus subtypes have been detected in humans. An influenza virus subtype that has caused human infection may be present in animals. If present in animals, the risk of human infection or disease is considered to be low.			
Phase 2	No new influenza virus subtypes have been detected in humans. However, a circulating animal influenza virus subtype poses a substantial risk of human disease. Note: The distinction between <i>phase 1</i> and <i>phase 2</i> is based on the risk of human infection or disease resulting from circulating strains in animals. This distinction is based on various factors and their relative importance according to current scientific knowledge. Relevant factors may include pathogenicity in animals and humans; occurrence in domesticated animals and livestock or only in wildlife; whether the virus is enzootic or epizootic, geographically localized or widespread; and/or other scientific parameters.			
Pandemic alert period				
	•			
Phase 3	Human infection(s) with a new subtype, but no human-to-human spread or, at most, rare instances of spread to a close contact.			
Phase 4	Small cluster(s) with limited human-to-human transmission, but spread is highly localized, suggesting that the virus is not well adapted to humans.			
Phase 5	Larger cluster(s) but human-to-human spread still localized, suggesting that the virus is becoming increasingly better adapted to humans, but may not yet be fully transmissible (substantial pandemic risk).			
	Note: The distinction between <i>phases 3</i> , <i>4</i> , and <i>5</i> is based on an assessment of the risk of a pandemic. Various factors and their relative importance according to current scientific knowledge may be considered. Factors may include rate of transmission, geographical location and spread, severity of illness, presence of genes from human strains (if derived from an animal strain), and/or other scientific parameters.			
Pandemic period				
Phase 6	Pandemic: increased and sustained transmission in general population.			

Additional Resources

Minnesota Funeral Directors Association (MFDA) Emergency Mortuary Response Plan

Minnesota Department of Health Disaster Mortuary Emergency Response Team (D-MERT) Plan