

Background

Influenza

Influenza is a disease associated with the 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 primarily 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 suddenly cause infection in all age groups. The importance of influenza viruses as a major human health threat is due to a number of factors, including a high degree of transmissibility, the presence of a vast reservoir of novel (new) variants (primarily infected birds), and the unusual properties of the influenza virus 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 point. Mutations (antigenic drifts) can occur in both type A and B influenza viruses. A major change can occur in influenza A viruses either by the exchange of a gene segment, resulting in a new subtype (reassortment), or an adaptive mutation, resulting in a major antigenic change. An 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. 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 be at 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 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.

Many experts think 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.

Purpose

The purpose of the Minnesota Department of Health (MDH) Pandemic Influenza Plan is to provide a coordinated and comprehensive statewide response to an influenza pandemic in order to reduce morbidity, mortality, and social disruption and to help ensure a continuation of essential governmental functions.

Primary Objectives

The MDH Pandemic Influenza Plan has nine primary objectives:

1. Coordinate with local, state, and federal partners to assure adequate preparation for a pandemic.
2. Enhance communication and information sharing about pandemic related topics.
3. Enhance plans for surge capacity and patient care coordination.
4. Enhance plans for mass dispensing of vaccines and stockpiling of antivirals and other necessary medical supplies.
5. Provide infection control and clinical guidance to healthcare providers, other state agencies, and identified groups.
6. Enhance plans for isolation, quarantine, and other disease containment measures.
7. Monitor disease outbreak to support a rapid response.
8. Prepare and enhance the mortuary system to deal with the anticipated increase in deaths associated with a pandemic.
9. Assure that recommendations made during a pandemic are based on a sound, accepted, and ethical framework.

Plan Organization

The pandemic influenza plan is organized into three key components:

1. **The Base Plan:** An overview of MDH planning and response to a pandemic. This component gives background information, cites legal authorities, explains general concepts of operation, and outlines overall functions for the MDH.
2. **Technical Sections:** Additional detailed information is 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
3. **Attachments:** Additional resources and other supporting information.

Scope

As the lead public health agency in the state, the MDH is responsible for protecting, maintaining, and improving the health of all Minnesotans. There is a strong state-local partnership where the MDH provides leadership and direction to front-line public health and private healthcare entities.

The Minnesota Division of Homeland Security and Emergency Management (HSEM) is the lead coordinating agency during any statewide emergency including a pandemic. The MDH will work closely with HSEM as well as with other state and local partners during a pandemic and will be the lead technical agency in the state during pandemic phases 3, 4, 5, and 6 (see **Attachment C**).

In these phases, the MDH will be accountable for assisting the overall state response by (see MDH Pandemic Influenza Functions below for more specifics):

- Serving as the deputy state incident manager at the State Emergency Operations Center (SEOC).
- Establishing daily goals and objectives for the statewide response.
- Providing overall technical recommendations in identified areas of expertise.
- Providing primary staffing in the Planning and Assessment Center (Planning Cell) of the SEOC.
- Working with private sector organizations to maximize the use of available resources.
- Establishing communication lines between the SEOC and the MDH Emergency Coordination Center (ECC).

Authority

Chapter 12 of Minnesota Statutes grants the Governor and HSEM overall responsibility of preparing for and responding 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).

In April 2004, under the Chapter 12 statutory authority, Governor Tim Pawlenty issued Executive Order 04-04, "*Assigning Emergency Responsibilities to State Agencies*." This order outlines the responsibilities that state agencies including the MDH have during an emergency (natural or man-made). Details on the roles and responsibilities of the MDH are available on page 6 of Executive Order 04-04 and in the MEOP Annexes C, D, F, G, J, K, L, M, and N.

Furthermore, Minnesota Statutes grant the Commissioner of Health broad authority to protect, maintain, and improve the health of the public. The majority of the Commissioner's authoritative powers relevant to an influenza pandemic are set forth in Chapters 144, 145, 145A, and 157 of Minnesota Statutes (see **Attachment D** for a detailed reference of authorities).

Ethical Considerations

After extensive deliberation, the Advisory Committee on Immunization Practices (ACIP) and the National Vaccine Advisory Committee (NVAC) voted in favor of vaccine priority recommendations. These recommendations were adopted by the U.S. Department of Health and Human Services and were published in the HHS Pandemic Influenza Plan (November 2005). These two committees acknowledged that priority groups would vary depending on state and local needs, as well as epidemiological information.

The HHS plan does not provide detailed definitions of priority groups; it only minimally ranks them and most significantly, gives no guidance for strategies on implementation of vaccine delivery to those priority groups.

Furthermore, the HHS plan does not address the prioritization of the use of limited medical supplies and hospital beds. Nor does the plan provide a framework for other ethical decision points related to a pandemic.

The MDH has a plan to address the ethical considerations not identified in the HHS plan (see **Attachment E** for detailed information).

Nationally, there have been numerous studies conducted and there are workgroups that have dealt with and continue to deal with topics that need ethical consideration. The MDH is supportive of this work and will not duplicate those efforts.

Concept of Operations

The MDH Pandemic Influenza Plan is a supplement of the MDH All-Hazards Response and Recovery Plan, developed by the MDH Office of Emergency Preparedness (OEP). The All-Hazards Response and Recovery Plan will serve as the overarching operational plan during a pandemic for the MDH.

The MDH All-Hazards Response and Recovery Plan addresses activities generic to any and all public health emergencies. It establishes the organizational framework for the activation and management of department activities that may be implemented in response to incidents having public health and/or medical implications. It also describes the capabilities and resources available in the department to address a variety of public health hazards that may arise following emergency incidents and disasters.

The MDH All-Hazards Response and Recovery Plan identifies and describes three key components that will be utilized during any event, including pandemic influenza:

- Incident management structure
- Notification process
- Activation plan

For more detailed information about the MDH All-Hazards Response and Recovery Plan, please contact the OEP at 651-201-5700.

Furthermore, the MDH All-Hazards Response and Recovery Plan and the Pandemic Influenza Plan (Supplement) incorporate the Minnesota Emergency Operation Plan (MEOP) through coordination with HSEM. Both plans comply with the National Incident Management System (NIMS).

Due to the prolonged nature of a pandemic influenza event, the MDH Pandemic Influenza Plan 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 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.

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.
<p>Note: The distinction between phase 1 and phase 2 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.</p>	

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 phases 3, 4, and 5 is based on an assessment of the risk of a pandemic. Various factors and their relative importance according to current scientific knowledge may be considered. Factors may include rate of transmission, geographical location and spread, severity of illness, presence of genes from human strains (if derived from an animal strain), and/or other scientific parameters.
Pandemic period	
Phase 6	Pandemic: increased and sustained transmission in general population.

Planning Assumptions

The following planning assumptions are made and will be adjusted as warranted:

General Preparedness

1. The MDH will use the NIMS as a basis for supporting, responding to, and managing plan response activities.
2. Events will be managed at the lowest possible geographic, organizational, and jurisdictional level utilizing the Incident Management System (IMS).
3. Events can occur in 6 different response levels, each increasing in size, scope, capacity, and response ability. They are (see **Attachment F** for definitions):
 - a. Incidents
 - b. Emergencies
 - c. Disasters
 - d. Major Disasters
 - e. Catastrophic Events
 - f. Pandemic Events
4. Events may:
 - a. Occur at any time.
 - b. Require significant communications 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.
5. The MDH has plans and prepares for health emergencies regionally through the MDH District Offices.
 6. The MDH is prepared to respond, when requested, to health emergencies locally, regionally, or statewide, as appropriate.
 7. During any health emergency, the MDH District Office response teams will work as liaisons with LPH, communicating local health needs to the MDH central office.
 8. The MDH will use Multi-Agency Coordination (MAC) entities in a response if necessary.
 9. The MDH will support and work in partnership with local response efforts.
 10. The degree of MDH involvement in a response to a given incident will depend largely upon the applicability of specific MDH legal authorities, jurisdictions, and current capabilities.

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 30 percent of the workforce will be too sick to come to work at some point during a pandemic. Rates of absenteeism will likely be driven to 40 percent during the peak weeks of a community outbreak. Lower rates of absenteeism will occur during the weeks before and after a pandemic wave when employees may stay home to care for ill family members or out of fear of infection at work.
6. Up to 2 percent of the 30 percent who have fallen ill may die and will overwhelm mortuary and burial services. Local planning for surge capacity will be needed (see **Attachment G** for a detailed account of population-based planning assumptions).
7. Critical functions will be identified and staff will be 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.
8. Isolation and quarantine recommendations will be established as needed by the MDH.
9. The use of quarantine as a tool for containment of pandemic influenza will be time limited (early in the pandemic).
10. Hospitals and clinics will be overwhelmed by the number of individuals requiring care.
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 influenza symptoms) in their homes due to a limited availability of hospital beds.
14. Closing schools and daycare centers in the area may 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 a personal protection equipment (PPE) plan based on MDH recommendations.
18. Employers will review sick leave policies and make a determination as to the use of sick leave for employees that may want to stay home to care for people that are not dependents.
19. Employers will evaluate whether or not non-ill employees can be ordered to come to work.
20. Employers will evaluate and implement procedures (e.g., shifts, spacing, PPE) to protect employees from increased exposure risk while still maintaining critical services based on MDH recommendations.
21. Employers will encourage sick employees to stay home.
22. 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 leadership at the local level through existing LPH emergency advisory committees.
 - d. Maintaining current essential personnel lists by county and city.

- e. Planning and carrying out mass dispensing of vaccines and/or other medical supplies to:
 - i. Essential personnel (as defined by the SNS Program). *Note: Determination of essential personal priority groups will be event dependent and driven by federal and state guidelines.*
 - ii. General public.
 - iii. Special populations (e.g., non-English speakers, the hard of hearing).
7. LPH will write a pandemic influenza appendix to their local emergency operations plans.
8. LPH, through cooperation with local emergency management, will help counties/cities in revising their Emergency Operations Plans (EOP) for pandemic influenza and in exercising those plans.
9. LPH will coordinate either directly or through the local emergency operations center (EOC) the following services:
 - a. Fever/flu clinics
 - b. Home/institutional healthcare for special populations
 - c. Hospital and clinic assistance and support
 - d. Mortuary services
 - e. Off-site care facilities assistance and support
 - f. Planning of continuity of operations of critical local infrastructure
 - g. Recruitment and training of volunteers

MDH Pandemic Influenza Functions

The table below lists functions the MDH will perform as the lead technical agency during an influenza pandemic. This is not an all-inclusive list. Other key sections such as behavioral health and volunteer coordination (the Minnesota Responds Medical Reserve Corps) are addressed in detail in the MDH All-Hazards Response and Recovery Plan.

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

Interpandemic period (phases 1 and 2)	
<i>No new influenza virus subtypes have been detected in humans.</i>	
Communications	<ul style="list-style-type: none"> ▪ Develop effective mechanisms and vehicles for rapid dissemination of pandemic-related information to the media, the public, MDH partners, and MDH staff. ▪ Develop, identify, and archive prescribed messages and materials addressing issues and concerns that may arise prior to or during a pandemic. ▪ Develop effective mechanisms for ensuring accuracy and consistency of messages disseminated to the public by MDH, MDH and SEOC hotline workers, local public health agencies, and other external partner agencies/organizations. ▪ Monitor, identify, and respond to trigger events that may generate public and media concern about pandemic influenza, and disseminate appropriate information to MDH staff, external partners, media, and the public.

Epidemiological Surveillance	<ul style="list-style-type: none"> ▪ Conduct routine influenza surveillance through reporting from sentinel sites, schools, and long-term care facilities in order to monitor for disease incidence and circulating viruses. ▪ Develop a surveillance system to detect novel/AI viruses. ▪ Conduct disease surveillance involving weekly routine reporting and state-level assessments on influenza activity using outpatient, hospital, and mortality surveillance systems. ▪ Coordinate with the Minnesota Department of Agriculture (DOA) and the Board of Animal Health (BAH) on veterinary surveillance.
Community Disease Containment	<ul style="list-style-type: none"> ▪ Plan for isolation and quarantine (IQ) including developing protocols for monitoring the health status of individuals and identifying isolation facilities for people who cannot be isolated at home. ▪ Develop protocols with MSP CDC Airport Quarantine officials, Metropolitan Airports Commission, and other partners for screening, isolating, and/or quarantining passengers on arriving flights. ▪ Ensure that LPH has identified locations for quarantine of people who cannot be quarantined at home and also has plans to provide monitoring (if jurisdiction has elected to do so) essential services and mental health services for individuals in IQ. ▪ Develop isolation and quarantine tools including: <ul style="list-style-type: none"> ▪ Instructions for individuals in isolation and quarantine ▪ 24/7 public health contact methods ▪ Guidance for the assessment of non-home quarantine facilities ▪ Procedures for seeking court orders for IQ ▪ Develop triggers for initiating and scaling back community-level disease containment measures in consultation with stakeholders. ▪ Develop assumptions for key stakeholder planning and for communicating with the public about preparing for disease containment measures.
Infection Control	Not Applicable
Clinical Issues	Not Applicable
Healthcare Planning	<ul style="list-style-type: none"> ▪ Develop a template for a Health and Medical All-hazard Regional Response Plan that includes a Patient Care Plan section and pandemic influenza incident-specific annex. ▪ Develop a guidance and planning document to assist regions with developing an integrated system of patient care among hospitals, clinics, off-site care facilities, and other care sites. ▪ Provide technical assistance to regions for the planning/implementation of off-site care facilities and surge capacity plans.

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Antivirals and Vaccines</p>	<ul style="list-style-type: none"> ▪ Maintain infrastructure of rapid allocation and distribution of critical pharmaceuticals and medical supplies. ▪ Enhance and exercise communication systems with LPH and providers for support of influenza vaccination. ▪ Sustain education and training structure with LPH. ▪ Integrate new federal and state recommendations into the state response. ▪ Regularly review and refine seasonal influenza planning and response.
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Laboratory</p>	<ul style="list-style-type: none"> ▪ Conduct seasonal influenza surveillance testing to characterize circulating influenza strains. ▪ Conduct advanced testing on a 24/7 emergency basis for suspect avian influenza (AI) or novel human influenza virus in human specimens. ▪ Expand influenza test capacity and capability, develop triage and testing algorithms, and implement new assays as they become available. ▪ Act as liaison to the CDC laboratories for reporting of unusual test results, acquiring new recommendations or protocols, and forwarding of potentially novel influenza strains that may pose a pandemic threat. ▪ Serve as a central statewide influenza testing information resource and communication hub for hospital and private laboratories through the Minnesota Laboratory System (MLS). ▪ Provide recommendations and training to clinical laboratories on influenza testing, bio-containment, shipping, requisition data collection, and laboratory worker safety.
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Poultry Worker Health</p>	<p style="text-align: center;">Not Applicable</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Care of the Deceased</p>	<ul style="list-style-type: none"> ▪ Develop statewide plan (specific to pandemic Influenza) to respond to death tolls where local mortuary services are overwhelmed. ▪ Provide training to mortuaries, medical examiners, healthcare facilities, and other officials at the local level. ▪ Stockpile necessary supplies.
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Environmental Public Health</p>	<ul style="list-style-type: none"> ▪ Develop and maintain procedures for advising on safe food preparation and handling. ▪ Provide training and assistance in the security of public water supply systems and the maintenance of a potable water supply. ▪ Develop and maintain business continuity of operation plans (COOP) for Environmental Health Division programs.

Pandemic alert period (phase 3, 4, and 5)	
<p><i>Human infection(s) with a new subtype, but the virus is not easily transmissible via human-to-human spread.</i></p> <p>Note: Prior to phase 5, if necessary, the MDH will request the opening of the SEOC by HSEM.</p>	
Communications	<ul style="list-style-type: none"> ▪ Use appropriate vehicles and mechanisms to activate/notify the MDH EGC and SEOC staff, other MDH staff, and media partners in response to pandemic trigger events. ▪ Continue to develop messages and materials in response to emerging public health needs or trigger events that may generate concern/interest on the part of the media and the public (e.g., increasing case numbers, increased fatalities, and spread of illness to new geographic areas or regions). ▪ 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. ▪ Obtain appropriate content and command/management approval before using appropriate vehicles and mechanisms to rapidly disseminate information to MDH staff, external partners, the media, and the public. ▪ Use appropriate mechanisms, including standardized talking points and other informational support materials, to ensure consistency of messages disseminated by MDH, MDH and SEOC hotline staff, LPH, and other external partner agencies/organizations.
Epidemiological Surveillance	<ul style="list-style-type: none"> ▪ Continue routine influenza surveillance. ▪ Prioritize testing of surveillance activities. ▪ Continually adapt disease surveillance methods. ▪ Conduct case-based surveillance for confirmed or suspect novel/AI cases. ▪ Develop and implement a statewide electronic acute-care based influenza reporting system. ▪ Receive reports of unusual, novel, or avian influenza (AI) and work with the clinical infection control team (C-ICT) to make recommendations for testing, infection control precautions, and treatment. ▪ Investigate potential human exposures associated with AI outbreaks identified by the Minnesota DOA and the BAH.
Community Disease Containment	<ul style="list-style-type: none"> ▪ Isolate and monitor cases that meet the CDC criteria for AI or a novel influenza subtype. ▪ Manage (with LPH) the close contacts of cases or suspect cases through monitoring or quarantine. ▪ Work with MSP CDC Quarantine Station officials and other partners to screen, isolate, and/or quarantine passengers on arriving international flights and coordinate provision of services at quarantine facility (phase 5 and early phase 6 before the pandemic is established in the U.S.). ▪ Assess effectiveness of isolation and quarantine in preventing disease spread. ▪ Continue community level disease containment planning.

<p>Infection Control</p>	<ul style="list-style-type: none"> ▪ Develop and distribute avian and pandemic influenza infection control guidance statewide. ▪ Assist healthcare facilities in planning for pandemic influenza. ▪ Develop infection control training materials for healthcare workers, public safety personnel, and other partners. ▪ Develop infection control guidance for mass dispensing locations, LPH, public safety personnel, and for the care of suspect AI patients in the home setting. ▪ Develop recommendations for PPE. ▪ Finalize infection control (IC) plans and procedures for off-site care facilities.
<p>Clinical Issues</p>	<ul style="list-style-type: none"> ▪ Establish and train the C-ICT to provide consultation for possible cases of novel influenza/pandemic influenza. ▪ Inform clinicians of current clinical criteria for possible cases of novel/pandemic influenza infections; recommended clinical and laboratory evaluation of those cases. ▪ Inform clinicians and infection control practitioners (ICPs) about current suspect and confirmed AI case definitions and provide guidance for patient triage. ▪ Update clinicians on changes that impact the clinical management of novel influenza cases. ▪ Inform clinicians and LPH of current epidemiologic criteria for possible cases of novel/pandemic influenza disease and the urgency of reporting such cases. ▪ Consult with healthcare facilities about questions related to monitoring and antiviral prophylaxis of exposed healthcare workers. ▪ Communicate with the MDH Public Health Laboratory (PHL) and clinicians to facilitate testing of specimens for novel influenza. ▪ Design and monitor novel influenza case-tracking database. ▪ Communicate with the CDC MSP Quarantine Station officers.
<p>Healthcare Planning</p>	<ul style="list-style-type: none"> ▪ Ensure that hospitals and clinics through RHRC Coordinators develop plans for the coordination of patient care during a pandemic including the development of a multi-agency coordination (MAC) structure. ▪ Provide technical assistance to regions for the planning/implementation of off-site care facilities, isolation capacity, and patient care coordination. ▪ Implement MNTRAC, a web-based hospital resource tracking system, in all hospitals. ▪ Provide guidance to regional volunteer programs that are integrated into the statewide Minnesota Responds Medical Reserve Corps. ▪ Convene the Science Advisory Team to finalize technical criteria, within the framework of ethical principles, to manage healthcare delivery during a pandemic. ▪ Address legal issues specific to patient care and staffing during an influenza pandemic, such as EMTALA, off-site care facilities, and adjusted standards of care. ▪ Collaborate with regional BHPP Education and Training Committees to develop an education and training plan specific to pandemic influenza that will address the needs of staff, patients, family members, and visitors. ▪ Utilize a Learning Management System to track and maintain up-to-date educational resources for healthcare providers. ▪ Develop a plan and seek funding for a state cache of beds, supplies, and equipment for off-site care locations and to supplement the Red Cross. ▪ Expand emergency response planning to include children, schools, long-term care facilities, home care agencies, and other special populations.

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Antivirals and Vaccines</p>	<ul style="list-style-type: none"> ▪ Develop and define priority groups for antiviral and vaccination administration for use by healthcare providers and LPH. ▪ Provide framework for education of providers on priority groups. Work directly with statewide stakeholder groups; support LPH with education of community providers. ▪ Coordinate system to facilitate vaccine and antiviral acquisition, allocation, and distribution. ▪ Establish tracking systems to monitor vaccine and antiviral utilization, adverse events, and effectiveness.
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Laboratory</p>	<ul style="list-style-type: none"> ▪ Conduct seasonal influenza surveillance testing to characterize circulating strains of the virus. ▪ Conduct advanced testing on a 24/7 emergency basis for suspect AI or novel human influenza virus in human specimens. ▪ Expand influenza test capacity and capability, develop triage and testing algorithms, and implement new assays as they become available. ▪ Act as liaison to the CDC laboratories for reporting of unusual test results, acquiring new recommendations or protocols, and forwarding of potentially novel influenza strains that may pose a pandemic threat. ▪ Serve as a central statewide influenza testing information resource and communication hub for hospital and private laboratories through the Minnesota Laboratory System (MLS). ▪ Provide recommendations and training to clinical laboratories on influenza testing, bio-containment, shipping, requisition data collection, and laboratory worker safety.
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Poultry Worker Health</p>	<ul style="list-style-type: none"> ▪ Collaborate and coordinate with the BAH, DOA, and Department of Natural Resources (DNR) on the human health components of AI. ▪ For a low pathogenic H5 or H7 AI virus outbreak in Minnesota poultry and with assistance from LPH: <ul style="list-style-type: none"> ▪ Recommend basic PPE and infection control precautions for poultry workers and others in direct contact with infected birds or contaminated environment. ▪ Provide poultry workers with information about AI and ask them to report specified symptoms. ▪ For a highly pathogenic H5 or H7 outbreak in Minnesota poultry and with assistance from LPH: <ul style="list-style-type: none"> ▪ Make recommendations and provide technical assistance for PPE and infection control precautions to poultry workers, veterinary diagnostic laboratory personnel, and others involved in disease control and eradication activities. ▪ Implement measures to help poultry workers receive prompt medical attention and prevent transmission of AI from poultry workers to others. ▪ Assure exposed persons receive antiviral drugs as indicated. ▪ Distribute educational materials to poultry workers and others in multiple languages. ▪ Ask poultry workers to report specified symptoms. ▪ Monitor disease status of exposed workers by telephone or in person.

Care of the Deceased	<ul style="list-style-type: none"> ▪ Continue development and testing of the response plan including: <ul style="list-style-type: none"> ▪ Central data bank for reporting deaths. ▪ RFID identification system for tracking human remains. ▪ Response teams to remove the dead from places of deaths. ▪ Continue training with: <ul style="list-style-type: none"> ▪ Medical examiners/coroners ▪ Morticians ▪ Healthcare facilities ▪ National Guard ▪ Volunteers ▪ Determine locations of and develop plans for temporary morgue processing centers and temporary cemeteries. ▪ Distribute stockpiled supplies to local level.
Environmental Public Health	<ul style="list-style-type: none"> ▪ Encourage programs within the Environmental Health Division and regulated communities to assess challenges to their operations posed by pandemic influenza and plan for pandemic influenza readiness. ▪ Encourage staff and regulated-community partners to prepare individual/family readiness plans.

Pandemic period (phase 6)

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

Communications	<ul style="list-style-type: none"> ▪ Continue to develop messages and materials in response to emerging events and concerns, as appropriate. ▪ Continue to ensure consistency of messages disseminated by MDH, hotline staff and external partners, using appropriate message coordination vehicles and mechanisms. ▪ 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. ▪ Develop/identify/adapt and 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 MDH staff, 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.
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<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Epidemiological Surveillance</p>	<ul style="list-style-type: none"> ▪ Increase surveillance activities and monitoring for human cases. <ul style="list-style-type: none"> ▪ Maintain a statewide electronic hospital reporting system and the Sentinel Provider Network (SPN). ▪ Conduct school-based, long-term care, and case-based surveillance as long as it is feasible. ▪ Implement work-site surveillance (at large employers) to measure community-wide impact, and mortality surveillance to measure disease severity. ▪ Maintain case-based surveillance and the Novel Influenza Tracking Database for as long as feasible. ▪ Summarize, analyze, and disseminate surveillance data “real time.” ▪ Utilize surveillance data to determine priority lab testing. ▪ Maintain statewide electronic hospital reporting system. ▪ Implement mortality surveillance. ▪ Maintain communication between MDH and reporting entities.
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Community Disease Containment</p>	<ul style="list-style-type: none"> ▪ Work with MSP CDC Quarantine Station officials and other partners to screen, isolate, and/or quarantine passengers on arriving international flights and coordinate provision of services at quarantine facility (phase 5 and early phase 6 before the pandemic is established in the U.S.). ▪ Recommend isolation of people who have influenza-like illness and consider quarantine in special circumstances (e.g., locality where there is no community transmission of disease). ▪ Make recommendations for social distancing and infection control strategies. ▪ Make recommendations for 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. ▪ Monitor disease activity in the state to provide epidemiologically based recommendations for when to initiate, modify, and scale back disease containment measures and to assess the effectiveness of such measures. ▪ Coordinate with the Governor’s Office, Department of Public Safety, and other state and local government agencies through the SEOC to implement disease containment measures.
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Infection Control</p>	<ul style="list-style-type: none"> ▪ Update training materials for healthcare workers and others, as needed. ▪ Implement recommendations for prioritization and possible reuse of PPE, as needed. ▪ Implement additional infection control guidance for off-site care facilities and other settings, as needed. ▪ Continue to develop and distribute infection control information based on evolving CDC and WHO guidance. ▪ Continue to ensure that hotline/warmline staff is informed of current infection control recommendations. ▪ Update clinicians, ICPs, and others of any changes in infection control guidance regarding the evaluation or care of exposed or ill people.

Clinical Issues	<ul style="list-style-type: none"> ▪ Staff and supervise hotlines/warmlines for clinical questions. ▪ Update clinicians on changes in clinical guidance. ▪ Provide consultation on the management of possible pandemic influenza cases. ▪ Coordinate communication with the CDC Clinical Pandemic Influenza Team. ▪ Provide updates on the clinical course and likely complications of circulating pandemic viral strains.
Healthcare Planning	<ul style="list-style-type: none"> ▪ Assist the healthcare system in patient care coordination. ▪ Activate regional healthcare pandemic influenza response plans. ▪ Enhance staffing needs of the healthcare system with volunteer health professionals. ▪ Make adjustments to standards of care during a public health emergency when required by the incident in conjunction with the Governor's Office and the SEOC. ▪ Provide RHRC coordinators and healthcare facilities updated information and guidance as necessary. ▪ Monitor surge capacity and alternative treatment venues.
Antivirals and Vaccines	<ul style="list-style-type: none"> ▪ Provide educational framework and medical protocol and recommendations for vaccination to LPH and other providers utilizing CDC and FDA guidance. ▪ Manage vaccine and antiviral acquisition, allocation, and distribution. ▪ Actively monitor vaccine and antiviral utilization, assessing adherence to priority groups, adverse events, and effectiveness. ▪ Provide timely guidance and materials to support efficient and appropriate vaccination. ▪ Provide consistent, standardized media messages to facilitate public understanding of priority groups and vaccine and antiviral usage and allocation.
Laboratory	<ul style="list-style-type: none"> ▪ Continue to ensure that the MDH-PHL is available to provide 24-hour analysis capability in the event of AI or a pandemic outbreak. ▪ Continue laboratory-based surveillance to characterize circulating pandemic and non-pandemic strains and adapt testing protocols to changing conditions. ▪ Serve as a reference laboratory for the clinical laboratory community and consult on the use of rapid and confirmatory tests. ▪ Continue to adapt CDC laboratory recommendations for local conditions and serve as the statewide laboratory communication hub. ▪ Serve as liaison to the CDC laboratories; acquire new recommendations or protocols, and forward pandemic strains from the community for high-level monitoring activities.
Poultry Worker Health	<p>Not Applicable</p>

<p>Care of the Deceased</p>	<ul style="list-style-type: none"> ▪ Activate temporary morgue processing centers in areas where death tolls are projected to overwhelm local mortuary services. ▪ Activate central databank for healthcare facilities to report deaths where their local mortuary services are overwhelmed. ▪ Continue training with: <ul style="list-style-type: none"> ▪ Medical examiners/coroners ▪ Morticians ▪ Healthcare facilities ▪ National Guard ▪ Volunteers
<p>Environmental Public Health</p>	<ul style="list-style-type: none"> ▪ Reinforce delivery of messages regarding risk-reduction behaviors among staff and regulated-community partners. ▪ Monitor status of state and local environmental public health programs' and regulated community members' operations. ▪ Provide assistance to local officials, in conjunction with the local health agency, to ensure the safety of food and water for human consumption during and immediately following a pandemic outbreak. <ul style="list-style-type: none"> ▪ Make capabilities to support delivery of essential goods and services known to regulated parties (e.g., water supply systems), local public health, and emergency management partners. ▪ If requested, conduct inspections at mass feeding operations. ▪ Provide technical assistance or other support to community water supply systems as needed. ▪ As needed, participate in investigations of apparent food-borne or water-borne illness outbreaks.