Nebraska Department of Health & Human Services, Division of Public Health (DHHS, DPH)

Pandemic Influenza Response Plan

April 2009

DHHS DPH Pandemic Influenza Operational Plan Record of Changes		
Date	**Change Description**	**Change Entered by**
April 23, 2009	Final	Sue Medinger

TABLE OF CONTENTS

Nebraska DHHS, DPH
Pandemic Influenza Operational Response Plan

Mission

To monitor the world and national pandemic influenza situation; immediately detect the onset of outbreaks with influenza pandemic potential in Nebraska; assist with the containment of such outbreaks; and assist public health departments, hospitals and healthcare providers in the management of an influenza pandemic event.

Executive Summary

Influenza viruses are unique in their ability to cause sudden infection in all age groups on a global scale. Avian viruses were involved in all three 20th century pandemics. The "Spanish flu" of 1918-19 was responsible for more than 40 million deaths worldwide, primarily among young adults.[1] Mortality rates associated with the more recent pandemics of 1957 and 1968 were reduced, in part, by antibiotic therapy for secondary bacterial infections and more aggressive supportive care. However, both of these later pandemics were associated with high rates of morbidity and social disruption. The current pandemic threat is a highly pathogenic avian influenza H5N1 in birds. Transmission of this virus has occurred from bird to human and there has been limited human-to-human transmission.

The plan outlines strategies to reduce pandemic influenza-related morbidity, mortality, and social disruption. It identifies the organizations, activities and resources available and the actions that are needed to prepare and respond. How these actions are carried forth is determined by the experts who are assigned the responsibility for the actions.

This Response Plan is divided into four sections:
Section 1: Situation Overview, Alert Systems, Interventions and Triggers
Section 2: Responsibilities and Resources
Section 3: Inter-pandemic and Pandemic Alert Periods – Planning and Preparation
Section 4: Pandemic Period – Response and Recovery

[1] CDC Influenza Pandemic Operations Plan, 11 January 2008, Annex B, Appendix 1, page B-9

Section 1: Situation Overview, Alert Systems, Interventions and Triggers

I. Situation Overview

A. The Centers for Disease Control and Prevention (CDC) reports that "Since 2003, a growing number of human H5N1 cases have been reported in Asia, Europe, and Africa. More than half of the people infected with the H5N1 virus have died. Most of these cases are all believed to have been caused by exposure to infected poultry. There has been no sustained human-to-human transmission of the disease, but the concern is that H5N1 will evolve into a virus capable of human-to-human transmission." http://www.pandemicflu.gov/

B. DHHS Assumptions:

- The identification of a novel influenza virus with sustained human-to-human spread may give warning of a pandemic weeks or months before the first cases are identified in Nebraska.
- Most people who have access to clean water, food, sanitation, fuel, and nursing and medical care while they are sick will survive.
- Certain sectors of society may have a higher incidence and mortality from a pandemic influenza because of poverty, household crowding and chronic conditions that suppress immunity.
- Communities across the state and the country may be impacted simultaneously.
- There could be significant disruption of public and privately-owned critical infrastructure.
- The strain of influenza that will cause the next influenza pandemic, its pathogenicity, and the time and place of emergence cannot be determined in advance.
- The number of ill people requiring outpatient medical care and hospitalization may overwhelm the state's healthcare system.
- No effective influenza vaccine will be available early in the course of the pandemic. When influenza vaccine becomes available, it will be in short supply and may require two doses.
- Supplies of antiviral medications that are effective against influenza may be inadequate and need to be prioritized for use.
- Implementation of social distancing measures, such as isolating the sick and reducing the number of public gatherings may help to slow the spread of influenza early in the pandemic period.
- Federal and State declarations of emergency will change legal and regulatory aspects of providing public health services during a pandemic.
- Maintaining social order and compliance with health recommendations during a pandemic might prove to be problematic.
- Exercising, and executing this plan in collaboration with partners is crucial in assuring adequate medical care and supplies to all Nebraskans.

C. Influenza Outbreaks and Impact

1. Yearly influenza epidemics

Influenza is an infection of the respiratory tract caused by the influenza virus and is spread by coughing and sneezing. The time period between exposure and illness is usually one to three days and the onset of symptoms is sudden. Typical symptoms include fever, cough, sore throat, runny or stuffy nose, as well as headache, muscle aches and often, extreme fatigue. Most people who get influenza recover completely in one to two weeks, but some people develop serious and potentially life-threatening medical complications, such as pneumonia.

In an average year, influenza is associated with more than 36,000 deaths nationwide and more than 226,000 hospitalizations[1]. Because influenza is not a reportable disease, and healthcare providers don't always test for influenza, these numbers cannot be accurately estimated for the state of Nebraska. Flu-related complications can occur at any age; however, the elderly and people with chronic health problems are much more likely to develop serious complications.

Seasonal influenza occurs every year for several reasons. First, influenza vaccine is a "killed" virus vaccine and is effective for only a short period of time (3-6 months). Second, many people do not receive the influenza vaccine. Third, and most importantly, people are susceptible to influenza virus infection throughout life because influenza viruses continually change. A person infected with influenza virus develops antibodies against the "current" virus. As the virus changes, the person's "older" antibodies no longer recognize the "new" virus. When the viral changes are minor, the "older" antibodies can provide some limited protection. When the changes are significant, the "older" antibodies provide little if any protection.

2. Pandemic influenza

   Gradual change in the virus, over time, is called an antigenic drift. A drift will cause greater than normal morbidity and mortality, resulting in significant disruptions to communities and healthcare systems, such as higher numbers of absenteeism from work and school, shortages of influenza vaccines and antiviral medications, and higher rates of pneumonia and pneumonia-related deaths.

   Rarely, a significant, abrupt viral change occurs, known an antigenic shift. When a shift occurs, large numbers of people, and sometimes the entire population, have no antibody protection against the new virus. If the new, novel virus is easily spread, it has the ability to cause sudden infection in all age groups on a global scale, resulting in a worldwide epidemic, called a pandemic. During the Twentieth Century, pandemics occurred in 1918, 1957 and 1968. Each of the three pandemics in the last century resulted in infection of approximately 30 percent of the world population and death in 0.2 percent to 2 percent of those infected. Based on this information and current models of disease transmission, a current influenza pandemic could result in deaths of 200,000 to two million U.S. citizens.[1]

Since its development more than 50 years ago, influenza vaccination has been the cornerstone of influenza prevention and control. Every year, between 70 and 80 million doses of vaccine are manufactured and administered in the United States. Pandemic influenza is a unique public health emergency and, in spite of ongoing improvements in the manufacturing and delivery of vaccines, it will present a number of challenges.

The entire population will have little or no immunity and therefore, the targeted populations will expand far beyond the usual "high risk" groups. The "warning period", preceding spread of the pandemic strain in the U.S., is likely to be relatively short, so vaccine will have to be manufactured, distributed and administered as quickly as possible. A severe or moderate vaccine shortage is likely, especially early in the pandemic; it is possible that when a pandemic begins, no vaccine will be available.

When vaccine becomes available, it will arrive over an extended period of time. A two-dose schedule is likely because a pandemic strain will be new to the population (as opposed to the yearly strains, to which many people may have some immunity).

Outbreaks are expected to occur simultaneously throughout much of the U.S., preventing relocation of human and material resources. Health-care 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 victims. Widespread illness in the community will also increase the likelihood of sudden and potentially significant shortages of personnel who provide other essential community services. The effect of pandemic influenza on individual communities may be relatively prolonged; lasting six to eight weeks with repetitive cycles that could phase in over 18 months, compared to the minutes, hours, and days observed in most other natural disasters.

D. CDC Pandemic Planning Assumptions:
Reproduced from the CDC website:
(http://www.pandemicflu.gov/plan/pandplan.html)

1. Susceptibility to the pandemic influenza virus will be universal.

2. Efficient and sustained person-to-person transmission signals an imminent pandemic.

3. [Based on modeling and extrapolation] the clinical disease attack rate will likely be 30% or higher in the overall population during the pandemic. 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.

a. Some persons will become infected but not develop clinically significant symptoms. Asymptomatic or minimally symptomatic individuals can transmit infection and develop immunity to subsequent infection.

4. Of those who become ill with influenza, 50% will seek outpatient medical care.
   a. With the availability of effective antiviral drugs for treatment, this proportion may be higher in the next pandemic.

5. The number of hospitalizations and deaths will depend on the virulence of the pandemic virus. Estimates differ about 10-fold between more and less severe scenarios. Two scenarios are presented based on extrapolation of past pandemic experience (Table 1). Planning should include the more severe scenario.
   a. Risk groups for severe and fatal infection cannot be predicted with certainty but are likely to include infants, the elderly, pregnant women, and persons with chronic medical conditions.

6. Rates of absenteeism will depend on the severity of the pandemic.
   a. In a severe pandemic, absenteeism attributable to illness, the need to care for ill family members and fear of infection may reach 40% during the peak weeks of a community outbreak, with lower rates of absenteeism during the weeks before and after the peak.
   b. Certain public health measures (closing schools, quarantining household contacts of infected individuals, "snow days") are likely to increase rates of absenteeism.

7. The typical incubation period (interval between infection and onset of symptoms) for influenza is approximately 2 days.

8. Persons who become ill may shed virus and can transmit infection for up to one day before the onset of illness. Viral shedding and the risk of transmission will be greatest during the first 2 days of illness. Children usually shed the greatest amount of virus and therefore are likely to pose the greatest risk for transmission.

9. On average, infected persons will transmit infection to approximately two other people.

10. In an affected community, a pandemic outbreak will last about 6 to 8 weeks.

11. Multiple waves (periods during which community outbreaks occur across the country) of illness could occur with each wave lasting 2-3 months. Historically, the largest waves have occurred in the fall and winter, but the seasonality of a pandemic cannot be predicted with certainty.

E. Effects of Population Density

The density of major population areas, work and school environments and gatherings contribute to the transmission of influenza. In 2000, 70% of Nebraska's population

lived in urban areas and 30% in rural areas. The largest population counties are in the eastern part of the state with Douglas County having a 2006 estimated population of 492,003; Lancaster County at 267,135; and Sarpy County at 142,637.

Household crowding, the close personal proximity of people within schools and some businesses, and social events where large numbers of people congregate will lead to a higher prevalence of an infectious disease such as a pandemic influenza.

F. Morbidity, Mortality, and Healthcare Utilization Projections

National influenza experts have developed models to predict the impact of an influenza pandemic on the population. These models utilize the assumptions described on previous pages, derived from the study of past influenza outbreaks.

1. PandemicFlu.gov

   Based on extrapolation from past pandemics in the United States, the U.S. Department of Health and Human Services has estimated the number of people who may become ill and require various levels of healthcare. The estimates are based on a 30% attack rate (percentage of the population that becomes ill) and an assumption that 50% of people with illness will seek care. Table 1 is reproduced from the PandemicFlu.gov website (http://pandemicflu.gov/plan/pandplan.html).

   The number of hospitalizations and deaths will depend on the virulence of the pandemic virus. Estimates differ about 10-fold between more and less severe scenarios. Planning should include the more severe scenario.

   Risk groups for severe and fatal infection cannot be predicted with certainty but are likely to include infants, the elderly, pregnant women, and persons with chronic medical conditions.

Table 1. ***Impact on the U.S.A. Population*** *- Number of Episodes of Illness, Healthcare Utilization, and Death Associated with Moderate and Severe Pandemic Influenza Scenarios**

Characteristic	Moderate (1958/68-like)	Percentage of illness	Severe (1918-like)	Percentage of illness
Total population (U.S.)	**300,000,000**	…	**300,000,000**	…
Illness (30% attack rate)	**90,000,000**	…	**90,000,000**	…
Outpatient medical care	**45,000,000**	50.0%	**45,000,000**	50.0%
Hospitalization	**865,000**	0.96%	**9,900,000**	11.00%
ICU care	**128,750**	0.14%	**1,485,000**	1.65%
Mechanical ventilation	**64,875**	0.07%	**745,500**	0.83%
Deaths	**209,000**	0.23%	**1,903,000**	2.11%

**Estimates based on extrapolation from past pandemics in the United States. Note that these estimates do not include the potential impact of interventions not available during the 20th century pandemics.*

The percentages used for the national estimates were applied directly to the Nebraska population to estimate the impact on Nebraska (Table 2). This method is limited by the fact that the population profile of Nebraska is not exactly the same as for the entire country. However because of the many uncertainties and assumptions that factor into these estimates, they will provide a sense of what could possibly happen during a pandemic. These are not meant to attempt to predict what will happen. Rather, they are intended to be taken into consideration by pandemic influenza planners.

Table 2. ***Impact on Nebraska using 2006 U.S. Census Population Estimates*** *Estimated Number of Episodes of Illness, Healthcare Utilization, and Death Associated with Moderate and Severe Pandemic Influenza Scenarios*

Characteristic	Moderate (1958/68-like)	Percentage of illness	Severe (1918-like)	Percentage of illness
Total population (NE)	**1,768,331**	…	**1,768,331**	**…**
Illness (30% attack rate)	**530,499**	…	**530,499**	…
Outpatient medical care	**265,250**	50.00%	**265,250**	50.00%
Hospitalization	**5,093**	0.96%	**58,355**	11.00%
ICU care	**743**	0.14%	**8,753**	1.65%
Mechanical ventilation	**371**	0.07%	**4,403**	0.83%
Deaths	**1,220**	0.23%	**11,194**	2.11%

**Estimates based on extrapolation from past pandemics in the United States. Note that these estimates do not include the potential impact of interventions not available during the 20th century pandemics.*

2. CDC FluAid

   The CDC has developed a model ("FluAid") for predicting estimates of the impact of deaths, hospitalizations, and outpatient visits due to pandemic influenza. FluAid considers in its calculations the percent of high risk populations within each of the age groups.[2] Because of this, the estimates will be

[2] Meltzer MI, Shoemake HA, Kownaski M, Crosby R, 2000. FluAid 2.0: A manual to aid state and local-level public health officials plan, prepare and practice for the next influenza pandemic (Beta test version). Centers for Disease Control and Prevention, U.S. Department of Health and Human Services. (Available at http://www2.cdc.gov/od/fluaid, accessed February 7, 2006)

somewhat different than the estimates in Table 2.
www.PandemicFlu.gov/plan/pandplan.htm

The model was used to assist state and local planners to develop estimates of morbidity and mortality from pandemic influenza. The model is based on data from the pandemic of 1968.

The estimates for Nebraska are presented as a range because of the uncertainties of the assumptions used in the model. Many factors, such as severity of disease and communicability, will be dependent upon the characteristics of the virus that emerges as a pandemic virus. It is impossible to accurately predict these factors. These numbers are intended to provide a range of possible estimates and to reflect the degree of uncertainty that is inherent in these projections.

It is important to remember that during an actual pandemic, high risk population, influenza death rates, and outpatient/hospitalization rates could vary significantly from the rates and percentages assumed in these projections. These estimates are intended to assist healthcare and public health planners in planning for surge capacity requirements.

FluAid Assumptions

- An attack rate of 30% was used to be consistent with the U.S. Department of Health and Human Services model shown in Tables 1 and 2 versus FluAid's default rate of 25%. Attack rate is defined as the percentage of the population that becomes clinically ill.
- The lower number presented reflects the "most likely" scenario as calculated using the FluAid model of the 1968 pandemic with a 30% attack rate. For Tables 5 and 6, the 1968 numbers were multiplied by six to reflect a severe pandemic. This factor is mentioned by the Trust for America's Health[3] as the possible severity of a pandemic similar to 1918.
- The model takes into consideration differences in people of different ages, as well as those at "high-risk" due to pre-existing medical conditions. Individuals at "high-risk" are those who have a pre-existing medical condition such as asthma, diabetes mellitus, and cardiovascular disease, as defined by the National Advisory Committee on Immunization Practices, which makes them more susceptible to having secondary complications and adverse health outcomes.
- The 2006 U.S. Census Estimate was used for population estimates. The default population distribution in FluAid for Nebraska is based on 1999

[3] Trust for America's Health. June 2005. "A Killer Flu?" Available at http://healthyamericans.org/reports/flu/Flu2005.pdf Accessed February 13, 2006.

estimates from the U.S. Census. The estimated population in 2006 was substituted for the default 1999 estimates.

- The default percentages of high-risk individuals in each age group were retained. These estimates are based on national data.[4]
- A pandemic can be expected to occur in waves, with waves possibly lasting many weeks. These estimates cover a time period of approximately 8 weeks.

Table 3 shows the estimated number of Nebraskans who would be considered to be at high risk for complications due to influenza because of a health condition based on this model.

Table 3. Estimated Population at High Risk[4] for Complications by Age Group

Age Group	NE population (2006 U.S. Census Estimates)	Percentage of Population at High Risk[2]	Estimated high risk population
0 –18	500,438	6.4%	32,028
19 – 64	1,034,618	14.4%	148,984
65+	233,275	40.0%	93,310
Total	**1,768,331**		**274,322**

Projected outpatient visits, considering the percent of high risk populations, are shown in Table 4.

Table 4. Projected Outpatient Visits

Age Groups (years)	Number of Outpatient Visits	
	1968-like Pandemic FluAid 30% Attack Rate	Severe (assumed not to be different)
0 –18	88,794	88,794
19 – 64	159,659	159,659
65+	36,216	36,216
Total	**284,669**	**284,669**

Groups at high-risk for complications of influenza infection were considered as a factor in the projections.[5] Table 5 outlines the number of projected hospitalizations

[4] High-risk percentages are based on the Advisory Committee on Immunization Practices definition of groups at high-risk for complication of influenza infection. Meltzer MI, Cox NJ, Fukuda K. Modeling the Economic Impact of Pandemic Influenza in the United States: Implications for Setting Priorities for Intervention. Background Paper, April 30, 1999 Available at: http://www.cdc.gov/ncidod/EID/vol5no5/melt_back.htm.

[5] Meltzer MI, Cox NJ, Fukuda K. The Economic Impact of Pandemic Influenza in the United States: Priorities for Intervention. Emerging Infectious Diseases. Vol 5, No 5, September-October 1999.

by age group and pandemic severity. It is important to note that during an actual pandemic, both hospitalization 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.

Table 5. Projected Hospitalizations

Age Groups (years)	Number of Hospitalizations	
	1968-like Pandemic FluAid 30% Attack Rate	Severe (6 times 1968)
0 –18	280	1,680
19 – 64	3,825	22,950
65+	2,040	12,240
Total	**6,145**	**36,870**

Estimates of possible deaths are shown in Table 6. During an actual pandemic, both influenza death rates and the high-risk populations could vary significantly from the rates and percentages assumed in the projections.

Table 6. Projected Deaths (numbers not rounded)

Age Groups (years)	Number of Deaths	
	1968-like Pandemic FluAid 30% Attack Rate	Severe (6 times 1968)
0 –18	16	- 96
19 – 64	647	3,882
65+	765	4,590
Total	**1,428**	**8,568**

II. Alert Systems

DHHS will consider the following alert systems when determining its course of action.

A. World Health Organization Pandemic Alert Phases & Stages for Federal Government Response

WHO Phases		Federal Government Response Stages	
INTER-PANDEMIC PERIOD			
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 disease is considered to be low.	0	New domestic animal outbreak in at–risk country
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.		
PANDEMIC ALERT PERIOD			
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.	0	New domestic animal outbreak in at–risk country
		1	Suspected human outbreak overseas
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.	2	Confirmed human outbreak overseas
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).		
PANDEMIC PERIOD			
6	Pandemic phase: increased and sustained transmission in general population.	3	Widespread human outbreaks in multiple locations overseas
		4	First human case in North America
		5	Spread throughout United States
		6	Recovery and preparation for subsequent waves

III. Interventions and Triggers

DHHS will monitor the situation worldwide, within the United States, within the state of Nebraska and, with the assistance of local public health departments, within local jurisdictions. Pharmaceutical and non-pharmaceutical interventions are possible. Pharmaceutical interventions include vaccination against the specific virus causing the pandemic and the use of antivirals for treatment or prevention. During the early days of the pandemic, it is likely a vaccine will not be available and when available, the supply will be limited and arrive in intervals as production allows. Antivirals are available in limited quantities; however, it is not known if they will be effective against the pandemic influenza.

Non-pharmaceutical interventions include infection control practices such as hand hygiene; cover your cough/sneeze; enhanced cleaning methods; avoiding close contact; school and day care closures; social distancing; cancellation of public and community events; alternate work schedules; use of masks and gloves in certain situations; voluntary or mandated quarantine of exposed people; and isolation of ill people. Some of these practices are not difficult to implement and are very effective, i.e., hand hygiene, cover your cough/sneeze, enhanced cleaning methods and avoiding close contact.

DHHS will evaluate the current situation and use the Pandemic Severity Index and Pandemic Intervals, Triggers and Actions, described below, to plan the course of action in Nebraska.

A. Pandemic Severity Index

The Pandemic Severity Index was introduced by the CDC in a document titled, "Community Strategy for Pandemic Influenza Mitigation" [6] issued in February 2007. The index is designed to estimate of the severity of a pandemic on a population to allow better forecasting of the impact of a pandemic and to enable recommendations to be made on the use of mitigation interventions that are matched to the severity of future influenza pandemics. DHHS has integrated this Index into its Pandemic Influenza Containment Measures Plan and this document. The following information regarding the Pandemic Severity Index is excerpted from the "Community Strategy for Pandemic Influenza Mitigation" with the exception of the insertion of the projected numbers of deaths based on Nebraska's population shown in Figure A of the excerpted document.

[6] CDC. Interim Pre-Pandemic Planning Guidance: Community Strategy for Pandemic Influenza Mitigation in the United States – Early, Targeted, Layered Use of Nonpharmaceutical Interventions. February 2007. Available at http://www.pandemicflu.gov/plan/community/commitigation.html

Excerpted from the "Community Strategy for Pandemic Influenza Mitigation" document, Executive Summary:

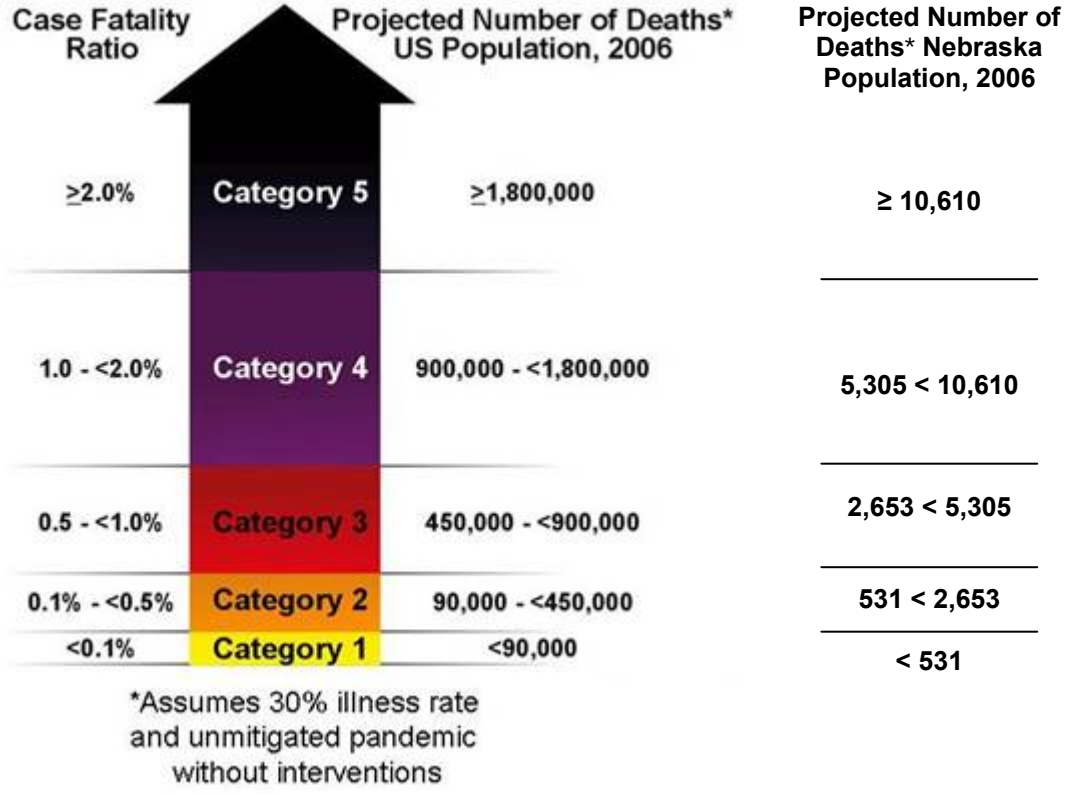
Pre-Pandemic Planning: the Pandemic Severity Index

This guidance introduces, for the first time, a Pandemic Severity Index, which uses case fatality ratio as the critical driver for categorizing the severity of a pandemic (Figure A, abstracted and reprinted from Figure 4 in the main text). The index is designed to enable estimation of the severity of a pandemic on a population level to allow better forecasting of the impact of a pandemic and to enable recommendations to be made on the use of mitigation interventions that are matched to the severity of future influenza pandemics.

Figure A. Pandemic Severity Index

Nebraska numbers based on 2006 population as projected by www.census.gov shown on the right side:

[(1,768,331 * .3) x case fatality ratio]:



Future pandemics will be assigned to one of five discrete categories of increasing severity (Category 1 to Category 5). The Pandemic Severity Index provides communities a tool for scenario-based contingency planning to guide local pre-pandemic preparedness efforts. Accordingly, communities facing the imminent arrival of pandemic disease will be able to use the pandemic severity assessment to define which pandemic mitigation interventions are indicated for implementation.

Use of Nonpharmaceutical Interventions (NPIs) by Severity Category

This interim guidance proposes a community mitigation strategy that matches recommendations on planning for use of selected NPIs to categories of severity of an

influenza pandemic. These planning recommendations are made on the basis of an assessment of the possible benefit to be derived from implementation of these measures weighed against the cascading second- and third-order consequences that may arise from their use. Cascading second- and third-order consequences are chains of effects that may arise because of the intervention and may require additional planning and intervention to mitigate. The term generally refers to foreseeable unintended consequences of intervention. For example, dismissal of students from school may lead to the second-order effect of workplace absenteeism for child minding. Subsequent workplace absenteeism and loss of household income could be especially problematic for individuals and families living at or near subsistence levels. Workplace absenteeism could also lead to disruption of the delivery of goods and services essential to the viability of the community.

For Category 4 or Category 5 pandemics, a planning recommendation is made for use of all listed NPIs (Table A). In addition, planning for dismissal of students from schools and school-based activities and closure of childcare programs, in combination with means to reduce out-of-school social contacts and community mixing for these children, should encompass up to 12 weeks of intervention in the most severe scenarios. This approach to pre-pandemic planning will provide a baseline of readiness for community response. Recommendations for use of these measures for pandemics of lesser severity may include a subset of these same interventions and potentially for shorter durations, as in the case of social distancing measures for children.

Table A. Summary of the Community Mitigation Strategy by Pandemic Severity

	Pandemic Severity Index		
Interventions* by Setting	**1**	**2 and 3**	**4 and 5**
Home			
Voluntary isolation of ill at home (adults and children), combine with use of antiviral treatment as available and indicated.	Recommend†§	Recommend†§	Recommend†§
Voluntary quarantine of household members in homes with ill persons¶ (adults and children), consider combining with antiviral prophylaxis if effective, feasible, and quantities sufficient.	Generally not recommended	Consider**	Recommend**
School			
Child social distancing			
-dismissal of students from schools and school based activities, and closure of child care programs	Generally not recommended	Consider: ≤4 weeks††	Recommend: ≤12 weeks§§
-reduce out-of-school social contacts and community mixing	Generally not recommended	Consider: ≤4 weeks††	Recommend: ≤12 weeks§§
Workplace/Community			
Adult social distancing			
-decrease number of social contacts (e.g., encourage teleconferences, alternative to face-to-face meetings)	Generally not recommended	Consider	Recommend
-increase distance between persons (e.g., reduce density in public transit, workplace)	Generally not recommended	Consider	Recommend
-modify, postpone, or cancel selected public gatherings to promote social distance (e.g., stadium events, theater performances)	Generally not recommended	Consider	Recommend
-modify work place schedules and practices (e.g., telework, staggered shifts)			

Generally Not Recommended = Unless there is a compelling rationale for specific populations or jurisdictions, measures are generally not recommended for entire populations as the consequences may outweigh the benefits.

Consider = Important to consider these alternatives as part of a prudent planning strategy, considering characteristics of the pandemic, such as age-specific illness rate, geographic distribution, and the magnitude of adverse consequences. These factors may vary globally, nationally, and locally.

Recommended = Generally recommended as an important component of the planning strategy.

*All these interventions should be used in combination with other infection control measures, including hand hygiene, cough etiquette, and personal protective equipment such as face masks. Additional information on infection control measures is available at www.pandemicflu.gov.

†This intervention may be combined with the treatment of sick individuals using antiviral medications and with vaccine campaigns, if supplies are available

§Many sick individuals who are not critically ill may be managed safely at home

¶The contribution made by contact with asymptomatically infected individuals to disease transmission is unclear. Household members in homes with ill persons may be at increased risk of contracting pandemic disease from an ill household member. These household members may have asymptomatic illness and may be able to shed influenza virus that promotes community disease transmission. Therefore, household members of homes with sick individuals would be advised to stay home.

**To facilitate compliance and decrease risk of household transmission, this intervention may be combined with provision of antiviral medications to household contacts, depending on drug availability, feasibility of distribution, and effectiveness; policy recommendations for antiviral prophylaxis are addressed in a separate guidance document.

††Consider short-term implementation of this measure—that is, less than 4 weeks.

§§Plan for prolonged implementation of this measure—that is, 1 to 3 months; actual duration may vary depending on transmission in the community as the pandemic wave is expected to last 6-8 weeks.

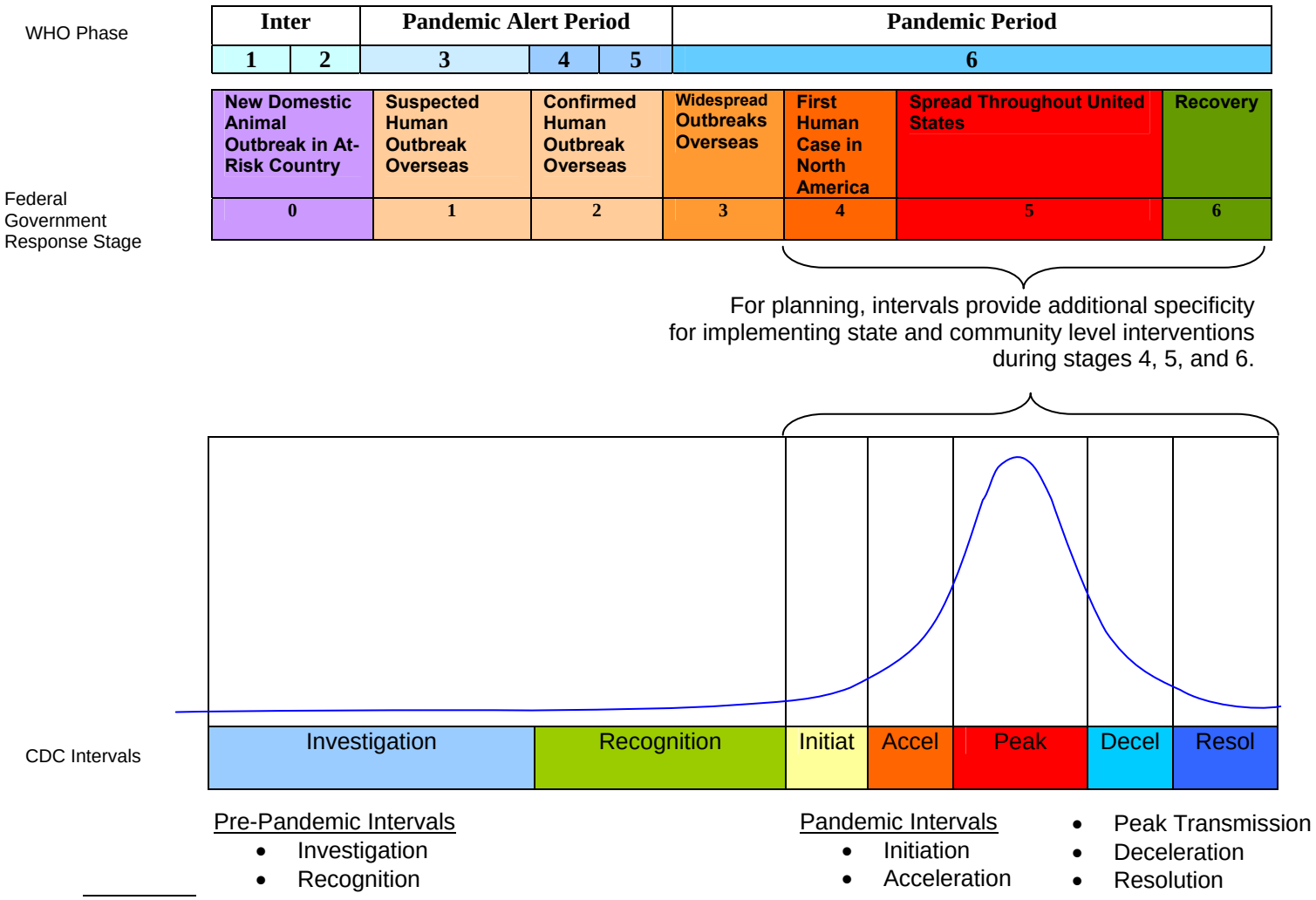
End of excerpt from the "Community Strategy for Pandemic Influenza Mitigation" document, Executive Summary.

B. Pandemic Intervals, Triggers and Actions

Excerpted from the US Government; Federal Guidance to Assist States in Improving State-Level Pandemic Influenza Operating Plans[7]:

The following 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.

Figure 2: Periods, Phases, Stages, and Intervals



Pre-Pandemic Intervals
- Investigation
- Recognition

Pandemic Intervals
- Initiation
- Acceleration
- Peak Transmission
- Deceleration
- Resolution

[7] US Government. Federal Guidance to Assist States In Improving State-Level Pandemic Influenza Operating Plans. March 11, 2008. Available at http://www.pandemicflu.gov/news/guidance031108.pdf

Definitions of the Different Pandemic Intervals

For each interval shown in Figure 2, a definition of the interval is provided below for communities, states and for the nation.

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. Questions regarding the use of these intervals can be obtained at intervals@cdc.gov.

"Investigation" Interval – Investigation of Novel Influenza Cases:

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 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 http://www.cdc.gov/ncphi/disss/nndss/casedef/novel_influenzaA.htm

Affected State – A state where a sporadic case of novel influenza is detected.

- Voluntarily isolate and treat human cases
- Voluntarily quarantine if human-to-human transmission is suspected, monitor, and provide chemoprophylaxis to contacts
- Assess case contacts to determine human-to-human transmission and risk factors for infection
- 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
- Disseminate risk communication messages

Unaffected State – A state not currently investigating novel influenza cases.

- Continue to maintain state surveillance
- Continue to build state and local countermeasures stockpile
- Continue to develop and promote community mitigation preparedness activities, including plans and exercises
- Continue refining and testing healthcare surge plans

"Recognition" Interval – Recognition of Efficient and Sustained Transmission:

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.

Affected State – 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 U.S. before recognition elsewhere in the world.

- Continue/initiate actions as above (Investigation)
- Implement case-based investigation and containment
- Implement voluntary contact quarantine and chemoprophylaxis
- Confirm all suspect cases at public health laboratory
- Consider rapid containment of emerging pandemic influenza
- Report cases according to Nationally Notifiable Diseases Surveillance System
- Conduct enhanced pandemic surveillance
- Prepare to receive Strategic National Stockpile (SNS) countermeasures
- Disseminate risk communication messages, including when to seek care and how to care for ill at home
- Implement appropriate screening of travelers and other border health strategies, as directed by CDC

Unaffected State – 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.

- Continue/initiate actions as above (Investigation)
- Prepare for investigation and response
- Conduct enhanced pandemic surveillance
- Prepare to receive SNS countermeasures
- Disseminate risk communication messages
- Implement appropriate screening of travelers and other border health strategies, as directed by CDC

"Initiation" Interval – Initiation of the Pandemic Wave:
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 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.

Affected State – A state with at least one laboratory-confirmed pandemic case.

- Continue/initiate actions as above (Recognition)

- Declare Community Mitigation Standby if PSI Category 1 to 3, declare Alert if PSI Category is 4 or 5
- Continue enhanced state and local surveillance
- Implement (pre-pandemic) vaccination campaigns if (pre-pandemic) vaccine is available
- Offer mental health services to healthcare workers

Unaffected States – A state with no laboratory-confirmed pandemic cases.

- Continue/initiate actions as above (Recognition)
- Declare Community Mitigation Standby if PSI Category 4 or 5
- Prepare for investigation and response
- Prepare for healthcare surge
- Review and prepare to deploy mortuary surge plan
- Deploy state/local caches
- Prepare to transition into emergency operations

"Acceleration" Interval – Acceleration of the Pandemic Wave:
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.[8] 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.[9,10,11,12]

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[8] CDC. Interim Pre-Pandemic Planning Guidance: Community Strategy for Pandemic Influenza Mitigation in the United States – Early, Targeted, Layer Use of Nonpharmaceutical Interventions. February 2007. Available at http://www.pandemicflu.gov/plan/community/commitigation.html.

[9] Hatchett RJ, Mecher CE, Lipsitch M. Public health interventions and epidemic intensity during the 1918 influenza pandemic. *Proceedings of National Academy of Sciences of USA*, (2007); 104 (18): 7583-7587. [12]

[10] Markel H, Lipman HB, Navarro JA, et al. Nonpharmaceutical Interventions Implemented by US Cities During the 19181919 Influenza Pandemic. *JAMA* (2007);298 (6): 644-654.

[11] Ferguson NM, Cummings DA, Fraser C, et al. Strategies for mitigating an influenza pandemic *Nature* (2006); 442:7: 448-452.

[12] Bootsma MC, Ferguson NM. The effect of public health measures on the 1918 influenza pandemic in U.S. cities. *Proceedings of National Academy of Sciences of USA*, (2007);104 (18): 7588-7593.

Affected State – 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.

- Continue/initiate actions as above (Initiation)
- Activate community mitigation interventions for affected communities
- Transition from case-based containment/contact chemoprophylaxis to community interventions
- Transition surveillance from individual case confirmation to mortality and syndromic disease monitoring
- Begin pre-shift healthcare worker physical and mental health wellness screening
- Implement vaccination campaigns if (pre-pandemic) vaccine is available
- Monitor vaccination coverage levels, antiviral use, and adverse events
- Monitor effectiveness of community mitigation activities

Unaffected State – A state that has not met the criteria above.

- Continue/initiate actions as above (Initiation)
- Prepare for investigation and response
- Prepare for healthcare surge
- Review and prepare to deploy mortuary surge plan
- Deploy state/local caches
- Prepare to transition into emergency operations
- Implement vaccination campaigns if (pre-pandemic) vaccine is available
- Monitor vaccination coverage levels, antiviral use, and adverse events

"Peak/Established Transmission" Interval – Transmission is Established and Peak of the Pandemic Wave:

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.

Affected State – A state in which 1) >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.

- Continue/initiate actions as above (Acceleration)
- Manage healthcare surge
- Maintain critical infrastructure and key resources
- Laboratory confirmation of only a sample of cases as required for virologic surveillance
- Implement surveillance primarily for mortality and syndromic disease

Unaffected States – As transmission increases in the U.S., states are likely to be in different intervals. Thus, states should anticipate the actions needed for subsequent intervals and plan accordingly.

"Deceleration" Interval – Deceleration of the Pandemic Wave:
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.[13]

Affected State – A state where <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.

- Continue/initiate actions as above (Peak/Established Transmission)
- Assess, plan for, and implement targeted cessation of community mitigation measures if appropriate
- Transition surveillance from syndromic to case-based monitoring and confirmation
- Initiate targeted cessation of surge capacity strategies
- Maintain aggressive infection control measures in the community

"Resolution" Interval – Resolution of the Pandemic Wave:
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, and preparing for next waves of infection should they occur.

Affected State – A state where active virologic surveillance detects pandemic cases occurring sporadically.

- Continue/initiate actions as above (Deceleration)
- Rescind community mitigation interventions
- Continue case confirmation of selected cases to verify resolution of pandemic wave
- Resume enhanced virologic surveillance to detect emergence of increased transmission.
- Prepare for possible second wave

[13] Davey VJ, Glass RJ. Rescinding Community Mitigation Strategies in an Influenza Pandemic. *Emerging Infectious Diseases*, (2008);14 (3): 365-372. Available at: http://www.cdc.gov/eid/content/14/3/365.htm?s_cid=eid365_e#cit.

- Continue to promote community mitigation preparedness activities on standby for second wave
- Conduct after-action review for lessons learned
- Replenish stockpiles/caches as able

End of excerpt from the US Government: Federal Guidance to Assist States in Improving State-Level Pandemic Influenza Operating Plans

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Section 2: Responsibilities and Resources

I. Coordination and Management of Resources and Responsibilities

A. Federal, State, and Local Public Health Responsibilities

A strong, coordinated effort among federal, state, local, public and private entities will be essential to address the challenges presented by pandemic influenza. The following assumptions guide Nebraska's response to a pandemic event.

1. Federal Responsibilities

   The Federal government has primary responsibility for coordination of activities on a national level and assumes responsibility to:

   a. Support vaccine research and development including mechanisms by which influenza vaccine can be made available more rapidly and in much larger quantities prior to and during a pandemic;
   b. Coordinate national and international surveillance;
   c. Assess and potentially enhance the vaccine and antiviral capacity and coordinate public-sector procurement;
   d. Devise a suitable liability program for vaccine manufacturers and persons administering the vaccine;
   e. Develop a national "clearinghouse" for vaccine availability information, vaccine distribution and redistribution;
   f. Develop a national adverse events surveillance system;
   g. Develop "generic" guidelines and/or "information templates" that can be modified and/or adapted as needed at the state and local levels, including:
      i. Fact sheets on influenza, the influenza vaccine, and antiviral agents;
      ii. Strategies and guidelines for interacting with the media and communicating effectively with public health, medical communities and the general public;
      iii. Guidelines for triage and treatment of influenza patients in outpatient, inpatient and non-traditional medical care settings;
      iv. Guidelines for setting up and operating mass vaccination programs;
      v. Guidelines for distribution and use of antiviral agents;
      vi. Guidelines regarding medical countermeasures and other non-pharmaceutical interventions.
   h. Make antiviral agents available that can theoretically be used for both treatment and prophylaxis during the next pandemic, although these agents will likely be available only for limited distribution;
   i. Provide up-to-date surveillance and epidemiological information to DHHS about the pandemic worldwide and nationwide;
   j. Coordinate among federal agencies to suspend laws, rules, regulations and standards of care to enable a surge in medical capacity while ensuring continued certifications and reimbursements from federally sponsored programs; and
   k. Coordinate with the United States Department of Agriculture to relax or suspend laws, rules and regulations that will enable continued ability to carry out State-administered nutritional assistance programs such as Food Stamps,

the Food Distribution Program, the Special Nutrition Program for Women, Infants and Children (WIC) and the Commodity Supplemental Food Program.

2. State Responsibilities
   The State of Nebraska Department of Health and Human Services (DHHS) is the lead response state agency and has responsibility to:
   a. Prepare, maintain and exercise the DHHS Division of Public Health Pandemic Influenza Response Plan;
   b. Maintain activities described in Section 3 of the DHHS Pandemic Influenza Response Plan and when needed, activate Section 4 of the Plan;
   c. Develop policies and procedures to inform DHHS employees of the pandemic influenza and how this may impact their work activities;
   d. Coordinate with the Governor's Office to share and collaborate with other state agencies;
   e. Coordinate with local public health departments to ensure the development of local plans and provide resources, such as templates to assist in the planning;
   f. Coordinate with tribal health organizations to ensure partnerships with local public health departments for sharing information, coordinating plans, and equitable delivery of medications, vaccine, and other health services;
   g. Coordinate with healthcare systems and providers to facilitate surge capacity and additional resources;
   h. Collaborate with behavioral health partners to facilitate surge capacity;
   i. Collaborate with neighboring states and the ten states within the Mid-America Alliance (MAA);
   j. Work with state and local partners to address the response needs of vulnerable and hard-to-reach populations;
   k. Work with local public health departments to conduct surveillance and epidemiology activities and keeping lines of communications open with neighboring and distant states regarding surveillance and epidemiology findings;
   l. Work with local public health departments and medical response systems to coordinate mass fatality response with emergency managers, county attorneys, healthcare providers and funeral directors;
   m. Distribute federal and state supplies of antiviral medications, vaccines, and other medical countermeasures according to recommendations from the federal government and the DHHS Division of Public Health;
   n. Work with local health departments to activate non-pharmaceutical measures as needed, such as social distancing, quarantine and isolation, school closures, cancellation of public events, and public education;
   o. Encourage and support the development of pandemic plans for communities and businesses; and,
   p. Provide continuous and comprehensive communication with Nebraskans including interacting with the media.

3. Local Responsibilities

Local public health departments are the lead local pandemic influenza response agencies and will coordinate activities within their jurisdiction to:

a. Complete, maintain, and exercise a pandemic response plan;
b. Ensure coordination and collaboration with local emergency management and other local partners in the planning and activation of the response plan;
c. Provide surveillance and epidemiology activities to determine the local impact and exchange information with DHHS and other partners to manage pandemic influenza outbreaks;
d. Coordinate with State public health officials to implement quarantine and isolation measures;
e. Oversee social distancing, isolation and quarantine activities and other community disease containment measures as needed and directed by epidemiology;
f. Collaborate with local leaders to develop local plans for suspension of civic events and application of isolation and quarantine measures;
g. Support local volunteer services, emergency response and healthcare resource management;
h. Manage local dispensing activities when vaccine, antiviral medications and/or other medical countermeasures are available;
h. Encourage development of self preparedness plans by families and other elements of the social infrastructure through public education and the provision of model plans;
i. Support local communities to maintain critical infrastructure to assure continued communication, transportation and delivery of essential services and goods;
j. Work with community service providers and advocates to identify special populations, develop and implement plans that address self preparations and delivery of services to special populations during public health emergencies;
k. Work with local business and communities to develop and implement policies to minimize disease transmission;
l. Work with community officials and response partners to implement medical surge and mass fatality response;
m. Take steps to minimize social unrest, including working with the media to deliver public health messages; and
n. Collaborate with adjacent local public health departments including those in neighboring states and Tribal Nations.

A map and contact information for the local public health departments is shown in Attachments G and H.

B. Coordination with Federal, Tribal, Regional and State Resources

1. United States Military

Offutt Air Force base is the only United States Military base in Nebraska and is located in Sarpy County, Nebraska. The Sarpy/Cass Department of Health and Wellness is working with Offutt's Public Health Division and Medical Readiness Office on disease reporting and follow-up investigations and to plan for emergency

response. Representatives from Offutt participate on the Pandemic Influenza Committee organized by Sarpy/Cass Department of Health and Wellness. There has been, and continues to be cooperative planning and participation in each other's exercises.

Sarpy/Cass Department of Health & Wellness and DHHS have considered the needs of Offutt when determining the initial quantity of antivirals to have available for the Sarpy/Cass jurisdiction. During response to an event, DHHS will stay in communication with Sarpy/Cass to consider Offutt when determining their needs for supplies.

2. Tribal Governments
   There are four federally-recognized Tribes headquartered in Nebraska, including: the Ponca Tribe of Nebraska (South Dakota and Iowa); Omaha Tribe of Nebraska and Iowa; Santee Sioux Nation, Nebraska; and Winnebago Tribe of Nebraska and Iowa. Trained staff at Tribal healthcare facilities develop infectious disease response protocols and provide disease surveillance and response services. Each Tribe works collaboratively on response plans, exercises, and public health emergency medical countermeasure cache development with local public health departments and medical response systems whose service areas overlap with Tribal service areas in Nebraska. Pandemic influenza planning progress for Tribal healthcare facilities and Tribal health departments is mixed, ranging from having only planning team discussion notes to having fully written facility-level (but, not Tribal-level) plans. To help ensure an adequate planning foundation, to document gaps, and to identify intergovernmental issues, all Tribes are currently working with local public health departments on completing the Indian Health Service Pandemic Influenza Workbook.

3. Mid-America Alliance (MAA)
   Nebraska is a partner state with the ten-state MAA. Nebraska works with the other partner states of the MAA in the identification and sharing of information, personnel and physical resources when possible. The ten member states of the MAA include Nebraska, Iowa, Missouri, Kansas, North Dakota, South Dakota, Wyoming, Colorado, Montana and Utah.

4. Nebraska Military Department
   The Nebraska Military Department houses the Nebraska National Guard and the Nebraska Emergency Management Agency. DHHS works closely with both entities to identify issues and coordinate to prepare for response to a pandemic influenza.

   a. Nebraska National Guard
      The Nebraska National Guard has the resources to provide Personal Protective Equipment for their personnel. DHHS will provide the National Guard with a supply of antivirals and vaccines as available. The DHHS Antiviral and Vaccination Plans are under development.

The National Guard is available to assist as described in the State Emergency Operations Plan and in the DHHS Strategic National Stockpile (SNS) Plan. The Nebraska National Guard assisted with smallpox vaccination clinics in 2003 and participates in planning of the SNS security and delivery plans.

b. Nebraska Emergency Management Agency (NEMA)
The Nebraska Emergency Management Act grants the Governor authority to provide state-level support to local governments in times of extreme emergency or disaster. NEMA is responsible for developing the Nebraska State Emergency Operations Plan (SEOP) which describes how state government responds to occurrences of disasters and emergencies throughout the State. The roles and responsibilities of state agencies are addressed in the all-hazards SEOP. DHHS is responsible for the Health and Medical Services, Emergency Support Functions (ESF) #8 response as described within the SEOP. DHHS works closely with NEMA in planning and response. Because pandemic planning requires special emphasis on certain functions, a copy of the DHHS Nebraska Pandemic Influenza Operational Response Plan is on file at NEMA to provide specific guidance related to pandemic influenza. An official emergency does not have to be declared for any or all of the Nebraska Influenza Response Plan to be implemented by DHHS.

Each county is served by a county and/or regional emergency manager that falls under the guidance of the Nebraska Emergency Management Agency (NEMA). As well, Nebraska's counties are served by twenty local public health departments that address public health emergency response. These local public health departments are working with county and regional emergency mangers and other community partners to develop, implement and exercise coordinated National Incident Management Systems compliant emergency response plans that include plans specific to the identification, response, control and recovery activities related to pandemic influenza. The local public health departments have identified mass dispensing sites, targeted dispensing sites and key personnel necessary to operate the sites. This information is located in local public health emergency response plans and procedures and is updated regularly. Local public health response plans are linked to other local, regional and state response plans to enable coordination of efforts and maximize use of limited resources.

5. Nebraska Department of Agriculture (NDA)
The NDA maintains a website providing information on avian influenza. This includes general information, information for producers, information for veterinarians, information for the public and links to other resources. http://www.agr.state.ne.us/avian/avian.htm This website also includes a link to the NDA Avian Influenza Surveillance and Response Plan.

The NDA surveillance system and the DHHS surveillance system are linked via key personnel communication, including the State Public Health Veterinarian, DHHS and the State Veterinarian, NDA.

DHHS, NDA and local health department staff will work together to protect investigators, producers, their employees and families from exposure to avian influenza and provide prophylactics when deemed effective and available.

Information about avian influenza and protection of workers is available from the Occupational Safety and Health Administration (OSHA) at www.osha.gov. Once at the website, search "Avian Flu". The following link is from the OSHA website: http://www.osha.gov/Publications/3323-10N-2006-English-07-17-2007.html

Interim Guidance for Protection of Persons Involved in U.S. Avian Influenza Outbreak Disease Control and Eradication Activities from the Centers for Disease Control is shown as Attachment E, item 1 in this document.

6. Nebraska Department of Education (NDE)
   DHHS collaborated with the NDE to encourage local schools to collect student absenteeism information on a weekly basis. This information is used to identify unusual patterns of absenteeism and can indicate the need for further investigation.

   During a pandemic influenza event it will be important for DHHS, NDE, local health departments and local schools to work together to establish the need for school closures and when it is safe to re-open schools.

C. DHHS Coordination and Activities

1. Governor's Pandemic Influenza Advisory Committee
   The Governor appointed a *Pandemic Influenza Advisory Committee* in March 2005 for a one year term to advise DHHS and the Governor on the identification of priority groups, distribution and allocation of vaccine supplies and antiviral agents, and the endorsement of the Nebraska Pandemic Influenza Prevention and Control Guidelines, since re-titled to the Nebraska Pandemic Influenza Response Plan. Key stakeholders on the Pandemic Influenza Advisory Committee included:
   - State and local public health, including state legal counsel
   - Public and private health sector, specifically including behavioral health
   - Medical ethicists
   - Emergency responders
   - Law enforcement
   - State and county officials
   - Clergy
   - Public school representatives
   - Public Information

   See Attachment A for more information.

The Committee met twice in November 2005, endorsed the then current Plan with the following recommendations:

- The DHHS Chief Medical Officer (CMO) should be the lead person to convene an Expert Pandemic Influenza Committee, including government, public health and medical personnel, an ethicist, and others as appropriate, to provide advice on the prioritization of vaccine and antivirals.
- Children and those who are transmitting the virus should be vaccinated before those at highest risk for influenza mortality. However, the Committee also supported the CMO and the Expert Committee in making decisions on vaccine and antiviral allocation that may be different from the Committee's recommendation.

2. Expert Pandemic Influenza Committee (Expert Committee)
   An Expert Committee can be convened by the DHHS CMO to review the current international, national, state and local disease surveillance and epidemiology data. The Committee will also review the World Health Organization (WHO) and Federal Public Health Advisories and Recommendations and advise DHHS on response activities, including, but not limited to vaccine, antiviral and other medical resources allocation including ethical decisions, social distancing, and other community disease containment activities.

   In a pandemic situation, it will be essential to have an equitable distribution of resources and careful consideration of the use of other disease containment measures, regardless of income or access to care. In their recommendations, the Expert Committee will consider the needs of vulnerable and hard to reach populations. The members will acknowledge that their decisions center around potentially conflicting values and that a key question to address is, "What are we intending to prevent?" (i.e., death, serious illness, overall burden of illness, economic and productivity loss).

3. Influenza Management Group (IM Group)
   The IM Group is an ongoing internal DHHS, DPH work group responsible for determining and overseeing day to day influenza-related operations. This includes implementation of appropriate surveillance and disease control activities, reviewing influenza surveillance data and implementing appropriate response activities based on the recommendations of the federal government, medical experts, the DHHS Expert Pandemic Influenza Committee and the WHO.

   a. The IM Group is convened by the DHHS CMO. Situations and disease epidemiology can influence the composition of the IM Group, and it may change as the influenza season progresses. The IM Group may include:
      i. DHHS Personnel:
         - The DHHS DPH Director/CMO or designee, serving as Chair;
         - State Medical Epidemiologist;
         - Preparedness Surveillance Coordinator;
         - Influenza Surveillance Coordinator;

- Public Health Laboratory Director or Designee;
- Strategic National Stockpile Response Coordinator;
- Immunization Program Coordinator;
- Local Health Department Liaison;
- HAN Coordinator; and
- Public Information Officer.

ii. Other Representatives:
Representatives from other DHHS offices, public and private agencies and organizations can be added to the IM Group to further expand the availability of information and knowledge of special concerns with health, medical, pharmacy, community, minority communities and Tribal partners.

b. The IM Group will meet as needed to provide coordination and oversight of influenza and pandemic influenza response activities, including timely and appropriate communications.

c. The IM Group's responsibilities will include, but not necessarily be limited to:
   i. Ongoing surveillance and assessment of influenza and pandemic influenza;
   ii. Oversight of influenza and pandemic influenza-related control activities and coordination of activities with local and regional resources;
   iii. Ongoing evaluation of the health services system's delivery capacities and identification of needs and gaps;
   iv. Ongoing identification, prioritization and distribution of available federal, state and local resources for a public health response;
   v. Securing and providing additional resources to prevent or control influenza or pandemic influenza;
   vi. Ongoing communications regarding influenza and pandemic influenza, and associated activities with appropriate state, local, federal, and surrounding states' officials (e.g., DHHS Chief Executive Officer, other DHHS Division Directors, the Governor's Office, the Nebraska Emergency Management Agency, CDC, local public health officials, Nebraska Tribal Governments and surrounding states);
   vii. Communication with public and private healthcare providers and the general public regarding the influenza and pandemic influenza situation and recommendations;
   viii. Identifying special considerations for vulnerable populations; and
   ix. Ongoing assessment and updating of influenza and pandemic influenza policies, protocols, and response measures.

4. DHHS Continuity of Operations Plan (COOP)
DHHS, DPH has developed a COOP that identifies essential functions and backup plans for absent employees and contractors.

5. Communication with DHHS Employees
Communication methods include email notices, intercom announcements, and an internal webpage that can provide information on:

a. The signs and symptoms of the flu, modes of transmission, infection control and how to decrease transmission at work, in the community and at home;
b. When available, changes in workplace polices such as telework plans, changes to leave policies, flexible work schedules, reporting absences, affect on benefits, etc. The current DHHS Emergency Weather Policy can be found at http://www.dhhs.ne.gov/hur/weather.htm which can be used as a model when crafting workplace policies as the pandemic flu develops.;
c. The status of DHHS operations; and
d. Policies and practices to help prevent influenza spread at the worksite including respiratory hygiene, hand shaking, seating in meetings, office layout, shared workstations, the availability of personal protective equipment such as masks and gloves including when and where these should be used, doing business over the phone, webinars or video to decrease exposure, restricted attendance to meetings and restricted travel.

6. Legal Authority

Managers in the Department of Health and Human Services Division of Public Health, with legal services and emergency response staff reviewed all activities of the division as well as the statutes and regulations administered by the division to determine appropriate response in the event of pandemic influenza.

From an internal continuity of operations perspective, the review focused on discretionary functions that could be discontinued to allow DHHS DPH to conduct essential operations, potentially with a reduced workforce, to meet the threat and continue to provide key services to Nebraskans.

An ongoing assessment and review of the statutes and regulations administered by the Division continues to determine which laws administered by the Department need to be suspended under a Governor's emergency proclamation pursuant to Neb. Rev. Stat. § 81-829.40 to allow the professions and businesses to meet the crisis. Scope of practice for healthcare professionals, and altered standards of care for healthcare professionals and healthcare facilities were considered. A determination of related discretionary functions that can be discontinued without formal suspension of the laws and regulations to has been made.

The statutes (and supporting regulations) included: the Nebraska Uniform Licensing Law (Title 172 Neb. Admin. Code -- Professional and Occupational Licensure); Health Care Facility Licensure Act (Title 175 -- Health Care Facilities and Services); the Nebraska Safe Drinking Water Act (Title 179 -- Public Water Systems); Title 176 -- Emergency Medical Services**;** Title 178 -- Environmental Health **(**including recreational camps, private water wells, mobile home parks and swimming pools, implementing the Nebraska Clean Indoor Air Act, the Nebraska Asbestos Control Act, and the Residential Lead-Based Paint Professions Certification Act; Radiation Control Act (Title 180 – Control of radiation); and others. See Attachment C for more information.

7. Federal Nutritional Assistance Programs
   The Food and Nutrition Service (FNS) of the United States Department of Agriculture (USDA) has devised guidelines for the operation of key nutrition programs, including the Food Stamp Program (renamed the Supplemental Nutrition Assistance Program (SNAP)), the WIC Program, and Food Distribution Program, during a pandemic influenza. These new guidelines are posted on the FNS Disaster Assistance website at www.fns.usda.gov/disasters/disaster.htm

   DHHS administers the Food Stamp Program also known as SNAP, the Special Supplemental Nutrition Program for Women, Infants and Children (WIC), the Commodity Supplemental Food Program (CSFP), and the Food Distribution Program. Program Directors for each of these programs have backup personnel to assist with planning and preparedness and to carry out the programs. Program Directors or their designee are responsible for informing stakeholders such as to FNS, DHHS management and staff, and contractors of changes in operational status. Information to recipients will be distributed through the media and direct service providers.

   Food Stamps is a program offered by the FNS which provides benefits to people with low incomes to buy food to improve their diets. Nebraska has recently implemented an online application process which will play an important role if pandemic influenza occurs. Applications are submitted on-line or mailed hard copy. As needed, follow up is done by phone and eligibility determination made within 30 to 60 days of receipt of each application. Nebraska provides Food Stamp benefits through the use of an Electronic Benefits Transfer (EBT) card. Currently all EBT cards are issued out of the Issuance & Collection Center in Lincoln, so in the event of a disaster, cards can be provided to new participants immediately.

   The WIC Program serves to safeguard the health of low-income women, infants, and children up to age five who are at nutritional risk by providing nutritious foods to supplement diets, information on healthy eating, and referrals to healthcare.

   In accordance with FNS guidelines there are flexibilities in policies that the Nebraska WIC Program will consider during a disaster:
   - Exempting applicants from the requirement for documentation of income, residency and identity when the documentation requirement would present an unreasonable barrier to participation.
   - Extending the certification period in cases where there is difficulty in scheduling appointments for breastfeeding women, infants and children who have not reached their fifth birthday. This policy is available for clinics that are experiencing a shortage of competent professional authorities to perform certifications or in circumstances where participants cannot come into the WIC clinic. In such cases, one additional month of food benefits can be issued to those participants until an appointment can be rescheduled.

- Mailing WIC food instruments to persons who are not scheduled for nutrition education or a certification.

CSFP works to improve the health of low-income pregnant and breastfeeding women, other new mothers up to one year postpartum, infants, children up to age six, and elderly people at least 60 years of age by supplementing their diets with nutritious USDA commodity foods. Eligible participants pick up their foods from CSFP warehouses at various locations in Nebraska. CSFP certifies elderly participants for 12 month periods and women, infants and children for 6 month periods. There is flexibility to shorten or extend a certification period by one month to accommodate social distancing and variations in staff availability. Two month food packages are currently distributed. Consideration, and a request to FNS, will be made to increase this to additional months should the pandemic situation warrant such a request. CSFP also uses a volunteer delivery system for home bound participants in some areas of Nebraska. This will continue to be supported and encouraged as a way to promote social distancing.

The Food Distribution Program distributes USDA donated foods (commodities) to participating agencies: schools, child care agencies, charitable organizations, summer food service programs, soup kitchens, food pantries, and food banks. Foods are delivered from USDA to a central warehouse in Nebraska. From here foods are delivered to recipient agencies across the state. DHHS has contracts with two trucking firms for these deliveries. Priority status for delivery is expected from the companies. Food can be shipped out at any rate to serve the needs. All of the staff within the Food Distribution program could be active in arranging for distribution of food items and releasing them to any authorized agency which would include emergency agencies when needed. Foods would also be available from any of the recipient agencies if and when the circumstances arise.

8. Reaching Minority Communities
   The DHHS Office of Minority Health and Health Equity received two competitive Pandemic Influenza grants from CDC in 2008 that will assist in reaching minority communities. These two grants are as follows:
   a. Addressing Vulnerable Populations
      Project staff will develop a database of interpreters and translators and will use that information to address the pandemic flu planning, education and response needs of non-English speaking people. Community people will be enlisted to become Lay Health Ambassadors who will be trained on pandemic influenza, and will host forums to disseminate information. Local health departments will assist with conducting tabletop exercises to encourage discussion and to identify gaps in providing information and response activities in minority communities.
   b. Tribe Engagement
      The Nebraska Inter-Tribal Engagement Demonstration Project, a cooperative planning effort among Native American Indian Tribal organizations in

Nebraska, wants to better engage tribes in pandemic flu planning. The project includes four-phases: recruitment, citizen input, stakeholder input and feedback.

9. Food Safety
   The Nebraska Department of Agriculture is responsible for inspections of food establishments in Nebraska. In a few areas of the state, that responsibility is delegated to local public health departments – Central District Health Department, Douglas County Health Department and Lincoln/Lancaster County Health Department.

   If a foodborne illness is suspect, DHHS DPH can provide epidemiologic assistance to local public health departments to determine the probable source of the illness. When applicable, the resulting information is shared with the Nebraska Department of Agriculture and the media for public information. Local public health departments generally provide follow up education with the entity associated with the food safety issue.

10. Infection Control Guidance for Government, Businesses and Childcare
    The Nebraska Center for Biopreparedness Education (NCBE) and local public health departments work with businesses to introduce the concept of preparing for response to a pandemic influenza event. Information on social distancing, canceling large gatherings, encouraging ill employees to stay home, adjusted leave policies, etc., is covered in the Pan Flu 101 and Continuity of Operations Planning presentations to businesses. More information can be found at:
    http://www.bioprepare.org/Resources/AvianFlu.htm

    DHHS will use information from the CDC, OSHA and other web resources to develop the DHHS website that will become active when a pandemic influenza event occurs. Base information can be found at the following websites:
    http://www.cdc.gov/flu/workplace/
    http://www.osha.gov/Publications/influenza_pandemic.html
    http://www.osha.gov/Publications/3323-10N-2006-English-07-17-2007.html
    http://wwwn.cdc.gov/travel/contentAvianFluArrivingFromAreas.aspx
    http://wwwn.cdc.gov/travel/contentAvianFluAirlinesCleaning.aspx
    http://www.cdc.gov/flu/professionals/infectioncontrol/childcaresettings.htm

    Information includes guidance on determining workers in high risk categories for exposure to influenza infection; worker safety, respiratory hygiene, hand shaking, seating in meetings, office seating, shared workstations, the use of personal protective equipment such as masks and gloves including when and where these should be used, doing business over the phone, use of webinars or video to decrease exposure, restricted attendance to meetings, restricted travel, cleaning methods, and identifying ill passengers. Also see Section 2, VIII. Training and Exercises.

11. Coordination with Local public health departments
    Coordination will occur with local public health departments regarding releases to the media, activating mass or targeted dispensing, surveillance and epidemiology, and other activities.

12. Coordination with 9-1-1 Services
    9-1-1 services are organized locally in Nebraska. The Center for Biopreparedness Education is designing and will offer training specific to 9-1-1 dispatch in Nebraska. DHHS has recently obtained contact information for the 9-1-1 services and will work to integrate this information into the Health Alert Network (HAN) system to be able to send notices quickly to the services. DHHS DPH will review information available from the U.S. Department of Transportation, National Highway Traffic Safety Administration on pandemic influenza protocol development for 9-1-1 personnel and public safety answering points, along with information from other sources to determine the course of action to enhance partnerships with 9-1-1 services.

13. Coordination with 2-1-1 Services and other Hotlines
    DHHS is in the process of identifying and collaborating with the 2-1-1 Service operated by United Way of the Midlands and other hotlines to coordinate messages and information during a pandemic influenza event.

II. Surveillance

The Nebraska Pandemic Influenza Response Plan outlines the state's plan for seasonal influenza as well as for enhanced surveillance for "novel" influenza viruses. These guidelines address the basic elements that are critical to Nebraska's pandemic response.

Surveillance is the cornerstone of planning for the next influenza pandemic. Influenza A viruses' antigenic properties constantly change. Therefore, both virology surveillance, in which influenza viruses are isolated for antigenic and genetic analysis, and disease surveillance, in which the epidemiologic features and clinical impact of new variants are assessed, should be viewed as equally critical for pandemic preparedness.

DHHS will gather and maintain statewide surveillance data and work collaboratively with local public health departments, sentinel physicians, hospital laboratories and the Nebraska Public Health Lab (NPHL) to coordinate surveillance activities. (See Attachment E, Item 5 Nebraska Influenza Prevention Fact Sheet)

The case definition for Influenza Like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat in the absence of a known cause other than influenza. This definition is distributed to reporting hospitals, labs, physicians and local public health departments as part of the instructions for reporting weekly ILI.

The WHO case definition for H5N1 influenza is shown in Attachment D.

A. Core human surveillance components for influenza and ILI include:

1. Laboratory Testing for Influenza
   Annually, the NPHL provides advanced viral isolation and characterization (by typing and sub-typing) for specimens submitted by both sentinel and non-sentinel sites. The NPHL's Virus Isolation Laboratory has cross-trained staff to ensure adequate personnel for seasonal influenza viral testing. The NPHL tests hundreds of influenza specimens annually. At least three hospitals in Nebraska routinely isolate influenza virus and send isolates to the NPHL for subtyping.
   The sentinel sites submit nasapharyngeal swabs, throat swabs, and nasopharyngeal washings from patients with positive rapid antigen tests to the NPHL for influenza testing, at each of the following stages during the influenza season:
   - At the beginning of the season (usually late October or November), when ILI first presents at a healthcare facility;
   - Midway through the season (usually late December and January); and
   - Toward the end of the season (usually March or early April).

   Isolates are reported to the CDC via the National Respiratory and Enteric Virus Surveillance System.

2. Reporting
   Electronic Laboratory Reporting (ELR) between the NPHL, DHHS and CDC take place daily using approved CDC and state information and communication systems. The National Electronic Disease Surveillance System (NEDSS) is currently used to track notifiable disease reports from county health offices to DHHS and the CDC

Epidemiology Program Office. All testing results performed by the NPHL are reported to the DHHS Department of Epidemiology via automated electronic laboratory reporting from NPHL to NEDSS.

3. Sentinel Hospital Laboratories
   The DHHS and the NPHL coordinate surveillance activities through the use of hospital laboratories that perform ELISA-based direct antigen testing for influenza viruses in which they report the total number of influenza tests performed and the total number of positive results. This includes approximately 80 out of 85 hospitals located across the state. In addition to the select hospital laboratories, 6 large clinic laboratories are also included in the surveillance. For data analysis purposes across years, DHHS maintains a consistent group of participants. Five specimen collection kits are sent from the NPHL to all hospital laboratory sentinel sites throughout the state at the beginning of the season. Specimens from sentinel sites are then submitted to the NPHL via an established ground courier for testing at the expense of DHHS to determine the presence and type of influenza virus.

4. Sentinel Physician Surveillance
   a. Manual
      The DHHS and LPHD coordinate surveillance activities through the use of influenza sentinel physician sites. Sentinel physicians are selected across the state at a proportion of one per 250,000 population. Nebraska aims to have a sentinel provider participating in this surveillance from each of the 20 local health department jurisdictions. Currently, there are 17 providers participating throughout Nebraska. There are two providers located in the largest population center of the state. The sentinel sites report influenza morbidity data directly to the CDC via telephone or fax on a weekly basis from the first week in October through the last week of May. The weekly transmission consists of:
      - The total number of patients seen for any reason at the sentinel site during that week and;
      - The number of patients seen for ILI during a given week in each of four age categories: 0–4 years; 5–24 years; 25–64 years; and > 65 years.

      The CDC compiles morbidity data submitted by the sentinel sites and provides weekly reports on the percent of visits that are due to ILI on the national, regional and state level. This percent is compared to a baseline of 0–3%.

      Five specimen collection kits are sent from the NPHL to all sentinel physician sites at the beginning of the season. Specimens from sentinel sites are then submitted to the NPHL via an established ground courier or Fed Ex, DHL, etc. for testing at DHHS expense to determine the presence and/or type of influenza virus.

   b. Automated
      Physician offices located at the University of Nebraska Medical Center who use an electronic health record submit an automated report of ILI data weekly to the Douglas County Health Department (DCHD). DHHS and LPHDs are currently in the process of implementing this surveillance method in clinics, which use an

electronic health record, across the state to monitor ILI electronically. DHHS has not replaced the traditional sentinel provider ILI surveillance with this method but is developing this automated replacement system to facilitate better data collection and analysis. Data elements that are collected using this surveillance method are:

De-identified data requested for all patient visits (for numerator and denominator)

- Chief complaint (text, if available)
- Actual patient temperature
- Presence of cough
- Presence of sore throat
- Age (actual age will help characterize any novel virus outbreaks that may occur)
- Gender
- Race
- Ethnicity
- Zip code (to evaluate need for improved vaccine coverage or other outbreak control)
- Diagnosis/impression (free text, SNOMED, ICD) – for identification of alternate diagnoses
- Unique identifier (may be coded for patient de-identification)

5. Hospital ILI Admission Surveillance
   All hospitals in the state report ILI hospital admissions directly to DHHS or to their local health department, who in turn report to DHHS, on a weekly basis from the first week in October through the last week of April. Each local health department or healthcare facility enters individual facility data into an online surveillance database. This weekly transmission consists of:
   - The number of new ILI admissions during a given week in each of four age categories: 0-4 years; 5-24 years; 25-64 years; and > 65 years.
   - The number of new ILI patients on a ventilator during a given week.
   - If there is a personnel shortage in the facility due to ILI.
   - The percentage of bed occupancy in each facility at the point in time of submission.
   - The number of patients isolated or quarantined.

6. Outbreak Management
   Long-term care facilities and schools voluntarily report ILI outbreaks, during regular influenza season, in their institutions to DHHS or to their local health department. The DHHS Influenza Surveillance Coordinator coordinates efforts with local health department staff to investigate reported clusters of ILI at long-term care facilities and other institutions, including schools, in their assigned geographical areas. Health education materials and outbreak management assistance are also provided. The DHHS Influenza Surveillance Coordinator also works with local public health departments to investigate any cases of influenza that occur outside of the regular influenza season and recommend specimens be collected to be cultured by NPHL.

DHHS uses the HAN for communications between providers and DHHS for rapid identification and response to ILI and ILI clusters in conjunction with other laboratory and clinical indicators. In outbreak situations, DHHS encourages the facility to collect at least five nasopharyngeal specimens and send to the NPHL to determine the presence and/or type of influenza causing the outbreak.

7. School Surveillance
   Absenteeism counts are collected weekly by local public health departments during the school year for all schools in the health department's jurisdiction that have an enrollment of 25 or greater. The data is entered into a spreadsheet and submitted electronically to DHHS by Thursday of each week. Both the local public health departments and DHHS use this data to determine a baseline and compare future year's data to that baseline. As available, information is collected concerning health-related events impacting school children, particularly information related to rash/fever or any unusual or unexpected increase in illness. Unusual patterns are reported to DHHS and, as applicable, investigated to determine the cause and follow up occurs. Ongoing feedback is provided to the schools as well as health education materials.

8. Deaths Related to Influenza Surveillance
   a. 122 Cities Mortality Reporting System
      Two cities in Nebraska, Lincoln and Omaha, participate in the 122 Cities Mortality Reporting System by reporting deaths from pneumonia and influenza on a weekly basis to the CDC.
   b. Electronic Death Registration System
      DHHS receives death data weekly from the Nebraska Vital Records Office that utilize the Electronic Death Registration System (EDRS). Historical mortality data in Nebraska has been reviewed and baselines/thresholds are being determined. Data will be compared to the baseline on a weekly basis to determine the status of influenza related deaths in Nebraska.

9. Year-round Influenza Surveillance
   a. Sentinel Providers
      A subset (25%) of regular sentinel sites is recruited yearly to submit specimens during the 'inter-season' (April through September). Selection criteria for these sites include patient populations likely to travel or have visitors from other countries, particularly Asia and the Southern Hemisphere; staff willing to collect and submit specimens; capacity to perform rapid influenza screening test and geographic/population diversity. The DHHS Influenza Surveillance Coordinator will actively solicit submission of specimens from patients at these sites with a high likelihood of importing influenza into Nebraska. Selection criteria for patients will include meeting the case definition for ILI, and some epidemiological indicators (e.g., recent travel or visitors from Asia, the Southern Hemisphere, Alaska, cruises or other setting identified as having outbreaks of influenza).
   b. Automated Electronic ILI reporting

Data submitted using electronic health records can be collected year-round with minimal additional effort from participating clinics and used to detect any abnormal ILI activity in the state.

10. Electronic Nebraska Ambulance and Rescue Service Information System (eNARSIS)
    The EMS Program and Data Management are working in cooperation to continue implementation of eNARSIS. Once 100% of EMS agencies are using this system, on-going disease surveillance could be possible with this system utilizing pre-hospital patient care data. Since 2004, continual trainings have been conducted to bring more EMS agencies on board with this electronic patient care reporting system. Currently some EMS agencies are using paper reporting and some are usingelectronic. The process has begun to make a regulation requiring electronic reporting within 48 hours of response. This would assist with a much more timely surveillance than could be done currently. http://www.nebems.com/

11. US STRATCOM
    The Peter Kiewit Institute and the U.S. Strategic Command are currently participating with DHHS in a joint venture to develop an early detection model for pandemic influenza. The model uses data from school-based absenteeism and business absenteeism gathered from sites geographically dispersed across Nebraska. In addition, data from the DHHS public health laboratory, including the number of influenza tests ordered, is scheduled to be entered into the system. Once thresholds are set, deviations can be calculated by county, and graphically displayed on a Nebraska map.
    The system contains four major components:
    a. Data Collection
       System collects all possible data sources related to likely influenza outbreaks. Sources include influenza lab test data, school and workforce absenteeism, daily weather data, calendar information (holidays, major athletic events, and other seasonal activities)
    b. Data Processing
       Transforms all data files into Microsoft Access format for processing.
    c. Data Statistics
       System introduces a main database in which each calendar day has a unique and corresponding record, recording the critical information extracted from different sources and preparing for the early alerting model. The database includes the following fields: date, day of week, day type, weather, school absent average, current school absent, corporation absent average, current corporation absent, laboratory volume average, current lab volume, detected influenza H5N1, detected non-influenza H5, and alerting points.
    d. Influenza alerting model
       Alerting points are calculated by incorporating the absenteeism and laboratory data information. Alerting colors are set based on total points. Alerting colors for each specific zip code is displayed on corresponding map spot. Real-time aggregate data on the total number of influenza tests performed and total number positive for a given date range is ready for transfer on a daily basis from the

NPHL and UNMC. A functionality effort is underway to allow designated personnel to access the associated data making up the aggregate data for audit and epidemiological investigative purposes. Algorithms that have been developed are in use. Technical requirements have been met to accept data transfer from NPHL and UNMC.

12. State and Territorial Epidemiology Report
    The DHHS Influenza Surveillance Coordinator reports the estimated level of spread of influenza activity in Nebraska each week to the CDC. Influenza activity is reported as no activity, sporadic, local, regional, or widespread. These levels are defined as follows: **No Activity:** No laboratory-confirmed cases of influenza and no reported increase in the number of cases of ILI; **Sporadic**: Small numbers of laboratory-confirmed influenza cases or a single laboratory-confirmed influenza outbreak has been reported, but there is no increase in cases of ILI; **Local**: Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in a single region of the state; **Regional**: Outbreaks of influenza or increases in ILI and recent laboratory confirmed influenza in at least 2 but less than half the regions of the state and; **Widespread**: Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in at least half the regions of the state. Together, the five categories of influenza surveillance are designed to provide a national picture of influenza activity. The state and territorial epidemiology reports of influenza activity are the only state-level information reported.

B. Enhanced Influenza Surveillance

The following enhanced surveillance system will be used in Nebraska to detect and characterize circulating strains of novel influenza virus and generate epidemiological information. This information will be used to guide the actions of public health officials before, during, and after a pandemic, caused by the novel influenza virus. The DHHS Disease Surveillance Section will maintain and continue to enhance and refine the existing seasonal influenza surveillance infrastructure of the DHHS during a pandemic situation.

1. Laboratory Testing for Influenza
   During times of increased influenza activity, per CDC guidelines, the NPHL will be the only laboratory to test specimens that are highly suspect for novel influenza viruses such as the high pathogenicity avian influenza A H5N1. The NPHL's Special Pathogens Laboratory has cross-trained staff to ensure adequate personnel for testing of novel influenza viruses such as influenza A H5N1. Approximately three hospitals in Nebraska routinely isolate influenza virus and send isolates to the NPHL for subtyping. However, when a novel Influenza A is suspected, these hospitals will be instructed not to perform any type of viral isolation or ELISA-based rapid antigen test, but under direction from the DHHS Influenza Surveillance Coordinator will transport all specimens to the NPHL. Once the presence of a novel influenza virus is confirmed within a community or geographical area, updated guidance will be available regarding the diagnostic testing roles that local hospital laboratories should assume.

a. In coordination with the NPHL, DHHS Disease Surveillance Officials may ask to implement an increased laboratory capacity for surveillance of influenza during the season (October through May) and for the differential diagnostic testing, either through viral isolation or PCR tests, of other respiratory pathogens that also cause ILI (e.g., adenovirus, respiratory syncytial virus, parainfluenza virus types 1-3, *Legionella* species and *M. pneumonia*e) will be expanded.
b. The DHHS Influenza Surveillance Coordinator will actively solicit nasopharyngeal swabs, throat swabs, nasopharyngeal washings, or, if requested by NE DHHS or NPHL officials, bronchial alveolar lavages specimens from 2 –3 patients with ILI from the expanded number of sentinel sites throughout the influenza season (October through May) to the NPHL for influenza testing, at each of the following stages during the influenza season:
   - At the beginning of the season (usually late October or November), when ILI first presents at a healthcare facility;
   - Midway through the season (usually late December and January);
   - Toward the end of the season (usually March or early April); and
   - During times of increased influenza activity
c. During seasonal influenza as well as during a pandemic, positive specimens will be sub-typed by the NPHL or the CDC for surveillance and diagnostic purposes.
d. NPHL laboratory staff will perform rapid influenza antigen tests (ELISA-based and PCR), following the CDC's Laboratory Response Network (LRN) PCR protocols for diagnostic testing for influenza A and B on select specimens to facilitate outbreak investigation and control, as well as to limit the spread of a novel influenza A virus.
e. The number of clinical specimens tested for influenza will be increased as determined by the DHHS Influenza Surveillance Coordinator.
f. The NPHL will electronically provide weekly/daily cumulative reports of submissions for viral isolation. The DHHS Influenza Surveillance Coordinator will maintain and oversee the investigation status of positive cases. LPHD's will actively investigate positive influenza cases.
g. Historical laboratory morbidity data in Nebraska will be reviewed and baselines/thresholds determined.

2. Reporting
   Electronic Laboratory Reporting (ELR) between the NPHL, DHHS and CDC will continue to take place daily using approved CDC and state information and communication systems. The National Electronic Disease Surveillance System (NEDSS) is currently utilized to track notifiable disease reports from county health offices to DHHS and the CDC Epidemiology Program Office. All testing results performed by the NPHL are reported to the DHHS Department of Epidemiology via automated electronic laboratory reporting from NPHL to NEDSS. Notification of the first laboratory confirmed case of high pathogenicity avian influenza A H5N1 will be made via telephone to DHHS upon receiving results.

3. Sentinel Hospital Laboratories and Sentinel Provider Surveillance

a. When enhanced surveillance is needed because of known or possible presence of a novel influenza virus, the DHHS Influenza Surveillance Coordinator and LPHD's will enlist the assistance of sentinel sites and other healthcare facilities to rapidly identify any possible importation of a novel influenza virus. The current seasonal sentinel surveillance system will be expanded and diversified as determined to be necessary, in order to ensure that surveillance provides population-based information.
   - The DHHS Influenza Surveillance Coordinator and LPHD's will contact sentinel sites on a regular basis to ensure they are both reporting ILI and submitting specimens to the NPHL for testing to ensure the timeliness and viability of the viral specimens collected and submitted for isolation.
   - Specimen collection kits will be sent from the NPHL to pre-determined physician and hospital sentinel sites throughout the state at the beginning of the season (and as needed) via an overnight delivery service. Specimens from sentinel sites will be submitted to the NPHL via established ground courier on a daily basis as available for testing at DHHS expense.
   - DHHS Disease Surveillance staff will report the results; virology isolates characterization or results of NPHL and/ or CDC LRN PCR results, and will notify key response positions within DHHS of the status of influenza activity.
   - Historical sentinel morbidity data in Nebraska will be reviewed and baselines/thresholds determined.

b. Electronic Reporting of ILI
   Physician offices located at the UNMC will submit ILI data weekly or daily dependent on need to the DCHD. DHHS will continue to move forward with implementation of statewide surveillance using electronic health records.

4. Hospital ILI Admission Surveillance
   The DHHS Influenza Surveillance Coordinator will encourage continuation of weekly or daily submission of hospital admission data for ILI.

5. Outbreak Management
   The DHHS Influenza Surveillance Coordinator will encourage long-term care facilities and schools to voluntarily report ILI outbreaks in their institutions to DHHS or to their local health department. The DHHS Influenza Surveillance Coordinator will coordinate efforts with local health department staff to expedite the investigation of reported clusters of ILI at long-term care facilities and other institutions, including schools, in their assigned geographical areas especially any cases of influenza that occur outside of the regular influenza season. For these cases, specimens will be collected to be cultured by NPHL. DHHS will continue to use the HAN for communications between providers and DHHS for rapid identification and response to ILI and ILI clusters in conjunction with other laboratory and clinical indicators.

6. School Surveillance
   The DHHS Influenza Surveillance Coordinator will encourage schools to continue to submit weekly or daily absenteeism data to DHHS.

7. Deaths Related to Influenza
   a. The 122 Cities Mortality Reporting System will continue to function by reporting deaths from pneumonia and influenza on a weekly basis to the CDC.
   b. DHHS will receive death data weekly/daily from the Nebraska Vital Records Office which utilizes the EDRS. Data will be compared to the baseline on a weekly/daily basis to determine the status of influenza related deaths in Nebraska.

8. Year-round Influenza Surveillance
   DHHS is exploring additional surveillance systems to enhance existing influenza surveillance. These include hospital discharge data, Health Maintenance Organization influenza data, and ambulance diversions. DHHS is exploring contingency plans for enhancing state and local virology and disease-based surveillance systems in the event of a novel virus alert or pandemic alert. These enhancements might include surveillance of severe respiratory illness and unexplained deaths at local hospitals; surveillance at clinics catering to international travelers; and surveillance of persons traveling from geographic areas in which the novel strains have been isolated. The DHHS Disease Surveillance Section, in collaboration with CDC, local health officials, clinicians and academicians, and using protocols developed the CDC, will implement and pilot-test final modifications in enhanced surveillance system, which may include:
   a. Documentation of outbreaks of influenza in different population groups;
   b. Determination of age-specific attack rates, morbidity and mortality;
   c. Description of unusual clinical syndromes (as well as risk factors for those syndromes and appropriate treatment);
   d. Description of unusual pathologic features associated with fatal cases;
   e. Efficacy studies of vaccination or chemoprophylaxis;
   f. Monitoring of the ability of hospitals and outpatient clinics to cope with increased patient loads;
   g. Assessment of the effectiveness of control measures such as school and business closings.
   h. Assess the medical, social and economic impact of the pandemic.

9. eNARSIS
   The DHHS Influenza Surveillance Coordinator will encourage continuation of core functions related to this surveillance method.

10. US STRATCOM
    The DHHS Influenza Surveillance Coordinator will encourage continuation of core functions related to this surveillance method.

11. State and Territorial Epidemiology Report
    The DHHS Influenza Surveillance Coordinator will continue to submit this report to the CDC on a weekly basis during seasonal and/or pandemic situations.

III. Healthcare

A. Medical Response Systems

Nebraska has two Metropolitan Medical Response Systems (MMRS) and five rural regional Medical Response Systems (MRS), funded through the hospital preparedness grant. They form collaborations to achieve the enhanced capability necessary to respond to a mass casualty event caused by a terrorist act, incident involving hazardous materials, an epidemic disease outbreak, or a natural disaster. Committees and workgroups are brought together to develop regional plans, conduct training and exercises, acquire pharmaceuticals and personal protective equipment, and plan for alternate care sites. The MMRSs and MRSs work to prepare the hospitals, physicians, and Emergency Medical Services (EMS) in partnership with public health, fire, law enforcement, major businesses, government entities and community organizations for an integrated response to any disaster. This assistance supports the jurisdictions' activities to increase their response capabilities during the first hours crucial to lifesaving and population protection, with their own resources, until external assistance can arrive.

A map of the Medical Response Systems is included as Attachment F to this document.

1. Medical Reserve Corps
   Four of the five rural MRSs are in the process or have already established Medical Reserve Corps and have recruited medical and lay volunteers to assist with medical surge needs. The two urban MMRSs have ongoing working relationships with the Medical Reserve Corps that service their area.

2. Interoperable Communication Systems
   MMRSs and MRSs have worked with each other, hospitals, local public health departments and emergency management within their jurisdiction to increase redundant and interoperable communication systems. For further information, see Part VI. Communications, B. Interoperable Communications within Section 2 of the Plan.

3. Alternate Care Sites (ACS)
   ACSs are managed at regional levels, since physical infrastructure and personnel resources vary greatly across the state. In 2007, the Nebraska Center for Biopreparedness Education hosted a Hospital Surge Capacity pre-conference workshop at their four Biopreparedness Symposia, which addressed the selection of ACSs based on physical criteria, considerations of patient acuity, and requisite staff and supplies. 170 hospital staff attended these work shops.

   Four of the five rural MRSs received a Healthcare Facilities Partnership grant in 2007. Through this grant they worked with rural critical access hospitals to identify issues that affect hospitals operating with fewer than 25 beds. The project period expires in early 2009. Specific objectives include:

- Identification of key planning elements, physical resources and equipment necessary to operate at an alternative care site;
- Identification and development of solutions for operational and logistical issues;
- Identification of issues unique to rural locations that must be considered in selection of alternative care sites;
- Development of memorandums of understanding that must be in place in establishing an alternative care site;
- Researching and purchasing "hospital in a box" equipment for each Medical Response System region which will allow facilities to quickly establish alternative care site set-ups necessary to serve patients; and
- Developing and conducting two full scale exercises to test the proposed protocol.

Through the Healthcare Facilities Partnership grant, the following documents have been developed and are available through the DHHS secure website, Guardian.

- Hospital Pod Activation and Deployment Protocol – provides regional cache of medical supplies and equipment to hospitals and/or alternate care centers.
- Alternate Care Site Template – provides guidelines for physical requirements; supplies and equipment needed; scope of services, organizational structure/command and control; job action sheets; documentation; patient information; notification and activation; communications; staffing; credentialing; security; logistics; behavioral health; special populations; tracking; demobilization; and education.

The Omaha Metropolitan Medical Response System (OMMRS) has developed and tested a phased approached to alternate care sites that are applicable to pandemic events and to mass casualty events. Phase I resources include clinics and offices that are on the hospital campuses. These are put into operation when emergency rooms can no longer manage an influx of patients. Phase II resources are those associated with healthcare systems but not located on the inpatient facility campuses. These are put into operation when Phase I resources are overwhelmed. For pandemic events, OMMRS has designated certain resources as "flu-only," so that normal healthcare services may continue with less chance of exposure to those ill with influenza.

B. Hospitals

There are 83 hospitals in Nebraska providing services and preparing for emergency response. During a pandemic influenza there will likely be a reduction in the workforce due to illness, absenteeism, family responsibilities, exhaustion, and shortages in healthcare professionals throughout Nebraska, making personnel surge capacity one of our greatest challenges. Thus, identification of sources of back-up personnel and development of volunteer lists are critical. In addition, as hospital beds become filled, alternate care sites and overflow locations will need to be established

in order to provide adequate care to ill persons and to prevent further spread of infection. Maintaining infection control measures throughout the pandemic will require training and supplies. The MRSs have brought hospitals together with other responders to address these issues.

1. National Incident Management System (NIMS)
   The Nebraska Center for Biopreparedness Education and the regional Medical Response Systems provide training, education and materials for hospitals on infection control, NIMS, and preparedness plans.

2. Hospital Available Beds for Emergencies & Disasters (HAvBED)
   DHHS purchased a bed and resource-tracking module in conjunction with the Electronic Nebraska Ambulance and Rescue Service Information System (e-NARSIS). The software is fully compatible with HAvBED and has .xml interface to transmit data to the Health & Human Services Secretary's Operation Center. It is installed on State servers. Full implementation will allow 9-1-1 centers or Emergency Operations Centers to see all accounts, do intelligent routing, and remind hospitals to update bed counts. Metro areas with more than one hospital have the ability through dispatch centers to identify facilities with open emergency rooms (ER) and those that are accepting patients for admission through the ER. Designated users at state, regional, and local levels will be able to see available beds within geographic areas. The product is being rolled out in the MRS regions in phases, with the most populous regions given priority.

3. Emergency System for Advanced Registration of Volunteer Health Professionals (ESAR-VHP)
   ESAR-VHP is a federal program to pre-identify and credential healthcare professionals which may be needed to manage medical surge in healthcare facilities. Nebraska has a registry modeled on Version 2, ESAR-VHP *Technical and Policy Guidelines, Standards and Definitions (Technical Guidelines)* that is able to register volunteers. It is maintained on a secure server by the Nebraska Department of Administrative Service - Information Technology Division. The dynamic registry offers secure web-based registration where professionals can confirm and update their profile and allows designated authorities to identify health profession assets through queries. To facilitate future database integration, ESAR-VHP data definitions were shared with regional databases of licensed behavioral health professionals and disaster-response trained clergy and incorporated into a new DHHS Emergency Medical Services personnel database. Integration of this registry with other volunteer registries is a future goal.

C. Emergency Medical Services (EMS)

Across Nebraska, approximately 430 ambulance and first responder services provide life saving emergency medical care at a moment's notice. Most services provide this care through one of two types of licenses. These license levels are Basic Life Support and Advanced Life Support. Within these licenses, a service may be either a transporting or non-transporting provider. The DHHS EMS Program has developed a

Sample Pre-hospital Pandemic Influenza Guidance template for Nebraska Ambulance Services to use in developing their own local pandemic plans. This Pandemic Influenza Guidance provides recommendations to pre-hospital providers by describing how they might prepare for, respond to, and recover from an influenza pandemic. A link to this template can be found on the following website: http://www.dhhs.ne.gov/ems/emsindex.htm

All EMS agencies in Nebraska have received a letter, along with how to access the Sample Pre-hospital Pandemic Influenza Guidance, suggesting that they work closely with the Physician Medical Director, local public health departments, and medical response systems in planning for a pandemic influenza. By doing so, they will have better communication for what is needed or if there is the need for Targeted Layered Containment.

The Center for Biopreparedness Education developed a course for EMS entitled "Pandemic Influenza Preparedness." They have conducted a "train-the-trainer" class with 18 medical professionals located across Nebraska now able to teach the course. There are currently courses being taught across Nebraska in every EMS region. The course includes such topics as Defining "TheFlu"; Disease Transmission; Strategies to Deal with Influenza Pandemics; Caring for the Ill at Home; Infection Control for EMS and Next Steps (local planning).

During usual operations, the Nebraska EMS Board would be involved in any development of pandemic influenza information pertaining to clinical standards and treatment protocols. Final approval would be from the DHHS Chief Medical Officer and the Governor. If immediate change is needed, it could be done with a Governor declared emergency. Changes would be distributed through the eNARSIS (electronic Nebraska Ambulance and Recue Service Information System), the Health Alert Network, and email. Locally, EMS agencies would receive “information only” pages.

All licensed Emergency Medical Services in Nebraska are required to have a backup response plan. The purpose of this backup response plan is to ensure automatic dispatch of another service if one service cannot respond. This backup response plan does not specifically address additional equipment or supplies.

The majority of Nebraska Emergency Medical Services have mutual aid agreements in place with other area services. These agreements are in place if additional equipment, supplies and services are needed. It does not necessarily address disruptions in the availability. Currently, the Nebraska EMS Program is trying to develop a Sample Mutual Aid Plan for services to use as a guide if they do not have one. Their legal counsel also would need to be consulted in developing their mutual aid plan with other services.

The Medical Response Systems and local public health departments collaborate with EMS units for additional Personal Protective Equipment for EMS to use.

D. Home Health, Assisted Living and Long Term Care Facilities

DHHS DPH and local health department staff are available and have presented information about emergency response preparedness to home health, assisted living and long term care facilities across the state. Local public health departments have identified these facilities in their jurisdictions and in some cases have made arrangements to provide antivirals directly to them for their staff and residents during response to a pandemic influenza.

IV. Mortuary Services and Death Certificates

There is no State Coroner or Medical Examiner in Nebraska and only a few jurisdictions have medically trained coroners. Duties commonly assigned to coroners fall to county attorneys. Local public health departments and Medical Response Systems have been working with County Emergency Managers, County Attorneys, morticians and other responders to encourage the completion or update of county mass fatality plans. These plans assign roles and responsibilities and determine where resources can be acquired. Some local public health departments and medical response systems have purchased small quantities of disaster body bags to supplement the par inventories owned by funeral facilities, law enforcement, and emergency managers for normally expected needs.

There are 170 funeral homes and 20 crematoria, most which have very limited refrigeration capacity. Nebraska has 420 persons who hold duel credentials as funeral directors/embalmers, four individuals who hold only an embalming license and six apprentices who can work under the supervision of a funeral director/embalmer. Most, but not all of these licensees reside within Nebraska.

Mortality in Nebraska is approximately 15,000 per year in recent years. Even for Nebraska's largest communities a mass fatality event develops when there are 10 or more deaths, for smaller communities three to five deaths constitute a mass fatality event.

Through the hospital preparedness grant, DHHS has formed a committee with representatives from the Nebraska Association of Funeral Directors, local public health departments, Medical Response Systems, hospitals, licensing, and vital statistics to determine facilities and supplies that may be needed to respond to a pandemic influenza in Nebraska and to develop a statewide plan.

DHHS has developed and implemented an electronic death registration system to register death records electronically to the appropriate County Registrar or the State Vital Records Office using current computer technology. The intent of electronic registration of death records is to significantly reduce the overall time and effort it takes to register deaths and provide quicker access to death data and certified certificates. Death certificates are submitted by electronic or by paper methods or a combination of both. Electronic submissions are increasing, going from 32% in 2007 to 45% to date in 2008. Nebraskans can order death certificates on line via the DHHS web site.

Capabilities of the electronic death reporting system and tutorials for use can be found at the following website: http://www.dhhs.ne.gov/edrs/.

V. Community Mitigation Interventions

Various strategies can be used to mitigate pandemic influenza infection. Which strategies are used is dependent on the epidemiology of the disease, the conditions within the communities impacted, and resources available. Interventions that can be used include enhanced surveillance and epidemiology; vaccination; dispensing of medications and personal protection supplies (e.g., masks); infection control guidance; social distancing; and risk communications.

The DHHS internal Influenza Management (IM) Group will assess the situation and determine the course of action. This group is led by the DHHS Chief Medical Officer (CMO). An Expert Committee may be called to action by the CMO to solicit expertise from sources outside DHHS to help guide the response. As information is collected and evaluated a case definition for presumptive and definitive diagnosis of pandemic influenza will be distributed to local public health departments, hospitals, laboratories, physicians and others via the Health Alert Network. The IM Group will make recommendations when it is appropriate to implement various interventions and when it is appropriate to begin cessation of interventions. This information will be disseminated to state agencies, local public health departments, the medical community and other partners through the Health Alert Network, email notices, the media, and meetings.

The Nebraska Pandemic Influenza Containment Plan focuses on measures to limit disease transmission, mitigate disease, suffering and death; sustain infrastructure and lessen the impact to the economy and society. This Plan uses the Pandemic Severity Index and Interventions By Setting to help guide the interventions that will be implemented by the IM Group. The Containment Plan is available on the DHHS website: http://www.dhhs.ne.gov/pandemic/ . In addition to the Pandemic Severity Index, the federal government's Pandemic Intervals, Triggers, and Actions guidance will also be used to determine triggers and the actions taken within Nebraska. Information on the Index and Intervals guidance is available in this document at the end of Section 1.

The State spokesperson that will provide messages to local public health departments, the public and media will be decided by the Joint Information Center established in accordance with the State Emergency Operations Plan, should it be activated. It is very likely the primary spokesperson will be the DHHS Chief Medical Officer with reinforcement from the Governor's office and various state agency directors such as the Department of Education and Department of Labor. At the local level each local health department has identified a spokesperson that is, in most cases, the Director of the Department with the backup spokesperson being the Emergency Response Coordinator. However, in some communities the top government official such as the Mayor will be the primary spokesperson with the health director as support.

A. Non-Pharmaceutical Measures

1. Social Distancing

   Social distancing strategies are intended to reduce the spread of disease from person-to-person by discouraging or preventing people from coming in close contact with each other. Social distancing involves implementing measures such

as closing public and private schools and colleges; implementing emergency staffing plans including increasing telecommuting, flex scheduling and other options; closing public gathering places; and curtailing or suspending non-essential functions.

In the event of workplace closures, there are some services and personnel in the non-health sector that are critical for community functioning; services that, if interrupted, would pose a serious threat to public safety or would significantly interfere with the ongoing response to the pandemic, such as highly specialized workers in public safety, utility, transportation and food service industries. State and local officials will carefully consider which services and key personnel within relevant firms or organizations are "essential" and will work to have these services provided.

2. Infection Control
   Infection control strategies for the public include providing information on the importance of covering your cough and sneezes, frequent hand washing, avoiding close contact with others, enhanced cleaning methods, caring for an ill person and possibly wearing masks. Sample educational materials for some of these topics are included within Attachment E.

3. Isolation and Quarantine
   Isolation refers to the separation and restriction of movement or activities of ill persons who have a contagious disease, for the purpose of preventing transmission to others.

   Quarantine refers to the separation and restriction of movement or activities of persons who are not ill, but who are believed to have been exposed to infection, for the purpose of preventing transmission of disease.

   The decision to use isolation and quarantine during an influenza pandemic may depend in part on the transmission rate of the pandemic virus, the susceptibility of the population, the geographic distribution of the influenza-infected persons and the severity of illness associated with infection. All of these parameters may change in the course of a pandemic and would require frequent re-evaluation as the pandemic progresses.

B. Medical Countermeasures

1. Vaccine
   Because vaccine for a Pandemic Influenza will most likely not be developed until the Pandemic is underway, vaccine quantities will be extremely limited at the beginning of the event. In all likelihood, CDC will nationalize the vaccine distribution and federal authorities will purchase and distribute the vaccine to the states. Should vaccine become more available, DHHS may be able to purchase the vaccine through the CDC or multi-state purchasing agreements. Private and public immunization providers may also be able to purchase the vaccine.

Distribution of pandemic influenza vaccine may occur in waves with small amounts available at a time, or could be available in sufficient quantities to warrant mass vaccination clinics for the public. Private providers may be called upon to administer vaccines to priority populations. If private medical providers are able to purchase vaccine, they are encouraged to do so and to prioritize its administration to populations as recommended by DHHS.

Should the supply be limited, DHHS will prioritize the administration of vaccine to Nebraskans based on the input of the Expert Committee if convened, CDC recommendations, current epidemiology, surveillance data, the local situation, maintenance of critical infrastructure, etc. DHHS and local public health departments have identified critical infrastructure providers that will be needed to maintain medical services, public services and safety. Local public health departments will work with their local medical community to provide the limited vaccine to targeted groups.

Verification of priority group membership may be needed. Should it be necessary, methodologies will be developed to document such criteria as age, occupation, medical conditions and/or other criteria that would qualify a person to be in a priority group. Occupation and/or employment priority membership will be verified by workplace identification. Age will be verified by a photo ID with birth date. Health specific status will be verified by written documentation by a licensed healthcare provider.

Should the supply be sufficient to warrant mass dispensing, the DHHS Mass Dispensing Plan will be activated. This plan details the responsibilities at the federal, state and local levels. This plan is available on Guardian - a secure electronic site and in hard copy within the DHHS DPH Emergency Response office. Each local health department has written plans for the activation of mass and targeted dispensing, has been working to expand their volunteer data base to assist with tasks, and exercise their plan to improve operations.

DHHS has provided the CDC, Immunization Services Division with information on the current two ship-to sites for the vaccine. Spreadsheets based on the population of local health department jurisdictions will be used to determine the proportion to be allocated to each ship-to site. The ship-to sites include either a 24/7 pharmacy with refrigerated storage or an electronically monitored refrigerated storage. General information on vaccine cold storage can be found at: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5242a6.htm Specific cold storage for the pandemic influenza vaccine will be made available prior to shipment to local public health departments.

Distribution of vaccine to local health department jurisdictions may initially be distributed based on surveillance and epidemiology data. Should the disease spread beyond localized areas, distribution will be based on population. The DHHS DPH Bioterrorism Surveillance Coordinator will use a method that has

been developed to distribute the vaccine based on local health department population.

Vaccine administration data will be collected on paper documents unless the local health department has computers and software available at the dispensing site.

Monitoring for vaccine adverse events will be necessary. In the traditional Vaccine Adverse Event Reporting System (VAERS) process, providers report directly to the VAERS contractor at the national level with subsequent feedback to the state. Nebraska has modified this process by asking providers to submit reports through the Nebraska Immunization Program. Although some providers continue to report directly to the national system, these reports ultimately are forwarded to the Immunization Program. For pandemic influenza, Nebraska will emphasize this state-reporting mechanism so that key public health personnel may be more directly involved in the reporting and any needed investigations. Nebraska DHHS Immunization Program staff has been identified for this purpose. The Immunization Program staff routinely follows these procedures for all immunizations administered in public immunization clinics. The Nebraska Immunization Program also assumes the responsibility for vaccine safety coordination for pandemic influenza vaccine.

2. Antivirals

Although there are uncertainties with the use of antivirals to combat pandemic influenza, it is prudent to consider and plan for their use because of the significant risks and consequences of a pandemic influenza. Uncertainties include antiviral resistance; adjustments to dose and duration of treatment that may be need for effectiveness; the availability of antivirals; and side effects that may limit their use among some people.

Antivirals available to combat the influenza virus are the M2 inhibitors (amantadine and rimantadine) and the neuraminidase inhibitors (oseltamivir and zanamivir). Recent guidance shows that antivirals can reduce the severity and duration of signs and symptoms of influenza A illness when administered within 48 hours of illness onset. Therefore the importance of early diagnosis and initiation of treatment is significant.

It is important to note that virus resistance to M2 inhibitors and more recently to oseltamivir has been observed. Mathematical modeling, however, "suggest that antiviral treatment and prophylaxis would remain beneficial overall unless some of the pandemic viruses originally introduced into the U.S. at the beginning of a pandemic are both resistant and fully transmissible"[14].

[14] Guidance on Antiviral Drug Use during an Influenza Pandemic. Available at http://www.pandemicflu.gov/vaccine/antiviral_use.html accessed March 2009.

Nebraska state government and some local health departments have purchased oseltamivir under a special federal purchasing program and through normal purchasing channels. Availability to antivirals in Nebraska includes antivirals purchased by state government and some local public health departments, the CDC's Strategic National Stockpile (SNS) and the usual quantities in pharmacies.

The quantities purchased by State government and anticipated from the SNS will be allocated to hospitals across Nebraska based on the number of beds; to local public health departments based on population; and for critical state staff and residents of state institutions. Local public health departments have identified critical infrastructure in their jurisdictions. The antivirals will be delivered once certain triggers are met and supplies are received from the Strategic National Stockpile. The DHHS, DPH, Public Health Emergency Response office will oversee this process.

Antiviral medications may play an important role for the control and prevention of influenza prior to the availability of vaccine. Dependent on the severity of the pandemic influenza, existing production capacity for influenza antiviral drugs may be less than what would be needed for the entire population. Therefore, it is important to prioritize how limited supplies will be dispersed. DHHS is in the process of developing an antiviral plan that will identify how antivirals will be dispersed throughout the state and priority groups for receipt of the antivirals. Local health departments will identify critical infrastructure and priority groups in their jurisdictions. Recommendations for use of antivirals may be updated throughout the course of an influenza pandemic event to reflect current epidemiologic and laboratory data. Recommendations may also be updated as an effective influenza vaccine becomes available.

State-based planning for antiviral use includes obtaining antiviral drugs from national, state, and local stockpiles; distribution to local public health departments who will further distribute to hospitals and local critical infrastructure; distribution to critical state government infrastructure; collecting data on drug-related adverse events, and drug resistance; coordinating with bordering jurisdictions; legal preparedness; training; and dissemination of public health information.

3. Medical Supplies
   Within Nebraska medical supplies and equipment have been purchased and stored to create local, regional and state caches that can be used as needed during a Pandemic Influenza response. The items in the state cache are: Tamiflu (oseltamivir); surgical masks; non-latex Nitrile gloves; syringes/needles; and Powered Air Purifying Respirators. The State cache is overseen by DHHS and will be distributed based on the situation.

   The seven Medical Response Systems (MRSs) and twenty local public health departments have purchased medical and public health caches to use as needed to

respond to a medical and or public health emergency. See Attachments F, G, and H for maps and contact information. The items available in the regional and local caches are overseen by, and accessible through the MRSs and local public health departments.

CDC oversees the SNS and will release supplies through the SNS and Managed Inventory when certain triggers are met and/or a request is made by DHHS.

C. Cessation of Community Mitigation Activities

DHHS will use the Pandemic Intervals, Triggers and Actions, described within Section 1 of this document, Deceleration and Resolution Intervals for guidance on when to decrease community mitigation activities. This guidance and collaboration with local partners will be essential in determining the cessation of mitigation activities. Information will be disseminated to stakeholders and the public through communication means described in part VI. Communications, A. Risk Communications within this Section 2.

D. Coordination and Oversight

1. DHHS Responsibilities:
   a. Statewide
      Coordinate and oversee statewide activities by working with NEMA and local public health departments to:-
      - Recommend and encourage voluntary social distancing measures and when necessary use authority to mandate disease containment measures.
      - Receive and place vaccine, antiviral, medical equipment and supplies, and Personal Protective Equipment (PPE) from state caches and the SNS to needed locations across the State;
      - Distribute related Federal and State protocols, forms, supplies, etc.;
      - Send coordinated messages through the media; and
      - Provide information and assistance to partners.

   b. DHHS Offices and Facilities
      - Provide information on recommended and required activities to continue essential operations and reduce infection; and
      - Coordinate distribution and dispensing of vaccine, antivirals, PPE and supplies to DHHS critical infrastructure staff and residents in DHHS institutions. State staff that has not been identified as “critical” will need to access vaccination, medication or other supplies through their private physician or local health department.

   c. Other State Agencies
      - Provide information on recommended and required activities to continue essential operations and reduce infection; and
      - Coordinate distribution of medical and non-medical countermeasures to other state agencies for dispensing to critical infrastructure staff and residents in their facilities.

d. Other States
   - Communicate with surrounding states to keep abreast of their recommendations and activities.

2. Local Health Department Responsibilities:
   a. Distribution and Dispensing
      Each local health department will oversee distribution and dispensing of vaccine, medication and or supplies in their respective counties, including:
      - Mass clinics and targeted sites dispensing activities; and
      - Critical staff and targeted residents in institutions located in their counties (with the exception of residents in DHHS institutions and the Nebraska Department of Corrections facilities). This likely will include:
        i. Local government and law enforcement; public safety/service personnel such as key government officials, police, fire fighters, emergency medical responders, utility workers, public health employees;
        ii. Institutions including local correctional facilities; long-term care facilities; colleges and universities. Hospitals may receive their supply through local public health departments or direct shipment from the DHHS or CDC.
   b. Work with community leaders and the media to encourage disease containment measures.
   c. Communicate with surrounding local public health departments to keep abreast of their recommendations and activities.
   d. Activate their Vulnerable and Hard-to-Reach Populations Plan.

VI. Communications

A. Risk Communications

The availability and dissemination of timely, accurate and appropriate information among public health officials, medical care providers, the media and the general public will be one of the most important facets of our pandemic response. DHHS will work with the CDC, local public health departments and professional organizations and agencies to ensure the availability of accurate information and the dissemination of that information to partners and the general public before, during and after a pandemic influenza emergency. DHHS Communications and Legislative Services will accomplish this task through the use of many information channels including: media, the DHHS website and our public health hotline.

1. Development and Dissemination of Information
   DHHS Communications and Legislative Services have a Crisis and Emergency Risk Communication (CERC) plan that outlines the responsibilities and activities of the communications staff during public health emergencies. The CERC plan is available to the local public health departments through a secure website.

   In order to keep information consistent, DHHS Communications and Legislative Services will coordinate with the state Joint Information Center, if convened, and oversee DHHS communications with the media. Local public health departments will be notified of all media releases when they occur.

   Educational information about pandemic influenza is available on the CDC website, the DHHS website and local health department websites. Examples of educational information include: advance preparation for pandemic influenza; caring for the ill at home; proper self-care practices; and how the public can protect themselves when having to use public facilities.

2. Publications and Guidance Information
   The items listed below are currently being developed at the state and national levels. A team of DHHS professionals (including healthcare providers and other medical professionals, public information officers, and behavioral health specialists) will continue to develop and review documents and distribute them as appropriate.

   A list of translation services provided for free and at a charge is available to DHHS staff, local public health departments and others who have access to the secure website – Guardian. And the DHHS website currently uses Google translation services to translate web pages into 14 different languages.

   a. Generic fact sheets (i.e., “Questions and Answers”) on pandemic influenza, vaccine and antivirals;
   b. General prevention messages, including “do’s and don’ts” for the general public;
   c. Training modules (Web-based, video, printed, etc.);
   d. “Canned” presentations, slide sets and videos;

e. Strategies and guidelines for interacting and communicating effectively with the media, public health and medical providers, and the general public.
f. Guidelines for triage and treatment of influenza patients in outpatient, inpatient and non-traditional healthcare settings;
g. Guidelines for setting up and operating mass clinics;
h. Guidelines for the distribution and use of antiviral medications;
i. Guidelines for the use and potential effectiveness of "traditional" (generic) disease control measures, such as the use of masks and other hygienic barriers, as well as strategies to curtail community transmission, such as the cancellation of community events, temporary closure of schools, childcare and other businesses.

3. Public Health and Medical Community Networks
   a. The DHHS website, the Health Alert Network (HAN) system, and collaborative partners (i.e., Nebraska Hospital Association., Nebraska Medical Association, and Public Health Association of Nebraska) will be used to disseminate information to a variety of appropriate public health and medical providers;
   b. The HAN has been operable for many years and is a primary means of communication between DHHS, local public health departments, private practices and labs;
   c. Videoconferencing will be used when needed to disseminate information to public health and medical providers;
   d. In the event of pandemic influenza, public health and the medical community will receive, at a minimum:
      i. Appropriate medical information and updates (e.g., vaccine administration recommendations, contraindications and adverse events associated with influenza activities and other information/updates published in the Morbidity and Mortality Weekly Report from CDC);
      ii. Information on surveillance activities including diagnosing disease and laboratory confirmation;
      iii. The locations of outbreaks and predicted spread;
      iv. Information on priority/targeted populations, vaccine availability and clinic locations; and
      v. Updates on appropriate and current control activities.
   e. Media: DHHS Communications and Legislative Services maintains a database of media statewide and some from surrounding states. This database includes newspapers, television and radio stations and is currently used to communicate information to Nebraskans and will be used in the event of a pandemic emergency. Through news releases, news conferences, the DHHS website, the public health hotline, audio sound bites, etc., the media will receive regular updates regarding the event including:
      i. Appropriate contact information;
      ii. Information to public in simple terms about the risk;
      iii. Emergency courses of action (e.g., vaccine administration recommendations including contra-indications and adverse affects, the

locations of outbreaks and predicted spread, vaccine availability, clinic locations, etc.);

iv. A commitment to continued communications; and

v. Where the public can get more information.

4. Twenty-Four Hour Professional Reporting Line

DHHS DPH maintains a professional reporting line that is answered by public health professionals twenty-four hours a day, every day. The number, 402-471-1983, is provided to healthcare providers, hospitals and medical clinics, medical laboratories; Federal, State and local public health officials; Tribes, federally qualified health centers and other public health partners. The public health professionals who answer the 24/7/365 public health reporting line are provided a call down list of programs, topics, and subject matter experts' telephone and pager numbers and electronic mail addresses. The call down list, telephone numbers and electronic mail addresses are tested and updated quarterly. Before and after normal working hours, the line is answered by the Poison Control Center in Omaha.

5. Hotline

The DHHS has established a hotline network that allows the coordination of many independently operated hotlines. Coordination includes registering with the Nebraska DHHS Communications and Legislative Services, sharing information about activation and information available for referring callers appropriately or accessing information for callers from web sites and notification of deactivation of the hotline.

In addition, the DHHS has established two hotlines that can be used to respond to an emergency:

A. Professional Hotline
   Phone Number: 402-471-1983
   Status: Ongoing activation
   Capacity: A seven-line phone number that rolls over to the Poison Control Center after hours, weekends and holidays.
   Target Audience - Physicians, Public Health, and other medical providers

b. DHHS Public Health Hotline: An information line whose operators will focus on addressing non-medical/non-diagnostic questions.
   Phone Number – advertised when activated (888) 902-2022
   Location: 2345 N. 60th St. (Whitehall campus -- Cottage 3), Lincoln, NE 68507
   Status: Activated for emergency response
   Capacity: 22 line phone number; Necessary equipment available to monitor calls and track the number of calls waiting, etc.
   Target Audience – Public

c. Hotline Network
   The purpose of the hotline network is to consolidate the efforts of various hotlines that will be available to take calls from the public regarding pandemic

influenza and basic needs that may be affected by the pandemic. DHHS will coordinate the network and send notices to all the hotline services in the network during a pandemic response indicating activation status of each hotline, information and resources available at each hotline and when it is appropriate to transfer callers or make referrals to the other hotline services.

B. Interoperable Communications

The Nebraska Statewide Telehealth Network is operational and provides daily Interactive videoconferencing between multiple entities. It utilizes both T-1 lines and fiber connections with voice-over Internet Protocol and does not use commercial internet as a part of its delivery mechanism. It can provide connections to sites outside the State, should the need arise. Hospitals and local public health departments in Nebraska are equipped and able to connect to the Telehealth Network. Medical Response System Coordinators are working with the Nebraska Emergency Management Agency to incorporate Hospital Preparedness Program activities into regional Tactical Interoperable Communications Plans for each of the Emergency Management regions.

DHHS, Preparedness and Response Office personnel, some healthcare facilities and some local public health departments have Government Emergency Telecommunications Service (GETS) cards which provide emergency access and specialized processing in the local and long-distance segments of the public switched telephone network.

In early 2008, two members of the DHHS Preparedness and Response Office and five other DHHS employees completed High Frequency Amateur (HAM) Radio operator training.

Regions defined in the proposed State Interoperable communications plan, while not congruous with the boundaries of the MRSs, are similar. MRSs have worked to find the most suitable technologies for redundant interoperable systems based on the existing capabilities in each region, (whether satellite phones or radios, Amateur Radio, or other technologies) and are cognizant of the work going on with the State Interoperable communications committee.

All 20 local public health departments that provide statewide coverage for public health emergency response have video connection to the Telehealth network, other video networks, land and cell phones, email, radios, and satellite phones.

In early 2007, Nebraska's 85 acute care hospitals were surveyed regarding internal capacities and redundant systems; 80 responded to the survey and the results are as follows, using 80 as the base denominator.

Survey of Equip. Type	# with Equip	% with Equip	System Description Questionnaire: "The Hospital has:	Reply Yes	% 'yes'
Internal 2-way Radios	56/80	70%	a pre-designed way to communicate with staff after hours in an emergency." (i.e., Calling tree or automated notification)	80/80	100%
Cell Phones	60/80	75%	a system to communicate w/local EMS and law enforcement during a power outage or emergency."	72/80	90%
External 2-way Radios	63/80	79%	procedures to establish emergency communications between hospital and the county or local government."	61/80	76%
Satellite Phones	12/80	15%	procedures to establish emergency communications between the hospital and other local hospitals and partners."	52/80	65%
Wireless Messaging	28/80	35%	procedures to establish emergency communications between the hospital and local health department."	55/80	69%
CB Radio	6/80	8%	secure offsite data backup capability for information systems."	56/80	70%
HAM Radio	17/80	21%	a disaster plan for communications with public and media."	71/80	89%
Battery Phone	57/80	71%	procedures for working with HAM operations if they are part of redundant communications system."	25/80	31%
HAN	74/80	93%	Note: 5 of 85 hospitals did not respond; 6% non-response rate not factored in.		
Telehealth	73/80	91%			

During 2007 two MRSs have added radio tower repeaters to increase the range of their communications equipment. Two MRSs purchased and distributed satellite radio-phones for their regions and two others are looking seriously at that option. The Global Star satellite is used by both DHHS and the two regions.

The Omaha urban area has two 800 megahertz trunked radio systems with 30 shared talk groups available for all public safety agencies. All public safety agencies in the urban area are on these two systems. There are five conventional interoperable talk groups that are shared between the two systems. Sarpy County has its own system, while Washington County is using the Douglas County System, which meets the Project 25 (P25) compliance. There are multiple console patches and Raven fixed gateways for interoperability with ultra high frequency and both high- and low-band very high frequency systems.

Regional communications systems are the accepted method of interoperability in this urban area. The Douglas County P25 system is likely to be expanded into Pottawattamie County, Iowa. Sarpy County is planning to obtain funding to join the Douglas County P25 System or purchase its own communications system. The Douglas County System is upgrading to Motorola's new 7.x technology that will support integrated voice and data communications.

These regions have advanced the state of interoperable communications during the past year:

- Lincoln Metropolitan Medical Response System—South East Medical Response System--HAM Radios were purchased and delivered to most hospitals in the Southeast Region. At least three hospitals in the region have an 800 MHz radio;
- Panhandle Regional Medical Response System purchased satellite radio/phone for all their participating hospitals;
- Rural Region One Medical Response System is working with the local emergency management representatives on the three Tactical Interoperable Communications Plans that affect this extensive geographic region;
- Tri-Cities Medical Response System is working to extend the range of the region's equipment and has arranged for repeaters to be placed on two existing radio towers.

C. Communications with Staff

DHHS maintains an internal web page for staff. As the Pandemic Influenza evolves staff will be reminded via email and announcements to regularly check the web page for information on how the pandemic influenza affects workplace policies.

VIII. Training and Exercises

DHHS DPH will work in partnership with the Nebraska Center for Biopreparedness Education (NCBE), the Public Health Association of Nebraska, local public health departments, the Medical Response Systems and professional organizations and agencies to identify training needs and provide education for public and private healthcare professionals regarding influenza, mass response, incident command, and other identified topics. Cultural competency training is available from the DHHS Office on Minority Health and Health Equity to assist with reaching minority communities.

A. Training - General

The following recommendations are made for training programs to address baseline knowledge of Influenza, Pandemic and H5N1 Avian Influenza, advanced preparation, and mass response (to include pharmaceutical and non-pharmaceutical interventions and strategies):

- Pandemic Influenza 101
- Care of the Ill at Home (Train-the-Trainer)
- Rapid Response Training: The Role of Public Health in a Multiagency Response to Avian Influenza in the US
- Mass Distribution and Immunization: How to Make it Work
- Hospital Incident Command System training
- Applied Epidemiology

B. Hospital Training

In 2003 the NCBE created a division to address the educational needs of the Hospital Preparedness Program grant and set a vigorous training schedule that had conducted educational sessions in virtually every hospital in the state. The need for additional training is assessed on a continual basis and programs are designed proactively, effectively and in a timely manner to ensure coordinated response with minimize duplication. NCBE is recognized nationally as a leader in Disaster Preparedness Education, and is the primary provider of such in Nebraska. The annual four Biopreparedness Symposia have provided thousands of attendees with timely and pertinent preparedness and response education and training across a wide range of disciplines and professions, including laboratory, pre-hospital providers, public health staff, emergency managers, law enforcement, fire service personnel, and multiple medical professions. Programs are competency based with learning evaluated by pre- and post-course tests and feedback tools. (http://www.bioprepare.org)

C. The Nebraska Public Health Laboratory (NPHL)

The State's only public health laboratory is responsible for the laboratory testing relevant to public health issues. NPHL has developed an extensive laboratory system that involves training, education, and consultation with hospital and several private reference laboratories. NPHL provides *Sentinel Laboratory* training, and has collaborated with more than 18 hospital facilities for CDC LRN Chemical Terrorism Preparedness Laboratory Level 3 activities. The NPHL has

partnered with the School of Allied Health Professions at the University of Nebraska Medical Center to create and distribute retraining/recertification modules for clinical laboratory scientists. (http://www.nphl.org/)

D. Behavioral Health Training

The 2007 behavioral health training plan included: psychological first aid training, critical incident stress management training and specialized training including education about the use of behavioral health protocols for medical isolation; cross cultural issues; spiritual care; risk communication; and cognitive behavioral therapy. These were disseminated via in-person local training, conferences and symposia.

The 2008 Behavioral Health conference topics include:

- Disaster Behavioral Health in 2008: Problems, Possibilities, and Public Policy
- The Role and Impact of News Media in Disasters and Critical Incidents
- Behavioral Health Emergency Response Teams
- Disaster Mortuary Operational Response Teams and the Forensic Disaster Response in a Mass Fatality Incident
- An Experiential Look

Hospital personnel, public health, emergency workers and mental health consumers are invited to many of the sessions to increase resilience and enhance understanding while preparing the behavioral health workforce. Just in time training packages for hotline workers have been developed and tested. A cognitive behavioral therapy train-the-trainer curriculum was developed and will be placed in the public domain. (http://www.disastermh.nebraska.edu/)

E. Cultural Competency Training

The DHHS Office of Minority Health and Health Equity has developed curricula to provide a firm grounding in cultural competence. It can be offered as a half-day on up to three day training depending on the needs of the requesting entity.

F. 9-1-1 Training

The Nebraska Center for Biopreparedness Education is designing and will deliver training on Pandemic Influenza to 9-1-1 dispatch. This training is in response to the release of "Preparing for Pandemic Influenza: Recommendations for Protocol Development for 9-1-1 Personnel and Public Safety Answering Points". Two half-day sessions are proposed in separate geographic locations which will be recorded. DVD's of the presentation will be sent to all county and municipality dispatch centers. This resource will also be marketed through the Law Enforcement Coordination Committee and the Police Officers Association of Nebraska.

G. National Incident Management System (NIMS) Training

During 2007 and 2008 DHHS taught NIMS courses across the state. The training consisted of an all day training that IS100, IS200 and IS700 courses were taught

and a final exam given at the end of the day. Attendees included state personnel, local public health personnel, water operators, city/village clerks, city/village board members, and fire and rescue personnel. This training is currently offered on-line by the Federal Emergency Management Agency, although testing may be required at an on-site location.

H. Exercises, Real Events and After Action Reports (AAR)

DHHS, local public health departments and Medical Response Systems conduct exercises and respond to real events throughout each year. The exercises are conducted in compliance with the Homeland Security Exercise and Evaluation Program (HSEEP). AARs are written that integrate best practices and lessons learned during Pandemic Influenza exercises and real events.

Section 3: Inter-pandemic and Pandemic Alert Periods – Planning and Preparation

The Inter-pandemic and Pandemic Alert Periods consist of the World Health Organization's Pandemic Alert Level 1 through 5 and the Federal Government Response Stages 0 through 2. See page15 for the chart showing the periods.

This Section describes ongoing and specific activities that are or will occur during the periods prior to widespread human outbreaks in multiple locations overseas. Background information for these activities can be found in Section 2: Responsibilities and Resources, of this document.

The specific areas covered in this Section are:

Surveillance & Epidemiology

Healthcare Delivery Network

Community Disease Containment – Non-Medical

Vaccinations

Antivirals

Medical Countermeasures

Communications

Training and Exercises

Inter-pandemic and Pandemic Alert Periods

I. Surveillance & Epidemiology

The DHHS Division of Public Health will work with partners to:

- Continue Current Seasonal Surveillance Activities which include:
  a. Voluntary submission of influenza isolates to the NPHL for strain typing and sub-typing;
  b. Voluntary reporting of laboratory-confirmed influenza;
  c. A voluntary, state network of sentinel physicians report the number of patients presenting with ILI and the total number of patient visits by age group each week;
  d. A voluntary, state network of hospital laboratories report the number of rapid antigen influenza testing and the number of positive tests each week;
  e. Electronic reporting of ILI from physicians offices located at the University of Nebraska Medical Center using electronic medical record data;
  f. Voluntary reporting of ILI admissions to hospitals;
  g. Voluntary reporting of ILI outbreaks in long-term care facilities, schools, and other institutions;
  h. Voluntary weekly reporting of school absenteeism;
  i. Surveillance of influenza related deaths;
  j. Year-round influenza surveillance;
  k. Use of Electronic Nebraska Ambulance and Rescue Service Information System (eNARSIS);
  l. StratCom - early detection model for pandemic influenza; and
  m. State and Territorial Epidemiology Report.
- Monitor antigenic changes in circulating viruses in order to provide information for the formulation of vaccine for the subsequent season;
- Maintain knowledge of the latest reports from the CDC and World Health Organization on the pandemic situations;
- Conduct follow-up of suspected novel influenza cases; and
- Develop collaborations with Emergency Medical Services and 9-1-1 providers to integrate information into surveillance activities.

DHHS DPH distributes the annual Epidemiology Report. A current copy of this report available at: http://www.hhs.state.ne.us/puh/epi/flu/docs/FluReport07.pdf

Inter-pandemic and Pandemic Alert Periods

II. Healthcare Delivery Network

The DHHS Division of Public Health will work with partners to:

- Educate healthcare providers, hospital personnel, Emergency Medical Services, dispatch (9-1-1) and others about novel and pandemic influenza, including appropriate triage policies and infection control measures;
- Encourage routine influenza vaccination of all healthcare workers;
- Develop guidelines for prioritization of laboratory services;
- Assist healthcare providers in determining how staffing needs will be met as number of patients increase and/or staff becomes ill or are quarantined;
- Provide or facilitate testing, management and investigation of suspected patients with novel influenza virus;
- Assist hospitals to develop isolation protocols for all patients suspected of being infected with pandemic influenza;
- Provide instruction for proper specimen collection and shipping;
- Update providers regularly as the influenza pandemic unfolds;
- Work with the Nebraska Funeral Directors Association to determine the impact of a pandemic, planning and supplies needs;
- Work with hospitals and providers to plan for healthcare surge capacity and alternate care centers;
- Maintain the Health Alert Network email and fax database for healthcare providers, hospitals, labs and others;
- Develop methods to communicate quickly with Emergency Medical Services and 9-1-1 answering facilities;
- Continue to build relationships with home health, assisted living, long-term care facilities and child care providers to facilitate preparedness for a pandemic influenza; and
- Assist with exercises to test response plans;

Inter-pandemic and Pandemic Alert Periods

III. Community Disease Containment – Non-Medical

The DHHS Division of Public Health will work with partners to:

- Continue to maintain and enhance the DHHS Community Disease Containment State Plan;
- Work with the Nebraska Homeland Security Policy Group to develop policies and procedures for state agencies to implement disease containment measures to include social distancing, infection control and adjusted work place policies in response to a pandemic influenza;
- Educate elected officials, leaders, school officials, response partners, businesses, media and the general public regarding the impact of a pandemic and the use of community disease control measures/strategies such as social distancing, infection control and work place policies;
- Establish relationships with minority communities and providers of services to vulnerable populations;
- Establish contacts in neighboring states and with Native American Tribes to share information and coordinate efforts;
- Continue to study and determine legal preparedness;
- Establish state, regional and local pubic health and medical caches;
- Develop educational materials regarding the care of sick persons at home and infection control; and
- Provide education and guidance to local partners on how to work with the media to encourage adherence to community containment measures.

Isolation and Quarantine

- Maintain the Directed Health Measures Handbook for local public health departments providing guidelines to establish local authority for quarantine and isolation orders, building collaborative partnerships, enforcement and monitoring;
- Develop methods to monitor the health status of persons in isolation or quarantine and provide needed subsistence;
- Assist hospitals to develop isolation protocols for all patients suspected of being infected with pandemic influenza; and
- Continue to review CDC reports and guidelines regarding isolation and quarantine procedures for individuals traveling from areas in which a novel influenza virus is present.

Inter-pandemic and Pandemic Alert Periods

IV. Vaccinations

The DHHS Division of Public Health will work with partners to:

- Review and keep current on CDC recommendations for vaccine use and availability and plan accordingly;
- Encourage routine influenza vaccination among high risk and the general population as availability indicates;
- Maintain and enhance the mass and targeted dispensing guidance for local public health departments;
- Ensure that local public health departments have detailed plans for mass clinics and targeted dispensing and exercise those plans;
- Maintain documentation of the locations of the local health department dispensing sites;
- Continue to review state statutes and regulations to determine those provisions that may need to be suspended so as not to prevent, hinder, or delay necessary action in coping with the pandemic influenza;
- Establish contacts in neighboring states and with Native American Tribes to coordinate efforts; and
- Develop a specific Vaccination Response Plan for Pandemic Influenza that will include:
    - Procedures to store, apportion, transport, and verify receipt of vaccine to local public health departments and other partners;
    - Identify, prioritize and develop procedures to provide vaccinations to state government's critical infrastructure staff;
    - Establish systems to monitor vaccine use, effectiveness and safety and to collect relevant data during dispensing; and
    - Expected resources for patient authorization forms and educational materials.

Inter-pandemic and Pandemic Alert Periods

V. Antivirals

The DHHS Division of Public Health will continue to work with partners to:

- Review and maintain knowledge of CDC recommendations for antiviral use and availability and plan accordingly;
- Secure and oversee the state's cache of antivirals and when workable, rotate such inventory to maintain product effectiveness;
- Document current plans for distributing the state's cache and Nebraska's allocation from CDC of antivirals to hospitals, local public health departments and state critical infrastructure;
- Establish contacts in neighboring states and with Native American Tribes to collaborate plans;
- Maintain, enhance and exercise mass and targeted dispensing plans;
- Maintain documentation of the locations of the dispensing sites;
- Maintain capability to receive and distribute supplies from the Strategic National Stockpile;
- Maintain and continue to identify critical infrastructure providers, should dispensing of antivirals need to be prioritized;
- Work with state agencies on procedures to dispense antivirals to critical state staff;
- Continue to review state statutes and regulations to determine those provisions that may need suspension so as not to prevent, hinder, or delay necessary action in coping with the pandemic influenza;
- Establish systems to monitor adverse affects of antiviral use and to collect relevant data during dispensing; and,
- Develop educational materials.

Inter-pandemic and Pandemic Alert Periods

VI. Medical Countermeasures

The DHHS Division of Public Health will work with partners to:

- Monitor the world, national and Nebraska's pandemic influenza situation;
- Secure and oversee the state's cache of medical equipment and supplies and rotate such inventory to maintain product effectiveness;
- Maintain knowledge of regional and local caches of public health and medical equipment and supplies;
- Ensure there are plans for the acquisition, storage, security and distribution procedures for public health and medical caches; and
- Make available guidance for the use of personal protective equipment (e.g., masks, gloves, protective eyewear).

Inter-pandemic and Pandemic Alert Periods

VII. Communications

The DHHS Division of Public Health will work with partners to:

- Identify and train spokespersons;
- Review and identify applicable materials available from CDC, WHO and other reputable sources;
- Prepare, initiate, plan, and coordinate Nebraska-specific communication materials;
- Prepare other basic communication materials (fact sheets, FAQs, and talking points in multiple languages and media) on influenza, influenza vaccine, antiviral agents, general preventive measures, and other relevant topics;
- Share information to allow "one voice" when disseminating information to the public;
- Consider the needs and establish contacts for language interpretation of information provided to the public;
- Coordinate with Emergency Management's communications plans and Joint Information Centers;
- Continue planning for hotline services;
- Keep media outlet contact information current and continue to forge good working relationships with media representatives;
- Establish mail and email lists for organizations that connect with vulnerable and hard to reach populations to facilitate dissemination of information;
- Establish or maintain information about the pandemic influenza on websites.
- Continue to provide information (e.g., educational sessions and presentations) to various community groups, businesses, healthcare providers, and others about the pandemic influenza;
- Maintain the Health Alert Network and work to disseminate ability to send HAN messages to local public health departments;
- Continue to use and/or test video conferencing equipment, satellite phones, and radios;
- Continue to expand the number of hospitals and public health offices that have alternate means of communication and trained personnel to use such equipment; and
- Continue to be aware of the work going on with the State's Interoperable Communications Committee.

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Inter-pandemic and Pandemic Alert Periods

VIII. Training and Exercises

The DHHS Division of Public Health will work with partners to:

- Prepare and update information and guidelines for healthcare providers;
- Familiarize DHHS staff and other public health staff with appropriate communication methods for communities;
- Provide cultural competency training;
- Conduct meetings with partners, community leaders, legislators, and government officials; present plans and updates in legislative hearings;
- Develop a speaker's bureau for speaking to key stakeholder audiences;
- Target child care providers for information, training and planning;
- Conduct symposia on surveillance, treatment, and prophylaxis;
- Conduct training exercises; and
- Publicize and promote training efforts.

Section 4: Pandemic Period – Response & Recovery (World Health Organization Pandemic Alert Level 6; Federal Government Stages – Pandemic Period)

See page 15 for the chart showing the periods

I. Immediate Actions

Step 1: Activate the DHHS Incident Command System. Procedures are found in the Nebraska Strategic National Stockpile Plan and Standard Operations Guide, Appendix 2: Emergency Communications Center Standard Operations Guide.

DHHS Incident Command System: The DHHS Chief Medical Officer or his/her designee is the Incident Commander. The Internal Management Group will be integrated into the Incident Command System and carry forth upon the direction of the Incident Commander.

Expert Pandemic Flu Committee: The Chief Medical Officer may convene the Expert Pandemic Influenza committee to assist with review of current information and make recommendations for action.

Situation Assessment Tools and Data:

- The World Health Organization (WHO) Pandemic Alert Phases and Stages for Federal Government Response;
- The Federal Government's Pandemic Severity Index and the Federal Government's Pandemic Intervals guidance;
- Health surveillance and epidemiological information from WHO, CDC, other states and within our state.

Step 2: The following ICS positions will carryout the responsibilities specific to a Pandemic Influenza response as written on the following pages.

A. Incident Commander
B. Public Information Officer
C. Safety Officer
D. Liaison Officer
E. Planning Chief
F. Logistics Chief
G. Operations Chief
H. Finance Chief

II. Pandemic Influenza Specifics for Incident Command Job Action Sheets

A. Incident Commander/Emergency Communications Center Manager

RESPONSE

- Convene the DHHS Incident Command operation notifying the Public Information Officer, Safety Officer, Liaison Officer and Chiefs as to when and where to report;
- Review Job Action Sheets for the Incident Commander, Public Information Officer, Safety Officer, Liaison Officer and Chiefs;
- Establish contact with the Governor's office, NEMA, NDA, NDE and other state agencies;
- Ensure the development and update of an Incident Action Plan;
- Expand and contract the ICS operation as needed;
- As needed activate the Strategic National Stockpile Plan to request the Strategic National Stockpile and/or Managed Inventory from the Centers for Disease Control;
- Determine the need for altered workplace policies and communicate that information to the DHHS Chief Executive Officer;
- As needed officially recommend or mandate social distancing, voluntary quarantine and isolation, and infection control practices for Nebraska;
- Provide consultation and recommendations to local public health departments for local quarantine and isolation orders;
- Issue health directives (mandated) for isolation and quarantine of individuals, groups and/or animals as needed;
- Present situational updates to state agencies and encourage their implementation of disease containment measures including social distancing, infection control, restricted travel and adjusted work place policies, and to carry forth this message to their local counterparts;
- Determine the need for Personal Protective Equipment for state employees and if needed instruct the Operations Chief to dispense Personnel Protective Equipment to the targeted offices;
- As needed request that the Governor suspend state statutes and regulations so as not to prevent, hinder, or delay necessary action to accomplish timely vaccinations and/or dispensing of antivirals, as per information from the Planning Chief; and
- Establish guidelines on when a previously ill person is no longer infectious and can return to work and have the PIO make this available to state agencies and the public.

RECOVERY

- Update the Incident Action Plan based on information collected by IC Chiefs that assess the current situation and communicate the status of State government operations to the Governor, Lt. Governor and stakeholders;
- Be the spokesperson to notify the local public health departments, the media and public to put community mitigation interventions on standby for a second wave;
- Determine status of stockpiles and replenish as able;
- Prepare for a second wave; and
- Participate in an evaluation of response activities and the development of an After Action Report including an improvement plan.

B. Health Public Information Officer

RESPONSE

- Review Job Action Sheet;
- Provide regular updates to the media on the state of affairs and requests for action;
- As directed activate the DHHS Pandemic webpage and modify as needed;
- Release information through partners and the media providing information on the current status of the pandemic influenza; how to care for sick persons at home, infection control, etc.;
- Continue to encourage routine influenza vaccination among high risk and the general population as availability indicates; and
- Work with local partners and the media to encourage the public to adhere to community containment measures.

RECOVERY

- Continue to update the DHHS Pandemic Influenza webpage and provide situational updates to the media;
- Prepare for possible second wave; and
- Participate in an evaluation of response activities and the development of an After Action Report including an improvement plan.

C. Safety Officer

RESPONSE

- Review Job Action Sheet;
- Review infection control measures materials;
- Provide instructions to personnel on infection control measures;
- Monitor activities of personnel to ensure infection control measures are taken;
- Instruct personnel to leave when displaying influenza symptoms or other health conditions; and
- Notify the Incident Commander when personnel have been instructed to leave.

RECOVERY

- Report on the number of safety issues and number of ICS personnel who became ill and circumstances.
- Participate in an evaluation of response activities and the development of an After Action Report including an improvement plan.

D. Liaison Officer

RESPONSE

- Review Job Action Sheet
- Confirm contacts with NEMA, LPHDs, other responding agencies, neighboring states and others as deemed appropriate.

RECOVERY

- Participate in an evaluation of response activities and the development of an After Action Report including an improvement plan.

E. Health Planning Chief

RESPONSE

- Review Job Action Sheet;
- Continuously review information released from the WHO and CDC;
- Provide epidemiologic information regarding the presence of pandemic strains and the magnitude of influenza illness in the state of Nebraska;
- Collect information on surveillance and epidemiology occurring in Nebraska, nationally and worldwide;
- Based on recent surveillance and epidemiology data and information from the WHO and CDC update the case definition for the pandemic influenza and methods for definitive diagnosis;
- Develop triage protocols to identify ILI symptoms and critically ill patients;
- Collaborate with medical response systems and local public health departments to collect information from hospitals, long term care facilities, physicians, morticians, emergency managers, schools and others to determine the current situation affecting Nebraska in terms of number of ill, school absenteeism, medical surge capacity needs, number of dead, mass fatality surge needs, community consequences of social distancing, voluntary quarantine and school closures, etc.;
- Collect information from medical response systems on the activation of alternative care centers in response to medical surge needs;
- Work with the medical response systems and local public health departments to monitor the healthcare systems' need for medical equipment and supplies;
- Collect information from medical response systems and local public health departments regarding the release of their cache supplies;
- Collect information from local public health departments regarding their implementation of social distancing recommendations and mandated quarantine and isolation directives within their jurisdiction;
- Review local health department websites for information they have made available to the public about the pandemic influenza event;
- Develop recommendations for the public and professionals regarding infection control, care for the ill at home; social distancing, etc. and work with the PIO to release this information;
- Establish guidelines on when a previously ill person is no longer infectious and can return to work;
- Keep current on CDC guidelines regarding isolation and quarantine procedures for individuals traveling from areas in which a novel influenza virus is present.
- Collect information on DHHS staff absentees;
- Collect information from DHHS Division Directors as to the affect of the pandemic influenza on their staff and operations;
- Review and keep current on CDC recommendations for vaccine and antiviral use and availability;
- Determine the need for suspension of state statutes and regulations so as not to prevent, hinder, or delay necessary action to accomplish timely vaccinations and/or dispensing of antivirals; and

- Collect information from the DHHS Food Stamps Program, WIC Program and CSFP managers on operating status and need for resources.

RECOVERY

- Query the DHHS Divisions to determine personnel and operating status and report to the Incident Commander;
- Report specifically to the Incident Commander the staffing and operating status of Federal Nutrition Assistance Programs – Food Stamps, WIC and the Commodity Supplemental Food Program;
- Based on current epidemiology data, establish guidelines on when a previously ill person is no longer infectious and can return to work;
- Continue to collect information from local public health departments and medical response systems on effects of the cessation of community mitigation intervention;
- Prepare for a second wave; and
- Participate in an evaluation of response activities and the development of an After Action Report including an improvement plan.

F. Health Operations Chief

RESPONSE

- Review Job Action Sheet;
- Update providers regularly through the HAN as the influenza pandemic unfolds;
- Communicate WHO, CDC and DHHS pandemic influenza surveillance reports, case definitions, definitive diagnosis, and recommendations through the HAN to the medical community and public health, the Nebraska Medical Association, the Nebraska Hospital Association, local public health departments, and other partners ;
- Work with the Nebraska Medical Association, the Nebraska Hospital Association, Nebraska Home Health Agency, and other healthcare provider associations to transmit pertinent information to their members;
- Advise hospitals and other treatment facilities to recommend patients with ILI to remain at home and provide triage recommendations to identify critically ill patients who need medical care;
- Communicate information to the medical community and the public reinforcing infection control measures, social distancing, etc.;
- Manage the release of medical equipment and supplies from the State cache and activate the RSS if the Strategic National Stockpile and or Manage Inventory has been requested;
- Monitor the health status of persons placed in DHHS mandated isolation or quarantine and coordinate the provision of needed subsistence;
- Work with local public health departments and County emergency managers (through NEMA), to provide mass fatality supplies and storage needs;
- When vaccine and/or antivirals are available, communicate with local public health departments to prepare for distribution and dispensing at targeted and/or mass clinic locations and activate the Strategic National Stockpile Plan for delivery of the vaccine and/or antivirals to local public health departments;
- Transmit to local public health departments a copy of the Chief Medical Officer's medical order for the dispensing of vaccine and/or antivirals to critical infrastructure and the public;

- Advise local public health departments to activate procedures to vaccinate critical infrastructure and the public as vaccine is available;
- Implement systems to monitor vaccine use, effectiveness and safety, and to collect relevant data during and after dispensing;
- Activate the SNS Plan to receive and distribute the state's cache and the SNS stock of antivirals, supplies and materials to local public health departments with guidance on storage, handling, priorities, administration and required documentation;
- Activate the DHHS Antiviral Distribution Plan to dispense antivirals to prioritized state government critical infrastructure; and
- Update information of the locations of the dispensing sites and update the DHHS webpage.

RECOVERY

- Query the state stockpile locations and partners to determine the level of equipment and supplies available and work to replenish these in preparation for a second wave; and
- Provide information on the continued activation of hotlines, alternative care centers, health department distribution of supplies, antivirals and vaccines, etc.; and
- Participate in an evaluation of response activities and the development of an After Action Report including an improvement plan.

G. Health Logistics Chief

RESPONSE

- Review Job Action Sheet;
- As needed, acquire personnel and arrange transportation to carry out vaccination for DHHS employees and/or antiviral distribution; and
- When vaccine and/or antivirals are available for dispensing, have the DHHS Chief Medical Officer issue a medical order (incident to practice) for the dispensing of vaccine to critical infrastructure and the public.

RECOVERY

- Proceed as per Job Action Sheet; and
- Participate in an evaluation of response activities and the development of an After Action Report including an improvement plan.

H. Health Finance Chief

RESPONSE & RECOVERY

- Proceed as per Job Action Sheet; and
- Participate in an evaluation of response activities and the development of an After Action Report including an improvement plan.

ATTACHMENTS

A. Governor's Pandemic Influenza Advisory Committee, 2005 - 2006
B. State and Community Resources and Collaborative Partners
C. Nebraska Statutes and Administrative Rules
D. World Health Organization Case Definitions for Human Infections with Influenza A (H5N1) Virus
E Educational Materials
F. Medical Response Systems Map
G. Local Health Departments Map
H. Local Health Department Contact Information

Attachment A: Governor's Pandemic Influenza Advisory Committee, 2005-2006

Nebraska Health and Human Services appreciates contributions from members of the Governor's Pandemic Influenza Advisory Committee, in the development of this Plan. The Pandemic Influenza Advisory Committee Members were appointed to serve a one year commitment from March 2005 until March 2006. They included the following:

Nebraska Governor's Pandemic Influenza Advisory Committee

Chair – Deputy Chief Medical Officer – Nebraska Department of Health and Human Services, Lincoln, NE	Douglas County Health Department, Omaha, NE
Nebraska Hospital Association, Lincoln, NE	Southeast District Health Department, Auburn, NE
Public Health Association of Nebraska, Lincoln, NE	Superintendent of Schools, Kearney, NE
Nebraska State Senator, Lincoln, NE	Superintendent of Schools, Henderson, NE
Two (2) US Senators or Legislative Health Aides, Washington, DC	Nebraska Sheriffs Association, West Point, NE
Three (3) US Congressmen or Legislative Health Aides, Washington, DC	Independent Counseling Services, Ainsworth, NE
Nebraska Pharmacists Association, Lincoln, NE	Omaha Tribe of Nebraska, Macy, NE
Voices for Children, Omaha, NE	Bethel Baptist Church, Omaha, NE
Interchurch Ministries of Nebraska, Lincoln, NE	Nebraska Minority Public Health Association, Lincoln, NE
University of Nebraska Public Policy Center, Lincoln, NE	Nebraska Association of County Officials, Yutan, NE
American Red Cross, Lincoln, NE	Nebraska Association of County Officials, Madison, NE
Two Infectious Disease Specialists – University of Nebraska Medical Center, Omaha, NE	Private Physician, Hastings, NE
Veterans Administration Medical Center, Omaha, NE	Nebraska Retailers Association, Lincoln, NE
Pediatric, Pathology and Microbiology Specialist - University of Nebraska Medical Center, Omaha, NE	Nebraska Restaurant Association, Lincoln, NE
Creighton University, Omaha, NE	Nebraska Emergency Management Agency, Lincoln, NE
	South Heartland District Health Department, Hastings, NE
	Nebraska Health Care Association, Lincoln, NE

Attachment B: State and Community Resources and Collaborative Partners

The following list is intended to provide an overview of the vast number of excellent resources and potential collaborative partners across the state. DHHS recognizes this list is not complete; it is impossible to identify all resources and potential collaborative partners. Communities will be able to identify resources in their areas and form appropriate partnerships to carry out pandemic response activities.

State Agencies and Offices
- Nebraska Attorney General's Office
- Nebraska Department of Agriculture
- Nebraska Department of Education
- Nebraska Emergency Management Agency
- Nebraska State Patrol

County, City and Regional Government Agencies and Offices
- Emergency response agencies
- Local Public Health Departments
- Law enforcement
- Public health departments
- School systems

Community Based Agencies
- Community action agencies
- Home health agencies
- Community-based health clinics
- NAF Multicultural Human Development Corporation

Professional Organizations and Associations
- American Lung Association – Nebraska Chapter
- American Red Cross – Nebraska Chapters
- Greater Omaha Area Chapter of the Association for Professionals in Infection Control and Epidemiology
- Nebraska Assisted Living Association
- Nebraska Association of County Officials
- Nebraska Association of Home and Community Health Agencies
- Nebraska Association of Hospitals and Health Systems
- Nebraska Health Care Association
- Nebraska Hospital Association
- Nebraska Medical Association
- Nebraska Minority Public Health Association
- Nebraska Nurses Association
- Nebraska Pharmacists Association
- Nebraska Press Association
- Public Health Association of Nebraska
- Nebraska Rural Health Association
- West Central Nebraska APIC Chapter

Others
- Hospitals
- Medical clinics
- Schools and colleges
- Local media

Attachment C: Nebraska Statutes and Administrative Rules Which May Apply - Pandemic Situation

Statute	Description
Reporting of Disease 71-502.04: Laboratory; test results; notification required 71-503: Contagious, infectious, or other disease or illness; duty of attending physician 71-503.01: Reports required; confidentiality; limitations on use; immunity 71-505: DHHS; public health; duties; fees 71-1630: Local boards of health; duties	§ 71-503.01 discusses the uses of information provided through state reporting requirements, including privacy considerations and aspects of subsequent investigations. § 71-502.04 requires clinical laboratories to report positive test results that indicate a contagious or communicable disease. § 71-503 requires physicians to report the existence of a contagious or communicable disease. These reports are required to be made to local public health departments or DHHS § 71-505 requires DHHS to maintain an official record of such reports. § 71-1630 holds local boards of health responsible for monitoring, reporting and communicable disease investigations.
Investigation of Disease, 71-503.01: Reports required; confidentiality; limitations on use; immunity 71-1630: Local boards of health; duties 71-3407: Child Death Review Team; purposes; duties	Investigations of potential communicable disease outbreaks are required in § 71-1630 of local boards of health.
Authority to Examine Records, 186 NAC 5: Release of medical records and health information	186-5 pertains specifically to medical records, and classifies medical records into four categories that determine levels of confidentiality and requirements for release. It also details the release of medical records to others under specific conditions, including to medical researchers and to government agencies.
Emergency Orders and Regulations 81-829.39: Terms, defined 81-829.40: Governor; powers and duties 81-829.69: State of emergency; proclaimed by Governor; powers	§ 81-829.40 authorizes the Governor to declare a state of emergency, and along with § 81-829.69 details the powers granted the Governor once a state of emergency has been declared. § 81-829.39 defines "emergency" and "disaster" according to the statewide emergency management act.
Disease Control Measures 71-1628.04: Core public health functions 71-501: Contagious diseases; 71-502: Communicable diseases; rules and regulations; control; powers of DHHS 71-3613: DHHS; powers and duties 71-7617: Contracts to provide educational and public health services; DHHS; duties 173 NAC 6: prevent spread of communicable disease, illness or poisoning	§ 71-1628.04 lists core public health functions for local public health departments including the identification of community health problems and laws and rules protecting the public's health. § 71-501 and § 71-502 require DHHS and state and county boards of health to make and enforce regulations to prevent the spread of contagious and communicable diseases. § 71-3613 assigns DHHS specific powers and duties related to the detection, prevention, and control of tuberculosis. § 71-7617 requires DHHS to work with tribal health clinics to provide education and other public health services with the goal of preventing disease outbreaks and other conditions. 173 NAC 6 provides DHHS

Statute	Description
	authority to prevent, limit, or slow the spread of communicable disease, illness or poisoning.
Isolation of Certain Persons with Communicable Diseases 71-501: Contagious diseases; county board of health; powers and duties 71-502: Communicable diseases; rules and regulations; control; powers of DHHS 71-601: Department of health and human services regulation and licensure; powers Chapter 71, Article 36: Isolation of Tuberculosis persons 173 NAC 6: prevent spread of communicable disease, illness or poisoning	§ 71-501 requires local public health departments to appoint a quarantine officer and to prevent the spread of contagious and infectious diseases. § 71-502 provides DHHS supervision and control of all matters relating to communicable disease control and to adopt regulations. § 71-601 grants DHHS control over all matters related to quarantine. Chapter 71, Article 36 discusses the isolation of individuals infected with tuberculosis. 173 NAC 6 provides DHHS authority to prevent, limit, or slow the spread of communicable disease, illness or poisoning.
Funeral Directing and Embalming 38-1401 through 38-1428 is defined as the Funeral Directing and Embalming Practice Act.:	Defines funeral directing, apprenticeship, location and branch establishment, crematory authority, embalming, supervision, violations, prohibited acts, etc.

Administrative Rules	Description
Reporting 173 NAC 1-002: Who Reports 173 NAC 1-003: Reportable Diseases, Poisonings and Organisms 173 NAC 1-004: Methods of Reporting 173 NAC 1-005: Where to Report 173 NAC 3-003: Reporting 173 NAC 6: Health Directed Measures	Title 173 of the NAC deals with communicable disease control. 173-1-002 lists who is required to report communicable diseases and poisonings, and 173-1-003 lists various diseases, poisonings and organisms and respective time requirements for reporting. 173-1-004 and 173-1-005 describe methods of reporting required of healthcare providers and health laboratories, and delineate to whom reports should be submitted. 173-3-003 requires school officials to report potential cases of communicable disease to the board of health.
Isolation and Quarantine 173-1-006.01: Isolation 173-3: School health, communicable disease control, and physical examination and immunization standards 173 NAC 6: prevent spread of communicable disease, illness or poisoning	173-1-006.01 details isolation measures to be taken for certain communicable diseases. 173-3 details isolation and control measures to be taken for specific communicable diseases when students are infected. 173 NAC 6 provides DHHS authority to prevent, limit, or slow the spread of communicable disease, illness or poisoning.
Funeral Directing and Embalming 172 NAC 67: applies to the licensure of Funeral Directors and Embalmers	Details the requirements to become licensed; defines apprenticeship requirements; establishes examination eligibility, examination procedures; renewal; continuing competency requirements; revocation for failure to meet renewal requirements; re-credentialing; grounds for denying; refusing renewal or disciplining a licensee; unprofessional conduct; fees; and administrative penalty.

Attachment D: World Health Organization (WHO) case definitions for human infections with influenza A (H5N1) Virus

From the World Health Organization's webpage:
http://www.who.int/csr/disease/avian_influenza/guidelines/case_definition2006_08_29/en/index.html

29 August 2006

Background

Prompt and accurate reporting of H5N1 influenza cases to WHO is the cornerstone for monitoring both the global evolution of this disease and the corresponding risk that a pandemic virus might emerge. In collaboration with several partners, WHO has developed standardized case definitions to facilitate:

1. Reporting and classification of human cases of H5N1 infection by national and international health authorities.

2. Standardization of language for communication purposes.

3. Comparability of data across time and geographical areas.

Application of the H5N1 case definitions

1. The case definitions apply to the current phase of pandemic alert (phase 3) and may change as new information about the disease or its epidemiology becomes available.

2. National authorities should formally notify only probable and confirmed H5N1 cases to WHO. The case definitions for persons under investigation and suspected cases have been developed to help national authorities in classifying and tracking cases.

3. The case definitions are not intended to provide complete descriptions of disease in patients but rather to standardize reporting of cases.

4. In clinical situations requiring decisions concerning treatment, care or triage of persons who may have H5N1 infection, those decisions should be based on clinical judgment and epidemiological reasoning, and not on adherence to the case definitions. While most patients with H5N1 infection have presented with fever and lower respiratory complaints, the clinical spectrum is broad.

Case definitions

Person under investigation

A person whom public health authorities have decided to investigate for possible H5N1 infection.

Suspected H5N1 case

A person presenting with unexplained acute lower respiratory illness with fever (>38 ºC) and cough, shortness of breath or difficulty breathing.

AND

One or more of the following exposures in the 7 days prior to symptom onset:

a. Close contact (within 1 metre) with a person (e.g. caring for, speaking with, or touching) who is a suspected, probable, or confirmed H5N1 case;

b. Exposure (e.g. handling, slaughtering, defeathering, butchering, preparation for consumption) to poultry or wild birds or their remains or to environments contaminated by their faeces in an area where H5N1 infections in animals or humans have been suspected or confirmed in the last month;

c. Consumption of raw or undercooked poultry products in an area where H5N1 infections in animals or humans have been suspected or confirmed in the last month;

d. Close contact with a confirmed H5N1 infected animal other than poultry or wild birds (e.g. cat or pig);

e. Handling samples (animal or human) suspected of containing H5N1 virus in a laboratory or other setting.

Probable H5N1 case (notify WHO)

Probable definition 1:
A person meeting the criteria for a suspected case

AND

One of the following additional criteria:

a. infiltrates or evidence of an acute pneumonia on chest radiograph plus evidence of respiratory failure (hypoxemia, severe tachypnea)

OR

b. positive laboratory confirmation of an influenza A infection but insufficient laboratory evidence for H5N1 infection.

Probable definition 2:
A person dying of an unexplained acute respiratory illness who is considered to be epidemiologically linked by time, place, and exposure to a probable or confirmed H5N1 case.

Confirmed H5N1 case (notify WHO)

A person meeting the criteria for a suspected or probable case

AND

One of the following positive results conducted in a national, regional or international influenza laboratory whose H5N1 test results are accepted by WHO as confirmatory:

a. Isolation of an H5N1 virus;

b. Positive H5 PCR results from tests using two different PCR targets, e.g. primers specific for influenza A and H5 HA;

c. A fourfold or greater rise in neutralization antibody titer for H5N1 based on testing of an acute serum specimen (collected 7 days or less after symptom onset) and a convalescent serum specimen. The convalescent neutralizing antibody titer must also be 1:80 or higher;

d. A microneutralization antibody titer for H5N1 of 1:80 or greater in a single serum specimen collected at day 14 or later after symptom onset and a positive result using a different serological assay, for example, a horse red blood cell haemagglutination inhibition titer of 1:160 or greater or an H5-specific western blot positive result.

Attachment E: Informational Materials

1. Interim Guidance for Protection of Persons Involved in U.S. Avian Influenza Outbreak Disease Control and Eradication Activities
2. Differential Diagnosis of Influenza and Agents of Bioterrorism
3. Influenza versus Cold versus Pertussis
4. Base Information for Web Site
5. Nebraska Influenza Prevention Fact Sheet

Attachment E, Item 1

From the Centers for Disease Control and Prevention website:
http://www.cdc.gov/flu/avian/professional/protect-guid.htm

Interim Guidance for Protection of Persons Involved in U.S. Avian Influenza Outbreak Disease Control and Eradication Activities

Objective

This document provides interim guidance for protection of persons involved in activities to control and eradicate outbreaks of avian influenza among poultry in the United States. Activities that could result in exposure to avian influenza-infected poultry include euthanasia, carcass disposal, and cleaning and disinfection of premises affected by avian influenza. This interim guidance, developed in cooperation with the U.S. Department of Agriculture (USDA), should be considered complementary to avian population disease control and eradication strategies as determined by the state government, industry, or the USDA. These guidelines will be updated as necessary.

Background: Avian Influenza

Influenza viruses that infect birds are called "avian influenza viruses." These are type A influenza viruses that are genetically distinguishable from influenza viruses that usually infect people. There are many subtypes of avian influenza A viruses, including H7 and H5. Avian influenza viruses can be distinguished as "low pathogenic" and "high pathogenic" forms based on genetic features of the virus and the severity of the illness they cause in poultry.

Birds that are infected with avian influenza viruses can shed virus in saliva, nasal secretions, and feces. Contact with feces or respiratory secretions is important in the transmission of infection among poultry. Between flocks, infection usually spreads due to movement of infected birds and the actions of humans in moving feedstuff, personnel, equipment, and vehicles into and from premises that are contaminated with infected feces or respiratory secretions. The duration that these viruses can survive in the environment depends on temperature and humidity conditions, but they may survive up to weeks in cooler and moister conditions.

Avian influenza viruses do not usually infect humans; however, several instances of human infections and outbreaks of avian influenza have been reported since 1997. In 2003, influenza A (H7N7) infections occurred among persons who handled affected poultry and their families in the Netherlands during an outbreak of avian flu among poultry. More than 80 cases of H7N7 illness were reported (the symptoms were mostly confined to eye infections, with some respiratory symptoms), and one patient died (a veterinarian who had visited an H7N7 flu-affected farm). Although there was evidence of limited person-to-person spread of infection, sustained human-to-human transmission did not occur in this or other outbreaks of avian influenza. It is believed that most cases of avian influenza infection in humans have resulted from contact with infected poultry or contaminated surfaces. However, other means of transmission are also possible, such as the virus becoming aerosolized and landing on exposed surfaces of the mouth, nose, or eyes, or being inhaled into the lungs.

CDC Recommendations

The following interim recommendations are based on what are deemed **optimal** precautions for protecting individuals involved in the response to an outbreak of high pathogenic avian influenza from illness and the risk of viral reassortment (i.e., mixing of genes from human and avian viruses). The health risk to humans from low pathogenic avian influenza viruses is less well established, but is likely to be lower. Nonetheless, it is considered prudent to take all possible precautions to the extent feasible when individuals have contact with birds infected by any avian influenza virus as part of control and eradication activities.

Basic Infection Control

- Educate workers about the importance of strict adherence to and proper use of hand hygiene after contact with infected or exposed poultry, contact with contaminated surfaces, or after removing gloves. Hand hygiene should consist of washing with soap and water for 15-20 seconds or the use of other standard hand-disinfection procedures as specified by state government, industry, or USDA outbreak-response guidelines.

- Ensure that personnel have access to appropriate personal protective equipment (PPE), instructions and training in PPE use, and respirator fit-testing (detailed below).

Personal Protective Equipment

- Disposable gloves made of lightweight nitrile or vinyl or heavy duty rubber work gloves that can be disinfected should be worn. To protect against dermatitis, which can occur from prolonged exposure of the skin to moisture in gloves caused by perspiration, a thin cotton glove can be worn inside the external glove. Gloves should be changed if torn or otherwise damaged. Remove gloves promptly after use, before touching non-contaminated items and environmental surfaces.

- Protective clothing, preferably disposable outer garments or coveralls, an impermeable apron or surgical gowns with long cuffed sleeves, plus an impermeable apron should be worn.

- Disposable protective shoe covers or rubber or polyurethane boots that can be cleaned and disinfected should be worn.

- Safety goggles should be worn to protect the mucous membranes of eyes.

- Disposable particulate respirators (e.g., N-95, N-99, or N-100) are the minimum level of respiratory protection that should be worn. This level or higher respiratory protection may already be in use in poultry operations due to other hazards that exist in the environment (e.g., other vapors and dusts). Workers must be fit-tested to the respirator model that they will wear and also know how to check the face-piece to face seal. Workers who cannot wear a disposable particulate respirator because of facial hair or other fit limitations should wear a loose-fitting (i.e., helmeted or hooded) powered air purifying respirator equipped with high-efficiency filters.

- Disposable PPE should be properly discarded, and non-disposable PPE should be cleaned and disinfected as specified in state government, industry, or USDA outbreak-response guidelines. Hand hygiene measures should be performed after removal of PPE.

Vaccination with Seasonal Influenza Vaccine

- Unvaccinated workers should receive the current season's influenza vaccine to reduce the possibility of dual infection with avian and human influenza viruses. There is a small possibility that dual infection could occur and result in reassortment. The resultant hybrid virus could be highly transmissible among people and lead to widespread infections. Vaccination of all residents of affected areas is not supported by current epidemiologic data.

Administration of Antiviral Drugs for Prophylaxis

- Workers should receive an influenza antiviral drug daily for the duration of time during which direct contact with infected poultry or contaminated surfaces occurs. The choice of antiviral drug should be based on sensitivity testing when possible. In the absence of sensitivity testing, a neuraminidase inhibitor (oseltamivir) is the first choice since the likelihood is smaller that the virus will be resistant to this class of antiviral drugs than to amantadine or rimantadine. Also, please note the January 14, 2006 CDC Health Alert Notice (HAN), in which CDC recommends that neither amantadine nor rimantadine be used for the treatment or prevention (prophylaxis) of influenza A in the United States for the remainder of the 2005-06 influenza season. For further information about the use of antiviral drugs for influenza, see "Prevention and Control of Influenza". Recommendations of the Advisory Committee on Immunization Practices (ACIP)." MMWR 2003; 52(RR08): 1-36. Available at www.cdc.gov/mmwr/preview/mmwrhtml/rr5208a1.htm.

Surveillance and Monitoring of Workers

- Instruct workers to be vigilant for the development of fever, respiratory symptoms, and/or conjunctivitis (i.e., eye infections) for 1 week after last exposure to avian influenza-infected or exposed birds or to potentially avian influenza-contaminated environmental surfaces.

- Individuals who become ill should seek medical care and, prior to arrival, notify their healthcare provider that they may have been exposed to avian influenza. In addition, employees should notify their health and safety representative.

- With the exception of visiting a healthcare provider, individuals who become ill should be advised to stay home until 24 hours after resolution of fever, unless an alternative diagnosis is established or diagnostic test results indicate the patient is not infected with influenza A virus.

- While at home, ill persons should practice good respiratory and hand hygiene to lower the risk of transmission of virus to others. For more information, visit CDC's "Cover Your Cough" website .

Evaluation of Ill Workers

- Workers who develop a febrile respiratory illness should have a respiratory sample (e.g., nasopharyngeal swab or aspirate) collected.

- The respiratory sample should be tested by RT-PCR for influenza A, and if possible for H1 and H3. If such capacity is not available in the state, or if the result of local testing is positive, then CDC should be contacted and the specimen should be sent to CDC for testing.

- Virus isolation should not be attempted unless a biosafety level 3+ facility is available to receive and culture specimens.

- Optimally, an acute- (within 1 week of illness onset) and convalescent-phase (after 3 weeks of illness onset) serum sample should be collected and stored locally in case testing for antibody to the avian influenza virus should be needed.

[1]Respirators should be used in the context of a complete respiratory protection program as required by the Occupational Safety and Health Administration (OSHA). This includes training, fit-testing, and fit-checking to ensure appropriate respirator selection and use. To be effective, respirators must provide a proper sealing surface on the wearer's face. Detailed information on respiratory protection programs is provided at: www.osha.gov/SLTC/etools/respiratory/index.html and http://www.cdc.gov/niosh/npptl/topics/respirators/.

Page last modified January 14, 2006

Differential Diagnosis of Influenza and Agents of Bioterrorism

Table. Planning for pandemic influenza and bioterrorism: similarities and differences[a,b]

Issue	Bioterrorist event	Pandemic influenza
Likelihood	High	High
Warning	None to days	Days to months
Occurrence	Focal or multifocal	Nationwide
Transmission/duration of exposure	Point source; limited; person-to-person	Person-to-person, 6–8 wks
Casualties	Hundreds to thousands	Hundreds of thousands to millions
First responders susceptible?	Yes	Yes
Disaster medical team support/response	Yes	No (too widespread)
Main site for preparedness, response, recovery, and mitigation	State and local areas	State and local areas
Essential preparedness components		
Surveillance	Yes	Yes
Law enforcement intelligence	Yes	No
Investigation	Yes	Yes
Research	Yes	Yes
Liability programs	Yes	Yes
Communication systems	Yes	Yes
Medical triage and treatment plans	Yes	Yes
Vaccine supply issues	Yes (for most likely threats)	Yes
Drug supply issues	Yes	Yes
Training/tabletop exercises	Yes	Yes
Maintenance of essential community services	Yes	Yes
Essential response components		
Rapid deployment teams	Yes	No
Effective communications/media relations strategy	Yes	Yes
Vaccine delivery	Yes (for some)	Yes
Drug delivery	Yes (for most)	Yes
Hospital/public health coordination	Yes	Yes
Global assistance	Possibly	Yes
Medical care	Yes	Yes
Mental health support	Yes	Yes
Mortuary services	Yes	Yes
Supplies and equipment	Yes	Yes
Essential mitigation components		
Enhanced surveillance	Yes	Yes
Enhanced law enforcement intelligence	Yes	No
Vaccine stockpile	Yes (selected agents)	Prototype vaccines only
Drug stockpile	Yes	Yes
Pre-event vaccination	Vaccination of selected groups[c]	Vaccination of groups at medical high risk with pneumococcal vaccine[d]

[a]During a catastrophic infectious disease event, such as an influenza pandemic, there may be critical shortages of vaccines and drugs. Thus, clinics set up to administer vaccines and distribute antimicrobial drugs may require the services of a range of personnel whose fields of expertise are nonclinical. Examples of additional personnel that may be needed include law enforcement, translators, social workers,

psychologists, and legal experts.
[b]Source: Adapted from: National Vaccine Program Office. Pandemic influenza: a planning guide for state and local officials (Draft 2.1). Atlanta: Centers for Disease Control and Prevention; 2000.
[c]At the time of writing, the smallpox vaccination program was just beginning. For other bioterrorist agents for which vaccines are available (e.g., anthrax), limited supplies and concerns about safety profiles have, up to this point, effectively prevented the widespread use of these vaccines.
[d]It may eventually be possible to vaccinate high-priority groups and the general population with a yet-to-be-developed "common epitope" vaccine, which might provide for a broader spectrum of protection against a variety of influenza A subtypes.

Influenza vs. Cold vs. Pertussis

Symptom		**Influenza ("Flu")**	**Colds (Viral URI)**	**Pertussis**
Fever		Usually present & high (102-104°F or 39-40°C); typically lasts 3-4 days	Uncommon If present, typically low-grade	Uncommon If present, typically low-grade
Chills		Common	Uncommon	Rare
Headache		Very common	Uncommon	Uncommon
Aches and pains, muscle aches, chest discomfort		Very common Often severe	Slight to Moderate	Uncommon
Fatigue and weakness		Moderate - severe; can last up to 14-21 days	Mild	Mild; Usually appears well between coughing attacks
Extreme exhaustion		Very common early in illness	Extremely Rare	Rare
Stuffy or runny nose		Common	Very common	Common, early in the disease
Sneezing		Sometimes	Common	Common, early in the disease
Sore throat		Common	Common	Uncommon
Cough	Character	Non-productive ("dry") cough is typical	Hacking cough, often productive; usually responds to cough medications	Variable character; fits / paroxysms and nocturnal cough are common; generally not responsive to cough medications; "whooping" may or may not occur
	Severity	Moderate	Mild to Moderate	Variable; mild to severe; infants appear quite ill and may present with cough or apnea
	Duration	Typically 3-7 days; occasionally to 14 days	Typically 3-7 days	Persistent cough, almost always >1 week, usually 2-6 weeks, sometimes 10+ weeks
	Paroxysms (coughing fits)	Uncommon	Rare	Common; often leads to vomiting or gagging
Infectious Period		1 day before Symptom onset and 3-7 days after	Variable; typically 4-7 days after symptom onset; can be longer	From start of catarrhal phase (before cough) to 21 days after cough onset* Most efficient spreading after cough onset

*or until taking 5 days of appropriate anti-pertussis antibiotics

Attachment E: Information for Website

Contained here is information that will be posted the DHHS website regarding Pandemic Influenza. It will be updated to reflect the most current situation during a pandemic influenza event.

What is Influenza (Flu)?

Seasonal (or common) flu is a respiratory illness that can be transmitted person to person. Most people have some immunity, and a vaccine is available.

- Symptoms: fever, cough, runny nose, muscle pain. Deaths often caused by complications, such as pneumonia.
- Outbreaks follow predictable seasonal patterns; occurs annually, usually in winter, in temperate climates
- Affects up to 10% of the population
- Average U.S. deaths approximately 36,000/yr
- Usually some immunity built up from previous exposure
- For most people it is an unpleasant but not life-threatening infection
- Healthy adults usually not at risk for serious complications; the very young, the elderly and those with certain underlying health conditions at increased risk for serious complications
- Vaccine developed based on known flu strains and available for annual flu season
- Adequate supplies of antivirals are usually available to treat those at risk
- Health systems can usually meet public and patient needs
- Generally causes modest impact on society (e.g., some school closing, encouragement of people who are sick to stay home)
- Manageable impact on domestic and world economy

Avian (or bird) flu (AI) is caused by influenza viruses that occur naturally among wild birds. Low pathogenic AI is common in birds and causes few problems. Highly pathogenic AI H5N1 is deadly to domestic fowl, can be transmitted from birds to humans, and is deadly to humans. There is virtually no human immunity and human vaccine availability is very limited.

- Symptoms of avian influenza may depend on which specific virus subtype and strain caused the infection. People infected with the current strand of the avian virus (H5N1) have shown everything from typical human influenza-like symptoms (fever, cough, sore throat, and muscle aches) to shortness of breath, pneumonia, severe respiratory diseases, and other life-threatening complications.
- Unlike seasonal influenza, in which infection usually causes only mild respiratory symptoms in most people, H5N1 infection may follow an unusually aggressive clinical course, with rapid deterioration and high fatality. Primary viral pneumonia and multi-organ failure have been common among people who have become ill with H5N1 influenza.
- Since the 1990s, bird flu outbreaks have occurred in Asia and Europe. Most human cases came from direct contact with infected birds or their droppings.
- In the current situation in Asia, Europe, and Africa, more than half of the people infected with the virus have died. Information about human cases is changing daily.

The World Health Organization (WHO) maintains situation updates and cumulative reports of human cases of avian influenza A (H5N1). This information is available at the WHO Avian Influenza site. The list of countries is found in the cumulative number of confirmed human cases chart.

- Most cases have occurred in previously healthy children and young adults. However, it is possible that the only cases currently being reported are those in the most severely ill people and that the full range of illness caused by the H5N1 virus has not yet been defined.
- The U.S. Food and Drug Administration today announced the first approval in the United States of a vaccine for humans against the H5N1 influenza virus, commonly known as avian or bird flu. The vaccine could be used in the event the current H5N1 avian virus were to develop the capability to efficiently spread from human to human, resulting in the rapid spread of the disease across the globe.
- Laboratory studies suggest that two prescription medicines approved for human influenza viruses, Tamiflu™ and Relenza™, may work in treating avian influenza infection in humans. Clinical trials involving people with H5N1 are needed to see how effective they will actually be.
- The severity of the impact of this second "level' of economic costs would depend on the severity of the pandemic; in the "worst case" scenario it would have a truly devastating effect on human population and on the world economy.

Pandemic flu is virulent human flu that causes a global outbreak, or pandemic, of serious illness. Because there is little natural immunity, the disease can spread easily from person to person. Currently, there is no pandemic flu. A pandemic occurs when a disease spreads rapidly, affecting most countries and regions of the world. Flu pandemics, caused by new flu viruses, have occurred periodically throughout human history. The symptoms of pandemic flu are similar to those of seasonal flu but are usually more severe.

- Symptoms may be more severe and complications more frequent than seasonal flu
- Occurs rarely; three times in the last 90 years
- Can occur any time of the year
- Worldwide mortality estimates range all the way from 2–7.4 million deaths (the "conservatively low" pandemic influenza calculation of a flu modeling expert at the CDC) to 1 billion deaths (the bird flu pandemic prediction of one Russian virologist).
- It is a more serious infection for everyone because there is no previous exposure; little or no pre-existing immunity
- Healthy people may be at increased risk for serious complications
- People of every age may be at risk of serious illness
- A vaccine probably won't be available when the pandemic starts – when it does become available the aim will be to immunize people as rapidly as possible as vaccine supplies become available
- Vaccine against seasonal flu will not protect against pandemic flu. However, getting your annual flu shot is one of several things you can do to keep yourself healthy, and that may help you fight off a pandemic flu virus.
- Antiviral drugs are likely to be in limited supply
- Health systems may be overwhelmed

- May cause major impact on society (e.g. widespread restrictions on travel, closings of schools and businesses, cancellation of large public gatherings)
- Potential for severe impact on domestic and world economy

How does a flu pandemic start?
Flu viruses are constantly changing, producing new strains. Flu pandemics occur when a virus emerges that is so different from previous strains that few, if any people have immunity. This allows it to spread widely and rapidly, potentially affecting millions of people worldwide. Flu viruses can jump from animals to humans. The ability for the virus to infect both can create new and unusual viruses that could cause a pandemic. The new virus may be the result of an animal virus, usually from a bird, mixing with a human virus to produce a new strain.

How common are flu pandemics?
During the 20th century, there were three pandemics, all of which spread around the world within one year of being detected. Scientists predict that another pandemic will happen, although they can't say exactly when.

- 1918-19, "Spanish flu," caused the highest number of known flu deaths: at least 675,000 U.S. deaths and up to 50 million deaths worldwide. Many people died within the first few days after infection, and others died of complications later. Nearly half of those who died were young, healthy adults.
- 1957-58, "Asian flu," caused at least 70,000 U.S. deaths and 1-2 million deaths worldwide First identified in China in late February 1957, the Asian flu spread to the United States by June 1957.
- 1968-69, "Hong Kong flu," caused about 34,000 U.S. deaths and 700,000 deaths worldwide. This virus was first detected in Hong Kong in early 1968 and spread to the United States later that year.

How likely is it that pandemic flu will spread to the U.S. and Nebraska?
The World Health Organization, Centers for Disease Control and Prevention (CDC), the Nebraska Department of Health and Human Services (DHHS) and local public health departments are watching for the first signs of an emerging pandemic. Nebraska is working with many different partners to prepare for a possible pandemic.

In 1918, pandemic flu spread across the country in less than a month. Now, in the era of international air travel, experts say a pandemic will probably spread even faster. As a result:

- Many people will get sick with pandemic flu
- There will be a high demand for healthcare
- Many aspects of daily life will be disrupted
- There will be many deaths

How likely am I to catch pandemic flu?
During a pandemic you're more likely to catch it than seasonal flu because it spreads rapidly and very few people will have any immunity. Everyone will be at risk. Some groups of people may be more at risk than others, but every pandemic is different, so until the virus starts spreading it is very difficult to predict who these groups might be.

With seasonal flu the groups of people more likely to become seriously ill include:

- The very young
- People over 65 years of age
- People with existing medical conditions such as lung diseases, diabetes, cancer, kidney, or heart problems
- People who have immune system problems because of certain medical treatments, or illnesses like HIV/AIDS

The groups most likely to get sick will probably be different during a pandemic

How will I know if pandemic flu has reached the United States or Nebraska?
The World Health Organization has an international system in place for tracking the emergence of a new pandemic. The CDC, the U.S. Department of Health & Human Services (HHS), and Nebraska DHHS will also be monitoring the situation.

If it looks like a pandemic is going to reach the United States, the government will issue warnings and work with the media to advise people on the best course of action. If it looks likely a pandemic will reach Nebraska, health officials will use the media and this website www.dhhs.ne.gov/pandemic to advise people on what they should do.

Can a vaccine be made to protect against pandemic flu?
Vaccines are already being made and tested. Experts are also testing new ways of making vaccine quickly. If pandemic flu occurs, we'll need a vaccine for the specific virus causing the pandemic. Flu viruses change constantly so there's little time to prepare a vaccine in advance. It's also difficult to make large amounts of vaccine without knowing the exact pandemic flu virus.

How long will it take to make enough pandemic flu vaccine for everyone?
The U.S. Government is working to expand domestic influenza vaccine production capacity to be able to produce pandemic influenza vaccines for the entire population within six months of a pandemic declaration. However, at the beginning of a pandemic, the scarcity of pre-pandemic and pandemic influenza vaccine will require that the limited supply be allocated or prioritized for distribution and administration.
Currently there are only two U.S. producers of flu vaccine.

Who decides who gets vaccine first and how will they decide?
Medical and public groups have made recommendations about who should get vaccine first in a pandemic. Medical experts used their knowledge and experience to make these recommendations. Individuals across the country reviewed the recommendations and were asked for input. Nebraska has gone through a similar process. Our recommendations will be passed on to the Governor for approval.
Vaccine will be used where it can effectively prevent illness and death.
Should the supply be limited, DHHS will prioritize the administration of vaccine to Nebraskans based on the input of the Expert Committee, CDC recommendations, current epidemiology, surveillance data, the local situation, maintenance of critical infrastructure, etc. DHHS and local public health departments have identified critical infrastructure

providers that will be needed to maintain medical services, public services and safety. Local public health departments will work with their local medical community to provide the limited vaccine to targeted groups.

A tiered allocation approach for vaccines in severe pandemics is being proposed by the U.S. Government, with the following objectives considered to be the most important:

- Protect those who are essential to the pandemic response and provide care for persons who are ill;
- Protect those who maintain essential community services;
- Protect children;
- Protect workers who are at greater risk of infection as a result of their job, and
- Protect those who maintain homeland and national security.

How will vaccine be distributed if there's a pandemic?
Most likely, the federal government will direct shipments of vaccines to states. Flu vaccine makers already distribute millions of doses of vaccine every year. Nebraska has a plan to distribute vaccine quickly. Informing people where to go for vaccine is part of that plan. Other systems are also in place such as the Strategic National Stockpile (SNS).

The SNS is a national resource of medicine and medical supplies and equipment. These "stockpiles" are located around the country so states can have access to them quickly.

Is there medicine that can prevent or treat pandemic flu? How effective is it?
There are medicines, called antivirals, approved for use in the United States to prevent and treat flu. These "antiviral" medicines fight many kinds of flu. Health experts think antivirals could provide some protection against pandemic flu but it will depend on the virus. Antivirals are most effective when used as soon as possible after symptoms appear. The federal government has a national stockpile of antiviral medicines. Despite the stockpiling effort, there may not be enough for everyone.

Should I buy my own supply of antiviral medication?
No. Health officials say in a pandemic flu outbreak, antivirials need to be available to those who need them most so public health employees and healthcare providers must be able to manage available supplies. That's not possible if people are hoarding antivirals. Also, personal stockpiling may reduce supplies making it harder to treat seasonal flu in the elderly and others who are at risk of serious illness or death from complications of "seasonal" flu.

How about antibiotics or the pneumonia vaccine?
Antibiotics won't help against a pandemic flu virus because antibiotics only treat bacterial infections. They may help if someone gets a secondary infection caused by bacteria. According to experts, most of the people who died from avian (bird) flu, the virus was the cause of death. However, during the 1918 flu pandemic, many people died from pneumonia and other bacterial illnesses. There are vaccines that protect against infections like pneumonia.

What is the difference between a cold and the flu?

The flu and the common cold are both respiratory illnesses but they are caused by different viruses. Because these two types of illnesses have similar flu-like symptoms, it can be difficult to tell the difference between them based on symptoms alone.

What are the symptoms of the flu versus the symptoms of a cold?

In general, the flu is worse than the common cold. Colds generally do not result in serious health problems, such as pneumonia, bacterial infections, or hospitalizations. If you develop flu-like symptoms and are concerned about your illness, especially if are at high risk for complications of the flu, you should consult your health-care provider. Those at high risk for complications include people 65 years or older, people with chronic medical conditions (such as asthma, diabetes, or heart disease), pregnant women, and young children.

Symptoms	Cold	Flu
Fever	Rare	Usual; high (100°F to 102°F; occasionally higher, especially in young children); lasts 3 to 4 days
Headache	Rare	Common
General Aches, Pains	Slight	Usual; often severe
Fatigue, Weakness	Sometimes	Usual; can last up to 2 to 3 weeks
Extreme Exhaustion	Never	Usual; at the beginning of the illness
Stuffy Nose	Common	Sometimes
Sneezing	Usual	Sometimes
Sore Throat	Common	Sometimes
Chest Discomfort, Cough	Mild to moderate; hacking cough	Common; can become severe
Treatment	Antihistamines Decongestant Nonsteroidal anti-inflammatory medicines	Antiviral medicines— see your doctor
Prevention	Wash your hands often Avoid close contact with anyone with a cold	Annual vaccination; antiviral medicines— see your doctor
Complications	Sinus congestion Middle ear infection Asthma	Bronchitis, pneumonia; can be life threatening

Do other respiratory viruses circulate during the flu season?

In addition to the flu virus, several other respiratory viruses also can circulate during the flu season and can cause symptoms and illness similar to those seen with flu infection. These non-flu viruses include rhinovirus (one cause of the "common cold") and respiratory syncytial virus (RSV), which is the most common cause of severe respiratory illness in young children as well as a leading cause of death from respiratory illness in those aged 65 years and older.

Does everyone have the same reaction to the flu?
The flu can cause mild to severe illness and at times can lead to death. Although most healthy people recover from the flu without complications, some people, such as older people, young children, and people with certain health conditions (such as asthma, diabetes, or heart disease), are at high risk for serious complications from the flu.

What do I do when I get the flu?
Symptoms of flu include:

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

A person with signs of flu should:

- Stay home
- Get lots of rest, drink plenty of liquids, and avoid using alcohol and tobacco
- There are over-the-counter (OTC) medications to relieve the symptoms of the flu (but never give aspirin to children or teenagers who have flu-like symptoms, particularly fever)
- Remember that serious illness from the flu is more likely in certain groups of people including people 65 and older, pregnant women, people with certain chronic medical conditions and young children
- Consult your doctor early on for the best treatment, but also be aware of emergency warning signs that require urgent medical attention such as:

In children, emergency warning signs that need urgent medical attention include:

- Fast breathing or trouble breathing
- Bluish skin color
- Not drinking enough fluids
- Not waking up or not interacting
- Being so irritable that the child does not want to be held
- Flu-like symptoms improve but then return with fever and worse cough
- Fever with a rash

In adults, emergency warning signs that need urgent medical attention include:

- Difficulty breathing or shortness of breath
- Pain or pressure in the chest or abdomen
- Sudden dizziness
- Confusion

- Severe or persistent vomiting

Seek medical care immediately (call your doctor or go to an emergency room) if you or someone you know is experiencing any of the signs above. When you arrive, tell the reception staff that you think you have the flu. You may be asked to wear a mask and/or sit in a separate area to protect others from getting sick.

How do I care for someone who has the flu?
It's important to take steps to protect yourself and others when a household member is sick. Remember that the flu virus is spread when contaminated droplets exit the mouth and nose of an infected person and the virus comes in contact with other people.

- Keep everyone's personal items separate. All household members should avoid sharing computers, pens, papers, clothes, towels, blankets, sheets, food or silverware.
- Disinfect door knobs, switches, handles, toys and other surfaces that are commonly touched at home.
- It's okay to wash everyone's dishes and clothes together. Use detergent and very hot water. Wash your hands after handling dirty laundry.
- Wear disposable gloves when in contact or cleaning up body fluids.
- One person should be the caregiver. He or she may benefit from wearing a mask when giving care.
- Caregivers should always wash their hands before providing care. Afterward, wash hands again and apply alcohol-based gel as well.

Medical care for a loved one with the flu includes:

- Prevent dehydration
    - Begin giving liquids at the first signs of illness.
    - In addition to giving plenty of liquids, give ice and light, easily digested foods such as soup and broth.
    - If your household member has diarrhea, give fluids that contain electrolytes. You can make an inexpensive rehydration drink at home. However, **do not give this homemade drink to children younger than 12**. Measure all ingredients precisely. Small variations can make the drink less effective or even harmful. Mix the following:
        1 quart (950 ml) water
        1/2 teaspoon (2.5 g) baking soda
        1/2 teaspoon (2.5 g) table salt, or 1/4 teaspoon (1.25 g) salt substitute (such as "Lite Salt," which is potassium-based)
        3 to 4 tablespoons (45 to 60 g) sugar
- Reduce fever – give fever-reducing medication, like acetaminophen or ibuprofen. Do not give aspirin to anyone younger than 20 years of age?
- To relieve discomfort, give a sponge bath with lukewarm water
- Keep a care log – write down the date, time, fever, symptoms, medicines given and dosage. Make a new entry at least every four hours or when symptoms change.

How does the flu spread?

The flu usually spreads from person to person in respiratory droplets when people who are infected cough or sneeze. People occasionally may become infected by touching something with influenza virus on it and then touching their mouth, nose or eyes. Healthy adults may be able to infect others **1 day before** getting symptoms and up to **5 days after** getting sick. Therefore, you can give someone the flu before you know you are infected as well as while you are sick.

How can I reduce the spread of influenza?
Although pandemic influenza viruses may cause severe disease, influenza viruses are among the easiest microorganisms to eliminate. Influenza A virus can survive on hard, nonporous surfaces (e.g., stainless steel, hard plastic) for 24 – 48 hours and on porous materials (e.g., cloth, paper) for less than 8 – 12 hours in room temperatures. The virus can stay on surfaces up to 72 hours when those surfaces are moist or wet. Therefore, routine cleaning and disinfection strategies used during regular influenza seasons could also be applied for the management of pandemic influenza.

Respiratory hygiene
Avoid close contact with people who are sick. When you are sick, keep your distance (greater than 3 feet) from others to protect them from getting sick too. This includes hand shaking and other bodily contact.

Use good hygiene practices:

- Cover your mouth and nose with a tissue when you cough or sneeze; put the used tissue in a waste basket and clean your hands.
- Handwashing should be done after emptying waste containers.
- Cover your mouth and nose with your upper sleeve (not your hands) if you do not have a tissue and need to cough or sneeze.
    - English Poster: http://www.cdc.gov/flu/protect/pdf/covercough_school8-5x11.pdf
    - Spanish Poster: http://www.cdc.gov/flu/protect/espanol/pdf/covercough_school8-5x11-spanish.pdf

Hand hygiene
Handwashing is the most effective way to prevent the spread of illness according to the Centers for Disease Control and Prevention.

- Clean your hands as soon as possible after coughing, sneezing, or blowing your nose.
    - Use soap and water and wash your hands for 15 - 20 seconds; or
    - Use alcohol-based hand wipes or alcohol-based (60-95% alcohol) gel hand sanitizers; rub these on the hands until the liquid or gel dries.
    - http://www.cdc.gov/cleanhands/
- Clean your hands often when you or others are sick, especially if you touch your mouth, nose, and eyes.
- Always clean your hands before eating.
- Carry alcohol-based hand wipes or alcohol-based (60-95% alcohol) hand-sanitizing gels with you to clean your hands when you are out in public.

- Teach your children to use these hygiene practices because germs are often spread at school.
    - Handwashing poster English/Spanish: http://lancaster.unl.edu/food/handwashing.shtml

Decreasing the transmission of flu at home:
The adherence to good personal hygiene, proper hand hygiene, respiratory hygiene, and cough etiquette is especially important for preventing the spread of influenza in the community. Environmental infection control focuses on regular cleaning for most surfaces and targeted use of disinfection for surfaces touched frequently by hand:

- Clean and disinfect commonly touched household surfaces (e.g., countertops, tabletops, desktops, bathrooms surfaces, microwaves, refrigerator door handles, doorknobs) on a regular basis using EPA-registered detergent/disinfectants. Clean surfaces first with detergent and water and then disinfect with an EPA-registered disinfectant in accordance with manufacturer instructions. (Note: Disinfectant products available in grocery stores or hardware stores are all EPA-registered.)
    - Repeated application of disinfectants to table and desktop surfaces is unnecessary.
    - Frequent use of room air deodorizers to disinfect the air is not recommended.
- Wipe frequently touched electronic items (e.g., remote controls, hand-held gaming devices) with hand-sanitizer cloths.
- If EPA-registered disinfectants are not available, use a dilute solution of household chlorine bleach (sodium hypochlorite) to disinfect surfaces. To prepare this solution fresh each day, add ¼ cup of bleach to a gallon of clean water, or 1 tablespoon of bleach to a quart of clean water. Apply to a cleaned surface, preferably with a cloth moistened with the bleach solution, and allow the surface to remain wet for minimally 3 – 5 minutes. Wear gloves to protect your hands when working with strong bleach solutions.
- Follow label instructions carefully when using disinfectants and cleaners, noting any hazard advisories and indications for using personal protective items (such as household gloves).
    - Do not mix disinfectants and cleaners unless the labels indicate it is safe to do so.
    - Combining certain products (such as chlorine bleach and ammonia cleaners) can be harmful, resulting in serious injury or death.

Decreasing the transmission of flu at work and school:
Stay home when you are sick. Employees/students with influenza-like symptoms should stay away from the worksite/school to keep from infecting others. Individuals who develop influenza-like symptoms while at the worksite/school should leave as soon as possible. Carry hand-sanitizer cloths in cars to use on hands, car door handles, the steering wheel, and the gear shift.

Improve hand hygiene practices. See hand hygiene section above.

Reduce close contact between yourself and others:

- Reduce or eliminate hand-shaking
- Increase physical distance between individuals (greater than 3 feet)
- Decrease use of shared workspaces
- Consider working from home
- Instead of face-to-face meetings, use conference calls
- Cancel travel to outbreak areas
- Be sure to get plenty of sleep and eat a healthy diet to keep your immune system strong.

Stock sufficient and accessible personal infection control supplies:

- Single-use disinfection wipes
- Alcohol-based hand gel (containing at least 60% alcohol)
- Tissues,
- Waste receptacles
- Disposable masks (if recommended by your employer)

Schools may dismiss classes, and businesses may consider implementing social distancing as an influenza control strategy early on during a moderate or severe influenza pandemic. While school remains in session and when businesses reduce onsite staffing, environmental infection control focuses on regular cleaning for most surfaces and targeted use of disinfection for surfaces touched frequently by hand.

How can I get prepared and stay informed?
Learn more about pandemic flu. Visit the Nebraska Health and Human Services System website at: http://www.dhhs.ne.gov/pandemic/

The official U.S. government website on pandemic flu can be found at: www.pandemicflu.gov

The Centers for Disease Control and Prevention (CDC) web site provides regularly updated information about pandemic flu and bird flu: www.cdc.gov

If you would like to have someone speak to your group on the topic of pandemic flu or bird flu, visit: www.bioprepare.org, or call (402) 552-2529.

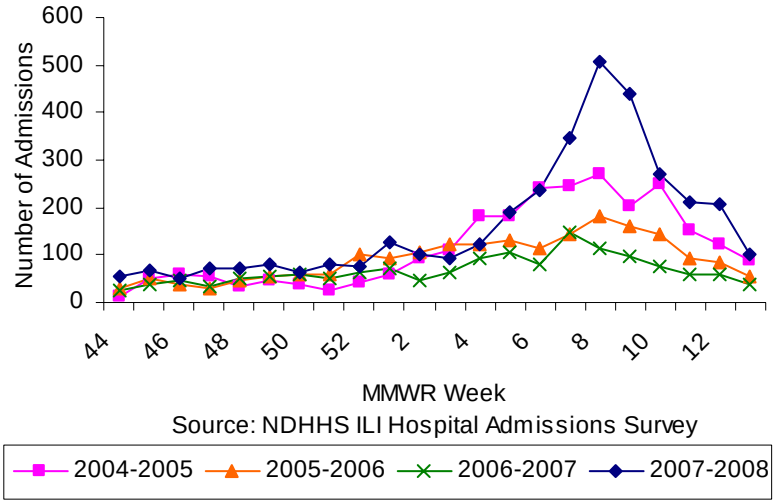
Nebraska Influenza Prevention Fact Sheet

Issue 2; May 2008

Influenza is commonly referred to as “the flu”. It is highly contagious and caused by the influenza virus. The virus is spread from person to person primarily through droplets which are released when an infected person coughs or sneezes.

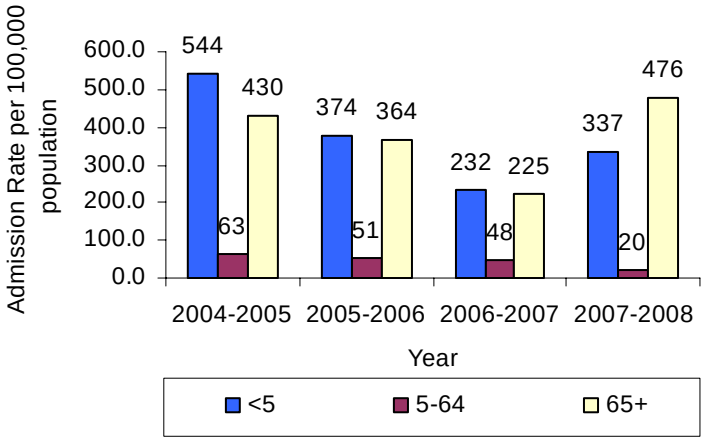
According to Nebraska surveillance data, influenza typically remains at low levels at the beginning of October through late December. Activity increases at the end of December and reaches its peak between late January and early March. At the end of the influenza season in April, activity decrease and remains at a low level. The 2007-2008 flu season is the most severe in the last four years, partly due to lack of effectiveness of the vaccine this year. (Figure 1)

Figure 1 Number of Influenza Admissions, Nebraska, 2004-2008



Children under the age of 5 and seniors over 65 years old are vulnerable to influenza, and are more likely to be hospitalized due to influenza. These two age groups had higher

Figure 2 Influenza Admission Rate by Age Group and Influenza Season, Nebraska, 2004-2008



Tips for Flu Prevention

The single best way to prevent seasonal influenza is to GET VACCINATED EACH YEAR.

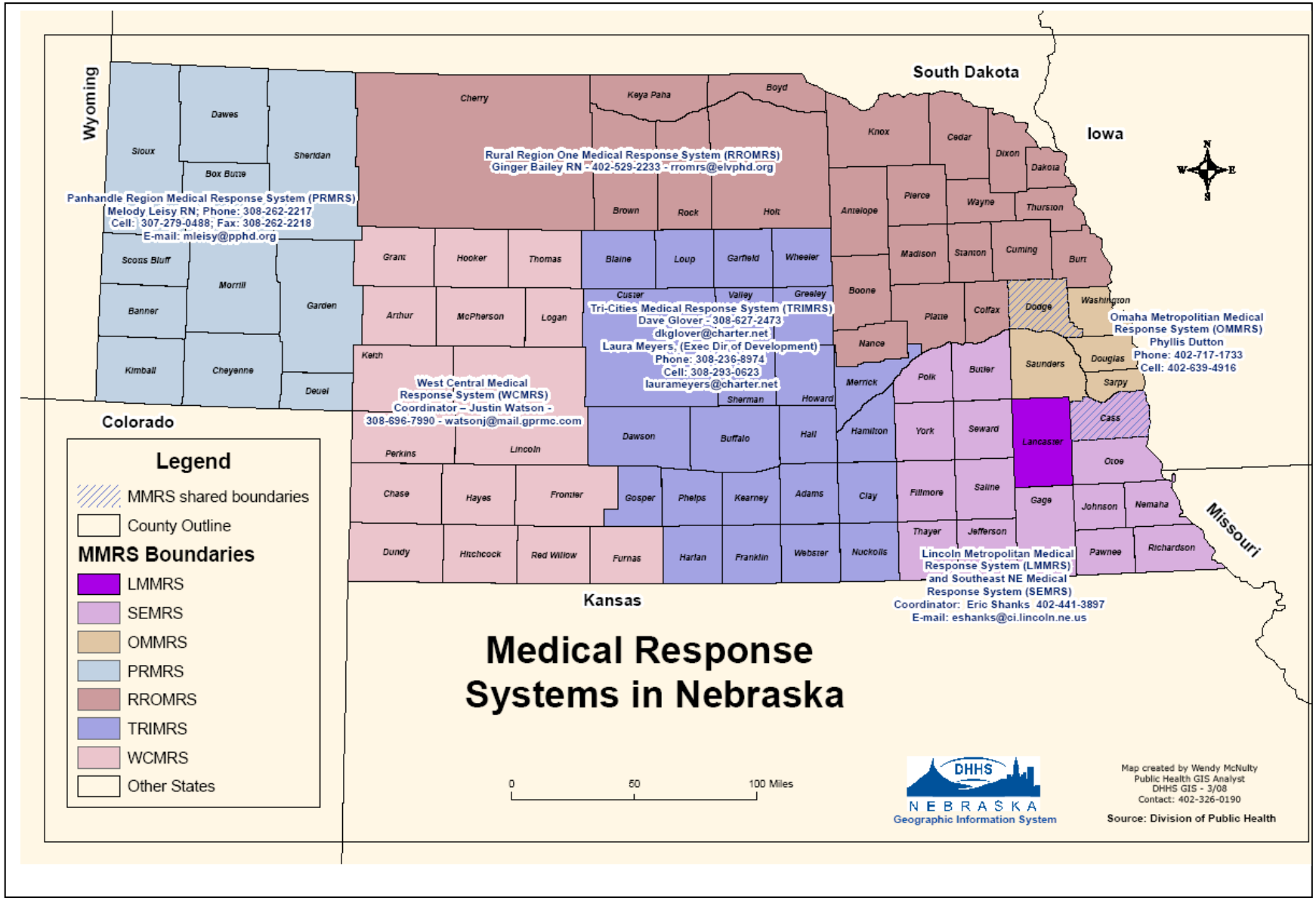
Additional ways to help prevent influenza include:

1. **Avoid close contact** with people who are sick, or with others if you are sick.
2. **Stay home when you are sick**.
3. **Cover your mouth and nose** with a tissue when coughing or sneezing.
4. **Clean your hands frequently**.
5. **Avoid touching your eyes, nose or mouth**.
6. **Practice other good health habits**, such as getting plenty of sleep, being physically active, managing your stress, drinking plenty of fluids, and eating nutritious food, etc.

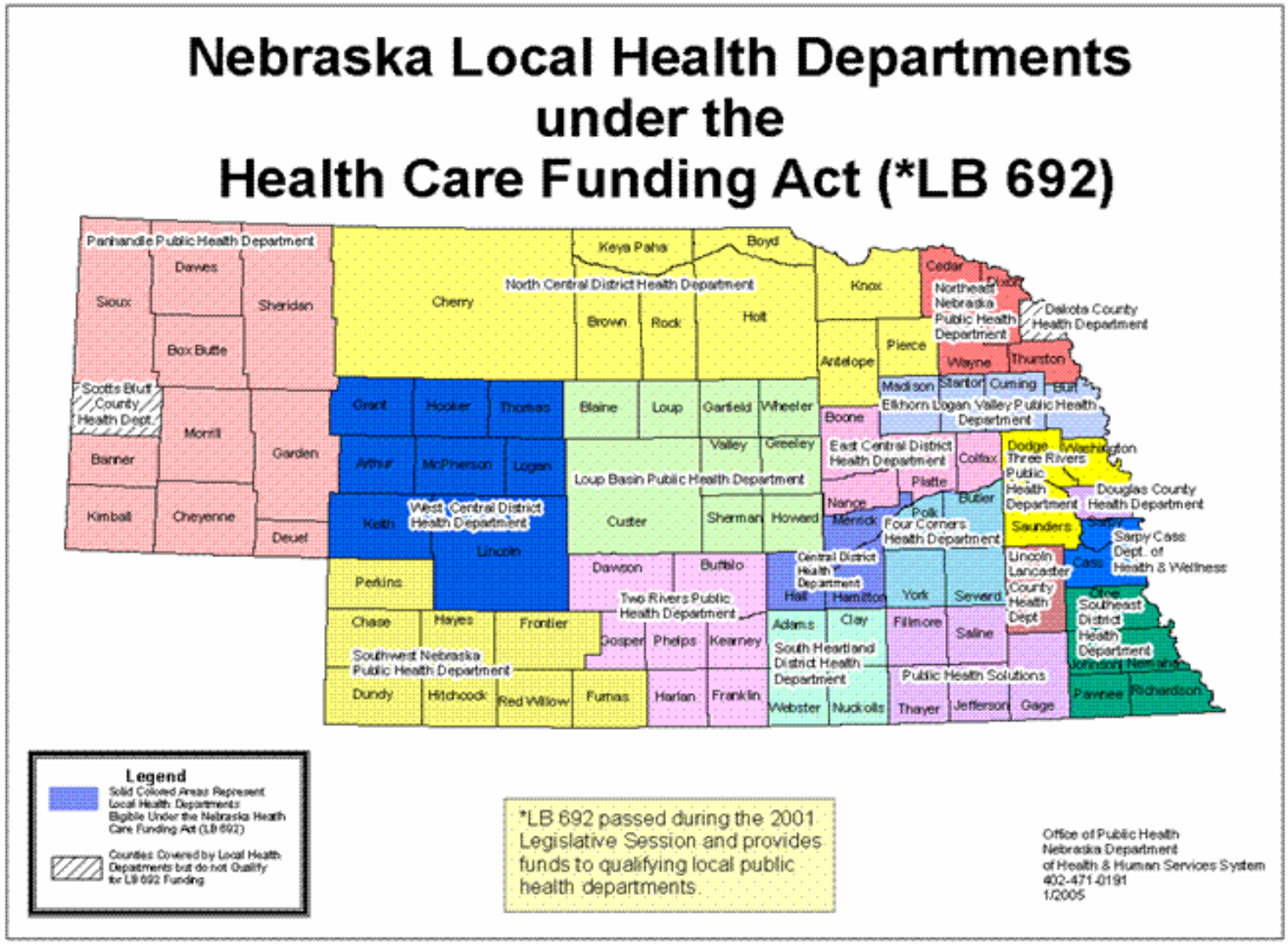
Nebraska Department of Health and Human Services

Influenza Surveillance Program
Phone: 402-471-0935
http:www.dhhs.ne.gov/flu/

Attachment F: Medical Response Systems Map



Attachment G: Local public health departments Map



Attachment H: Local Health Department Contact Information

Local Public Health Department Directors and Emergency Response Coordinators
Current as of 4/29/08

For updates, contact Sue Medinger at (402) 471-0191,
sue.medinger@dhhs.ne.gov

Central District Health Department
1137 South Locust Street
Grand Island, NE 68801
Teresa Anderson, Director
Phone: (308) 385-5175 x178
Fax: (308) 385-5181
Email: tanderson@cdhd.ne.gov
Mike Darbro, Emergency Response Coordinator
Phone: (308) 385-5175
Fax: (308) 385-5181
Email: mdarbro@cdhd.ne.gov
Web site: www.cdhd.ne.gov
(Hall, Hamilton, & Merrick counties)

Dakota County Health Department
1601 Broadway Street
Box 155
Dakota City, NE 68731
Pam DeVries, Director & Emergency Response Coordinator
Phone: (402) 987-2164; Cell: (712) 223-1204
Fax: (402) 987-2163
Email: pdevries@dakotacountyne.org

Douglas County Health Department
1819 Farnam Street/Room 401
Omaha, NE 68183
Adi Pour, Director
Phone: (402) 444-7471
Fax: (402) 444-6267
Email: adi.pour@douglascounty-ne.gov
Carol Allensworth, Emergency Response Coordinator
Phone: (402) 444-7471; Cell: (402) 669-1604
Fax: (402) 444-6267
Email: callensworth@co.douglas.ne.us
Web site: www.douglascounty/health.com

East Central District Health Department
2282 East 32nd Avenue
Columbus, NE 68601
Rebecca Rayman, Director
Phone: (402) 563-9224 x210
Fax: (402) 564-0611
Email: rrayman@ecdhd.com
Kara Urkoski, Emergency Response Coordinator
Phone: (402) 563-9224 x214; Cell: (402) 910-0569
Fax: (402) 564-0611
Email: kurkoski@ecdhd.com
Web site: www.ecdhd.com
(Boone, Colfax, Nance, & Platte counties)

Elkhorn Logan Valley Public Health Department
2104 21st Circle/Box 779
Wisner, NE 68791
Kathy Nordby, Director
Phone: (402) 529-2233
Fax: (402) 529-2211
Email: director@elvphd.org
Ginger Bailey, Emergency Oversight
Phone: (402) 529-2233; Cell: (402) 380-3079
Fax: (402) 529-2211
Email: rromrs@elvphd.org
Larry Bockelman, Emergency Response Coordinator
Phone: (402) 529-2233; Cell: (402) 380-8827
Fax: (402) 529-2211
Email: ERC@elvphd.org
Web site: www.elvphd.org
(Burt, Cuming, Madison, & Stanton counties)

Four Corners Health Department
2101 N. Lincoln Avenue
York, NE 68467-1027
Vicki Duey, Executive Director
Phone: (402) 362-2621
Fax: (402) 362-2687
Email: vickid@fourcorners.ne.gov
Laura McDougall, Emergency Response Coordinator
Phone: (402) 362-2621; Cell: (402) 366-6485
Fax: (402) 362-2687
Email: lauraM@fourcorners.ne.gov

Web site: www.fourcorners.ne.gov
(Butler, Polk, Seward, & York counties)

Lincoln-Lancaster County Health Department
3140 “N” Street
Lincoln, NE 68510
Tim Timmons (Delegated by Bruce Dart, Director to receive correspondence)
Phone: (402) 441-8056
Fax: (402) 441-6205
Email: ttimmons@lincoln.ne.gov
Eric Schanks , Emergency Response Coordinator
Phone: (402) 441-3897; Cell: (402) 430-5461
Fax: (402) 441-6219
Email: eshanks@lincoln.ne.gov
Web site: www.lincoln.ne.gov/city/health

Loup Basin Public Health Department
295 North 8th
Box 995
Burwell, NE 68823
Chuck Cone, Director
Phone: (308) 346-5795
Fax: (308) 346-9106
Email: ccone@nctc.net
Angela Redman, Emergency Response Coordinator
Phone: (308) 346-5795; Cell: (308) 750-2330
Fax: (308) 346-9106
Email: aredman@nctc.net
Web site: www.loupbasinhealth.com
(Blaine, Custer, Garfield, Greeley, Howard, Loup, Sherman, Valley, & Wheeler counties)

North Central District Health Department
422 East Douglas Street
O’Neill, NE 68763
Roger Wiese, Director
Phone: (402) 336-2406
Fax: (402) 336-1768
Email: roger@ncdhd.ne.gov
Concey Ramold, Emergency Response Coordinator
Phone: (402) 336-2406; Toll Free: (877) 336-2406; Cell: (402) 340-4522
Fax: (402) 336-1768
Email: concey@ncdhd.ne.gov

Web site: www.ncdhd.ne.gov
(Antelope, Boyd, Brown, Cherry, Holt, Keya Paha, Knox, Pierce, & Rock counties)

Northeast Nebraska Public Health Department
117 West 3rd Street
Wayne, NE 68787
Deb Scholten, Director
Phone: (402) 375-2200
Fax: (402) 375-2201
Email: nnphd@huntel.net
Kim Schultz, Emergency Response Coordinator
Phone: (402) 375-2200, Cell: (402) 369-0304
Fax: (402) 375-2201
Email: erc@nnphd.org
Web site: www.nnphd.org
(Cedar, Dixon, Thurston, & Wayne counties)

Panhandle Public Health District
808 Box Butte Avenue
Box 337
Hemingford, NE 69348
Kim Engel, Director
Phone: (308) 487-3600
Fax: (308) 487-3682
Email: kengel@pphd.org
Becky Corman, Emergency Response Coordinator
P.O. Box 1115, 208 E. 6th
Bridgeport, NE 69336
Phone: (308) 262-2217, Cell: (308) 262-5764
Fax: (308) 262-2218
Email: rcorman@pphd.org
Web site: www.pphd.org
(Banner, Box Butte, Cheyenne, Dawes, Deuel, Garden, Kimball, Morrill, Sheridan, & Sioux counties)

Public Health Solutions District Health Department
Suite 1
975 East Highway 33
Crete, NE 68333
M Jane Ford Witthoff, Health Director
Phone: (402) 826-3880; Toll Phone: (888) 310-0565; Cell: (402) 730-4829
Fax: (402) 826-4101
Email: jane@phsneb.org
Kim Plouzek, Emergency Response Coordinator

Phone: (402) 826-3880; Toll Phone: (888) 310-0565; Cell: (402) 826-7075
Fax: (402) 826-4101
Email: kplouzek@phsneb.org
Web site: www.phsneb.org
(Fillmore, Gage, Jefferson, Saline, & Thayer counties)

Sarpy/Cass Department of Health and Wellness
701 Olson Drive/Suite 101
Papillion, NE 68046
Dianne Kelly, Director
Phone: (402) 339-4334; Toll Free: (800) 645-0134
Fax: (402) 339-4235
Email: dkelly@sarpy.com
Nancy Braswell, Emergency Response Coordinator
Phone: (402) 339-4334; Cell: (402) 681-9585
Fax: (402) 339-4235
Email: nbraswell@sarpy.com
Web site: www.sarpy.com/health; Web site: www.cassne.org
(Cass & Sarpy counties)

Scotts Bluff County Health Department
Bill Wineman, Director & Emergency Response Coordinator
1825 10th Street
Gering, NE 69341-2445
Phone: (308) 436-6636; Cell: (308) 631-6074
Fax: (308) 436-6638
Email: bwineman@scottsbluffcounty.org
Web site: www.scottsbluffcounty.org/health/health.htm

South Heartland District Health Department
914 West 4th Street
Hastings, NE 68901
Michele Bever, Executive Director
Phone: (402) 462-6211; Cell: (402) 469-2543
Fax: (402) 462-6219
Email: mmbever@alltel.net
Jim Morgan, Emergency Response Coordinator
Phone: (402) 462-6211; Cell: (402) 469-2543
Fax: (402) 462-6219
Email: shdhdmorgan@windstream.net
Web site: www.southheartlandhealth.org
(Adams, Clay, Nuckolls, & Webster counties)

Southeast District Health Department

601 “J” Street
Auburn, NE 68305
Kay Oestmann, Director
Phone: (402) 274-3993
Fax: (402) 274-3967
Email: kay@sedhd.org
Web site: **www.sedhd.org**
Lisa Bloss, Emergency Response Coordinator
Phone: (402) 274-3993; Toll Free: (877) 777-0424; Cell: (402) 274-8157
Fax: (402) 274-3967
Email: sedhdlbloss@alltel.net (Lisa)
(Johnson, Nemaha, Otoe, Pawnee, & Richardson counties)

Southwest Nebraska Public Health Department
322 Norris Avenue
Suite 8
McCook, NE 69001
Myra Stoney, Director
Phone: (308) 345-4223; Toll Free: (888) 345-4223; Cell: (308) 340-0610
Fax: (308) 345-4289
Email: myra@swhealthdept.com
Heidi Wheeler, Emergency Response Coordinator
Phone: (308) 345-4223; Cell: (308) 340-3453
Fax: (308) 345-4289
Email: heidi@swhealthdept.com
Web site: www.swhealthdept.com
(Chase, Dundy, Frontier, Furnas, Hayes, Hitchcock, Perkins, & Red Willow counties)

Three Rivers Public Health Department
33 West 4th Street
Fremont, NE 68025
Jeff Kuhr, Director
Phone: (402) 727-5396; Toll Free: (866) 727-5396
Fax: (402) 727-5399
Email: jeff.kuhr@3rphd.org
Kelly, Dinslage, Emergency Response Coordinator
Phone: (402) 727-5396, Ext. 22; Toll Free: (866) 727-5396
Fax: (402) 727-5399
Email: Kelly@3rphd.org
Web site: http://threeriverspublichealth.org
(Dodge, Saunders, & Washington counties)

Two Rivers Public Health Department
701 4th Avenue/Suite 1
Holdrege, NE 68949
Terry Krohn, Director
Phone: (308) 995-4778; Toll Free: (888) 669-7154; Cell: (308) 991-6313
Fax: (308) 995-4073
Email: terry.krohn@tworiverspublichealth.com
Amy Elwood, Emergency Response Coordinator
Phone: (308) 995-4778; Toll Free: (888) 669-7154; Cell: (308) 991-6416
Fax: (308) 995-4073
Email: amy.elwood@tworiverspublichealth.com
Web site: www.tworiverspublichealth.com
(Buffalo, Dawson, Franklin, Gosper, Harlan, Kearney, & Phelps counties)

West Central District Health Department
111 North Dewey
North Platte, NE 69101
Shannon Vanderheiden, Director
Phone: (308) 696-1201; Cell: (308) 520-0158
Fax: (308) 696-1204
Email: VanderheidenS@wcdhd.org
Cindy Glos, Emergency Response Coordinator
Phone: (308) 696-1201; Cell: (308) 520-0158
Fax: (308) 696-1204
Email: glosc@wcdhd.org
Web site: www.wcdhd.org
(Arthur, Grant, Hooker, Keith, Lincoln, Logan, McPherson & Thomas counties)

Attachment I: Definition of Terms and Acronyms

AAR	After Action Report (from a real event or exercise)
ACS	Alternate Care Site
Antigenic Drift	A gradual change in the influenza virus, over time, resulting in higher than normal morbidity
AI	Avian Influenza
Antigenic Shift	A significant, abrupt change in the influenza virus
CDC	The Centers for Disease Control and Prevention
CERC	Crisis Emergency Risk Communication (Plan)
CMO	Chief Medical Officer (DHHS)
CSFP	Commodity Supplemental Food Program
DCHD	Douglas County Health Department
DHHS	Nebraska Department of Health and Human Services
DPH	Division of Public Health
eNARSIS	Electronic Nebraska Ambulance & Rescue Service Information System
EBT	Electronic Benefits Transfer (card)
ECC	Emergency Communications Center
ED	Emergency Department
EDRS	Electronic Death Registration System
ELR	Electronic Laboratory Reporting
EMS	Emergency Medical Services
ER	Emergency Room
ESAR-VHP	Emergency System for Advanced Registration of Volunteer Health Professionals
FAQs	Frequently Asked Questions
FNS	Food & Nutrition Service, USDA
HAN	Health Alert Network
HAM	High Frequency Amateur (Radio)
HAvBED	Hospital Available Beds for Emergencies & Disasters
HSEEP	Homeland Security Exercise & Evaluation Program
ICS	Incident Command System
ILI	Influenza-Like Illness
IM Group	Influenza Management Group; a core public health group, designated by the NE DHHS Chief Medical Officer, that coordinates and oversees pandemic prevention and control activities across Nebraska
LPHD	Local Public Health Department

LRD	Laboratory Response Network
MAA	Mid-America Alliance
MRS	Medical Response System
MMRS	Metropolitan Medical Response System
MMWR	Morbidity & Mortality Weekly Report from CDC
NCBE	Nebraska Center for Biopreparedness Education
NDA	Nebraska Department of Agriculture
NE SEOP	Nebraska State Emergency Operations Plan
NEDSS	National Electronic Disease Surveillance System
NEMA	Nebraska Emergency Management Agency
NETSS	National Electronic Telecommunications System for Surveillance
NIMS	National Incident Management System
Novel Virus	A new influenza virus, resulting from a viral antigenic shift
NPHL	Nebraska Public Health Laboratory
NPIs	Nonpharmaceutical Interventions
OMMRS	Omaha Metropolitan Medical Response System
OSHA	Occupational Safety and Health Administration
Pandemic	World wide epidemic, caused by a novel virus
PPE	Personal Protective Equipment
PIO	Public Information Officer
PSI	Pandemic Severity Index
SEOP	State Emergency Operations Plan
SNS	Strategic National Stockpile
US	United States
USDA	United States Department of Agriculture
VACMAN	VACcine MANagement System. A vaccine purchasing and distribution database management system used by government-funded state and territorial immunization projects.
WIC	Special Nutrition Program for Women, Infants and Children
WHO	World Health Organization