North Dakota
Community Containment:
Use of Non-Pharmaceutical Interventions

Section of Pandemic Influenza Preparedness and Response Plan

EXECUTIVE SUMMARY

Disease containment refers to measures that decrease contact among people in order to limit or slow transmission of an infectious agent, in this case, a novel influenza virus. These measures will be particularly important in the absence of an effective vaccine and will continue to be important adjuncts to pharmaceutical measures throughout the pandemic.[1] Disease containment includes individual-level measures and community-level measures. Individual measures may include isolating ill patients (those with symptoms), quarantining well persons who have had contact with ill persons, good hand and respiratory hygiene, and using personal protective equipment (PPE) such as masks and gloves. Community based measures include community activity restrictions, such as suspension of public gatherings and school closures, and limiting domestic and international travel. The North Dakota Department of Health (NDDoH) is the lead state agency for isolation, quarantine, and community-wide infection control recommendations and/or mandates following Center for Disease Control and Prevention's (CDC) guidelines and in coordination with the Governor's office. Public health units will implement isolation and quarantine measures at a local level.

The applicability of specific non-pharmaceutical containment measures will vary, depending on the characteristics of the novel influenza, the assessment of the risk, resources, and public acceptance. Guided by surveillance, laboratory, epidemiologic and clinical data, NDDoH and local public health units (LPHUs) will identify and implement the most appropriate measures at each phase of the pandemic to maximize the impact on disease transmission and minimize the impact on individual freedom of movement.

The purpose of this section is to:

1. Define the disease containment measures that may be used to limit or slow an influenza pandemic in North Dakota;
2. Describe the steps necessary for the NDDoH and LPHUs to prepare to implement such measures;
3. Set forth general criteria for when the measures might be implemented. The NDDoH will refine these criteria, though the epidemiology of a novel influenza virus will guide implementation of disease containment measures in a pandemic; and
4. Describe various communication partners and tools available during a pandemic influenza.

Isolation and quarantine are strategies that may be used as part of the overall effort to prevent and control the transmission of a novel influenza strain among humans. Isolation of patients with certain communicable diseases occurs routinely in healthcare facilities. Patients who are infectious with a novel influenza virus will be isolated while hospitalized during all phases of an influenza pandemic. In addition, non-hospitalized infectious patients will be requested to isolate themselves at home during the infectious period during all phases of a pandemic.

In contrast, the use of quarantine to control the spread of a novel influenza virus would be expected to be used in WHO phases 3-5 and potentially the early stages of phase 6. Experience with seasonal influenza suggests the incubation period is 1-4 days, with an average length of 2 days. However, the clinical behavior of a novel influenza virus may be different and the

incubation period could potentially be as long as 10 days. Because of this short incubation period, and because people infected with the virus are infectious prior to development of symptoms; quarantine may be a resource-intensive strategy with little benefit for disease control when there is sustained transmission of a novel influenza virus in a community. Quarantine of close contacts may be most effective:

- During the pandemic alert period when limited human-to-human transmission has been documented with a less efficiently transmitted virus (NDDoH likely would implement quarantine of contacts only when there is a high probability that the ill patient is infected with a novel influenza virus).
- During the early pandemic period when the scope of the outbreak is focal and limited.

It is anticipated that most people who are requested to isolate or quarantine themselves would do so voluntarily (accomplished upon recommendation of the NDDoH). However, the NDDoH may seek court orders of isolation and quarantine if it determines that legal action is appropriate to protect public health. In appropriate circumstances, other measures, including symptom watch and active monitoring of people who may have been exposed to a novel influenza virus, may be implemented to rapidly detect new cases and to slow or limit disease spread. Isolation and quarantine may occur in North Dakota at the request of federal, state or local authorities, and on Indian reservations in consultation with Tribal Health officials. NDDoH will work closely with CDC to assist with disease containment measures for passengers arriving on international or other flights (e.g., screening passengers for symptoms, and implementing isolation or quarantine). The NDDoH will also work with Tribal Health Councils, as well as the CDC and the Indian Health Service (IHS), to make recommendations on and otherwise support disease containment measures on North Dakota federally recognized Indian reservations.

When community transmission of a novel influenza virus is occurring in North Dakota and quarantine of exposed individuals is not effective or feasible, other disease containment measures may be used. The HHS Pandemic Influenza Plan (HHS Plan) provides potential measures, which include:

- Measures that apply to use of specific sites or buildings (e.g., cancellation of public events, closure of recreational facilities)
- Community-wide infection control measures (e.g., respiratory etiquette and hand hygiene)
- Closure of schools, child care centers, office buildings, shopping malls, and public transportation
- "Snow days"

The NDDoH will work with LPHUs to assess disease containment measures on an ongoing basis during a pandemic since their effectiveness, feasibility, and necessity will change based on the level of disease transmission in the state as a whole, as well as in particular areas of the state. At any particular time, snow days could be used in one part of the state where disease transmission is widespread whereas isolation and quarantine might be used elsewhere in the state because of limited disease activity in that area. If community-wide containment measures are implemented, it is also critical to determine when to scale them back. The NDDoH will work with LPHUs and make recommendations for lifting community containment measures based on evidence of

improving local/regional control of virus transmission and the risk of reigniting a wave of illness that is declining.

CONTENTS

PLANNING ASSUMPTIONS

- Until vaccine becomes available, non-pharmaceutical containment measures will be the most effective means of minimizing illness and death due to the pandemic.
- The effectiveness of most non-pharmaceutical containment measures will depend on characteristics of the evolving virus, including its pathogenicity (and infectious dose), principal mode of transmission (droplet or aerosol), onset and duration of viral shedding, attack rate (or infectivity) in different risk groups, the proportion of asymptomatic infections, clinical presentation, and compliance among the targeted populations. Because human influenza has a short incubation period, a short generation time (the average time between infection of the case and infection of the contacts), transmission of the virus prior to symptom onset, and a non-specific clinical presentation, the utility of non-pharmaceutical containment measures is difficult to predict; however, current models based on a wide range of assumptions about the disease validate the importance of community containment.
- In addition to effectiveness, the selection of specific non-pharmaceutical containment measures will depend on feasibility (e.g., cost and availability of resources and supplies), potential for implementation within existing infrastructures, impact, and acceptance by the public.
- Non-pharmaceutical containment measures must be adapted to the epidemiologic context of each pandemic phase, and recommendations regarding specific measures will change over the course of the pandemic. Once sustained human-to-human transmission is established within a geographic area, isolation or quarantine of specific individuals will be insufficient in itself and population-based social distancing measures will be added.
- Communication is a critical aspect of all emergency planning and response. All programs involved in planning for and responding to pandemic influenza and all other public health emergencies must ensure timely and accurate communications. Communications procedures and protocols will be included in each phase of pandemic influenza planning and response to facilitate sharing of information and messages with NDDoH divisions, other partners at the state and local level and the public.
- Public information and education of the general public will be critical to obtaining adherence with community containment measures.

INTRODUCTION

Non-pharmaceutical interventions (NPI), which include implementation of infection control and social distancing measures, could significantly help to delay the upswing of cases, lower the peak of the epidemic, and allow a better match between the number of ill people and the availability of healthcare resources as shown below in figure 1. According to HHS, "recent preliminary analyses of cities affected by the 1918 pandemic show a highly significant association between the early use of multiple NPIs and reductions in peak and overall death rates".[2]

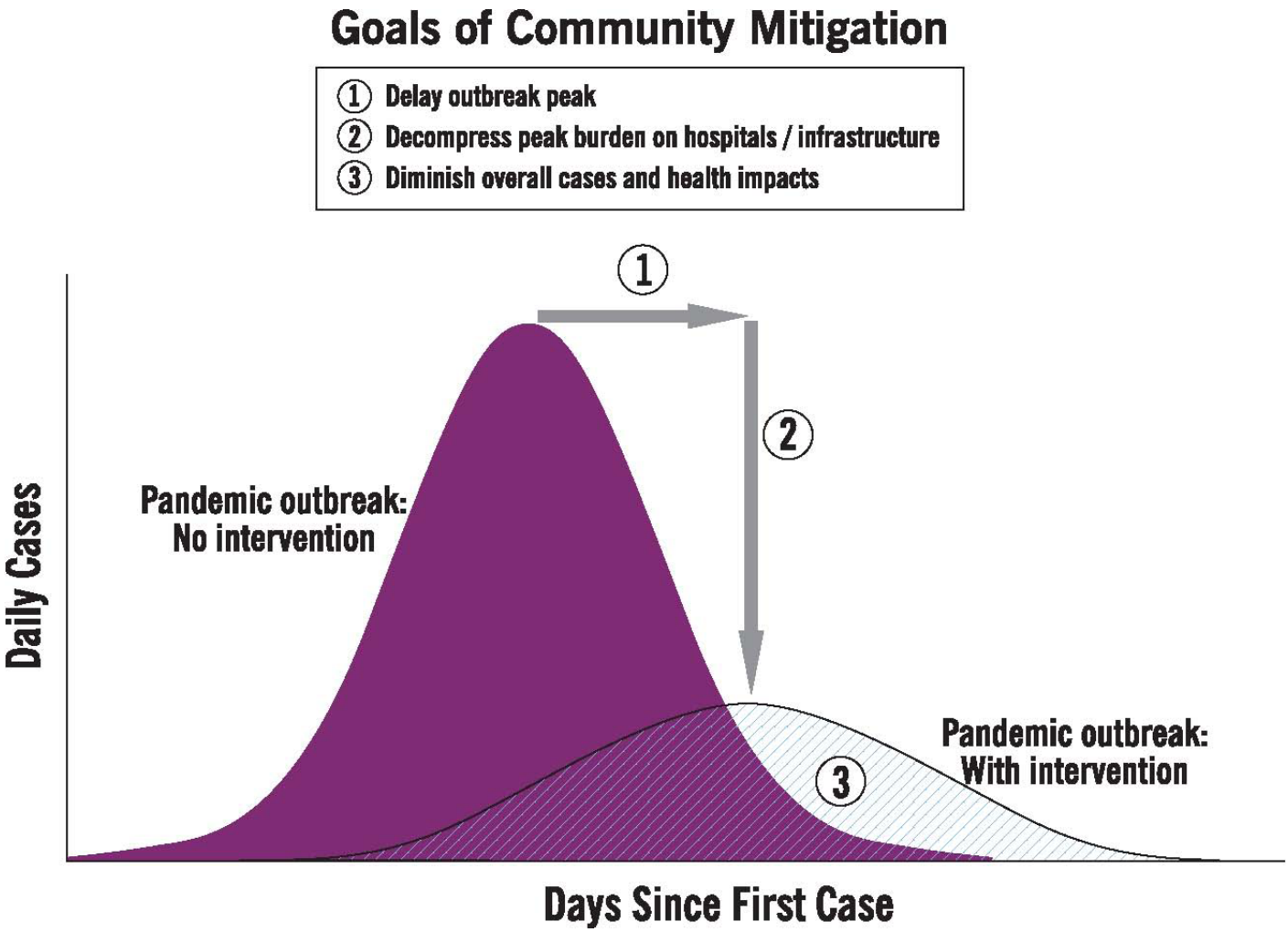

Figure 1: Goals of Community Mitigation (Ref: [2])

PHASES OF A PANDEMIC

There are 3 periods associated with pandemic influenza. The first period is referred to as the "Interpandemic Period" and contains the 1st and 2nd WHO pandemic phases. The second period is the "Pandemic Alert Period" and contains the 3rd, 4th and 5th WHO pandemic phases. The 3rd period is the "Pandemic Period" which holds the 6th and final WHO pandemic phase.

The following chart shows how the pandemic periods, WHO phases and the U.S. response stages interface.

Pandemic Periods	Impacts	U.S. Response Stages	WHO Phases
Inter-pandemic Period *New Virus in Animals, no human cases*	New domestic animal outbreak in at-risk country	0	1
		0	2
Pandemic Alert Period *New virus causes human cases*	New domestic animal outbreak in at-risk country	0	3
	Suspected human outbreak overseas	1	
	Confirmed human outbreak overseas	2	4
		2	5
Pandemic Period	Widespread human outbreaks in multiple	3	6
	First human case in North America	4	
	Spread throughout the United States	5	
	Recovery and preparation for subsequent waves	6	

Figure 2: Pandemic Phases and periods (adapted from HHS guidance for community mitigation.) [2]

PANDEMIC SEVERITY INDEX

Estimation of the severity of a pandemic is achieved using the Pandemic Severity Index[1]. The Index uses case fatality ratio, the percentage of deaths out of the total reported cases of the disease, as the critical driver for categorizing the severity of a pandemic. The PSI (as shown in figure 3) ranges from 1 to 5; with Category 1 pandemics being most mild (equivalent to seasonal flu) and level 5 being reserved for the most severe "worst-case" scenario pandemics (such as the 1918 Spanish flu). PSI is helpful in forecasting the impact of a pandemic and in making recommendations on mitigation interventions that are matched to the severity of future

[1] Because the index depends on estimation of mortality, it is likely to be slow at assessing the severity of a developing pandemic. Proposals for a new severity index dependent on other indicators are in process.

pandemics. The table that follows shows what the impact would be for the U.S. and North Dakota under moderate and severe pandemic scenarios.

Characteristics	Pandemic Severity Index (PSI)				
	Category 1	Category 2	Category 3	Category 4	Category 5
Case Fatality Ratio (percentage)	<0.1	0.1<0.5	0.5-<1.0	1.0-<2.0	≥2.0
Excess Death Rate (per 100,000)	<30	30-<150	150-<300	300-<600	≥600
Illness Rate (percentage of the population)	20-40	20-40	20-40	20-40	20-40
Potential Number of Deaths (based on 2006 U.S. population)	<90,000	90,000-<450,000	450,000-<900,000	900,000-<1.8 million	≥1.8 million
20th Century U.S. Experience	Seasonal Influenza (illness rate 5-20%)	Seasonal Influenza (illness rate 5-20%)	None	None	1918 Pandemic

Figure 3: Pandemic Severity Index (Ref: [2])

Characteristic	Moderate/Category 2 (1958-68-like)		Severe/Category 5 (1918-like)	
	United States	North Dakota	United States	North Dakota
Total Population	300,000,000	635,867	300,000,000	635,867
Illness	90,000,000	190,760	120,000,000	254,347
Outpatient Care	45,000,000	95,380	60,000,000	127,173
Hospitalization	900,000	1,908	8,400,000	17,804
ICU Care	135,000	286	1,260,000	2,671
Mechanical Ventilation	67,500	143	630,000	1,336
Deaths	180,000	382	2,400,000	5,087

Table 1: Pandemic Impact Estimation in U.S. and North Dakota

Population statistics are taken from U.S. Census Bureau, 2006 Population Estimates, Census 2000, 1990 Census.[3]

Estimates are based on extrapolation from past pandemics in the US, and do not include the potential impacts of interventions not available during the 20th Century pandemics.

The calculations used to determine the figures in Table 1 are based on the following assumptions:

The clinical disease attack rate will be 30% to 40% in the overall population.
Of those who become ill with influenza, 50% will seek outpatient medical care.
Hospitalization will be necessary for 1% to 7% of the ill.
ICU care will be needed by 15% of the hospitalized.
Mechanical ventilation will be utilized by 50% of those in ICU.
Death rates will vary between 0.2% and 2% of the ill.

TRIGGERS

Timing of the initiation of NPIs will greatly impact their effectiveness. Implementing interventions prior to a pandemic may cause compliance fatigue, economic hardship, and social hardship without a benefit to public health. Equally important, implementation after the spread of a pandemic may limit the public health benefits of NPIs.

Thresholds and triggers for the implementation of community containment will be consistent with federal guidance, but decisions will be made at the state and, to a lesser degree, local level. Figure 4 below offers overall guidance on when community containment measures are to be implemented. Although it is possible that North Dakota may document the earliest cases of a pandemic influenza strain in North Dakota, it is more plausible that a pandemic influenza virus will first appear overseas and when it does arrive in North America, it is unlikely that North Dakota will be the first state to document cases. This possibility may allow for some additional time to better understand the epidemiology and pathology of the virus as well as evaluate the effectiveness of interventions and containment strategies implemented in the United States in other states. Still, once the virus does arrive in North Dakota, decisions on implementation of community containment strategies will need to be based on surveillance and epidemiologic data collected in the state.

Three different scales are used in this figure to describe various thresholds. First, the World Health Organizations Pandemic Phase 6 (Pandemic Phase) is used. Second, The Department Health and Human Services Pandemic Severity Index is used with category 1 being the least severe pandemic (low mortality). Finally, the U.S. government's pandemic stages are used to describe activity within the world and the United States. The terminology of Alert, Standby and Activate has been introduced to reflect the escalation of response actions. The term *alert* means the notification of critical systems and personnel of their impending activation. *Standby* means to initiate decision-making processes for imminent activation, including mobilization of resources and personnel. *Activate* means to implement community mitigation strategies.

Planning for rapid escalation of these response actions is prudent given the potential exponential spread of a pandemic influenza.[2]

Pandemic Severity Index	WHO Phase 6, U.S. Government stage 3*	WHO Phase 6, U.S. Government Stage 4† and First human case in the United States	WHO Phase 6, U.S. Government Stage 5 § and First laboratory confirmed cluster in state or region¶
1	Alert	Standby	Activate
2 and 3	Alert	Standby	Activate
4and 5	Standby**	Standby/Activate	Activate

Alert: notification of critical systems and personnel of their impending activation
Standby: initiation of decision-making processes for imminent activation, including mobilization of resources and personnel
Activate: implementation of the specified pandemic mitigation interventions.
Figure 4: Response Actions by Pandemic Severity Index (Ref: [2])

Layered Mitigation Strategy
HHS has proposed a framework of mitigation strategies that is based on early, targeted, and layered approach that includes direct application of several partially effective NPI measures. North Dakota will use this recommended approach. These measures include isolation, quarantine and social distancing. Figure 5 gives a summary of community mitigation recommendations by pandemic severity.[2]

Interventions* by Setting	Pandemic Severity Index		
	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 and 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 (eg. encourage teleconferences, alternatives to face-to-face meetings)	Generally not Recommended	Consider	Recommend
-increase distance between persons (eg. reduce density in public transit, workplace)	Generally not Recommended	Consider	Recommend
-modify, postpone, or cancel selected public gatherings to promote social distance (eg. stadium events, theater performances)	Generally not Recommended	Consider	Recommend
-modify work place schedules and practices (eg. telework, staggered shifts)	Generally not Recommended	Consider	Recommend

*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.

Figure 5: Community Mitigation Recommendations by Pandemic Severity (Ref: [2])

Table 3 outlines in further detail the implementation of community containment strategies in North Dakota during WHO phase 6. As is shown in the table, the implementation of various levels of measures is based on the severity index and the whether or not the novel virus first appears in North America in North Dakota. The stage 4 column assumes that North Dakota is one of the first locations to identify a novel virus in humans in North America.

The duration of any of the community containment measure will be determined by epidemiology and the severity index. The higher the severity index the longer community containment measures will need to be in effect. For category 4 or 5 pandemics, communities should be prepared to maintain containment measures for up to 12 continuous weeks. For category 2 or 3 pandemics measures may be implemented for up to 4 weeks.

Table 4 outlines many of the variables that need to be considered when determining whether or not to implement community containment measures.

Decision Making for Community Mitigation Policy

Most community social distancing policy actions will be made at the state level under the authority of the State Health Officer; however, mandatory policy action statewide by the State Health Officer does not preclude a local health officer from taking action that is more restrictive than that mandated by the state. State mandated policies will typically be applied statewide, but specific policies may be applied at a sub-state level at the discretion of the State Health Officer. The authority of the State Health Officer and local health officers extends to isolation and quarantine and closure of all venues that may pose a threat to public health including public gatherings, schools (public and private), business, and social and religious gatherings.

Communication of Community Mitigation Strategies

The mechanisms by which community mitigation policies is communicated to those who need to know differs for pre-event and during an event as well as on the specific policy and the target audience. Pre-event communication of policies has occurred through weekly NDDoH and local public health preparedness lead persons, monthly videoconferences with local public health administrators and webcast trainings conducted over a wide area network using

videoconferencing (with Internet archiving) directed toward local public health and health care institutions. In addition, local meetings between community partners (including meetings sponsored by local public health and local emergency management) convey information provided in state meetings and trainings in addition to their work on local response issues.

Notification during an event will be both push and pull and include organizational, professional and public notification. Legal requirements (e.g., event cancellation, school closure) will be clearly delineated from public health recommendations (e.g., preventing congregation of teenagers not in school in public or private settings). During the disaster, state and local public health will coordinate information release and information dissemination action planning[2] through daily interactive video conferencing[3] and communications between state and regional public health PIOs as well as through field epi-investigation teams working at the local level and jointly staffed by state and local public health.

Notification will depend on the following venues:

- HAN notifications (which may selectively target health care institution and providers, local government including emergency management, state and local agencies, media, public health agencies, first responders and professional organizations with telephone calldown, blast fax, email, and pager alerts (although not all methods are used for all messages or all audiences);
- Media (radio, television, print media, community action notices) via email, fax and HAN
- Public notice postings (e.g., doors of closed sites);
- Information sources (411, hotline, policy board website[4]) through updating of scripts and written materials
- Community organizations (e.g., chambers of commerce);
- Special networks targeting difficult to reach populations (see public information plans re: special populations);
- Telephone calls or visits to non-compliant institutions from public health or law enforcement.

For additional information see Tactical Communication and Public Information Annexes

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[2] Pre-disaster, state and regional planning for community mitigation is coordinated via weekly half day planning meetings, shared plan-specific workgroups, document sharing (including shared document library access) and regular communications between state and regional planner.

[3] During the 2009 spring flood response, NDDoH conducted videoconference briefings with the incident command unit of all local public health units, hospitals and nursing homes/assisted living centers statewide simultaneously.. Local agencies brought in additional partners as needed. Regular briefings occurred at least daily and during the height of the response, twice per day. This was highly effective and permitted not only NDDoH to local information transfer but local to state and local to local.

[4] This refers to a designated web site which will provide the status of health policies extant during the disaster under specific headings such as health care, schools, businesses, community, organizations. The policies will be linked to additional explanatory documents when indicated such as legal authority, maps of affected areas, or explanatory detail. The mockup for this can be found at http://www.ndhan.gov/policyboard/policyboard.asp

	Pandemic Severity Index	US Govt. Stage 4 and first human cases in the US	US Govt. Stage 5 first and case in ND or region	Implementation
WHO Phase 6	**Category 1**	Voluntary Isolation and Quarantine	Voluntary home isolation. Quarantine not recommended	Implement early during stage 4.
		No work /adult distancing recommended	No work/adult distancing recommended	
		No school closure or child distancing recommended	No school closing or child distancing recommended	
	Category 2 or 3	Isolation and quarantine with active monitoring	Voluntary isolation. Voluntary quarantine can be considered	Implement early during stage 4. Continue active monitoring until cases exceed capacity
		Consider school closures up to 4 weeks	Consider School Closures up to 4 weeks	Implement early based on epidemiology
		Consider work/adult distancing	Consider work/adult distancing	Implement early based on epidemiology
	Category 4 or 5	Isolation and quarantine with active monitoring.	Voluntary isolation and quarantine recommended	Implement early during stage 4 and continue monitoring until cases exceed capacity
		Recommend school closures	Recommend school closures	Implement early
		Recommend work/adult distancing	Recommend work/adult distancing	Implement early
		Cancellation of community events	Recommend canceling community events	Implement early
		Consider closure of non-essential services	Consider closure of non-essential services	Implement early

Table 3: Further guidance for Implementation of Community Containment in North Dakota

Cases and contacts	Number of cases (absolute or estimated) Rate of incident cases Number of hospitalized cases Number and percentage of cases with no identified epidemiologic link Morbidity (including disease severity) and mortality Number of contacts under surveillance and/or quarantine
Healthcare resources	Hospital/facility bed capacity Staff resources Patient/staff ratio Number of ill or absent staff members Availability of specifically trained specialists and ancillary staff members Availability of ventilators Availability of other respiratory equipment Availability of personal protective equipment and other measures Availability of therapeutic medications (influenza and non-influenza specific)
Public health resources	Investigator to case and contact ratios Number of contacts under active surveillance Number of contacts under quarantine Ability to rapidly trace contacts (number of untraced/interviewed contacts) Ability to implement and monitor quarantine (staff member to contact ratio) Ability to provide essential services (food, water, etc.)
Community cooperation, mobility, and compliance	Degree of compliance with voluntary individual isolation Degree of compliance with active surveillance and voluntary individual quarantine Degree of movement out of the community Degree of compliance with community-containment measures

Table 4: Variables for Consideration in Determining Implementation of community containment measures

ISOLATION AND QUARANTINE

BACKGROUND

ND Century Code 23-07.6 [(4)] provides for the confinement of persons believed by the State Health Officer to pose a substantial threat to public health when confinement is the least restrictive alternative to limit disease transmission. Unless expressly identified as state or local, "health officer" refers to either the North Dakota State Health Officer or the local public health officer. Confinement may be used for isolation or quarantine of one or more persons known or reasonably believed to be infected with a novel or pandemic influenza virus strain or exposed to such a strain.

As defined in the Century Code:

> "Isolation" means the physical separation and restrictions on movement or travel of an individual (or groups of individuals) infected (or reasonably believed to be infected) with a contagious (or possibly contagious) disease from non-isolated individuals, to prevent or limit the transmission of the disease to non-isolated individuals.
>
> "Quarantine" means the physical separation and restrictions on movement or travel of an individual (or groups of individuals) exposed (or who may have been exposed) to a contagious (or possibly contagious) disease and who do not show signs or symptoms of a contagious disease, from non-quarantined individuals to prevent or limit the transmission of the disease to non-quarantined individuals.

For the purposes of this document, the following terms are defined:

> "Containment Period" is that period of time between the identification of the first case in North Dakota and the point at which it becomes apparent that imposed isolation and quarantine are no longer effective. In addition to imposed isolation and quarantine, this period would be characterized by large resource investment in case investigation and contact tracing.
>
> "Imposed Isolation" or "Imposed Quarantine" includes both mandatory and voluntary as defined below and means that isolation or quarantine that is issued to an individual by a public health authority. Imposed isolation and quarantine carry an assumption that a government entity has assumed responsibility for ensuring that that person is able to comply by ensuring that their needs are met without their having to leave the site of confinement.
>
> "Mandatory Isolation" or "Mandatory Quarantine" mean that the legal authority of the health officer (or court) has been invoked requiring a person to remain under confinement. Mandatory isolation or quarantine may take place in the home or out of the home.
>
> "Voluntary Isolation" or "Voluntary Quarantine" means that the health officer has asked the person to enter confinement and the person has agreed to comply. Legal authority has not been invoked but may be if the person did not comply. Voluntary quarantine would not likely be used in an out-of-home setting.

"Self Isolation" or "Self Quarantine" means that the person has heard public appeals for persons who are ill with influenza or exposed to a person ill with influenza to restrict activity in order to avoid infecting someone else and have complied with that request. However, no threat of mandatory isolation or quarantine hangs over the person if they do not comply.

CONDITION FOR USE

The application of isolation and quarantine method depends on:

- The perceived efficacy of its application based on any available experiences from other states or countries that have tried to control the spread of the disease; and,
- The number of identified ill and exposed persons in North Dakota.

Due to the characteristics of virus spread, isolation and quarantine may not be very effective and would be abandoned once it is clear that substantial limitation of further disease spread is unlikely to be gained by its continued use. North Dakota estimates that when the number of cases exceeds 10 per region of the state or the total state burden exceeds 50 that imposed isolation and quarantine would be abandoned in favor or self isolation and quarantine. However, if epidemiologic evidence suggests a very low efficacy for imposed isolation and quarantine in other states or countries, that number may be much lower, and if evidence suggests greater than expected efficacy to imposed isolation and quarantine, that number may be much higher because a greater investment of resources is warranted[5]. At whatever point imposed isolation and quarantine are abandoned, self isolation and quarantine would be used as an adjunct to other social distancing strategies.

During the containment period, voluntary isolation and quarantine would be the default form of imposed isolation and quarantine used. Experience in other places suggests that most persons will comply with a confinement request without making the confinement legally binding. Agreement to comply with voluntary quarantine would be given by the person under confinement signing a non-binding agreement. Monitoring would be needed and if a person were found to be out of compliance with voluntary confinement the order would be converted to mandatory confinement. Not all persons would be considered candidates for initial voluntary confinement. If voluntary compliance can not be expected based on an assessment of the person's reliability, mandatory compliance would be the initial confinement procedure.

Out-of-home isolation or quarantine may be used when:

1. The person's intended dwelling place is a multi-family unit in which adequate separation of living quarters is not sufficient to ensure that the contagious disease will not spread to other living quarters; or ,
2. Other persons living in the quarters are unwilling to accept the person at the home; or,
3. Other persons living in the quarters are unable to protect themselves adequately from becoming infected; or,

[5] The amount of resources that would be invested in isolation and quarantine depends on the disease. The discussion in this document is relevant to pandemic influenza. Isolation and quarantine may never be abandoned for disease such as plague or smallpox.

4. The quarters are inadequate for the provision of routine care or treatment of the person; or,
5. Sufficient reason exists for the health officer to believe that the person will not be compliant with a written order of isolation or quarantine in an in-home environment and in-home enforcement is impractical.

There may be situations when a person is discharged from a medical facility, but may still be contagious and require confinement. In these situations, a representative of the NDDoH or local public health unit will coordinate with the releasing medical facility to provide conditions for the confinement with the person being released.

STATE AND LOCAL AUTHORITY FOR CONFINEMENT

A. ND Century Code 23-07.6 provides that an order of confinement may be issued by a local health officer or by the State Health Officer. However, confinement is expected to remain a local public health action in most circumstances. The State Health Officer may request a local health officer to take a confinement action or may order confinement if he/she feels that local action is not sufficient to protect the health of the public. Other circumstances in which the State Health Officer may issue a confinement order include:
   1. The need to isolate or quarantine persons in a facility designated for that purpose by the NDDoH (e.g., local public health resources have been exceeded); or
   2. Situations in which state enforcement authority is needed to prevent the spread of a contagious disease (e.g., persons traveling on state highways, passengers on aircraft at an airport in North Dakota, very large gatherings, or situations involving multiple local jurisdictions).

Neither state nor local public health authorities have jurisdiction to act within an American Indian reservation. However, NDDoH epidemiologists have had a close working relationship with tribal health authorities on all reservations and routinely go on reservation to investigate disease. If a legal action is required on reservation, a recommendation is made to the tribe. Historically, North Dakota tribes have been very cooperative with state public health recommendations. Preparedness planning for the tribes describes a process for following state recommendations during a disaster.

Options for I&Q for persons on the reservation include the following:

1. Action by tribal court to keep the person under confinement on the reservation. This is the most likely scenario. Limitations might arise on reservation that did not have adequate laws.
2. Action by the federal government – DHHS has federal I&Q authority that could be called in if difficulties were encountered in the confinement of persons on reservation. This might be problematic in a pandemic if many sites were affected (although in that event the value of I&Q would be suspect) or if the problem did not rise to a level that would normally involve the federal government.
3. The need for I&Q off reservation that might arise if a tribe requested assistance with I&Q or if confinement in a regional hospital were necessary. It would likely be possible for a state court to issue a court order, which would be taken to the tribal court to enact as well,

likely authorizing the state to enforce the confinement on behalf of the tribe. If the situation is serious, precedent exists for state authority over a reservation when there is risk to the state[6].

Appendix C has forms used for monitoring those in isolation and quarantine.

CONFINEMENT PROCEDURES

Under most circumstances, it will be sufficient to issue a request for voluntary isolation or quarantine that does not invoke state authority. In other respects, a request for voluntary isolation or quarantine shall be much like an involuntary order. Persons will be requested to sign a document stating their compliance with the order; they will be entered into a master database (line listing) that tracks their status; compliance/monitoring calls will be conducted, and those needs that must be met to ensure that the person is able to comply will be addressed. Nonetheless, the intent is to make the patient and family partners with the state to control the infection.

A. Documentation for Involuntary Confinement

The requirements of involuntary confinement are spelled out in statute and forms can be found in Attachment E.

B. Documentation for Voluntary Confinement

The state or local health officer shall issue a request for voluntary isolation and quarantine. The following should be specified in the document:

1. The conditions, if any, under which the person may leave the premises;
2. The expected duration of confinement;
3. The treatment with which the person will comply;
4. The approach to monitoring the person's condition and location;
5. Procedures for monitoring the health of family members or caregivers;
6. The precautions the person is expected to take to prevent the exposure of other persons in the household;
7. The person(s) or organization(s)/jurisdiction(s) who will be responsible for ensuring the person's needs are met;
8. Procedures for the provision of necessary supplies and procedures, and training for caregivers to prevent their exposure to the disease;
9. The persons who are authorized to enter and leave the premises;
10. Measures to ensure that no unauthorized person enters the premises;
11. Contact names and phone numbers that the person or caregiver can call to request assistance or report problems or illness; and
12. The consequences of failing to voluntarily comply with the instructions of the health officer.

A copy of the signed agreement shall be provided and maintained by the NDDoH and the appropriate local public health unit(s).

[6] This could pose a very sensitive situation so involvement of the federal government would be likely.

C. Provision of Information to Persons under Confinement:
The pandemic containment period is characterized by intensive efforts at identification of specific cases, case investigation, case confinement, case treatment, contact tracing, contact prophylaxis and contact confinement. Each case and contact identified during the containment period will be entered into a line listing in [redacted], the NDDoH web-based surveillance software. In addition, at the time of initial visit with each case and contact, education will be provided including informational documentation (see information documentation for patients and contacts). Education content (oral and written communications) will include:

a. Order or agreement of confinement
b. Rights of those confined
c. Who to contact for assistance or questions
d. Signs and symptoms of influenza
e. How to care for influenza patients (and self)
f. When medical assistance will be needed
g. How to take antivirals, how long to take them, and reporting of side effects
h. How to protect family members from becoming ill
i. How to access additional information

Following the containment period, the number of person ill will be too great to individually track although some local public health units may attempt to do this. Public distribution methods will be used to reach persons who may be practicing self isolation or quarantine (see public communication documentation) including providing information to individuals about when they should contact public health authorities for assistance and when they should and should not seek health care.

D. Monitoring:
Monitoring of those under confinement may be sufficient to bring persons into compliance who would not otherwise comply. It is not expected that enforcement of compliance is likely to be necessary in many cases. Monitoring contact with a household will continue on an at least daily basis through the entire period during which the household is under voluntary or mandatory confinement.

During an influenza pandemic in which voluntary isolation and quarantine is in effect, public health will monitor for compliance using telephone-based contacts in most cases. The caller will attempt to speak to each person in the household under restriction. In addition, persons in isolation or quarantine will have established communication channels by which they can report needs or change in disease pattern. A single person in the household may be designated as the primary contact for gathering information about health status of each individual in the household. The coordination of this process may be conducted by the field epidemiologist, member of the local public health unit or a designee agreed upon by the NDDoH and the local public health unit. Volunteers may be used to conduct compliance calls and receive requests for assistance from those in confinement settings.

Compliance monitoring of persons in isolation or quarantine is a function of local public health[7]. The base model (state recommendation) for structuring compliance monitoring at the local public

[7] The Grand Forks TB outbreak with mandatory isolation of multiple persons who had no home to be confined to was instructive in how such complex operations may be conducted. Disease control worked with local public

health level is built around the epidemiology investigation team. This team would include persons from state public health, local public health and, in some locations, volunteers. The team lead will be the regional epidemiologist. The team would be increased in size as workload demanded.[8] Tasks would be assigned by the regional epidemiologist and would include case investigation/interviewing, provision of antiviral drugs to those in confinement, contact tracing and interviewing, education, compliance calls and visits, social need monitoring, data and information management related to cases and contacts and communications between the field, local public health and NDDoH.

Other resources may be recruited to assist with monitoring in difficult cases. These include home visits, recruitment of neighbor observation and reporting, contact from law enforcement and if necessary, actual enforcement. Some regions will follow this model while in others the regional Emergency Preparedness Coordinator have made some modification to this model through local coalition planning with agencies that will assist with meeting the needs of those in isolation and quarantine or who otherwise need social assistance or loss of support infrastructure later in the pandemic when imposed isolation and quarantine is no longer in effect.

E. Control of Access to Living Quarters:
Unauthorized persons are not enter a living quarter when that living quarter is under imposed isolation or quarantine, whether that confinement is voluntary or mandatory. Included in the order or agreement to confinement are provisions that external doors remain locked at all times and posted signs of confinement remain on all external entrances..

F. Protection of Family Members:
The health, capability, competence and cooperativeness of both an individual who is infected and other members of his or her household may determine the feasibility of in-home confinement. Before arranging in-home confinement (e.g., returning from the hospital while potentially infectious), the health officer will consider who is present in the home and the ability to minimize the risk to those individuals. The presence of a large number of at-risk individuals, children, immuno-compromised individuals, or poor family hygiene may make in-home confinement a higher risk situation if all such household members have not already been exposed to an extent that illness is likely. If risk to other family members can be minimized by cohorting infected individuals in the home (e.g., restricting access in the home to a bedroom and bathroom), using of protective equipment (such as masks worn by person and all family members); and/or using of preventive treatments (e.g., vaccines or antivirals); then, in-home confinement may be reasonable. Specific guidelines for protection of household members from SARS (which can cause substantial mortality, is highly contagious, and has no preventive antibiotic or vaccine) have been published by CDC and should be applicable to pandemic influenza. [5]

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health, but it was local and regional emergency preparedness personnel who coordinated much of the logistics of finding a place for quarantine and meeting the needs of persons in confinement.

[8] Because this would be occurring early in the course of the pandemic wave in the state, personnel resources would be expected to be readily available as all non-essential public health functions are canceled to direct resources to pandemic influenza control. Note that the team may be more functional or virtual than physical. That is, each person working on the team my work independently but communicate with other team members.

G. Treatment of Individuals in Isolation and Prophylaxis of Individuals in Quarantine:
Every person who becomes symptomatic with influenza needs access to treatment within 48 hours of symptom onset; treatment may lessen the severity of illness and decrease viral shedding. However, those who isolated will not be able to access medical care or pharmacies to obtain the medication. During the containment phase, epidemiology teams will interview each potential case, obtain confirmatory testing and communicate requirements for confinement. In addition, each team will provide to patients with presumptive influenza appropriate antiviral treatment sufficient to complete a course of therapy. If subsequent testing demonstrates that the patient does not have influenza, the patient will be notified to stop treatment and will be released from confinement. The prescription will be provided under the authority of the State Health Officer. Patients will be asked to call their provided hotline number if problems or possible side effects arise as a consequence of the medication. In addition to a medical response (such as change to another drug), the adverse events will be captured and aggregated by the Division of Disease Control for reporting to federal authorities.

Persons who are placed under quarantine due to contact with someone with pandemic influenza will be provided a single course of antivirals to begin immediately in order to attempt to prevent infection and risk of subsequent transmission to others. The investigation team will provide the medication at the time the contact is interviewed and placed under quarantine.

Treatment of persons with influenza with antivirals will continue throughout the pandemic; however, the epidemiology team will not routinely interview cases after the period of attempted containment has past. Other systems are in place for the provision of antivirals to patients later in the epidemic. (See antiviral distribution plan.) At this time, no prophylaxis of any other category of individuals is planned other than contacts of cases identified during the containment phase of the pandemic; however, North Dakota has purchased several thousand doses of antivirals outside of federal contracts that can be used for prophylaxis at the discretion of the State Health Officer if that is perceived to be in the best interest of the state.

H. Requirements of Imposed Isolation or Quarantine:
Imposition of isolation or quarantine would be based on epidemiologic assessment of the utility of the action in slowing or stopping disease spread. The Century Code guarantees certain rights for persons under mandated isolation or quarantine. Although the code is not technically in force in the situation of voluntary confinement, the rights of persons under voluntary confinement reasonably include all the rights outlined by the Century Code for those under mandatory confinement. Below is a summary of the legal requirements for isolation and quarantine.

a. Must be least restrictive means.
b. Health status and continued need for confinement must be monitored.
c. Persons must be released when they no longer constitute a substantial risk to the public.
d. Needs of the persons confined must be addressed in a systematic and competent fashion including food, clothing, shelter, means of communication, medical care and sanitation/waste management.
e. Premises must remain safe and hygienic and minimize transmission risk.
f. Cultural and religious needs must be met to the extent possible.

g. Access to the quarters requires authorization by the health officer.
h. If delay would be detrimental, confinement may be imposed without court order.
i. A written directive must specify the person(s), the date and time of onset, the disease (if known), decontamination, treatment and prevention measures, and include a copy of the statute.
j. A copy of the directive must be given to the affected individual(s) (or posted for a large group), NDDoH and the local public health unit.
k. A public notice, such as a sign or other such mechanism, indicating the person(s) and area(s) are under an isolation or quarantine will be utilized.
l. Media broadcasting of the directive is authorized.
m. Continued confinement beyond ten days requires filing a petition with the court and notifying affected individuals within 24 hours of the filing. Confinement may continue under the authority of the health officer until acted on by the court.

I. Care of Persons under Imposed Isolation or Quarantine:

Imposed confinement places a requirement on public health to ensure that adequate care of the person occurs, although it does not specifically direct public health to perform the action. Family members may be fully capable of meeting the needs of the person, although in many instances, the entire household is likely to be under quarantine. If an entire household or area is under isolation or quarantine, public health will partner with local agencies to ensure provision of needed services. If it is not possible to provide the required level of support, a person may be moved to a location (e.g., institution) where the appropriate level of care can be coordinated. Local public health units have been provided with planning templates to guide local plan development. This development is coordinated in each of the eight planning regions.

Notification of need, whether that need arises out of confinement, loss of community infrastructure support for vulnerable individuals, or family impairment due to illness, will come to the local public health agency and partnering through calls coming through 411 or through the state and local public health hotlines. Protocols provide for the collection of specific data elements that assist the responding agencies to meet the need. In addition, each home that is under confinement (whether voluntary or mandatory) will receive daily contacts for the purposes of monitoring. At the time of monitoring, the household will be asked about any needs they have. Need requests will be logged and tracked until completed.

At the time persons are placed under confinement, they will be asked if they have family or friends who live outside the home who would be able to bring them groceries, medications or other essentials until they are released. It is expected that the needs of most of those under confinement can be met in this way[9]. However, for some persons, home visits will be necessary for delivery of external materials. The identified organization that will make home visits to those in confinement varies by community[10], although in many communities, the

[9] The health agency cannot assume that just because persons who can perform this task are available, that they will in fact perform the task adequate. The responsibility to ensure the needs of persons under I&Q are met still belongs with public health.

[10] Lead and support roles for the provision of care to community residents is established through the planning of local community coalitions.

Red Cross has identified that as a mission. Other partners include faith based organizations, private entities (grocery stores, pharmacies) and local social agencies; however, specific roles vary by community..

Homes under imposed isolation or quarantine would not be entered unnecessarily; any person entering the residence of someone who is isolated or quarantined must utilize appropriate precautions including personal protective equipment (PPE). Home contact for the provision of material goods will largely be managed by volunteers. Because volunteers will not have been fit tested for N95 masks or fully trained standard, contact and airborne precautions, the following is recommended.

A delivery would be triggered by the request of the household under confinement. Information obtained at the time of contact would be precise as to the nature of need, instructions for obtaining the requested material (e.g., pharmacy), names of family and contacts (especially neighbors). A delivery volunteer will be given a list of individuals, contact information of persons who could enter the home to check on the individual, requested items and instructions for obtaining the requested items. The delivery volunteer will bring the material to the door and leave it. The delivery volunteer will ring the doorbell, knock loudly or makes a cell phone call to the home to notify the residents that the requested material has been delivered. The delivery volunteer should return to their vehicle or stand beyond six feet from the door before the door is opened. Once a person comes to the door and retrieves the material, the delivery volunteer may leave.

If no person comes to the door, a contact attempt will be repeated using multiple methods. If no contact is established, the delivery volunteer will call the dispatching unit (e.g., local public health, Red Cross) and confirm the address and phone number. If the delivery volunteer confirms that he or she is at the correct location, he or she will retrieve the material if the weather would damage it (e.g., medication left in the heat or cold, perishable groceries), take it to the dispatching agency, label the material with destination information before leaving it, then continue with the remaining items on the list. The dispatching agency would use alternative sources to attempt to verify the address of the person in need and attempt to communicate to the individual directly or through contact numbers obtained at the time of initial request. Contacts would be requested to check on the person and requested to notify the dispatching agency when contact was made and whether the delivery could be resumed.

If the home needs to be entered either because of a contact made but inability of any household member to come to the door, or in the case of no contact being made with a decision to request law enforcement to force entry, a local public health worker would enter the home.[11]

J. Enforcement:

[11] Persons actually entering a home with ill or quarantined individuals would be expected to wear personnel protective equipment including a fitted N95 mask. It is not expected that all law enforcement officers would be fit tested and able to enter the home.

The use of an isolation or quarantine order does not necessarily assume that some sort of external enforcement need be applied. Furthermore, this may be impractical for home-based confinement depending on the capacity and availability of law enforcement. Merely issuing a legal binding order may be sufficient to make a person compliant even if previously non-compliant with a voluntary confinement approach.

The health officer needs to assess the risk associated with possible non-compliance. For example, a drug user with a contagious illness may pose a substantial risk for non-compliance (e.g., to obtain drugs). Monitoring of a home under isolation or quarantine may be more important than enforcement. Daily telephone or home visits may be sufficient. In difficult cases, the assistance of neighbors or temporary employees employed to monitor homes may be sufficient to alert public health officials that an in-home confinement order is inadequate without enforcement. Such a conclusion may require relocating the person to a location where enforcement monitoring will be logistically easier. Obtaining the support of the court may be helpful if enforcement rather than simple monitoring is needed.

K. Protection of Privacy:
When an order for isolation or quarantine has been issued, the order shall define the conditions of confinement and will include the posting of signs of any quarters housing persons under order. The need for the public to know will be balanced with the protection of privacy, but legislative authority to notify the public is included in the statute. The public will be told the minimum necessary for public protection.

L. Tribal, State and International Borders:
The health officer issuing an order for confinement for a condition that could affect a neighboring tribal or out-of-state jurisdiction should notify that jurisdiction within 24 hours of the order being given. (Local health officers issuing a confinement order should communicate with neighboring local jurisdictions and the State Health Officer should communicate with the neighboring tribal, state or provincial health official). If the NDDoH becomes aware of a person potentially needing confinement who is located on tribal land, NDDoH will coordinate directly with tribal health officials to discuss options for the protection of public health.

M. Transportation:
Persons who must be transferred from one site of confinement to another should be transported either by family members or by emergency medical services (EMS). Movement by the family is preferred if the family member moving the person can be adequately protected from exposure risk, is willing to transport the person, and is considered to be reliable and supportive of confinement. When a person resists physical relocation, persuasion by public health officials or family should be used first. If the person still resists relocation, EMS (with adequate protective equipment), supported by an appropriate law enforcement officer, should make the transfer.

N. Termination of Confinement:
The termination of confinement will be managed according to the known epidemiology of the influenza strain. Monitoring of contacts/suspect cases will be continued until an appropriate incubation period has passed and/or until there is no longer a risk of disease or disease

transmission. Documentation and/or publication of the termination of confinement will be provided as necessary. If a person who is already under quarantine confinement becomes ill, he or she must complete a full period of isolation from the time of onset of illness.

USE OF ISOLATION AND QUARANTINE BY PANDEMIC PHASE

Interpandemic Period (WHO Phases 1 and 2)

Isolation and quarantine (I&Q) is not routinely implemented for individuals identified with non-novel influenza viruses during the first two phases. It is recommended that persons stay home until no longer ill to prevent the spread of seasonal influenza. However, for any person identified with a novel influenza virus during this phase, I&Q may be considered.

1. NDDoH will meet with the Board of Higher Education and Department of Public Instruction, the North Dakota High School Activities Association, and other partners in public and private sector to provide information on current status and review the procedures for use of community-wide interventions such as school closures.
2. NDDoH will review protocol for isolation and quarantine that may be used by LHPUs.
3. NDDoH will review with LPHUs and Tribal leadership the process for disease containment.
4. NDDoH will review with LPHUs the protocols for assigning volunteers to provide services for public health and medical emergencies.
5. NDDoH and LPHUs will promote respiratory hygiene and hand washing to the public.

Pandemic Alert Period (WHO Phases 3, 4 and 5)

The need for I&Q for individuals identified with a novel-influenza virus will depend on what is known about the epidemiology of the virus circulating at that time. I&Q may be necessary during these phases on select/specific persons (i.e., those who are symptomatic and are infected with a high risk virus) in order to reduce the possibility of human-to-human spread. Factors that constitute to high risk include:

- Patient was a known contact of someone known to be infected with a novel virus;
- The ill person has history of travel to an area where human to human transmission of a novel virus has been documented;
- The person has had contact with birds suspected or confirmed to have a novel influenza virus.

1. LPHUs will provide NDDoH with a list of I&Q facilities available in their regions to develop guidance for isolation and quarantine including identification of isolation facilities for people who cannot be isolated at home.
2. NDDoH will review protocols for court orders of I&Q.
3. NDDoH will review isolation and quarantine monitoring protocols.
4. NDDoH will provide recommendations to LPHUs of instructions for care and reporting of individuals placed in isolation (outside hospital settings) and quarantine.
5. NDDoH will ensure that LPHUs have essential service plans for isolation and quarantine, and monitoring plans if they have chosen to monitor people in quarantine in their jurisdiction.
6. NDDoH and LPHUs will conduct drills and exercises on isolation and quarantine.

Pandemic Phase (WHO Phase 6)

It is anticipated that isolation and quarantine will be used during the containment period unless strong evidence emerges that such efforts are valueless in slowing the progression of the pandemic. However, as the number of cases increases, imposed I&Q may no longer be feasible or practical due to volume of cases, personnel needed to implement I&Q protocols, enforcement activities, etc. However, it will always be recommended that persons stay home until no longer ill to prevent the spread of pandemic influenza (self I&Q).

1. NDDoH will work with the Office of the Governor, Department of Emergency Services (DES), and other government agencies to implement containment recommendations.
2. NDDoH will recommend isolation of people who have influenza-like illness and voluntary quarantine for household contacts. Enforced isolation and quarantine is possible under certain circumstances (e.g., novel influenza virus first appears in North Dakota, etc)
3. NDDoH will evaluate response and effectiveness in other states.
4. NDDoH will recommend implementation of social distancing and infection control strategies where appropriate. NDDoH will make recommendations for cancellation of public events, closure of schools, childcare centers and other facilities, snow days, and other disease containment measures guided by the epidemiology of the disease and criteria for cancellations/closures.
5. NDDoH will encourage LPHUs to coordinate community-level disease containment measures in consultation with schools, the private sector, and state agencies.
6. NDDoH will work with CDC Quarantine officials and other partners (e.g., LPHUs, U.S. and state law enforcement officials, and volunteer organizations) to screen, isolate, and/or quarantine passengers on arriving international flights.
7. NDDoH will assess effectiveness of community containment measures on an ongoing basis. Monitor disease activity in the state on an ongoing basis in order to initiate, modify, and scale back recommendations for disease containment measures. Make determination to cease quarantine of individuals if this measure is not effective or feasible.

SOCIAL DISTANCING

Social distancing is defined by CDC as "measures to increase the space between people and decrease the frequency of contact among people." Social distancing measures are aimed at reducing contact among people without regard to exposure status by increasing the distance among people in work, community and school settings. Social distancing can be accomplished in specific sites or buildings by cancelling events and restricting access to certain sites or buildings, telecommuting, and in entire communities by measures such as:

- Promotion of community-wide infection control measures (e.g., respiratory hygiene/cough etiquette);
- Snow days and self-shielding; and,
- Closure of office buildings, shopping malls, schools, and public transportation.

Community wide measures are to be considered when:

- There is moderate to extensive disease transmission in the area;
- An increasing number of cases cannot be traced back to an earlier case or have any known exposure;
- Cases are increasing among contacts of infected patients; or,
- There is a significant delay between the onset of symptoms and the isolation of cases because of the large number of ill persons.

AUTHORITY FOR SOCIAL DISTANCING POLICY ACTION

North Dakota will take a statewide approach to closure of schools and school-based activities if statewide closure is indicated by epidemiologic information. The state health officer has authority (independent of a disaster declaration) to order closures on an individual school basis or statewide as provided in NDCC 23-01-05(12), 23-35-12(2) and 23-07.6. This authority extends to all schools, public and private, including colleges and universities and daycares as well as all other local institutions. The timing and duration of school closures will occur with epidemiologic input from the NDDoH and logistical input from the Department of Public Instruction.

Although the implementation of social distancing policy has been largely reserved as a state function, working with the community to encourage social distancing actions within individual organizations is a function of state and local public information release as well as relational work on the part of the local public health agency. Organizations and sites potentially affected by social distancing measures (schools, community government, business, and churches) are encouraged to take voluntary actions with relatively low impact early to attempt to suppress disease transmission and forestall the necessity (or at least shorten the duration) of actions with greater impact that may be mandated in the presence of high level community transmission[12].

Factors that may be considered in decisions to implement social distancing include:

- Pandemic severity: attack rate, severity of illness, and risk of death.
- Populations at greatest risk of disease and death (example: high rates of death among school-age children would likely prompt school closure earlier than deaths predominantly among the elderly).
- Evidence from other states on the effectiveness of specific social distancing policies
- Location of disease (relative to North Dakota) and rate of spread

ADULT SOCIAL DISTANCING POLICY

The goal of adult social distancing is to reduce transmission outside the home (e.g. work place, commercial sites, schools, churches, events, or social gatherings). In general, CDC describes workplace social distancing as altering workplace environments and schedules to decrease social density and preserve a healthy workplace to the greatest extent possible without disrupting essential services. CDC observes that the goals of workplace measures are to reduce transmission in the workplace (and thus into the community at large); to ensure a safe working environment

[12] Although NDDoH has broad authority to take actions to close public and private venues which may increase the risk of disease transmission, NDDoH does not have authority to interfere with the operation of those institutions related to their policies (e.g., forced adoption of policies by business which would encourage ill employees to stay home).

thereby promoting confidence in the workplace; and to maintain business continuity especially for critical infrastructure.

Department of Emergency Services is the lead state agency for assisting businesses in planning for continuity of operations and workplace social distancing in a pandemic. Social distancing in business settings may include establishing policies for telecommuting, staggered shifts, avoiding face-to-face meetings, and prompt exclusion of people with influenza symptoms. Other recommendations include promoting hand hygiene and respiratory etiquette, cleaning of workplace surfaces, use of stairs instead of crowded elevators, avoidance of group situations (e.g. meetings and cafeterias), and minimizing face-to-face customer service. Businesses/government entities in which employees typically interact with customers should plan for business methods that eliminate such interactions or modify them (e.g. protective barriers in the form of glass or plastic where a service is critical and social distancing is not possible or not practicable).

Cancellation or postponement of large public gatherings (e.g. concerts, theater showings, sporting events, and stadium events) are actions likely to be taken early because of their relatively small impact on the economy and critical infrastructure. A modification to mass transit to decrease passenger density is likely to be of value in few North Dakota communities, but where applicable it would be encouraged. Adults will be encouraged to take individual measures to decrease their risk of infection by minimizing non-essential social contacts and exposure to socially dense environments.

Note that not all possible social distancing actions would be taken simultaneously and in most pandemics some possible actions would not be taken at all. For example, cancellation of funerals may be included among social distancing actions but because of its substantial potential impact on social and emotional health make it an action for introduction when more severe measures are needed. Mandatory cancellation of church services could be an action taken but it is questionable whether mandatory would be substantially more effective than voluntary cancellation and likely it would be perceived by the public to impose a large infringement on constitutional rights than most other actions. Authority exists with the State Health Officer to close business. If mandatory closure of business is indicated based on the severity of illness, non-essential retail would likely be closed before other types of workplaces occupied by business employees, the interaction of which can be managed by the business to reduce transmission.

CDC recommends that adult social distancing be considered for Category 2/3 Pandemics and recommended for Category 4/5 Pandemics. Adult social distancing is not generally recommended for Category 1 Pandemics. Unlike with school closures, CDC does not provide a specific anticipated duration for adult social distancing but suggests that this measure last until the pandemic wave subsides.

The CDC-recommended trigger for activating social distancing for adults is a laboratory-confirmed cluster of infection with a novel influenza virus and evidence of community transmission (epidemiologically linked cases from more than one household). NDDoH plans to use this trigger. CDC notes that requirements for the success of adult social distancing measures include:

- Commitment of employers to provide options and make changes in work environments to reduce contacts while maintaining daily operations.
- Support from political and business leaders, and the public.

To this end, NDDoH and LPHUs raise awareness of effects of a pandemic influenza on communities and to work with employers in planning for continuity of operations through the pandemic influenza coalitions.

Although the decision how to manage employees during a pandemic, except during a period of mandated closure, is up to each individual business, businesses are encouraged to adopt specific practices that decrease the likelihood of disease transmission during a pandemic[13]. These include:

- Restricting travel to areas with pandemic influenza;
- Implementing policies that do not penalize workers who should be absent due to illness;
- Screening and excluding workers as they come to work when signs or symptoms are suggestive of influenza, and screening employees for exposure with either exclusion or separation from other employees;
- Allowing employees to work from home whenever possible;
- Maintaining as much distance between employees are possible for those who must be in the workplace;
- Providing and requiring use of personal protective equipment for any employee who is not considered low exposure risk according to OSHA guidelines;
- Educating employees in practices of respiratory hygiene, hand washing and avoiding touching the face; and,
- Enhance communication pathways (e.g., web sites, email, documents, posters) that educate employees about pandemic influenza, risk behaviors, access to care (including mental health care), changes in business practices and reporting expectations, and benefits while sick.

Dissemination of information to businesses regarding social distancing occurs primarily through the work of local public health agencies and community coalitions. In particular, businesses need to evaluate the risk-benefit of different policies related to the exclusion of employees from work and pay. Employees who cannot tolerate a protracted period without pay (i.e., they have no leave to expend or they have consumed their available leave) will attempt to hide symptoms in order to work. This will likely increase the spread of the infection among other employees with potentially greater financial loss than would have accrued had some level of salary support been provided. This risk-benefit analysis may not calculate the same for all businesses so it must be an individual business decision.

CHILD SOCIAL DISTANCING POLICY

For the purposes of this document, “children” are 17 years of age or younger, unless they are distinguished from “teens” (adolescents in this document) in which case “children” are 12 years of age or younger. “Childcare” is also defined, and includes care in non-residential settings, large family childcare homes that provide care for 7 or more children in the home of the provider, and small family childcare homes that provide care to 6 or fewer children in the home of the

[13] See document “Social Distancing Policy During An Influenza Pandemic: Impact On Communities And Businesses”

provider. “Schools” refers to public and private elementary, middle, secondary, and post-secondary schools (e.g., colleges, universities, and technical schools).

Schools and pre-schools represent socially dense environments. Furthermore, children are particularly important in the transmission of influenza viruses. Compared with adults, children shed more influenza virus and shed virus for a longer period of time. Schools serve as amplification points of seasonal community influenza epidemics and children are thought to play a significant role in introducing and transmitting influenza virus in their households. Given the disproportionate contribution of children to influenza transmission, targeting their social networks within and outside of schools would be expected to disproportionately disrupt influenza spread. Policies regarding school closure apply equally to public and private schools.

Child social distancing consists of dismissal of students from schools and school-based activities, and closure of childcare programs. It also encompasses reduction of out-of-school contacts and community mixing; the ability to control voluntary association among children and teens directly may be limited to means of gaining voluntary compliance, although facilitated by policy (e.g., closing places of congregation). Nonetheless, limiting social interaction outside school is a critical component of child social distancing. Public messages will advise parents to protect their children by reducing their social contacts as much as possible when schools are closed. In this document uses school closures to encompass either school dismissal or school closure. School buildings may remain open to fulfill some accessory functions related to the care and education of children, but the building may be needed for other purposes such as POD operations, sheltering or provision of health care services.

NDDoH will expect to close colleges and universities when primary and secondary schools are closed. However, the dynamics and impact of school closure will not be the same and policies may be applied somewhat differently. The impact from closure of higher education may be affected by these factors:

- College students are not as bound by the instructions of their parents;
- College students interact socially in ways different from children giving some the characteristics of a household;
- Some college students live at the school. Return home may, in some scenarios, spread the infection. In addition, some students may have no readily available alternative housing (e.g., international students);
- College students do not appear to play the same role in amplification of influenza in the community.

Expected duration of child social distancing will depend on pandemic severity. Expected duration for child social distancing (based on CDC estimates) are 4 weeks or less for Category 2/3 Pandemics and but 12 weeks for Category 4/5 Pandemics. Actual duration will depend on public health assessment of the risk of re-igniting disease transmission during the pandemic. Use of child social distancing during category 1 pandemics is not expected. NDDoH will plan to use the CDC recommended trigger for child social distancing: a laboratory-confirmed cluster of infection with a novel influenza virus and evidence of community transmission (epidemiologically linked cases from more than one household).

Confinement of children during a pandemic would raise significant problems for many families and may cause psychosocial stress to children and adolescents. These considerations must be weighed against the severity of a given pandemic virus to the community at large and to children in particular.[14] Closing schools and childcare centers will be expected to have significant adverse effects on the business sector because parents/caregivers may need to take time off work to care for children.

SCHOOL CLOSINGS

Lead roles for domains of activity are allocated among state agencies by the Division of Emergency Services. NDDoH is the lead for most health issues other than mental health and animal health. At a functional level, NDDoH approaches sister agencies and negotiates the planning assistance it needs to deal with specific policies. Coordination with local entities is left to the agency to which the local agencies normally communicate. Coordination of activity for management of school closure have been negotiated with the Department of Public Instructions. Coordination of ongoing education activity is left entirely with DPI. Coordinating social needs for school children is negotiated between DPI and the Department of Human Services.

The authority to close school exists at multiple levels (local education agencies, local health officer, North Dakota Department of Public Instruction (DPI) and North Dakota Department of Health); however, by agreement NDDoH, under the authority of the State Health Officer, will issue orders for school closure during a pandemic after consulting with local public health and the North Dakota Department of Public Instruction. Delegation of school closure during a pandemic to NDDoH would not preclude a local school closure order being given by local authorities; however, once an order (regional or statewide) for school closure was given by NDDoH, local entities could not re-open schools unilaterally. DPI requires notification for closure of LEA for a day with less than five hours of instruction occurs. For a school closure initiated locally, LEA may notify DPI of school closure through email or a telephone call. Reopening also requires an email or telephone call from LEA to DPI at the time of reopening.

In the event NDDoH determines that a change in school status is needed (closure or re-opening), NDDoH incident command (Department Operations Center) will contact the Superintendent of the Department of Public Instruction, who would then contact the two Assistant Superintendents for consultation on the proposed action. Others, including the Director of School Health for DPI who serves as the representative for the State Pandemic Flu Coordinating Team, would be included in the consultation at the discretion of the Superintendent. The internal notification

[14] In response to a weighing of factors, the CDC states the risk of introduction of an infection into a group and subsequent transmission among group members is directly related to the specification of a "safe" group size. It goes on to note that gatherings of children that are comparable to family size units may be acceptable and could be important in promoting emotional and psychosocial stability. The CDC concludes that if a recommendation for child social distancing is made during a pandemic and families must nevertheless group their children for pragmatic reasons, it is recommended that group sizes be held to a minimum and that mixing between groups should be minimized (e.g. children should not move from group to group or have extended social contacts outside the designated group).

process would be the same as for storm closure procedures[15]. For post-secondary schools (PSSs), NDDoH will contact the Director of Public Affairs of the University Systems Office to coordinate closure and re-opening. The final decision to close or reopen schools, as well as the geographic area impacted, will reside with NDDoH. A state mandated closure may be implemented statewide or regionally/locally as the disease spreads. For situations that require coordination of policy across border, the DOC of NDDoH will initiate contact with officials in neighboring jurisdictions through the incident command system of the neighboring state. See Table 4.

Routine communications with schools are handled through email and fax. Urgent issues use phone trees and mass media messages. An additional system available for both routine and emergency communications is video conferencing over the state StageNet system (a redundant wide area network, independent of other communication systems, that connects all LEA, PSS, local government, state government agencies with a cross connection to a separate wide area network (BTWAN) that connects all hospitals. During a pandemic event, NDDoH will hold daily video conferences (multi-way communication) over the Stagenet / BTWAN system. Some of these will be regularly scheduled (e.g., once or twice per week) specifically to include LEA, PSS, day cares as well as supporting state agencies. Provision of updates requiring more urgent contact for health policy specifically will be coordinated by the Director of School Health with backup by the Assistant Director of School Health (See Table 4). The lead for coordination of messaging to PSS is the Director of Public Affairs of the University Systems Office (see table 4), and the lead for coordination with day care centers will be the Director of Child Nutrition and Food Distribution (see Table 4).

A communications representative from DPI, as well as other agencies involved in the pandemic response, will be present in the State JIC to assure messages sent out regarding education, school closures and re-openings, and other pertinent information are consistent and relayed in a timely manner to the public. Plans for operation of the JIC are developed by the Division of Emergency Services of the Adjutant General's Office. Communication to the media is assigned to one of the two Assistant Superintendents. The Director of School Health is the media spokesperson for PSS and for day cares is the Director of Child Nutrition and Food Distribution. Because the authority for setting policy for school closure during an pandemic is left with NDDoH, primary responsibility for development of messages related to school closure and re-opening will lie with the two public information officers for the Department of Health, but will be coordinated through the state Joint Information Center (see Table 4).

LEA and PSS facilities and resources may be sites for mass prophylaxis or vaccination, minimum care facilities, food distribution centers, or centers for technology. Use of school facilities and resources is at the discretion of LEA and PSS. DPI encourages LEA and PSS to sign an MOU with agencies who may utilize facilities as a measure to protect resources. Existing contracts such as MOU or MOA may be called into effect upon request and honored by local districts. MOU and MOA are site-specific and all facility and resource specifics are located in

[15] It is possible for an LEA to close schools during a pandemic before such an action is taken by the State Health Officer. If an LEA elects to close local schools, notification of the Department of Public Instruction will occur through the same channels used to report school closure during storms.

site contracts. Information regarding the way the facility will be utilized is negotiated between LEA and PSS and the other signing agency.

Setting up the facility for utilization is the responsibility of the agency that is using the facility. For health related uses (minimum care facility, point of dispensing), this is the local public health unit. The setup of the facility varies by use and details can be found in the state concept of operations document and local plans specific to each minimum care facility, and in local POD plans specific to each POD facility. In some local jurisdictions, the maintenance and cleaning of the facility is performed by school personnel. In others, the local public health unit using the building assumes this responsibility. This is negotiated by the local public health units when the MOU is obtained. The use of specific equipment that belongs to the school (tables, chairs, office equipment, communication equipment, pallet jacks, and refrigerators) is negotiated as part of the MOU. Equipment that is needed but not available for use at the school is brought in by the local public health unit.

Once the facility or resources are no longer needed, the building will be restored to the pre-event state and any costs that must be incurred to return the building to its pre-use condition must be paid by the entity that made use of the building. Costs of recovery of the building are expected to relate to any damage accrued and any use of consumable resources. Other than a thorough cleaning and airing, additional disinfection of the site following a pandemic will not be necessary, even if the facility is used as an alternative site for patient care.

Continuity of education in the event of an emergency will be a locally made decision. DPI will make recommendations to LEA and encourage them to communicate with students, faculty, parents, and community members. If school closure occurs there is no responsibility to convey academic information, but DPI will encourage LEA to continue to provide information through whatever methods available, and to the best of their ability. LEA will be responsible for development and delivery of educational content. LEA are also responsible for providing education for students with special needs. LEA may partner with outside agencies to provide these services. Provision of special needs services is at the discretion of local jurisdictions. LEA and PSS may communicate educational content through public television channels, radio channels, or the SEA website. The trigger for activation of distance learning will most likely be school absenteeism rates. For more information on Continuity of Education plans please refer to LEA pandemic influenza plans. Continuity of nutrition assistance programs will continue as long as commodities required for these programs are accessible. Method of distribution of food and commodities is a locally made decision by LEA.

During a pandemic, staffing levels are expected to decrease due to illness. DPI has identified Crisis Teams and Essential Units to continue to provide essential services throughout the course of the pandemic. Please refer to DPI Flow Chart for more information on essential services. Continuity of payment for PSS, SEA, and LEA staff would be a joint decision made by the Governor of North Dakota, State Board of Higher Education, and specific institutions. Payment of staff would be determined at the time of the event based on circumstances educational with which agencies were presented.

During school closure and at the time of reopening, the State Board of Higher Education, DPI, and institutional offices will convene to make decisions regarding student academic assessments. Decisions of this nature are incident specific and formal evaluation to determine grades or school placement would occur at the time of the event. For students requiring IEPs, at the time of school reopening, existing IEP teams will be reconvened to determine the students' immediate needs and revisions to plans.

At the time of re-opening, each school will assess the mental health of the students and determine which students need mental health assistance. School counselors will follow current protocol for assessment and referrals of mental health needs among students and faculty. Whether school counselors will be a sufficient resource for meeting student health needs or additional mental health resources will be needed will be determined by the magnitude of the need, which is expected to vary with the severity of the pandemic. If across the state mental health needs appear to be exceeding school resources, DPI will coordinate mental health recovery with the Department of Human Resources which is the agency responsible for mental health care.

GUIDANCE FOR SCHOOL CLOSURE BY WHO PHASES, FEDERAL STAGES AND SEVERITY CATEGORY

WHO phases 1 and 2 - normal school operations would be expected. The North Dakota Department of Health would, for the most part, continue with normal surveillance activities.

WHO phase 3 – human infections with a new virus, no sustained human to human transmission.

1. No activity in the United States and no Activity in North Dakota – Normal school operations expected.
2. Activity in the United States but no activity in North Dakota – Normal school operations, surveillance activities may be elevated at this time.
3. Cases identified in North Dakota but not anywhere else in the United States. School closures unlikely to be needed or needed only at a local level. Possible increased surveillance activities with school absenteeism being reported to the North Dakota Department of Health.
4. Cases identified in North Dakota and the United States. School closures unlikely needed or needed only at a local level for viruses with a high mortality ratio. Possible increased surveillance activities with schools reporting absenteeism to the North Dakota Department of Health.

WHO phase 4 - limited person to person transmission and small clusters of cases being reported

1. No activity in the United States and no activity in North Dakota - normal school operations expected. Conduct basic education for school staff and parents. Review surveillance activities.
2. Activity in the United States but no activity in North Dakota – normal school operations, increase surveillance activities and continue to provide education to parents and staff.

3. Cases identified in North Dakota.
    a. High mortality ratio– school closure possible in locally or regionally affected areas in effort to control the outbreak. Statewide closure possible depending on sites of occurrence of clusters. Prolonged closure unlikely in phase 4.
    b. Medium mortality ratio– school closure will be considered but prolonged closure unlikely. Local occurrence of small clusters affecting school aged populations would increase likelihood of closures in that local area.
    c. Low mortality ratio consistent with a category 1 pandemic – school closure generally not recommended. Locally affected schools may be closed due to high absenteeism or staff shortage.

WHO phase 5 – localized clusters of human infections

1. No activity in the United States and no activity in North Dakota –schools open, increase surveillance and school absenteeism reporting to the North Dakota Department of Health as well as education to staff and parents.
2. Activity in the United States but not in North Dakota –schools open, increase surveillance and school absenteeism reporting to the North Dakota Department of Health as well as education of staff and parents.
3. Cases identified in North Dakota-increase surveillance as above, continued education of staff and parents.
    a. High mortality ratio - school closures likely.
        i. Prepare for closures when first cases are reported.
        ii. Prepare for closures lasting up to 12 weeks.
        iii. Prepare for regional or statewide closures.
    b. Medium mortality ratio– school closures will be considered.
        i. Prepare for closures when first cases are reported.
        ii. Prepare for closures lasting up to 4 weeks.
        iii. Prepare for local, regional or statewide closures.
    c. Low mortality ratio–Locally affected schools may be closed if substantially affected by clusters of disease

WHO phase 6 - Pandemic – large numbers of new infections and ill people

1. Federal stage 0,1,2 and 3 –school open with increased surveillance and initial education to school staff and parents.
2. Federal stage 4 but no activity in North Dakota – school open with increased surveillance and continued education of staff and parents.
3. Federal stage 4 with activity in North Dakota but not in other parts of the United States – increase surveillance working closely with state and local health departments and continued education.
    a. Category 4 or 5 pandemic – school closure up to 12 weeks.
        i. Prepare for closures when cases are first reported.
        ii. Prepare for closures lasting up to 12 weeks.
        iii. Prepare for regional or statewide closures.
    b. Category 2 or 3 pandemic – consider school closure up to 4 weeks.
        i. Prepare for closures when cases are first reported.
        ii. Prepare for closures lasting up to 12 weeks.

iii. Prepare for regional or statewide closures.

c. Category 1 pandemic – Locally affected schools may be closed based on staff and student absenteeism.

d. Pandemic Level still being determined. School closure likely for up to 12 weeks.

i. Prepare for closure when first cases are reported.

ii. Prepare for closure lasting up to 12 weeks.

iii. Prepare for local, regional or statewide closure.

4. Federal stage 5 with activity throughout the United States

a. Category 4 or 5 pandemic – school closure up to 12 weeks.

i. Prepare for closures when cases are first reported.

ii. Prepare for closures lasting up to 12 weeks.

iii. Prepare for regional closures or statewide closures.

b. Category 2 or 3 pandemic – consider school closure up to 4 weeks.

i. Prepare for closures when cases are first reported.

ii. Prepare for closures lasting several weeks.

iii. Prepare for regional closures or statewide closures.

c. Category 1 pandemic – locally affected schools may be closed based on staff and student absenteeism.

For all school closures, any extracurricular activities and public gatherings associated with a closed school should be cancelled or postponed.

PREPARATION FOR SOCIAL DISTANCING ACTIONS

Interpandemic Period (WHO Phases 1 and 2)

1. NDDoH will review with LPHUs principles of social distancing.
2. NDDoH will encourage individuals to receive seasonal influenza vaccinations.
3. NDDoH will assist LPHUs in educating local stakeholders in: pandemic influenza preparedness, practicing overall universal hygiene methods, worker protection policies, voluntarily quarantining when ill, antiviral usage, discouraging mass gatherings during a serious disease outbreak, influenza self-diagnosis knowledge, utilization of Personal Protective Equipment (PPE), mask fit-testing, Incident Command System (ICS) training, and other skills as deemed necessary.
4. NDDoH will continue to strengthen relationships with stakeholders by engaging them in Pandemic Influenza preparedness coalitions, where educating, planning and exercising of preparedness occur.
5. NDDoH will facilitate stakeholders to identify essential work functions in the community that need to be maintained during snow days e.g., healthcare, EMS services, public safety, utility services (electricity, water, gas, telephone, and sanitation), pharmacy services, and mortuary services.
6. NDDOH in partnership with LPHUs will continue to provide consistent information, communications, and materials to the public and to the media on pandemic influenza preparedness as it relates to social distancing, implementation of school closing, cancelling public events, limiting travel or imposing travel restrictions, or closing business places.
7. NDDoH and LPHUs will request that local stakeholders develop and review their plan for continuity of operations.

Pandemic Alert Period (WHO Phases 3, 4 and 5)

1. NDDoH will continue with activities listed in Inter-pandemic Period WHO Phases 1 and 2 above.
2. NDDoH will issue communications to the public on risk and risk avoidance as well as social distancing preparatory information for the next pandemic period.
3. NDDoH will exercise training programs in local jurisdictions in regards to social distancing.
4. NDDoH will train individuals in health care systems in local jurisdictions on use of ND Health Department website resources for information.
5. NDDoH will provide information regarding communications tools to be utilized by NDDoH and LPHUs during periods of social distancing in a pandemic.
6. NDDoH will recruit volunteers and provide appropriate training.
7. NDDoH will continue to convey the importance of having adequate emergency supply kits and emergency plans to be used during times of social distancing in a pandemic.

Pandemic Period (WHO Phase 6)

1. NDDoH will provide information about effectiveness of social distancing measures in other parts of the country to local jurisdictions within North Dakota.
2. NDDoH and LPHU will utilize volunteers already trained from their respective agencies [Red Cross, Salvation Army, CERT, mental health, VOAD, etc.] and will provide Just-in-Time training (as deemed appropriate) via job action sheets currently being developed.
3. NDDoH will recommend voluntary home confinement of symptomatic persons.
4. NDDoH will provide information to the public on symptoms to try to encourage self-diagnosis to reduce the interval between symptom onset and treatment.
5. NDDoH will inform the public of travel restrictions and risks.
6. NDDoH will communicate with bordering states and provinces on the implementation of social distancing measures.
7. As most social distancing will be done at a local level, it will be imperative for NDDoH to maintain communications with local jurisdictions for information regarding compliance with social distancing measures.

SOCIAL DISTANCING IN THE WORKPLACE

Local community coalitions engage with businesses to encourage them to adopt policies and procedures to minimize the impact of the pandemic on their business. The document *Preparing Your Business: Pandemic Flu And Other Emergencies* is a document prepared by local public health that provides guidance to business for screening for illness and exclusions of ill workers, policies to improve compliance with the ill worker policy, environmental and procedural changes to limit viral spread, employee education, recommendations regarding health care for those who become ill, involuntary business closure and volunteer support of community response. In addition, the documents also provide information related to business during a pandemic:

- *Pandemic Influenza: Caring for Sick People at Home* provides supplemental information for workers on how to care for those sick and when to seek health care.
- *Social Distancing Policy during an Influenza Pandemic* provides businesses with guidance on what to expect related to mandatory social distancing policy and reinforces the application of policy within individual business.

- *Summary of State Planning for Social Distancing* provides a briefing of state social distancing policy for local public health agencies.

MONITORING IMPACT OF COMMUNITY MITIGATION

Monitoring social distancing actions needs to answer the following questions:

- How well are communities complying?
    - By sector (schools, worksite, churches, public events)?
    - How does compliance differ across the state?
    - Is compliance sustained as time elapses?
- What is the level of acceptability of current social distancing action to the population?
- What is the economic, social and personal cost of the current policies?
- What and how severe are the unintended consequences (i.e., secondary and tertiary effects) of an action and to what extent are the unintended consequences worsening with greater prolongation of restriction?
- How successfully are communities mitigating unintended consequences through alternatives that preserve social distancing?
- Has disease transmission been substantially suppressed by the actions?
- Is additional social distancing action likely to gain additional disease suppression and is the likely suppression worth the cost imposed by the action?
- Has reversal of social distancing actions increased the transmission of the disease?

The primary measures of disease activity will remain the same, although their interpretation may be different at different points in the epidemic:

- Absenteeism – overall absenteeism is a better indicator of disease transmission early in a wave than late due to prolong debility associated with the illness. New absenteeism may be very helpful since may be the best indicator of new case onset that we have available;
- Mortality – The mortality rate (new death incidence) should be reasonably sensitive particularly if case mortality rate does not change greatly during the course of the wave;
- New antiviral prescribing (which should only be occurring in the first 48 hours of symptom onset). Prescribing that does not require a provider visit may result in substantial prescribing for non-influenza illness; however, once the presence of disease in an area is established, it is assumed that nearly all cases seen by a provider will be identified based on clinical grounds, rather than laboratory.
- Outpatient visits/Influenza-like illness (this may be difficult to collect accurately during a pandemic); in addition, if public health attempt so minimize outpatient visits for uncomplicated influenza are success, this should be an insensitive indicator of disease activity.

Information needed to answer the other questions will be obtained through a variety of sources discussed below and can be expected to be somewhat inconsistent due to observer interpretation and geographic variation. Sources that will be used include:

<u>LPHU assessment</u>

Local public health units will monitor their communities (nearly all of which are small in North Dakota) through observation, media reporting, key informant conversations and public comment. NDDoH will ask LPHUs to answer the above questions related to their community on-line on a

periodic basis (frequency determined by events). See form for Social Distancing Community Compliance reporting.

Public comment

Public information will provide the hotline number and a blog sites where citizens can report anonymously compliance or non-compliance with social distancing mandates in their community

Key informants interviewing

NDDoH will use other key community informants including law enforcement, emergency managers, clergy, business/Chamber and providers to collect information related to specific communities where information collection has not been adequate, where a policy change is anticipated or where reasons for non-compliance are not understood (e.g., low risk perception, wearing off, lack of awareness, resistance to principle, resistance due to high cost). In addition, these informed providers can provide information about the impact of specific social distancing actions within their sphere of influence (e.g., resource availability (goods and services), social impact, mental health impact, population acceptance and unrest. Identification of key informants will be obtained through local public health for the communities being targeted. The ICS data unit plan calls for supplementation of its epidemiology staff with other types of employees from NDDoH who can assist with surveillance calls for data collection including data from key informants. This data will be processed by the Data Unit and provided to ICS leadership. .

Monitoring data will be used to:

- Identify the effectiveness of current policy;
- Identify the need for additional social distancing measures to decrease transmission;
- Identify the need for additional public messaging and content of messaging to improve compliance;
- Identify timing for removal of social distancing policies;
- Identify change in impact over time or with addition or reduction of social distancing measures;
- Identify sites where specific contacts are needed to gain compliance (e.g., community leaders, businesses).

The primary goal of social distancing policy is to limit disease transmission with the least possible community disruption. Community monitoring will allow disease transmission to be weighed against community disruption. In addition, on-going disease transmission that is accompanied by low population acceptability and compliance is not likely to be improved by application of yet more severe social distancing actions. Actions to increase compliance are indicated.

NDDoH will continue to collect information about community transmission and the impact of social distancing actions throughout the pandemic wave. Some evidence of increasing transmission is possible following the reversal of social distancing actions, or may be seen as the population fatigues with social distancing and compliance is compromised. Disease transmission, compliance and community disruption will be used to time subsequent actions to reduce social distancing.

Social distancing policy will be applied over relatively broad geographic areas (usually statewide). Reasons for this include:

- Minimizing population mobility in search of services;
- Improved acceptance of restraining actions if applied broadly to all;
- Minimizing confusion regarding what policies apply where; and,
- Limited ability to gauge disease transmission in sparsely populated areas;

TERMINATION OF SOCIAL DISTANCING MEASURES

Implementation will attempt to have a stepwise march upward in severity of restrictions enacted by the State Health Officer, with clear evidence for the logical necessity for each action taken. Likewise, a stepwise down reduction in restrictions is planned, followed by a re-evaluation of impact after each policy change. It is possible that large increases in disease transmission could result in a re-implementation of a restriction, but this is to be avoided if possible. Generally, a mandatory restriction will not be replaced by an equivalently strong voluntary restriction of the same type; if the restriction is believed to be necessary to prevent re-igniting the epidemic, then continued mandatory restriction is preferred. For actions associated with high burden or low tolerance, the State Health Officer may reverse policies in large, sub-state regions were indicators of disease control are most favorable before removing them statewide.

The timing of termination of social distancing measures will depend on many of the same factors that determined their initiation. These include:

- Evidence of on-going transmission (new cases, hospitalizations, deaths)
- Illness severity (attack rate, hospitalizations, deaths)
- Evidence from other jurisdictions of the impact of terminating social distancing measures

Because of the long period of debility seen with many pandemics, it is not expected that absenteeism will be a very sensitive measure by which to reverse social distancing although it may have been very helpful in the initial progression of the social distancing measures.

In the absence of vaccine, the working assumption will be that when disease transmission has been largely suppressed, social distancing was largely responsible the suppression; therefore, policy reversal may re-ignite transmission (assuming the population of susceptible persons remains large). Furthermore, the greater the underlying transmission rate at the time of reversal the more likely and more rapidly case numbers are likely to climb. The long term containment strategy is limiting transmission until vaccine, rather than exhaustion of susceptible hosts, can end the pandemic, at least in its most severe form. Consequently, the primary trigger for each step of reversal of social distancing is that disease transmission is largely stopped or at a very low level over the area for which social distancing reversal is being considered (e.g., statewide).[16]

Social distancing measures will be terminated in the reverse order of implementation; that is, mandatory closures that have the greatest adverse impact on the population and the least risk of

[16] For introduction of social distancing policies, linked cases rather than sporadic cases, can be used as a trigger. Early in the pandemic, case linkage data will be available based on complete epidemiologic investigation of all cases. However, case linkage is not planned as a criterion to monitor reversal. Epidemiology teams will not be in the field routinely investigating cases (which are expected to be occurring over a wide area at a time when staff absenteeism is high and a host of other competing priorities must be addressed).

exacerbating transmission will be stopped first with observation for evidence of recurrence of disease. It will require several days of observation for evidence of rising case rates, hospitalizations and deaths to determine if the policy reversal is having adverse impacts. Evidence of a lack of adverse effect and particularly evidence of a continued decline in disease transmission will prompt further relaxation of mandatory controls.

Businesses, schools and other organizers of public events will be notified through state agencies and trade groups (as well as mass media, policy board and other means used to notify them of implementation) that they can resume usual activity. However, they will be cautioned that re-emergence of substantial transmission (whether re-igniting the wave or onset of a subsequent wave) may result in re-implementation of the restrictions. For organizers of large public events particularly, caution will be urged in scheduling any major events that might bring a financial penalty for cancellation as long as the risk of the pandemic remains.

Educational information will go to all organizations related to employee health and productivity recovery given that the lingering effects of infection with pandemic influenza are more severe than for seasonal influenza and may take weeks to disappear; this may affect both staffing and public demand for goods and services. During the recovery period, psychological manifestations of the impact of the illness may become apparent as people allow exhaustion, grief and emotion trauma are allowed to emerge and rites such as memorial services for deceased family members for whom funeral services were cancelled take place.. Provision of mental health services may shorten the duration and improve the outcome for employee recovery; however, providers of mental health services may be overwhelmed more during the recovery period than during the pandemic wave.

Organizations will also be instructed to re-supply any materials that might be needed during a new wave of illness (e.g., PPE, supply inventories for critical business functions) and to leave in place those environmental changes that do not substantially impair business function. As part of monitoring the impact of reversal of social distancing, organizations will be asked to continue reporting absenteeism.

Schools and day care reopening will be among the last mandatory measures reversed due to the increased risk of transmission among children. For pandemics with higher morbidity and mortality, evidence of lower levels of reduced transmission will be necessary. Because of evidence of ongoing, low-level transmission between waves during the 1918-1919 pandemic, voluntary practices and public education to caution will continue in place until vaccination is complete.

Communication of social distancing measures will be provided through the media (through designated agency spokespersons), the Health Alert Network and in specific communications to partner groups (e.g., state agencies, LPHU) by the state. Actions to terminate mandatory social distancing will come from the State Health Officer.

GUIDELINES FOR LOCAL SOCIAL DISTANCING PLANNING[17]

[17] These guidelines are derived from an aggregation of community activity extant at the time of this writing.

Within the local communities of each planning meeting, regional coalitions draw together a diverse set of partners whose individual and collective action is required to prepare social distancing policy and preparations. Content of coalitions will vary by community based on community size and make-up as well as willingness of stakeholders to commit to the process. Partners for this coalition should be drawn from the following:

- Primary and secondary school administrators, school board members
- Representatives of higher education institutions
- Health care organizations, especially large health systems/hospitals
- Home health agencies
- Outpatient care providers
- Faith community (pastors, parish nurse programs)
- Business leaders (business owners, personnel managers)
- Chamber of commerce
- Community service organizations
- Community non-profit organizations (especially those provided for vulnerable or needy populations)
- Emergency responders (emergency management, police, fire, EMS)
- Representatives of critical infrastructure (business and civic)
- Sponsors of public events
- Public health

A wide range of pandemic preparedness issues may be appropriate for this coalition, but should include:

- Develop of inter-organizational familiarity and linkage

Each organization should have familiarity with contacts of other organizations in the community and contact information

- Inter-organizational communications

Each organization should be familiar with tactical communication systems that may be available to it during an emergency and how to access and use those systems to request assistance and resources, report status and resources and respond to requests for community support.

- Role definition

Each organization should know what roles the community is expecting the organization to fill during an emergency and which sister organization will have resources that may assist it to fulfill its mission.

- Employee/organizational risk assessment and mitigation planning

Each organization should know how to identify employees who will be at increased risk of infection and steps that can be taken to minimize that risk, potentially including fit testing and stockpiling of PPE

- Critical employee identification and critical process maintenance (COOP)

Each organization should know its critical functions that will be needed for fulfilling its mission and know the employees who fill critical functions. Alternate employees who can or can be trained to fill those functions should be identified and cross trained if indicated.

- Vaccination priority

Each organization should know the order that employees will be offered vaccine based on criticality of employee skills and exposure risk.

- Organizational social distancing planning

Each organization should develop its social distancing plan and policies. These plans should include personnel policies (e.g., sick leave, screening for illness), reimbursement policy for sick employees, care of families, intra-organizational communications, environmental modifications, telecommuting, alternatives to face-to-face interaction, leadership succession

- Access to training

Each organization should have a basic understanding of potential pandemic influenza impact on the community and the likely unfolding of issues that will require response and modification of procedures. Training will be needed in fundamentals of state and local policy response (e.g., isolation and quarantine, event cancellation, school and daycare closure, business closure), interaction with the emergency management system, communication methods and contacts, risk assessment and mitigation methods and access to just-in-time training.

- Community allocation of volunteers

Each organization should know how it can use replacement workers (volunteers) to help it fulfill its mission.

- Tool identification

Each organization should identify the tools it may need for assessment or training pre-pandemic and during a pandemic (e.g., manuals, protocols, data collection instruments).

- Message dissemination (echoing)

Each organization should know key messages and how messages will be developed and disseminated during disaster. Information dissemination should be planned in the organization to ensure employees have reliable access to real-time guidance on workplace policy and instructions. This should include pre-pandemic communications of policies that can be expected to be in place during a pandemic.

- Testing and exercising

Each organization should have a plan for how it will test its systems and exercise critical decision-making processes, as well as have opportunities to participate with the community in preparedness exercises.

At a multi-agency planning level, the coalition will develop plans for meeting the needs of vulnerable populations during a pandemic.

PUBLIC INFORMATION

Public information provides individuals and communities with the tools with which to protect them or lower the risk of contracting the infection. It accomplishes three objectives: 1) communicates measures the public can implement to minimize risk and decrease the spread of infection; 2) provides honest, accurate, understandable and timely information; and 3) counters confusion and panic. Refer to *Chapter 5: Crisis/Risk Communication Plan* in the State Public Health Base Plan folder for more detailed guidance regarding hotline and public information activities during a response period, including guidance on communicating with special populations.

Interpandemic Period (WHO Phases 1 and 2)

1. NDDoH shall rely on communications and links with the World Health Organization (WHO), Centers for Disease Control and Prevention (CDC), Health and Human Services (HHS), and also refer to http://www.pandemicflu.gov and www.cdc.gov for timely and accurate pandemic influenza related information, tools, and guidance to ensure consistent messaging at all levels of communication.

2. The North Dakota Department of Health Public Information Office serves as the lead division for disseminating risk communication information, messaging and public education regarding pandemic influenza. State PIOs, in conjunction with regional PIOs, will work to develop materials and events to help educate the public and other stakeholders about pandemic influenza and about the importance of planning now.

   Activities in progress:
   a. Pandemic Influenza Education Kit: Developed in 2007 to be used for educational purposes with the public. Kit was printed and disseminated to local public health units across the state. Participants of tabletop exercises around the state received a copy. The kit has been translated into two other languages. The kit is available on the NDDoH website.
   b. www.ndpandemicflu.gov: A multi-agency website available to provide one consistent webpage for the public to find information about pandemic and avian influenza.
   c. Fact sheets and other materials located on the NDDoH website and document library (http://www.ndhan.gov). Translations are in seven different languages.

Pandemic Alert Period (WHO Phases 3, 4 and 5)

1. The NDDoH Office of Public Information will continue education efforts outlined in the inter-pandemic period.

2. The NDDoH Office of Public Information will provide designated spokespersons training on risk communication principles for use during an influenza pandemic.

3. State PIOs will participate in pandemic influenza exercises in order to assess readiness and build relationships with response partners.

Pandemic Period (WHO Phase 6)

1. State PIOs and back-up PIOs will operate as part of the Incident Command Team. During an influenza pandemic, the designated PIO will coordinate and deliver risk communication and public health information to the public through every available channel, including:
   - The media (through a Joint Information Center [JIC] if activated)
   - The North Dakota pandemic influenza website, www.ndpandemicflu.gov shall include North Dakota pandemic and avian flu information.
   - The Health Alert Network (HAN)
   - Distributed flyers

- Through partners/stakeholders

2. Alternative methods for delivering information will be considered during a pandemic in order to achieve social distancing. This may include:
   - Conducting news conferences via telephone or video feeds (if possible); distribution of materials through channels such as the Post Office (inserting information into mailboxes).
3. Maintain the www.ndpandemicflu.gov website with current information that includes a link to the http://www.pandemicflu.gov/ website.
4. Disseminate messages and materials to increase public's knowledge and understanding about:
   - Unique aspects of pandemic influenza in comparison to seasonal flu
   - Social distancing and disease prevention methods
   - Antivirals and methods of distribution
   - Vaccine and methods of distribution
   - Health care access[18]

Communication to the public will be done by PIO, Disease Control, and State Health Officer. The State Health Officer will act as the official spokesperson for the department to provide a consistent voice. If the state health officer is unavailable, one of the field medical officers will serve as spokesperson. The state health officer may appoint a designee to serve as spokesperson. Other subject matter experts will be coordinated through the public information office as needed. Table 5 shows a summary of the public information plan.

[18] Public information will be used to regulate health care seeking behavior. During seasonal influenza it makes little difference whether a patient with influenza seeks health care or not since the care is supportive. However, the public is aware of the availability of antivirals and will seek health care to obtain these medications when they would otherwise have stayed home. Because antivirals must be delivered within three days of symptom onset to be effective, most distribution will occur to outpatients. Alternative methods of prescribing and dispensing are being developed in North Dakota (telephone prescribing and drive up window dispensing) which will allow those patients seeking antiviral drugs to treat influenza to be shunted away from health care providers. Messages will also guide family selection of those patients most likely to benefit from health care (including hospitalization or admission to a minimum care facility when hospitals are too full to take more patients) and direct them toward those health care sites most appropriate to their illness and system capacity.

	Interpandemic Period	Pandemic Alert Period	Pandemic Period
Incident Command		Activate the Incident Command to protect the public	
Office of Public Information Staff	1. Identify backup public information staff 2. Develop information resources 3. Provide for training opportunities 4. Work in conjunction with NDDoH Health Officer and experts for accurate information. 5. Work with local public health and emergency responders to develop plans: a. For SNS/POD responsibilities i. Develop communication plans for Points of Dispensing (POD) ii. Act as lead PIO for PODS 6. Identify backup public information staff 7. Add local information to scripts	1. Be prepared to answer questions about the disease, diagnosis, treatment, and immunizations. 2. Continue with Interpandemic Period responsibilities 3. Continue to utilize the websites for information updates.	1. Brief the governor's communication office. 2. Utilize ICS when SNS deployed. (see Annex 2-Strategic National Stockpile Communications Plan) 3. Coordinate and deliver risk communication and public health information 4. Utilize Joint Information Center (if activated) for coordination and release of public information.
State Health Officer	Be available for assistance in determining accuracy and appropriateness of information gathered.		1. Act as the official spokesperson for the department. 2. May appoint a designee to serve as spokesperson. 3. Determines time when normal operations will resume.
Actions	1. Maintain a distribution list through the HAN that can be used to contact individuals and groups quickly.	1. Identify the public health threat and take actions to protect the public.	1. Continue with Interpandemic period and Pandemic Alert period actions as needed.
Communication Tools	1. NDDoH Websites www.health.state.nd.us www.ndpandemicflu.gov *Health Alert Network(HAN) www.ndhan.gov for healthcare 2. HC standard/WebEOC 3. Telelanguage 4. Translators		1. NDDoH website *HAN 2. Partners/Stakeholders

Table 5: Summary Chart of Public Information Plan for ND Pandemic Influenza Plan

REFERENCES

1. CDC, 2007. Draft Guidance on Allocating and Targeting Pandemic Influenza Vaccine http://www.pandemicflu.gov/vaccine/prioritization.html
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3. U.S. Census Bureau, 2006 Population Estimates, Census 2000, 1990 Census. http://www.census.gov/2010census/
4. North Dakota Century Code (http://www.legis.nd.gov/cencode/T23C076.pdf)
5. CDC, 2004. Severe Acute Respiratory Syndrome (SARS): Information for Patients and Their Close Contacts http://www.cdc.gov/ncidod/sars/closecontacts.htm