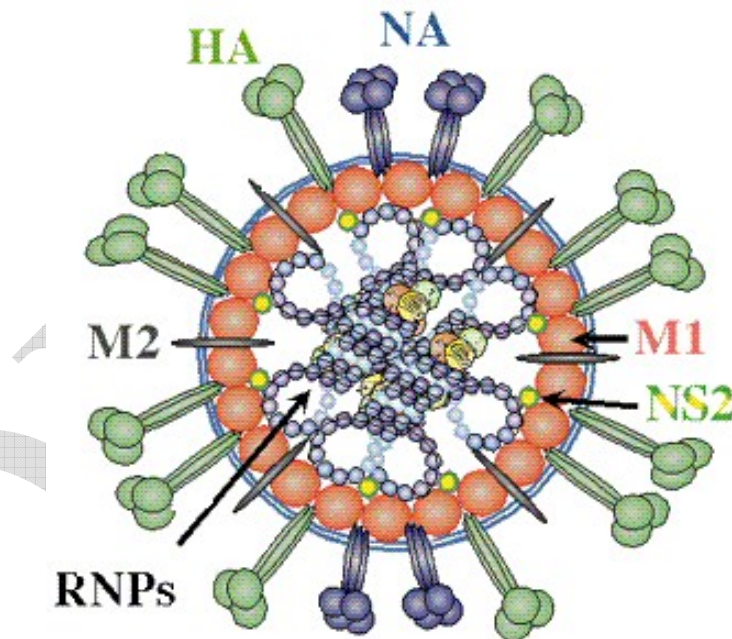


NORTH DAKOTA

PANDEMIC INFLUENZA

PREPAREDNESS AND RESPONSE PLAN



October 2004



NORTH DAKOTA
DEPARTMENT *of* HEALTH

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DRAFT

Introduction

Each year, approximately 400 North Dakotans die due to complications associated with pneumonia and influenza. Although most deaths from influenza occur among the elderly, influenza results in significant morbidity among all age groups which leads to hospitalization and other socioeconomic costs. These costs result from days lost from work or school and from time spent away from other normal day-to-day activities. It is impossible to predict the overall impact of an influenza pandemic in North Dakota. However, because of the population demographics and unique characteristics of the state, it is expected that an influenza pandemic would have a significant public health impact. As emphasized in the national influenza pandemic plan, the burden of illness and the burden on the population will depend on the transmission potential and virulence of the strain; the epidemiology of the specific pandemic; and maybe most importantly, the rapidity and effectiveness of the response. The goal of this plan is to provide a guide for a coordinated statewide response to pandemic influenza. The purpose is to limit the morbidity and mortality of influenza, decrease social disruption and minimize economic loss.

The North Dakota Department of Health (NDDoH) will provide much of the command and control for the pandemic influenza response. The NDDoH will be the lead agency in the coordination between the Centers for Disease Control and Prevention (CDC), Local Public Health Units (LPHUs) and the private healthcare system. The primary activities of the NDDoH, under the leadership of the State Health Officer, include:

- Surveillance (State Epidemiologist/Division of Disease Control)
- Virus identification (Division of Microbiology)
- Vaccine Management and Distribution (Division of Disease Control/Coordinator/Strategic National Stockpile)
- Antiviral Distribution (Division of Disease Control/Coordinator/Strategic National Stockpile)
- Hospital Emergency Response (Emergency Preparedness and Response Section)
- Assist with influenza management in facilities and transportation of patients, especially among long term care residents (Health Resources Section)
- Fatality Management (Division of Medical Examiner)
- Public Information/Communications (Public Information Officer)

Although the NDDoH responsibilities include coordinating an appropriate response, the LPHUs will be responsible for administration of intervention activities at the local level. In North Dakota, there are 28 LPHUs which are either single county or multiple city/county units (**Appendix A**). Emergency planning and response activities are coordinated by the LPHUs in the eight regional planning units (**Appendix B**). Each of the regional planning areas has an Emergency Preparedness and Response Coordinator (EPRC) who assists in the coordination of local and regional planning activities and provides logistical response activities during emergency situations. The EPRCs also act as liaisons between the regional response areas and the Emergency Preparedness and Response Section of the NDDoH.

The LPHUs are autonomous units under the direction of the LPHU administrator and a local health officer, only one of which is fulltime. Responsibilities of the LPHU during an influenza pandemic include:

- Assist with conducting local/regional surveillance activities.
- Coordinate local/regional response plans.
- Coordinate with local/regional private medical care providers in the implementation of the influenza pandemic response.
- Coordinate local influenza vaccination activities.
- Coordinate administration of influenza antiviral medications.
- Assist local funeral home directors, coroners and medical examiners in the coordination of fatality management.
- Coordinate with the NDDoH Public Information Officer and private information officers to provide public information and communication activities.

Surveillance

Influenza viruses have constantly changing antigenic properties. Surveillance for pandemic influenza must include both virologic surveillance, in which influenza viruses are isolated for antigenic and genetic analysis, and disease surveillance, in which the epidemiologic features and clinical impact of new variants are assessed. The goals of influenza surveillance are to quickly detect outbreaks of influenza and identify the organisms involved, in order to facilitate early public health intervention.

Role of the North Dakota Department of Health

Surveillance for pandemic influenza in North Dakota is primarily a function of the Division of Disease Control (DC) (**Appendix C**) and is coordinated by an Influenza Surveillance Coordinator (ICS). Assistance with surveillance activities is conducted by the field epidemiologists who are DC employees located at LPHUs (**Appendix D**)

Pre-pandemic Influenza Surveillance Activities

1. The ISC conducts influenza surveillance with sentinel providers, schools, laboratories and others during the influenza season. Sentinel surveillance has been enhanced by utilizing emergency room-based syndromic surveillance for influenza-like illnesses (ILI) in selected North Dakota medical centers. These surveillance activities identify increased influenza activity in the state which prompts collection of samples for laboratory identification. Influenza surveillance activities include:
 - Passive Surveillance
 - The existing passive influenza surveillance system, utilizes influenza information received from physicians, persons in charge of medical care facilities and directors of laboratories who are required to report influenza cases to the NDDoH. Influenza cases are reported throughout the year to the DC.
 - During the regular influenza season (October through May), state and territorial epidemiologists report the level of influenza activity in their states to CDC weekly as “widespread,” “regional,” “local,” “sporadic” or “no activity”.
 - Approximately 75 World Health Organization collaborating laboratories and 50 National Respiratory and Enteric Virus Surveillance System laboratories (including one in North Dakota) report the number and type of influenza viruses isolated each week. These participating laboratories send representative and/or unusual specimens to CDC for comparative antigenic and genetic analysis.
 - The DC staff investigates reported clusters of ILI at long-term care facilities and other institutions and coordinates with these facilities to obtain

specimens which are submitted to the Division of Microbiology (DM) for viral isolation.

- Year-round Surveillance:
 - ◆ Providers around the state are reminded that influenza is a reportable condition. During the 'inter-season' (May through September), when a positive case is identified, DC staff will work with providers to collect and submit specimens to the DM for influenza culture and typing.
- During periods of low influenza activity, laboratories using rapid influenza test kits should forward to the DM:
 - ◆ Specimens that are rapid test positive for influenza for confirmation of test results
 - ◆ Influenza isolates for subtyping of isolates.
- Active Surveillance
 - Influenza Sentinel Surveillance
 - ◆ From October through May, a voluntary network of sentinel providers report the number of patients presenting with ILI by age group and the total number of patient visits to the ISC each week via fax, telephone or the internet. During the 2004-2005 influenza season, 17 sites (7 per 250,000 population) were enrolled from across the state as influenza sentinel surveillance sites. This is more than the recommended one per 250,000 population.
 - Laboratory component: The sentinel sites submit nasopharyngeal or throat swab specimens from 2-3 patients with ILI to the DM for influenza testing, at each of the following stages during the influenza season:
 1. At the beginning of the season (usually October or November), when ILI first presents at a health care facility;
 2. Midway through the season (usually late December and January); and
 3. Toward the end of the season (usually March or early April).
 - ◆ Providers may also submit specimens from unusual clinical cases, unusually severe cases and outbreak related cases at anytime throughout the year.
 - Private Clinical Laboratory Surveillance:
 - ◆ Level A laboratories throughout the state participate in the influenza surveillance program. These laboratories submit influenza and respiratory syncytial (RSV) virus testing data to the ISC on a weekly basis. The data received are aggregate numbers including the number of positive influenza and RSV tests and the total number of influenza and RSV tests performed each week.
 - School Absenteeism Surveillance:

- ◆ A minimum of one school in each field epidemiologist region is enrolled in the school absenteeism program. On a weekly basis, each school reports the number of students absent each day due to illness along with the total number of students enrolled.
 - Syndromic Surveillance
 - ◆ Syndromic surveillance utilizing a commercial over-the counter software program, RedBat™, is currently being utilized in five emergency departments in Bismarck, Fargo and Grand Forks. The Meritcare Ask-A-Nurse calling center also submits data via RedBat™. Agreements have been reached to employ RedBat™ in Dickinson, Jamestown, Minot and Williston. This system utilizes existing electronic databases to query 11 specific syndromes calculated from chief complaints entered into the hospital database upon check-in. The Syndromic Surveillance Coordinator developed specific search criteria for syndromes consistent with ILI. Utilizing historical data from these facilities, thresholds have been developed for recognition of potential ILI clusters.
 - Public Health Laboratory Virologic Surveillance: The DM identifies influenza virus present in North Dakota. This allows DC to compare between the influenza types circulating in the community and those present in the vaccine. Information on influenza types, present in the state will be used to determine recommendations for antiviral therapy.
 - ◆ Private clinical laboratories voluntarily submit specimens to the DM for viral subtyping. The DM provides specimen collection and transport supplies and instructions for free testing and specimen transport.
 - ◆ The DM sends selected influenza isolates to CDC for antigenic analysis.
 - ◆ The DM has cross-trained staff to ensure adequate personnel for influenza viral testing.
 - The ISC distributes influenza surveillance data to laboratories, LPHUs, health care providers, sentinel providers, infection control practitioners and several other groups involved in influenza surveillance.
2. The DC maintains a list of Influenza Coordinators and Immunization Program Coordinators for the surrounding states (MT, SD, MN, and WI) and updates this list annually.
 3. The DC monitors bulletins from CDC regarding virologic, epidemiologic and clinical findings associated with new variants of influenza isolated within or outside the U.S.
 4. The DC has enhanced electronic and telecommunications capability with local communities, neighboring states and CDC through the ND Health Alert Network.
 5. The DC also maintains a communications network with epidemiologists and public health laboratories to share information regarding the detection and circulation of novel influenza viruses through Epi-X and other communications modalities.

Pandemic Influenza Surveillance Activities

1. Enhanced surveillance measures, as outlined below, will be used to detect pandemic influenza activity levels across the state and to facilitate public health investigation and control interventions. When necessary, the DC may implement additional surveillance measures in order to identify and control the spread of influenza.

- Passive Surveillance

- During a pandemic, routine surveillance, along with other activities, will be implemented to assess and control the scope of the disease across the state. Key surveillance activities, such as those mentioned previously, will begin during the Pre-Pandemic phase and continue through the end of the Second Wave of the pandemic.

- Active Surveillance

- Continue ND influenza activities as described in the Pre-Pandemic Stage.
 - ◆ Sentinel Physicians (See page)
 - ◆ Sentinel Laboratories (See page)
 - ◆ School Absenteeism (See page)
 - ◆ Syndromic Surveillance (See page)
 - ◆ Public Health Laboratory Virologic Surveillance (See page)
- Enhance the sentinel provider networks for reporting and specimen submission.
 - ◆ Improve geographic distribution statewide.
 - Recruit 2 to 3 sentinel providers from each region, each from a different county.
 - Recruit a minimum of 3 schools from each region to report absenteeism data on a weekly basis
 - At least one school, but not all schools, should be located in the eight larger cities
 - Work with DPI to coordinate all schools reporting absenteeism.
 - Send out collection kits to all LTC facilities.
 - ◆ Increase diversity of sites statewide.
 - Select 1 to 2 smaller clinics in each region to act as sentinel sites.
 - Select at least one clinic in a county outside of Burleigh, Cass, Grand Forks, Ramsey, Stark, Stutsman, Ward and Williams.
 - Set up sentinel sites with Assisted-Living facilities in the 8 regions.
 - Work with businesses statewide to obtain employee absenteeism data.
 - Work with day-care providers around the state to report ILI in their daycare.

- ◆ Ensure consistent and timely reporting of ILI and specimen submission.
 - Follow-up calls to sentinel providers who have not reported by required time each week.
 - Follow-up with sentinel providers, laboratories and Assisted Living facilities who have not submitted specimens within previous week.
 - Monitor Red Bat data daily to determine increases and decreases in ILI.
 - The DC staff will review syndromic surveillance data daily and investigate increases in reports of ILI.
- Monitor hospitals for influenza activity.
 - ◆ On a daily basis, the field epidemiologists will contact all emergency room staff and infection control practitioners within their regions to monitor influenza activity such as:
 - the number of emergency department visits
 - hospital admissions and
 - hospitalized influenza related deaths.
 - ◆ This data will be submitted to the DC daily. The DC will be responsible for statewide planning, coordination, and distribution of hospital surveillance data.
- Implement enhanced laboratory surveillance for novel influenza viruses particularly in individuals with travel histories to areas with endemic cases. This is essential to monitoring the spread of a novel virus. Enhanced surveillance will include the following:
 - ◆ Notification of healthcare providers to collect respiratory specimens from patients who present with ILI and:
 - Had recent travel to a region where the novel influenza virus has been identified;
 - Or present with unusually severe symptoms of ILI regardless of their travel history.
 - ◆ One respiratory specimen should be submitted directly to the DM for testing. The submitter may send a duplicate specimen to their usual laboratory provider for detection of influenza viruses.
 - The DM Laboratory Test Request Form (SFN Form 5826[Rev.1/03]) (**Appendix E**) is required for specimen submission.
 - Patient demographic information will be required during and following an influenza pandemic.
 - ◆ Update public health and private providers of the location the novel influenza virus has been detected through the use of HAN, news releases, website (www.ndflu.com), town square, conference calls, etc.
 - ◆ As necessary, implement traditional control measures such as school and business closings.
 - ◆ Collect and review death data where cause of death is listed as influenza, pneumonia or other respiratory infection

- This data will be collected daily from the Office of the State Medical Examiner (ME).
- ◆ Review influenza-related deaths that occur outside of hospitals.
- ◆ Coordinate with neighboring jurisdictions.
 - The DC will work with neighboring states and CDC to monitor influenza activity levels in the region. Special studies may be conducted as needed.

Role of the Public Health Laboratory (Division of Microbiology)

The DC will coordinate with the DM to ensure the proper collection, transport and testing of influenza specimens throughout all stages of pandemic influenza. Nasopharyngeal washes, nasopharyngeal swabs, throat swabs and blood specimens may be collected for laboratory testing.

Pre-pandemic Influenza Testing Capabilities

1. The DM currently offers three tests for confirmation of influenza:
 - **Culture:** The best specimens to collect for influenza virus isolation are nasopharyngeal washings or swabs. The preferred method is generally a nasopharyngeal swab.
 - Positive results may be available within a few days, but in some instances it may take several weeks for viral growth to be detected.
 - **Direct Fluorescent Antibody (DFA):** A separate specimen for slide preparation is required for DFA. The best specimen to collect for DFA is either a nasopharyngeal, nasal or throat swab, although the preferred method is nasopharyngeal.
 - DFA results are generally available within 24 hours of receipt of the specimen.
 - **Serology:** Acute and convalescent sera collected 2-3 weeks apart may be used to confirm influenza.
 - Results of serologic testing are generally available about 1 week after receipt of the convalescent specimen.
 - Serology testing for influenza is generally not ordered on a routine basis.
2. Isolation kits for nasopharyngeal swabs are available from the DM. **All influenza specimens should be collected within 72 hours of illness onset** and samples must be delivered to the DM as soon as possible following collection. **(Appendix F)** The DM will send representative and unusual virus isolates to CDC for appropriate testing, including antiviral resistance studies.

Pandemic Influenza Testing Capabilities

1. During the Pandemic Alert stage, the DC will work with the DM to establish a sampling schema for influenza laboratory testing across the eight regions, based on the projected burden of the pandemic and the resources available for laboratory testing.
2. Once pandemic influenza has been established in a region, laboratory testing for that region may be scaled down, depending on the public health need for additional testing. Sampling schema may be altered once progression to the next pandemic influenza phase has been declared on the national level.

The Role of the Board of Animal Health

1. The interaction between animals, especially poultry and swine, and the influenza virus has created considerable concern about the development of a novel influenza strain which could result in an influenza pandemic.
2. Coordination of surveillance and control of poultry or other animals which might be related to the pandemic will be the responsibility of the North Dakota State Veterinarian and the North Dakota Department of Agriculture. Collaboration also will be conducted with veterinarians and other staff of the United States Department of Agriculture.
3. Laboratory support for zoonoses-related influenza will be provided by the NDSU Veterinary Diagnostic Laboratory.

Influenza Vaccine Management

Vaccination is the best way to prevent influenza. However, since an influenza pandemic will involve a novel strain of influenza, it may take at least six months to produce an appropriate vaccine. Depending on where the strain is identified and how it moves, vaccine may or may not be available by the time it reaches North Dakota. Severe and/or moderate shortages of influenza vaccine are expected to exist. The Influenza Vaccine Management Section describes the system that North Dakota will use to order, store, distribute and track influenza vaccine during a pandemic. The North Dakota Department of Health Division of Disease Control (DC) will coordinate statewide influenza vaccination activities during a pandemic.

The EPRCs from the eight regions in North Dakota are responsible for coordinating pandemic influenza planning at the local level. The EPRCs have coordinated regional plans for implementation of local and regional vaccination programs including documentation and paperwork, staffing/volunteers, security, clinic supplies and equipment, transportation, vaccine storage and handling, vaccine security and tracking, disposal of needles and medical supplies, communications systems and post clinic activities.

Role of the North Dakota Department of Health

During a pandemic influenza situation, it will be important to have developed the necessary infrastructure including influenza vaccination.

Pre-pandemic Influenza Vaccination Activities

1. Currently DC, along with LPHU, private providers worked together to
 - Increase influenza vaccination rates in North Dakota to reduce the annual toll from influenza.
 - Enhance the existing vaccine delivery infrastructure.
 - Facilitate vaccination access to high-risk populations.
 - Increase pneumococcal vaccination rates in North Dakota to reduce the incidence and severity of secondary bacterial infections.
 - Disease Control provides VAERS and VIS to LPHU, private providers and pharmacists.
2. Disease Control has been increasing efforts to:
 - Educate North Dakota providers on proper vaccine storage and handling procedures to minimize vaccine wastage.
 - Encourage providers to report all vaccine adverse events to the Vaccine Adverse Events Reporting System (VAERS).
 - Increase provider usage of the North Dakota Immunization Information System (NDIIS) for tracking influenza and pneumococcal immunizations.
 - Utilize reminder/recall capabilities of the NDIIS to ensure that all vaccinated individuals receive the necessary doses of vaccine.

Pandemic Influenza Vaccination Activities

1. Historically, the CDC has provided priority immunization guidelines during times of vaccine shortages. The CDC guidelines will provide the basis for determination of the priority groups to be vaccinated. It is likely the priority groups will be based upon those at greatest risk of influenza-related complications or transmission of influenza.

1. Vaccination Priorities

- Based upon previously defined high-risk groups, the likely priority groups will include:
 - ◆ Any person with an underlying chronic medical condition.
 - ◆ Healthy children aged 6–23 months
 - ◆ Adults aged 65 years and older
 - ◆ All women who will be pregnant during the influenza season
 - ◆ Healthy residents of nursing homes and long-term care facilities
 - ◆ Health-care workers involved in direct patient care
 - ◆ Out-of-home caregivers and household contacts of children aged <6 months
- However, it is possible that further prioritization may be necessary and that “phased-in vaccination” by group may be necessary. To determine priority groups to be vaccinated, a work group will be established. This work group will be composed of, but not limited to, the following individuals or their representative:
 - ◆ State Health Officer
 - ◆ State Medical Officers
 - ◆ State Epidemiologist
 - ◆ Public Information Officer
 - ◆ Local Public Health Administrators
 - ◆ North Dakota Infectious Disease Physicians
 - ◆ North Dakota Medical Association
 - ◆ North Dakota Healthcare Association
 - ◆ North Dakota Pediatric Association
 - ◆ North Dakota Family Practice Association
 - ◆ North Dakota Long Term Care Association
 - ◆ North Dakota Governor’s office \
 - ◆ Other groups/organizations also may be requested to provide recommendations for establishing vaccination priority groups.
- Collect and analyze vaccine adverse events data.
 - ◆ Immunization program staff will publicize information and data collection forms for the federal Vaccine Adverse Events Reporting System (VAERS).
- Vaccine Ordering
 - It is assumed that the CDC will coordinate vaccine ordering and supply with the state health departments.

- ◆ Under this assumption, CDC will notify the DC regarding the quantity of vaccine available for North Dakota through the federal contract and guidelines for procurement.
- ◆ Vaccine also may be available through contracts negotiated directly between the DC and vaccine manufacturers.
- ◆ Vaccine also may be provided through the Strategic National Stockpile (SNS). In that event, coordination will be conducted between the North Dakota SNS Coordinator and North Dakota Immunization Program.
- North Dakota will be allocated a certain number of doses of influenza vaccine based on vaccine availability and assessments regarding established priority groups. Priority group and high-risk population sizes will be assessed in advance and included in local/regional pandemic influenza plans.
- The NDDoH will notify LPHUs in the eight regions of the amount of vaccine allocated to their region. This allotment will be based on vaccine availability and the size of the priority group population in each area.
- It is unknown whether special populations, such as the Indian Health Service (IHS) will receive dedicated vaccine supplies.
 - ◆ It will be imperative that IHS and tribal health authorities be included and participate in state and regional planning and response efforts.
- Private providers and local public health units will be able to order pneumococcal vaccine as usual. Pneumococcal vaccine is available from the DC for the following groups:
 - ◆ Adults over the age of 65 that are not covered by Medicare.
 - ◆ Adults age 50 to 64 years that are at increased risk for pneumococcal disease.
 - ◆ Children 2 to 18 years that are at increased risk for pneumococcal disease.
- It is unknown what the financial requirements for the vaccine will be. If necessary, state emergency funds will be requested.
- Vaccine Administration and Accountability
 - Influenza vaccine developed during a pandemic will likely be under investigational new drug (IND) protocol.
 - ◆ IND protocol will most likely include strict inventory control and record keeping, along with the completion of a signed consent form. The DC will provide information regarding the IND guidelines.
 - The NDDoH will provide all necessary consent forms, Vaccine Administration Records (VARs), and Vaccine Information Statements (VISs) to local public health units.
 - ◆ LPHUs will submit all VARs and vaccine adverse events to the DC Immunization Program.
 - ◆ The NDDoH will report events through the VAERS program.

Role of the Local Public Health Units

Currently, LPHUs are responsible for public vaccination clinics, coordination of clinics with private healthcare providers and public education. It is important to develop the necessary infrastructure for influenza vaccination.

Pre-pandemic Influenza Vaccination Activities

1. Currently LPHUs worked together to:

- Increase influenza vaccination rates in North Dakota.
- Facilitate vaccination access to high-risk populations.
- Increase pneumococcal vaccination rates in North Dakota to reduce the incidence and severity of secondary bacterial infections.
- Provide education materials to private providers and pharmacists.
- Provide proper vaccine storage and handling to minimize vaccine wastage.
- Report all vaccine adverse events to the DC.
- Utilize reminder/recall capabilities to ensure that all vaccinated individuals receive the necessary doses of vaccine.

Pandemic Influenza Vaccination Activities

As vaccine becomes available, coordination for distribution will be conducted by the DC and the eight regional coordinators. Periodic teleconferences will be conducted to coordinate distribution efforts.

- Vaccine Distribution
 - Influenza vaccine will be delivered directly to sites in the eight major regions or each of the local public health units, depending on local/regional pandemic influenza plans.
 - ◆ Local public health will be responsible for transporting influenza vaccine as necessary to the clinics in their areas.
 - It is not likely that influenza vaccine will be procured or distributed directly from the DC. Depending on the amount of influenza vaccine available, the DC may stockpile vaccine at the state level, if possible.
 - LPHUs will be responsible for the storage, handling and security of influenza vaccine in their region.
 - ◆ Vaccine storage and handling procedures should be included in local/regional pandemic influenza plans.
 - The North Dakota Immunization Program will distribute pneumococcal vaccine as usual.
- Vaccine Administration and Accountability
 - Regional plans have been instituted for administration of vaccine. Vaccine supplied to the regions will be administered according to these plans.
 - ◆ Planning and response activities between the public and private health sectors have been coordinated by the eight regional planning areas.
 - During the pandemic, it will be particularly important to maintain strict accountability for vaccine. LPHUs will be required to be accountable for all vaccine administered. Doses administered and inventory reports will be required to be submitted on a regular basis to the NDDoH.
 - The need to reallocate or redistribute influenza vaccine will be dependent upon periodic monitoring. The eight regional public health units will coordinate with the DC to redistribute/reallocated vaccine as necessary.

- All doses administered will be required to be entered into the ND Immunization Information System (NDIIS).
 - ◆ A determination will be conducted to determine appropriate methods for entering the information.
 - ◆ Necessary staffing will be coordinated by the LPHUs and the DC.
- Every individual vaccinated during a pandemic will need to be reminded or recalled if a second dose of influenza vaccine is required.
 - ◆ Notifications for a second dose of vaccine will be conducted through the NDIIS and will be coordinated with the local public health regional planning programs.

2. Patient Education, Vaccination Clinics

Influenza Antiviral Medications

Antiviral agents are drugs that interfere with the replication of influenza viruses and can be used to treat or to help prevent influenza illness. These drugs are normally used to protect people who cannot tolerate influenza vaccine. However, during a pandemic, when vaccine may not be available, antiviral agents may provide the only means of protection. However, it is likely that supplies of antiviral agents will be limited because of the increased worldwide demand for treatment and prevention of influenza.

1. In the United States, four antiviral agents are approved for preventing or treating influenza: amantadine, rimantadine, zanamivir and oseltamivir.
 - Amantadine and rimantadine are effective against type A influenza only.
 - They also are approved by the Food and Drug Administration for influenza A prophylaxis in persons 1 year of age and older.
 - Zanamivir and oseltamivir are members of a new class of drugs called neuraminidase inhibitors, and are active against both influenza type A and type B.
 - Although not FDA approved for prophylaxis, zanamivir is as effective as oseltamivir for influenza prophylaxis, according to the ACIP. Information regarding influenza antiviral agents is provided in **Appendix (G)**.
 - The supply of antiviral agents is monitored each influenza season by the NDDoH through Dakota Drug, the primary distributor in North Dakota and the North Dakota Pharmacy Association. This information is supplied on a secure website and is available to those who have a “need to know.”
2. During an influenza pandemic, there will likely be insufficient antiviral supplies for the entire population, especially if there is not available influenza vaccine. Therefore, it is likely that priority groups and guidelines will be established by the CDC.
 - These guidelines will provide the basis for determining priority groups to receive antiviral agents in North Dakota.
 - If further prioritization is necessary, the work group previously discussed in the influenza vaccine management section, will be formed to determine further prioritization in North Dakota.
 - Coordination for distribution of antiviral agents will be conducted by the NDDoH and the 8 regional coordinators.
 - Periodic teleconferences will be conducted to coordinate distribution efforts.
 - Collect and analyze antiviral adverse events data.
 - Immunization program staff will work with communications staff to establish a telephone-reporting network for reporting of adverse events resulting from use of antiviral medications.
 - Data will be collected, analyzed and reported to the CDC.
 - Recommendations for use of antiviral medications may be adjusted based on information learned from adverse event data analysis.
 - Information regarding the use of antiviral agents is provided in appendix E.

Emergency Response

Influenza pandemic is likely to pose unique challenges that may not be addressed in current emergency management plans. The Emergency Response section describes the systems that will be used to ensure maintenance of essential medical and other community services in the event of a pandemic.

Role of the North Dakota Division of Emergency Management (DEM)

The DEM is responsible for facilitating the coordination of emergency response activities. Each county has a local emergency manager who coordinates with local agencies and DEM.

Pre-pandemic Emergency Response Activities

1. DEM has developed an all hazards statewide response plan composed of primary responsibilities for 10 functional areas to coordinated emergency response activities. The functional areas and the functional coordinators include:
 - Administration (Division of Emergency Management)
 - Coordination and Control (Division of Emergency Management)
 - Damage Assessment (Division of Emergency Management)
 - Health and Medical (Department of Health)
 - Individual and Family Assessment (Department of Human Services)
 - Public Safety (Highway Patrol)
 - Communications (State Radio)
 - Transportation (Department of Transportation)
 - Public Works and Engineering (Water Commission)
 - Warning (State Radio)
2. DEM also is responsible for activating the North Dakota Emergency Operations Center (EOC) which includes representatives of the 10 functional areas as necessary to assist in the coordination of activities during emergencies. A Joint Information Center also is established when the EOC is activated. It is assumed that the EOC will be activated during an influenza pandemic.
3. Local emergency operations centers also are organized and activated during emergencies. The local EOCs are coordinated by county emergency managers and local authorities.

Role of the NDDoH Emergency Operations Center (NDEOC)

The NDEOC is coordinated by the Emergency Preparedness and Response Section of the NDDoH and utilizes an Incident Command System (ICS) structure for response activities. The NDDoH ICS is lead by an incident commander and, depending on the circumstances and need, consists of the following components:

- Command
- Planning
- Operations
- Logistics
- Finance/Administration

Pre-pandemic Emergency Response Activities

1. The NDEOC has provided quarterly training to North Dakota Department of Health personnel.

Role of the Emergency Preparedness and Response Coordinators

Each of the regional planning areas has an Emergency Preparedness and Response Coordinator (EPRC) who assists in the coordination of local and regional planning activities and provides logistical response activities during emergency situations.

Pre-pandemic Response Activities

1. Estimate Need for Health Care Services

Although there is great uncertainty associated with any estimate of an influenza pandemic's impact, estimates of the potential impact of an influenza pandemic on North Dakota can be derived from calculations using the CDC software, FluAid 1.0. These estimates are for one season only and provide estimates for 15%, 25% and 35% attack rates (percentage of clinical influenza illness cases per population).

2. Evaluate Existing Health Care Infrastructure

- In conjunction with local hospital public health emergency plans, the EPR Coordinators will maintain an inventory of voluntary healthcare personnel through the North Dakota Public Health Emergency Volunteer Reserve (PHEVR) that includes, but is not limited to:
 - physicians
 - physician assistants
 - nurse practitioners
 - pharmacists
 - registered nurses, licensed practical nurses, medical assistants, and other persons who may be trained in the event of an emergency to render care
 - other auxiliary health care providers
- The NDDoH is in the process of developing a credentials database of all licensed health professionals in North Dakota including the American Medical Association (AMA) profile for physicians.
- The NDDoH, LPHUs and EPR Coordinators will maintain an inventory of the following items within their jurisdiction:
 - number of hospital beds
 - number of ICU/CCU beds
 - ventilators
 - negative pressure air isolation rooms
 - sources of medical supplies and other personal protective equipment (PPE)
 - contingency supply of antibiotics
 - contingency supply of antivirals
 - medical staff:
 - ◆ physicians
 - ◆ nurses (includes all nurses licensed by the Board of Registration in Nursing)
 - ◆ physician assistants
 - ◆ respiratory therapists
 - ◆ radiology technicians
 - ◆ medical, nursing and technical students

- contingency medical care facilities
- mortuary/burial services
- adequacy of social, faith and psychological services

Because health care personnel will be as affected by illness as the general population, it may be expected that there will be high absenteeism rates among health care staff, at least until a vaccine becomes available. While retired health care providers and volunteers can be requested to assist in the care of the ill, it is likely that much of the care will become the responsibility of families, whether the patient is at home or in a hospital. It will be necessary to develop informational materials, for the care of the sick.

The Public Information Officer of the NDDoH will coordinate with the eight regional public information officers to provide public information regarding necessary actions during an influenza pandemic. This information will be provided through a variety of methods:

- Printed materials (fact sheets, brochures, etc.)
- Web-based
- Media, including newspaper, radio and television

Communications

The primary goal of communications is to ensure the flow of accurate and consistent information during an influenza pandemic. It is designed to facilitate communication among federal, state and local agencies about influenza activity and circulating strains of influenza virus. Information will be provided to local health units or regional planning areas, who will then examine and redistribute the information for health professionals and the general public within their jurisdiction.

This information also will include recommendations for vaccine management, antiviral use for treatment and chemoprophylaxis, influenza surveillance, infection control and treatment and care of patients. This plan also describes the system for providing influenza information to the general public through the media and other information outlets.

Role of the NDDoH Public Information Office (PIO)

The NDDoH Public Information Office (PIO) will be the lead in coordinating communications and information during an influenza pandemic.

Pre-Pandemic Communication Activities

1. The PIO will coordinate with the regional public officers to develop and implement communications protocols. In addition to the regional public information officers, public information will be coordinated with the Governor's Public Affairs Office and the Joint Information Center (JIC) formed in response to pandemic influenza.

2. Besides the NDDoH Public Information Officers, the risk communication staff will include the State Health Officer, State Epidemiologist, State Medical Officers, Emergency Preparedness and Response Section and other key personnel. It will be the responsibility of the risk communication staff to develop policies and procedures for the establishment of a pandemic communications system, along with the ability to exchange information at the State and local level.

- The agencies to be notified of pandemic influenza activity include, but are not limited to:
 - All state agencies
 - Healthcare agencies (hospitals, long term care facilities, assisted living, etc.)
 - LPHUs(LPHU)
 - Other appropriate organizations (*e.g.*, Red Cross, CDC, FDA)
 - Infection Control Professionals (ICPs)
 - Media
 - Public health agencies of border states
 - Division of Emergency Management
- The risk communication staff will identify and maintain a list of target audiences for messages regarding pandemic influenza. Each entity will be responsible for maintaining those lists most closely related to their work responsibilities.
- The risk communication staff will develop and maintain messages appropriate to specific audiences (*i.e.*, healthcare providers, travelers, those at high risk of severe illness, etc). Information may include:
 - vaccine development and supply

- isolation and quarantine recommendations
 - antiviral use
 - prevention and infection control methods
 - contact investigation
- The risk communication staff will maintain a system to effectively communicate with public health officials, healthcare professionals and other targeted audiences. This system will include securing venues for holding news conferences, media briefings, distance learning and teleconferencing opportunities and other communication-related activities. The primary system for information distribution will be through the North Dakota Health Alert Network (HAN)
 - **North Dakota Health Alert Network:** The North Dakota Health Alert Network (HAN) is an enhanced bi-directional communication system designed to facilitate information among relevant federal, state and local public health agencies. All relevant local, state and federal agencies will have secure access to critical data and the ability to disseminate information across geographic and political boundaries, disciplines and governmental levels.
 - ♦ The NDDoH will have the capacity to disseminate public health alerts and information to all tiers of the public health infrastructure through broadcast systems that can disseminate information to computers, beepers, phones and faxes simultaneously. These systems also will allow for specific individuals or groups of individuals in the system database to be contacted depending on the situation.

Authorized users will be able to send broadcasts from touch-tone phones or from the computer-based system at the NDDoH. Listings of statewide users will be updated via reminder notices sent out through the HAN, in which the statewide user will log onto the website to update his/her contact information. In addition, access via the Internet to the Health Alert Network web site will allow all users to post alerts and other information and disseminate email to all Health Alert Network participants or selected groups depending on the situation.

Pandemic Communication Activities

1. Upon pandemic virus notification, the State Health Officer, PIOs, Disease Control and other key personnel will review the Communication Plan:.
 - The risk communication staff will implement contingency plans to obtain critical hardware, software or personnel to operate the communications system during an influenza pandemic
 - The risk communication staff will test the communications system.
2. The communication staff will ensure that all residents of North Dakota have access to information about disease control measures and available services during a pandemic, the NDDoH will conduct the following activities:
 - Ensure that informational materials are available in all appropriate languages.
 - Add pandemic information to the NDDoH influenza website (www.ndflu.com).
 - Identify and work with non-English media including reservation radio stations.
 - Identify groups who can ensure that information is accessible to people who are visually or hearing impaired.
 - Utilize programs within the state that have constituents in communities and in other

- special groups (i.e. WIC, Hospice care, ND AARP, Salvation Army, etc.).
 - Foster existing relationships and create new ones with community groups providing
 - services to people in the communities listed above.
3. The communication staff will coordinate with the Division of Disease Control to:
- Notify sentinel surveillance sites in North Dakota.
 - Modify the established influenza web site to include the pandemic-specific information. This will include additional web pages where updated information can be posted as needed. This web site will be linked to the NDDOH web site and will be used in all public education materials and public service announcements.
 - Develop and disseminate guidelines on the prevention, diagnosis and treatment of influenza and influenza-related illness, using guidelines from the CDC, the Advisory Committee on Immunization Practices and other national advisory groups.
4. In addition to the use of the North Dakota Health Alert Network, information, recommendations and guidelines will be disseminated to health care providers and other public health agencies through the the NDDoH web site. Fact sheets and guidelines on influenza control measures and epidemiologic information will be provided on the NDflu.com web site which will be linked to the NDDoH website and updated on a regular basis.
- The Division of Disease Control will be available to respond to telephone calls from providers and the public 24 hours per day/7 days per week.
 - Additional assistance to respond to telephone calls will be provided by the computerized telephone forwarding system staffed by nonessential health department staff.
 - Additional information will be provided through NDDoH newsletters such as the Epidemiology Report, The Pump Handle and the Immunization News, etc.
 - Additional education regarding the priority groups for receipt of vaccine will be developed by the risk communications staff. Special attention will be given to educating the general public about the Priority Groups List for receipt of vaccine, including the rationale for the list, how the decisions were made and what other control measures people can take until influenza vaccine is available for everyone.
 - The NDDoH and DEM will establish a Joint Information Center to efficiently provide
 - and disseminate accurate and consistent information to the general public.

If necessary, the JIC may operate a 24-hour public information telephone line to deal with public inquiries.

5. The NDDoH and DEM will establish a Joint Information Center to efficiently provide, and disseminate accurate and consistent information to the general public. If necessary, the JIC may operate a 24-hour public information telephone line to deal with public inquiries.
- The NDDoH and DEM will establish a Joint Information Center to efficiently provide, and disseminate accurate and consistent information to the general public.
 - ◆ If necessary, the JIC may operate a 24-hour public information telephone line to deal with public inquiries.
 - ◆ The NDDoH will coordinate with voluntary organizations to release information concerning what volunteer goods and services are needed, and where volunteers and donors may go to deliver such goods or potential services. (See Emergency Response section).

- The NDDOH, through the Health Alert Network, will provide information to local health units and other health care facilities on disease impact and recommendations on prevention and control.
- Education regarding an Immunization Campaign: as in mass immunization with any vaccine, it is predictable that two problems will occur:
 - ♦ Any symptom or illness that closely follows immunization will be attributed to the vaccine, and
 - ♦ Any febrile respiratory illness following immunization will be viewed as a vaccine failure.

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Public Control Measures including Isolation and Quarantine

Because of the nature of influenza, it is not likely that individual isolation or quarantine orders would be effective during an influenza pandemic. However, implementation of interventions such as cancellation of public events, "snow days," etc. may be necessary to prevent further transmission of disease. Other measures such as travel restrictions also may be effective and will be considered.

Such measures may be statewide and will be the responsibility of the state health officer for direction. Implementation of such orders will be conducted under advisement of the workgroup previously described and coordinated with the Governor's office. Local health officers also can institute public health orders mandating cancellation of events. It also is possible that under a Governor issued state of emergency, cancellation of public events will be mandated by the governor.

If there is mandated cancellation of events, security and enforcement issues will be coordinated at the local level.

If personal isolation or quarantine are considered, implementation of these procedures will be conducted under the protocol Protocol for Implementation of Isolation or Quarantine in **Appendix H**.

Although many people will require hospitalization during a pandemic, most people will be at alternative medical care facilities and at home. Therefore, contingencies and plans will need to be implemented to provide for their care.

Plans to Meet the Needs of Persons Confined to their Homes

Persons may be confined to their homes by choice, out of fear of being exposed and becoming ill, or by direction from state or local health officials in order to reduce transmission in the community.

The provision of food, medical and other essential support for persons confined to their homes will be the responsibility of LPHUs and the local communities. Local communities are encouraged to make use of civic organizations and other volunteers to meet these needs. For instance, local agencies already engaged in providing services to the homebound (Red Cross, Meals-on-Wheels, etc.) may become the nucleus for voluntary efforts to provide services to people confined to their homes.

In addition, there will likely be situations in which care providers of children or the elderly will become ill and unable to care for their children or elderly parents. Communities will need to have plans in place to identify these situations (e.g., hotlines and/or home visiting programs) and contingency plans for caring for these individuals.

If the local communities are unable to meet the requirements of meet the needs of the homebound assistance will be required to be requested through the ND EOC.

Information for People Sick at Home.

The NDDoH will develop information about taking care of sick family members at home, along with guidelines regarding when to seek professional medical care. This first-line triage will be essential to eliminating unnecessary calls and decreasing the burden on the health care system.

Plans to Maintain Other Essential Community Services.

Personnel who provide essential community services, including public safety and emergency response, will be as likely to become ill during a pandemic as the general public. It is estimated that up to 35% of the population will become clinically ill. With influenza, febrile illness usually lasts 2 – 5 days, but people may take up to two weeks to fully recover.

The NDDoH will develop lists of essential personnel based on national guidelines for vaccination. As with the other priority groups designated for vaccination, designation of priority groups will be determined by the workgroup previously discussed. As previously discussed, it is unlikely that vaccine will be available during the early stages of the pandemic and may be in short supply when it does become available. During this time, state agencies and health care organizations should have contingency plans to provide essential services during periods of high absenteeism.

It will be necessary for local/regional planning groups to develop contingency plans to provide back up for personnel whose absence would pose a threat to public safety or would significantly interfere with the ongoing response to the pandemic. Back up personnel could include reassignment of personnel from non-essential programs.

Infection Control

Implementation of appropriate infection control practices in the public and in medical settings including long term care facilities will be important to reduce influenza transmission, especially when vaccine is not available. For the public, messages and information regarding the need to practice "respiratory/cough etiquette," hand washing, and other measures such as staying home from work or school when ill will be important. Other measures such as the use of masks in public places also will be emphasized. These messages will be provided on the NDDoH website, and in stores, schools, work places, newspapers and other places. Public service messages regarding measures to reduce influenza transmission also will be produced for radio and television.

Institution of appropriate infection control procedures in clinics, hospitals and long term care facilities will be important. Utilizing guidelines of the CDC and other organizations, a work group composed of representatives of the following groups will develop infection control recommendations for facilities:

- NDDoH (Division of Disease Control, Emergency Preparedness and Response Section and Health Facilities)
- Association of Practitioners in Infection Control (ACIP)
- Long Term Care Association
- North Dakota Nurses Association
- North Dakota Medical Association
- North Dakota HealthCare Association

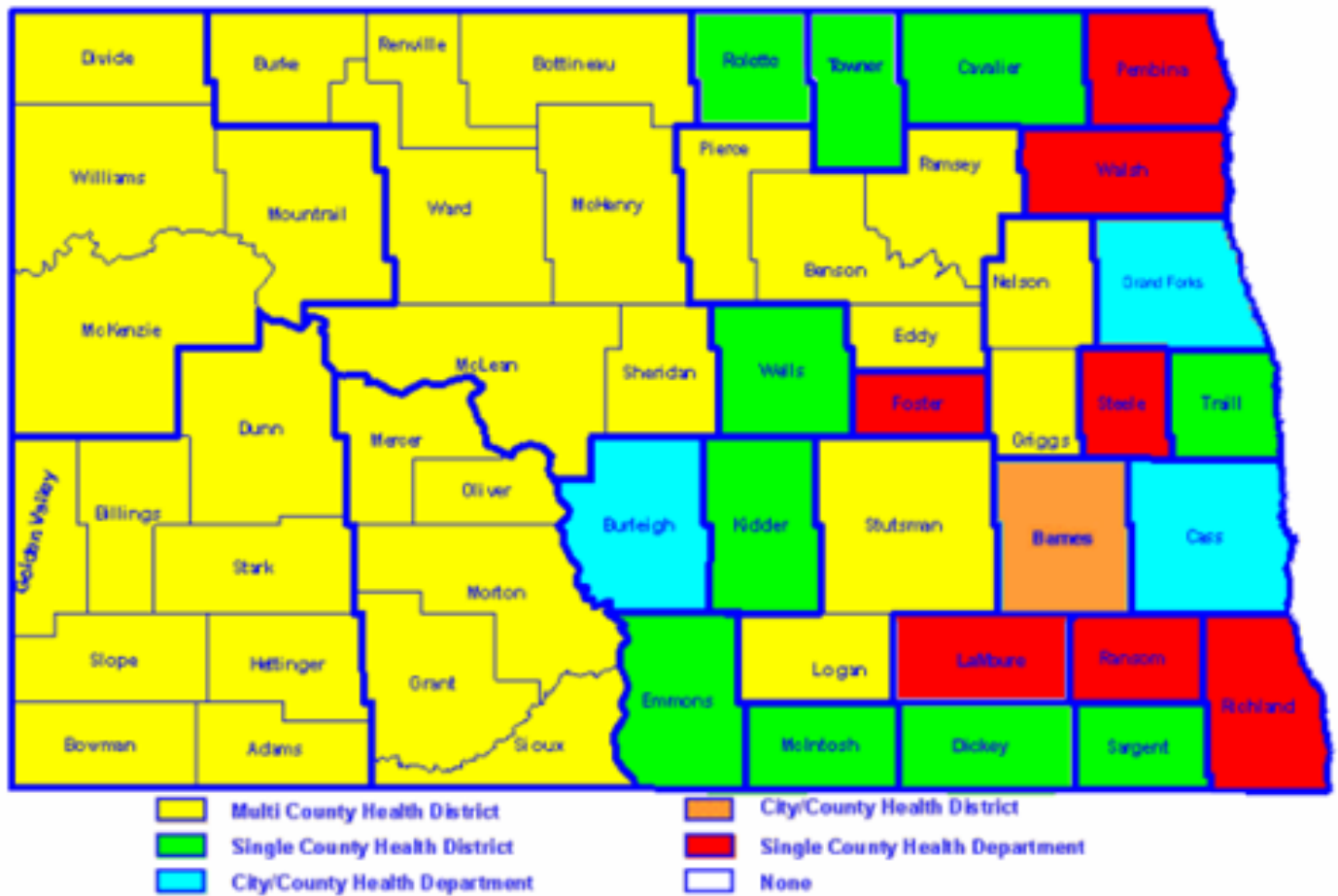
These recommendations will focus on:

- Infection control measures for clinics including patients and health care providers and
- Hospitals and Long Term Care Facilities including visitors and personnel

Recommendations also will be provided for personal protection for health care providers.

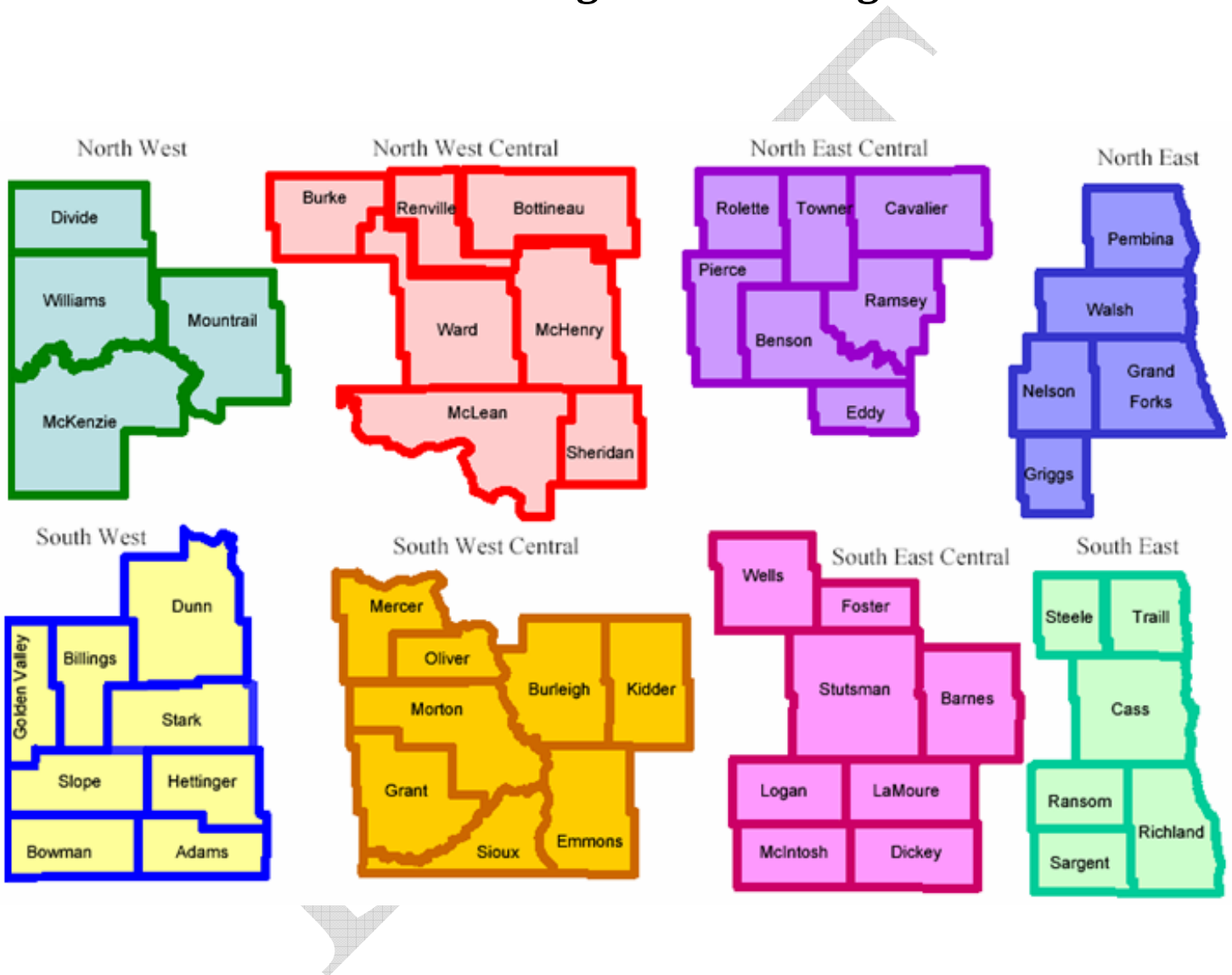
Appendix A

North Dakota Local Public Health Units



Appendix B

North Dakota Regional Planning Areas



Appendix C

North Dakota Department of Health **Division of Disease Control** **May, 2005**

KIRBY KRUGER DIRECTOR					
TB/HIV/AIDS AND RYAN WHITE PROGRAMS	IMMUNIZATION PROGRAM	STD/GENERAL AND COMMUNICABLE DISEASE PROGRAMS	EPIDEMIOLOGY AND SURVEILLANCE	DATA MANAGEMENT	ADMINISTRATIVE SUPPORT
VACANT HIV/TB Program Manager DENISE STEINBACH HIV Surveillance/Ryan White Coordinator PAULA KUNTZ HIV Prevention Coordinator	HEATHER WEAVER Immunization Program Manager MOLLY SANDER Immunization Surveillance Coordinator LEE JACKSON Vaccine Shipping Clerk (Contract Employee)	KIRBY KRUGER STD Program Manager DANA BREKHUS+ Epidemiologist Williston BETH ERICKSON+ Epidemiologist Grand Forks GERRY HAAG+ Epidemiologist Dickinson DOUG JOHNSON+ Epidemiologist Fargo EUGENIE LANG+ Epidemiologist Jamestown LINDA LARSON+ Epidemiologist Minot JILL SLETTELAND+ Epidemiologist Devils Lake DHIDHA TIMONA+ Epidemiologist Bismarck	TRACY MILLER Program Manager MELISSA CASTEEL Epidemiologist ERIN FOX Epidemiologist JULIE GOPLIN Epidemiologist KIM WEIS Hepatitis Surveillance Coordinator	MICHAEL BENZ Information Technology Coordinator	RENE LAFFERTY Administrative Assistant RENAE JANSEN Administrative Assistant TERI ARSO Administrative Assistant GERE STETSON Administrative Assistant (Temporary Employee)

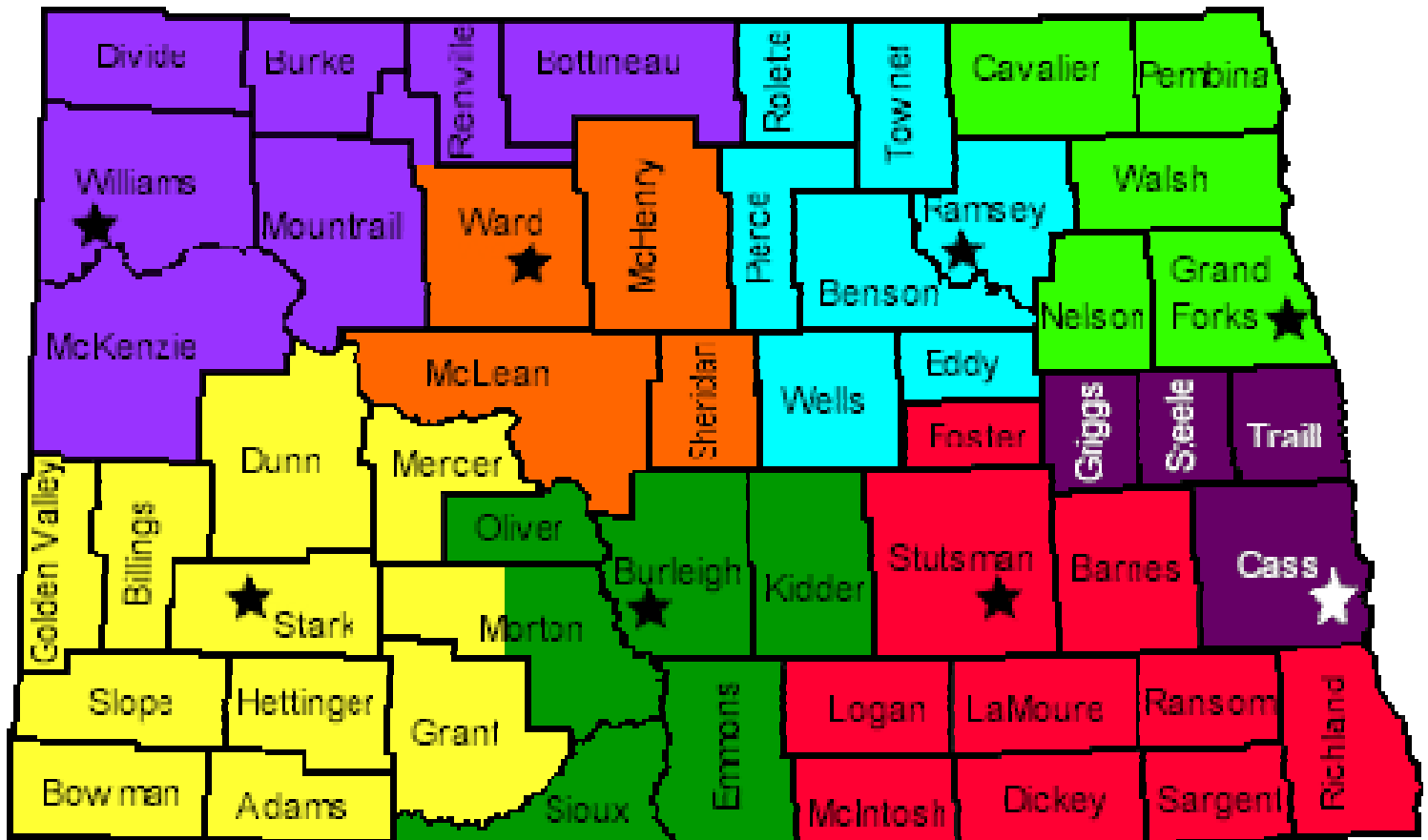
+ Field epidemiologists work in all program areas

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Appendix D

Field Epidemiologist's Regions



Area	Epidemiologist	Phone
	Dana Brekhus	774-6405
	Linda Larson	838-3340
	Jill Sletteland	662-7074
	Beth Erickson	787-8130
	Gerry Haag	483-0171
	Dhidha Timona	220-9451
	Genie Lang	252-8130
	Doug Johnson	241-1386

☐ (VIC) Adenovirus Culture	☐ (HSC) Hepatitis A, B & C Panel	☐ (VIC) Parainfluenza Virus Types 1,2,3, Culture
☐ (WSI) Arbovirus Encephalitis Panel (Seasonal)*	☐ (HCB) Hepatitis B & C Panel	☐ (HBS) Prenatal Hepatitis B Surface Antigen (HBsAg)
☐ (REC) Aerobic Culture ID (Submit Isolate)	☐ (HBC) Hepatitis B Core Antibody (Anti-HBc)	☐ (QFV) Q Fever Antibody*
☐ (REA) Anaerobic Culture ID (Submit Isolate)	☐ (HBI) Hepatitis B Surface Antibody Immune Status (Anti-HBs)	☐ (RSV) Respiratory Syncytial Virus Antibody, IgM (infants to 2 yrs) *
☐ (REC) <i>Bacillus anthracis</i> Culture	☐ (HBS) Hepatitis B Surface Antigen (HBsAg)	☐ (VIC) Respiratory Syncytial Virus Culture (infants to 2 yrs)
☐ (PAM) <i>Bordetella pertussis</i> Amplified Probe*	☐ (HBB) Hepatitis B Surface Antigen (HBsAg) & Hepatitis B Core Antibody (Anti-HBc)	☐ (RMS) Rocky Mountain Spotted Fever Antibody*
☐ (AGG) Brucella Antibody*	☐ (HCV) Hepatitis C Antibody (Anti-HCV)*	☐ (RUB) Rubella Virus Antibody, IgM*
☐ (REC) Brucella Culture	☐ (HEI) Herpes Simplex Virus Antibody, IgM*	☐ (VIC) Rubella Virus Culture
☐ (CUL) Campylobacter Culture	☐ (HEC) Herpes Simplex Virus Culture	☐ (SAS) Salmonella Serotyping
☐ (CAC) Campylobacter Confirmation (Submit Isolate)	☒ HIV-I Antibody (Use HIV Form)	☐ (SHS) Shigella Serotyping
☐ (CHI) <i>Chlamydia trachomatis</i> Antibody, IgM	☐ (INC) Influenza Virus Type A & B Culture	☐ (RPR) Syphilis Screen
☐ (CHD) <i>Chlamydia trachomatis</i> DFA	☐ (INH) Influenza Virus Type A & B Antibodies, Hemmagglutination Inhibition*	☐ (GAS) Throat Culture
☐ (AMP) <i>Chlamydia trachomatis/Neisseria gonorrhoeae</i> Nucleic Acid Amplified Probe	☐ (LEI) <i>Legionella pneumophila</i> Antibody*	☐ (TOS) TORCH Antibodies Panel, IgM (Newborn)*
☐ (DIC) <i>Corynebacterium diphtheriae</i> Culture	☐ (LEC) <i>Legionella pneumophila</i> Culture Confirm.	☐ (TOX) <i>Toxoplasma gondii</i> Antibody, IgM*
☐ (CMV) Cytomegalovirus Antibody, IgM	☐ (LCD) <i>Legionella pneumophila</i> Culture & DFA	☐ (TYP) Typhus Antibody*
☐ (CMC) Cytomegalovirus Culture	☐ (LED) <i>Legionella pneumophila</i> DFA	☐ (V-Z) Varicella-Zoster Virus Antibody, IgM*
☐ (ENP) Encephalitis Panel*	☐ (LYD) Lyme Disease Antibody*	☐ (VIC) Varicella-Zoster Virus Culture
☐ (ENT) Enterovirus Culture	☐ (O-P) Malarial Thick and Thin Blood Smears	☐ (REC) Vibrio Culture
☐ (E-B) Epstein-Barr Antibody, IgM*	☐ (RUE) Measles Virus Antibody, IgM*	☐ (VDR) VDRL (CSF)
☐ (CUL) <i>Escherichia coli</i> O157:H7 Culture	☐ (VIC) Measles Virus Culture	☐ (REC) Yersinia Culture
☐ (ECS) <i>Escherichia coli</i> O157:H7 Serotyping	☐ (MUI) Mumps Virus Antibody, IgM*	☐
☐ (FTA) Fluorescent Treponema Antibody (FTA-ABS)	☐ (MUC) Mumps Virus Culture	☐
☐ (TUL) <i>Francisella tularensis</i> Antibody*	☐ (TBC) Mycobacteria Culture (TB) & Smear	☐
☐ (REC) <i>Francisella tularensis</i> Culture	☐ (MTD) Mycobacteria Direct Probe (Amplified)*	☐
☐ (FUS) Fungal Antibody Panel*	☐ (SUS) Mycobacteria Susceptibility	☐
☐ (FUC) Fungal Culture	☐ (MYI) <i>Mycoplasma pneumoniae</i> Antibody, IgM*	☐
☐ (FNS) Fungal Smear		☐

Appendix F

INFLUENZA DIRECT SPECIMEN ANTIGEN DETECTION COLLECTION PROCEDURE

OCTOBER 2004

The success of virus diagnosis is largely dependant upon the quality of the specimens submitted for analysis. These specimens should be collected as soon as possible after onset of symptoms, and transported directly to the laboratory on ice. The steps to follow in collection of a direct specimen for influenza testing are as follows:

1. Select the appropriate specimen on the basis of the clinical history i.e., (nasal or throat swab)
2. Label the slide with the patient name and date of collection.

Nasal swab: A dry cotton or polyester swab is inserted into the nostril parallel to the palate and allowed to remain in place for a few seconds. Then slowly withdraw the swab with a rotating motion. Specimens from both nostrils are obtained with the same swab.

Throat swab: Obtain throat specimens by rubbing the posterior of the tonsils, the soft palate and the back wall of the lower pharynx with the swab.

3. Prepare the slide by firmly rolling one-half of the swab over one well of the slide. Repeat the procedure with the other half of the swab on the second well. **See Figure1.**
4. Check each well for adequate coverage and repeat if necessary.
5. Allow the slide to air dry at room temperature and place in plastic shipper.
6. Ship slide and a **completed** viral request form to the laboratory as soon as possible. Remember you must provide the history of symptomatology as requested in the "Patient Data" portion of the lab requisition form.

A **second swab** should be obtained for viral culture. If a **throat swab** is used, follow the same procedure as above for obtaining the second specimen. Then, return the swab back into the viral culturette, break the ampule at the bottom of the culturette and ship the specimen **on ice** along with the slide. If a **nasal swab** is used, follow the same procedure as above for obtaining the second specimen. However, you will need to use a viral culturette to transport the nasal swab. Therefore, you need to break off the throat swab from the viral culturette and discard it, but **be sure to save** the green cap. Then, place the nasal swab into to the viral culturette, break the ampule at the bottom of the culturette and ship the specimen **on ice** along with the slide.

Appendix G

See Attached PDFs

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Appendix H

Quarantine and Isolation

PROTOCOL FOR IMPLEMENTATION OF ISOLATION OR QUARANTINE

NORTH DAKOTA DEPARTMENT OF HEALTH (NDDoH)

Background

ND Century Code 23-07.6-01 (<http://www.state.nd.us/lr/cencode/T23C076.pdf>)

provides for the confinement of persons believed by the health officer to pose a substantial threat to public health when confinement is the least restrictive alternative to limit disease transmission. Unless expressly identified, health officer refers to the North Dakota State Health Officer or the local public health officer. This confinement may be used for isolation of one or more persons known or reasonably believed to be infected with a contagious disease agent or for quarantine of one or more persons who have been or may have been exposed to a contagious disease agent. This document defines the procedures for voluntary confinement and mandatory confinement as authorized by the state statute.

As defined in the century code:

"Isolation" means the physical separation and restrictions on movement or travel of an individual or groups of individuals who are infected or reasonably believed to be infected with a contagious or possibly contagious disease from nonisolated individuals, to prevent or limit the transmission of the disease to nonisolated individuals.

"Quarantine" means the physical separation and restrictions on movement or travel of an individual or groups of individuals, who are or may have been exposed to a contagious or possibly contagious disease and who do not show signs or symptoms of a contagious disease, from nonquarantined individuals to prevent or limit the transmission of the disease to nonquarantined individuals.

Condition for Use

1. Voluntary confinement within the home or other mutually agreed upon location would be used whenever possible as the least restrictive approach to separating an infected or exposed individual from other persons. Voluntary confinement would be appropriate under the following conditions:
 - a. The person's intended living quarters is a single family living quarter with a ventilation system isolated from all other family quarters; and,
 - b. Any other persons living in the quarters wish to receive the person into the quarters, are capable of and prepared to take adequate precautions to prevent the spread of the contagious disease to other household members; and,
 - c. The quarters are adequate for the provision of routine care and treatment of the person; and,
 - d. The person is willing to agree to voluntary confinement; and
 - e. The health officer believes that using voluntary confinement is prudent given what he or she knows about the infecting agent, the circumstances of the case or epidemic and the infected or exposed person's likelihood of compliance.
2. In-home isolation or quarantine would be used when the person is unwilling to comply with voluntary confinement or the health officer does not view voluntary confinement as prudent, and:

- a. The person's intended dwelling place is a single family dwelling with a ventilation system isolated from all other family quarters; and,
 - b. Any other persons living in the quarters wish to receive the person into the quarters, are capable of and prepared to take adequate precautions to prevent the spread of the contagious disease to other household members; and,
 - c. The quarters are adequate for the provision of routine care and treatment of the person.
3. Out-of-home isolation or quarantine would be used when in-home voluntary confinement or in-home isolation or quarantine cannot be used. This would include circumstances in which:
 - a. 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
 - b. Other persons living in the quarters are unwilling to accept the person at the home; or
 - c. Other persons living in the quarters are unable to protect themselves adequately from becoming infected; or
 - d. The quarters are inadequate for the provision of routine care or treatment of the person; or,
 - e. 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.
4. 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 need to coordinate with the releasing medical facility to provide conditions for the confinement with the person being released.

State and Local Authority for Confinement

ND Century Code 23-07.6-01 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 or 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).

Voluntary Confinement

1. Signed agreement: The health officer shall make his or her request for confinement known to the person in writing. The document should be signed by the person and a caregiver who is taking responsibility for providing for the needs of the person, and it should be witnessed in writing by a representative of the NDDoH or local public health unit managing the case. The signature of the health officer is not required. The document is not considered legally binding, but rather defines an agreement between the public health system and a responsible citizen of the State of North Dakota. The use of a **signed** voluntary confinement is discouraged in situations in which the health officer is not prepared to order quarantine or

isolation or if voluntary confinement is ineffective in maintaining confinement. The following should be specified in the document:

- a. The conditions, if any, under which the person may leave the premises;
- b. The expected duration of confinement;
- c. The treatment with which the person will comply;
- d. The approach to monitoring the person's condition and location;
- e. Procedures for monitoring the health of family members or caregivers;
- f. The precautions the person is expected to take to prevent the exposure of other persons in the household;
- g. The person(s) who will be responsible for ensuring the person's needs are met;
- h. Procedures for the provision of necessary supplies and procedures, and training for caregivers to prevent their exposure to the disease;
- i. The persons who are authorized to enter and leave the premise;
- j. Measures to ensure that no unauthorized person enters the premise;
- k. Contact names and phone numbers which the person or caregiver can call to request assistance or report problems or illness; and
- l. 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.

2. **Monitoring:** The representative of the NDDoH (usually the field epidemiologist who is responsible for that area) will coordinate the monitoring of the isolation or quarantine voluntary confinement. The actual monitoring will be conducted by the field epidemiologist, member of the local public health unit or a designate coordinated between the NDDoH and the local public health unit. Monitoring may consist of actually visiting, calling or other appropriate measure to ensure the requirements in the agreement are fulfilled. At a minimum, the monitor should call and speak to the person (i.e., not caregiver only) at least once a day at varying times including evening and weekend. More frequent calls or visits are indicated if there are concerns about compliance or about the person's condition. Monitoring the health of all persons in the home and all persons who enter the home including public health workers also should be conducted. Family members and public health workers providing care for an infected individual should be instructed to immediately report signs or symptoms of illness such as temperature, rash, etc. which may be indicative of the disease. Any person entering the residence of someone who is isolated or quarantined must utilize appropriate personal protection as recommended by the NDDoH or local public health unit.
3. **Control of access to the living quarter:** Unauthorized persons must not be allowed to enter a living quarter when that living quarter is under confinement, whether that confinement is voluntary or mandatory. In situations of voluntary confinement, the public health authority and the person should reach an agreement about the least intrusive means for accomplishing this. This might include an agreement that external doors of the house remain locked at all times, or a quarantine sign is posted on the doors, or both.
4. **Right to privacy:** Although every effort should be conducted to protect personal privacy, there also is an obligation to protect the health of the public. An agreement between the person and the public health authority regarding what the media will be told should be

reached. Because experience with the media suggests that the privacy of the individual in these circumstances may be compromised regardless of public health's protection of personal information, the person should be notified of this possibility.

5. Additional rights: The century code guarantees the right of internal and external communication for persons in isolation or quarantine. Although the code is not technically in force in the situation of voluntary confinement, public health should ensure that a telephone is available in any quarters used for voluntary or mandatory confinement. In addition, persons are guaranteed, to the extent possible, that cultural and religious beliefs are considered. This should be discussed with the person and family to find a satisfactory means to meet these needs if that is possible.
6. Protection of family members: Depending on the health and capability of the person, in-home assistive care may or may not be necessary. The availability of in-home assistance when indicated 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 of those individuals. The presence of a large number of at-risk individuals, children, immunocompromised individuals or poor family hygiene may make in-home confinement unwise 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), the use of protective equipment such as masks worn by person and all family members; and/or the use of preventive treatments (e.g., vaccines or antibiotics) then in-home confinement may be reasonable. Specific guidelines for protection of household members from SARS (which can cause substantial fatality, is highly contagious, and has no preventive antibiotic or vaccine) have been published by CDC.

Isolation or Quarantine Order

If it is determined that voluntary confinement is impractical or through the monitoring that the individual(s) is noncompliant, an isolation or quarantine order may be issued.

1. Summary of legal requirements for isolation and/or quarantine:
 - a. Must be least restrictive means.
 - b. Isolated individuals must be housed separately from quarantined individuals.
 - c. Health status and continued need for confinement must be monitored.
 - d. Persons must be released when they no longer constitute a substantial risk to the public.
 - e. Needs of the persons confined must be addressed in a systematic and competent fashion including food, clothing, shelter, means of communication, and medical care.
 - f. Premises must remain safe and hygienic to minimize transmission risk.
 - g. Cultural and religious needs must be met to the extent possible.
 - h. Access to the quarters requires authorization by the health officer.
 - i. If delay would be detrimental, confinement may be imposed without court order.
 - j. A written directive must specify the person or persons, the date and time of onset, the disease if known, decontamination, treatment and prevention measures and include a copy of the statute.
 - k. A copy of the directive must be given to the affected individual(s), the NDDoH, the local public health unit or posted for a large group.
 - l. A public notice, such as a sign or other such mechanism, indicating the person(s) and area(s) is/are under an isolation or quarantine will be utilized.
 - m. Media broadcasting of the directive is authorized.

- n. Continued confinement beyond 10 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.
2. Enforcement: 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 tuberculosis or SARS may pose a substantial risk for non-compliance (e.g., to obtain drugs), and risk infecting a population, which may be difficult to reach for surveillance or control measures. 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 unskilled temporary employees employed to monitor a home may be sufficient to alert public health 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. Other actions such as, sealing windows and doors with external locks may be additional procedures which can be taken with court approval rather than moving a person to another facility. However external assistance to enforce the quarantine or isolation order, such as by law enforcement, may be necessary. The NDDoH or local public health unit should assess and coordinate the need for external enforcement as necessary. All precautions necessary to protect the health of external enforcement assistance will be utilized.
3. Care of Persons under an Isolation or Quarantine Order: An actual order of confinement places a legal 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. For one or more persons in a household who are under isolation, family members may be fully capable of meeting the needs of the person. If an entire household or area is under isolation or quarantine, public health may need to assume responsibility for providing needed supplies to the home. If the person or persons are incapable of full self-care, public health may have to provide meals, laundry and cleaning services or move the person to an institution (e.g., health care facility) where the appropriate level of care can be provided.
4. Protection of family member: Century Code 23-07.6-01 specifically states that persons requiring isolation must be confined separately from persons requiring quarantine. This may prohibit the confinement of an individual with known infection at home with family members or other occupants who are not known to be infected or are reasonably believed to be infected.
5. Location for out-of-home isolation or quarantine: In some cases, it may be possible for a person requiring continued isolation following an acute illness to remain in an acute care facility until no longer a contagion risk, if the person cannot reasonably return home for confinement. For circumstances in which alternative housing is required, regional sites should be utilized first. Each NDDoH emergency response region will define one or more locations (e.g., publicly own buildings, rented facilities, house or camping trailers, etc.), which could be used to house persons needing out-of-home isolation or quarantine. Regions would be expected to care for at least 1 person per 10,000 population in the region. Facilities must ensure separation (including separate ventilation systems) of isolation persons from quarantine persons, as well as from non-exposed individuals. The NDDoH will also identify a facility in the event that a region exceeds 1 person per 10,000 population requiring out-of-home isolation or quarantine and needs state assistance.

6. 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.

Tribal, State and International Borders

The health officer issuing an order for confinement for a condition, which 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, the NDDoH shall coordinate directly with tribal health officials to discuss options for the protection of public health.

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 the appropriate law enforcement agency officer, should make the transfer.