Smallpox Phase I Hospital Team Vaccination Seminar

North Dakota Department of Health
Smallpox Overview

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State Health Officer
North Dakota Department of Health
History

• 1977 – Last naturally acquired case in Somalia
• 1978 – Laboratory-related death at the University of Birmingham, England
• 1980 – Global eradication certified by the World Health Organization
• Method of eradication – Ring vaccination, not mass vaccination
Ring Vaccination Concept

- Isolation of confirmed and suspected cases
- Identification, vaccination and surveillance of significant contacts of proven cases
- Vaccination of household contacts of contacts
Smallpox – Basic Facts

• Cause – Variola Virus
• Can infect only humans
• Transmission – Close face to face (generally within 6 feet) via respiratory droplets of a person who has the disease
Smallpox - Disease

- Onset is 12 to 14 days after exposure
- Days 2 to 3 – High fever, bed-ridden, headache and backache
- Days 4 to 5 – Onset of the rash (small bump – blister – pustule – scab)
- Most infectious during the first week of the rash. No longer infectious once the scabs fall off (3 to 4 weeks)
- Death rate is about 30 percent
Smallpox
Smallpox Vaccination

- Live virus vaccine – Vaccinia (this is not the smallpox virus)
- Highly effective in preventing illness or severe disease if given within 3 to 4 days of definite exposure to smallpox
Smallpox Vaccination

- Skin reactions are an indicator that the vaccine was effective (vaccine “take”)
  - 3 to 4 days – Redness and itching
  - 7 to 11 days – Vesicle (blister) develops into a pustule, redness increases
  - 14 to 21 days – Pustule dries, scab forms
  - 21 days – Scabs falls off, leaving a permanent scar
- Commonly see fever and tender, enlarged lymph nodes
Vaccination – Adverse Reactions

- Death – 1 / million
- Accidental infection of other body part (i.e. eye) – 1 / 2000
- Generalized vaccinia – 1 / 5000
- Eczema vaccinatum – 1 / 26,000
- Post vaccination encephalitis – 1 / 300,000
- Progressive vaccinia – 0.83 / million
Vaccination Site Progression

DAY 4

DAY 6

DAY 4

DAY 6
Vaccination Site Progression

DAY 4

DAY 7

DAY 14

DAY 21

PRIMARY VACCINATION SITE REACTION
Vaccination Site Progression
Vaccination Site Progression
Smallpox Surveillance and Diagnosis

Larry A. Shireley, MS, MPH
State Epidemiologist
North Dakota Department of Health
Early Detection

“Atypical” Rash Illnesses

North Dakota Department of Health
Division of Disease Control

Dial: 1.800.472.2180

24 hours/day - 7 days/week

Call weekdays, evenings, weekends or holidays

For questions, reportable disease recommendations, reporting issues or consultations
Rash Illnesses

- Rule Out Chickenpox (Varicella)
  - Reporting of hospitalized patients
  - Consultation
    - Infectious Disease Physicians
    - Dermatologists
- Consultation/Confirmation
  - Centers for Disease Control and Prevention
Laboratory

- ND Public Health Laboratory
  - “Rule in Varicella”
    - DFA
    - Real time PCR
  - Pan-Orthopox
    - Real time PCR
  - Vaccinia - Non-vvariola E9L
    - Real time PCR

- Variola
  - Centers for Disease Control and Prevention
  - Regional Laboratories
Syndromic Surveillance

- Emergency Room
- Regional Ask-A-Nurse
- Others
  - Ambulance “Runs”
  - Pharmaceutical Sales
Case Investigation

- Ring Vaccination
Smallpox Plan Overview

Tim Wiedrich, Director
Bioterrorism Preparedness and Response
North Dakota Department of Health
Smallpox Plan Categories

- **Pre-event**
  - **Phase I**
    - *Initial Responders*
    - *Public Health*
    - *Hospital*
  - *About 2,000*
Smallpox Plan Categories

- Pre-event
  - Phase II
    - All Responders
    - Public Health
    - Hospital
    - Clinic/Physician
    - Public Safety
      - Law enforcement
      - Fire
      - EMS
Smallpox Plan Categories

- Pre-event
  - Phase III
  - Public
Smallpox Plan Categories

- Post-event
  - Ring vaccination
  - Mass vaccination
Public Health Regional Resources

- Lead Public Health Units
- Bioterrorism Directors
- Field Epidemiologists
- Medical Consultants
- Public Information Officers
Phase I Pre-event Vaccination Clinics

- **State Responsibilities**
  - Receipt and delivery of vaccine
  - Establishment of regional consultants
  - Data registration
  - Training
  - Public education

- **Regional and Local Responsibilities**
  - Identification of public & hospital response teams
  - Clinic Planning
    - Site selections
    - Supply acquisitions
    - Staffing
    - Schedule planning
    - Supervision and evaluation
Healthcare Response Teams

Brenda Vossler, RN, CIC
Bioterrorism Hospital Coordinator
North Dakota Department of Health
Purpose of a Healthcare Team

- Provide for the safety of healthcare workers
- Provide immediate quality care to smallpox patients
Selecting Your Healthcare Team

- Consider the services you provide.
- Consider workloads, schedules and vacations.
- Select enough team members to provide care 24/7 for 7-10 days.
- Select staff willing to participate.
  Vaccination is voluntary.
Composition of Healthcare Team

- ER staff—MDs, RNs, EMTs, Receptionist
- ICU staff—MDs, RNs,
- Medical unit staff—MDs, RNs
- Medical Specialists
- Infection Control
- Respiratory Therapy
- Radiology Techs
- Phlebotomy
- Security
- Housekeeping
- Laundry
Educate Team Members and other Hospital Staff

- Smallpox disease
- Vaccine
- Vaccine contraindications
- Normal “take”
- Adverse reactions
- Resources available at www.cdc.gov
Screen for Contraindications

- Immunosuppression for any reason
- Eczema or atopic dermatitis or history
- Pregnancy or breast feeding
- Household members with above contraindications
- Allergic reaction to previous vaccination or vaccine ingredients
- Moderate or severe illness
- Persons less than 18 years of age
Post-vaccination Site Care

- Cover with gauze and semi-permeable dressing.
- Change dressing every 2-3 days and as needed.
- Evaluator to observe site daily prior to clinical assignment.
- Excessive drainage may exclude staff from clinical assignment.
Administrative Leave and Sick Leave

- CDC recommendations do not require administrative leave.
- Vaccinated staff may be physically unable to work for several days.
- Hospitals must decide what their policy will be.
- Worker’s compensation will cover adverse effects and absence > 5 days.
References

- ND Department of Health website at www.health.state.nd.us/healthalert/professionals/. Select “Health Care Institutions”.
- CDC website at www.cdc.gov.
- Regional bioterrorism directors.
- State bioterrorism office 701-328-2270.
Smallpox Communications

Loreeta Leer Frank
Public Information Officer
North Dakota Department of Health
Emergency Communication Response

The NDDoH Office of Public Information supports state and local public health officials in their efforts to protect the public in the event of a public health emergency.
Objectives

- To provide the public and the media access to accurate, consistent, comprehensive and timely information.
- To minimize, as much as possible, public panic and fears.
- To coordinate public information response with other local, state and federal partners.
Guiding Principle

The public will need information that will help them minimize their risk.
Not Business as Usual

A public health emergency:

- Triggers a level of public interest and media inquiry that requires a response beyond normal operations and resources.
- Requires a significant diversion of department staff from regular duties.
Recent Events

- Anthrax concerns ~ 2001
- West Nile virus ~ 2002
Smallpox Communication Plan

Within 30 minutes of notification of a smallpox case:

- All media calls to NDDoH routed to Office of Public Information
Smallpox Communication Plan

- State health officer or designee will act as official spokesperson for the department
- News conference held as soon as possible
- Any subsequent news conferences held at consistent, central location
Smallpox Communication Plan

- Regular briefings held as warranted
- If few new details, then news releases and news conferences as necessary
- Updates posted to NDDoH website at least daily
- Public health experts will be available for interviews with media
Confidentiality Issues

- By law, NDDoH cannot release patient-identifying information
  - Ex. – West Nile virus
During smallpox event, confidentiality issues will be balanced with public safety.

- Smallpox cases will be identified by county.
- Condition of cases will be described.
- Name, age and gender not released.
Emergencies Are Media Events

- Emergency response would be hampered if media not involved
  - People rely on media for up-to-date information during an emergency
  - Media relay important protective actions for the public
  - Media know how to reach their audiences and what their audiences need
Public Health’s Goal in Emergency Response

To efficiently and effectively reduce and prevent illness, injury and death and to return individuals and communities to normal
Contact Information

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Questions?
During this Live program
Call 701-328-2614
or
Send E-mail
Following the Live Program
Call 701-328-2270 or Send E-mail to twiedric@state.nd.us

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