

## Influenza Novel and Seasonal

Division of Disease Control  
North Dakota Department of Health  
October 6, 2009



## About Influenza

- Viral respiratory infection
  - Birds, pigs and humans
  - Thousands of strains possible
- Circulates from September to June
- Can change quickly
  - Reformulation of annual vaccine
- Large changes can result in a pandemic



## Each Year in the US...

- On average:
  - 36,000 people die from the flu
  - More than 200,000 people are hospitalized from flu complications
  - There are approximately 25 million physician visits
  - And approximately 15 to 60 million i (5% to 20% of the population)



## Influenza in North Dakota

- Each season:
  - Approximately 400 people die from pneumonia and influenza
  - On average 2,300 influenza cases are reported to the health department
    - Using CDC estimates about 32,000 to 128,000 infections
    - 2008-2009 season, there were more than 1,600 cases reported to the health department

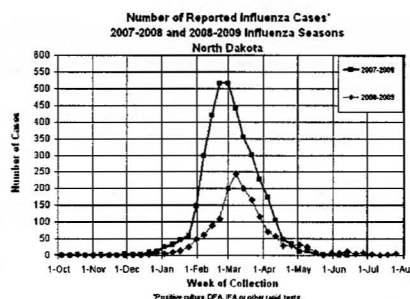


## Surveillance

- Laboratory surveillance
- Sentinel physicians
- Syndromic surveillance
- Follow-up of random sample of children younger than 18
- School absenteeism reports
- Outbreak support



## 07-08 and 08-09 Flu Seasons

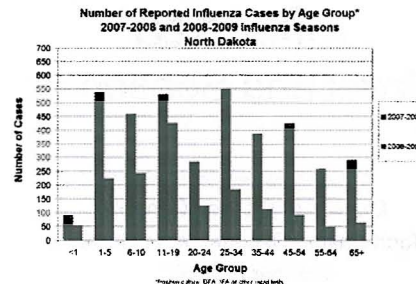


## Influenza Mortality/Morbidity

- Influenza-related deaths among children is uncommon
  - Typically over 90% of the P&I deaths in ND are in those age 65 and older
- Children represent a substantial portion of influenza illnesses in the state
  - Serve as efficient virus transmitters in the community



## Flu Cases by Age Group

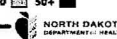
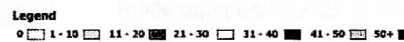


## Novel H1N1 versus Seasonal Influenza

- Similar
  - Illness severity and transmission
- Different
  - New virus that emerged in April 2009
  - Continued transmission through the summer
  - Fewer cases and severe outcomes in older adults
  - More severe cases occurring in younger adults



## What have we seen in ND? Since September 1, 2009



## Influenza 2009-2010

Age Group	Since September 1	May 1 – August 31	Totals	Percentage
<10	28	14	42	16.1
10-19	61	42	103	39.5
20-29	39	27	66	25.3
30-39	12	11	23	8.8
40-49	7	9	16	6.1
50-59	5	3	8	3.1
60 and Older	2	1	3	1.1
<b>Totals</b>	<b>154</b>	<b>107</b>	<b>261</b>	<b>100</b>



## Community Mitigation Stakeholders

- Local Public Health – August 14
- Schools
  - August 14 DPI
  - August 18 statewide video Conference
- Child-care settings
  - ND DHS and Headstart, Western Childcare Association Conference
  - Lutheran Social Services
- Health-care settings
  - August 24 for MDs and August 28 for R.Ph.s
- Businesses – September 25
- Government-state agencies – August 31
- General public



## Influenza Tool Chest

- Vaccines (to prevent influenza)
- Infection control and social distancing
- Antivirals (to treat influenza)



## Community Mitigation Basic Concepts

- Isolation or exclusion
  - Voluntary and passive
  - 24 hours after fever subsides and not using fever reducing medication
- Hand hygiene
- Respiratory etiquette



## Exclusion Period – time ill people should be away from others

- Applies to settings in which the majority of the people are not at increased risk for complications
- In general – for the general public
- Does **NOT** apply to health-care settings
  - Staff
  - Visitors
- Antivirals do not alter exclusion period



## Schools Two Planning Scenarios

- Under influenza conditions seen this spring or current conditions,
- Under conditions of increased severity compared to spring of 2009



## School Dismissal

- Based on how severe the influenza virus is
  - Current conditions of severity
    - Influenza death and hospitalization rates are similar to seasonal influenza
  - More severe conditions
    - Influenza death and hospitalization rates become more severe than what is now being observed
- Based on characteristics of the student population



## School Dismissal

- Based on objective of dismissal
  - Reduce severe outcomes such as hospitalization and death among students and staff
  - Reduce community spread
  - Can the school maintain its functionality





## Schools – Current Conditions

- Ill staff and students to stay home
  - Fever of 100° F or more with cough and/or sore throat
- Ill staff and students to be separated from others while waiting to go home
  - Proper infection control for staff who are caring for ill students
- Hand hygiene and respiratory etiquette
- Routine cleaning
- Early treatment of high-risk individuals
- Consideration of school dismissal



## Schools – Current Conditions

- Hand hygiene and respiratory etiquette
  - Frequent hand washing
  - Frequent use of hand sanitizers
  - Allowing time and providing materials for hand washing
- Routine cleaning
  - Use an EPA-registered cleaner
  - Frequently touched surfaces
- Early antiviral treatment for high-risk individuals who have influenza



## Schools – Current Conditions

- Early antiviral treatment for high-risk individuals who have influenza
  - Children younger than 5
  - Pregnant women
  - Staff and students with:
    - Chronic lung disease, including asthma
    - Diabetes
    - Immunosuppression
    - Students on long-term aspirin therapy
    - Other health conditions



## School Dismissal Under Current Conditions

- Consideration of selective school dismissal
  - Based on the risk of complications of the majority of students
  - Local decision made with local and state health and education officials
  - Identify key community stakeholders
  - Protect students and staff from severe disease and death



## Schools More Severe Conditions

- Active screening – lower threshold for illness
- High-risk students and staff stay home
- Quarantine if household members are sick
- Increase distance between people in school environment
- Extend isolation and exclusion periods – use seven-day period or 24 hours after fever, whichever is longer
- School dismissal
  - Reactive – business decision
  - Preemptive



## Child-Care Settings

- Similar to schools
- For settings with very young children (younger than 5)
  - Consider the longer exclusion period
  - Consider preemptive closure



## General Public

- Practice hand hygiene and respiratory etiquette
- Avoid large public gatherings
- Stay home while ill with a fever
- Seek medical care or treatment if indicated
  - High-risk group
  - Signs of more severe illness
- Prepare to be at home for seven to 10 days
- Learn how to care for ill family members
- Practice infection control in the home



## Homecare

- Practice infection control
- Drink plenty of clear fluids
- OTC medications (no aspirin)
- Monitor fever and other symptoms
- Know when to seek medical care
  - Difficulty breathing or chest pain
  - Purple or blue color in lips
  - Severe vomiting
  - Signs of dehydration (dizzy, low urine output, no tears, loss of elasticity in skin)
  - Less responsive than usual or confusion



## Infection Control in the Home

- If possible:
  - Place ill person in a private room – try to designate one bathroom for use by the ill person
  - Have ill person wear a surgical mask
  - Do not allow visitors
  - One non-pregnant person should provide care
  - Caregiver should consider wearing mask
  - Caregiver should consider wearing N95 if assisting with respiratory treatment
  - Practice hand hygiene and respiratory etiquette for household
  - Use paper towels to dry hands



## Other School-Based Influenza Activities

- Local school authorities can help by:
  - Promoting influenza vaccination of staff and students
  - Staying aware of community situation
  - Reporting clusters of illness to state or local health officials
  - Reporting increased absenteeism at schools
  - Working with local and state health officials and the local community on interventions



## Reporting School Closure

- The North Dakota Department of Health and the Centers for Disease Control and Prevention are interested in monitoring school closures resulting from illness.
- Reporting of school closures by web-based reporting (CDC and state will receive the report simultaneously)
  - [www.cdc.gov/fluschooldismissal](http://www.cdc.gov/fluschooldismissal)



## Vaccine

- Two different vaccines: H1N1 influenza vaccine and seasonal influenza vaccine.



## Availability

### ➤ Estimated availability ??

- Early October
- Mid October
- Late October



## ACIP Vaccination Recommendations

- Pregnant women because they are at higher risk of complications and can potentially provide protection to infants who cannot be vaccinated;
- Household contacts and caregivers for children younger than 6 months of age because younger infants are at higher risk of influenza-related complications and cannot be vaccinated. Vaccination of those in close contact with infants younger than 6 months old might help protect infants by "cocooning" them from the virus;



## ACIP Vaccination Recommendations

- Health-care and emergency medical services personnel because infections among health-care workers have been reported and this can be a potential source of infection for vulnerable patients. Also, increased absenteeism in this population could reduce health-care system capacity;
  - Include public health personnel



## ACIP Vaccination Recommendations

- All people from 6 months through 24 years of age
  - Children from 6 months through 18 years of age because many cases of novel H1N1 influenza are in children and they are in close contact with each other in school and day-care settings, which increases the likelihood of disease spread, and
  - Young adults 19 through 24 years of age because many cases of novel H1N1 influenza are in these healthy young adults; they often live, work and study in close proximity; and they are a frequently mobile population; and,



## ACIP Vaccination Recommendations

- People ages 25 through 64 who have health conditions associated with higher risk of medical complications from influenza.
  - Chronic lung disease, including asthma
  - Heart disease
  - Kidney, liver, neurological/neuromuscular, or blood disorders
  - Immunosuppression, such as HIV, cancer treatment, etc.
  - Metabolic disorders, including diabetes



## ACIP Vaccination Recommendations

- Once the demand for vaccine for the prioritized groups has been met at the local level, programs and providers should also begin vaccinating everyone from the ages of 25 through 64 years.
- Current studies indicate that the risk for infection among people 65 or older is less than the risk for younger age groups. However, once vaccine demand among younger age groups has been met, programs and providers should offer vaccination to people 65 or older.



## ACIP Vaccination Recommendations

- If demand exceeds supply (not expected):
  - Pregnant women
  - People who live with or care for children younger than 6 months of age
  - Health-care and emergency medical services personnel with direct patient contact
  - Children ages 6 months through 4 years
  - Children ages 5 through 18 who have chronic medical conditions.



## Resources

- **NDDoH flu web-page** (updated every Wednesday)
  - [www.ndflu.com/](http://www.ndflu.com/)
- **CDC flu web-page**
  - [www.cdc.gov/flu/](http://www.cdc.gov/flu/)



## Public Education



## Questions?

Thank You for Your Time!

