

# Emergency Preparedness Pandemic Influenza and Other Hazards

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# State approach to emergencies

- National Incident Management System
  - Planning, Training, Exercises
  - Defined response system with clear leadership and decision making
- All-Hazards
  - Flexible response
  - Coordinated with local, regional, federal resources
  - Usually problem overwhelms local with response moving up
  - Health issues *may* be different

# Federal framework

- System organization and standards
- Health funding and performance measures
  - Public Health
  - Healthcare system
  - Cities Readiness Initiative
  - Pandemic influenza

# State Response Framework

- Governor's Authorized Representative
- State Emergency Operations Center (SEOC)
  - Command, Planning, Operations, Logistics, Finance/Administration
- Department Operations Center (DOC)
- Multi Agency Coordination System MACs)
- Liaison with local public health and healthcare systems

## Local framework (metro)

- Agency plans and structures
- Local Emergency Operations Center (EOC)
- Multi Agency Coordination System (MACs)
- Liaison to state
- Coordination with regional partners
- Collaborate with other regions

# Pandemic influenza – potential catastrophe

- Could affect entire world
- Few (if any) outside resources available
- Could last for 8 to 12 weeks and then a break of several months and then return
- Could affect 30 to 40% of population
- Severe economic, social, emotional impact
- Difficult to predict
  - “not if but when and how severe”
  - may be soon or may be decades
  - can't prepare when it's happening

# Avian Influenza (Birds)

- ❖ Birds of all species thought to be susceptible
- ❖ Usually see low pathogenic (few or no symptoms)
- ❖ H5N1 causes high pathogenic (very high death rate)
- ❖ Plans for responding to wild birds and domestic birds – including backyard flocks
- ❖ Responsibility of Department of Natural Resources, Department of Agriculture and Board of Animal Health

# Bird to Human Transmission

- ❖ Predominantly via contact with manure
  - Handling chickens
  - Throwing away dead chickens
  - Walking through live poultry markets
  - Close contact with poultry
  - Children and families



# Transmission in Humans

- ❖ Potential for avian influenza to re-assort with human influenza creating a novel virus, and setting the stage for a pandemic
- ❖ Currently H5N1 not readily transmitted from person to person
- ❖ Most cases from contact with domestic poultry, a few cases appear to be within family after very close contact

# Why the concern?

- ❖ Pandemic influenza from “novel” influenza virus that was not previously known to infect humans
- ❖ Little to no immunity in the general public
- ❖ The virus infects all age groups
- ❖ The “novel” virus could:
  - ❖ Spread somewhat from person-to-person
  - ❖ Spread readily from person-to-person

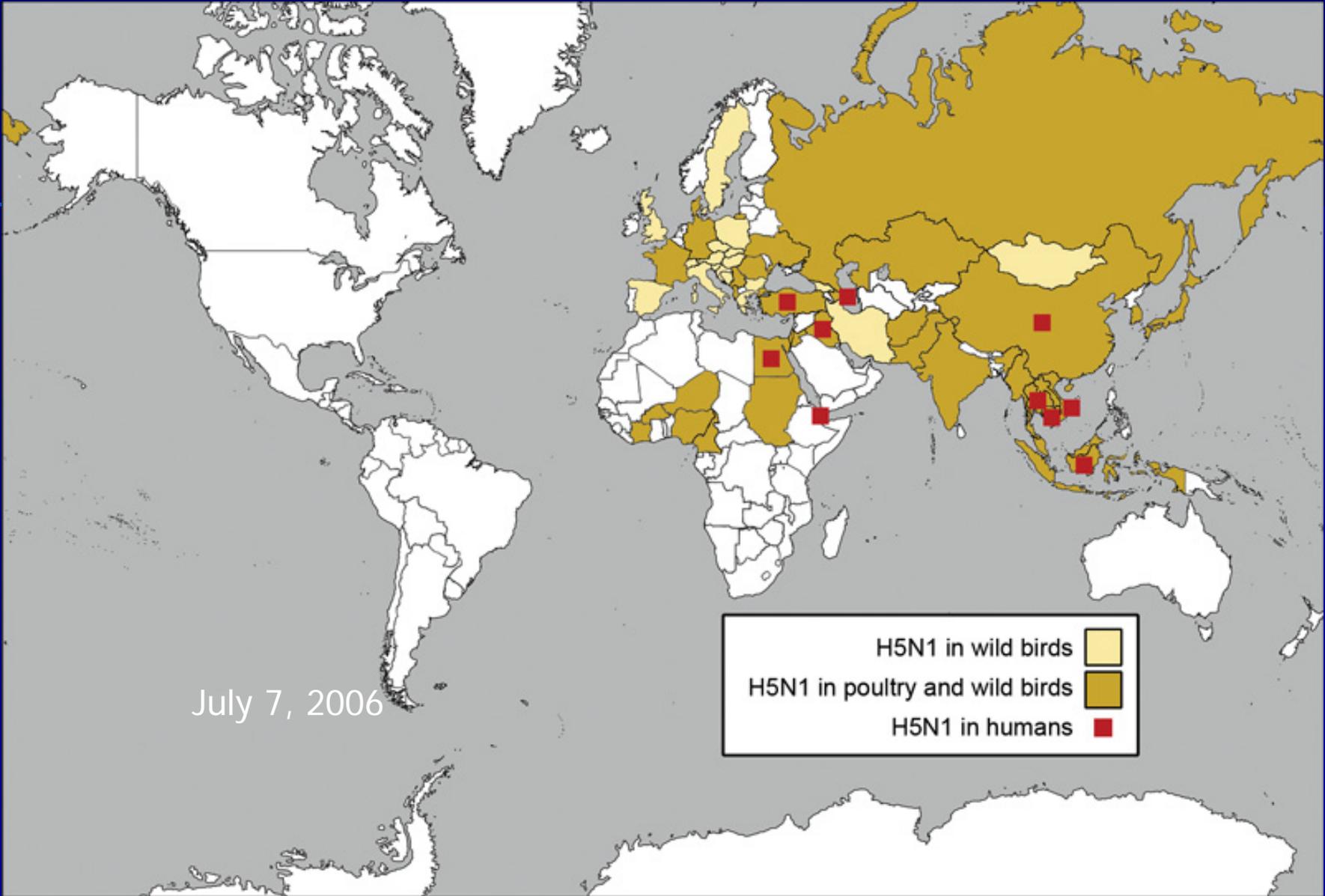
# Influenza Pandemic of 1918-1919

- ❖ 20% of the world's population infected
- ❖ 20-40 million people died from influenza
- ❖ Highest mortality in people ages 20-40 yrs
- ❖ 675,000 Americans died of influenza
  - 43,000 U.S. serviceman died of influenza



# World Health Organization Influenza Pandemic Phases

<b><i>Interpandemic Period</i></b>	
Novel subtypes in animals but not humans	<b>Phase 1</b>
Circulating subtypes in animals posing threat to humans	<b>Phase 2</b>
<b><i>Pandemic Alert Period</i></b>	
Novel subtypes in humans, but no human-to-human transmission	<b>Phase 3</b>
Limited human-to-human transmission	<b>Phase 4</b>
Localized clusters of human cases	<b>Phase 5</b>
<b><i>Pandemic Period</i></b>	
Increased and sustained transmission in the general population on a large scale	<b>Phase 6</b>



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# Current Pandemic Flu Planning Assumptions

Attack rate (30%)	1,544,000 cases in MN
Hospitalization rate (1 to 10+% of cases)	15,000 to 172,000 hospital patients in MN
Case-fatality rate (.2 – 2% of cases)	3,600 to 32,900 deaths in MN

# Response Actions

- ❖ Governor is state decision maker
  - Close schools
  - Cancel large gatherings
  - Encourage people to limit exposure to others
  - Assure continuation of infrastructure
  - Make decisions about use of limited resources



# Laboratory

- ❖ Expanding capacity for rapid testing and confirmation
- ❖ Network of clinical laboratories
- ❖ Monitoring agricultural testing
- ❖ Connection to CDC



# Infection Control

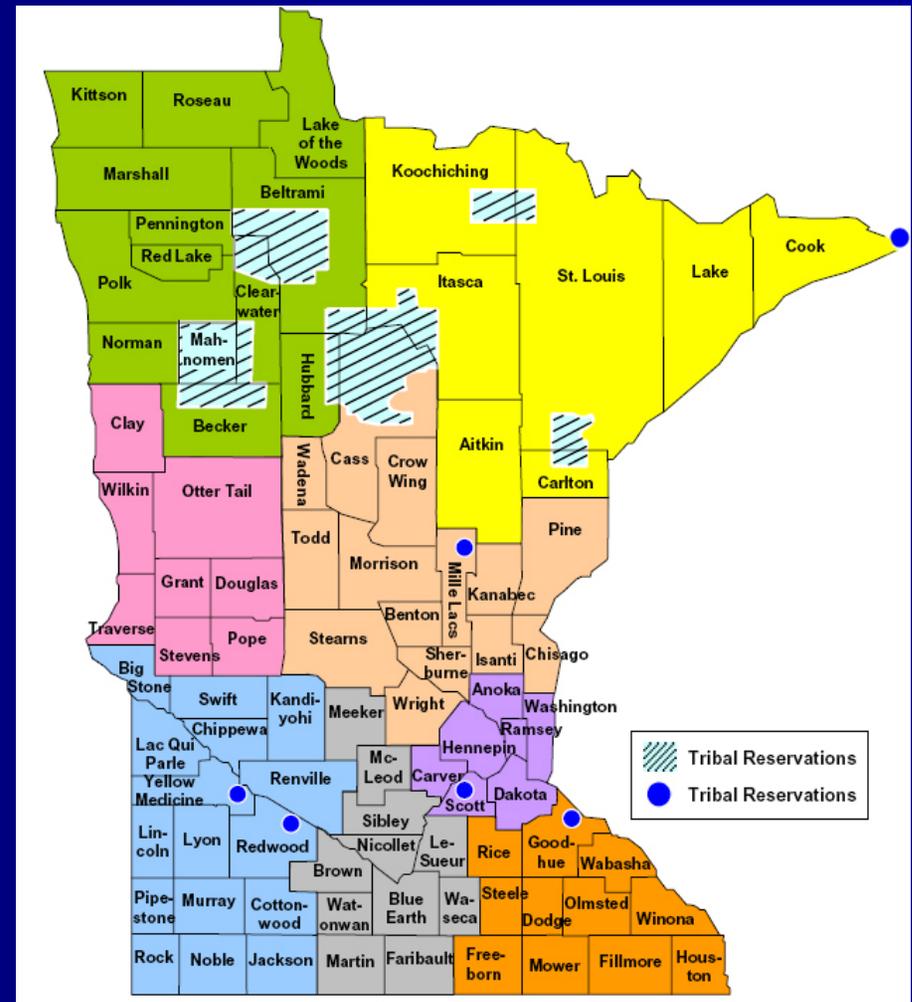
- ❖ What are effective measures?
- ❖ Developing stockpiles of supplies
- ❖ Reuse, disposal
- ❖ Helping health care and other workers to work safely



N95 Mask

# Health Care Planning

- ❖ Hospitals in 8 regions working together
- ❖ Predicting and managing surge in demand
- ❖ Protecting workers and patients
- ❖ Off-site care facilities
- ❖ Home care
- ❖ MN Responds! volunteers



# Vaccine and Antiviral Agents

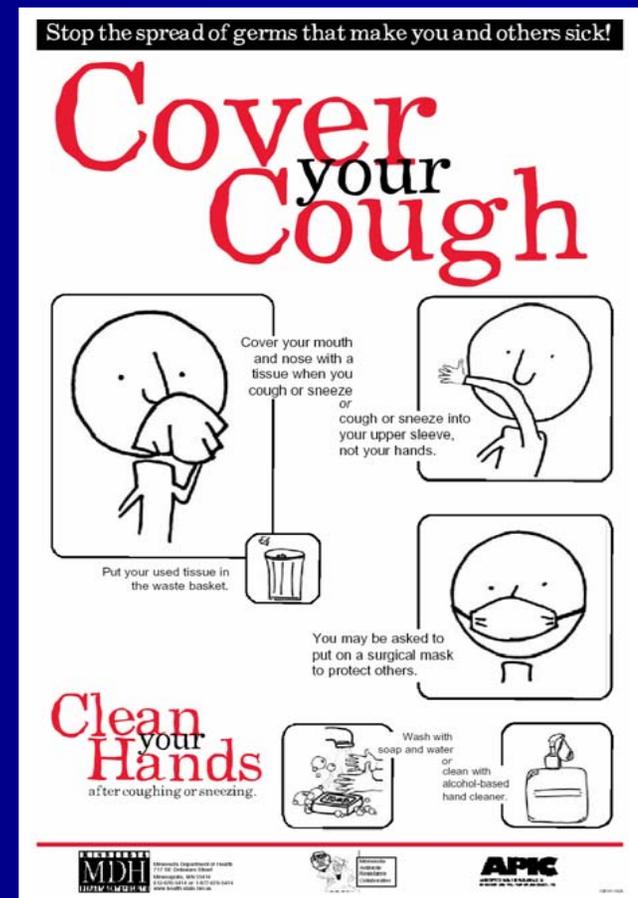
- ❖ Strategic National Stockpile system
- ❖ Mass dispensing clinics
- ❖ Prepare for vaccine for prevention
- ❖ Antivirals federal and state stockpile and distribution plans and exercises



# Community Disease Control and Prevention



- ❖ Respiratory hygiene
- ❖ Business continuation and employee protection
- ❖ School closing
- ❖ Limit interaction of people
- ❖ Home care
- ❖ Isolation and quarantine



# Communications

- ❖ Need many ways to reach people
- ❖ Consistent, understandable, complete messages
- ❖ Reaching non-English speakers
- ❖ Hotlines, web, TV, community organizations and many other means



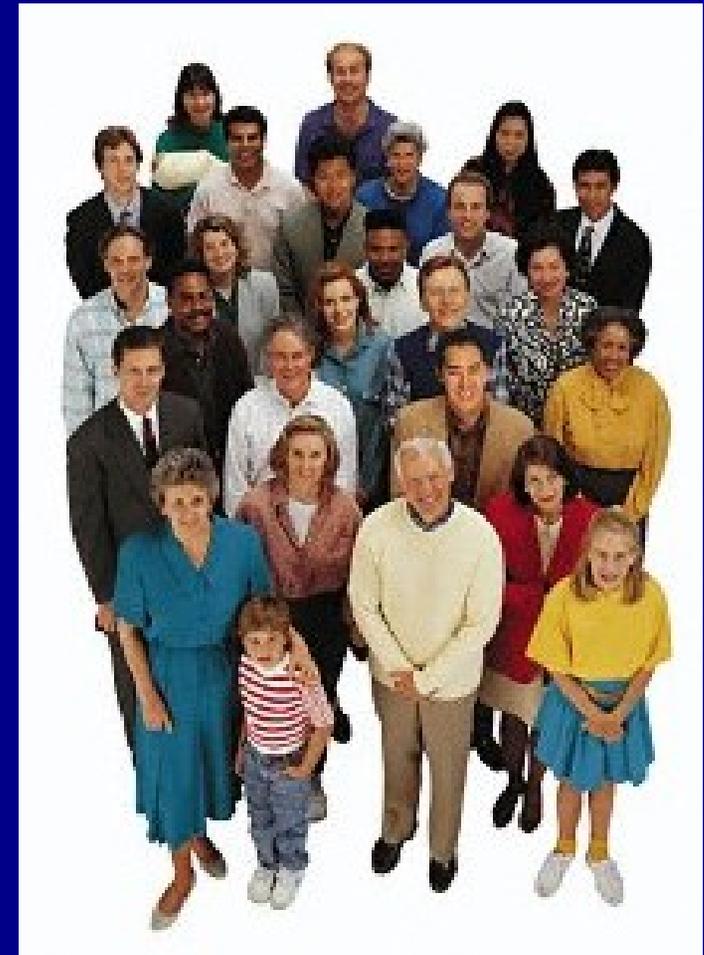
# Care of the Deceased

- ❖ Managing death certificates
- ❖ Mortician collaboration
- ❖ Cremations and burials
- ❖ Safe, compassionate
- ❖ Limiting interaction



# Ethical Issues

- ❖ What if there's not enough \_\_\_\_\_? Who should get the limited supply?
- ❖ Antivirals – treatment or prevention?
- ❖ Economic impact of closing a business or limiting interaction
- ❖ Does response change with length of event?
- ❖ Reduced types of health care because of demand



# Critical Infrastructure – state and local roles

- Electricity
- Safe drinking water
- Safe food
- Communication
- Public Safety
- Transportation
- Access to health care



# Planning with Businesses

- ❖ Forecast and allow for absences
- ❖ Modify the frequency of face-to-face contact
- ❖ Encourage annual flu shots
- ❖ Evaluate access to healthcare
- ❖ Identify employees and key customers with special needs

# Recommended Web Sites

[www.health.state.mn.us](http://www.health.state.mn.us)

[www.hsem.state.mn.us](http://www.hsem.state.mn.us)

[www.ready.gov](http://www.ready.gov)

[www.pandemicflu.gov](http://www.pandemicflu.gov)