

Planning for a Pandemic

The MDCH Pandemic Influenza Plan 2005

Michigan Department of
Community Health

**This information is current as of 4/3/06 and is subject to
change without notice.**

Michigan Department
Of Community Health

MDCH

Avian Influenza Update

The “BIRD FLU”



Avian Influenza and Domestic Poultry

- Infection can be in two forms:
 - “low pathogenic” (LPAI) - causes mild illness and may go undetected
 - “highly pathogenic” (HPAI) - affects multiple organs, spreads rapidly among birds, causes high mortality very quickly

Avian (Poultry) Outbreaks as of 3/2/06 (OIE)

- Viet Nam
- Thailand
- Indonesia
- Russia
- Turkey
- China
- Romania
- Ukraine
- Korea
- Cambodia
- Malaysia
- Japan
- Nigeria
- Iraq
- Taipei
- Azerbaijan
- Kazakhstan
- Niger
- India
- France
- Laos

http://www.oie.int/eng/en_index.htm

Domestic Poultry Surveillance in Michigan

The screenshot shows the Michigan Department of Agriculture website. The main navigation bar includes links for Michigan.gov Home, MDA Home, Sitemap, Contact MDA, Keywords, FAQ, and Online Services. A search bar is also present. The left sidebar contains a vertical menu with categories such as Consumer Information, Environment, Consumer Tips, Animal Health, Farming, Food & Agribusiness, Licensing, Certification & Registration, Michigan Marketplace, Fairs, Racing & Recreation, Inside MDA, and Statistics & Resources. The main content area is titled 'Animal Health Information' and provides an overview of the MDA's role in protecting domestic animals. Below this, there are several links to specific disease information pages, including Bovine TB, Chronic Wasting Disease (CWD), Eastern Equine Encephalomyelitis (EEE), Equine Infectious Anemia (EIA), Foot and Mouth, Leptospirosis, Rabies, West Nile Virus, and Pet Perspectives Newsletter. A 'Quick Links' section on the right lists various services and resources. At the bottom, there are links to Michigan.gov Home, MDA Home, Contact MDA, FAQ, State Web Sites, Privacy Policy, Link Policy, Accessibility Policy, Security Policy, Michigan News, and Survey. The copyright notice at the bottom reads 'Copyright © 2001-2005 State of Michigan'.

•Michigan veterinarians are responsible for overall livestock and poultry reportable disease programs

•They conduct investigations into reports of diseases such as:

- Avian influenza
- Rabies
- Eastern equine encephalitis
- Equine infectious anemia
- Tuberculosis
- Psittacosis

Avian Influenza and Domestic Poultry

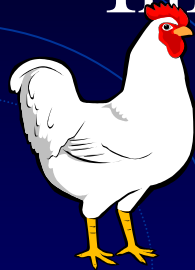
- Virus is shed in saliva, nasal secretions, and feces of infected birds
- Virus can survive for long periods in feces, water, and even on the ground, especially when environmental temperatures are low
- Avian Influenza is a **reportable** disease in Michigan

Control Efforts in Domestic Birds/Poultry

- Quarantine infected flock
- Depopulation/Disposal
- Disinfection
- Vaccination (+/-)
- Surveillance

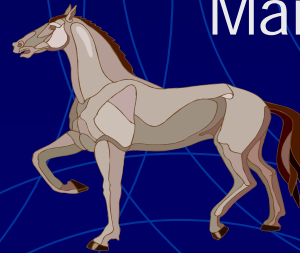
Zoonosis – The Role of Animals in Influenza A Infection

Domestic Birds
H5 and H7 types can be highly pathogenic

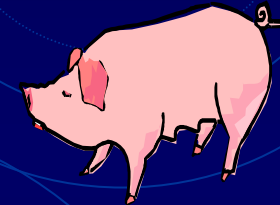


H1 – H16

Mammals



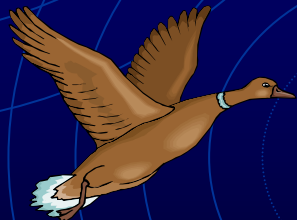
Horses
H3, H7



Pigs
H1, H3-5, H9

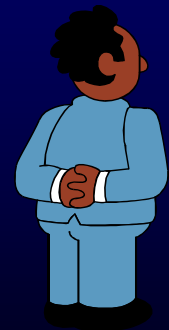
H1 (?),
H5, H7,
H9

Shore Birds
and Wild
Waterfowl



Humans

H1, H2, H3, H5, H7, H9



Michigan DNR Disease Surveillance

Michigan Wildlife Disease Summaries

- Animals found dead, dying or diseased/parasitized
- These are submitted for cause of death determination or parasite identification
- Annual summaries are compiled
- <http://www.michigan.gov/dnr/>

The screenshot shows the Michigan DNR website interface. At the top, there is a navigation bar with the Michigan DNR logo and the text "Michigan.gov Department of Natural Resources". Below this, there are several menu items including "Wildlife & Habitat", "Wildlife Action Plan", "Landowner Incentive Program", "Michigan Breeding Bird Atlas", "Michigan Bird Conservation Initiative", "State Wildlife Grants", "Wildlife Species", "Plant Species", "Natural Communities", "Endangered & Nongame Wildlife", "Plants & Habitat at Risk", "Wildlife Disease", "About the Diagnostic Lab", "Michigan Wildlife Disease Manual", "Annual Disease Summaries", "Creating Wildlife Habitat", "Viewing Wildlife", "Research Projects", "Hunting", "Fishing", "Recreation & Camping", "Inside DNR", "Forests, Land & Water", "Sales & Leases", "Learning Corner", and "Publications & Maps". The main content area is titled "Wildlife Disease Summaries" and contains a list of annual summaries from 1933 to 2004. A sidebar on the right contains a search bar, "Departments & Agencies", "State Sponsored Sites", "Online Services", "RSS Feed Index", and "Quick Links" including "2005 Midwest Fish and Wildlife Conference", "State of Michigan Vacancy Postings", "Recreational Safety Classes", "Natural Resources Commission", "Press Releases", "Voter Registration", "Waterways Commission", and "Land Consolidation Strategy".

Avian Influenza In Humans

Update

What is the H5N1 Pandemic Risk?

- **Three conditions must be met for a pandemic to start:**
 - **Emergence of a new influenza subtype**
 - **The strain infects humans causing serious illness**
 - **Spreads easily between humans**
- **Each new H5N1 human case gives the virus a chance to mutate into a highly transmissible form, triggering a pandemic**

Yes

Yes

No

Pandemic Phases (WHO)

Inter-pandemic phase New virus in animals, no human cases	Low risk of human cases	1
	Higher risk of human cases	2
Pandemic alert New virus causes human cases	No or very limited human-to-human transmission	3
	Evidence of increased human-to-human transmission	4
	Evidence of significant human-to-human transmission	5
Pandemic	Efficient and sustained human-to-human transmission	6

Human H5N1 Influenza in the World

2003-present

(WHO, March 21 , 2006)

Country	H5N1 Cases	Deaths	Case Fatality
Azerbaijan	7	5	71%
Turkey	12	4	33%
Thailand	22	14	64%
China	15	10	67%
Vietnam	93	42	45%
Indonesia	29	22	76%
Cambodia	4	4	100%
Iraq	2	2	100%
Total	184	103	56%



Pandemic Planning

Nation HHS Pandemic Influenza Plan

- Released November 1, 2005
- <http://www.pandemicflu.gov/>
- Part 1-Overview and Federal
 - Legal Authority Checklists
 - Antiviral and Vaccine Priority Groups
- Part 2-Specific State and Local Guidance
 - Supplements 1-11 [excellent resources](#)

MDCH Pandemic Influenza Plan 2005

- Consistent with the 2004 DHHS Pandemic Draft
- Appendix to the MDCH All Hazards Response Plan
- Available electronically to LHDs on MI-HAN
- <http://www.michigan.gov/influenza>



Department of Community Health



[Michigan.gov Home](#)

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Search [Advanced Search](#)

- [Birth, Death, Marriage & Divorce Records](#)
- [Physical Health & Prevention](#)
- [Pregnant Women, Children & Families](#)
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- [Statistics & Reports](#)
- [Providers](#)
- [Inside Community Health](#)
- [Health Systems & Health Profession Licensing](#)

[\[Printer Friendly\]](#) [\[Text Version\]](#)

What's New



From the Director



Director Janet Olszewski details the steps Michigan is taking to address the potential threat of pandemic influenza.

- ▶ [Request for Proposal for Long-Term Care Single Points of Entry](#) PDF
Long-Term Care Single Points of Entry.
- ▶ [Ephedrine Sales Restricted Beginning December 15](#)
Retailers to join fight to stop the spread of methamphetamine in Michigan
- ▶ [Latest Michigan Health Issues Relating to Hurricane Katrina Relief](#)
Please check back frequently. This site will receive updates as new information about the Michigan Department of Community Health's hurricane relief efforts becomes available.
- ▶ [Three West Nile Virus Human Cases Reported In Grand Traverse, Wayne, Kent Counties](#)

- ▶ [State Departments](#)
- ▶ [State Sponsored Sites](#)
- ▶ [Statewide Online Services](#)

Quick Links

- [Influenza in Michigan](#)
- [Michigan Medicaid Long Term Care Task Force](#)
- [Informed Consent for Abortion](#)
- [Shortcuts to MDCH Web Topics](#)
- [MDCH Brochures Available for Download](#)
- [Emerging Diseases](#)
- [Might I be eligible for benefits? Click here to find out](#)
- [Local Health Department Map](#)
- [GENDIS - Genealogical Data](#)
- [Aging Services - MiSeniors.net](#)
- [Elder Prescription Insurance Coverage](#)
- [News Releases](#)
- [Michigan's State Planning Project for](#)



steps up

About our Organization

Strategies for Pandemic Phases

Pre-pandemic

- Reduce opportunity for human infection
- Strengthen early warning system

Emergence of pandemic virus

- Contain or delay spread at the source

Pandemic declared

- Reduce morbidity, mortality, and social disruption
- Conduct research to guide response measures

MDCH Pandemic Influenza Plan 2005

- I. Command and Management
- II. Crisis Communications
- III. Surveillance
- IV. Laboratory Guidelines
- V. Community Containment
- VI. Personal Protection/
Infection Control
- VII. Medical Management
- VIII. Data Management
- IX. International/Border Travel
- X. Recovery/Consequence
Management

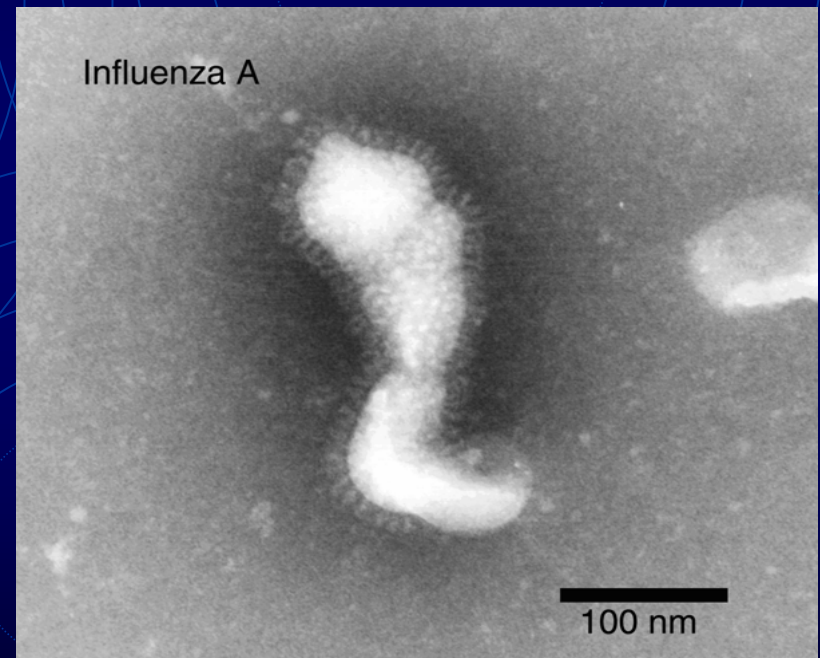


Image from MDCH Bureau of Laboratories

Michigan Department
Of Community Health



Guiding Principles

- **The objectives:**
 - **Prevent cases by virus that has not established human-to-human spread**
 - **Slow spread to gain time for vaccine supply**
 - **Reduce impact of first wave of an epidemic**

Command and Management

MDCH Organizational Structure

Janet Olszewski

Director &
State Health Officer

Public Health Administration

Dean Sienko
Acting Chief Medical Executive

Jean Chabut
Deputy Director

Bureau of Epidemiology

Corinne Miller
Bureau Administrator
State Epidemiologist

Office of Public Health Preparedness

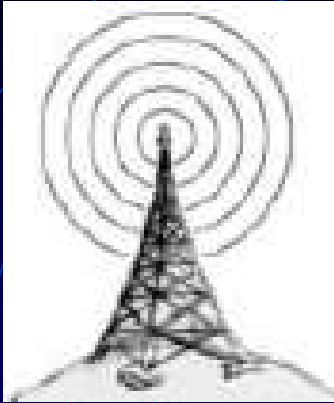
Jacqueline Scott
Director

Bureau of Laboratories

Frances Pouch-Downes
Laboratory Director

Inter Agency Response: Avian Influenza

- Established work group:
 - MDCH
 - MDA
 - MDNR
 - USDA – Veterinary Services
 - USDA – Wildlife Services
 - MSU – Extension, NFSTC,



Communications

Public Health Response: Risk Communication

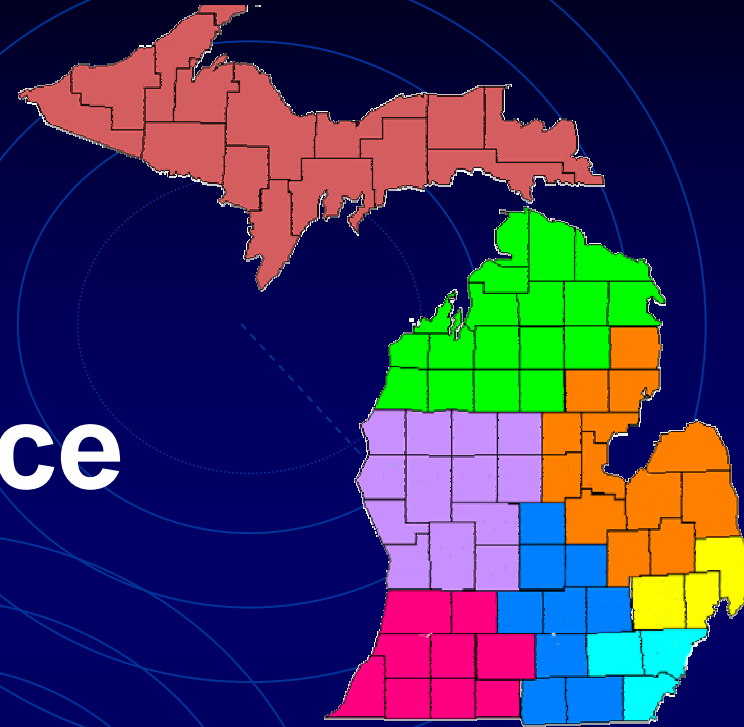
- MDCH Message Maps
 - Seasonal influenza
 - Avian influenza
 - Pandemic influenza
- Continually updated
- Developed with multi-agency input and use

Michigan Pandemic Communications

- Immediate access to Health Officers and PH Administration, State Epidemiologist, Chief Medical Officer, Public Information Officer and OPHP
- MI-HAN
- MI-FluFocus
 - Dissemination to Regional/Local Public Health partners (electronic)
 - Media/Public
 - Website

Surveillance

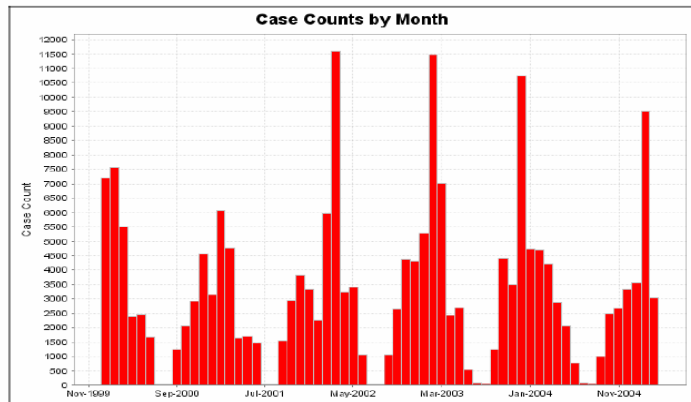
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Report 8: Epi-Curve Graph

Time Period: 01/01/2000 - 03/14/2005
Time Breakdown: by Month
Reportable Condition: Flu Like Disease

Regions:
6



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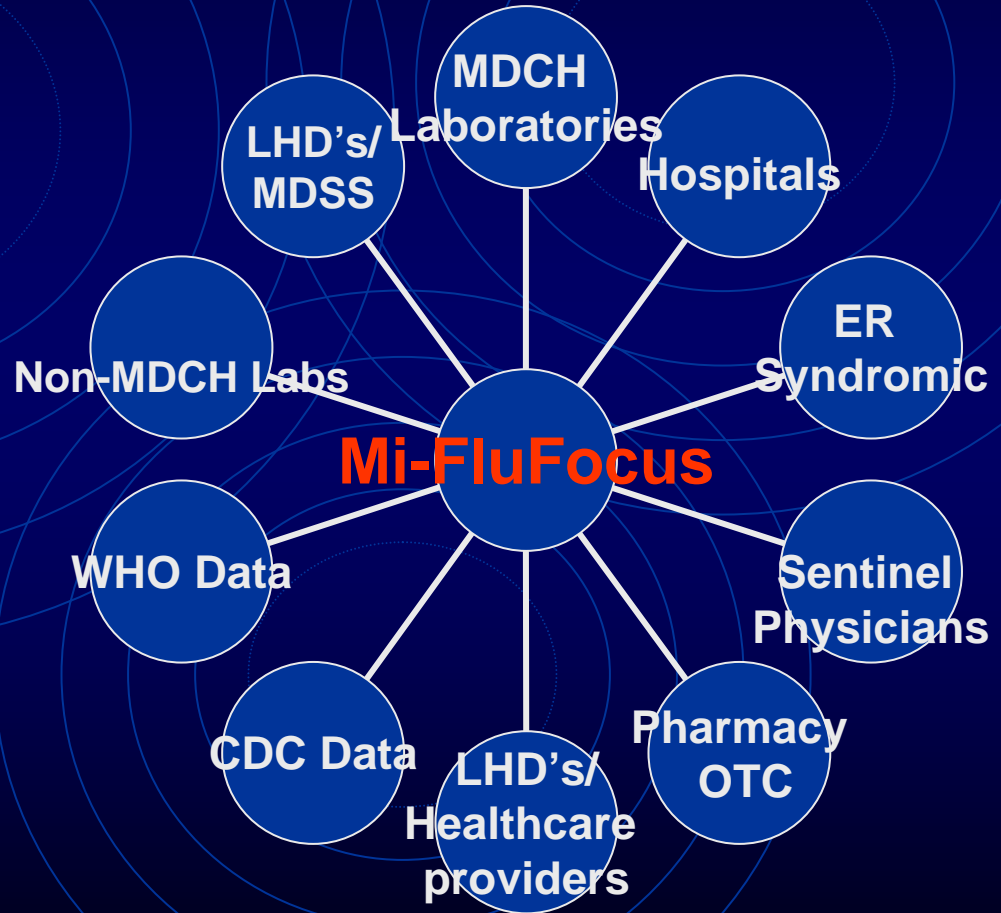
Influenza Surveillance- MDCH and MiFLuFocus

- **Michigan Disease Surveillance System**
 - School-based absenteeism
- **Sentinel Surveillance**
 - Laboratory
 - Sentinel Physicians/Clinics
- **Syndromic**
 - Over-The-Counter Pharmaceuticals
 - Emergency Room
- **Laboratory**
 - Sentinel
 - Requested
- **National**
- **International**

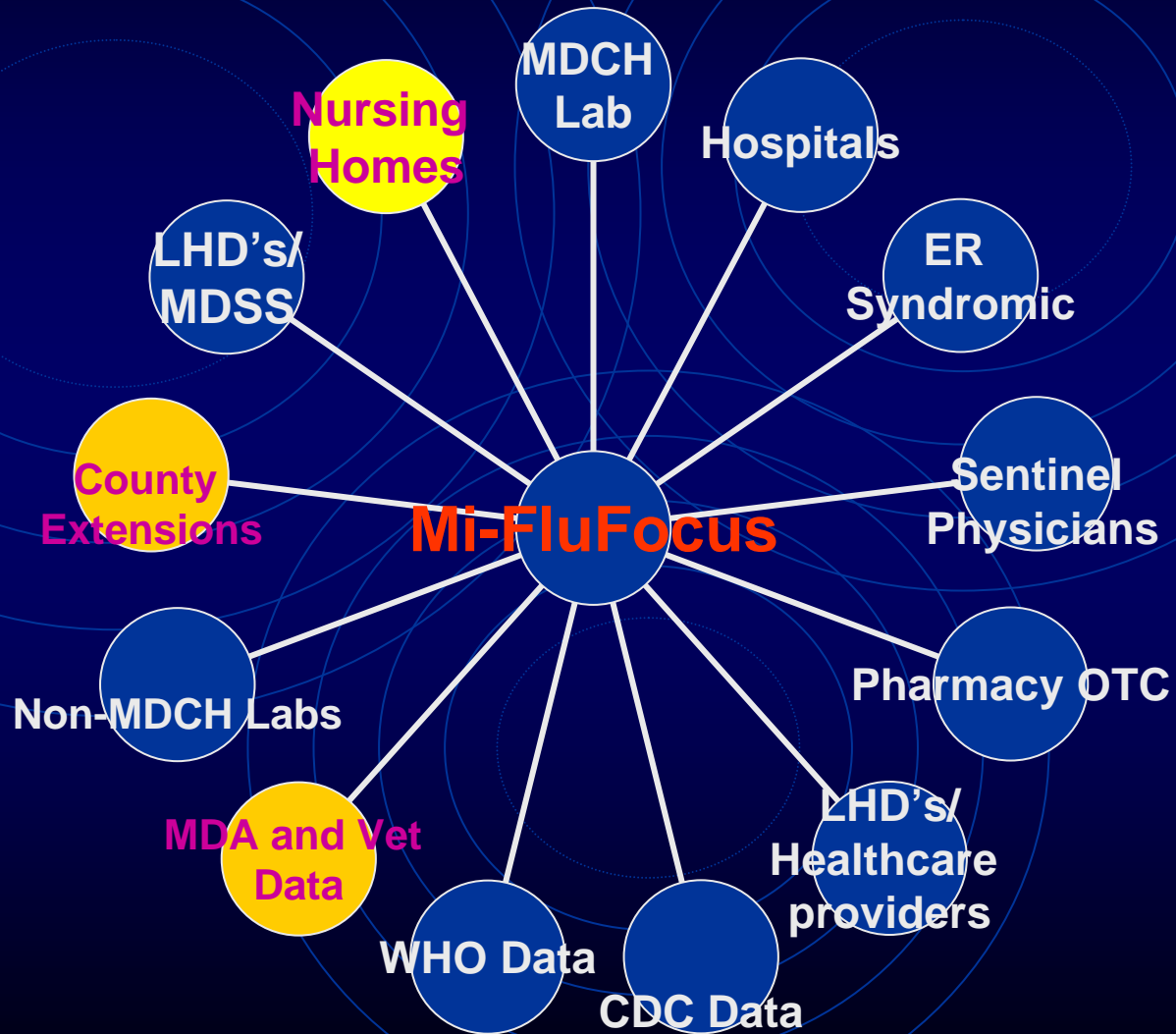
Seasonal Influenza Surveillance

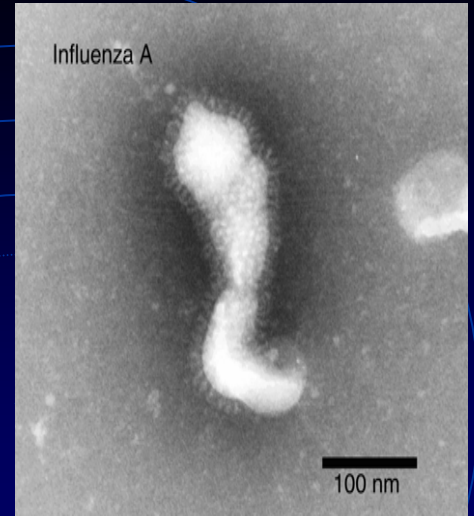
MI-FluFocus

A Nexus for
Influenza
Surveillance
and Disease
Data



Pandemic Influenza Surveillance





Laboratory Response

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		Likelihood of demonstrating agent
Specimen	Submit Using	
Nasopharyngeal and oropharyngeal swabs	MDCH Unit 45	+ ++ +
Bronchoalveolar lavage (BAL), tracheal aspirate, pleural tap fluid	MDCH Unit 45	+ ++ +
Nasopharyngeal wash/aspirate	MDCH Unit 45	+ ++ +
Autopsy or biopsy tissue*	MDCH Unit 45	+ ++ +
CSF	MDCH Unit 45	+
Sputum, serum		Not useful for flu testing; archive to test for other agents

Community Containment

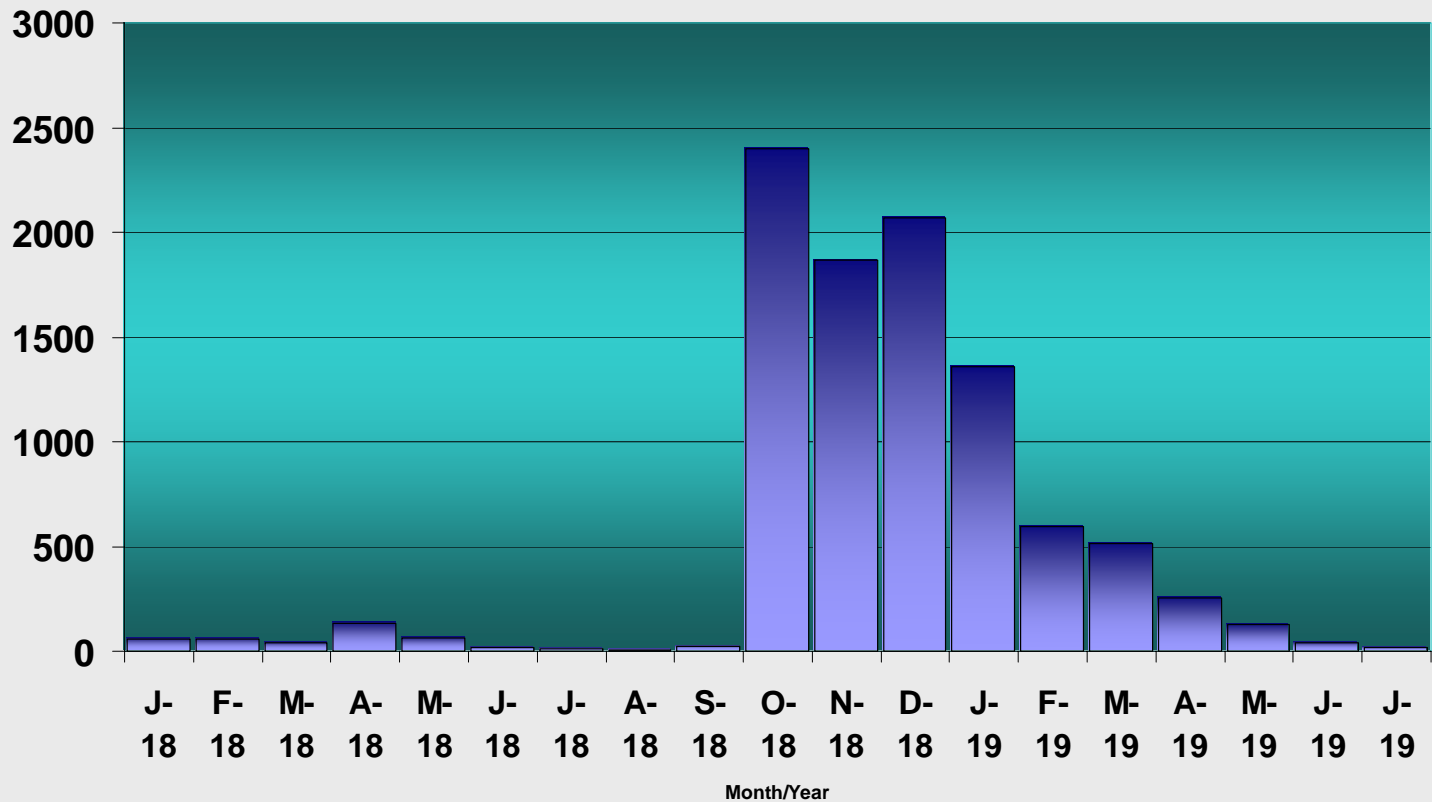
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Measures To Combat Pandemic Flu

- Antiviral medications – Oseltamivir (Tamiflu®) or others
- Education to encourage self-diagnosis
- Public health information (risk avoidance, advice on universal hygiene behavior)
- Face masks for persons with symptoms
- Cancellation of school and social gatherings
- Deferring travel to involved areas

Michigan Influenza Deaths 1918-1919

Influenza Deaths In Michigan, 1918-1919

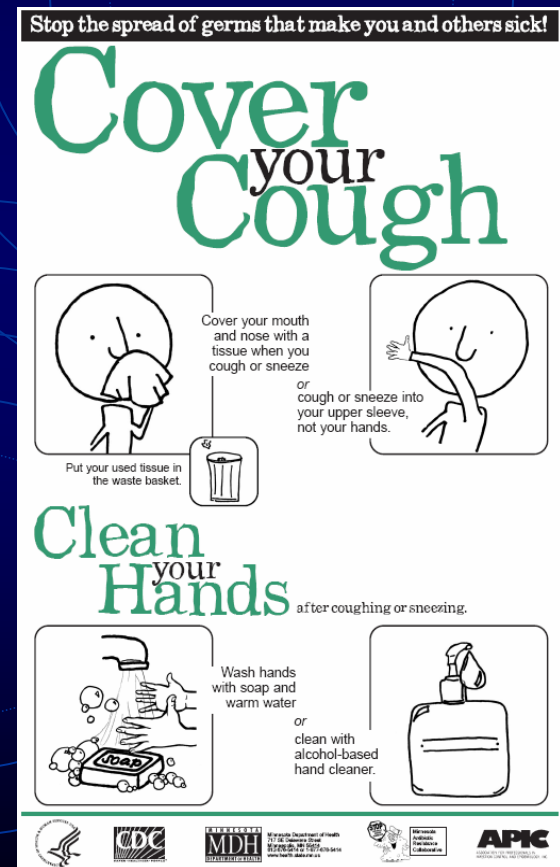


Infection Control

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Public Health: Non-Pharmaceutical Interventions

- Social distancing
- Respiratory/Cough etiquette
- Droplet /Airborne Precautions*



Michigan Department of Health
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1600 Zeeb Road
Lansing, MI 48207
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Medical Management

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Incubation Period

- Incubation may be longer than seasonal influenza
 - Seasonal influenza: 2-3 days
 - H5N1: possibly up to 10 days
- More studies ongoing

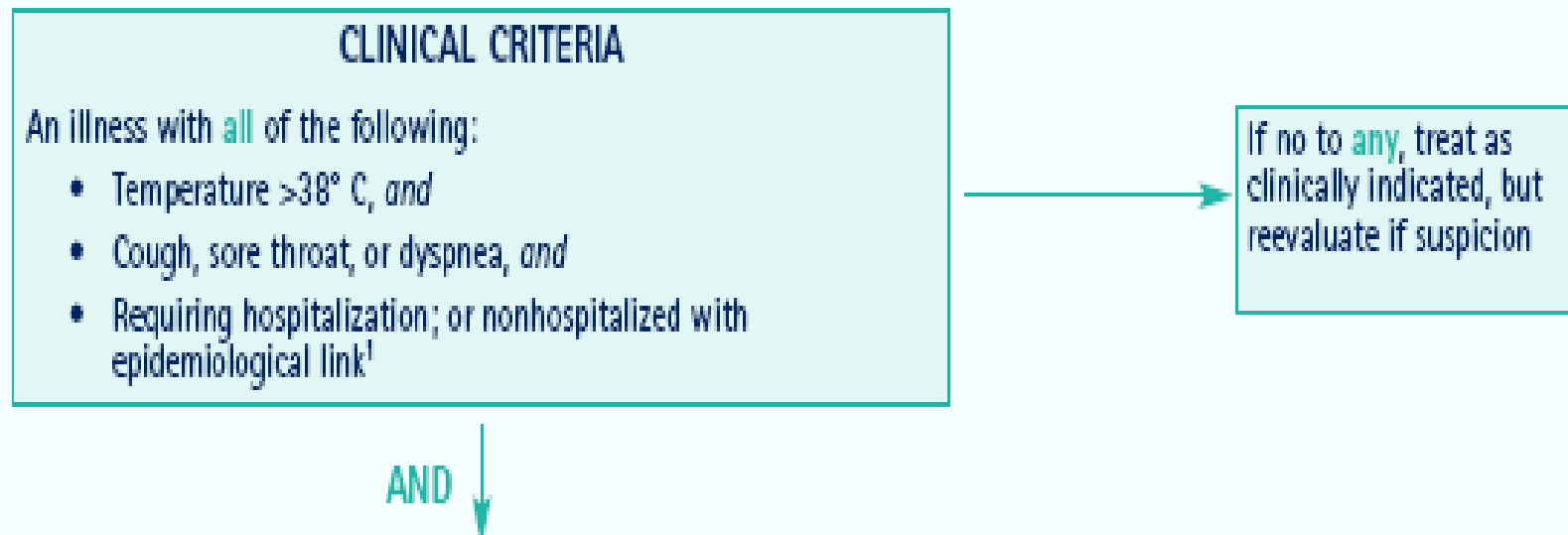
Avian Influenza in Humans- Clinical Signs

- Lower respiratory tract
- High persistent fever (38°C/100.4°F)
- Flu-like symptoms
- Chest X-ray infiltrates
- Acute Respiratory Distress Syndrome (ARDS)
- Multi-organ failure (MODS)

DHHS Plan- Supplement 5

FIGURE 1. CASE DETECTION AND CLINICAL MANAGEMENT DURING THE INTERPANDEMIC AND PANDEMIC ALERT PERIODS

Situation: No human cases of novel influenza are present in the community. Human cases might be present in another country or another region of the United States.



EPIDEMIOLOGIC CRITERIA

The clinician should ask the patient about the following **within 10 days** of symptom onset:

- History of recent **travel** to an affected area² **and** at least one of the following:
 - Direct contact with poultry or poultry products³, *or*
 - Close contact with a person with suspected or confirmed novel influenza⁴, *or*
 - Close contact with a person who died or was hospitalized due to a severe respiratory illness³
- Employment in an **occupation** at particular risk for novel influenza exposure, such as:
 - A health care worker in direct contact with a suspected or confirmed novel influenza case, *or*
 - A worker in a laboratory that contains live novel influenza virus, *or*
 - A worker in a poultry farm, live poultry market, or poultry processing operation with known or suspected avian influenza infection

- Changes may occur depending upon virus epidemiology

- Being updated currently!

- MDCH will provide updates of this screening form if revised by CDC.

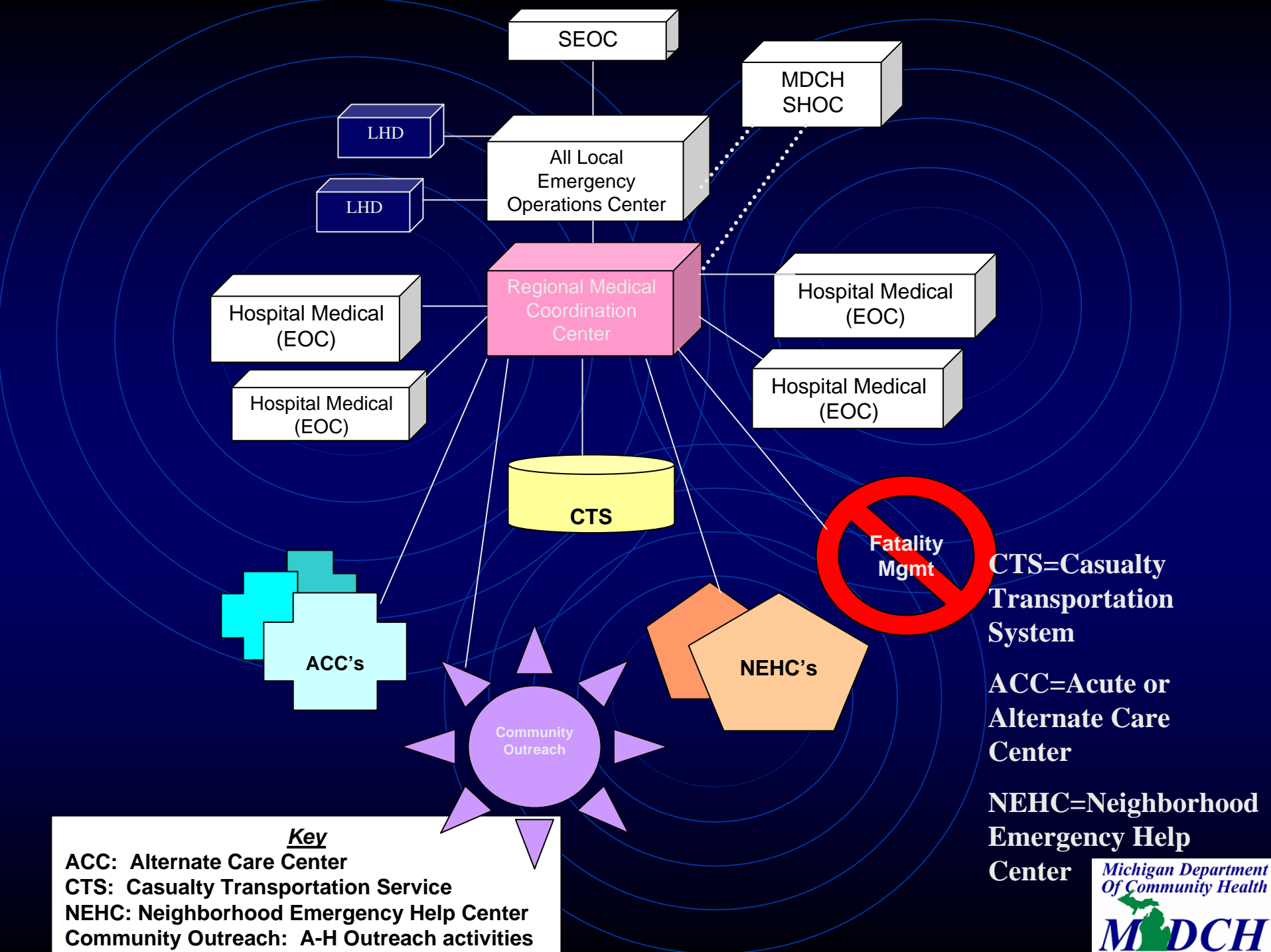
Surge Capacity-Medical

- Staff
- Supplies
- Pharmaceuticals
- PPE
- Sites
- Mass Prophylaxis
 - Mass vaccination plans
 - Strategies for hard-to-reach populations
 - Contingency plans for IND vaccine
 - Conduct exercises

Modular Emergency Medical System

Medical Surge

- Provides systematic, coordinated, effective medical response to large-scale incidents
- Allows existing medical infrastructure to continue to function
- Decreases burden away from hospital ED to alternate sites



SEOC

MDCH
SHOC

LHD

All Local
Emergency
Operations Center

LHD

Hospital Medical
(EOC)

Regional Medical
Coordination
Center

Hospital Medical
(EOC)

Hospital Medical
(EOC)

Hospital Medical
(EOC)

CTS

Fatality
Mgmt

ACC's

NEHC's

Community
Outreach

CTS=Casualty
Transportation
System

ACC=Acute or
Alternate Care
Center

NEHC=Neighborhood
Emergency Help
Center

Key

ACC: Alternate Care Center
 CTS: Casualty Transportation Service
 NEHC: Neighborhood Emergency Help Center
 Community Outreach: A-H Outreach activities



Antivirals: Not a Panacea

- Limited availability (two manufacturers)
- Personal stockpiling could lead to:
 - Inappropriate use
 - Increased resistance by the virus (already one documented case)
 - Decreased availability for the critically ill
- Very expensive (~\$75 per course)
- For prophylaxis, multiple courses must be taken throughout flu season

Pandemic Vaccine Situations and Assumptions

- Delayed vaccine availability (begins 4-6 months after the pandemic virus is identified)
- Vaccine becomes available at a steady rate of 20 million doses/month
- 1 year to vaccinate everyone with one dose, USA



International/Border Travel

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Border Issues

- Primarily federal
- Great Lakes Border Health Initiative
- Inter-state coordination of pandemic planning

Mental Health

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Base Plan- All Hazards

Planning Challenges

- Degree of federal purchase of vaccine or antivirals
- Priority groups
- Number of doses
- Timing of vaccine in relation to illness

Next Steps

- Business Continuity Plans To Maintain Essential Services
- DHHS sponsoring 50 State Summits
- Exercise Plans, Correct Plans, Retest
 - Upcoming Tabletop Exercises To Address Pandemic Flu
 - Regional/State/Local Medical Surge and mass Prophylaxis Exercises
- Communications Preparedness

Pandemic Influenza Planning and Response

- *Plan for uncertainty*
- *Plan for flexibility*
- *Plan for challenges*