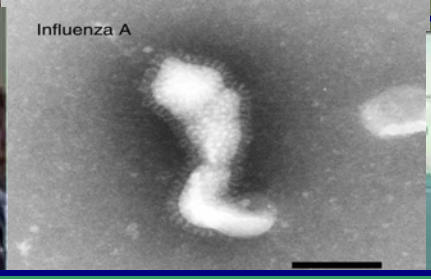
DRAFT 3.5 July 2008

Michigan Pandemic Influenza Community Health Plan





An appendix to the MDCH All Hazards Response Plan

Michigan Department of Community Health
MDCH

The MDCH component of the Michigan Pandemic Influenza State Operational Plan

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Executive Summary

Background

The "Spanish Flu" [A (H1N1)] pandemic of 1918-1919 was the worst natural disaster of the 20th century. By the time it ended, the Spanish Flu had killed 20-50 million people, more than the death toll caused by World War I. The second pandemic of the 20th century, the "Asian flu" [A (H2N2)] was identified in China in late February 1957, taking only a few months to spread and reach the United States where it caused approximately 70,000 deaths. The third and most recent pandemic was detected in early 1968 in Hong Kong [A (H3N2)]. It killed approximately 34,000 people in the United States.

The current World Health Organization (WHO) criteria for a pandemic is the confirmation that disease is causing multiple outbreaks in one country and is spreading to other countries, with a consistent disease pattern which indicates serious morbidity and mortality for at least one segment of the population. Although details are unpredictable, many experts agree that the next influenza pandemic is inevitable and could have devastating consequences. In the November 2005 release of the Pandemic Influenza Plan, Department of Health and Human Services estimates that, in a moderate (Category 2 or 3) 1957 or 1968-like pandemic, 90 million people could become ill (see **Table 1**). **Table 2** has estimates for Michigan derived with CDC's Flu-Aid 2.0 software at the MDCH; the underlying assumptions used are different than those used for **Table 1** and the estimates do not necessarily correlate. Of note, Flu-Aid 2.0 software approximates a "medium-level" pandemic, similar to the 1968/1957-like pandemics. The Michigan population is estimated to be approximately ten million in the 2000 census.

In addition to illness and loss of life, it is estimated that the United States could experience economic losses ranging from about $71 billion to about $166 billion, depending on the attack rate and disease severity.

Table 1. Number of Episodes of Illness, Healthcare Utilization, and Death Associated with Moderate and Severe Pandemic Influenza Scenarios*, United States

Characteristic	Moderate (1957 / 68-like)	Severe (1918-like)
Illness	90 million	90 million
Outpatient medical care	45 million	45 million
Hospitalization	865,000	9,900,000
Deaths	209,000	1,903,000

***U.S. figures from DHHS Pandemic Influenza Plan, Part 1, Page 18 (available at http://www.dhhs.gov/pandemicflu/plan/).**

Table 2.** Total estimates, by health outcome, from two scenarios of potential impact of the next influenza pandemic in Michigan: minimum and maximum

	Gross Attack Rate 35%			
	Moderate (1957 / 68-like)		Severe (1918-like)	
Health Outcome	Minimum	Maximum	Minimum	Maximum
Illness	3.4 million	3.4 million	3.4 million	3.4 million
Outpatient medical care	1.4 million	2.6 million	1.3 million	2.2 million
Hospitalization	14,000	51,000	120,000	420,000
Death	5,000	15,000	43,000	126,000

** Table 2 was developed with Flu-Aid 2.0 software, CDC (http://www.hhs.gov/nvpo/pandemics/). FluAid 2.0 uses different methodologies and assumptions than those used in Table 1.

Notes on Table 2
1) Michigan figures developed with FluAid 2.0 software CDC (http://www.hhs.gov/nvpo/pandemics) using the default Michigan values. The FluAid model provides estimates of the total impact (i.e., after-the-event estimates).
2) The estimated number of persons seeking outpatient medical care in the Severe (1918-like) scenario are lower than those in the Moderate (1957/68-like) scenario because historical data suggest that, although the percentage of the population that became ill in 1918 and 1968 was roughly the same, there was a much higher case fatality rate in 1918 than in 1968. Hence, the same gross clinical attack rate combined with the higher case fatality rate resulted in more of the severe final outcomes (hospitalizations and deaths) and fewer of the moderate final outcomes (outpatients) in the Severe (1918-like) scenario calculations.
3) The term "hospitalization" as used in FluAid refers to final health outcome (*i.e.*, those who are admitted to the hospital due to influenza-related illness but who survive; their end health outcome is hospitalization).

Michigan's Pandemic Influenza Plan provides public health response guidelines to an influenza pandemic. Although responses based on the plan cannot eliminate the disease, it will reduce the impact by enabling state and local agencies to anticipate, prepare, and respond efficiently to the disease. The plan details necessary activities at the state and local levels. Activities include command and management, crisis communications, surveillance, laboratory guidelines, community containment, infection control in health care facilities, vaccines and antivirals/medical management, data management border/travel issues, and recovery. For each WHO pandemic influenza phase there are specific responses within each activity stated above.

The WHO and the CDC have identified phases of influenza pandemics in detail. To facilitate planning and response strategy development, these phases have been merged into pre-pandemic, pandemic, and post-pandemic phases for Michigan planning.

Purpose of the MDCH Pandemic Influenza Plan

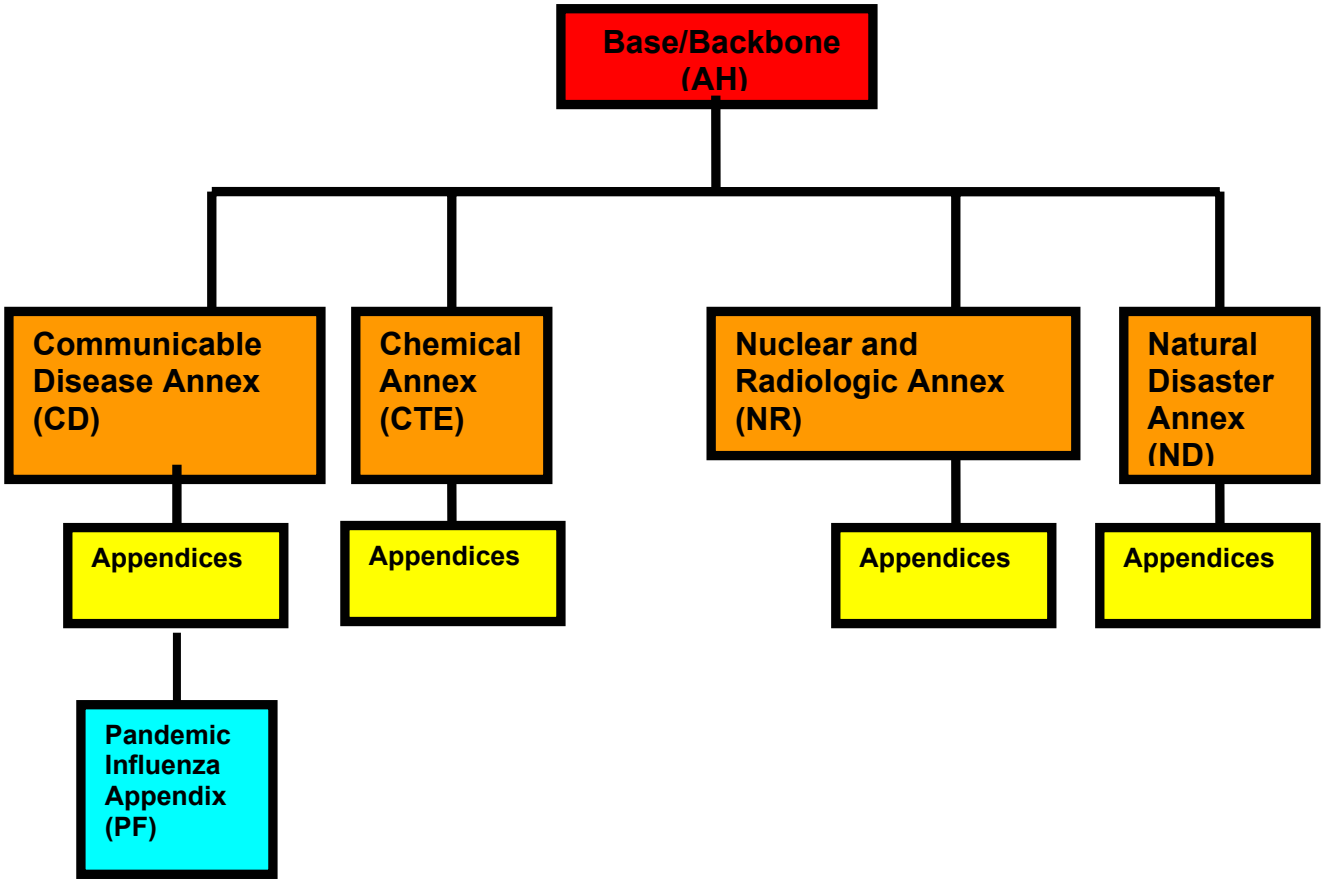
To outline the MDCH planning, roles and response strategy for public health response to an influenza pandemic within the state of Michigan.

Objectives of the MDCH Pandemic Influenza Plan

1. To limit severe illness and death from influenza
2. To consolidate MDCH preparedness and response for pandemic influenza in the State of Michigan.
3. Outline key assumptions for planning and response for a pandemic of influenza.
4. Describe concepts of operations, outlined in the Command and Management module (PF-I).
5. Provide public health State Responsibilities and Local Considerations for planning and response.
6. List public health response actions and activities in the pre-pandemic, pandemic and post-pandemic periods.
7. Work with the healthcare community to support appropriate influenza evaluation and care.
8. Maintain essential medical and public health services.
9. Communicate rapidly and accurately with the public, healthcare partners, and others.

Planning Structure

- The Michigan Pandemic Influenza State Operational Plan is of a comprehensive state-level multi-agency plan under the Michigan Emergency Management Plan, the NIMS-compliant All-Hazard Response Plan for the State.
- The Michigan Department of Community Health (MDCH) Pandemic Influenza Plan is one appendix to a comprehensive All-Hazards Response Plan (AHRP) for the MDCH. References to the Communicable Disease (CD) Annex (which contains plans referent to all communicable diseases) and the All Hazards (AH) Base Plan are noted within the Pandemic Influenza Plan.
- Similar to all Annexes and Attachments within the MDCH AHRP, each section of the MDCH Pandemic Influenza Plan addresses the preparedness and response actions for the Department's command and management, crisis communications, surveillance, laboratory guidelines, community containment, infection control in health care facilities, vaccines and antivirals/medical management, data management border/travel issues, and recovery.



Plan Management

The Michigan Department of Community Health Plan, as is the MDCH AHRP, is updated as needed based on changing information or After Action Reports from exercises. Plans are updated at least annually.

Pandemic Influenza Phases/Stages/ Intervals

- For the purposes of the MDCH Pandemic Influenza Plan, the phases are combined into Pre-Pandemic, Pandemic, and Post-Pandemic sections.
- **Table 3** illustrates the MDCH adoption of Pandemic Phases in conjunction with the 2005 WHO Phases and Federal Stages.
- **Figure 1** portrays the proposed CDC Intervals that Michigan will utilize for local response phase classification in conjunction with the MDCH Phases utilized in this Plan.

MDCH Phases/Intervals

Pre-Pandemic Phase: A novel virus, somewhere in the world, has been detected in humans and the human population is not immune. The novel strain has been found in a small number of people or demonstrates sustained person-to-person transmission causing multiple cases in the same geographic area. This phase may last from days to years.

Pandemic Phase: The novel virus causes unusually high rates of morbidity or mortality; multiple continents are affected; the World Health Organization (WHO) and CDC declare an influenza pandemic is underway. This phase may last several months to over a year.

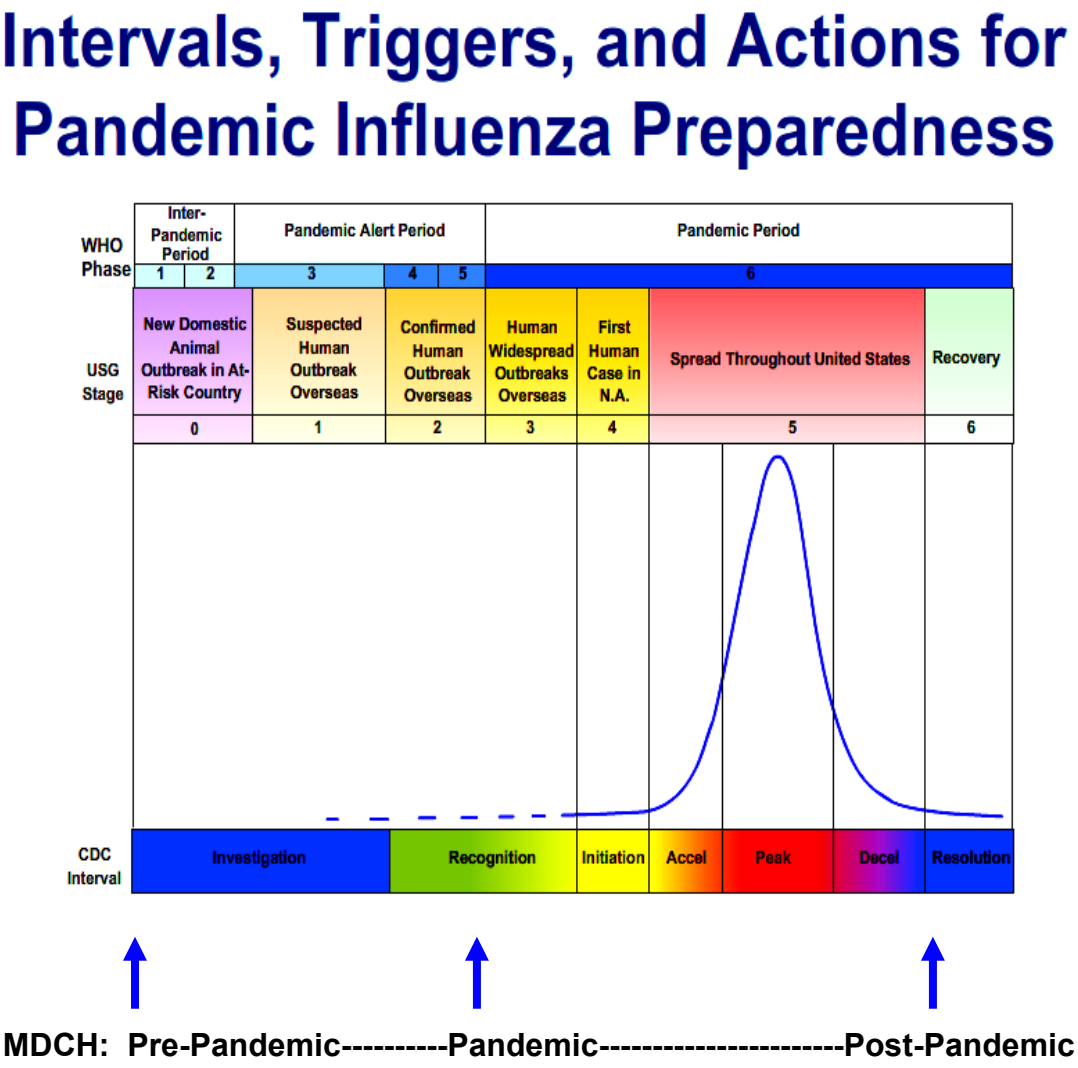
Post-Pandemic Phase: The number of deaths from and cases of influenza returns to normal. The WHO and CDC declare the pandemic to be over.

Table 3: WHO Global Pandemic Phases and Stages for Federal Government Response (White House Implementation Plan, Homeland Security Council, May 2006)

WHO Global Pandemic Phases and the Stages for Federal Government Response

WHO Phases		Federal Government Response Stages	
INTER-PANDEMIC PERIOD			
1	No new influenza virus subtypes have been detected in humans. An influenza virus subtype that has caused human infection may be present in animals. If present in animals, the risk of human disease is considered to be low.	0	New domestic animal outbreak in at-risk country
2	No new influenza virus subtypes have been detected in humans. However, a circulating animal influenza virus subtype poses a substantial risk of human disease.		
PANDEMIC ALERT PERIOD			
3	Human infection(s) with a new subtype, but no human-to-human spread, or at most rare instances of spread to a close contact.	0	New domestic animal outbreak in at-risk country
		1	Suspected human outbreak overseas
4	Small cluster(s) with limited human-to-human transmission but spread is highly localized, suggesting that the virus is not well adapted to humans.	2	Confirmed human outbreak overseas
5	Larger cluster(s) but human-to-human spread still localized, suggesting that the virus is becoming increasingly better adapted to humans, but may not yet be fully transmissible (substantial pandemic risk).		
PANDEMIC PERIOD			
6	Pandemic phase: increased and sustained transmission in general population.	3	Widespread human outbreaks in multiple locations overseas
		4	First human case in North America
		5	Spread throughout United States
		6	Recovery and preparation for subsequent waves

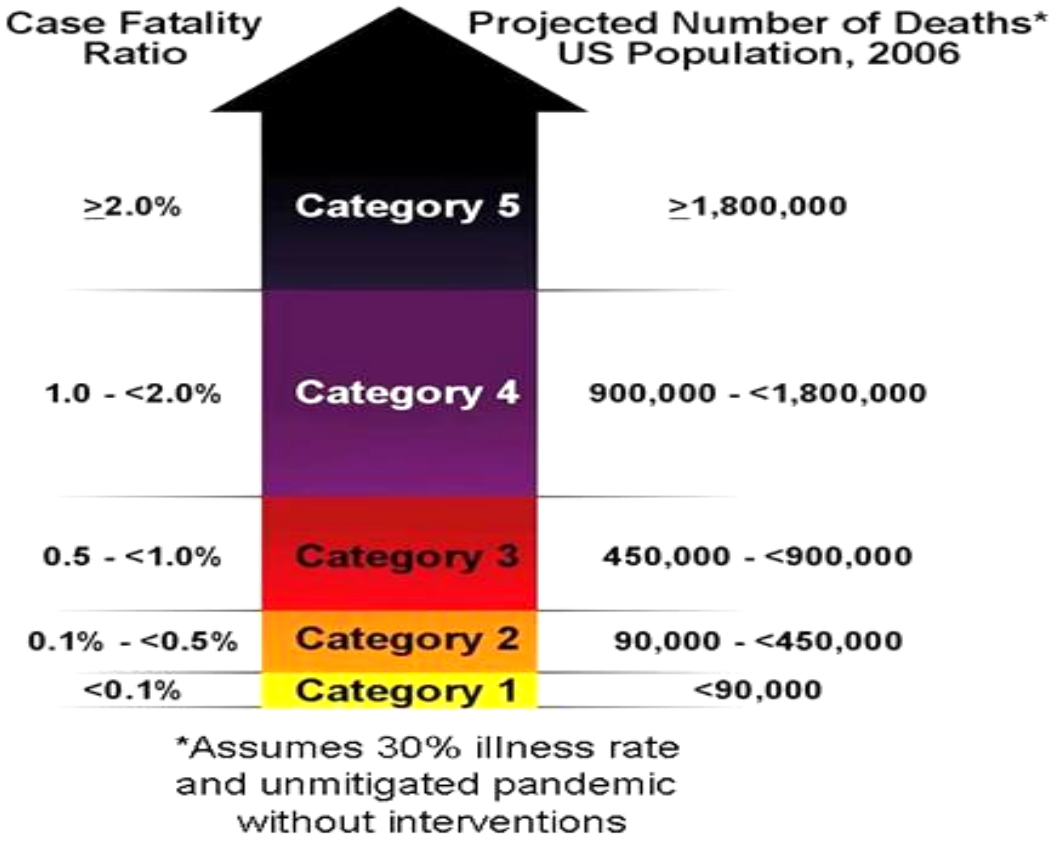
Figure 1. Intervals, Triggers, and Actions for Pandemic Influenza Preparedness-CDC, May 2008



Categories of Influenza Pandemic Severity

In the February 2006 the CDC document, "*Interim Pre-pandemic Planning Guidance: Community Strategy for Pandemic Influenza Mitigation in the United States*", it is noted that public health responses will vary depending upon the virulence of the virus, or other epidemiologic factors. Thus, a severity index, from 1-5 (1 being least severe, 5 being most severe) was adopted, and was incorporated in the MDCH Pandemic Influenza Plan v3.1 (**Figure 2**)

Figure 2. Pandemic Severity Index



Federal Responsibilities

The federal government has primary responsibility for many key elements of the national plan (draft available at http://www.hhs.gov/nvpo/pandemicplan/), including nationwide coordination of the pandemic influenza response. Specific areas of coordination include the following:

- Surveillance in the U.S. and globally.
- Epidemiological investigation in the U.S. and globally.
- Development and use of diagnostic laboratory tests and reagents.
- Development of reference strains and reagents for vaccines.
- Vaccine evaluation and licensure.
- Determination of populations at highest risk and strategies for vaccination and antiviral use.
  Assessment of measures to decrease transmission (such isolation and quarantine).
- Deployment of federally purchased vaccine.
- Deployment of antiviral agents in the Strategic National Stockpile (SNS).
- Evaluation of the efficacy of response measures.
- Evaluation of vaccine safety.
- Deployment of the Commissioned Corps Readiness Force and Epidemic Intelligence Service officers.
- Medical and public health communications.

State Responsibilities

- State public health (MDCH) responsibilities and local health department considerations are delineated as needed in each of the sections throughout the plan.
- This version applies to any activities or responses identified currently for novel strain or pandemic response, and *are subject to change*.
- MDCH Draft Emergency Action Guidelines (EAGs) for a novel strain or avian influenza, and pandemic influenza response, are posted in **Attachment 8**.

Lead State Agencies in Avian or Pandemic Response

Currently there is a novel Influenza A H5N1 avian strain that has spread from Southeast Asia into Europe in poultry and wild birds. Other animals can be sources of influenza infection (e.g. swine), and the responses by agency leads outlined below would be similar for that of an avian influenza.

WHO Phase 1
- Domestic Animals/Poultry: Michigan Department of Agriculture (MDA) (with United States Department of Agriculture (USDA)-Veterinary Services)
- Wildlife/ waterfowl/shorebirds: Michigan Department of Natural Resources (MDNR) (USDA-Wildlife)

WHO Phase 2
- Domestic Animals/Poultry: MDA (USDA-Veterinary Services)
- Wildlife/ waterfowl/shorebirds: MDNR (USDA-Wildlife Services)

WHO Phase 3
- Domestic Animals/Poultry: MDA (USDA-Veterinary Services)
- Wildlife/ waterfowl/shorebirds: MDNR (USDA-Wildlife Services)
- Human health: MDCH

WHO Phase 4
- Human health: MDCH *(Human health responses may be prioritized)*
- Domestic Animals/Poultry: MDA (USDA-Veterinary Services)
- Wildlife/ waterfowl/shorebirds: MDNR (USDA-Wildlife Services)

WHO Phase 5
- Human health: MDCH *(Human health responses will be prioritized)*
- Domestic Animals/Poultry: MDA (USDA-Veterinary Services)
- Wildlife/ waterfowl/shorebirds: MDNR (USDA-Wildlife Services)

WHO Phase 6
- Pandemic declared by WHO: Michigan Department of Community Health
- Upon activation of State Emergency Operations Center (SEOC) Michigan State Police (MSP) will support state emergency response efforts.

MDCH Planning Situations and Assumptions

Currently, a novel strain of influenza circulating in Asia and Eurasia is an avian (H5N1) strain. However, the pre-pandemic responses outlined in this plan can be used for any novel strain regardless of the species it evolves from (e.g. swine, etc)

- A novel influenza strain may enter Michigan in one of several scenarios, and the Lead Agency would differ depending upon which scenario develops:
  - Novel strain (e.g. Avian) in domestic animals: MDA (USDA federal partner)
  - Novel Strain in wildlife/wild birds: MDNR (USDA federal partner)
  - Novel Strain in humans: MDCH (CDC/HRSA federal partners)
  - Pandemic strain (only seen in humans): MDCH
  - The MDCH emergency coordination center, according to Emergency Support Function #8 is the lead agency to coordinate the response to a pandemic influenza.
- A pandemic alert (pre-pandemic) may be raised for a *novel influenza* strain (e.g. H5N1) which may have the capability of mutating into a pandemic strain.
- Most parts of the country will be involved simultaneously with pandemic influenza response, so diversion of resources from other locations will not be an option.
- Pandemics are unpredictable.
- Susceptibility to the pandemic virus will be universal
- The clinical disease attack rate may be 30% in the overall population during the pandemic. (from the National Pandemic Influenza Plan). Rates could be highest (40%) in school-aged children, and average of 20% in working adults may be ill.
- In the initial stages of pandemic influenza, vaccine is unlikely to be available and community mitigation strategies will be the most effective measures available.
- Typical incubation period for influenza is approximately 2 days.
- Plan coordination is essential. One of the greatest difficulties in devising a pandemic plan is clarifying the roles and responsibilities of individuals, departments, and organizations.
- Much is unknown about the epidemiology of potential pandemic influenza strains.
- Plans must allow for flexibility in pandemic influenza response, and consider the Category, WHO Phase and Federal (USG) Stage of activity.
- The Pandemic Influenza Plan and other components of the All Hazard Response Plan (AHRP) will be updated as more information becomes available.
- Exercises, at least annually, will be particularly valuable in refining the plan.
- MDCH has developed a separate Continuity of Operations (COOP) Plan to ensure the continuation of those essential functions identified within the agency.
- "Local Health Department Considerations" are included in the MDCH Pandemic Influenza Plan since most emergency response is local, and MDCH provides an advisory role/function to local health departments within the State of Michigan.
- Each Local Health Department maintains a complimenting pandemic influenza response plan.
- The number of cases presenting for care will overwhelm hospitals and other care facilities (see **Table 1**).

  - Regional epidemiologists and LHDs have used Flu-Aid 2.0 software to estimate the impact of a pandemic influenza upon their jurisdictions and incorporated this data in their plans and planning.
  - Regions and LHDs in Michigan differ markedly by their urban/suburban and rural characteristics as well as in population demographics; each jurisdiction has a breakdown of demographics within their area incorporated into their pandemic plan.
- A pandemic may lead to a 30-40 percent cumulative absenteeism in the workforce over a 6 to 8 week period.
- The national gross domestic product could drop by five percent.
- Sustaining a workforce will be difficult and pre-pandemic education is critical to have citizens of Michigan prepared for a pandemic.
- During a pandemic effective communication is essential to keep citizens updated on the current situation.

Command and Management-specific planning assumptions

- Local public health has lead authority to respond.
- Most public health activities that involve MDCH are handled within the established organizational/supervisory structure of MDCH and its organizational units' procedures.
- The Director of MDCH, by statute, has the overall responsibility for decision making for MDCH.
- MDCH has staff on-call 24/7 to respond to public health issues according to an established set of procedures.
- MDCH has established a facility to coordinate public health emergencies, called the Community Health Emergency Coordination Center (CHECC).
- In an emergency that involves activation of the State Emergency Operations Center (SEOC), the MSP coordinate the statewide emergency response.
- The MDCH Emergency Management Coordinator (EMC) is at the SEOC when needed and acts as a liaison between the CHECC and the SEOC.
- If a public health event is potentially related to terrorism or other intentional acts, law enforcement will be involved, potentially impacting on the public health response decision-making process.
- Michigan is divided into eight Public Health Preparedness Regions/Regional Bio-Defense Networks (**AH-Attachment 7**) that correspond to the MSP Emergency Management Division Districts.
- Regional leadership including BT Coordinators and Medical Directors are working with all appropriate agencies to ensure coordinated and integrated processes are in place for Modular Emergency Medical Systems implementation.

Community Containment-specific planning assumptions Community containment measures may be effective at limiting the severity and longevity of an epidemic or pandemic by limiting disease transmission within a large populace. **Module V** addresses non-pharmaceutical interventions and recommendations for containment measures that may be utilized during a pandemic, and prepared for in the pre-pandemic phase.

- Much is unknown about the epidemiology of potential pandemic influenza strains. Plans must allow for flexibility in pandemic influenza response, and consider the Category, WHO Phase and Federal (USG) Stage.

- Influenza is a communicable respiratory disease that has demonstrated transmission via direct contact and droplet methods. There is a theoretical probability of airborne transmission of influenza, especially with aerosol –generating procedures.
- **Isolation** is the separation and restriction of movement or activities of symptomatic persons who have a contagious disease, for the purpose of preventing transmission to others.
- **Quarantine** is the separation and restriction of movement or activities of persons who are not ill but who are believed to have been exposed to an infectious agent for the purpose of preventing transmission of disease.
- **Social distancing** measures may be implemented under public health authority
- **Severity** is categorized by a Pandemic Severity Index (PSI) from least severe (Category 1) to most severe (Category 5, similar to a 1918 pandemic).
- Community containment recommendations can be implemented during a large increased incidence of a communicable disease; however, the effectiveness of such measures for pandemic influenza is still being evaluated.
- A state-level School and Public Health Pandemic Issues Workgroup has reviewed federal interim guidelines about the use of school dismissal/closure for disease mitigation. See **Attachments 1 and 2** for draft guidance to schools.
- Community mitigation measures in Michigan, as outlined in **Attachment 1,** can be applied to all community institutions including but not limited to, individuals, child care providers, businesses, colleges and universities and the general population.
- Since late 2005, the Avian Influenza Interagency Working Group (AIIWG) has provided subject matter expertise to stakeholders such as the poultry industry and hunters. MDA and MDNR maintain Avian Influenza Response Plans to contain spread of infection.

Medical Management/Vaccines and Antivirals

Pandemic Vaccine

- Production will require 4-6 months from the time the pandemic vaccine strain is selected.
- Once production is begun, the vaccine will be manufactured at a steady rate.
- U.S. manufacturing capacity is 50.4 million 2-dose courses / year, or 4.2 million 2-dose courses / month.
- Vaccine will contain adjuvant that reduces antigen requirement to 30µg / dose.
- Pandemic vaccine will be allocated to project areas in proportion to their total population.
- Vaccine will be shipped weekly.

Pre-Pandemic Vaccine

- Pre-Pandemic vaccine will be shipped for immediate administration once sustained person-to-person transmission has been documented anywhere in the world.
- 20 million 2-dose courses will be available in the stockpile.
- Pre-Pandemic vaccine will be allocated in proportion to population, with the exception of critical infrastructure personnel who are not evenly spread across the population.

International/Border Travel Issues-specific planning assumptions

- Refer to the Michigan Emergency Management Assistance Compact **(**MEMAC) and supporting documents, which are available on the EMD/MSP website www.mspemd.org
- International: The Department of Homeland Security is the agency with authority related to travel across all international borders and related to entering any international ports (including air and water).

- Inter-State: Events which require closing of borders between individual states, are handled by local law enforcement. This is a decision and action that would be made at the State Emergency Operations Center (SEOC). MDCH may provide guidance as requested.
- State-Tribal: Public health emergencies occurring on tribal land are the responsibility of the tribal organization. Some Mutual Aid Agreements (MAAs) have been developed between local or state health or emergency agencies and tribes. In instances where pre-arranged MAAs have not been developed, Local or State Health organizations may provide services on tribal land *upon the invitation of the tribe.*
- Because at any point in time an influenza pandemic may be present in some areas of the world, but not in others, travel restrictions and other necessary actions to prevent the spread of influenza in our state will depend on multiple factors. These factors include:
    - Location of outbreaks
    - Transmissibility of the novel virus
    - Effectiveness of control measures
    - Available resources
- Decisions will be based on the above-mentioned factors with the current situation and circumstances in mind.

Legal Authorities

Below are any cited legal authorities by module. The comprehensive discussion of legal authority and the Michigan Public Health Code can be found in **AH-Intro.** The legal authorities as they pertain to communicable disease are also outlined in **CD-Intro.**

I. Command and Management

- Mechanisms are in place to amend legal authorities/reporting requirements as needed during a public health emergency.

II. Crisis Communications (see **AH-Intro**)

III. Surveillance

- Under Michigan Public Health Code, the communicable disease rules are promulgated under the authority conferred on the Department of Community Health by section 5111 of Act No. 368 of the Public Acts of 1978, as amended, being 333.5111 of the Michigan Compiled Laws.
- Physicians and laboratories are required to report communicable diseases as outlined in the Communicable Disease Rules (**CD-III**).
- Health care professionals and facilities will be required to comply with enhanced emergency reporting rules that would be enacted during a pandemic.

IV. Laboratory Guidelines

- The Michigan Public Health Code contains language establishing a State Public Health Laboratory.

V. Community Containment

- The Michigan Public Health Act of 1978 explicitly addresses the legal authority of the state of Michigan to enforce isolation, quarantine, and emergency orders. Refer to the Communicable Disease Annex, Community Containment Module (**CD-V**) for more information.

VI. Infection Control in Health care Facilities

- Healthcare professionals and facilities will be required to comply with enhanced emergency reporting rules that would be enacted during a pandemic. Facilities are required to report aggregate weekly counts to local health departments (LHDs).
- Mechanisms should be in place to provide the following enhanced surveillance:
    - All laboratories may be required to report individual lab confirmed cases to the local health department (LHD) within 24 hours of diagnosis.
    - Healthcare facilities and long-term care facilities may be directed to report daily numbers of cases to the local health department.
- Understand the applicability/impact of the Emergency Medical Treatment and Labor Act (EMTALA) rules (which prohibits the refusal to treat patients based on their ability to pay) during an influenza pandemic.

VII. Medical Management/Vaccines and Antivirals

- Public Act 390 allows for the re-distribution of vaccine, antivirals, and the supplies to administer the agents in the public and private sector if the Governor declares a public health emergency and / or the MDCH Director executes a Notice of Imminent Danger. The CDC provides national guidance in these instances (see **PF-VII**)
- The Michigan Care Improvement Registry (MCIR) will be the tracking system for influenza vaccine and antiviral medications under the legal authorities in Public Act 390. Scan forms can be used for MCIR data entry (**Attachment 6**). Tracking activities include:
    - Persons who receive a 1st dose of vaccine
    - Recall capability for additional doses of vaccine, if needed
    - Ability to record administration of antivirals
    - Ability to record adverse events associated with vaccine or antivirals
    - Inventory control
- The legal authority needed to administer vaccines in a declared emergency is defined in the 1976 Public Act 390, rule 30.411, section 11 (1) (c), (2), and (6).

VIII. Data Management

- For the collection of public health data, the MDCH is a non-covered entity under the Health Insurance Portability and Accountability Act (HIPAA) guidelines.

IX. International Border Travel Issues

- The federal government has residual authority under the Commerce Clause of the U.S. Constitution to prevent the interstate spread of disease. The federal government has primary responsibility for preventing the introduction of communicable diseases from foreign countries (including Canada) into the United States.
- It is possible for federal, state, and local health authorities simultaneously to have separate but concurrent legal quarantine power in a particular situation (e.g., an arriving aircraft at a Detroit- Metro airport). Because isolation and quarantine are “police power” functions, public health officials at the federal, state, and local levels may occasionally seek the assistance of their respective law enforcement counterparts to enforce a public health order.

X. Recovery/ Consequence Management (See **AH-Intro**)

Michigan Department of Community Health Pandemic Influenza Plan

Investigation and Recognition Intervals

WHO Phases 1-5
Federal Stages 0-2
MDCH Pre-Pandemic Phase
Includes MDCH Response for Highly Pathogenic H5N1 Avian Influenza

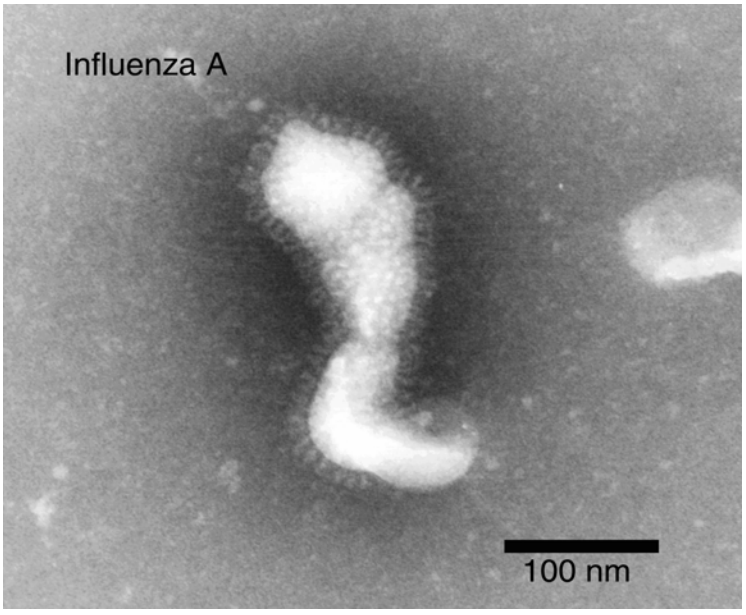


Image courtesy of MDCH Bureau of Laboratories

I. Command and Management: Pre-Pandemic Phase

Federal Level Responsibilities

- Centers for Disease Control and Prevention (CDC), Department of Health and Human Services (DHHS). is the lead public health agency in the US. DHHS is the lead agency for Emergency Support Function Eight (ESF-8) -- public health and medical services. DHHS/CDC support includes the following:
  - Provide technical information to states and the public
  - Conduct research to support the scientific foundations of public health actions
  - Mobilize and deploy personnel when necessary to assist state and local officials with epidemiological investigations
  - Advise on specimen collection and transport
  - Monitor adverse events
  - Stockpile and distribute medications (e.g., chemical antidotes, Strategic National Stockpile)
  - Coordinate public and media communications with state/local authorities
- The Department of Homeland Security (DHS) is the lead agency in the event of a terrorist attack, natural disaster or other large-scale emergency, and will provide a coordinated, comprehensive federal response and recovery effort. The department assumes primary responsibility for ensuring that emergency response professionals are prepared for any situation.

State Level Responsibilities **Lead: MDCH Administration and OPHP**

- Administrative and organizational leadership during a Public Health emergency are further addressed in **AH-I,** and is based on the Incident Command Structure (ICS)**.**

State-Level Pandemic Influenza Coordinating Committee

- A state-level Pandemic Influenza Coordinating Committee (PICC) was convened in Fall 2006, and meets regularly Membership represents all state-level agencies, including Local, Public, Tribal, and State representation
- All sectors of Michigan to be addressed for maximum public-private collaborations: schools, businesses, faith-based organizations, community organizations, refugees, healthcare, etc.
- The mission of this committee is to:
  - Assist state in articulating strategic priorities and overseeing development and execution of State Pandemic Influenza Operational Plan..
  - Assure plan is progressing, integrated, and coordinated.
  - Planning involves all areas, sectors, and departments across the State.
  - Assure State has continuity of governance pandemic plan

Interagency Coordination

- The Avian Influenza Interagency Working Group (AIIWG) is comprised of members from Agriculture (MDA), Natural Resources (MDNR), USDA, MDCH, State Police, Michigan State University Extension and the Governor's office, and coordinates communication, surveillance and response for novel avian influenza.

  - The AIIWG provides subject matter expertise from all involved agencies with regards to risks from avian influenza: poultry workers, hunters, veterinarians, MSU Extension staff, poultry owners, wildlife responders.
  - Brochures, website materials, and presentations to stakeholders throughout the state have, and will be developed by members from the AIIWG
- MDCH is coordinating with other state agencies to develop stakeholder-specific communications and preparedness toolkits for avian and pandemic influenza.The Avian Influenza Response Plans for USDA, MDA and MDNR have been shared with MDCH and are at: michigan.gov/avianinfluenza .
- MDCH will finalize any MOAs/MOUs necessary to implement sharing of staff or resources across borders in the prepandemic phase, within 12 months.

MDCH

- MDCH is the lead state agency for public health issues.
- MDCH Administration- review and revise internal human resource policies and procedures to ensure all staff are involved with pandemic response
- MDCH supports local health departments and is a liaison between the federal and local response.
- The MDCH Executive Committee is comprised of:
  - The Director/State Health Officer
  - Chief Medical Executive
  - Deputy State Health Officer/Deputy Director for Public Health
  - Deputy Director Operations
  - State Epidemiologist
  - OPHP Director
  - Laboratory Director
  - Public Information Officer (PIO)
  - Legal/legislative liaison
  - Other members as designated by the Director
- There are five major administrative units reporting to the Office of the Director.
  - Public Health Administration
  - Operations
  - Medical Services Administration
  - Health Policy, Regulation and Professions Administration
  - Mental Health/Substance Abuse Administration
  - Bureau of Health Policy, Planning and Access
- MDCH has other organizational units integral to a cohesive response to public health emergencies: Mental Health/Substance Abuse, Office of Services to the Aging (OSA), the Office of Legal Affairs, the Bureau of Health Systems, and others.

MDCH Public Health Administration

- Maintains the MDCH on-call after-hours system.
- Regularly chairs weekly Core Pandemic Planning meetings and Pandemic Planning Partners calls with local health departments for Plan operations.
- Consists of three organizational units:

- The Office of Public Health Preparedness (OPHP)
  - Provides guidance for upgrading state and local jurisdiction's preparedness for response to outbreaks of infectious disease, public health threats and emergencies including terrorism
  - Provide guidance for upgrading the preparedness of health care systems and collaborating entities to respond to terrorism and mass medical emergencies
  - Provides guidance for the exercise of state and local pandemic plans
  - OPHP maintains the CHECC
- Bureau of Laboratories (BOL) will
  - Provide clinical diagnostic and analytical services to support public health activities
  - Includes sections for microbiology, virology/immunology and chemistry/toxicology and regional laboratories
- Bureau of Epidemiology (BOE) will
  - Provide for communicable disease surveillance and control
  - Manage and distribute state supplies of vaccine and promoting the vaccination of at risk groups
  - Provide response to public health threats from disease exposure, including surveillance, field investigations, and public education

Michigan Pandemic Coordinator

- MDCH has designated a Pandemic Plan Coordinator from the Bureau of Epidemiology to assist in plan updating, implementation, and coordination of plans across agencies and jurisdictions.

The Community Health Emergency Coordination Center (CHECC)

- The Preliminary Assessment Team (PAT) **(**also see Community Health Emergency Coordinating Center [CHECC] Manual) is a group made up of representatives, or their designees from the Executive Committee, and the specialists needed to assist in decision-making regarding Pandemic Influenza.
- The purpose of this team is to determine whether an incident requires a public health response and/or CHECC activation. In the pre-pandemic phase, influenza activity may develop to a level when convening this team will be necessary.
- This team works under the umbrella of the CHECC; if the CHECC and the following assessment will occur:
  - A summary of reporting results
  - Enumeration of human health consequences
  - Conclusions about etiology
  - Estimates of the size of population thought to be at risk
  - Communication and consultation with LHDs and health care providers on medical and epidemiologic issues
  - Communication and consultation with the CDC as needed, including requests for assistance
  - Communication with the MDCH public information officer (PIO) on CHECC activation

- MDCH will use established systems to coordinate day-to-day activities, and activities that are essential to preventing disease and preserving health in a public health emergency.
- OPHP Director maintains operational control.
- Operates in one of three modes: Watch, Alert, or Response (Activate).
- In a larger significant emergency, the CHECC may be activated. The level of activation is situation-dependent, and can be partially or fully activated.
    - The MDCH Director can direct the OPHP Director to activate the CHECC for emergencies affecting public health in the state, both separately and in conjunction with the SEOC activation.
    - The MDCH Chief Medical Executive can direct the activation of the CHECC in the absence of the Director.
    - The MDCH Director has authorized the OPHP Director to activate the CHECC in the absence of the Director and Chief Medical Executive according to established procedures.
    - Activation may be full or partial as determined by the PAT and/or OPHP Director (see CHECC Manual).
    - The CHECC may activate for public health emergencies that do not change the National Threat level.

CHECC Response Modes by Phase/Stage/Category-Pre-Pandemic
The Director of MDCH and/or OPHP will implement the CHECC modes in the pre-pandemic phase/stages as follows, for Pandemic Severity Indexes (PSI) 1-5 (see **Table1**):

- WHO Phase 3: Watch mode (current status)
- WHO Phase 4/US Government (USG)Stage 2: Alert Mode- the Preliminary Assessment Team (PAT) of the Community Health Emergency Coordination Center (CHECC) will meet to determine CHECC activation status.
- WHO Phase 5/USG Stage 2: Alert Mode- with consideration of mobilization of certain responses (determined by the PAT)

Table 1: CHECC Activation Modes by WHO Phase and USG Stage

PSI	Phase 3/ USG 0-1	Phase 4/ USG 2	Phase 5 USG 2	Phase 6 USG 3	Phase 6 USG 4	Phase 6 USG 5
1	W	W	W	PAR	PAR	FAR
2-3	W	W	W	PAR	PAR	FAR
4-5	W	W	PAR	PAR	FAR	FAR

W= watch
PAR=Partial response activation
FAR=Full response activation

Regional Leadership/Medical Coordination Center

- Coordination of health care services in a mass casualty/disaster response can be facilitated by a regional medical coordination center (MCC). Refer to **AH-VII** and **Attachment 16**.

- MDCH and the CHECC will provide any necessary assistance for support of MCC activation and response efforts, including assisting with coordination of personnel and equipment between or within regions.

Local Health Department Considerations

- Administrative and organizational leadership during a Public Health emergency is based on the Incident Command Structure (ICS)**.**
- LHDs will finalize any MOAs/MOUs necessary to implement sharing of staff or resources across borders in the prepandemic phase, within 12 months.
- Conduct exercises and update pandemic plans accordingly
- Develop jurisdictional Pandemic Influenza Coordinating Committees that are made up or representatives from schools, businesses, faith-based organizations, hospitals, and other sectors of society to develop a comprehensive preparedness and response plan (2006-2007).

II. Crisis Communication: Pre-Pandemic Phase

*Note: Tactical and All Hazards Risk Communications planning for MDCH are located in **Attachment 21***

State Level Responsibilities **Lead: Communications Office and OPHP**

State level responsibilities for influenza communications during the pre-pandemic phase include the following:

- Development of prepared public health messages and responses to anticipated frequently asked questions (FAQs); these are adaptable to the situation.
- MDCH will inform the media of a novel virus alert (See **Attachment 21**). H5N1, a currently active novel strain, has been addressed by MDCH in the media and outreach activities since Fall 2004.
- Communications personnel consult with Bureau directors and subject matter experts to take communication actions in response to a novel influenza outbreak. All communications shall emanate from a central point (**Attachment 21**). The MDCH Public Information Officer (PIO), and/or the Joint Information Center (JIC).
- The MDCH PIO has, and will identify trained subject matter spokespersons (Executive Committee members, influenza surveillance specialists, trusted community spokespeople, etc) as needed.
- Pre-pandemic messages will address:
    - Public health actions taking place, and those being planned
    - Education of health care workers about disease diagnosis and infection control
    - Education of community regarding social distancing, isolation, and quarantine measures and what they may entail
    - Disseminating messages (see **AH-II**) to encourage awareness of the possible appearance of novel or pandemic influenza
    - In the pre-pandemic period (Phases 3-5) the behavior of the virus will change, and messages, such as travel advisories, will need to be updated frequently.
- MDCH maintains, and is further developing, a library of pandemic influenza-related educational materials for local health department and hospital PIOs, available in the MI-HAN Document Library.
- MDCH Communications personnel utilize PHIN-compliant systems, and test regularly (monthly/quarterly)the following communication tools (see **Attachment 21**):
    - MDCH influenza homepage at http://www.michigan.gov/flu
    - Michigan Health Alert Network (MIHAN)
    - MDCH emergency hotlines
    - Phone banks
    - CDC Public Response Service
    - Media/press
    - Michigan Biodefense Alert Listserv (MBAL)
- MDCH Communications personnel have developed a large Communications ACCESS Database maintained at OPHP for use in any emergency, including pandemic influenza.
- Michigan's Avian Influenza Interagency Risk Communications Plan addresses interagency communications (MDA, MDCH, USDA, MDNR) regarding novel strain avian influenza

- WHO Phases 1-4: MDCH BOE will provide information to the PIO and the healthcare community on clinical signs and symptoms, triage, diagnosis and management of suspected cases.

Local Health Department Considerations

Local communications personnel will develop procedures for addressing demands for media information.

- Messages should include the expected influenza activity due to the new strain of virus, the existence of state and local plans for dealing with increased influenza activity and the actions the public can take to better protect themselves.
- Disseminate educational curricula and materials for local hospitals, and other health care providers.
- Identify population subgroups, if any, which are likely to be disproportionately affected by pandemics and design materials appropriate for these subgroups.
- Use local Crisis and Emergency Risk Communication (CERC) plan contact lists to disseminate information to special populations and prepare messages for those groups.
- Contact interpreters to help communicate to non-English speaking groups. Prepare and disseminate translated materials. MDCH will assist in providing templates.

Recent Pre-Pandemic Outreach Actions:

- A College/University Pandemic Preparedness Webinar was held November 2007, and is posted at: http://mediasite.mihealth.org/Mediasite/Viewer/?peid=eb2f6150-1040-4e25-97f3-c19f30906a47
- Video vignettes for seasonal, Avian and Pandemic Influenza are posted at: http://mdch.train.org/PanFlu/VideoVignettes/index.html
- A Pandemic Preparedness and Emergency Preparedness wallet card was purchased by MDCH and distributed to all Michigan State employees in Spring 2008.
- MDCH and the Michigan Department of Education worked together to develop a school "toolkit" to assist in pandemic preparedness education. The School-based Pandemic toolkit contains a presentation on seasonal/avian/pandemic influenza by subject matter experts, along with a fact sheet for educators and key k-12 classroom lessons on hygiene (pan flu containment measures). All were saved on a CD-ROM which was made available to schools throughout Michigan. A website was developed and School Health Coordinators were asked to promote the concepts and materials and ask teachers to teach the health and hygiene lessons for students grade k thru 12. A link to the toolkit for educators: http://mdch.train.org/panflu/education/ and the website :http://www.emc.cmich.edu/avian/
- MDCH, Michigan Department of Agriculture (MDA) and the Michigan Department of Natural Resources (MDNR) and Michigan State University (MSU) Extension produced a DVD on avian influenza. It features recorded presentation by experts on avian influenza poultry issues, wildlife issues, human issues and response issues.
- MDCH subject matter experts have given over 400 face-to-face presentations, on seasonal/avian/pandemic influenza. The presentations were made to businesses,

healthcare organizations, schools, as well as Community and professional organizations throughout the state.

- The state-level Avian Influenza Interagency Working Group produced a brochure on avian influenza. Several thousands have been distributed to local partners.
- MSU is developing messages for bird owners, backyard birders, pigeon fanciers, underground cock fighters and bird smugglers.
- MDCH has attended several conferences and Community events to posted displays on avian/pandemic influenza for groups including: law enforcement, fire, EMS, long term care, and the agricultural Community (4-H Fair) to provide further outreach.
- MDCH, MDA, and MDNA have pandemic and avian influenza websites targeting their specific audiences (hunters, agricultural Community, animal and human health). Examples: www.michigan.gov/emergingdiseases & www.michigan.gov/influenza .

III. Surveillance: Pre-Pandemic Phase

State Level Responsibilities **Lead: MDCH Epidemiology (BOE)**

State responsibilities for influenza surveillance in the pre-pandemic phase include:

- The Bureau of Laboratories (BOL) and the Bureau of Epidemiology (BOE) operate a **24/7 coverage** at 517-335-9030 for issues regarding the notification of communicable disease, public health disasters, or the shipping, testing or handling of clinical specimens. All testing request(s) for novel influenza must be approved by BOE for BOL to process.
- Monitor and track influenza like illness activity through aggregate school-based, sentinel-based, or syndromic surveillance systems- **this occurs throughout the year**.
- Detect outbreaks in institutional settings to support public health consultations and effective control measures.
- Detect first travel-associated case of novel influenza in Michigan.
- Inform public health response when pandemic influenza reaches Michigan (WHO Phase 6, USG Stage 5-laboratory confirmed cases that are epidemiologically linked in Region or State).
- Participate in and implement plans to enhance national influenza surveillance systems coordinated by the CDC which include the following:
    - MDCH BOE analyzes state and local data and the CDC analyzes regional and national data in the U.S. Influenza Sentinel Providers Surveillance Network (SPSN). 90+ health care providers are currently active.
    - 122 U.S. Cities Mortality Reporting–data from three Michigan cities (Lansing, Grand Rapids, and Detroit) are included in this CDC system. Deaths due to pneumonia or influenza are among the data reported.
    - WHO/CDC National Respiratory and Enteric Virus Surveillance System (NREVSS) Collaborating Laboratories (MDCH Lab-BOL) for tracking influenza strains.
    - MDCH has identified and established surveillance contacts with the Early Warning Infectious Disease Surveillance program (EWIDS) in neighboring states (Ohio, Minnesota, New York, and Wisconsin) and Ontario, Canada
    - Participate in other federal surveillance programs (Biowatch/Biosense)
- Surveillance Systems:

  <u>Diagnosis- based Surveillance-</u>
    - Physicians, as required under Michigan Communicable Disease Rules (see **CD-III**), must report influenza, including suspect or confirmed novel (avian) cases, within 24 hours.
    - Aggregate school-based absenteeism reports are entered into the MDSS within seven days currently.
    - Laboratory-based reporting of confirmed influenza cases within three days as required under Michigan Communicable Disease Rules.
    - Immediate reporting of suspected and/or confirmed influenza outbreaks in long-term care facilities, schools, hospitals, and other institutional or congregate settings as required under Michigan Communicable Disease Rules.
    - Sentinel provider reporting of Influenza-like illness (ILI).
    - Utilization of the Michigan Care Improvement Registry for tracking of adult and child immunizations.

  - Determine capacity and exercise plans with the MDA (including VetNet), USDA, Michigan State University, the University of Michigan Influenza Research and Surveillance Program, veterinarians, poultry researchers, etc., to monitor clinically consistent clusters of illness compatible with equine, avian and swine influenza
  - Utilize systems for tracking influenza-related mortality:
    - Communicate with the State Vital Registrar office (within MDCH) to ensure timely and accurate counting of deaths attributable to influenza and pneumonia.
    - In cooperation with the Michigan Medical Examiners Association, obtain information on influenza, pneumonia or other respiratory infection related causes of death.
  - Ongoing enhancements of Michigan's Disease Surveillance System (MDSS)
- Active surveillance-implemented by State Epidemiologist (BOE) and affected LHDs with suspect or enhanced risk of novel strain influenza in a human within jurisdiction.
- Electronic forms for seasonal and novel strain influenza available on MDSS.
- A case investigation form, for persons presenting during a novel virus alert with an ILI and recent travel to/from an impacted area, has been placed on MDSS and forwarded to LHDS, and will be used for all suspected cases of novel influenza.
- Monitor health of poultry workers or emergency responders exposed to an avian influenza event (or other novel strain).
- Updated reporting/testing criteria for suspect H5N1 (a novel strain of influenza), as of June 2006, are in **Attachment 1, and 1A-B.**
- MDSS Report Form for Seasonal and Novel Strain Influenza is in **Attachment 17.**
- Work with LHDs to investigate cases of suspected novel influenza or ILI .
- Investigate severe respiratory illness and unexplained deaths at local hospitals and persons traveling from geographic areas in which the novel strains have been isolated. (CDC Updated Guidelines, Enhanced Surveillance, February 4, 2005**:** http://www.cdc.gov/flu/avian/professional/han020405.htm).

Syndrome-based Surveillance-

  - Syndromic Surveillance utilizes the Realtime Outbreak Disease Surveillance (RODS) National Retail Data Monitor (NRDM) (http://rods.health.pitt.edu/) which tracks day-old pharmaceutical purchasing.
  - Monitoring of Emergency Room chief complaints throughout the state.
- Surveillance Actions:
  - WHO Phases 4 and 5: BOE will activate enhanced surveillance and provider communication regarding alerts for travel related cases due to a novel influenza strain as discussed under active surveillance.
  - Support (with MDCH Epi Response Team) CDC Quarantine Station at Detroit Metro Airport should passengers arrive from an area with circulating novel or pandemic influenza strains, presenting with influenza signs or symptoms.
  - Ensure SPSN has at least one regularly reporting provider per 250,000 people. Recruit additional providers if necessary. Report results to LHD Medical Directors four times per year (beginning, middle, and end of influenza season, as well as mid-summer) on SPS
  - MiFluFocus–Michigan influenza activity is currently reported each week to public health partners and CDC as requested. Frequency can be increased. *This is now a year-round action*

        - Compile MIFluFocus influenza surveillance reports, distribute to stakeholders: include LHDs, state level professional organizations, such as the Michigan Chapter of the College of Emergency Physicians, the MSIC/APIC, MSMS, MSOA, MIDS and clinical labs. Posted weekly at michigan.gov/flu
    - Michigan Health Alert Network (MI-HAN) (see **PF-II** and **Attachment 21**) will be utilized for communications between MDCH, LHDs, and hospitals. As appropriate additional methodologies of communication will be used and may include E-Team, MiFluFocus, and websites.
    - Maintain demographic statistics on Michigan groups at high risk for influenza
    - Conduct surveillance and investigation of pediatric influenza-associated deaths.
    - Work with the Avian Influenza Interagency Working Group (AIIWG) to monitor novel influenza strain/avian influenza activity within Michigan. The AIIWG is under the direction of the State Veterinarian (Department of Agriculture, 517-373-1077) and includes members from MDCH, State Police, Department of Natural Resources, Michigan State University, USDA-Veterinary Services, USDA-Wildlife Services and the Governor's Office. A Communications plan and Memorandum of Understanding between all agencies is in place and contains all updated contact information.
    - STRIDE, an electronic animal disease reporting system is currently under development in partnership with Michigan State University and will be linked to the MDSS.
    - The MDCH Influenza Coordinator can be contacted at 517-335-8165 and is responsible for compiling influenza surveillance data and monitoring for outbreaks in Michigan.
        - Update risk profile for stakeholders: poultry owners, wildlife responders, hunters, etc.
        - Disseminate information via MIFluFocus and MI-HAN as needed.
    - Investigate outbreaks of seasonal influenza to identify circulating strains, determine seasonal influenza vaccine efficacy, and provide consultation in the areas of antiviral treatment and infection control procedures (**PF-VI** and **PF-VII**).
    - Implement improvements and expansions (2007-8) to influenza surveillance:
        - An electronic aggregate system for rapid/real-time reporting of influenza morbidity (including isolated and quarantined) and mortality is now available on MDSS, see **Attachment 17-C.**
        - Developing protocols for Emergency Department and Urgent Care Facility surveillance for influenza
        - Identify additional sources of syndromic surveillance data
        - Applying GIS methodologies
        - Develop trigger to switch from individual case reporting to aggregate as indicated
        - Maintain regular communication with the University of Michigan influenza nursing home project to monitor current activity and strains of influenza.
        - Maintain daily situational awareness of animal and human novel strains world-wide.
        - Integrate and maintain a statewide surveillance/reporting system for tracking influenza-related morbidity in Michigan (2007-8).
        - Continue to expand capability for health care facilities, providers and long term care facilities to use the Michigan Disease Surveillance System (MDSS).

Health Care Facility Surveillance (Also see **Pre-VI and Pandemic-PF-VI)**

- Re-establish or verify the presence of surveillance system with long-term care facilities and establish a mechanism to contact the LHD in the event of an ILI cluster and to collect specimens for viral isolation.
- All health care facilities and providers maintain responsibility to adopt current surveillance and reporting mechanisms based on the activity within their facility as well as within their local jurisdiction.

Local Health Department Considerations

Current LHD responsibilities for influenza surveillance during the pre-pandemic phase include:

- Work with MDCH to recruit clinicians into the SPSN in Michigan, and encourage increased reporting by participating clinicians
- Maintain demographic statistics on jurisdiction's groups at high risk for influenza
- Identify disease reporting agencies within the jurisdiction, along with addresses, fax numbers, and the name of a contact person
- Review the level of influenza-like illness (ILI) reporting from schools and assure that these facilities are reporting on a regular basis as required by law
- Consider active surveillance of institutions of higher learning where a significant number of foreign students may be attending, especially in WHO Phases 4-6.
- Review and refine system for monitoring ILI in other congregate facilities that accommodate children such as camps and daycares. Assure that facilities are aware of reporting duties under the Michigan Communicable Disease Rules
- Provide notification and updates to providers (physicians, hospitals, emergency rooms, clinical laboratories, long-term care facilities), local emergency management directors, EMS, local law enforcement agencies, and local, private and public partners within the LHD jurisdiction
- Distribute MDCH-provided specimen collection and submission kits to appropriate providers. Coordinate collection of additional clinical specimens for influenza surveillance according to protocols disseminated by MDCH
- Investigate suspect cases of novel influenza virus in coordination with MDCH
- In the event of a novel virus alert and/or pandemic alert, review local pandemic influenza response plans

IV. Laboratory Guidelines: Pre-Pandemic Phase

State Level Responsibilities **Lead: Bureau of Laboratories**

- Annually, the Virology Section Manager confirms and documents the location of all clinical laboratories in the state which have the capability to isolate and sub-type influenza viruses and arrange for submission of influenza virus isolates.
- The BOL maintains routine seasonal influenza testing year-round of specimens submitted by sentinel influenza sites enrolled under the US Influenza Sentinel Provider Surveillance Network (SPSN).
- The Virology Section at BOL isolates, types, and subtypes Influenza A & B virus
- The Virology Section performs polymerase chain reaction (PCR) from clinical specimens and subtypes influenza viruses by PCR at capacity levels sufficient to meet the demand during a normal influenza season
- BOL will provide respiratory virus testing for outbreak and cluster investigations.
- BOL maintains updated guidance for notification, clinical specimen selection, and submission during a seasonal, novel virus alerts, or pandemic flu, see **Attachments 1, 2.**
- BOL has defined appropriate specimen collection and transport guidelines as described in **Attachment 3.**
- BOL periodically sends representative virus isolates to CDC for further antigenic characterization. It will also immediately send any unusual virus isolates to CDC for further studies including antiviral resistance.
- BOL will increase testing capacity for influenza viruses, including pandemic strain(s), in specimens obtained from travelers from affected areas and other targeted surveillance populations as need arises.

Clinical Laboratory Responsibilities

- Will participate in sentinel surveillance by submission of clinical specimens of influenza isolates to BOL.

Local Health Department Considerations

- Encourage clinical laboratories in their jurisdiction to submit influenza virus isolates and specimens as requested by MDCH.
- Assist as necessary with specimen collection, storage, and transport to the MDCH laboratories.

V. Community Containment: Pre-Pandemic Phase

***Note**: Community Containment measures are being addressed for both novel strain (e.g. avian H5N1, which could mutate to a pandemic strain) and pandemic influenza strains; therefore measures are outlined here in the Pre-Pandemic section (Also see CD-V, Community Containment)

State Level Responsibilities Lead: Bureau of Epidemiology (BOE)

- The MDCH Executive Committee will make recommendations for the implementation of community containment measures based on federal, LHD, and subject matter expert input.
- Outline laws and authorities associated with community containment measures (See **Legal Authority Sections, MDCH Plan** for more information).
- Delineate roles, responsibilities, and authorities of state and local officials for implementation of community containment measures.
- Implement community containment measures as indicated and as planned for in Pre-Pandemic phase (**Attachment 19).**
- Act as liaison between national and local government by disseminating national guidelines, advisories, and alerts as they relate to community containment decisions.
- *Currently, Michigan is not using border closure as a community containment measure.*
- Communicate messages, alerts, advisories, or other types of information using media outlets such as TV, radio, MDCH-ENS, MI-HAN, blast fax, or other forms of communications. See **Module II** and **Attachment 21** for more information.
    - Communicate regularly and update guidance with CDC/DHHS.
    - Communications regarding mitigation measures to support LHD responses.
    - Provide updated guidance to LHDs, healthcare facilities, state agencies, businesses, other agencies and stakeholders as requested.
- MDCH has, and will continue to enhance, state and community containment guidelines that can be modified and adapted at the local level (see below and **Attachment 19 and 20**)
- MDCH in coordination with other state agencies will continue to communicate to partners and the public the spectrum of possible public health mitigation measures that could occur based on the severity category, WHO Phase and Federal Stage of an influenza pandemic. (see **Attachment 19**)
- Develop and implement, with federal guidance and input from local partners, a system for monitoring/tracking isolation and quarantined cases at the local and state levels.
- Promote Individual and organizational responsibility for emergency planning. Plans should incorporate the following:
    - Plan for ill (e.g., fever and respiratory symptoms) individuals to remain at home
    - Plan for all household members of a person who is ill to voluntarily remain at home.
    - Plan for dismissal of students and child care closure
    - Plan for workplace and community social distancing measures
    - Help others
- The Michigan School-Public Health Pandemic Issues Workgroup has developed a draft template of guidance to schools regarding alert, standby and activate modes of response. (see **Attachment 20**)
- Evaluate appropriate isolation and quarantine strategies of individuals (passive or active monitoring) and the mass populace (focused measures to increase social distances) where disease transmission is occurring.

  - Strategies involving home isolation or quarantine of cases will require the appropriate use of hygiene and infection control practices in the home setting. MDCH will provide further guidance once made available by CDC/DHHS.
  - Issues regarding the care of home isolated or home quarantined cases must address the financial, social, physical and mental health needs of patients and caregivers
- Plan for and/or implement appropriate community containment measures for novel influenza.
- Disseminate, via Health Alert Network (HAN), list serves, and website, information regarding respiratory hygiene/cough etiquette, infection control information for home and community settings, social distancing measures such as transportation restriction, school dismissal/closure, public gathering cancellation, 'snow days', and community containment rationales.
- Assist Local Health Departments (LHDs) with the identification of non-traditional healthcare community facilities for isolation and quarantine in the event of an influenza pandemic.
- Assist LHDs with the planning and implementation of community containment measures to plan for implementation of social distancing throughout the state. (See **Attachment 19**)
- Colleges and universities in jurisdiction may be dismissing students and/or staff; understand secondary/tertiary consequences and coordinate actions. Social distancing orders should apply to these institutions, but student and/or staff may be required to remain on campus (e.g., international students who cannot travel home).
- Daycare centers will need to be included in social distancing orders
- Coordinate implementation and maintenance of community containment plans/measures between LHDs.
- Assess the capabilities for implementation of community containment measures with LHDs; seasonal influenza exercises will be utilized as one component of this effort.
- Based upon data provided by local partner analysis, determine the quantity of PPE's (such as gloves, masks, and gowns) required for use by first responders or other stakeholders statewide, during a novel strain of influenza and pandemic influenza, and create a state-held cache if funding available. Maintain contact list of suppliers for emergency procurement.
- Maintain surveillance activities for novel and pandemic strains of influenza. (see **Surveillance Module III**)
- For suspected novel strain influenza cases, actively and/or passively monitor asymptomatic contacts with or without Public Health orders.
- For suspected novel strain influenza cases, actively monitor and isolate symptomatic patients with or without Public Health orders.
- **The MDCH Mass Vaccination Plan** and **Antiviral Distribution Plan** are attached to the Michigan Pandemic Influenza State Operational Plan.

Implementation of Non-Pharmaceutical Interventions (NPI)-Pre-Pandemic

- The Director of MDCH and/or OPHP will implement non-pharmaceutical interventions (NPI) in the pre-pandemic phase/stages as follows, for Pandemic Severity Indexes (PSI) 1-5 (see **Table 2** and **Attachments 19 and 20**):

Phase 3: Watch mode (current status)

Phase 4/US Government (USG) Stage 2: Alert Mode- the Preliminary Assessment Team (PAT) of the Community Health Emergency Coordination Center (CHECC) will meet to determine CHECC activation status.
Phase 5/USG Stage 2: Alert Mode- with consideration of mobilization of certain responses (determined by the PAT)

Table2: Community Mitigation Measures in Michigan

PSI Category	WHO Phase 3/ USG Stage 0-1	WHO Phase 4 USG Stage 2	WHO Phase 5 USG Stage 2	WHO Phase 6 USG Stage 3	WHO Phase 6 USG Stage 4	WHO Phase 6 USG Stage 5
1	Watch	Alert	Alert	Alert	Standby	Activate
2-3	Watch	Alert	Alert	Alert	Standby	Activate
4-5	Watch	Alert	Alert	Standby	Standby/Activate	Activate

Local Health Department Considerations

- Ensure legal authorities and policies are in place to implement the various levels of community containment measures.
- Integrate existing community containment policies and procedures into emergency planning protocols. If existing policies and procedures are not in place, begin by appointing a task force to identify community facilities for isolation and quarantine.
- Identify community facilities for the purpose of isolation and quarantine. Consider use of existing and temporary facilities. Note: Coordinate efforts with hospitals and other community officials to avoid duplicating the use of facilities (e.g. vaccination clinics and non-traditional facilities for delivery of medical care). See **Pandemic-V** and **Attachment 4** for more information.
    - Evaluate the appropriateness of the facility for the intended population. Consider facility size; type of care that will be provided; number of beds (at least 3 feet apart); ventilation system; availability of sinks, bathrooms, refrigerators, freezers, and food preparation areas; accessibility; transportation requirements for patients and supplies; storage capacity; communications capability; and sewage and water service.
    - Obtain usage agreements with facility owners.
    - Determine sources of additional staff to provide care at facilities assuming hospitals and other established medical facilities will be utilizing most available staff members.
    - Be familiar with infection control guidelines for use at designated facilities.
- Determine the quantity of PPE (such as gloves, masks, and gowns) required for use during a novel strain of influenza and pandemic influenza, and create a contact list of suppliers. See **Module VI**-Infection Control
- Promote Individual and organizational responsibility for emergency planning. Plans should incorporate the following:
    - Plan for ill individuals to remain at home
    - Plan for all household members of a person who is ill to voluntarily remain at home.
    - Plan for dismissal of students and child care closure
    - Plan for workplace and community social distancing measures
    - Help others

- Create or adapt informational templates related to local community containment efforts (see **Attachment 19**). Consider information regarding 'snow days', possible school dismissal/closures (collaborating with school authorities) respiratory hygiene/cough etiquette, community containment rationale, and infection control information for non-hospital settings.
- LHDs in coordination with other community agencies will continue to communicate to the public the spectrum of possible public health mitigation measures that could occur based on the pandemic severity index, WHO Phase and Federal Stage of an influenza pandemic. (see **Attachment 19)**
- Anticipate language barriers and ensure emergency access to translators and interpreters for efficient and effective communication with the public.
- Develop and exercise appropriate isolation and quarantine strategies of individuals (passive or active monitoring) and the mass populace (focused measures to increase social distances) where disease transmission is occurring.
    - Strategies involving home isolation or quarantine of cases will require the appropriate use of hygiene and infection control practices in the home setting. MDCH will provide further guidance once made available by CDC/DHHS.
    - Issues regarding the care of home isolated or home quarantined cases must address the financial, social, physical and mental health needs of patients and caregivers
- Plan for appropriate community containment measures for novel and pandemic influenza (**Attachment 19**).
    - Work with community and school planning partners (childcare, K-12, college/university, businesses and community organizations) and exercise the implementation of community mitigation measures.
    - Colleges and universities in jurisdiction may be dismissing students and/or staff; understand secondary/tertiary consequences and coordinate actions. Social distancing orders should apply to these institutions, but student and/or staff may be required to remain on campus (e.g., international students who cannot travel home).
    - Daycare centers will need to be included in social distancing orders
    - Coordinate and assist with school systems that may be dismissing students but still be operating food/nutrition or special needs programs
    - Understand and analyze the impact of secondary or unintended consequences of such measures.
- Maintain surveillance activities for novel and pandemic strains of influenza. (see **Module III**-Surveillance)
- For suspected novel strain influenza cases, actively and/or passively monitor asymptomatic contacts with or without Public Health orders.
- For suspected novel strain influenza cases, actively monitor and isolate symptomatic patients with or without Public Health orders.
- Assess the capability for implementation of community containment measures with community partners; seasonal influenza exercises will be utilized.

Foreign Diplomacy

General and Honorary Consuls have diplomatic immunities which may impact the implementation of community mitigation measures by public health authorities. See **Attachment 18.**

VI. Infection Control in Healthcare Facilities: Pre-Pandemic Phase

State Level Responsibilities **Lead: MDCH (Advisory only)**

MDCH, as a state agency, may provide infection control recommendations to health practitioners, hospitals and medical facilities within the state of Michigan.

- Preparedness activities that health care facilities can address, implement and exercise prior to a pandemic occurrence will strengthen their ability to be prepared and respond effectively and efficiently.
- Infection Control Toolkit Series *Strategies for Pandemics and Disasters© 2002*, from the Association of Professional in Infection Control and Epidemiology (APIC), provides forms, tools and templates for pre-pandemic, pandemic and post-pandemic planning. Each hospital in Michigan was given a toolkit as part of participation in the Regional Preparedness Initiative.
- Additional information regarding infection control measures for other healthcare settings (i.e. pre-hospital care, home healthcare, or ambulatory care settings) and school/community settings can be found at: http://www.hhs.gov/pandemicflu/plan/sup4.html

Priority Planning Activities for Healthcare Facilities

While preparing for a pandemic, healthcare facilities should consider the following:

- Duration of isolation and quarantine for avian influenza (or other novel strain), seasonal influenza and pandemic influenza may differ, and depends on viral epidemiology (see **Attachment 1-B f**or current draft recommendations)
- Plan coordination with local partners is essential.
- Consider using an established multidisciplinary committee, such as an infection control and/or patient safety committee, as long as individuals are present or readily available who have decision-making authority. Include members of the facility's leadership team; those who possess technical expertise, and representatives from potentially affected facility departments.
- The Committee should be charged with development of a facility-specific preparedness and response plan to include:
    - Review of existing response plans to ensure that strategies for pandemic influenza are included.
    - Development and testing of the plan before an outbreak occurs.
    - Development and implementation of an on-going plan for analysis of control measures.
    - Establishment of mechanisms to review the effectiveness of intervention strategies once a seasonal or novel outbreak has been verified and eliminated.
    - Delineation of lines of authority and communication for managing day-to-day activities during the pandemic.
    - Ensure disease-based surveillance systems for influenza are in place for patients and staff.
    - Development of Policies and Procedures that address the following:
        - Source control measures
        - Triage and clinical evaluation.

- Patient placement, isolation and cohorting as necessary.

o Infection control and prevention strategies

- Isolation Precautions for the management of *pandemic influenza* would include the use of Standard Precautions in addition to Droplet Precautions. **ALSO:**
  - ❑ **NOTE:** As of October 17, 2006:The Department of Health and Human Services (DHHS) has released *Interim Guidance on Planning for the Use of Surgical Masks and Respirators in Health Care Settings.* These guidelines address infection control during an influenza pandemic and are available at *http://www.pandemicflu.gov/plan/maskguidancehc.html*. This document augments and supersedes recommendations provided in Part 2 of the *HHS Pandemic Influenza Plan* (www.hhs.gov/pandemicflu/plan/#part2)- See **Attachments 1-A and 9**
  - ❑ **For pandemic influenza planning, particular healthcare workers providing direct care or those conducting high-risk, aerosol-generating procedures such as intubation or the provision of nebulizer treatments, the use of gloves, gown, face/eye protection, and a fit-tested N95 respirator or other appropriate particulate respirator protection may be warranted.**

> ***Airborne Precautions** (**with Standard, Contact , Droplet (including face/eye,** including negative pressure rooms, similar to SARS) are currently recommended for protection of healthcare workers in direct care of suspected *novel strain Influenza* A (e.g., H5N1) cases***

o Respiratory Hygiene/Cough Etiquette for patients, visitors and personnel (see **Attachment 15**)

o Engineering and environmental controls

o Medical evaluation and fit testing for all personnel who wear the N-95 respirator

- Plans for provision of antiviral agents to target groups, especially when vaccine is in short supply, following CDC and MDCH prioritization guidelines (see **Attachment 5**)
- Plans for distribution of influenza vaccine to hospital/agency staff, patients and volunteers in order (recipient tiers) depending on supply, following CDC and MDCH guidelines.
- A comprehensive communications plan for effective interactions with the media, LHDs, medical community, general public and neighboring jurisdictions should be collaborative and consider use of the following (see **PF-II**):
  - o Obtaining prototype communication materials for use during the pandemic from MDCH (see **PF-II**).
  - o Maintain local and state hotline numbers in a visible location for patients, personnel and visitors as appropriate.

- Additional Infection Control information relating to isolation and personal protective equipment is available in modules VI of the All Hazards and Communicable Disease Annex (**AH-VI** and **CD-VI**).
- Resources exist to help health care facilities plan for this and other public health emergencies. Consider contacting the MSIC website www.msic-online.org, or APIC-GD www.apicgd.org or any of the resources located in the AHRP module VI Infection Control **(AH-VI)** for additional information regarding planning.

Local Health Department Considerations

The local health department may also provide infection control recommendations to local health practitioners, hospitals and medical facilities within their jurisdiction.

VII. Medical Management/Vaccines and Antivirals: Pre-Pandemic Phase

State Level Responsibilities **Leads: MDCH Administration, BOE and OPHP**

- Standing Orders for vaccine and antivirals are maintained in the MDCH Strategic National Stockpile Plan (also in **Attachment 7**). All local health departments have access to these guidelines.
- Antiviral and Vaccine Distribution Plans and the Mass Vaccination Plan are attached to the Michigan Pandemic Influenza State Operational Plan.
- Clinical features of influenza are available via the CDC website at: http://www.cdc.gov/flu/professionals/diagnosis/
- Treatment recommendations are available via the CDC website at: http://www.cdc.gov/flu/professionals/treatment/0506antiviralguide.htm
- MDCH does not provide direct patient care. The agency will provide advice and information to the public and to health professionals regarding disease presentation, signs and symptoms, and treatment.
- MDCH has developed a Health Insurers Pandemic Preparedness Workgroup to address coordination of reimbursement to providers, including for healthcare rendered in alternate care/surge centers during medical disasters such as pandemic influenza.
- Surge capacity resources:
    - Modular Emergency Medical System: Coordination of health care services in a mass casualty/disaster response will be facilitated by a regional medical coordination center (MCC). Refer to **Attachment 16** and **AH-VII**.
        - MDCH and the CHECC will provide any necessary assistance for support of MCC activation and response efforts, including assisting with coordination of personnel and equipment between or within regions.
        - Regional Modular Emergency Medical Systems (MEMS) plans are in place and being exercised and updated.
    - Michigan Volunteer Registry (MI-Volunteer Registry):
        - Targets critical healthcare personnel with a focus on physicians, nurses, behavioral health professionals.
        - Encompasses the national Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP).
        - Seeks volunteers to fill critical support functions in any significant public health or healthcare related event.
        - Identifies communicates, deploys and utilizes volunteers.
        - www.mivolunteerregistry.org
- A procedure for tracking bulk shipments of vaccine using the Michigan Care Improvement Registry (MCIR) is developed and LHDs and healthcare providers are being trained on use.
- An antiviral pre-deployment and distribution plan is under development.

Federal Stage 0 or 1:
New Domestic Animal Outbreak in At-Risk County (WHO Phase 1, 2, 3)

- Increase familiarity and confidence in influenza vaccine by working with healthcare partners to enhance levels of seasonal influenza vaccination among healthcare workers and in groups at risk for complications due to influenza.

- Promote the use of pneumococcal polysaccharide vaccinations in recommended groups, which may reduce rates of secondary bacterial infections during a pandemic.
- Promote adverse event reporting
  - Health care providers may report vaccine-related adverse events directly to VAERS (http://www.vaers.hhs.gov)
  - Serious adverse events associated with the use of antiviral drugs should be reported to FDA, using the MedWatch monitoring program (forms are available at http://www.fda.gov/medwatch/ for distribution to patients). Adverse events reported to MedWatch are collated and analyzed by FDA's Adverse Events Reporting System (AERS).
- Maintain the following (see **Attachment 5**):
  - A priority listing of groups needing influenza vaccine; this list will be updated as new recommendations are distributed by the Federal Government according to the epidemiology of the pandemic and available supplies of medical countermeasures.
  - A priority listing of groups needing antivirals; this list will be updated as new recommendations are distributed by the Federal Government according to the epidemiology of the pandemic and available supplies of medical countermeasures.
  - Recommendations for LHDs, in accordance with those from CDC, on prioritization and distribution of vaccines and antivirals, which the LHDs may revise for their use.
  - Recommendations and strategies for the use of vaccines and antiviral agents in the event of shortages.
  - Sample public health orders restricting administration of vaccine / antivirals to recipient tiers (on file in the Bureau of Epidemiology)
  - Standing orders consistent with federal recommendations for administration of antivirals (**Attachment 7**).
- Determine the amount of antivirals likely to be available for distribution by MDCH.
  - The SNS maintains a limited supply of antivirals. The goal is to obtain courses sufficient to treat 25% of the U.S. population during a pandemic plus 6 million courses for containment of initial outbreaks the U.S. The total targeted stockpile is, therefore, 81 million courses (50 million treatment courses procured by SNS; states and tribes make stockpile purchases toward aggregate 31 million treatment courses) by December, 2008. Antivirals will be distributed among the states and territories on a per-capita basis.
  - Michigan has received most of the order for approximately 2.5 million antiviral treatment courses from the federal government.
- Determine the amount of vaccine likely to be available for distribution by MDCH.
- Maintain vaccine inventory control mechanisms for LHDs and other emergency storage facilities via Michigan Care Improvement Registry (MCIR).
- Confirm availability of resources for the storage, handling and security capacity, at the state level, for influenza vaccine.
  - Maximum storage capacity for influenza vaccine at the state vaccine depot is 1.5 million doses if packaged in 10 dose vials. If packaged in syringes, the maximum storage is 175,000 doses.
  - Refrigerated trailers will provide additional back-up storage as needed
  - State vaccine depot security includes motion sensors on all doors and glass breakage alarms on all windows. Cameras are being added for exterior

surveillance. The security coordinator can facilitate use of MSP or Capital Security to provide additional vaccine depot security.
    - Michigan State Police (MSP) leads for providing security by escorting vaccine shipments. Transportation security for shipping of vaccines would require packages to be transported from the state vaccine depot to the UPS terminal or other statewide courier at the Capital City Airport.
    - If a breach in security occurs MSP will respond under their pre-established rules of engagement.
    - A procedure for tracking of shipments of vaccines is currently in place utilizing the Vaccine Management (VACMAN) system. Personnel from "Vaccines for Children" can expedite this.
- Identify MDCH staff that can be reassigned to provide surge capacity.

Federal Stage 2:
Confirmed Human Outbreak Overseas (WHO Phase 4 or 5)

- Review pandemic plan and prepare for response
- Utilize MCIR reminder and recall capabilities to contact vaccine recipients regarding possible second dose requirement
- Revise prioritization and allocation plans for pandemic vaccine and antivirals as needed, based on information from HHS
- Prepare to receive HHS deployment of pre-pandemic vaccine, if available
- Prepare to activate, and consider activation of, MCIR All-Hazards functions for tracking vaccine and antiviral use at distribution sites, if needed
- Prepare to receive "containment stockpile" of antivirals via SNS if confirmed or suspected cases of pandemic influenza, or cases with an epidemiological link to an affected region or persons, exist in Michigan
- The MDCH Pandemic Antiviral and Vaccine Distribution Plans are maintained within the MDCH SNS Plan at OPHP

<u>Vaccines</u>

- Prepare to distribute unlicensed vaccines and / or antiviral drugs (if needed) under Food and Drug Administration (FDA) Investigational New Drug (IND) provisions or under Emergency Use Authorization procedures.
    - IND provisions require completion of a signed consent form from each vaccinee, mandatory reporting of specified types of adverse events, and approval from Institutional Review Boards (IRBs) in vaccine-distribution venues. FDA regulations permit the use of a national or "central" IRB. Final versions of consent forms will not be available until the new vaccine/antiviral is available.
    - CDC will be responsible for the development of Vaccine Information Statements (VIS) used during an influenza pandemic.
    - For licensed influenza vaccine use, the federal government does not require a signature for consent prior to administration. For unlicensed influenza vaccine use, MDCH will follow the federal regulations and policies per CDC.
- Investigation New Drug (IND) Protocols
    - CDC will contact Michigan Department of Community Health (MDCH) Division of Upon receipt of the forms, MDCH Division of Immunization will coordinate the mass distribution of forms to all stakeholders

- Forms will be copied and distributed with the drug or vaccine, if at all possible
- Forms will be posted on website for easy access to all stakeholders
  - www.michigan.gov/prepares
  - www.michigan.gov/immunize
  - www.michigan.gov/flu
  - www.mihan.org
- Alternate, redundant communication methods (fax, email) are available
- All required fields of the form must be completed
- Information packets of materials will be made available, translated, and a video or web cast will be developed to educate and inform special populations

Antivirals

- The State of Michigan will pre-position federally-provided antiviral medication assets to treatment centers and other defined entities throughout the state to promote rapid distribution and utilization of material countermeasures at United States Government (USG) Stage 2 pandemic influenza response.
- Strategic National Stockpile (SNS) Assets
  - 1,502,498 courses designated for Michigan use. (80% Tamiflu, 20% Relenza)
  - Managed Inventory controlled by CDC by vendor contract – availability unknown

Antiviral Allocations

- Antiviral medication allocations will be distributed to all sites reflective of an 80/20 split between Tamiflu and Relenza.
- Five percent (5%) of the pre-pandemic cache will be retained at the state for surge to affected areas.
- Ninety-five percent (95%) of the cache will be distributed.
- Currently, antiviral medications are only authorized under the Federal Pandemic Influenza Plan for use as treatment not prophylaxis.
- Awaiting further guidance on specialized treatment of pediatric patients (suspension of medication, application with food, etc.)
- Injectable antiviral medications are in development, but not currently available for use. If and when these become available this plan may be modified to include these new countermeasure assets.

Local Health Department Considerations

**Note: Many of these responsibilities will be covered by existing LHD emergency response plans.*

- Promote yearly vaccination with influenza vaccine for high-risk populations and the general population, as well as pneumococcal polysaccharide vaccine (PPV) in high-risk groups as recommended by the Advisory Committee on Immunization Practices (ACIP).
- Consider the distribution and administration of vaccine and antivirals within and between jurisdictions. LHDs should collaborate to assure that those within the targeted groups receive vaccine / antivirals before others who are not in the targeted groups. Such collaborations may include:
  - Sharing standing orders.

  - Communication between LHDs, providers, community partners, MDCH, and others to share vaccine and antiviral inventory information.
  - Use of the Influenza Vaccine Exchange Network (IVEN) on MCIR
- Develop strategies to utilize additional personnel if a pandemic is imminent. Consideration should include:
  - Necessary Memorandums of Agreement (MOAs) and back-up for staffing
  - Process of identification
  - Training guidance
  - Authorization for usage
  - Supervision of activities
- Identify transportation resources within the community for:
  - Vaccine and antivirals
  - Supplies and equipment
  - Health care workers
  - Individuals within the high recipient tiers
- Identify persons who can be reassigned to provide surge capacity for necessary pandemic prophylaxis-related activities.
- Plan with partners for rapid distribution of a tool to screen persons attending community vaccination clinics along with a guidance document for implementation by all community partners for targeting recipient tiers. LHDs will individualize the document and will be responsible for assuring communication with their community partners regarding implementation and compliance.
- Customize, with partners, a biologics distribution plan to address:
  - Designation of recipient tiers to receive vaccines and antivirals.
  - Amount of influenza vaccine/antiviral agents needed to treat various recipient tiers in their jurisdiction (see **Attachment 5**).
  - Role of community partners (home health care agencies, hospitals, long term care facilities, pharmacies, university health centers, correctional facilities, Red Cross, National Guard etc.).
  - Surge capacity (see **Pandemic Phase- VII**).
  - Staffing needs and identification of necessary staff.
  - Storage location and capacity.
  - Signed agreements/contracts (e.g., home health care agencies, hospitals, long-term care facilities, pharmacies, university health centers, etc.).
  - Communication/educational capabilities.
- Identify, with partners, at least one appropriate location per county (some counties may require more) for large and small influenza vaccine and antiviral administration sites. Sites already designated as SNS or mass-dispensing sites should be suitable. (See Attachment G of the SNS Dispensing Site Plan Template for further details).

Clinical Issues-Novel Strain Influenza (e.g. current strain H5N1 Influenza A)

- Implement Infection Control Precautions
  - Include Respiratory/Cough Etiquette
  - Use full barrier protection (airborne, standard precautions,
  - contact, droplet, plus face/eye protection)
  - Minimum of 14 days

  - *Communicability, Isolation and Quarantine: Non-pharmaceutical Management of Influenza Cases (**Attachment 1-A**)*
  - Duration of isolation and quarantine for avian influenza (or other novel strain), seasonal influenza and pandemic influenza may differ, and depends on viral epidemiology (see **Attachment 1-B** for current draft recommendations)

- Notify local and state health departments
  - *Reporting and Laboratory Guidelines for Avian Influenza H5N1(**Attachment 1**)*
- Obtain clinical specimens , arrange testing with public health departments
  - *Seasonal, Avian and Pandemic Influenza Algorithms (**Attachment 2**)*
  - *Specimen Collection Procedures (**Attachment 3**)*
- Evaluate alternate diagnoses
  - Evaluate alternative diagnosis through **non-viral culture laboratory methods**. Viral culture should only be pursued **after** H5 influenza has been ruled out.
  - *Reporting and Laboratory Guidelines for Avian Influenza H5N1(Attachment 1, MDCH Pandemic Plan)*
- Decide on inpatient or outpatient management
  - Currently, as of May 2007, suspect H5N1 cases should be placed in Airborne and full barrier isolation)
- Initiate antiviral treatment
  - do not wait for lab confirmation
  - treatment best within 48 hours of symptoms, can still treat if after 48 hour period
  - *Module VII, and **Attachment 7**, Draft Standing Orders for Antivirals* 7.
- Assist public health officials in identification of potentially exposed contacts

Mental Health Issues- (also see **MDCH All Hazards Plan Module X)**

- Michigan's mental health system is heavily dependent on its local system of managed care providers (Prepaid Inpatient Hospital Programs [PHIPs] and Community Mental Health Agencies [CMHs]).
- Community Mental Health Services Programs are local entities and provide services pursuant to 1974 Act 258, Mental Health Code, MCL 330.1001 *et seq.*
- Mental Health services for state employees are available through the Traumatic Incident Stress Management (TISM)- see MDCH All Hazards Plan **Module X, p.41**
- Volunteer agencies such as the Red Cross and the Michigan Crisis Response Association (MCRA) offers mental health care services to the public and emergency responders respectively.

Emergency Medical Services (EMS) Issues

- MDCH provides the regulatory oversight of over 800 EMS agencies throughout the state; MDCH designates the 65 Medical Control Authorities and approves all MCA protocols

VIII. Data Management: Pre-Pandemic Phase

State Level Responsibilities **Leads: BOE, OPHP, BOL**

Disease-based Surveillance (see also **Pre-PF-III**):

- The MiFluFocus surveillance report is posted at michgan.gov/flu and can be compiled daily if needed. It contains:
    - Individual case-based reporting- A provider and/or the LHD enters individual cases under the influenza diagnosis in MDSS; these are generally lab-confirmed cases.
    - Aggregate case reporting-The MDSS receives aggregate counts of ILI electronically from LHDs. This is updated throughout the week by the LHD from IP-10 forms completed by schools recording school absenteeism rates. The MDSS records this information from Sunday to Saturday and derives a total number for the week. The number entered into the MDSS is a running total and must be updated with each additional entry.
    - Laboratory-based reporting-The BOL maintains laboratory influenza data.
        - All results of testing performed at MDCH are tracked and reported via EPIC Cohort, the laboratory electronic reporting system. This information is uploaded into the MDSS.
        - Specimens sent to CDC must be tracked through BOL's electronic system, EPIC Cohort. All out-going specimens must receive an EPIC tracking number prior to shipping to CDC. All results from CDC must be submitted to the Data Acquisition and Specimen Handling (DASH) Unit.
        - The Virology Section Manager maintains an Excel spreadsheet that contains the results of all specimens from sentinel influenza sites and all positive respiratory cultures from non-sentinel sites.
- The Communicable Disease Division, on a case-by-case basis, maintains reports and data regarding suspect or confirmed influenza outbreaks.
- Paper/hard copy records are maintained for three years in locked files in the Communicable Disease Division.
- US Influenza Sentinel Provider Surveillance Network (SPSN) data- The Division of Immunization section maintains Michigan's sentinel reporting data in a spreadsheet, which is also maintained nationally by the CDC using an online database. The data is maintained at MDCH on a secure network drive in various Excel workbooks, and is updated weekly so that epidemiologists can analyze and examine it.
- Syndromic Surveillance-refer to (**AH-VIII**) Data Management
- In the CHECC, all staff are trained on E-Team for tracking of resources, requests, responses, actions, and situational updates. These are entered into E-Team, which is operated by the MSP and SEOC.

Local Health Department Considerations

- All identifiable data will be maintained in a HIPAA-compliant manner.

IX. International/Border Travel Issues: Pre-Pandemic Phase

- *Currently, Michigan is not using border closure as a community containment measure.*
- Because at any point in time an influenza pandemic may be present in some areas of the world, but not in others, travel restrictions and other necessary actions to prevent the spread of influenza in our state will depend on multiple factors. These factors include:
    - Location of outbreaks
    - Transmissibility of the novel virus
    - Effectiveness of control measures
    - Available resources
- Decisions will be based on the above-mentioned factors with the current situation and circumstances in mind.

Federal Level Responsibilities

- Surveillance and containment of infectious disease in international human travelers and for imported birds and animals, which may be infected with influenza virus that is transmissible to other animals or humans. Involved agencies include the Animal and Plant Health Inspection Service (APHIS), USDA; HHS/CDC; Bureau of Customs and Border Protection, DHS and the U.S. Fish and Wildlife Service, Dept of Interior.
- Visit www.aphis.usda.gov/import_export/index.shtml for information on importation of avian species. A current listing of the CDC's orders banning importation of birds and bird products that might carry influenza A (H5N1) can be found at www.cdc.gov/flu/avian/outbreaks/embargo.htm
- Issuance of Travel Alerts and Advisories: During a large communicable disease outbreak, the CDC will issue travel advisories in one of 4 newly established levels:
    - In the News
    - Outbreak Notice
    - Travel Health Precaution
    - Travel Health Warning
- See International/Border Issues (**CD-IX**) for specific information on definitions, risks and prevention related to these levels.

Procedures for Control of Novel Influenza at International Entry Points

- See the International/Border Issues (**CD-IX**) for a listing of Michigan's International Points of Entry and Detroit Quarantine Station.
- The final version of the Emergency Preparedness Guidelines to Prevent the Introduction and Spread of Quarantinable Diseases from Abroad, authored by the CDC Quarantine Station at the Detroit Metropolitan Airport has been drafted..
- The captain of any airliner is required to report infectious illness in a passenger or crew-member as soon as possible, to the nearest U.S. Quarantine Station prior to arrival or as soon as illness is noted (see http://www.cdc.gov/ncidod/dq/quarantine-stations.htm).
- When a person arrives at one of Michigan's international entry points exhibiting symptoms of pandemic influenza (arrival from an area with pandemic influenza cases, fever, cough,

malaise, body aches, difficulty breathing or other symptoms outlined in a developed case definition), health officials representing the Quarantine Station are to be notified and to determine if there is reasonable suspicion of pandemic influenza.
    - These health officials may be Quarantine Station staff, delegated Customs and Border Protection individuals or contracted health care personnel.
    - CDC has signed a contract with _____(redacted for public version) Group who will provide supportive public health specialists in Detroit, should the need arise. This support will be provided to the Quarantine Station at Detroit Metro Airport.
    - Training of volunteer public health staff who can respond to Detroit Metro Airport has been initiated.
- If the health official suspects novel or pandemic influenza, the person must be transported to a medical facility and isolated until such time as a diagnosis is made.
    - To assist in making this decision, physicians may be contacted at the Detroit Quarantine station (see above) or the CDC Quarantine division headquarters (tel: 404-498-1600) for consultation.
- For isolation and treatment of a traveler with suspected pandemic influenza, a health care facility will be utilized which has signed a Memorandum of Agreement with the CDC to provide these services.
- An MOA is a written agreement between a health care facility (redacted) and the CDC in which the hospital agrees to provide isolation and evaluation (including lab tests) and the CDC agrees to pay the costs incurred if the following are true:
    - Transportation to the medical facility is authorized by CDC staff
    - No other health insurance is applicable
- Currently, in Michigan, there are MOAs established with two healthcare facilities.
    - In the future, more MOAs are expected to be established, with a goal to have MOAs with medical facilities near transportation centers (bus and train stations, seaports and airports) that have isolation capacity.
- MDCH will provide a *supportive role* in the following activities:
    - CDC will provide staff for screening purposes. If CDC does not have sufficient staff to cover all the areas needing increased surveillance, Customs and Border Protection will provide inspectors, who have been trained by CDC. MDCH staff may be requested to assist.
    - MDCH has identified and Epi Response Team that can provide surge capacity to the Detroit Quarantine Station for enhanced surveillance.

<u>Restrictions Which May be Imposed at Ports of Entry in Pre-Pandemic Stage</u>

- Federal officials will assume the lead with MDCH and local health departments providing supportive services as necessary:
- WHO Phase 1 and 2-No new influenza subtypes in humans
    - Outbound travelers–No special recommendations.
    - Inbound travelers–No special recommendations.

- WHO phases 3, 4 & 5- Human infectious with a new subtype influenza known, no known cases in U.S.
    - Outbound travelers-
        - CDC will issue Travel Notices for outbound travel to countries with transmission. Depending on the public health situation in the country/area of destination, either a Travel Health Precaution or a Travel Health Warning will be issued. Go to www.cdc.gov/travel/outbreaks.htm for current, specific information on risks and precautions for travel.
        - For a Travel Health Precaution, precautions to reduce risk during stay and before and after travel will be provided.
        - For a Travel Health Warning, non-essential travel will be prohibited to those affected countries.
        - Travel prohibition for any person meeting case definition with epidemiologic link to transmission setting.
    - Inbound travelers–
        - Posting travel alert notices in airports.
        - Collection of information on all arriving passengers if notification is warranted (e.g. for antiviral administration, vaccination or health monitoring)
        - Distribution of travel health alert notices to passengers arriving from affected countries
        - Visual inspection or medical screening at all entry points for entering travelers
        - Arranging with airline industry partners to show videos or public announcements about novel or pandemic influenza on airplanes or cruise ships from affected countries
        - Administration of questionnaires for possible exposed cases

State Level Responsibilities **Lead: MDCH Administration and BOE**

- The CHECC will provide direction related to decisions regarding reduction or cessation of travel or border closings for health reasons, either in response to requests from the SEOC or as a result of internal discussions and planning.
- For communication of public health emergencies that cross international borders with Canada, a Great Lakes Border Health Initiative Infectious Disease Emergency Communication Guideline has been drafted and is undergoing approval. This document, when complete, will direct communications between Ontario and its bordering states in the event of an infectious disease public health emergency which has potential to cross international borders.
- Certain select Ontario CD staff have been added to the CDC's electronic alerting system, Epi-X for emergency public health information.
- Refer to **AH-IX** International/Border Travel module for information related to public health emergencies occurring at international borders and on Tribal Land.
- Refer to CD Annex (**CD-IX)** for general border/travel issues for communicable disease.
- Assist both federal and local health authorities in the identification and surveillance of travelers who may have, or be at risk for contracting a pandemic influenza strain.
- Provide an advisory or supportive role in the event of early influenza control activities involving border travel.

- Mobilize MERIT teams as necessary for these supportive roles. Provide adequate training for team members before departure.
- Collaborate with local health departments on drills and exercises at ports of entry.
- Work with local health departments, Customs and Border Patrol and quarantine officers from the Detroit Quarantine Station, to develop memorandum of agreement with hospitals near ports of entry.
- Ensure that Travel Alerts and Advisories issued by the CDC are distributed via the HAN, fax, media and websites (www.michigan.gov)

Local Health Department Considerations

- Local health departments have jurisdiction over quarantine and isolation within their jurisdictions. MDCH will provide requested support for public health activities, as available.
- LHDs will work collaboratively with State and Federal officials in all travel related actions for pandemic influenza.

Foreign Diplomacy

General and Honorary Consuls have diplomatic immunities which may impact the implementation of community mitigation measures by public health authorities. See **Attachment 18.**

X. Consequence Management/Recovery: Pre-Pandemic Phase

State Level Responsibilities **Lead: MDCH Administration and OPHP**

N/A for this module- (Refer to Recovery (**AH-X**) and Post-Pandemic Phase (**Post Pandemic PF-X**)

Local Health Department Considerations

N/A for this module

Michigan Department of Community Health Pandemic Influenza Plan

Recognition/Initiation/Acceleration/Peak/ Deceleration Intervals

WHO Phase 6
Federal Stages 3-5
MDCH Pandemic Phase

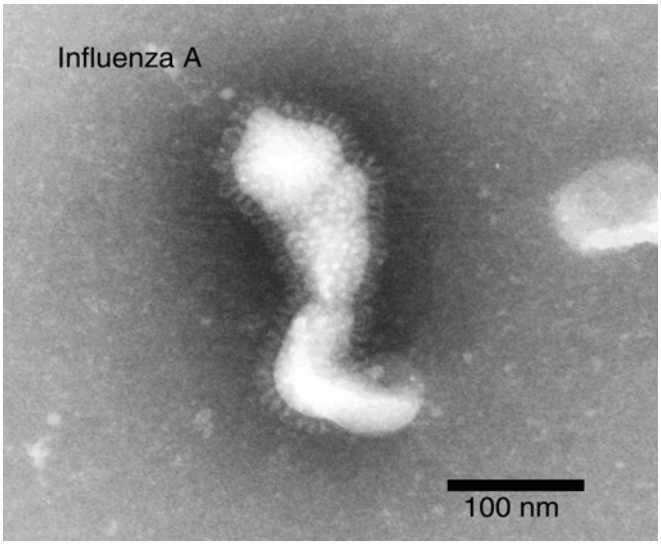


Image courtesy of MDCH Bureau of Laboratories

I. Command and Management: Pandemic Phase

State Level Responsibilities **Lead: MDCH Administration and OPHP, MSP/EMD)**

- When the WHO and/or CDC/DHHS declare a Pandemic Phase 6, the Preliminary Assessment Team of the Community Health Emergency Coordination Center (CHECC) will meet to determine CHECC activation status.

CHECC Response Modes by Phase/Stage/Category-Pandemic
The Director of MDCH and/or OPHP will implement the CHECC modes in the pandemic phase/stages as follows, for Pandemic Severity Indexes (PSI) 1-5 (See **Table 1**):

- WHO Phase 6/USG Stage 3: Alert or Standby
- WHO Phase 6/USG Stage 4: Standby or Activate
- WHO Phase 6/USG Stage 5: Response (Activate)-a confirmed human cluster identified and epi-linked in or surrounding Michigan.

Table 1: CHECC Activation Modes by WHO Phase and USG Stage

PSI	Phase 3/ USG 0-1	Phase 4/ USG 2	Phase 5 USG 2	Phase 6 USG 3	Phase 6 USG 4	Phase 6 USG 5
1	W	W	W	PAR	PAR	FAR
2-3	W	W	W	PAR	PAR	FAR
4-5	W	W	PAR	PAR	FAR	FAR

W= watch
PAR=Partial response activation
FAR=Full response activation

- In compliance with the National Incident Management System, activation can be done partially or completely as indicated by the level of response required or requested.
    - When activated, the CHECC shall operate according to the CHECC Manual, made available to CHECC participants and exercised regularly. The MDCH Director can direct the OPHP Director to activate the CHECC for emergencies affecting public health in the state, both separately and in conjunction with the SEOC activation.
    - The MDCH Chief Medical Executive can direct the activation of the CHECC in the absence of the Director.
    - The MDCH Director has authorized the OPHP Director to activate the CHECC in the absence of the Director and Chief Medical Executive according to established procedures.
    - Activation may be full or partial as determined by the PAT and/or OPHP Director (see CHECC Manual)
    - The CHECC may activate for public health emergencies that do not change the National Threat level.
- MDCH employees identified as part of the Public Health Response Team, trained in Incident Command Structure (ICS) and NIMS, will adopt an ICS response format upon activation of the CHECC or a request by MDCH Administration
- The MDCH CHECC shall coordinate with state and local epidemiological and regional medical coordination center personnel to obtain and track information daily on the numbers

and location of new cases, newly quarantined persons, and hospitals with influenza case patients. (Refer to CHECC manual)

- In a Governor-declared emergency, the lead agency in a pandemic may become the Michigan State Police (MSP), Emergency Management Division **(**EMD) who coordinate the State Emergency Operations Center (SEOC).
- All state agencies have an Emergency Management Coordinator (EMC) who will represent the agency at the State Emergency Operations Center and coordinate their agency's response.
- The SEOC operates under the Michigan Emergency Management Plan (MEMP)

Local Health Department Considerations

- Local Health Departments will operate according to their Pandemic Response Plan and local county Emergency Operations Plan should they be activated
- All LHDs have a relationship with local and/or county Emergency Operations Centers as well and will respond at the level required.
- All identified members of the LHD Public Health Response Team will be NIMS/ICS compliant.
- LHDs also have a relationship with their regional Biodefense Network and will respond at the level required or requested.

II. Crisis Communications: Pandemic Phase

State Level Responsibilities **Lead: Communication Office and OPHP**
** Note: see **Attachment 21** for Tactical Communications and MDCH All Hazards Response Plan Communications Module II)**

- Regular release of updated information to the public.
- Subject matter experts (SME's) will be drawn from: OPHP, BOE, and BOL, as well as trusted pre-identified community spokespersons, and will be consulted as press releases and media statements are prepared
- As materials are approved for clearance, they will be made available to public health officials, health care providers, state and local PIOs and employees from all departments, all health care facilities, and with neighboring states and Canada.
- The MIHAN will be used to disseminate public health alerts and information to those on the system.
- Increase public knowledge about pandemic influenza using websites, media, and collaboration with professional and civic organizations.
- OPHP has 24/7 contact information, and will send alerts to key state organizations:
  - Michigan State Medical Society
  - Michigan Infectious Disease Society (MIDS)
  - Michigan Association for Local Public Health (MALPH)
  - Michigan Public Health Association
  - Michigan Health and Hospital Association
  - Michigan Society for Infection Control (MSIC)
- Inter-facility, inter-region and intra-state communications regarding patient status: redundant resources such as EM System (EMTrack), UPS-PTS, Raytheon (EPTS) are coordinated by the Medical Coordination Centers (MCC's), which serve as the liaison between healthcare systems and the state. (**Attachment 22**)
- EMResource reports directly to HAvBED regarding bed status; Each hospital region exercises HAvBed monthly and status can be reported within two hours.
- Consult as needed with communications sources:
  - International
  - Federal (The Health and Human Services Assistant Secretary for Public Affairs and CDC's Emergency Communication System will coordinate federal pandemic communications)
  - Intergovernmental
  - Local
- MDCH will mobilize staffing and telephones to handle incoming calls
- Activate emergency hotlines as needed.
- The public can also utilize the CDC Public Response Hotline Service
- All functional 2-1-1 call centers will be utilized
- The MDCH CHECC coordinates with state and local epidemiologists and regional MCC's to obtain and track information daily on the numbers of new cases, their location, newly quarantined persons, and hospitals with patients and their bed resource status- the PIO will remain updated on this information

Local Health Department Considerations

- In coordination with MDCH, notify and update local health care facilities, Emergency Medical Services agencies, emergency management agencies, and other responders that an influenza pandemic has been declared.
- Notify and provide guidance to physicians, health care facilities, long-term care facilities, schools, and day care centers using Crisis and Emergency Risk Communication (CERC) plans.
- Notify local media and share press releases, fact sheets, media packets, health recommendations, travel advisories and other guidance.
- Notify the public of targeting recipient tiers for vaccination and stress the importance of compliance with these recommendations.
  - Be open and honest about shortages of vaccines and antivirals
  - Include statements about what is being done to protect the public
  - Inform the public about actions to slow or stop the spread of the virus
  - Include information on legal authorities invoked for pandemic control as needed
- Ensure availability of pandemic influenza materials in multiple languages, based on the demographics of the jurisdiction

III. Surveillance: Pandemic Phase

State Level Responsibilities **Lead: BOE**

State level responsibilities for influenza surveillance during the pandemic phase include:

- The Bureau of Laboratories (BOL) and the Bureau of Epidemiology (BOE) operate a **24/7** coverage at 517-335-9030 for issues regarding the notification of communicable disease, public health disasters, or the shipping, testing or handling of clinical specimens. All testing request(s) for novel influenza must be approved by BOE for BOL to process.
- The State Health Officer or designee may implement a change in reporting time requirements for laboratory-confirmed cases, and require health care facilities and long-term care facilities to report daily to their LHDs the number of ILI cases and the number of people seen or admitted.
- Inform the public health response by identifying and tracking the progression of the influenza pandemic in Michigan (situational awareness)
- Characterize morbidity and mortality trends in Michigan
- Identify populations at increased risk for severe disease, hospitalization complications or death
- Assess transmissibility factors that reduce or promote spread
- Identify vaccine failures and antiviral resistance
- Define and distribute (via MIHAN, **Attachment 21**) reporting criteria to be used by LHDs in a pandemic event.
- Serve as subject matter expert to the PIO regarding interpretation and release of surveillance data.
- Monitor CDC and WHO bulletins for updated information on the clinical, epidemiological, and virologic characteristics of the novel variant, and the characteristics and progress of the pandemic.
- Assist with updating LHDs, stakeholders, and other partners on the new information, in accordance with the Communications portion of this plan
- Implement enhanced statewide surveillance activities:
    - Hospital-based surveillance/hospitals currently utilizing EM-Systems to track hospital status and MDSS to track communicable disease; both systems will be utilized for monitoring of pneumonia and influenza-related admissions
    - College and universities
    - Long-term care facilities
    - Travelers/Travel Clinics
    - Further recruitment of sentinel physicians and labs
    - Increased frequency of school-based reporting
    - Funeral director/county registrar reporting of deaths from pneumonia or ILI
- The MDCH CHECC coordinates with state and local epidemiologists and regional MCC's to obtain and track information daily on the numbers of new cases, their location, newly quarantined persons, and hospitals with patients and their bed resource status
- Continue to coordinate surveillance activities and other findings with neighboring states and federal health agencies
- Work with LHDs to increase and sustain the level of sentinel physician surveillance (physician enrollment, reporting, etc.)
- Track and document outbreaks in various geographic areas of Michigan.

- Use the MDSS to allow rapid identification of regions within the state with high levels of disease and to guide pandemic response efforts. If possible, use Geographic Information System (GIS) to map pandemic influenza activity in Michigan
- Use the National Retail Data Monitor (NRDM), to detect probable areas affected by pandemic influenza through pharmaceutical purchasing data
- Continue to obtain guidance from CDC on any additional surveillance information that is needed
- Participate in special studies as requested by the CDC, in concert with local health officials, clinicians and academicians to:
- Document outbreaks of influenza in different population groups
- Describe unusual clinical syndromes and risk factors for those syndromes
- Describe unusual pathologic features associated with fatal cases
- Conduct efficacy studies of vaccination or chemoprophylaxis
- Monitor ability of hospitals and outpatient clinics to cope with increased patient loads through regional MCCs
- Activate system for rapidly tracking influenza mortality.
    - Request weekly (or more frequent) data from the state Vital Registrar office on deaths attributed to influenza and pneumonia
    - Request weekly data from Michigan Medical Examiners on influenza, pneumonia or other respiratory infection-related causes of death
    - Electronic death reporting system development is being coordinated by the Vital Records Division in BOE, and anticipated to be launched in 2008.
    - An electronic aggregate system for rapid/real-time reporting of influenza morbidity (includes isolated and quarantined) and mortality is available on MDSS (**Attachment 17-C)**.
- Activate system to monitor the sources and antibiotic susceptibility information for cases of community acquired bacterial pneumonia
- Conduct epidemiological investigations to determine clinical epidemiologic and treatment criteria.
- Conduct studies to assess effectiveness of community mitigation measures
- Inform public health response by tracking progression of the pandemic through Michigan.
    - Characterize morbidity and mortality trends in MI
    - Identify populations at increased risk for more severe disease hospitalization, complications, or death
    - Determine age-specific attack rates
    - Assess transmissibility factors
    - Identify vaccine failures/antiviral resistance
    - Assess sensitivity/specificity of case definition
- Epidemiology response teams have been identified and trained to assist Detroit Quarantine Station and LHDs in investigation and control of suspected novel/pandemic influenza strain outbreaks.
- Monitor for emergence of subsequent pandemic influenza waves and/or shifts in strain
- Monitor the RODS system for OTC pharmaceutical sales, as well as hospital Emergency Room Syndromic Surveillance to obtain close to real-time situational awareness
- Implement and reinforce strategies to control the spread of the epidemic. (see **CD-V** Community Containment)

- MDSS Seasonal and Novel Strain Influenza reporting form (**Attachment 17**) will be used until pandemic strain is confirmed and spreading within Michigan.
- Depending upon surge capacity, *early Phase 6, Stage 5*, and Michigan pandemic activity, State Epidemiologist will request from state and local epidemiologists a switch to aggregate reporting of illness and deaths only. Notify LHDs and stakeholders of change.
- Evaluate response and control strategies

Local Health Department Considerations

LHD responsibilities for influenza surveillance during the pandemic phase include:

- Notify and provide guidance to clinicians, health care and long-term care facilities, nursing homes, schools and day care centers of changes in influenza reporting requirements
- Request and monitor local hospital census data, on an ongoing basis; facilitated by regional medical coordination centers
- In coordination with MDCH, provide notification and updates to hospitals, EMS, local law enforcement agencies, and local, private and public partners
- Request and monitor local death rates, on an ongoing basis
- Implement system for receiving reports on ILI from health care and long-term care facilities on a daily basis
- Enlist additional clinicians in the Sentinel Physician surveillance program in Michigan, as recommended by MDCH
- Assist in coordination of the collection and shipping of clinical specimens to MDCH laboratory, according to protocols established by MDCH
- Be able to switch form individual to aggregate reporting as indicated
- Work with MDCH to conduct special studies, according to protocols supplied by MDCH.
- Remain in close communication with regional medical coordination center for evaluating the status of pre-hospital and hospital capacities within the jurisdiction

IV. Laboratory Guidelines: Pandemic Phase

State Level Responsibilities **Lead: Bureau of Laboratories (BOL)**

- Receive guidance from CDC on the criteria for specimen submission as well as the appropriate influenza diagnostic testing to be performed on surveillance specimens.
- Determine current surge capacity and testing priorities in consultation with the BOE.
- Consider how many specimens can be processed daily, which tests will be performed, and which specimen submitters have priority.
- Develop staffing schedules to accommodate extra testing shifts using personnel from other sections, other state laboratories (e.g., MDA), and regional labs.
- Work with MDCH purchasing to maintain sufficient supply of reagents and materials
- Virology section will report only confirmed positive results to the submitter and LHDs simultaneously via the laboratory reporting system and MDSS.
- The Virology Section manager will define appropriate specimens for submission and communicate this information to the medical community, including LHDs, clinical lab directors, epidemiology staff, and physicians. Updates will be available at: http://www.michigan.gov/mdchlab.
- Communicate the updated information on pandemic influenza to Michigan laboratories via broadcast fax, e-mail, or MIHAN.
- Send selected influenza isolates to CDC for strain characterization and/or antiviral resistance testing.
- Collaborate with clinicians and clinical laboratories to obtain information on secondary bacterial infection isolates associated with influenza and request submission of select bacterial isolates to MDCH.
- Collaborate with the Bureau of Epidemiology, pathologists and medical examiners to facilitate transport of select case or post-mortem specimens to BOL for testing or forwarding to CDC.

Laboratory-based reporting of influenza data:

- All results of testing performed at MDCH are tracked and reported via EPIC Cohort, the laboratory electronic reporting system. This information is uploaded into the MDSS, which is viewable by State and Local Health Departments.
- Specimens sent to CDC must be tracked through BOL's electronic system, EPIC Cohort. All out-going specimens must receive an EPIC tracking number prior to shipping to CDC. All results from CDC must be submitted to the Data Acquisition and Specimen Handling (DASH) Unit.
- The Virology Section Manager maintains an Excel spreadsheet that contains the results of all specimens from sentinel influenza sites and all positive respiratory cultures from non-sentinel sites.

Call-down procedures:

- The Bureau of Laboratories and the Bureau of Epidemiology operate a 24/7 coverage for issues regarding the notification of communicable disease, public health disasters, or the shipping, testing or handling of clinical specimens.
- MI-HAN, the Health Alert Network, will be utilized to notify and/or call in staff as needed

- An updated call-list, with both primary and secondary responders is distributed quarterly to staff.
- The after hours number is 517-335-9030
- Laboratory staff are on call and available for 24/7 coverage for testing of specimens as required. Additional testing personnel available to assist for surge capacity event.
- Bureau of Laboratories maintains redundant notification systems to notify staff members of the need for testing personnel to report to work after normal business hours or to assess the availability of testing personnel.

Annual assessment of public health and clinical lab diagnostic proficiency and biosafety:

- Sentinel Laboratories are contacted annually to schedule updated training. Novel flu testing issues will be addressed. Updates on testing issues are communicated rapidly to clinical microbiology laboratories via MIHAN. MI LRN confirmatory laboratories maintain proficiency for LightCycler usage by routinely performing other testing of public health importance (e.g., Norovirus) on this equipment.

Testing of front line clinicians and lab personnel:

- Personnel performing virus culture and molecular testing that could expose them to a novel influenza virus have been provided a medical alert card. Symptomatic employees are to provide this card when seeking medical care for flu-like symptoms. Instructions for submitting appropriate specimens to a MI LRN lab included on the card.

Surge Capacity:

- The regional laboratories have received instrumentation and training in Norovirus PCR (this is a similar platform and instrumentation as to be used in an influenza pandemic). Provision for proficiency testing twice a year, training and troubleshooting available from BOL personnel. LRN procedures would be provided to them when directed.

- The regional LRN Reference Laboratories have personnel on-call 24/7 for emergency or surge capacity testing and maintain emergency notification protocols for their testing personnel.

Additional laboratory facilities:

<u>Primary surge:</u>

- Region 2: SAGINAW

Saginaw County Health Department
1600 N. Michigan
Saginaw, Michigan 48602
989-758-3825

- Region 3: KALAMAZOO

Kalamazoo County HSD Laboratory
3299 Gull Road
Nazareth, Michigan 49074
269-373-5360

- Region 4: GRAND RAPIDS

Kent County Health Department
700 Fuller N.E.

Grand Rapids, Michigan 49503
616-339-0153

- Region 5: HOUGHTON

MDCH Upper Peninsula Regional Laboratory
PO Box 38
Houghton, Michigan 49931-0038
906-487-3011

- Region 6 and Region 1 : CENTRAL MICHIGAN and LANSING

Michigan Department of Community Health
3350 N. Martin Luther King Jr. Blvd.
Lansing, Michigan 48906
517-335-8063

- OAKLAND COUNTY HEALTH DIVISION

1200 N. Telegraph Rd.
Pontiac, MI 48341-0432
248-858-1280
CITY OF DETROIT HEALTH DEPARTMENT
1151 Taylor
Detroit, MI 48202
313-876-4000

Secondary surge:
BOL will utilize, as needed, clinical laboratories identified with advanced molecular testing capabilities.

Clinical Laboratories will:

- Follow specimen collection and transport procedures based upon guidance from MDCH.
- Expedite collection, processing, and transport of postmortem tissue specimens to MDCH BOL if requested by MDCH or CDC.
- Submit specimens from cases suspected of novel influenza or submit isolates of selected influenza to MDCH BOL.

Local Health Department Considerations

- Facilitate distribution of MDCH-provided specimen collection and submission kits to appropriate providers, according to protocols established by MDCH.
- Coordinate collection and shipping of clinical specimens to MDCH laboratory, according to protocols established by MDCH. Refine specimen collection and transport procedures based upon guidance from MDCH.
- Provide regional laboratory personnel for surge capacity as requested by MDCH.

V. Community Containment: Pandemic Phase

State Level Responsibilities **Lead: BOE**

- Implement emergency orders as indicated for social distancing or other community containment measures *These will differ depending upon Pandemic Severity Index* (see **Attachment 19**).
- Activate and implement portions of the LHD community containment plan as indicated.
- An electronic form within the NEDSS/PHIN-compliant Michigan Disease Surveillance System (MDSS) for reporting of aggregate counts of cases, deaths, new and total hospitalized, new and total isolated or quarantined patients has been created. (**Attachment 17-C**) To track and monitor isolated or quarantined patients, tools are currently being evaluated for use by Michigan LHDs.
- Communicate regularly with the community on mitigation measures
- Communicate results of mitigation measures to MDCH.
- Monitor at the local level for secondary, tertiary, or unintended consequences of community containment measures.
- Provide updated guidance to healthcare facilities, businesses, other agencies and stakeholders as requested.
- Colleges and universities in jurisdiction may be dismissing students and/or staff; understand secondary/tertiary consequences and coordinate actions. Social distancing orders should apply to these institutions, but student and/or staff may be required to remain on campus (e.g., international students who cannot travel home).
- Daycare centers will need to be included in social distancing orders
- Coordinate with law enforcement or National Guard if widespread community quarantine is required.
- Facilitate emergency orders as indicated for social distancing or other community containment measures if multiple jurisdictions involved.
- Monitor state-level facility closures (e.g. schools) on E-Team (Incident Management software at State Emergency Operations Center [SEOC]), if activated.
- The MDCH Executive Committee will make recommendations for transitioning from response to recovery including the adjustment community containment measures based on review of the current disease activity and input from the CDC and the WHO.
- For pharmaceutical containment (see **Module VII)** the **MDCH Mass Vaccination Plan** and **Antiviral Distribution Plan** are attached to the Michigan Pandemic Influenza State Operational Plan.

Implementation of Non-Pharmaceutical Interventions (NPI)-Pandemic

- The Director of MDCH and/or OPHP will implement non-pharmaceutical interventions (NPI) in the pre-pandemic phase/stages as follows, for Pandemic Severity Indexes (PSI) 1-5 (see **Table 2** and **Attachments 19 and 20**):
  - Phase 6/USG Stages 3-6: Standby and/or Activate Modes-Response activation

Table2. Community Mitigation Measures in Michigan

PSI Category	WHO Phase 3/ USG Stage 0-1	WHO Phase 4 USG Stage 2	WHO Phase 5 USG Stage 2	WHO Phase 6 USG Stage 3	WHO Phase 6 USG Stage 4	WHO Phase 6 USG Stage 5
1	Watch	Alert	Alert	Alert	Standby	Activate
2-3	Watch	Alert	Alert	Alert	Standby	Activate
4-5	Watch	Alert	Alert	Standby	Standby/Activate	Activate

Local Health Department Considerations

- Implement emergency orders as indicated for social distancing or other community containment measures. *These will differ depending upon Pandemic Severity Index.* (see **Attachment 19**).
- Colleges and universities in jurisdiction may be dismissing students and/or staff; understand secondary/tertiary consequences and coordinate actions. Social distancing orders should apply to these institutions, but student and/or staff may be required to remain on campus (e.g., international students who cannot travel home).
- Daycare centers will need to be included in social distancing orders
- Coordinate with school systems that may be dismissing students but still be operating food/nutrition or special needs programs
- Upon notification by BOE, utilize aggregate reporting form within the Michigan Disease Surveillance System (MDSS) for reporting of aggregate counts of cases, deaths, new and total hospitalized, new and total isolated or quarantined patients.
- Activate and implement portions of the LHD community containment plan as indicated.
- Communicate regularly with the community on mitigation measures
- Communicate results of mitigation measures to MDCH.
- Monitor at the local level for secondary, tertiary, or unintended consequences of community containment measures.
- Provide updated guidance to healthcare facilities, businesses, other agencies and stakeholders as requested.
- Coordinate with law enforcement or National Guard if widespread community quarantine is required.
- Considerations for community containment:
    - Contact Investigation
    - Home Isolation
    - Community Facility Isolation
    - Quarantine (home, work, facility)
    - Monitoring and support of quarantined persons
    - Management of household members in contact with quarantined persons
    - Social distancing

<u>Contact Investigation</u>

- Actively or passively monitor contacts with or without any restriction of movement unless symptoms develop. Consideration should be given to confining and/or restricting

the movement of contacts with high-risk exposures (e.g., healthcare workers) even in the absence of symptoms.
- Quarantine contacts to reduce disease transmission.
- Monitor contacts regularly for symptom development. Advise contacts to seek healthcare evaluation immediately if symptoms develop

Home Isolation
- Patients with fever and respiratory symptoms will be asked to stay at home/ restrict pubic activities.
- An attempt should be made to relocate household members (especially those with risk of developing serious complications) so only the primary caregiver and patient resides in the residence. If this is not possible, only the primary caregiver can have contact with the patient.
- Duration of isolation depends on viral epidemiology (see **Attachment 1-B f**or current draft recommendations)
- Perform home inspection, if possible, for the following:
  - Ability to maintain isolation of patient
  - Availability of a primary caregiver to assist patient with basic needs
  - Functioning utilities (e.g. telephone and electricity)
  - Separate bathroom and bedroom for the patient only
  - Provide caregivers with adequate PPE if possible and instructions for use. (See **Attachment 23**)
  - Availability of resources such as masks, tissues, hand hygiene products and information on infection control procedures.
- Provide instructions on discarding contaminated waste materials.
- Provide an emergency or hot-line number and instructions on when to use, or when to seek medical care (see below)
- Provide follow-up instructions for caregivers who develop symptoms.
- Collaborate with emergency management to provide essential services to the mass populace (*Mass Care Plans)*.

Community Facility Isolation
- Assemble a team to activate community isolation facilities.
- Coordinate facility activation activities with the county emergency manager and other medical management personnel.
- Provide an emergency or hot-line number and instructions on when to use, or when to seek medical care, such as if they develop fever and respiratory symptoms.
- Identify, monitor, and evaluate contacts of cases to ensure early symptom identification and rapid institution of infection control precautions to prevent further spread of disease.

Types of Quarantines for LHD Consideration
- Voluntary quarantine of contacts may be requested; involuntary quarantine during a pandemic may not be feasible. Individuals exposed to persons infected with pandemic influenza will be encouraged to be alert for symptoms and to seek medical care if they develop fever and respiratory symptoms.

- Quarantine at home: is most suitable for contacts that have a home environment in which their basic needs will be met. The minimum criteria that must be met to enable optimal implementation of home quarantine are:
  - Compliance can be determined on a regular basis.
  - Ability for contact to monitor own symptoms.
  - Implement mechanisms for addressing special needs (e.g. filling prescriptions).
  - Access to healthcare workers, ambulance personnel, mental health and other psychological support services are available.
- Work quarantine: applies to healthcare workers or other essential personnel who have been exposed to cases and who may need to continue working (with appropriate infection control precautions) but who are quarantined either at home or in a designated facility during off-duty hours.
- Quarantine in designated facilities: is used for contacts that do not have an appropriate home environment for quarantine or contacts that do not wish to be quarantined at home. They may be quarantined in specific facilities designated for this purpose.

Monitoring and Support of Quarantined Persons

- Determine how and when symptom monitoring should occur.
- Duration of quarantine depends on viral epidemiology (see **Attachment 1-B f**or current draft recommendations)
- Provide medical evaluation plans for those contacts that develop symptoms.
- Implement plans for support services such as financial support, psychological support, and essential services (e.g. food, prescription refills, and care supplies).
- Provide a hotline number for quarantined persons to call if they develop symptoms or have other immediate needs.

Management of Household Members in Contact with Quarantined Persons

- No precautions indicated for household members if contact remains asymptomatic.
- Duration of quarantine depends on viral epidemiology (see **Attachment 1-B f**or current draft recommendations)
- Supply instructions to household members if contact develops symptoms

Community-Wide Containment Measure Implementation–Social Distancing

- If necessary, issue emergency order to suspend public gatherings, close public buildings, cancel events, close non-essential government functions, and close or limit mass transit.
- MDCH, with Michigan Department of Education and representatives from Local Public Health has created a School Closure Working Group to determine the impact of implementing public health measures such as school closures, and to identify appropriate triggers for implementation of approved measures. See **Attachment 19 and 20** for guidelines and activities that should occur in an Alert, Standby or Activate mode of response.
- Implement curfews and travel restriction procedures depending on current situation.
- Collaborate with emergency management to provide essential services to the mass populace (*Mass Care Plans)*.

Guidance for Use of Masks in the Community- See **Attachment 23**

Foreign Diplomacy

General and Honorary Consuls have diplomatic immunities which may impact the implementation of community mitigation measures by public health authorities. See **Attachment 18.**

VI. Infection Control in Health Care Facilities: Pandemic Phase

State Level Responsibilities **Lead: MDCH** (Advisory Only)

Infection control guidelines for a pandemic influenza strain may differ from that of seasonal or avian influenza

- MDCH provides consultation and guidance as stated in **Pre-Pandemic PF-VI.**
- Updated guidelines will be posted at www.michigan.gov/flu and sent to all healthcare partners and stakeholders via MI-HAN

Local Health Department Considerations

- Provide guidance to healthcare facilities and stakeholders as indicated
- Maintain updated guidelines upon collaboration with MDCH and CDC/DHHS

Healthcare Facilities Considerations

- Health care facilities will most likely be operating within their facility emergency/disaster response plans. Implement the plan which will include the following steps:
  - Vaccinate (influenza, pneumonia, etc) direct caregivers, monitor compliance levels, according to LHD,MDCH, and CDC recommendations
  - Identify facility point of contact for local and state health department information
  - Identify mechanisms necessary for triage of personnel, patients, and visitors
  - Facility infection control surveillance activities should ensure that possible cases are identified
  - Keep communications occurring within facility on status of beds, supplies, and personnel to meet the increasing needs
  - Maintain daily communication with hospital epidemiologist, infectious disease physician and/or designee with health care facility administration
  - Maintain daily communication with central supply/purchasing to ensure facility maintains an adequate supply of personal protective equipment
  - Communicate with the facility's Emergency Operation Center (EOC) and Regional Medical Coordination Center
  - Monitor compliance for patient triage and placement
  - Monitor status of morgue services consistent with plan
  - Isolation Precautions for the management of Pandemic Influenza would include the use of Standard Precautions in additional to Droplet Precautions.

    - **For pandemic influenza response, particular healthcare workers providing direct care or those conducting high-risk, aerosol-generating procedures such as intubation or the provision of nebulizer treatments, the use of gloves, gown, face/eye protection, and a fit-tested N95 respirator or other appropriate particulate respirator protection may be warranted (see Attachment 1-A)**

- NOTE: As of October 17, 2006: The Department of Health and Human Services (DHHS) has released *Interim Guidance on Planning for the Use of Surgical Masks and Respirators in Health Care Settings.* These guidelines address infection control during an influenza pandemic and are available at *http://www.pandemicflu.gov/plan/maskguidancehc.html.* This document augments and supersedes recommendations provided in Part 2 of the *HHS Pandemic Influenza Plan* (www.hhs.gov/pandemicflu/plan/#part2). See **Attachment 1-A and 9.**

- Duration of isolation and quarantine for avian influenza (or other novel strain), seasonal influenza and pandemic influenza may differ, and depends on viral epidemiology (see **Attachment 1-B** for current draft recommendations)

VII. Medical Management/Vaccines and Antivirals: Pandemic Phase

State Level Responsibilities **Leads: MDCH Administration BOE and OPHP**

MDCH does not provide direct patient care. The agency will provide advice and information to the public and to health professionals regarding disease presentation, signs and symptoms, and treatment.

Federal Stage 3: Widespread Human Outbreaks in Multiple Locations Overseas (WHO Phase 6) Pandemic Severity (PSI)1-3: Alert; PSI 4 and 5: Standby

- Standing Orders for vaccine and antivirals are maintained in the MDCH Strategic National Stockpile Plan (See **Attachment 7**). All local health departments have access to these
- Clinical features of influenza are available via the CDC website at: http://www.cdc.gov/flu/professionals/diagnosis/
- Treatment recommendations are available via the CDC website at: http://www.cdc.gov/flu/professionals/treatment/0506antiviralguide.htm
- Duration of isolation and quarantine for avian influenza (or other novel strain), seasonal influenza and pandemic influenza may differ, and depends on viral epidemiology (see **Attachment 1-B** for current draft recommendations)
- Prepare to receive Michigan's allotment of antivirals via SNS if confirmed or suspected cases of pandemic influenza, or cases with an epidemiological link to an affected region or persons, exist in Michigan, if not done so already
- Ensure pre-deployment of antiviral caches through state. NOTE: The SNS plan is available within the CHECC
- Prepare to receive HHS deployment of pre-pandemic vaccine, if available and not previously received.
- Ensure listings of LHD vaccine distribution sites are current (using VACMAN, the software package used by the Division of Immunization to track vaccine supplies); update as new sites are established
- Obtain assistance from MSP/Capitol Security, or utilize SNS Security Plan with secure transport of vaccine, if required. Provide vaccine depot security as appropriate
- If a breach in security occurs MSP will respond under their pre-established rules of engagement.
- Obtain and disseminate updated information on the availability of influenza vaccine and antivirals as well as information on mass clinic supplies
- Obtain additional vaccine/antivirals if possible, working with other states and CDC
- Revise prioritization and allocation scheme (see **Attachment 5**) for pandemic vaccine and antivirals as advised by HHS, based upon characteristics of pandemic virus and available quantities of vaccine.
- Implement plans for the distribution and administration of antivirals and any available vaccine within Michigan. This will include:
    - Recommendations / public health orders for those within recipient tiers to receive vaccine / antivirals. This may involve publicizing or modifying CDC guidelines.
    - Dissemination of such recommendations to LHDs
    - Sharing of standing orders for vaccination/antiviral administration (see **Attachment 7**). Vaccine standing orders will be developed when vaccine is approved for pandemic strain)

  - Copy and disseminate MCIR scan forms via fax, U.S. mail
  - Obtain additional personal protective equipment (PPE) or medical supplies as recommended by federal guidance.
- The MDCH CHECC coordinates with state and local epidemiologists and regional MCC's to remain on alert to identify pandemic strain presence in MI; prepare to obtain and track information daily on the numbers of new cases, their location, newly quarantined persons, and hospitals with patients and their bed resource status

Federal Stage 4: First Human Case in North America (WHO Phase 6) PSI 1-3: Standby; PSI 4 and 5: Standby/Activate

- Prepare to receive additional "containment stockpile" of antivirals via SNS if confirmed or suspected cases of pandemic influenza, or cases with an epidemiological link to an affected region or persons, exist in Michigan-if not done so already
- Activate the "All Hazards" Function in MCIR
- Facilitate plan to strategically place antiviral caches in high-density population regions, close to treatment centers

Federal Stage 5: Spread throughout United States (WHO Phase 6) PSI 1-5: Activate-when laboratory-confirmed cases in MI or surrounding region with evidence of transmission**.**

- Prepare to receive deployment of pandemic vaccine when available, as above
- Update guidance for prioritization and use of pandemic vaccine, as above
- Communicate with health care providers, community partners, and others about who received vaccine/antivirals, and who needs them
- Monitor surveillance data to guide decisions about timing/location of local/regional clinics for administration of vaccine and/or antivirals
  - Monitor availability and coordinate distribution and delivery of influenza vaccine if available
  - Antivirals will be distributed as described in the SNS plan.
  - MDCH will assist in obtaining back-up supplies (syringes, swabs, etc), if needed, for the distribution of vaccine and antivirals
  - Initial storage and shipping of vaccine will be provided through the MDCH vaccine depot to LHDs.
  - MDCH maintains sample clinic flow charts used to organize large and small influenza vaccine clinics
- Use MCIR for management of vaccine/antiviral administration data A scan form is available- see **Attachment 6**)
- Utilize MCIR reminder and recall capabilities to contact vaccine recipients regarding possible second dose requirement
- Vaccine Safety Coordinator to promote use of federal adverse event reporting systems, Vaccine Adverse Events Reporting System (VAERS) and Adverse Event Reporting System (AERS).
- Upon receiving information from CDC about adverse events that appear to be related to vaccine or antivirals, report to LHDs and partners
- Provide support as needed for studies

Vaccines

- Prepare to distribute unlicensed vaccines and / or antiviral drugs (if needed) under Food and Drug Administration (FDA) Investigational New Drug (IND) provisions or under Emergency Use Authorization procedures.
  - IND provisions require completion of a signed consent form from each vaccinee, mandatory reporting of specified types of adverse events, and approval from Institutional Review Boards (IRBs) in vaccine-distribution venues. FDA regulations permit the use of a national or "central" IRB. Final versions of consent forms will not be available until the new vaccine/antiviral is available.
  - CDC will be responsible for the development of Vaccine Information Statements (VIS) used during an influenza pandemic.
  - For licensed influenza vaccine use, the federal government does not require a signature for consent prior to administration. For unlicensed influenza vaccine use, MDCH will follow the federal regulations and policies per CDC.
- Investigation New Drug (IND) Protocols
  - CDC will contact Michigan Department of Community Health (MDCH) Division of Immunization or Office of Public Health Preparedness to use designated form
  - Upon receipt of the forms, MDCH Division of Immunization will coordinate the mass distribution of forms to all stakeholders
  - Forms will be copied and distributed with the drug or vaccine,
    - if at all possible
  - Forms will be posted on website for easy access to all stakeholders
    - www.michigan.gov/prepares
    - www.michigan.gov/immunize
    - www.michigan.gov/flu
    - www.mihan.org
  - Alternate, redundant communication methods (fax, email) are available
    - All required fields of the form must be completed
  - Information packets of materials will be made available, translated, and a video or web cast will be developed to educate and inform special populations

Antiviral Allocations

- Antiviral medication allocations will be distributed to all sites reflective of an 80/20 split between Tamiflu and Relenza.
- Five percent (5%) of the pre-pandemic cache will be retained at the state for surge to affected areas.
- Ninety-five percent (95%) of the cache will be distributed.
- Currently, antiviral medications are only authorized under the Federal Pandemic Influenza Plan for use as treatment not prophylaxis.
- Awaiting further guidance on specialized treatment of pediatric patients (suspension of medication, application with food, etc.)
- Injectable antiviral medications are in development, but not currently available for use. If and when these become available this plan may be modified to include these new countermeasure assets.

Local Health Department Considerations

- Obtain updated information on local pandemic influenza vaccine supplies, antiviral supplies, and other clinic supplies
- Maintain close communication with local health care facilities and clinicians on their vaccine and antiviral status, utilizing the regional MCC's
- Activate SNS response plan for mass clinic/dispensing sites
- Determine if there are sufficient supplies of vaccine syringes, needles, information sheets, staff, clinic space, laptops with data collection software, signs, waiting areas, greeters, cots, phones, volunteers, etc
- Implement local plans for (re) distribution of influenza vaccine/antivirals (public sector-private sector). This should be largely covered by existing emergency response plans (e.g., SNS), but the Influenza Vaccine Exchange Network (IVEN) on MCIR, can also be used to facilitate vaccine re-distribution
    - Prepare to receive deployment of pandemic vaccine when available
    - Pandemic vaccine will be allocated to local jurisdictions in proportion to their population
- Monitor availability and coordinate distribution and delivery of influenza vaccines and/or antivirals
- Ensure "runners" available for redistribution/transportation of vaccine and/or antivirals between clinic sites, if needed
- Administer influenza vaccine and/or antivirals to targeted groups of people according to MDCH recommendations (see **Attachment 5**). Use MCIR to record vaccine/antiviral administration
- If unlicensed pharmaceuticals will be used, obtain signatures of consent from all persons receiving them
- Store influenza vaccine according to MDCH guidelines.
- Record and report adverse events to Vaccine Adverse Events Reporting System (http://www.vaers.hhs.gov/)
- Utilize NIMS to continually review local supplies of influenza vaccine and antiviral agents and notify MDCH regarding availability
- Provide security for vaccine/antiviral supplies and clinics. Notify MDCH (OPHP) and local law enforcement agencies about any newly identified security concerns
- If vaccines/antivirals are obtained from the SNS, standing orders for their administration will be executed. These orders will need to be developed in accordance with CDC guidelines, as some avian influenza strains are noted to be resistant to particular antivirals, and resistance patterns change over time
- Recommendations that are different from routine influenza vaccine administration guidelines will be communicated to regional and local partners
- Current non-pandemic influenza treatment guidelines (February, 2005) are available via the CDC at the following website: http://www.cdc.gov/flu/professionals/treatment/0506antiviralguide.htm

Medical Surge Capacity in Pandemic-MEMS (see **Attachments 16 and 22)**

- In the event of a catastrophic public health event which creates extreme overload of patients and/or resources, regional activation of the Modular Emergency Medical System (MEMS) will be considered. All 8 Biodefense Networks which encompass all of Michigan's hospitals and LHDs utilize ICS and a similar organizational template
- MDCH, via the CHECC, will coordinate regional response efforts and requests.

- The Medical Coordination Center (MCC) for each region will advise the formation of healthcare facility Alternate Care Centers, or LHD Neighborhood Emergency Help Centers (NEHC) depending upon surge capacity needs.
- Inter-facility, inter-region and intra-state communications regarding patient status: redundant resources such as EM System (EMTrack), UPS-PTS, Raytheon (EPTS) are coordinated by the Medical Coordination Centers (MCC's), which serve as the liaison between healthcare systems and the state. (**Attachment 22**)
- EMResource reports directly to HAvBED regarding bed status; Each hospital region exercises HAvBed monthly and status can be reported within two hours.
- Requests for activation of the Strategic National Stockpile assets (certain medicines, supplies) must be made by the Governor.
- Regional organization and MEMS allows for the sharing of resources and staff across healthcare facilities, counties or other jurisdictional borders.
- MEMS in Michigan is NIMS-compliant.
- MI-TESA is a mobile hospital facility able to be stood up under direction of the MDCH regional leadership when necessary.
- Volunteers via mivolunteerregistry.org or a Medical Reserve Corps will be utilized at regional, MEMS, healthcare facility and local levels
- Monitor and track all individuals in isolation and/or quarantine whether in a healthcare setting, alternate care site, or at home. This may be facilitated by using the E-Team case management module, or other outbreak management software under development.

Regional Hospital Preparedness

- See **Attachment 22**

Clinical Issues-Pandemic Strain Influenza

- Follow local and state public health recommendations for reporting cases
- Implement Infection Control Precautions (Module VI, Pandemic, and **Attachment 9**)
- Obtain Clinical Specimens, if needed (See **Attachments 1-3**)
- Decide on inpatient or outpatient management

Mental Health Issues- see **MDCH All Hazards Plan Module X**

- Michigan's mental health system is heavily dependent on its local system of managed care providers (Prepaid Inpatient Hospital Programs [PHIPs] and Community Mental Health Agencies [CMHs]).
- Mental Health services for state employees are available through the Traumatic Incident Stress Management (TISM)- see MDCH All Hazards Plan **Module X, p.41**
- Volunteer agencies such as the Red Cross and the Michigan Crisis Response Association (MCRA) offers mental health care services to the public and emergency responders respectively.

Emergency Medical Services (EMS) Issues

- MDCH provides the regulatory oversight of over 800 EMS agencies throughout the state; MDCH designates the 65 Medical Control Authorities and approves all MCA protocols.

VIII. Data Management: Pandemic Phase

State Level Responsibilities

- Data management plans will remain consistent with that outlined in the Pre-Pandemic phase, **PF-VIII**
- All resource ordering, tracking of requests, responses, actions, reports, and situational updates will be entered into E-Team, and electronic system maintained by the MSP and the SEOC, according to E-Team protocols
- All CHECC personnel are trained in use of the E-Team system
- Several options for Outbreak Management and monitoring of non-pharmaceutical interventions are currently being evaluated as a strategy to track isolated or quarantined individuals/families or communities. This will be done in coordination with LHDs, with a 2007-2008 development phase.

Local Health Department Considerations

- Data will be maintained in a HIPAA-compliant manner.

IX. International/ Border Travel Issues: Pandemic

Federal Level Responsibilities (in consultation with State and Local Health Departments)

- Minimizing or prohibiting non-essential travel
- Medical Screening of passengers at exit or entry points, depending on geographic location of outbreaks. Isolation of ill passengers and quarantine of contacts as necessary
- Antiviral prophylaxis for exposed passengers or treatment of ill
- Prohibition of travel for all persons meeting the case definition for possible, suspected or pandemic influenza
- Requirement of health certificates for travel
- Distribution of health alert notices to passengers traveling to or from affected areas
- Mandatory quarantine, the length of time determined by the incubation period of the novel virus, for all asymptomatic arrivals from pandemic areas
- Collection of contact information on all arriving passengers

State Level Responsibilities **Lead MDCH Administration and BOE**

- Support to the Federal Government in the above listed actions
- Support to local health departments as requested
- Restricting use of mass transit systems
- *Currently, Michigan is not using border closure as a community containment measure.*
- Finalize any MOA s/MOUs necessary to implement sharing of staff or resources across borders

Local Health Department Considerations

- Collaboration with the Federal Government in the above listed actions
- Collaboration with MDCH officials as needed
- Finalize any MOA s/MOUs necessary to implement sharing of staff or resources across borders

Foreign Diplomacy

General and Honorary Consuls have diplomatic immunities which may impact the implementation of community mitigation measures by public health authorities. See **Attachment 18**

Procedures for Control of Pandemic Influenza at International Entry Points
See **Pre-pandemic-IX**

X. Consequence Management/Recovery: Pandemic Phase

State Level Responsibilities **Lead: MDCH Administration and OPHP**

- Refer also to **Post-Pandemic PF- X**.
- Assess status of resources per MDCH Continuity of Operations Plan.
- Traumatic Incident Stress Management (TISM)
    - Serves affected state employees
    - Provides comprehensive statewide support, assessment and intervention services to state employees who are impacted by a traumatic situation related to the workplace
    - Provides services, which include consultation, on-site support, individual crisis intervention, group services such as defusing or debriefing sessions, and referral and follow-up
    - Functions under the leadership of the Employee Services Program with MDCH leadership provided by the MDCH Department Coordinator

Local Health Department Considerations (and Regional MCCs)

Immediate Emergency Period- (Humanitarian Relief):

- Emergency medical care
- Emergency communications
- Temporary morgue establishment if required
- Enactment of special ordinances if required
- Mental Health support for survivors and medical personnel

Short Term Recovery period:

- Implement methodology for post-decontamination vehicle and equipment restoration and re-supply
- Federal assistance programs (individual and public)
- Evaluate the need for long-term mental health support
- Restoration of comprehensive public health services and health care facilities

Michigan Department of Community Health Pandemic Influenza Plan

Deceleration/Resolution Intervals

WHO Phase 6
Federal Stage 6
MDCH Post-Pandemic Phase

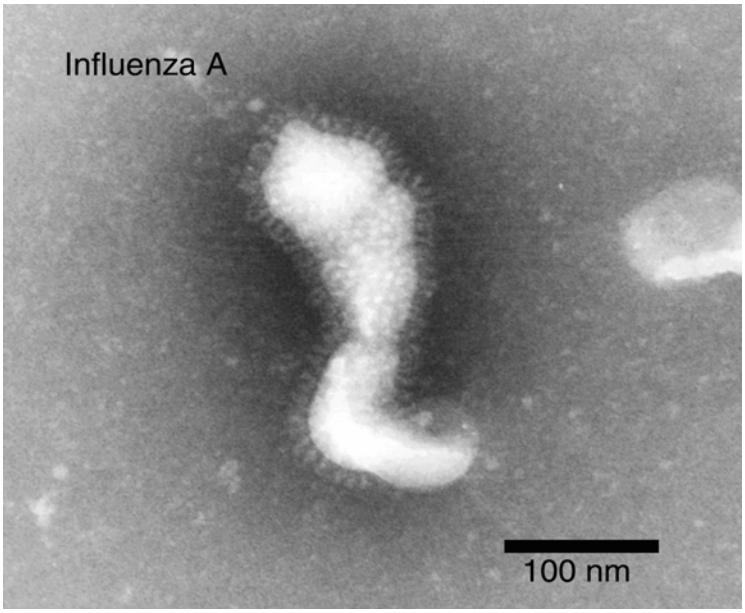


Image courtesy of MDCH Bureau of Laboratories

I. Command and Management: Post-Pandemic Phase

State Level Responsibilities **Lead: MDCH Administration and OPHP**

- The Executive Committee will determine that an end to the first wave or to the pandemic has occurred, and messaging will be coordinated by the Joint Information Center (JIC) and/or the MDCH PIO. This will follow an international (WHO) declaration and/or national (CDC) declaration.
- The CHECC will return to Alert or Watch status.
- MDCH will hold a debriefing session with select staff and mangers.
- Assess status of resources per MDCH Continuity of Operations Plan.
- All divisions involved with the pandemic influenza response will compile a list of successes and problems encountered during the response.
- All lists will be sent over to the MDCH Emergency Management Coordinator (EMC) who will compile the reports into one MDCH After Action Report (AAR) for the Department.
- Once the EMC and the OPHP Director have completed the AAR, the areas not addressed or for improvement in this report will need to be incorporated into the MDCH Corrective Action Plan (CAP). Where the AAR addresses the successes, failures, and remedial actions take by the Department in response to an event, the CAP addresses those issues identified as requiring change and needing correction.
- The report developed for the CAP should be a summary of the issues, the steps taken to correct them and when those necessary changes are proposed to go into affect. References to the AAR may also be incorporated into this report.
- The AHRP and Pandemic Influenza Plans will be revised in response to the AAR.
- Review COOP Plan and revise procedures and plan as appropriate. Consider incorporating learning points into plan.
- Disseminate new internal procedures and plans prior to the potential second wave of the pandemic.
- Recovery activities are further addressed in **AH-I** and **AH-XI,** and **Post-Pandemic** (**PF-X**)

Local Health Department Considerations

- The LDH AARs must be submitted to the MDCH Emergency Preparedness Coordinator (EPC) in OPHP within 30 days from the incident.

II. Crisis Communications: Post-Pandemic Phase

The Executive Committee will determine that an end to the first wave or to the pandemic has occurred. This will follow an international WHO declaration and/or national CDC declaration.

State Level Responsibilities Lead: MDCH Communications Office and OPHP

- The MDCH shall notify LHDs partners, and the public of the end of a wave or pandemic, but advise of the need to remain alert and continue surveillance for another wave. This will be communicated using press releases, the MIHAN, professional organizations, etc.
- The MDCH PIO shall prepare final news releases and advise media representatives of points-of-contact for follow-up stories.
- MDCH shall evaluate the response to the pandemic and produce an AAR. The AAR will review emergency communication activities, including media relations, health recommendations to the public, and rumor control. Useful evaluation documents include press releases, press clips, a summary of public reactions and concerns (based on communication with other public health agencies) and a final chronology of the event Continue reporting adverse events associated with vaccine or antivirals via VAERS or AERS, respectively

Local Health Department Considerations

- Notify local partners of the end of the first wave, but advise of the need to remain alert and continue surveillance to detect and respond to potentially another wave of illness, or notify partners of the pandemic end.
- Participate in evaluation of the pandemic communications response and identify areas that worked well and those that will require work.
- Produce an AAR summarizing “lessons learned” from the pandemic. The AARs must be submitted to the MDCH EPC in OPHP within 30 days from the declaration of the end of the incident.

III. Surveillance: Post-Pandemic Phase

State Level Responsibilities **Lead: BOE**

- In accordance with the communications portion of the plan, assist in notifying LHDs and other partners of the end of a wave and/or that an end to the pandemic is declared.
- Continue surveillance for influenza according to CDC recommendations.
- Maintain high level of sentinel provider surveillance to aid detection of successive waves of influenza outbreaks, pandemic or otherwise. Review participation status of enrolled sites and recruit new sites as needed to maintain high participation rates.
- Compile and distribute an AAR on surveillance activities including a review of surveillance structure, identification of system weaknesses and recommendations for improvement. This will also be sent to OPHP to be included in the MDCH agency AAR.
- Compile, analyze, and distribute data pertaining to vaccine efficacy in collaboration with the Immunization Division.
- Summarize findings from the epidemiological characteristics of the pandemic in Michigan and submit to the MDCH Bureau of Epidemiology Director and to CDC.
- Review, evaluate and update the surveillance component of the pandemic response plan.
- Assess vaccine coverage and determine the number of people who remain unprotected.

Local Health Department Considerations

- Continue influenza surveillance with local partners according to MDCH recommendations.
- In coordination with MDCH, provide surveillance summaries to health care facilities, Emergency Medical Services, local law enforcement agencies, and local, private and public partners.
- Report pandemic-related summaries and other relevant information to MDCH.
- Review and address gaps in surveillance/reporting systems for influenza- associated morbidity and mortality.
- Review, evaluate, and modify, as needed, the surveillance component of the local pandemic response.
- Health care facilities must remain vigilant in facility-specific surveillance activities in this phase to avoid an unrecognized “additional wave” within the facility.
- Consider continuing triage system for a period of time once the end of the pandemic phase has been declared.

IV. Laboratory Guidelines: Post-Pandemic Phase

State Level Responsibilities **Lead: Bureau of Laboratories (BOL)**

- Virology section at the BOL, will maintain routine year-round laboratory testing of specimens submitted by sentinel influenza sites. This system will be augmented with other activities according to CDC recommendations.
- BOL will evaluate its pandemic response and document lessons learned with an AAR in order to improve response to future pandemics or public health emergencies.
- The BOL will forward its AAR to the Emergency Management Coordinator.

Local Health Department Considerations

- Monitor disease reporting and assist with ongoing surveillance and specimen submissions.
- Develop After Action Reports as necessary and forward to Emergency Preparedness Coordinator
- Assess status of resources and supplies
- Assist CDC and MDCH with specimen requests and post-event assessments.

Clinical Laboratory Responsibilities

- Will continue to participate in sentinel surveillance by submission of clinical specimens or influenza isolates to BOL.

V. Community Containment: Post-Pandemic Phase

State Level Responsibilities **Lead: BOE**

- Assess impact of community containment measures with local public health partners, including secondary, tertiary and unintended consequences.
- The MDCH Executive Committee will make recommendations for transition from response to recovery phase.
- Terminate emergency orders or community containment measures as indicated.
- Compile an After Action Report and Corrective Action Plan, review and submit to the MDCH Exercise Coordinator.
- Implement Corrective Action Plan components as indicated.

Local Health Department Considerations

- Assess impact of community containment measures, including secondary, tertiary and unintended consequences.
- Facilitate recovery phase of response.
- Assess the effectiveness of community containment measures with MDCH.
- Terminate emergency orders or community containment measures as indicated.
- Compile an After Action Report and Corrective Action Plan.
- Implement Corrective Action Plan.

Foreign Diplomacy

General and Honorary Consuls have diplomatic immunities which may impact the implementation of community mitigation measures by public health authorities. See **Attachment 18**

VI. Infection Control in Health Care Facilities: Post-Pandemic Phase

State Level Responsibilities **Lead: MDCH- Advisory Only**

See previous Pre-pandemic and Pandemic responsibilities.

Local Health Department Considerations

See previous Pre-pandemic and Pandemic responsibilities.

Healthcare Facilities

Infection control activities include evaluation and recovery. This includes the following:

- Participate in reviews of the response within the facility and with local, regional and state partners.
- Develop an AAR and lessons learned, and share this information with staff
- Revise any policies, procedures and plans identified as needing clarification or revision.
- Develop new policies or procedures that were not in place and would have been beneficial.
- Communicate all revisions to affected staff.
- Inform staff that the pandemic is over, but caution to continue to use good infection control and prevention strategies as outlined in the **AH-VI.**
- Caution staff to remain vigilant during patient triage for a potential second wave.
- Continuing to participate in surveillance and monitoring activities (local, regional and state) i.e., MIHAN, Syndromic Surveillance and MDSS.

VII. Medical Management/Vaccines and Antivirals: Post-Pandemic Phase

State Level Responsibilities **Leads: MDCH Administration BOE and OPHP**

Federal Stage 6: Recovery and Preparation for Subsequent Waves (WHO Phase 5 or 6)

- Continue reporting adverse events associated with vaccine or antivirals via VAERS or AERS, respectively
- MDCH and CDC will determine when to discontinue the adverse events reporting system.
- MDCH, in conjunction with CDC recommendations, will determine need to discontinue distribution of antivirals and make recommendations to local public health.
- MDCH will compile and distribute lessons learned regarding the treatment and prophylaxis process to aid in planning for future pandemics or other public health emergencies.
- MDCH will give directions to LHDs on the return of unused vaccines, drugs, and other equipment.
- MDCH will continue to provide public health recommendations to health care providers as requested and appropriate.
- Utilize Homeland Security Exercise and Evaluation Protocols (HSEEP) tool to capture after-actions, strengths and weaknesses in MDCH Pandemic plan execution.

Local Health Department Considerations

- Contribute after action items and reviews to the MDCH AAR and CAP. These serve to aid planning for future public health emergencies.
- Return all unused and unopened vaccines and antivirals according to directives from MDCH.

VIII. Data Management: Post-Pandemic Phase

State Level Responsibilities

- Assess performance of various data systems and take steps to upgrade as necessary.
- Make data available for research and review to develop clearer understandings of pandemic characteristics or state response.

Local Health Department Considerations

- Assess performance of various data systems and take steps to upgrade as necessary.
- Make data available for research and review to develop clearer understandings of pandemic characteristics or state response

IX. International/Border Travel Issues: Post-Pandemic Phase

State Level Responsibilities

- Upon de-activation of any federal travel measures or emergency orders notify stakeholders of changes in travel advisories
- Assess impact upon resources or citizens of border measures instituted during a pandemic.

Local Considerations

- Upon de-activation of any federal travel measures or emergency orders notify stakeholders of changes in travel advisories
- Assess impact upon resources or citizens of border measures instituted during a pandemic.

Foreign Diplomacy

General and Honorary Consuls have diplomatic immunities which may impact the implementation of community mitigation measures by public health authorities. See **Attachment 18.**

X. Consequence Management/Recovery: Post-Pandemic Phase

State Level Responsibilities **Lead: MDCH Administration and OPHP**

- Traumatic Incident Stress Management (TISM):
    - Serves affected state employees
    - Provides comprehensive statewide support, assessment and intervention services to state employees who are impacted by a traumatic situation related to the workplace
    - Provides services, which include consultation, on-site support, individual crisis intervention, group services such as defusing or debriefing sessions, and referral and follow-up
    - Functions under the leadership of the Employee Services Program with MDCH leadership provided by the MDCH Department Coordinator
- Take “lessons learned” and modify existing plans as needed.
- An event summary will be developed and reviewed utilizing the MDCH AAR and CAP.
- Provide guidance to LHDs and other state and local agencies for the recovery and maintenance of the public health infrastructure, as pandemic influenza constitutes a significant public health emergency.
- Other activities may be added as conditions dictate. (see **AH-X**). Most of the activities listed below will be initiated locally with assistance and guidance from multiple state agencies including MDCH. The Michigan Emergency Management Plan contains information regarding roles and responsibilities of state and local agencies in these efforts (OPHP has this on file).
- Identify effective surveillance, community containment and infection control procedures in preparation for a possible second pandemic wave.
- Implement measures to assist community and public health to return to baseline status.

Local Health Department Considerations

Short Term Recovery period:

- Implement methodology for post-decontamination vehicle and equipment restoration and re-supply
- Federal assistance programs (individual and public)
- Evaluate the need for long-term mental health support
- Restoration of comprehensive public health services and health care facilities

Long Term Recovery Period (Reconstruction/Redevelopment):

- Risk assessment and review
- Economic redevelopment
- Establish community recovery programs
- Consider pulling together local health care and emergency first responders for an overall AAR, or “hotwash”.
- Take “lessons learned” and modify existing plans as needed.

- Identify effective surveillance, community containment and infection control procedures in preparation for a possible second pandemic wave.
- Implement measures to assist community and public health to return to baseline status.

ATTACHMENTS

Attachment 1

Michigan Department of Community Health
Reporting and Laboratory Guidelines for Avian Influenza H5N1

June 7, 2006

The Centers for Disease Control and Prevention (CDC) has updated their guidance for laboratory testing of persons with suspected infection of Avian Influenza A (H5N1) virus in the United States that contains epidemiological criteria and specimen collection. This is an update from the February 4, 2005 version and the document can be found on the Michigan Health Alert Network and the www.michigan.gov/flu website.

Testing for avian influenza A (H5N1) virus infection is recommended for an illness that:

- Requires hospitalization or is fatal; **AND**
- Has or had a documented temperature of ≥38°C (≥100.4° F); **AND**
- Has radiographically confirmed pneumonia, acute respiratory distress syndrome (ARDS), or other severe respiratory illness for which an alternate diagnosis has not been established; **AND**
- Has at least one of the following potential exposures within 10 days of symptom onset:
  - History of travel to a country with influenza H5N1 documented in poultry, wild birds, and/or humans, **AND**
    had at least one of the following potential exposures during travel:
    - Direct contact with (e.g., touching) sick or dead domestic poultry;
    - Direct contact with surfaces contaminated with poultry feces;
    - Consumption of raw or incompletely cooked poultry or poultry products;
    - Direct contact with sick or dead wild birds suspected or confirmed to have influenza H5N1;
    - Close contact (approach within 1 meter [approx. 3 feet]) of a person who was hospitalized or died due to a severe unexplained respiratory illness;
  - Close contact (approach within 1 meter [approx. 3 feet]) of an ill patient who was confirmed or suspected to have H5N1;
  - Worked with live influenza H5N1 virus in a laboratory.

- Testing may be deemed necessary after consultation with Michigan Department of Community Health for a patient with mild or atypical disease who has one of the exposures in "bullet A" above **OR** a patient with severe or fatal respiratory disease whose epidemiological information is uncertain, unavailable or otherwise suspicious but does not meet the criteria above.

Ordering tests for Avian Influenza A (H5N1):
For tests sent to Michigan Department of Community Health Laboratory the request needs to be approved by the Bureau of Epidemiology (BOE). BOE can be contacted Monday thru Friday 8am to 5pm at (517) 335-8165 or after hours and weekends at (517) 335-9030.

Specimen collection guidelines:

- Oropharyngeal swab specimens and lower respiratory tract specimens (e.g., bronchoalveolar lavage or tracheal aspirates) are preferred because they appear to contain the highest quantity of virus for influenza H5N1 detection. Nasal or nasopharyngeal swab specimens are acceptable, but may contain less virus and therefore not be optimal specimens for virus detection.
  - Bronchoalveolar lavage is considered to be a high-risk aerosol-generating procedure. Therefore, infection control precautions should include the use of gloves, gown, goggles or face shield, and a fit-tested respirator with an N-95 or higher rated filter. A loose-fitting powered air-purifying respirator (PAPR) may be used if fit-testing is not possible.
- Detection of influenza H5N1 is more likely from specimens collected within the first 3 days of illness onset. If possible, serial specimens should be obtained over several days from the same patient.
- Swabs used for specimen collection should have a Dacron tip and an aluminum or plastic shaft. Swabs with calcium alginate or cotton tips and wooden shafts are not recommended. Specimens should be placed at 4°C immediately after collection.
- Commercial rapid influenza antigen testing in the evaluation of suspected influenza H5N1 cases should be interpreted with caution. Clinicians should be aware that these tests have relatively low sensitivities, and a negative result would not exclude a diagnosis of influenza H5N1. In addition, a positive result does not distinguish between seasonal and avian influenza A viruses.
- Serologic testing for influenza H5N1-specific antibody, using appropriately timed specimens, can be considered if other influenza H5N1 diagnostic testing methods are unsuccessful. Paired serum specimens from the same patient are required: one sample should be tested within the first week of illness, and a second sample should be tested 2-4 weeks later. Serologic testing for influenza H5N1 is generally unavailable. Specimens can be sent to CDC for this testing through the MDCH Bureau of Laboratories.

Attachment 1-A

Clinicians Guide for Suspect Cases of Novel Strain Influenza

(e.g. H5N1 Avian Influenza)

Michigan Department of Community Health (MDCH)

(adapted from HHS Pandemic Influenza plan 2005)

1.Implement Infection Control Precautions

- Include Respiratory/Cough Etiquette
- Use full barrier protection (airborne, standard precautions, contact, droplet, plus face/eye protection)
- Minimum of 14 days
- *Communicability, Isolation and Quarantine: Non-pharmaceutical Management of Influenza Cases (Attachment 1-A, MDCH Pandemic Influenza Plan)*

2. Notify local and state health departments

- *Reporting and Laboratory Guidelines for Avian Influenza H5N1(Attachment 1, MDCH Pandemic Plan)*

3. Obtain clinical specimens , arrange testing with public health departments

- *Seasonal, Avian and Pandemic Influenza Algorithms (Attachment 2, MDCH Pandemic Plan)*
- *Specimen Collection Procedures (Attachment 3, MDCH Pandemic Plan)*

4. Evaluate alternate diagnoses-

- *Evaluate alternative diagnosis through **non-viral culture laboratory methods**. Viral culture should only be pursued **after** H5 influenza has been ruled out.
- *Reporting and Laboratory Guidelines for Avian Influenza H5N1(Attachment 1, MDCH Pandemic Plan)*

5. Decide on inpatient or outpatient management

- Currently, as of May 2007, suspect H5N1 cases should be placed in Airborne and full barrier isolation)

6. Initiate antiviral treatment

- do not wait for lab confirmation
- treatment best within 48 hours of symptoms, but treat even if after 48 hour time period
- *Module VII, and Attachment 7Draft Standing Orders for Antivirals, MDCH Pandemic Plan*

7. Assist public health officials in identification of potentially exposed contacts

Influenza Type	Incubation	Communicable Phase	Containment Measures for Individuals	Management of contacts
			Type/Duration	
Seasonal	1-4d (avg 2d)	1d prior to Sx onset, 3-5 day post Sx onset children: up to 10d	standard, droplet 5d consider longer for children Use full barrier protection (airborne, standard precautions, contact, droplet, plus face/eye protection)	
Avian H5N1 (a Novel Strain Influenza)	HHS Plan, 2005: 1-10d	Approx 14d	WHO 2004: 7days after resolution of fever (21d after Sx onset for children) US Plan and CIDRAP, 2005-6: maintain for 14d	WHO 2004: Monitor for 7 days after last exposure HHS Plan, 2005: Monitor for minimum of at least one incubation period (varies with novel strain, with H5N1 could be up to 10d)
Pandemic	Unknown, (likely 1-4d, avg 2d)	Unknown Likely 24 h prior and 3-5 post onset of Sx	Direct caregivers: N-95 masks or equiv, aerosol procedures precautions, standard, droplet Minimum of 5d	HHS Plan 2005: Up to 10d

Attachment 1-C-Case Definitions

H5N1 Avian Influenza Case Definition/ Interim Testing Guidelines (CDC, June 2006)

Testing for avian influenza A (H5N1) virus infection is recommended for:

A patient who has an illness that:

- requires hospitalization or is fatal; AND
- has or had a documented temperature of ≥38°C (≥100.4° F); AND
- has radiographically confirmed pneumonia, acute respiratory distress syndrome (ARDS), or other severe respiratory illness for which an alternate diagnosis has not been established; AND

- has at least one of the following potential exposures within 10 days of symptom onset:

A) History of travel to a country with influenza H5N1 documented in poultry, wild birds, and/or humans,† AND had at least one of the following potential exposures during travel:

- direct contact with (e.g., touching) sick or dead domestic poultry;
- direct contact with surfaces contaminated with poultry feces;
- consumption of raw or incompletely cooked poultry or poultry products;
- direct contact with sick or dead wild birds suspected or confirmed to have influenza H5N1;
- close contact (approach within 1 meter [approx. 3 feet]) of a person who was hospitalized or died due to a severe unexplained respiratory illness;

B) Close contact (approach within 1 meter [approx. 3 feet]) of an ill patient who was confirmed or suspected to have H5N1;

C) Worked with live influenza H5N1 virus in a laboratory.

Testing for avian influenza A (H5N1) virus infection can be considered on a case-by-case basis, in consultation with local and state health departments, for:

- A patient with mild or atypical disease‡ (hospitalized or ambulatory) who has one of the exposures listed above (criteria A, B, or C); OR

- A patient with severe or fatal respiratory disease whose epidemiological information is uncertain, unavailable, or otherwise suspicious but does not meet the criteria above (examples include: a returned traveler from an influenza H5N1-affected country whose exposures are unclear or suspicious, a person who had contact with sick or well-appearing poultry, etc.)

Clinicians should contact their local or state health department as soon as possible to report any suspected human case of influenza H5N1 in the United States.

Proposed H5N1 Avian Influenza Case Definition (CSTE draft, to be finalized Summer 2007)
Updated versions will be at (http://www.cdc.gov/epo/dphsi/casedef.htm) and disseminated by MDCH; also at http://www.michigan.gov/flu

Attachment 2

Routine Influenza Algorithm
Michigan Department of Community Health
Instructions for Clinical Labs

NOTE: MDCH performs routine year round surveillance for influenza. Please visit the MDCH website at www.michigan.gov/flu and MIHAN for updates.

‡ **Criteria for novel/avian influenza** testing include signs and symptoms suggestive of influenza (fever, headache, tiredness, cough, sore throat, muscle aches, and radiograph evidence of pneumonia) and travel to an area with confirmed human cases of avian influenza and direct or unprotected exposure to infected birds (including feathers, feces and under-cooked meat and egg products). For a current listing of affected areas, go to www.pandemicflu.gov

Routine Influenza Testing:

Routine surveillance through laboratories and physicians enrolled in Sentinel Surveillance Program. See page 2 of this algorithm if patient meets criteria for testing‡ for novel influenza.[8]

Collect acceptable specimen * or isolate and ship to MDCH immediately with frozen cold packs.

* **Acceptable specimens** for routine seasonal flu: NP wash, bronchial lavage, NP swab, throat swab.

Postmortem specimens: paraffin-embedded or formalin-fixed respiratory tissue. Consult MDCH Bureau of Epidemiology at (517) 335-8165 prior to submitting samples.

Viral respiratory culture performed at MDCH

Negative

Positive

Result reported via MDCH Laboratory Information Management System (LIMS).

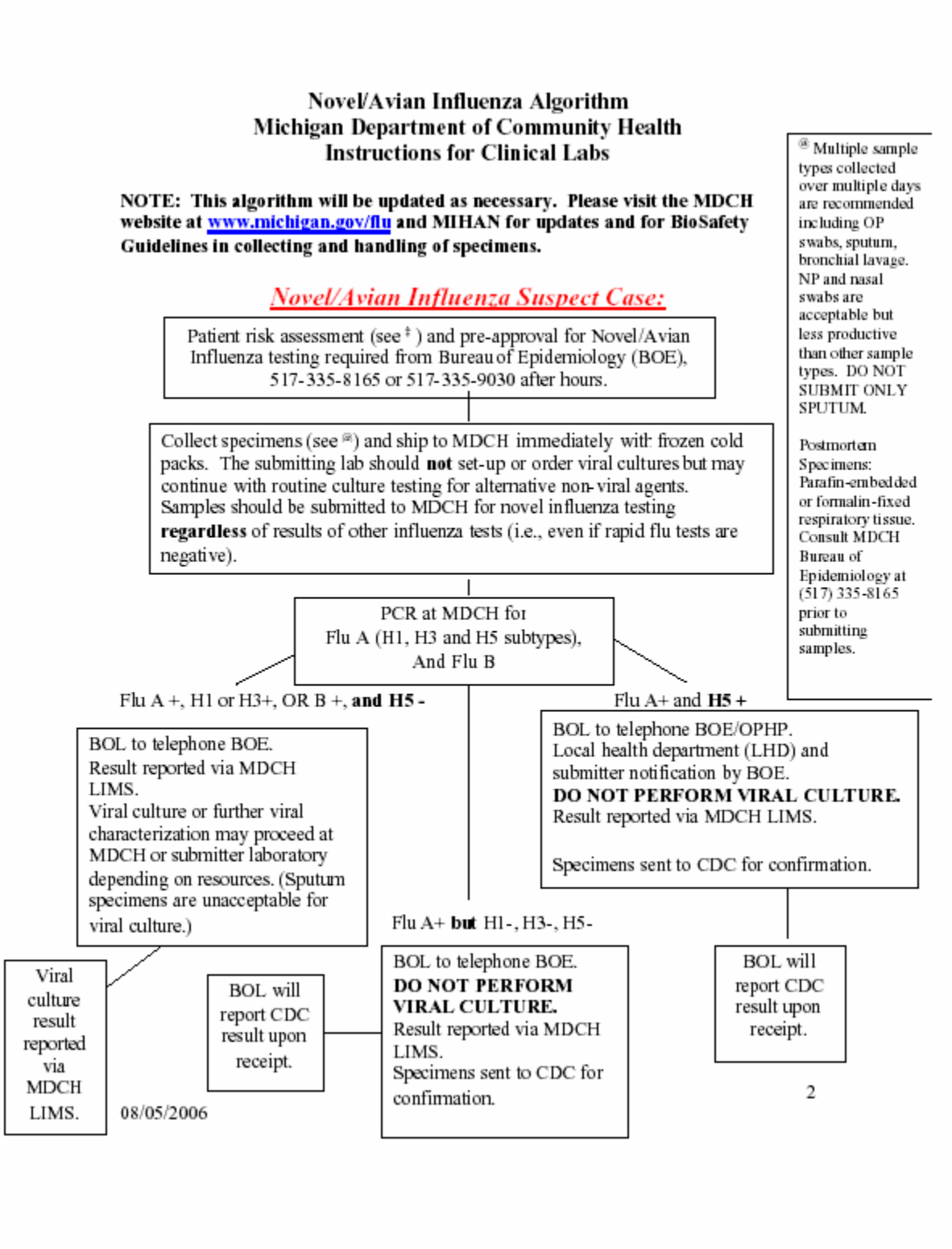
Further viral characterization, i.e., Influenza A subtyping, performed at MDCH. If results indicate novel/avian strain isolate will be sent to CDC.

Result reported via MDCH LIMS.

[8] **A novel Influenza subtype** is one that has not previously been circulating in the human population, resulting in a population that is immunologically naïve to the virus.

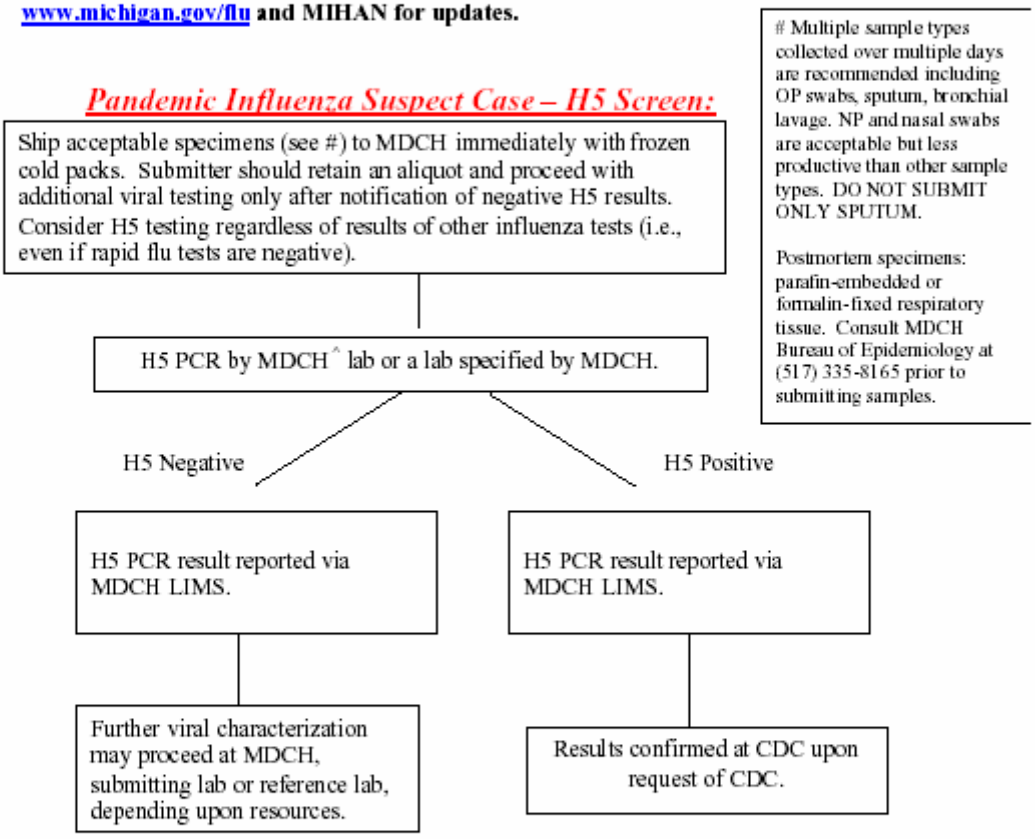
1

08/05/2006


Novel/Avian Influenza Algorithm
Michigan Department of Community Health
Instructions for Clinical Labs
NOTE: This algorithm will be updated as necessary. Please visit the MDCH website at www.michigan.gov/flu and MIHAN for updates and for BioSafety Guidelines in collecting and handling of specimens.
Novel/Avian Influenza Suspect Case:
Patient risk assessment (see ‡) and pre-approval for Novel/Avian Influenza testing required from Bureau of Epidemiology (BOE), 517-335-8165 or 517-335-9030 after hours.
Collect specimens (see @) and ship to MDCH immediately with frozen cold packs. The submitting lab should not set-up or order viral cultures but may continue with routine culture testing for alternative non-viral agents. Samples should be submitted to MDCH for novel influenza testing regardless of results of other influenza tests (i.e., even if rapid flu tests are negative).
PCR at MDCH for Flu A (H1, H3 and H5 subtypes), And Flu B
Flu A +, H1 or H3+, OR B +, and H5 -
Flu A+ and H5 +
Flu A+ but H1-, H3-, H5-
BOL to telephone BOE. Result reported via MDCH LIMS. Viral culture or further viral characterization may proceed at MDCH or submitter laboratory depending on resources. (Sputum specimens are unacceptable for viral culture.)
BOL to telephone BOE/OPHP. Local health department (LHD) and submitter notification by BOE. DO NOT PERFORM VIRAL CULTURE. Result reported via MDCH LIMS.
Specimens sent to CDC for confirmation.
Viral culture result reported via MDCH LIMS.
BOL will report CDC result upon receipt.
BOL to telephone BOE. DO NOT PERFORM VIRAL CULTURE. Result reported via MDCH LIMS. Specimens sent to CDC for confirmation.
BOL will report CDC result upon receipt.
@ Multiple sample types collected over multiple days are recommended including OP swabs, sputum, bronchial lavage. NP and nasal swabs are acceptable but less productive than other sample types. DO NOT SUBMIT ONLY SPUTUM.
Postmortem Specimens: Parafin-embedded or formalin-fixed respiratory tissue. Consult MDCH Bureau of Epidemiology at (517) 335-8165 prior to submitting samples.
08/05/2006
2

Pandemic Influenza Algorithm
Michigan Department of Community Health
Instructions for Clinical Labs

NOTE: This algorithm is to be used once sustained human-to-human transmission has occurred. It will be updated as necessary. Testing beyond H5 will depend on resources and surveillance needs. Please visit the MDCH website at www.michigan.gov/flu and MIHAN for updates.



Multiple sample types collected over multiple days are recommended including OP swabs, sputum, bronchial lavage. NP and nasal swabs are acceptable but less productive than other sample types. DO NOT SUBMIT ONLY SPUTUM.

Postmortem specimens: parafin-embedded or formalin-fixed respiratory tissue. Consult MDCH Bureau of Epidemiology at (517) 335-8165 prior to submitting samples.

^ **Bureaus of Laboratories and of Epidemiology will jointly determine when routine H5 testing is no longer indicated. Testing for surveillance purposes will continue as needed. Further guidance on testing will be provided at that time.**

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08/05/2006

Attachment 3
Specimen Collection Procedures for Michigan

Before collecting specimens, review infection control precautions at: http://www.cdc.gov/flu/professionals/infectioncontrol.

A. Respiratory Tract Specimens

Respiratory specimens should be collected as soon as possible in the course of illness for most respiratory pathogens. The likelihood of recovering most viruses diminishes markedly >72 hours after symptom onset. Types of respiratory specimens that may be collected for viral and/or bacterial diagnostics include:

1) nasopharyngeal wash/aspirates
2) nasopharyngeal (N/P) swabs
3) oropharyngeal swabs
4) broncheoalveolar lavage
5) tracheal aspirate
6) pleural tap, or
7) sputum (see Table 1 in **Attachment IV-1** for recommended specimen type).

Nasopharyngeal wash/aspirates are the specimen of choice for detection of most respiratory viruses and are the preferred collection method among children aged <2 years.

1. Upper respiratory tract:

- **Collection of nasopharyngeal wash/aspirate**
  Have the patient sit with the head tilted slightly backward. Using a sterile rubber bulb syringe, or 14 French catheter or similar tubing connected to a disposable, Luer-tip syringe, instill 4-5 ml of non bacteriostatic saline (pH 7.0) into one nostril. Aspirate nasopharyngeal secretions with bulb syringe or tubing connected to Luer-tip syringe or tilt the head forward and allow fluid to drain out of the nares into a sterile container. Repeat this procedure for the other nostril. Collect specimens in sterile vials. Each specimen container must be labeled with patient identifier and the date collected. Ship with cold packs to keep sample at 4^{o}C.
- **Collection of nasopharyngeal or oropharyngeal swabs**
  Use only sterile dacron or rayon swabs with plastic shafts. Do **NOT** use calcium alginate swabs or swabs with wooden sticks, as they may contain substances that inactivate some viruses and inhibit PCR testing.
  1) Nasopharyngeal swabs–Evaluate nasal septum; do not proceed if septum deviated. Insert swab into nostril parallel to the palate and leave in place for a few seconds to absorb secretions. If swab both nostrils, use one swab.
  2) Oropharyngeal swabs–Swab both posterior pharynx and tonsillar areas, avoiding the tongue. Place swabs (whether NP or OP) immediately into sterile vials containing viral media. Rotate swabs in fluid. Express excess fluid by turning against sides of tube and discard swabs prior to tightening the cap. Each specimen container must be labeled with patient identifier and the date collected. Ship with cold packs to keep sample at 4^{o}C.

2. Lower respiratory tract

- **Collection of bronchalveolar lavage, tracheal aspirate, pleural tap**

If these specimens have been obtained, half should be centrifuged and the cell-pellet fixed in formalin. Remaining unspun fluid should be placed in sterile vials with caps which cover the threads of the tube and internal O-ring seals. If there are no internal O-rings, then seal tightly with the available cap and secure with Parafilm®. Each specimen container must be labeled with patient identifier and the date the sample was collected. Ship with cold packs to keep sample at 4^{o}C.

- **Collection of sputum**
  Educate the patient about the difference between sputum and spit. Have the patient rinse the mouth with water then expectorate deep cough sputum directly into a sterile screw-cap sputum collection cup or sterile dry container. Label with patient identifier. Ship with cold packs to keep sample at 4^{o}C.

Holding and Shipping Specimens
Specimens should be collected as early in the course of disease as possible (as soon as influenza is considered in the differential diagnosis, or rapid influenza tests are positive) and transported to the lab. Complete a test requisition, **adding the approval number supplied by BOE (call 517-335-8165, or 517-335-9030 after hours) in the "Submitter's Patient Number" space.** Samples will not be tested without this number. If approval from BOE for testing is not available please freeze specimens taken **during the 72- hour observation period of the patient** at -70^{0}C**.** Once MDCH BOE approves testing, samples should be expeditiously transported to MDCH BOL on dry ice. Contact the MDCH BOL (517-335-8063 or 517-335-9030 after hours) if assistance is needed to expedite shipment. Packages containing clinical specimens and/or diagnostic agents must conform to federal regulations (see **will insert CDC website when updated)**
NOTE: Specimens shipped by commercial couriers, which may utilize air transport even when delivering within the state of Michigan, must be packed in 6.2 packaging as "diagnostic specimens."

Turn-around time for Influenza Tests
Specimens approved for testing by BOE tested positive for influenza by rapid tests need to be transported to BOL at MDCH immediately for testing. Specimens submitted in the pre-pandemic phase will be tested by Influenza A, H5 PCR. Results can be expected within 24 hours from the time the specimen arrives at the MDCH BOL, depending upon the volume of tests received. Positive results suggesting a pandemic or novel strain will require confirmation by repeat testing, and possibly retesting at CDC.

Once a pandemic strain circulates widely, testing pre-approval will be discontinued at the direction of BOE staff in coordination with the BOL. Turn-around time may be extended to 2-3 days, depending upon workload.

Once a pandemic strain becomes widespread, diagnostic testing may be discontinued at the direction of BOE staff in coordination with the BOL (See **Attachment 8**, EAGs). Surveillance testing will continue for areas that have not yet had documented cases. Turn-around time will likely decrease as the volume of testing decreases.

Attachment 3-A

Laboratory Biosafety Guidelines for Michigan Laboratories Handling And Processing Specimens Associated with Influenza

Key Messages

- **Information is subject to modification. Check http://www.michigan.gov/mdchlab for most recent guidelines.**
- Laboratories performing routine hematology and clinical chemistry studies should handle specimens from potential pandemic/novel flu cases similarly to specimens containing other blood borne pathogens (e.g., hepatitis or HIV, see specific biosafety guidelines at http://www.cdc.gov/od/ohs/pdffiles/4th%20BMBL.pdf . Use Standard Precautions/Universal precautions, wear PPE (lab coat & gloves) PLUS goggles and a face shield or mask and avoid creating or contain aerosols.
- **Any procedure with potential to generate aerosols should be performed in biological safety cabinets (BSCs). When centrifuging samples, use sealed centrifuge rotors or sample cups. Rotors and cups need to be loaded and unloaded in BSC.**
- Laboratories performing serology or RT-PCR testing should handle potential flu specimens using Standard Precautions (previously Universal Precautions, wear PPE [lab coat & gloves], avoid creating or contain aerosols).
- A detailed description of recommended facilities, practices, and protective equipment for the various laboratory biosafety levels (BSLs), can be found in the CDC/NIH Biosafety in Microbiological and Biomedical Laboratories (BMBL) Manual at http://www.cdc.gov/od/ohs/biosfty/bmbl4/bmbl4s3.htm.
- **Use BSL-2 with standard BSL-2 work practices* for:**
  1) Routine examination of bacterial and mycotic cultures;
  2) Routine staining and microscopic analysis of fixed smears;
  3) Final packaging of specimens to transport to diagnostic laboratories for additional testing; (Specimens should already be in a sealed, decontaminated primary container.)
  4) Molecular analysis of extracted nucleic acid preparations;
  5) Electron microscopic studies with glutaraldehyde-fixed grids;
  6) Rapid (membrane-bound EIA) Influenza tests;
  7) Pathologic examination and processing of formalin-fixed or otherwise inactivated tissues.
- **Use BSL-2 practices within Class II BSC for:**
  1) Aliquoting and/or diluting specimens other than blood and urine;
  2) Inoculation of bacterial or mycological culture media: performing diagnostic tests that don't involve propagation of viral agents in-vitro or in-vivo;
  3) Nucleic acid extraction procedures involving untreated specimens;
  4) Preparation and chemical or heat-fixing of smears for microscopic analysis.
- **Use BSL 3 facility with BSL-3 work practices with shower out facilities (BSL3+) for:**
  1) Highly pathogenic avian influenza (HPAI) A culture, (e.g. H5N1,

with specific BSL3+ conditions) which include controlled access double door entry with changing room and shower-out facilities.

2) Laboratories working with live H5N1 influenza virus or other HPAI cultures must also be certified by the USDA Restricted Animal Pathogen Program. **Therefore, respiratory virus cultures of patients suspected of having H5N1 infection must not be offered or performed in laboratories without BSL3+ facilities.**

*See BMBL for explanation of BSL practices/facilities.

It is recommended that testing be performed by PCR assays only.

For more information, visit http://www.cdc.gov/flu/professionals/diagnosis/ or call the CDC public response hotline in English: (800) 232-2522 Español: (800) 232-0233; TTY: (800) 243-7889 Clinician Hotline English: (877) 554-4625.

For information specific to Michigan response, call MDCH BOE at 517-335-8165 —or- Virology Section Manager at 517-335-8099.

Resources:

http://www.michigan.gov/mdch
http://www.cdc.gov/
http://www.cdc.gov/flu/
http://www.cdc.gov/flu/avian/
http://www.who.int/csr/disease/avian_influenza/en/

Contacts:

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Attachment 4
Evaluation Guidelines for Home and Facility Isolation and Quarantine

Home Isolation

Persons who are symptomatic and do not require hospitalization may be isolated in their home. Homes that will be used to isolate cases should be evaluated for their suitability by the local health department, case's physician, or other designated case manager. The CDC recommends the following items for evaluation:

Infrastructure
- Functioning telephone
- Electricity
- Heat source
- Potable water
- Bathroom with commode and sink
- Waste and sewage disposal (septic tank, community sewage line)

Accommodations
- Ability to provide a separate bedroom for the patient
- Accessible bathroom in the residence; if multiple bathrooms are available, one bathroom designated for use by the patient

Resources for patient care and support
- Primary caregiver who will remain in the residence and who is not at high risk for complications from disease
- Meal preparation
- Laundry
- Banking
- Essential shopping
- Social diversion (e.g., television, radio, internet access, reading materials)
- Masks, tissues, hand hygiene products

Community-Based Facility Isolation

Persons who are symptomatic and do not require hospitalization but cannot be accommodated in their homes should be isolated in a community-based facility. Use of existing and temporary facilities should be considered. Options may include nursing homes, apartments, schools, dormitories, hotels, trailers, barracks, tents, and "bubble systems". The CDC recommends the following items for evaluation:

Basic infrastructure requirements
- Meets all local code requirements for a public facility
- Functioning telephone system
- Electricity
- Heating, ventilating, and air conditioning (HVAC)
- Potable water

- Bathroom with commode and sink
- Waste and sewage disposal (septic tank, community sewage line)
- Multiple rooms for housing ill patients

Ventilation capacity
- Preferably, rooms with individual ventilation systems (e.g., room or window fan coil units that do not recirculate to other parts of the building)
- Alternatively, facility with a non-recirculating ventilation system that permits redirection of the air flow from corridors and staff areas into patient rooms.

Access considerations
- Proximity to hospital
- Parking space
- Ease of access for delivery of food and medical and other supplies
- Handicap accessibility

Space requirements
- Administrative offices
- Offices/areas for clinical staff
- Holding area for contaminated waste and laundry
- Laundry facilities (on- or off-site)
- Meal preparation (on- or off-site)

Social support resources
- Television and radio
- Reading materials
- To determine priorities among available facilities, consider these features:
- Separate rooms for patients or areas amenable to isolation of patients with minimal construction
- Single pass (non-recirculatiing) ventilation for each room or isolation area
- Feasibility of modifying existing infrastructure as needed to meet air quality standards
- Feasibility of controlling access to the facility and to each room
- Availability of potable water, bathroom, and shower facilities
- Facilities for patient evaluation, treatment, and monitoring
- Capacity for providing basic needs to patients
- Rooms and corridors that are amenable to disinfection
- Facilities for accommodating staff
- Facilities for collecting, disinfecting, and disposing of infectious waste
- Facilities for collecting and laundering infectious linens and clothing
- Ease of access for delivery of patients and supplies
- Legal/property considerations

Additional considerations
- Staffing and administrative support
- Training
- Ventilation and other engineering controls
- Ability to support appropriate infection control measures

- Availability of food services and supplies
- Ability to provide an environment that supports the social and psychological well-being of patients
- Security and access control
- Ability to support appropriate medical care, including emergency procedures
- Access to communication systems that allow for dependable communication within and outside the facility
- Ability to adequately monitor the health status of facility staff

Home Quarantine

Persons who are asymptomatic but may have had contact with infected cases should be placed into quarantine during the maximum incubation period of the disease. As with home isolation, the local health department, physician, or contact manager should perform proper inspection of the environment. The CDC recommends the following items for evaluation:

- Availability of/access to educational materials about quarantine
- Basic utilities (water, electricity, garbage collection, and heating or air-conditioning as appropriate)
- Basic supplies (clothing, food, hand-hygiene supplies, laundry services)
- Mechanism for addressing special needs (e.g., filling prescriptions)
- Mechanism for communication, including telephone (for monitoring by health staff, reporting of symptoms, gaining access to support services, and communicating with family)
- Accessibility to healthcare workers or ambulance personnel
- Access to food and food preparation
- Access to supplies such as thermometers, fever logs, phone numbers for reporting symptoms or accessing services, and emergency numbers (these can be supplied by health authorities if necessary)
- Access to mental health and other psychological support services

Community-Based Facility Quarantine

Persons who should be placed into quarantine but are unable or unwilling to be detained at home should be direct to a community-based facility. A public health official or designee should perform evaluations of community-based facilities. The CDC recommends the following items for evaluation:

- Separate rooms and bathrooms for each contact, if possible
- Delivery systems for food and other needs
- Staff to monitor contacts at least daily for fever and respiratory symptoms
- Transportation for medical evaluation for person who develop symptoms
- Mechanisms for communication, including telephone (for monitoring by health staff, reporting of symptoms, gaining access to support services, and communicating with family)
- Services for removal of waste. (Note: No special precautions for removal of waste are required as long as persons remain asymptomatic)

Attachment 5
Draft Priority Groups for Vaccination and Use of Antivirals

National Recommendations for vaccine priority groups are in Appendix D o f the DHHS' National Pandemic Response Plan released November 1, 2005 (http://www.pandemicflu.gov/plan/). *Assumptions underlying the development for these values can be found in Appendix D of the DHHS National Pandemic Response Plan. These are subject to change and are guidelines for planning estimates only.*
The following is extracted from the DHHS National Pandemic Response Plan's Appendix D for vaccine and antiviral priority groups, adapted to the MI population where Michigan represents 3.5% of the overall U.S. population (12/15/2005).

Vaccine Priority Group Recommendations					
Tier	**Sub-tier**	**Population**	**# US (HHS Plan)**	**# MI (= # US *3.5%)**	**Rationale**
1	A	Vaccine and antiviral manufacturers and others essential to manufacturing and critical support	40,000	1,400	Need to assure maximum production of vaccine and antiviral drugs
		Medical workers and public health workers who are involved in direct patient contact, other support services essential for direct patient care, and vaccinators	8,000,000 – 9,000,000	280,000 - 315,000	Healthcare workers are required for quality medical care. There is little surge capacity among healthcare sector personnel to meet increased demand
	B	Persons ≥ 65 years with 1 or more influenza high-risk conditions, not including essential hypertension	18,200,000	637,000	These groups are at high risk of hospitalization and death. Excludes elderly in nursing homes and those who are immunocompromised and would not likely be protected by vaccination
		Persons 6 months to 64 years with 2 or more influenza high-risk conditions, not including essential hypertension	6,900,000	241,500	
		Persons 6 months or older with a history of hospitalization for pneumonia or influenza or other influenza high-risk condition in the past year	740,000	25,900	
	C	Pregnant women	3,000,000	105,000	In past pandemics and for annual influenza, pregnant women have been at high-risk; vaccination will also protect the infant who cannot receive vaccine

		Household contacts of severely immunocompromised persons who would not be vaccinated due to likely poor response to vaccine (transplants, AIDS, incident cancer x 1.4 contacts per person)	2,700,000	94,500	Vaccination of household contacts of immunocompromised and young infants will decrease risk of exposure and infection among those who cannot be directly protected by vaccination
		Household contacts of children < 6 months old	5,000,000	175,000	
	D	Public health emergency response workers critical to pandemic response (assumed one-third of estimated public health workforce)	150,000	5,250	Critical to implement pandemic response such as providing vaccinations and managing / monitoring response activities
		Key government leaders		0	Preserving decision-making capacity also critical for managing and implementing a response
2	A	Healthy 65 years and older	17,700,000	619,500	Groups that are also at increased risk but not as high risk as population in Tier 1B
		6 months to 64 years with 1 high-risk condition	35,800,000	1,253,000	
		6-23 months old, healthy	5,600,000	196,000	
	B	Other public health emergency responders	300,000	10,500	Includes critical infrastructure groups that have impact on maintaining health (e.g., public safety or transportation of medical supplies and food); implementing a pandemic response; and on maintaining societal functions
		Public safety workers including police, fire, 911 dispatchers, and correctional facility staff	2,990,000	104,650	
		Utility workers essential for maintenance of power, water, and swewage system functioning	364,000	12,740	
		Transportation workers transporting fuel, water, food, and medical supplies as well as public ground transportation	3,800,000	133,000	
		Telecommunications / IT for essential network operations and maintenance	1,080,000	37,800	
3		Other key government health decision-makers		0	Other important societal groups for a pandemic response but of lower priority
		Funeral directors / embalmers	62,000	2,170	
4		Healthy persons aged 2-64 years not included in above categories	179,300,000	6,275,500	All persons not included in other groups based on objective to vaccinate all those who want

				protection

ANTIVIRALS

Group	Estimated population (U.S.)	Strategy*	# Courses (U.S.)		Estimated Population (MI=U.S.*3.5%)	# Courses (MI=U.S.*3.5%)		Rationale
			For target group	Cumulative		For target group	Cumulative	
1 Patients admitted to hospital	10,000,000	T	7,500,000	7,500,000	350,000	262,500	262,500	Consistent with medical practice and ethics to treat those with serious illness and who are most likely to die
2 Health care workers (HCW) with direct patient contact and emergency medical service (EMS) providers	9,200,000	T	2,400,000	9,900,000	322,000	84,000	346,500	Healthcare workers are required for quality medical care. There is little surge capacity among healthcare sector personnel to meet increased demand
3 Highest risk outpatients - immunocompromise persons and pregnant women	25,000,000	T	700,000	10,600,000	875,000	24,500	371,000	Groups at highest risk of hospitalization and death; immunocompromised cannot be protected by vaccination.
4 Pandemic health responders (public health, vaccinators, vaccine and antiviral manufacturers), public safety (police, fire, corrections), and government decision-makers	3,300,000	T	900,000	11,500,000	115,500	31,500	402,500	Groups are critical for an effective public health response to a pandemic

5	Increased risk outpatients - young children 12-23 months old, persons 65 years old and over, and persons with underlying medical conditions	85,500,000	T	22,400,000	33,900,000	2,992,500	784,000	1,186,500	Groups are at high risk for hospitalization and death
6	Outbreak response in nursing homes and other residential settings	N/A	PEP	2,000,000	35,900,000	N/A	70,000	1,256,500	Treatment of patients and prophylaxis of contacts is effective in stopping outbreaks; vaccination priorities do not include nursing home residents
7	HCWs in emergency departments, intensive care units, dialysis centers, and EMS providers	1,200,000	P	4,800,000	40,700,000	42,000	168,000	1,424,500	These groups are most critical to an effective healthcare response and have limited surge capacity. Prophylaxis will best prevent absenteeism.
8	Pandemic societal responders (e.g., critical infrastructure groups as defined in the vacine priorities) and HCW without direct patient contact	10,200,000	T	2,700,000	43,400,000	357,000	94,500	1,519,000	Infrastructure groups that have impact on maintaining health, implementing a pandemic response, and maintaining societal functions
9	Other outpatients	180,000,000	T	47,300,000	90,700,000	6,300,000	1,655,500	3,174,500	Includes others who develop influenza and do not fall within the above groups
10	Highest risk outpatients - immunocompromised persons and pregnant women	2,500,000	P	10,000,000	100,700,000	87,500	350,000	3,524,500	Prevents illness in the highest risk groups for hospitalization and death.
11	Other HCWs with direct patient contact	8,000,000	P	32,000,000	132,700,000	280,000	1,120,000	4,644,500	Prevention would best reduce absenteeism and preserve optimal function

*Strategy: Treatment (T) requires a total of 10 capsules and is defined as 1 course. Post-exposure prophylaxis (PEP) also requires a single course. Prophylaxis (P) is assumed to require 40 capsules (4 courses) though more may be needed if community outbreaks last for a longer period.

Attachment 6

MCIR All Hazards Scan Form
Please Fax to 1-888-778-6247
Please print clearly in capital letters and use black ink.
All dates are in the form of MM/DD/YYYY

Provider ID: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Hazard: ☐☐

PATIENT INFORMATION

Last Name: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

First Name: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Middle Init: ☐ Suffix ☐☐☐☐☐☐☐☐☐☐

Birth Date: ☐☐/☐☐/☐☐☐☐

Gender: ☐Male ☐Female

Street: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

City: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

State/Prov: ☐☐ Zip Code: ☐☐☐☐☐☐☐☐☐

Country: ☐☐☐ County Nbr (USA Only) ☐☐

Phone: (☐☐☐) ☐☐☐-☐☐☐☐

Patient ID: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

VACCINE ADMINSTRATION

Admin Date: ☐☐/☐☐/☐☐☐☐

Vaccine Cd: ☐☐☐ Mfr Code: ☐☐☐

Lot Number: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

VIS Date: ☐☐/☐☐/☐☐☐☐

Recip Tier: ☐☐☐☐

ANTIVIRAL ADMINISTRATION

Admin Date: ☐☐/☐☐/☐☐☐☐

Drug Code: ☐☐☐ Mfr Code: ☐☐☐

Prophylaxis: ☐Yes ☐No

Recip Tier: ☐☐☐☐

Attachment 7
Antiviral Standing Orders

STANDING ORDERS FOR OSELTAMIVIR PHOSPHATE (TAMIFLU)

OVERVIEW

- Influenza is a contagious respiratory illness caused by Influenza type A virus (which is divided into subtypes based on two surface proteins labeled hemagglutinin (H) and neuraminidase (N)) and Influenza B virus.
- Influenza can cause mild to severe illness and, at times, can lead to death.
- Antiviral drugs for influenza are an adjunct to influenza vaccine for controlling and preventing influenza.
- Controlled clinical trials have demonstrated the efficacy of oseltamivir, a neurominidase inhibitor, in reducing symptom duration when used for treatment of influenza infections in both influenza type A and B viruses in patients 1 year and older.
- Oseltamivir is also indicated for the prophylaxis of influenza in patients 1 year and older (December 22, 2005 FDA approved oseltamivir prophylaxis for children 1 to 12 years of age who had close contact with an infected individual).
- Oseltamivir blocks the active site of the influenza viral enzyme neuraminidase, which is common to both influenza A and influenza B viruses. This effect results in viral aggregation at the host cell surface and reduces the number of viruses released from the infected cell.
- When used within 48 hours of illness onset, oseltamivir decreases shedding and reduce the duration of influenza symptoms by approximately 1 day compared with placebo. Summary results from randomized, placebo-controlled double-blinded studies of oseltamivir showed a significant reduction in influenza related lower respiratory tract complications (pneumonia and bronchitis) associated with antibiotic use and a significant reduction in hospitalizations. These impacts occurred in both healthy and high-risk adolescents and adults. No studies have assessed the impact of antiviral drug therapy on mortality.

Clinical Features

- Influenza viruses are spread from person-to-person primarily through the coughing and sneezing of infected persons.
- The typical incubation period for influenza is 1–4 days, with an average of 2 days.
- Adults can be infectious from the day before symptoms begin through approximately 5 days after illness onset.
- Children can be infectious for $\geq$ 10 days, and young children can shed virus for several days before their illness onset.
- Severely immunocompromised persons can shed virus for weeks or months.
- Symptoms of influenza include:
    - fever (usually high)
    - headache
    - extreme tiredness
    - dry cough
    - sore throat
    - runny or stuffy nose

- muscle aches
- nausea, vomiting, and diarrhea can also occur but are more common in children than adults.

TREATMENT AND PROPHYLAXIS

- Any person experiencing a potentially life-threatening influenza-related illness should be treated with antiviral medications.
- Any person at high risk for serious complications of influenza and who is within the first 2 days of illness onset should be treated with antiviral medications.
- Pregnant women should consult their primary provider regarding use of influenza antiviral medications.
- Oseltamivir is indicated for the **treatment** of uncomplicated acute illness due to influenza infection in patients 1 year and older who have been symptomatic for no more than 2 days.
    - The recommended duration of treatment with oseltamivir is twice daily for 5 days.
- Oseltamivir is also indicated for the **prophylaxis** of influenza in patients 1 year and older who had close contact with an infected individual.
    - The recommended duration of prophylaxis following close contact with an infected individual is once daily for 10 days. Therapy should begin within 2 days of exposure.
    - The recommended dose for prophylaxis during a community outbreak of influenza is 75 mg once daily. Safety and efficacy have been demonstrated for up to 6 weeks. The duration of protection lasts for as long as dosing is continued.
- The medication is supplied as 75-mg tablets and oral suspension.
- The medication may be taken with or without food. However, when taken with food tolerability may be enhanced in some patients.

TABLE 1: Treatment for adults and children at least 13 years old

Age	Dosage	Duration
Adults and Adolescents (13 years and older)	75 mg twice daily	5 Days

TABLE 2: Treatment for children 1 year of age or older: Weight adjusted doses

Body Weight in kg	Body Weight in lbs	DOSAGE	DURATION
≤15 kg	≤33 lbs	30 mg twice daily	5 Days
>15 to 23 kg	>33 lbs to 51 lbs	45 mg twice daily	5 Days
>23 to 40 kg	>51 lbs to 88 lbs	60 mg twice daily	5 Days
>40 kg	>88 lbs	75 mg twice daily	5 Days

TABLE 3: Prophylaxis for Adults and Children at Least 13 Years Old

Age	Dosage	Duration
Adults and Adolescents (13 years and older)	75 mg once daily	10 Days

TABLE 4: Prophylaxis for children 1 year of age or older: Weight adjusted doses

Body Weight in kg	Body Weight in lbs	DOSAGE	DURATION
≤15 kg	≤33 lbs	30 mg once daily	10 Days
>15 to 23 kg	>33 lbs to 51 lbs	45 mg once daily	10 Days

>23 to 40 kg	>51 lbs to 88 lbs	60 mg once daily	10 Days
>40 kg	>88 lbs	75 mg once daily	10 Days

- **Special Dosage Instructions**
  - A reduction in the dose of oseltamivir is recommended for persons with creatinine clearance 10-30 ml/min. For treatment of influenza the recommendation is 75 mg once daily for 5 days. For prophylaxis the recommendation is 75 mg every other day or 30 mg oral suspension every day.
  - No recommended dosing regimens are available for patients undergoing routine hemodialysis and continuous peritoneal dialysis treatment with end-stage renal disease.
  - The safety and pharmacokinetics in patients with hepatic impairment have not been evaluated.
  - No dose adjustment is required for geriatric patients.

- **Dosing Instructions For Patients Using Oral Suspension:**
  - An oral dosing dispenser with 30 mg, 45 mg, and 60 mg graduations is provided with the oral suspension.
  - Shake closed bottle well for about 5 seconds before each use.
  - Remove child-resistant cap.
  - Before inserting the tip of the oral dispenser into bottle adapter, push the plunger completely down toward the tip of the oral dispenser. Insert tip firmly into opening of the bottle adapter.
  - Turn the entire unit (bottle and oral dispenser) upside down.
  - Pull the plunger out slowly until the desired amount of medication is withdrawn into the oral dispenser. The 75 mg dose is obtained by filling the dispenser twice, once to the 30 mg graduation, and a second fill to the 45 mg graduation.
  - Turn the entire unit right side up and remove the oral dispenser slowly from the bottle.
  - Dispense directly into mouth. Do not mix with any liquid prior to dispensing.
  - Close bottle with child-resistant cap after each use.
  - Disassemble oral dispenser, rinse under running tap water and air dry prior to next use.
  - In the event that the dispenser provided is lost or damaged, another dosing syringe or other device may be used to deliver the following volumes: 2.5 mL (1/2 teaspoon) for children ≤15 kg, 3.8 mL (3/4 teaspoon) for >15 to 23 kg, 5.0 mL (1 teaspoon) for >23 to 40 kg, and 6.2 mL (1 ¼ teaspoons) for >40 kg.

CONTRAINDICATIONS, DRUG INTERACTIONS, AND ADVERSE EVENTS

- *The dose and safety precautions for oseltamivir can change over time. Clinicians should seek the most current and comprehensive product information before using this drug as treatment or prophylaxis for influenza.*
- **Oseltamivir Contraindications:**
  - Oseltamivir is contraindicated in patients with known hypersensitivity to any of the components of the product
- **Oseltamivir Precautions:**

  - There are limited data about the use of neuraminidase inhibitors during pregnancy. Oseltamivir should only be used during pregnancy if the potential benefit justifies the potential risk to the fetus.
  - It is not known whether oseltamivir or oseltamivir carboxylate is excreted in human milk. Therefore oseltamivir should only be used if the potential benefit for the lactating mother justifies the potential risk to the breast-fed infant.
- **Oseltamivir Drug Interactions:**
  - Live attenuated influenza vaccine
  - Limited clinical data are available regarding drug interactions with oseltamivir. Because oseltamivir and oseltamivir carboxylate are excreted in the urine by glomerular filtration and tubular secretion via the anionic pathway, a potential exists for interaction with other agents excreted by this pathway. For example, coadministration of oseltamivir and probenecid resulted in reduced clearance of oseltamivir carboxylate by approximately 50% and a corresponding approximate twofold increase in the plasma levels of oseltamivir carboxylate.
- Oseltamivir Adverse Events:
  - Oseltamivir was approved in 1999, and therefore clinical experience to assess adverse effects is limited.
  - Oseltamivir has been associated with nausea, vomiting, bronchitis, insomnia, and vertigo during controlled treatment studies compared with placebo.
  - **Few serious CNS adverse effects have been reported for the neuraminidase inhibitor drugs.**

INFECTION CONTROL AND ENVIRONMENTAL DECONTAMINATION

- Infection control in healthcare facilities
  - Use **Standard** and **Droplet Precautions** for infected individuals; only use **Airborne Precautions** if clinically indicated
  - Standard precautions are recommended for environmental cleanup.
  - Use an Environmental Protection Agency (EPA)-registered household disinfectant labeled for activity against bacteria and viruses, an EPA-registered hospital disinfectant, or EPA-registered chlorine bleach/hypochlorite solution.
  - When generic (i.e., store brand) chlorine bleach is used, mix 2.5 tablespoons chlorine bleach with 1 gallon of cool water (1:100 dilution).
- Infection control in the community:
  - Avoid close contact with persons who are ill
  - Stay home from work and school when ill
  - Attempt containment of the virus by covering your mouth and nose when coughing and sneezing
  - Avoid touching your eyes, nose and mouth to prevent possible contamination.
  - Practice frequent hand washing
  - Get your annual flu shot every year

REFERENCES

- CDC. Prevention and control of influenza. Recommendations of the Advisory Committee on Immunizations Practices (ACIP). MMWR 2003;52(RR-8):1-34.
- CDC. Neuraminidase inhibitors for treatment of influenza A and B infections. MMWR 1999;48:RR-14.

- Cooper NJ, Sutton AJ, Abrams KR, Wailoo A, Turner DA, Nicholson KG. Effectiveness of neuraminidase inhibitors in treatment and prevention of influenza A and B: systematic review and meta-analyses of randomized controlled trials. British Med J 2003;326:1-7.
- Demicheli V, Jefferson T, Rivetti D, Deeks J. Prevention and early treatment of influenza in healthy adults. Vaccine 2000;18:957-1030.
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- Kaiser L, Wat C, Mills T, Mahoney P, Ward P, Hayden F. Impact of oseltamivir treatment on influenza-related lower respiratory tract complications and hospitalizations. Arch Intern Med 2003;163:1667-1672.
- Uyeki TM. Influenza diagnosis and treatment in children: a review of studies on clinically useful tests and antiviral treatment for influenza. Pediatr Infect Dis J 2003;22:164-177.
- For more information, visit www.cdc.gov/flu or call the CDC Flu Information Line at 800-CDC-INFO (English and Spanish) or 888-232-6358 (TTY).
- Oseltamivir is manufactured by Hoffman-LaRoche, Inc. (Tamiflu I — tablet). Information found at www.rocheusa.com/products/tamiflu/pi.pdf.

ATTACHMENT 7-A
STANDING ORDERS FOR RIMANTADINE HYDROCHLORIDE

OVERVIEW

- Influenza is a contagious respiratory illness caused by Influenza type A virus (which is divided into subtypes based on two surface proteins labeled hemagglutinin (H) and neuraminidase (N)) and Influenza B virus.
- Influenza can cause mild to severe illness, and at times, can lead to death.
- The risks for complications, hospitalizations, and deaths from influenza are higher among persons aged among persons aged ≥65 years, young children, and persons of any age with certain underlying health conditions than among healthy older children and younger adults.
- Antiviral drugs for influenza are an adjunct to influenza vaccine for controlling and preventing influenza.
- Rimantadine was approved in 1993 for treatment and chemoprophylaxis of influenza A infection among adults and prophylaxis among children.
- Rimantadine **treatment** should be considered for adults who develop an influenza-like illness during known or suspected influenza A infection in the community. When administered within 48 hours after onset of signs and symptoms of infection caused by influenza A virus strains, rimantadine has been shown to reduce the duration of fever and systemic symptoms.
- In controlled studies of children over the age of 1 year, healthy adults and elderly patients, rimantadine has been shown to be safe and effective in **preventing** signs and symptoms of infection caused by various strains of influenza A virus.
- Although rimantadine is approved only for chemoprophylaxis of influenza A infection among children, rimantadine treatment for influenza A among children can be beneficial.

CLINICAL FEATURES

- Influenza viruses are spread from person-to-person primarily through the coughing and sneezing of infected persons.
- The typical incubation period for influenza is 1–4 days, with an average of 2 days.
- Adults can be infectious from the day before symptoms begin through approximately 5 days after illness onset.
- Children can be infectious for ≥ 10 days, and young children can shed virus for several days before their illness onset.
- Severely immunocompromised persons can shed virus for weeks or months.
- Symptoms of influenza include:
    - fever (usually high)
    - headache
    - extreme tiredness
    - dry cough
    - sore throat
    - runny or stuffy nose
    - muscle aches
    - nausea, vomiting, and diarrhea can also occur but are more common in children than adults.

TREATMENT AND PROPHYLAXIS

- Any person experiencing a potentially life-threatening influenza-related illness should be treated with antiviral medications.
- Any person at high risk for serious complications of influenza and who is within the first 2 days of illness onset should be treated with antiviral medications.
- Pregnant women should consult their primary provider regarding use of influenza antiviral medications.
- Rimantadine is indicated for the **treatment** of uncomplicated acute illness caused by various strains of influenza A virus in **adults** who have been symptomatic for no more than 2 days. It is also indicated for the **prophylaxis** against influenza A in **adults and children over 1 year of age**.
- The medication is supplied as a tablet and as a syrup for oral administration. Each tablet contains 100 mg of rimantadine hydrochloride and each teaspoonful (5 mL) of the syrup contains 50 mg of rimantadine hydrochloride.

TABLE 1: Recommended treatment of influenza with rimantadine

Age[a]	Dosage	Duration
Adults age 13-64[b]	100 mg twice daily[c and d]	7 days from initial onset of symptoms[e]
Adults ≥65 [b]	100 mg daily[f]	7 days from initial onset of symptoms

[a]Only approved by FDA for treatment among adults.
[b]A reduction in dosage to 100 mg/day of rimantadine is recommended for persons who have severe hepatic dysfunction or those with creatinine clearance of ≤10 mL/min. Other persons with less severe hepatic or renal dysfunction taking 100mg/day of rimantadine should be observed closely, and the dosage should be reduced or the drug discontinued, if necessary.
[c]Children aged ≥ 10 years who weigh<40 kg should be administered rimantadine at a dosage of 5 mg/kg body weight/day
[d]Rimantadine is approved by FDA for treatment among adults. However, certain specialists in the management of influenza consider rimantadine appropriate for treatment among children. Studies evaluating the efficacy of rimantadine in children are limited, but they indicate that treatment with rimantadine diminishes the severity of influenza A infection when administered within 48 hours of illness onset.
[e]**To reduce the emergence of antiviral drug-resistant viruses rimantadine therapy for persons with influenza A illness should be discontinued as soon as clinically warranted, typically after 3—5 days of treatment or within 24—48 hours after the disappearance of signs and symptoms.**
[f]**Older nursing home residents should be administered only 100 mg/day of rimantadine. A reduction in dosage to 100 mg/day should be considered for all persons aged ≥65 years, if they experience possible side effects when taking 200 mg/day.**

TABLE 2: Recommended prophylaxis of influenza with rimantadine

Age	Dosage	Duration
1-9[a]	5mg/kg/day (up to 150 mg) in 2 divided doses[b]	Following vaccination, 2 to 4 week period to develop an antibody response. To be maximally effective as prophylaxis, the drug must be taken each day for the duration of influenza activity in the community[d]
10-64[a]	100 mg twice daily[b and c]	Following vaccination, 2 to 4 week period to develop an antibody response. To be maximally effective as prophylaxis, the drug must be taken each day for the duration of influenza activity in the community[d]

≥65 [a]	100 mg daily[e]	Following vaccination, 2 to 4 week period to develop an antibody response. To be maximally effective as prophylaxis, the drug must be taken each day for the duration of influenza activity in the community[d]

[a]A reduction in dosage to 100 mg/day of rimantadine is recommended for persons who have severe hepatic dysfunction or those with creatinine clearance of ≤10 mL/min. Other persons with less severe hepatic or renal dysfunction taking 100mg/day of rimantadine should be observed closely, and the dosage should be reduced or the drug discontinued, if necessary.
[b]5 mg/kg body weight of rimantadine syrup = 1 teaspoon/2.2 lbs.
[c]Children aged ≥ 10 years who weigh<40 kg should be administered rimantadine at a dosage of 5 mg/kg body weight/day
[d]The safety and effectiveness of rimantadine prophylaxis have not been demonstrated for longer than 6 weeks.
[e]**Older nursing home residents should be administered only 100 mg/day of rimantadine. A reduction in dosage to 100 mg/day should be considered for all persons aged ≥65 years, if they experience possible side effects when taking 200 mg/day.**

CONTRAINDICATIONS, DRUG INTERACTIONS, AND ADVERSE EVENTS

- *The dose and safety precautions for rimantadine can change over time. Clinicians should seek the most current and comprehensive product information before using this drug as treatment or prophylaxis for influenza.*
- **Rimantadine Contraindications**
  - Rimantadine is contraindicated in patients with known hypersensitivity to any of the components of the product.
  - Precautions:
    - In clinical trials of rimantadine, the occurrence of seizure-like activity was observed in a small number of patients with a history of seizures who were not receiving anticonvulsant medication while taking rimantadine. If seizures develop, rimantadine should be discontinued.
    - The safety and pharmacokinetics of rimantadine in renal and hepatic insufficiency have only been evaluated after single-dose administration. Because of the potential for accumulation of rimantadine and its metabolites in plasma, caution should be exercised when patients with renal or hepatic insufficiency are treated with rimantadine. (Fix spacing below)
    - No clinical studies have been conducted regarding the safety or efficacy or rimantadine during pregnancy. Rimantadine should only be used during pregnancy if the potential benefit justifies the potential risk to the embryo or fetus.
    - Rimantadine should not be administered to nursing mothers. Consideration for use must weigh the potential benefit for the mother versus the potential risk to the nursing infant/child.

- **Rimantadine Drug Interactions:**
  - Live-attenuated influenza vaccine
  - The use of cimetidine, acetaminophen and aspirin have shown to reduce the plasma concentration of rimantadine when coadministered.
- Rimantadine Adverse Events**:**
  - Gastrointestinal side effects (nausea, vomiting, anorexia, dry mouth, and abdominal pain) were reported in controlled clinical trials using the recommended dose.

- CNS side effects reported were insomnia, dizziness, headache, nervousness and fatigue using the recommended dose.

INFECTION CONTROL AND ENVIRONMENTAL DECONTAMINATION

- Infection control in healthcare facilities
  - Use **Standard** and **Droplet Precautions** for infected individuals; only use **Airborne Precautions** if clinically indicated
  - Standard precautions are recommended for environmental cleanup.
  - Use an Environmental Protection Agency (EPA)-registered household disinfectant labeled for activity against bacteria and viruses, an EPA-registered hospital disinfectant, or EPA-registered chlorine bleach/hypochlorite solution.
  - When generic (i.e., store brand) chlorine bleach is used, mix 2.5 tablespoons chlorine bleach with 1 gallon of cool water (1:100 dilution).
- Infection control in the community:
  - Avoid close contact with persons who are ill
  - Stay home from work and school when ill
  - Attempt containment of the virus by covering your mouth and nose when coughing and sneezing
  - Avoid touching your eyes, nose and mouth to prevent possible contamination.
  - Practice frequent hand washing
  - Get your annual flu shot every year

REFERENCES

- CDC. Antiviral agents for influenza: background information for clinicians. Fact Sheet March 31, 2006. 1-6.
- CDC. Prevention and control of influenza. Recommendations of the Advisory Committee on Immunizations Practices (ACIP). MMWR July 13, 2005;54 (Early Release):1-40.
- Rimantadine Product Information Sheet

Attachment 7-B
STANDING ORDERS FOR ZANAMIVIR (RELENZA)

OVERVIEW

- Influenza is a contagious respiratory illness caused by Influenza type A virus, divided into subtypes based on two surface proteins labeled hemagglutinin (H) and neuraminidase (N), and Influenza B virus.
- Influenza can cause mild to severe illness, and at times, can lead to death.
- The risks for complications, hospitalizations, and deaths from influenza are higher among persons aged ≥65 years, young children, and persons of any age with certain underlying health conditions than among healthy older children and younger adults.
- Antiviral drugs for influenza are an adjunct to influenza vaccine for controlling and preventing influenza.
- Controlled clinical trials have demonstrated the efficacy of zanamivir, a neuraminidase inhibitor, in reducing symptom duration when used for treatment of influenza infections in both influenza type A and B viruses in patients 7 years and older who have been symptomatic for no more than 2 days.

CLINICAL FEATURES

- Influenza viruses are spread from person-to-person primarily through the coughing and sneezing of infected persons.
- The typical incubation period for influenza is 1–4 days, with an average of 2 days.
- Adults can be infectious from the day before symptoms begin through approximately 5 days after illness onset.
- Children can be infectious for ≥ 10 days, and young children can shed virus for several days before their illness onset.
- Severely immunocompromised persons can shed virus for weeks or months.
- Symptoms of influenza include:
    - fever (usually high)
    - headache
    - extreme tiredness
    - dry cough
    - sore throat
    - runny or stuffy nose
    - muscle aches
    - nausea, vomiting, and diarrhea, also can occur but are more common in children than adults.

TREATMENT AND PROPHYLAXIS

- Any person experiencing a potentially life-threatening influenza-related illness should be treated with antiviral medications.
- Any person at high risk for serious complications of influenza and who is within the first 2 days of illness onset should be treated with antiviral medications.
- Pregnant women should consult their primary provider regarding use of influenza antiviral medications.

- Zanamivir is indicated for the **treatment** of uncomplicated acute illness due to influenza A and B virus in **adults and pediatric patients 7 years and older** who have been symptomatic for no more than 2 days.
- Zanamivir is indicated for the **prophylaxis** of influenza in adults and pediatric patients **5 years of age and older** in a **household setting.**
- Zanamivir is indicated for the prophylaxis for **adults and adolescents** in **community outbreaks**.
- The medication is supplied in a circular double-foil pack (ROTADISK) containing 4 blisters of the drug. Five ROTADISKS are packaged in a white polypropylene tube. The tube is packaged in a carton with a DISKHALER inhalation device.

TABLE 1: RECOMMENDED TREATMENT OF INFLUENZA WITH ZANAMIVIR

Age	Dosage	Duration
Adults and children 7 years and older	10 mg twice daily (2 oral inhalations twice daily) [a]	5 Days

TABLE 2: Recommended prophylaxis for influenza *in a household setting*

Age	Dosage	Duration
Adults and children 5 years and older	10 mg once daily (2 oral inhalations)[a]	10 days[b]

TABLE 3: Recommended prophylaxis for influenza *in a community outbreak*

Age	Dosage	Duration
Adults and adolescents	10 mg once daily (2 oral inhalations)[a]	28 days[c]

[a]Zanamivir administered through inhalation by using a plastic device included in the medication package. Patients will benefit from instruction and demonstration of the correct use of the device (See below for instructions).
[b]The dose should be administered at approximately the same time each day. There are no data on the effectiveness of prophylaxis with zanamivir in a household setting when initiated more than 1.5 days after the onset of signs or symptoms in the index case.
[c]The dose should be administered at approximately the same time each day. There are no data on the effectiveness of prophylaxis with zanamivir in a community outbreak when initiated more than 5 days after the outbreak was identified in the community. The safety and effectiveness of prophylaxis with zanamivir have not been evaluated for longer than 28 days duration.

CONTRAINDICATIONS, DRUG INTERACTIONS, AND ADVERSE EVENTS

- *The dose and safety precautions for zanamivir can change over time. Clinicians should seek the most current and comprehensive product information before using this drug as treatment or prophylaxis for influenza.*
- **Zanamivir Contraindications:**
  - Zanamivir is contraindicated in patients with known hypersensitivity to any of the components of the product.
  - Warnings:
    - Zanamivir is not recommended for treatment or prophylaxis of influenza in individuals with underlying airways disease (such as asthma or chronic obstructive pulmonary disease). Zanamivir has not been shown to

shorten the duration of influenza in people with these diseases, and some people have had serious side effects of bronchospasm (wheezing) and worsening lung function.
    - Serious cases of bronchospasm, including fatalities, have been reported during treatment with zanamivir in patients with and without underlying airways disease.
    - Zanamivir should be discontinued in any patient who develops bronchospasm or decline in respiratory function; immediate treatment should be sought.
    - If treatment with zanamivir is considered for a patient with underlying airway disease, the potential risks and benefits should be carefully weighed. If a decision is made to prescribe zanamivir for such a patient, this should be done only under conditions of careful monitoring of respiratory function, close observation, and appropriate supportive care including availability of fast-acting bronchodilators.
- **Zanamivir Precautions:**
    - Patients should be instructed in the use of the delivery system. Instructions should include a demonstration whenever possible.
    - Allergic-like reactions, including oropharyngeal edema, serious skin rashes, and anaphylaxis have been reported in post-marketing experience with zanamivir. The medication should be stopped and appropriate treatment instituted if an allergic reaction occurs or is suspected.
    - Safety and efficacy have not been demonstrated in patients with high-risk underlying medical conditions.
    - The use of zanamivir for treatment of influenza has not been show to reduce the risk of transmission of influenza to others.
    - There are no adequate and well-controlled studies of zanamivir in pregnant women. Zanamivir should be used during pregnancy only if the potential benefit justifies the risk to the embryo or fetus.
    - It is not known if whether zanamivir is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when zanamivir is administered to a nursing mother.
- **Zanamivir Drug Interactions:**
    - Live attenuated influenza vaccine
- **Zanamivir Adverse Events:**
    - The most common side effects during treatment with zanamivir in adults and adolescents are headache; diarrhea; nausea; vomiting; nasal irritation; bronchitis; cough; sinusitis; ear, nose and throat infections; and dizziness.
    - In children, the most common side effects are ear, nose and throat infections; vomiting; and diarrhea.
    - Rashes have been reported.

INFECTION CONTROL AND ENVIRONMENTAL DECONTAMINATION

- Infection control in healthcare facilities
    - Use **Standard** and **Droplet Precautions** for infected individuals; only use **Airborne Precautions** if clinically indicated
    - Standard precautions are recommended for environmental cleanup.

  - Use an Environmental Protection Agency (EPA)-registered household disinfectant labeled for activity against bacteria and viruses, an EPA-registered hospital disinfectant, or EPA-registered chlorine bleach/hypochlorite solution.
  - When generic (i.e., store brand) chlorine bleach is used, mix 2.5 tablespoons chlorine bleach with 1 gallon of cool water (1:100 dilution).
- Infection control in the community:
  - Avoid close contact with persons who are ill
  - Stay home from work and school when ill
  - Attempt containment of the virus by covering your mouth and nose when coughing and sneezing
  - Avoid touching your eyes, nose and mouth to prevent possible contamination.
  - Practice frequent hand washing
  - Get your annual flu shot every year

REFERENCES

- CDC. Antiviral agents for influenza: background information for clinicians. Fact Sheet March 31, 2006. 1-6.
- CDC. Prevention and control of influenza. Recommendations of the Advisory Committee on Immunizations Practices (ACIP). MMWR July 13, 2005;54 (Early Release):1-40.
- Zanamivir product information sheet

ATTACHMENT 8
DRAFT MDCH Emergency Action Guidelines April 16, 2007

WHO PHASE 4: small localized clusters of human-to-human transmission in within one Region

USG Stage 2: Confirmed human outbreak overseas (novel strain influenza)

Command and Management: (address facility mgmt and where work occurs)

- Preliminary Assessment Team reports to Executive Staff- situational awareness report for possible Operations Center Activation (CHECC)-CHECC in Watch Mode
- MDCH is in Alert Mode for Non-Pharmaceutical Measure implementation (NPI)
- Ensure inter-pandemic and pandemic alert activities/responses accomplished or in place
- Review COOPs, complete cross-training

Communications: (address internal and external communications and tools used)

- Ensure maximum outreach to healthcare partners with MI-HAN, websites, press, hotlines, etc., to update, stakeholders
- Develop key messages (PIO, RCC), Disseminate messages to educate the public on how to control the spread of pandemic influenza (MDCH PIO, RCC, Director MDCH Publications, Communication team, Private Contractor)
- Coordinate the utilization of the CDC Public Response Service (Communications Team)
- Identify and train the pandemic influenza subject matter spokespersons (MDCH PIO)
- During this preparedness phase state and local public health agencies should:
    1. Keep communities informed of the seriousness of novel strain and pandemic influenza and what they should do to prepare. Inform the public of state strategies and response limitations such as effectiveness of quarantine, isolation and priority distribution of limited medications such as antivirals to health workers and other first responders before the general public
    2. Institute programs which promote good hygiene practices in schools, workplaces and other public places
    3. Prepare emergency messages to reach all communities including the non-English speaking and persons with special needs
    4. Disseminate messages about risk from animals of novel strain influenza to humans

Human Resources: (address HR tools and absenteeism)

- Review COOPs-all staff
- Educate staff re the impact of pandemic influenza on MDCH (Management of Human Capital) Alternate work sites/Telecommuting, Modification of Assigned Duties, Cross-Training of Personnel, Conversion to 24/7 operations – department-wide, Rotation of Staff, Just-in-time Training for personnel and Managing an unpredictable work force and environment.
- Ensure understanding of impact of pandemic influenza on MDCH employees (Professional/Personal Preparedness)
    - Family Emergency Preparedness Plan (mandatory departmental training)
    - Job Go-Kits with critical document and equipment
    - Employee awareness of their 24/7 roles/responsibilities in PH emergency response
- Establish/implement policies to be implemented during a period of pandemic
    - Inter-agency mutual aid agreements to augment essential functions
    - Departmental policies to recognize and support employees who demonstrate extraordinary commitment in time of public health emergency.

Employee Health/Well-being: (address need to protect employees if needed)

- Allocate resources to protect MDCH employees during a pandemic
- Enhance stockpiles for employee/public protection if possible,
- Communicate/educate MDCH employees re risk, self-protection, respiratory and hand hygiene

- Ensure all employees aware of Safe Worker Practices

Response: (address departments response as needed)

Surveillance:

- Approval of human specimens by BOE before being tested at BOL
- Individual case reports of suspect novel strain influenza
- Enhance active and passive influenza surveillance, for seasonal, novel strain or pandemic strains.
- Updates from MDA and MDNR and USDA regarding animal risks/activity of novel strain
- Request enhanced sentinel laboratory and physician reporting
- Report surveillance information to CDC weekly and as requested
- Regular updates with Detroit Quarantine Officer at Detroit Metro
- Weekly MIFluFocus surveillance reporting, more frequently as needed
- Update case definitions and recommendations for enhanced surveillance per CDC/WHO guidelines and inform local health departments and healthcare providers
- Update clinical management guidelines and inform healthcare partners
- Facilitate increased testing and frequency of reporting of virologic data
- Forward subsets of specimens to CDC as requested for antigenic/genetic monitoring
- Prepare for state and local collection of influenza-related mortality
- Finalize development of Outbreak Management and Countermeasure Response monitoring systems

Laboratory:

- Maintain situational awareness; continue to develop testing capacity, stockpile reagents and refine surge capacity plan
- Testing of human specimens only upon approval by BOE

Community Containment:

- Update guidelines and disseminate to partners

Infection Control:

- Update precautions guidelines and disseminate to partners
- Based on risk assessment, stockpile personal protective equipment and hand sanitizers
- Counsel those at risk for animal exposures

Medical Management::

- Pre-deployment of antiviral caches (see Antiviral Distribution Plan, SNS Plan), close to healthcare facilities, and as recommended by CDC
- Consider other equipment pre-deployment to pre-determined locations

Assess status of vaccine development/distribution per CDC/DHHS

WHO PHASE 5: clusters of human-to-human transmission in within multiple regions

USG Stage 2: Confirmed human outbreak overseas (novel strain influenza)

Command and Management: (address facility mgmt. and where work occurs)

- Preliminary Assessment Team reports to Executive Staff, situational awareness report for possible Operations Center Activation (CHECC)-CHECC in Watch or Partial Activation Mode
- MDCH is in Alert mode for NPI
- Ensure inter-pandemic and pandemic alert activities/responses accomplished or in place.
- Review COOPs, complete cross-training

Communications: (address internal and external communications and tools used)

- Ensure maximum outreach to healthcare partners with MI-HAN, websites, press, hotlines, etc., to update, stakeholders
- Disseminate messages to educate the public on how to control the spread of pandemic influenza (MDCH PIO, RCC, Director MDCH Publications, Communication team, Private Contractor)
- Coordinate the utilization of the CDC Public Response Service (Communications Team)
- During this preparedness phase state and local public health agencies should:

1. Keep communities informed of the seriousness of pandemic influenza and what they should do to prepare. Inform the public of state strategies and response limitations such as effectiveness of quarantine, isolation and priority distribution of limited medications such as antivirals to health workers and other first responders before the general public
2. Maintain programs which promote good hygiene practices in schools, workplaces and other public places
3. Disseminate emergency messages to reach all communities including the non-English speaking and persons with special needs
4. Disseminate messages about risk of novel and/or impending pandemic influenza to population-ensure special populations reached

Human Resources: (address HR tools and absenteeism)

- See Phase 4, and
- Prepare for increased absenteeism on staff
- Assess sick leave/admin policies for employees
- Ensure capability for cross-training within agency
- Ensure compensation for those performing outside of job description
- Communicate with 3rd party insurance and relay to employees any pertinent information

Employee Health/Well-being: (address need to protect employees if needed)

- See Phase 4, and,
- Dispense PPE as appropriate to high-risk employees (Tier 1, refer to Safe Work Practice)
- Complete Respiratory, PPE and infection control training as appropriate
- Continue family and individual preparedness messaging

Response (as appropriate): (address departments response as needed)

Surveillance:

- Approval of specimens by BOE before being tested at BOL
- Individual case reports of suspect novel strain influenza
- Enhance active and passive influenza surveillance, for seasonal, novel strain or pandemic strains
- Request enhanced sentinel laboratory and physician reporting
- Report surveillance information to CDC weekly and as requested
- Regular updates with Detroit Quarantine Officer at Detroit Metro
- Weekly MIFluFocus surveillance reporting, more frequently as needed
- Update case definitions and recommendations for enhanced surveillance per CDC/WHO guidelines and inform local health departments and healthcare providers
- Update clinical management guidelines and inform healthcare partners
- Facilitate increased testing and frequency of reporting of virologic data
- Forward subsets of specimens to CDC as requested for antigenic/genetic monitoring
- Prepare for state and local collection of influenza-related mortality
- Test and prepare to activate Outbreak Management and Countermeasure Response monitoring surveillance systems

Laboratory:

- Maintain situational awareness.
- Continue to develop testing capacity
- Stockpile reagents and refine surge capacity plan
- Testing of human specimens only upon approval by BOE

Community Containment:

- Update guidelines and disseminate to partners

Infection Control:

- Update precautions guidelines and disseminate to partners
- Based on risk assessment, stockpile/disseminate personal protective equipment and hand sanitizer

Medical Management:

- Continue pre-deployment of all possible medical resources/equipment/supplies as able

- Assess antiviral cache pre-deployment to healthcare facilities and as recommended by CDC
- Assess status of vaccine development/distribution per CDC/DHHS
- Consider activation of All Hazard screen of MCIR

International/Border Travel:

- Update travel alerts and warnings per CDC

WHO PHASE 6: sustained human-to-human transmission throughout multiple regions
USG Stage 3:-widespread human outbreaks in multiple locations overseas

Command and Management: (address facility mgmt. and where work occurs)

- Executive Staff convenes Preliminary Assessment Team, situational awareness report for partial or full Operations Center Activation (CHECC)-CHECC in Partial Activation Mode
- MDCH is in Alert or Standby mode (depending upon PSI) for NPI
- Ensure inter-pandemic and pandemic alert activities/responses accomplished or in place.
- Complete review COOPs, complete cross-training,

Communications: (address internal and external communications and tools used)

- See Stage 5- regarding identified pandemic influenza strain
- If JIC Activated, operate according to SEOC (ICS) protocol
- Address rumor control

Human Resources: (address HR tools and absenteeism)

- See Phase 4 and 5, and,
- Continue employee education/risk messaging
- Update policies for sick or administrative leave as needed
- Assess potential gaps in critical functions
- Communicate with 3rd party insurance and relay to employees any pertinent information
- Address rumor control

Employee Health/Well-being: (address need to protect employees if needed)

- See Phase 4 and 5, and,
- Ensure adequate SWPs in place and employees understand personal risks
- Continue family and individual preparedness messaging, identify and repair gaps

Response (as appropriate): (address departments response as needed)

Surveillance:

- Same as Phase 5

Laboratory:

- Maintain situational awareness
- Continue to develop testing capacity
- Stockpile reagents and refine surge capacity plan
- Testing of human specimens only upon approval by BOE

Community Containment:

- Update guidelines and disseminate to partners

Infection Control:

- Update precautions guidelines and disseminate to partners
- Based on risk assessment, stockpile/disseminate personal protective equipment and hand sanitizer

Medical Management:

- Assess status of Regional MEMS preparations, coordinate as necessary

International/Border Travel:

- **Update travel alerts and warnings per CDC**

WHO PHASE 6: sustained human-to-human transmission throughout multiple regions

USG Stage 4: First human case in North America

Command and Management: (address facility mgmt. and where work occurs)
- If not done already, activate CHECC protocols and IMS-in Partial Activation Mode
- Coordination with SEOC, regional and local partners
- MDCH on Standby, or Activate Mode (if PSI= 4 or 5) for NPI

Communications: (address internal and external communications and tools used)
- Launch full scale public education campaign per the State of Michigan All Hazard Plan, Pandemic Influenza Plan and CHECC protocols
- Activate hotlines if not done so already

Human Resources: (address HR tools and absenteeism)
- Assess employee absenteeism/cross-training needs/preparedness
- Implement emergency policies as needed

Employee Health/Well-being: (address need to protect employees if needed)
- See Phases 5 and 6,Stage 3

Response (as appropriate): (address departments response as needed)

Surveillance;
- Enhance active and passive influenza surveillance for pandemic strain
- Approval of specimens by BOE before being tested at BOL.
- Activate outbreak management and isolation/quarantine management systems
- Distribute any traveler's alerts. date epidemiologic criteria as indicated for travelers to/from impacted areas

Laboratory:
- Maintain situational awareness
- Test human specimens upon approval by BOE
- Begin preparations for surge capacity testing at regional laboratories by sharing procedures, providing training (as needed) and planning for transfer of specimens
- Order additional reagents/supplies

Community Containment:
- Update guidelines and disseminate to partners
- Implement social distancing measures per Module V, and as recommended byDHHS/CDC

Infection Control
- Update precautions guidelines and disseminate to partners

Medical Management:

Deployment of all possible medical resources/equipment/supplies as able
- Activate All Hazard screen in MCIR.
- Antiviral cache deployment to healthcare facilities, if possible, and as recommended by CDC.
- Assess status of vaccine development per CDC/DHHS

International/Border Travel:
- Maintain situational awareness about travel alerts
- Regular contact with Canadian partners in Ontario regarding Canadian activity
- Maintain communications with State Pandemic Partners surrounding Michigan regarding influenza surveillance

WHO PHASE 6: sustained human-to-human transmission throughout multiple regions
USG Stage 5: Spread throughout US

Command and Management:
- **C**HECC fully activated**,** ICS used to manage the incident

- Activate COOP plans if needed
- Monitor agency wide on daily basis to identify number of staff available
- Predict future unavailability of staff
- MDCH is in Standby or Activate Mode for NPI

Communications:

- Continue to launch **a** full scale public education campaign per the State of Michigan All Hazard Plan, Pandemic Influenza Plan and SEOC/CHECC protocols (JIC)

Human Resources:

- Monitor stressors on staff
- Monitor absenteeism
- Assess adequacy of leave polices
- Monitor 3rd party insurance coverage

Employee Health/Well-being:

- Assess status of PPE use and stockpiles
- Communicate risks as in previous Phase EAGs

Response

Surveillance:

- Approval of specimens by BOE before being tested at BOL.
- Mitigate surge requests-transition to surveillance testing from diagnostic as indicated by activity within Michigan borders
- Update case definition as necessary
- Maintain enhanced passive, sentinel and active influenza surveillance
- Increase frequency of MIFluFocus reporting as needed. Mortality surveillance

Laboratory:

- Maintain situational awareness
- Begin surveillance testing and limit diagnostic testing with guidance from BOE
- Continue preparations for surge capacity testing at regional laboratories by sharing procedures, providing training (as needed) and planning for transfer of specimens
- Order additional reagents/supplies

Community Containment:

- Update guidelines and disseminate to partners
- Implement social distancing measures as needed, per Module V, and as recommended by DHHS/CDC

Infection Control:

- Update precautions guidelines and disseminate to partners
- Emphasize source control, patient and visitor triaging and clinical evaluation, patient placement isolation and cohorting, respiratory hygiene, enhanced occupational health surveillance for healthcare worker illness

Medical Management:

- Deployment of all possible medical resources/equipment/supplies as able
- Antiviral cache deployment to healthcare facilities
- Update recipient tiers dependent upon viral epidemiology and as recommended by CDC
- Assess status of vaccine development/distribution per CDC/DHHS, deploy if able

International/Border Travel:

- Maintain communications with State Pandemic Coordinators surrounding Michigan regarding influenza surveillance data

WHO PHASE 6: sustained human-to-human transmission throughout multiple regions
USG Stage 5: Spread throughout US and Michigan

Command and Management:

- CHECC fully activated. IMS per CHECC protocol.
- Activation of COOPS as needed
- State Epidemiologist (lead) provides Isolation/Quarantine recommendations to State Health Officer/MDCH Director and rest of CHECC Executive Committee
- Public Health orders as indicated, MDCH is in Activate Mode for NPI

Communications:

- Continue to launch **a** full scale public education campaign per the State of Michigan All Hazard Plan, Pandemic Influenza Plan and SEOC/CHECC protocols (JIC)

Human Resources:

- Monitor stressors on staff
- Monitor absenteeism
- Assess adequacy of leave polices
- Monitor 3rd party insurance coverage

Employee Health/Well-being:

- Assess status of PPE use and stockpiles
- Employee hygiene and social distancing regimes implemented.
- Special Human Resource rules should be considered and come into play (e.g. extra time off for looking after family member, sickness procedures altered
- PPE used by those who need it such as when customer facing staff or staff entering homes)
- Communicate risks as in previous Phase EAGs

Response

Surveillance:

- Epi Section assists local health department in investigation/evaluation of case
- Switch to aggregate reporting and inform LHDs
- Notify all healthcare partners and stakeholders of surveillance information
- Initiate active surveillance for further cases/contacts
- Update case definition as necessary
- Maintain enhanced passive, sentinel and active influenza surveillance as above
- Increase frequency of MIFluFocus reporting
- Implement state and local collection of influenza-related mortality data

Laboratory:

- Surveillance testing only at BOL and regional labs.
- Designated clinical labs perform diagnostic testing and report results to public health.
- Order additional reagents/supplies.
- May consider cessation of testing based on consultation with BOE.

Community Containment:

- State Health and Local Health Officers to assess need for quarantine of contacts, if this response is recommended by CDC (depends on virus characteristics)
- Continue social distancing measures as recommended by DHHS/CDC.

Medical Management:

- Ensure all facilities (use MI-HAN) to update all on current recommended barrier precautions/isolation recommendations for patients/personnel
- Emphasize source control, patient and visitor triaging and clinical evaluation, patient placement isolation and cohorting, respiratory hygiene, enhanced occupational health surveillance for healthcare worker illness
- Monitor stock of personal protective equipment and hand hygiene supplies and reorder as needed
- Regional Medical Director(s) to assess need for surge capacity measures for worried well, possible increased ill patients (MEMS), Activation of Regional MCCs as necessary
- Request for Strategic National Stockpile resources, including antiviral caches deployment, if necessary. (Lead, OPHP/State Health Officer/Governor) Assess status of vaccine development per CDC/DHHS

International/Border Travel:

- Maintain communications with Ontario and State Pandemic Coordinators surrounding Michigan regarding surveillance data

WHO PHASE 6: sustained human-to-human transmission throughout multiple regions
USG Stage 6: Recovery and preparation for subsequent waves

Command and Management

- Return CHECC to Watch or Alert Phase as indicated.
- Develop hotwash,
- After action report

Communications

- Communicate end of pandemic wave; alert population to risk of additional waves

Human Resources

- Asses impact staff, need for TISM
- Assess 3rd party payer/payee benefits
- Review leave policies and revise if necessary

Response

Surveillance:

- Collate aggregate date from first wave; assist CDC in acquisition of specimens, active and passive surveillance for recurrent pandemic strain activity indicative of additional wave
- Approve diagnostic and surveillance specimens for BOL

Laboratory:

- Approval of human specimens for testing by BOE, assess resources for testing and prepared for additional waves and need for surge capacity. Order additional reagents/supplies

Community Containment:

- Assess efficacy of community containment and social distancing measures

Infection control:

- Assess efficacy of Infection Control measures

Medical Management:

- Assess status of regional resources and stockpile/prepared for additional waves. Assess response of MCC's and regional and local medical surge capacity responses. Order additional supplies

International/Border Travel:

- Update travel alerts and warnings as needed

Attachment 9

October 25, 2006

Michigan Department of Community Health (MDCH) Pandemic Influenza Planning Bulletin: Infection Control Update

The Department of Health and Human Services (DHHS) has released *Interim Guidance on Planning for the Use of Surgical Masks and Respirators in Health Care Settings.* These guidelines address infection control **during an influenza pandemic** and are available at *http://www.pandemicflu.gov/plan/maskguidancehc.html.* This document augments and supersedes recommendations provided in Part 2 of the *HHS Pandemic Influenza Plan* (www.hhs.gov/pandemicflu/plan/#part2).

These updated guidelines continue to reinforce preparedness efforts to address both seasonal and pandemic influenza. Persons directly responsible for an Infection Control program within a health care setting should familiarize themselves with the entire document. As stated in the introduction, respiratory protection is one **component** of a system of **infection control practices** to prevent the spread of infection.

The prioritization of respirator use during a pandemic can be summarized as follows:

- N95 (or higher) respirators should be worn during medical activities that have a high likelihood of generating infectious respiratory aerosols (intubation, bronchoscopy etc.)
- Use of N-95 respirators for other direct care activities involving patients with confirmed or suspected pandemic influenza is also prudent (see guidance pg 5 for more complete explanation of this recommendation).

This interim guidance document will be updated and amended as new information about the epidemiologic characteristics of a pandemic influenza virus becomes available.

Careful review of *The Use of Surgical Masks and Respirators in Health Care Settings* section will provide critical information that should be used in developing facility-specific policies and procedures to address mask stockpiling and prioritization of use, as well as isolation capacity.

MDCH recommends that facilities ensure staff remain up-to-date on training and competency requirements associated with the use of personal protective equipment (http://www.cdc.gov/flu/professionals/infectioncontrol/healthcarefacilities.htm).

Recommendations for respiratory protection during a pandemic for persons in non-health care occupations, and for the general public, are currently being drafted at the federal level.

Attachment 10
Large Scale Mass Vaccination/Dispensing Clinic Functions

If a decision is made by public health officials and/or political leaders to offer vaccine/antivirals/antibiotics/antitoxin to all persons within a jurisdiction (local, regional or statewide plans for large-scale vaccination/dispensing clinics will be implemented at the local and regional level. This attachment is primarily meant to guide the planning and management of clinics that serve up to a thousand patients per day. Very large clinics (those serving several thousand patients per day) should be implemented using existing SNS plans.

Clinic functions are outlined here to assist local and regional public health response teams in their mass clinic planning. Key capabilities of such clinics include:

- Administering vaccine/ antiviral/ antibiotic/antitoxin to public health and health care response teams, emergency and first responder personnel.
- Provide a standardized method for documenting a vaccine "take" (positive reaction) if administering smallpox vaccine.
- Use of a standardized method for follow-up of adverse reactions.
- Referring patients with adverse reactions following vaccination or administration of antivirals/antibiotics or antitoxin.
- The ability of repeating the vaccination clinic to provide the vaccine/antiviral/antibiotic or antitoxin to newly exposed patients and patients whose first vaccine did not achieve a "take" in the use of smallpox

Clinic Operations and Management

- Each public health preparedness jurisdiction will identify potential clinic locations, which may be the same as SNS dispensing sites. At least one location should be identified per county.
- Each jurisdiction will estimate the number of persons requiring vaccine/antivirals/antibiotics/antitoxins under several different scenarios The maximum number is the population of the jurisdiction.
- A plan should be developed for creating signage and getting large amounts of forms rapidly copied with a 24/7 availability.
- If transmission is limited, focused vaccination/dispensing campaigns, isolation of cases, intensive surveillance, and contact tracing may be implemented to control and prevent disease. The area vaccinated or provided antivirals/antibiotics or antitoxin will be determined and modified by the State Health Officer, in consultation with the State Chief Medical Executive, the State Epidemiologist, and the LHD(s) involved, depending on:
    - Size of outbreak.
    - Personnel resources.
    - Effectiveness of other outbreak control measures.
    - Vaccine availability.
- Priority during mass vaccination/dispensing will be given to essential personnel, especially physicians, nurses, emergency responders, and public health personnel. Specific determinations of priority groups to be prophylaxed will depend on available supplies and defined high risk groups
- Vaccine/antiviral/antibiotic/antitoxin distribution will be coordinated by the Regional SNS Technical Advisor or the Regional Vaccine Coordinator.

- Vaccine transport: TQI can provide refrigerated trucks and drivers, and is used in Michigan by one vaccine manufacturer. TQI's phone number is 231-972-4164; customer service is 800-255-2421. Refrigerated trucks or trailers may also be rented from several other companies.
- Administration/dispensing of vaccine/antivirals/antibiotics/antitoxin will be conducted according to CDC guidelines.
- Patients that develop adverse reactions to any of the above after leaving the clinic should seek treatment through their regular health care provider. LHDs will also provide names of health care clinics that have agreed to provide this service for those who do not have a primary health care provider. Pre-identification of these clinics will ease the burden upon patients seeking such services at emergency care centers.
- Providers can consult the CDC's 24-hour Clinician Information Line (877-554-4625) for information on vaccines such as smallpox. If it is not available, MDCH will develop an on-call referral network.

Clinic Layout and Flow

An efficient clinic needs to be properly designed to allow patients to flow through it quickly and easily. The following provides some practical ways to do that:

- Clinic should have clearly marked entrance and exit points
- Security staff should be posted at both locations to maintain an orderly flow
- Traffic flow will be controlled and follow a logical path from the entry to the exit point
- Clients should progress through the clinic in a straight line. Ideally the entrance is at one end of the room, the exit is at the other end, and stations 1-6 are lined up in between.
- Colored tape on the floor can be used to keep clients on track.
- Place highly visible signage at each table within each station (about eight feet high if possible, like the lighted numbers on supermarket checkout aisles).
- Have flow monitors, whose job is to guide clients to the proper station. (e.g., "There's no waiting at vaccination Table 3." "Let me help you to this table over here.")
- Make liberal use of rope barriers to help lines progress in an orderly fashion.
- Allow for additional staff, supplies, and space to quickly set up extra tables depending on where client flow is backing up. (e.g., "They're lined up out the door, add another registration table.")
- Stagger start times of the education sessions to allow a more continuous flow of people into and out of the education station.
- For maximum throughput don't allow the client to sit down except in the Education area. This can be done by abbreviating paperwork and education (or giving education/materials to people while they stand in line) and vaccinating people while they are standing. Some chairs will still be needed at the vaccination/dispensing area and post-vaccination station to accommodate people who need a rest. Clinic Flow Monitors would assist persons who have difficulty standing for long periods, and would help move handicapped or elderly people along in the lines.

Refer to **Attachment 11** for a clinic flow diagram and to **Attachment 12** for a supply and equipment checklist.

- Normal procedure is for the patient to proceed through stations 1 through 6. The six stations are:
  - Triage (Station 1)
  - Registration (Station 2)
  - Education (Station 3)
  - Screening (Station 4)
  - Vaccination/Dispensing (Station 5)
  - Exit Review (Station 6)

- Additional areas include:
  - Special Needs (Station 7)
  - Sick Assessment/First Aid (Station 8)
  - Medical Evaluation (Station 9)
  - Storage (Station 10)
  - Data Entry (Station 11)
  - Command Center (Station 12)
  - Mental Health (Station 13)
  - Staff Break Room (Station 14)
  - Staff Nap Room (Station 15)

Vaccination/Dispensing Process

These guidelines will be revised if necessary as information on LHD experiences with large vaccination/dispensing clinics becomes available.

The following describes the operation of a large mass vaccination/dispensing clinic (1000 clients or less). Regardless of the clinic size and location the functions and routing procedures remain essentially the same. Staffing needs will vary depending on clinic size; and in a small clinic situation some roles can be consolidated or eliminated. For clinics larger than 1000 people refer to **SNS Plan**.

Triage station:

- The purpose of the triage station is to assess clients before they enter the clinic and determine whether to admit clients to the clinic or deny them entry. Clients will be triaged into four categories:.
  - Contacts
  - Ill,
  - Special needs, and
  - All others (not ill, not contact),
- This function will be most important in the event that a clinic is open to the general public or is serving large numbers of people.
- Ideally, triage would occur indoors, in a separate room from the main clinic, but space considerations may require triage to occur outdoors. For small clinics these functions may be merged with the registration station.
- Triage personnel will be at entrance to clinic, backed up by security.
- Triage personnel direct clients into clinic, away from clinic, or toward sick clinic (see station 7 below) as necessary on basis of simple criteria (e.g., occupation, obviously ill). The triage nurse(s) may move up and down line to triage people as quickly as possible.

- Clients having special needs (handicapped, elderly, non-English speaking, etc.) should be directed to the special needs area.
- Supporting materials for triage function:
  - Signage for entrance and throughout the waiting area
  - Maps/lists of alternate vaccination clinics or care facilities.
  - Megaphones to make announcements to groups.
  - Quick screening guide for possible disease symptoms
  - Cards, hand stamps, etc., to identify where patient should go.

Registration station:

- Registrar records basic information on each person (at least the following: name [first, middle, and last], date of birth, address, phone number, occupation).
- Necessary paperwork is provided to the client. Depending on the amount of paperwork, it may be filled out at registration, in the education station (3), or at the screening station, (4) paperwork may include:
  - Consent Forms ,
  - Health history form/checklist, including contraindications for vaccine/antivirals, antibiotics/antitoxin
  - Record of immunization,
  - Vaccine Information Statement (VIS),
  - Fact sheet.
- Computers for data entry directly into MCIR would be useful, but are not required. Scan forms should be used in the absence of computers (**see Attachment 6**). They can be filled out by hand and scanned to input the data into MCIR.
- Supporting materials for registration function (see also **Attachment 12**)
  - Signage for registration,
  - Highlighters,
  - Ballpoint pens,
  - Decision tree for vaccine contraindications,
  - Extra forms.

Education station:

- Note that if media coverage surrounding the event has been informative and widespread, the education station could be streamlined or even eliminated. This could drastically increase the rate of client flow through the clinic.
- Give a basic orientation to the vaccination clinic purpose and flow.
- Educator (or video) provides information on the disease, exposure criteria, vaccines/antivirals/antibiotics/antitoxin, contraindications, why we're vaccinating/providing antivirals/antibiotics/antitoxin, what to expect at today's clinic, how vaccination is done if providing vaccine, that more information is coming on how to follow-up. Larger clinics should stagger start times for separate education sessions.
- Inform public that vaccine/antivirals/antibiotics/antitoxin may not be enough to prevent the development of illness and that there is a need to watch for illness symptoms. Describe symptoms and what to do if they occur.
- Separate sessions for contacts and for specific languages as needed.
- Answer questions.

- If it is impractical to cover all paperwork in the registration (2) or screening (4) sections, clients may be given a place to sit in this station while they fill out paperwork. They must not be rushed. Paperwork may include:
  - Consent forms.
  - Health history form/checklist, including contraindications for vaccine/antivirals/antibiotics/antitoxin.
  - Record of immunization.
  - Vaccine Information Statement (VIS).
  - Fact sheet.
- Supporting materials for education station
  - Forms--English and other language versions as possible (at Special Needs).
  - Vaccine Registration/Consent Form (includes demographic information, consent, and vaccine administration information).
  - Record of Immunization.
  - Vaccine Information Statement (VIS).
  - Frequently Asked Questions (FAQ) about disease.
  - Fact sheets.
  - Appropriate special patient information sheet.
  - Megaphones to make announcements to groups.
  - Pens, clipboards.
  - Large signage with information describing major counseling points.
    - An exposure is.
    - Disease information.
    - Once forms are complete, get in line/wait to be called for Nurse Screener Station.
  - Information packet (including vaccine registration/consent form, immunization record, VIS, fact sheet, appropriate special patient information sheets) for each educator.

Screening station:

- The purpose of this area is to:
  - Ensure that all forms are competed appropriately prior to entering the vaccination area.
  - Ensure that all questions of the client are answered
  - Refer all clients to the Medical Evaluation area who have unanswered questions
- Station should have privacy barriers if possible so that each patient can speak one-on-one with a nurse and discuss possible medical contraindications, exposure status, and informed consent if required.
- The health screener uses information collected at registration, health history forms filled out by patient, and a verbal interview to determine whether patient will receive vaccine/antivirals/antibiotics/antitoxin,
- Large clinics may need to use non-nurses for screening, with several trained nurses on hand to field questions as needed.

Vaccination/Dispensing station:

- The purpose of the vaccination station is to administer vaccine/dispense antivirals/antibiotics/antitoxin.

- If antivirals are being distributed, one or more stations separate from the immunization station will be required. A nurse or healthcare provider or pharmacist would instruct the patient on how/when to take the drug and provide a supply with printed information about it, including dosage, timing, side effects, and how/whether to replenish the drug when it runs out. Doses of antivirals should be counted out ahead of time.
- Vaccinator administers vaccine. Depending on specific circumstances, the vaccinator or a vaccine assistant may cover the vaccination site, and direct the client to the Exit Review station. For large clinics privacy barriers may be eliminated in order to move people through more quickly, but at least one private area will be required (e.g., person wearing a shirt that requires removal for access to the shoulder).
- The vaccinator ahead of time for greater efficiency may fill syringes. Nurses or healthcare providers may continually rotate between vaccinating and filling syringes; if possible, each vaccinator will fill his/her own syringes.
- Runner(s) will be available for replenishing supplies (see station 8).
- Supporting materials for vaccination station
  - Standing Medical Orders
  - Emergency Medical Procedures
  - Vaccine supplies: gloves, table protectors, sharps containers, needles, alcohol wipes, etc.
  - Highlighting pens.
  - Ballpoint pens.
  - Tables and chairs.

Exit review station:

- The purpose of this station is to:
  - Collect completed registration/consent forms
  - Provide final instructions to clients.
    - How to report adverse reactions and where to go if they occur.
    - Where to go for revaccination if applicable.
- Completed registration/consent forms are collected.
- After finishing at the exit review station, the person leaves the clinic past the exit monitor and/or exit security. Signs should clearly mark the exit.

Special Needs Station

- The purpose of this area is to provide an area away from routine clinic flow for all clinic activities to take place for clients with special needs including physical/mobility impairment, emotional/mental impairment or need for translators

Sick clinic/first aid station:

- The purpose of this station is to:
  - Provide a medical assessment of persons identified as possibly sick by the triage station (or at other stations if missed or not apparent at triage), and to separate ill persons from the rest of the clinic so as to limit disease transmission and facilitate clinic flow. It should be located in a completely separate room from the main immunization clinic if possible and provide the following:
  - Respond to medical emergencies, including minor reactions and anaphylactic shock in relation to vaccination

  - Respond to serious medical emergencies that are incidental and unrelated to vaccination
- Have the ability to arrange transport of patients by ambulance to a hospital for care.
- May have vaccine/antivirals/antibiotics/antitoxin available for treatment/prophylaxis, if indicated.
- Sick clinic/first aid supplies (see also **Attachment 12**):
  - Personal Protective Equipment (PPE): gowns, gloves, eye protection, N-95 (or better) respirators.
  - Standard supplies including clipboard, paper, pens, tables chairs, cots, etc.
  - Supplies for managing illness until medic support arrives such as IV fluids, thermometer, blood pressure cuff, stethoscope, epinephrine, diphenhydramine, oxygen, defibrillator.
  - Screening tools and information:
    (1) Information on indications for quarantine and quarantine procedures.
    (2) Current working case definitions for specific disease

Medical Evaluation Station

- The purpose of this area is to ensure that all clients have an opportunity to have additional questions due to their specific health related issues or concern about contraindications answered about precautions and side effects.

Storage station:

- The purpose of this area is to:
  - Maintain security of the vaccine/antivirals/antibiotics/antitoxin
  - Maintain the cold chain of the vaccine (See appropriate appendix for more information on vaccine storage and transport
  - Prepare, label and distribute vaccine/antivirals/antibiotics/antitoxin
  - Manage supplies and equipment
  - Distribute supplies and equipment
- The station should have a temperature-monitored refrigerator (with alarm, if possible) will be needed for vaccine storage. A 10-dose vial of vaccine is 1 1/8" x 1 1/8" x 2 ½" in its box. A large 21 cubic foot commercial reach-in refrigerator with internal dimensions of 24" x 26.7" x 57" and 4 shelves will therefore hold a maximum of 7500 vials (i.e., 75,000 doses) if at least 2" of space is left open on all sides of the refrigerator and between shelves in order to allow cool air to circulate. A refrigerator of more conventional size may hold one half to one third that amount. The refrigerator should be set up well in advance of vaccine arrival to allow it to reach proper temperature before the vaccine is placed in it.
- Supplies of other consumables (e.g., antivirals, respirators, syringes, PPE) may also be stored at this station.
- A runner will bring supplies from the storage station to other stations as requested.
- Large clinics will require a dedicated inventory coordinator. Small clinics might merge this function with the runner's duties.
- May require security personnel.

Data Entry Station

- The purpose of this station is to:

- Secure all data entry forms
- Directly enter data into MCIR or
- Scan all data forms into MCIR

Command Center Station

- The purpose of this station is to:
  - Provide overall coordination of the clinic
- The Incident Commander, Logistics Chief and PIO are stationed here

Break area: Private area for clinic staff to take a few minutes to relax and get something to eat or drink. This area should include tables and chairs, and perhaps a refrigerator for box lunches/beverages/snacks. A sink for hand washing is desirable. Small clinics may not need this station.

The following provides approximate staffing needs for a clinic providing vaccination/dispensing for 1000 people in four hours. Modifications of these numbers should be made in relation to the size of the clinic:

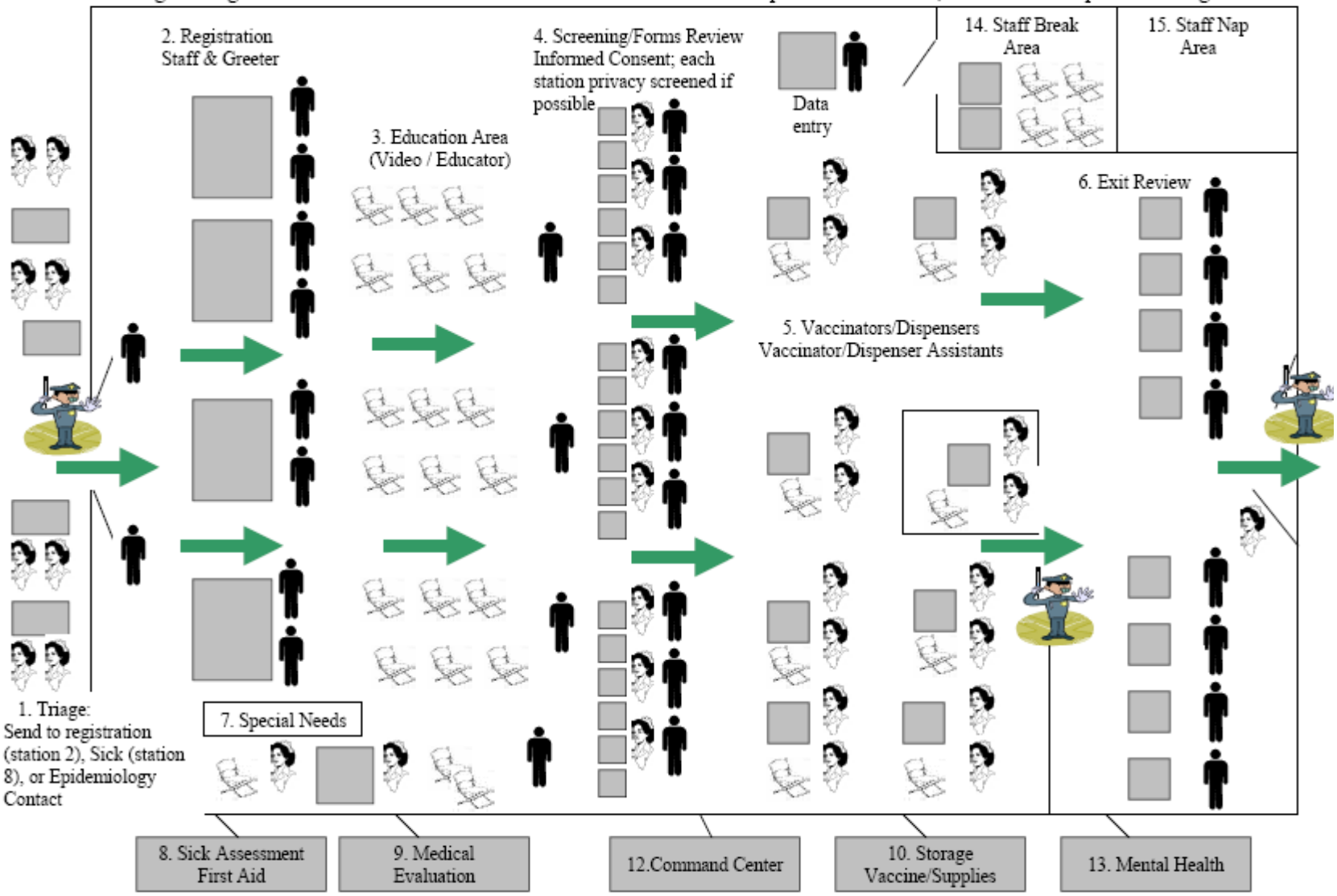
Numbers of staff will be modified based on LHD input and the results of clinic exercises.

- Triage nurse (8)
- Registration staff (8)
- Educator (6)
- Health Screeners (Forms Review) (18)
- Vaccinators/Dispensers (8)
- Vaccinator/Dispenser Assistants (8)
- Exit Review (8)
- Special Needs Leader (1)
- Translators (1/language/shift)
- Clinic Director (Incident Manager) (1)
- Vaccination/Dispensing Manager (Operations Chief) (1)
- Logistics Chief
- Data Manager (1)
- Security Manager (1)
- Human Resource Manager (1)
- Function Leader ((5) (Triage, Registration, Education, Vaccination/Dispensing and Exit Review)
- Medical Screeners (4)
- Physician Evaluator (1)
- Emergency Medical Technician (2)
- Data entry (6)
- Clinic Flow monitor (28)
- Epidemiologic Contact Staff (12)
- Exit Review Staff (8)
- Mental Health Counselors (4)
- Pharmacist (2)
- Security Personnel(8)
- Supply Runner/Clerk (8)
- Traffic Flow Personnel (8)

Attachment 11: Sample

Mass Vaccination/Dispensing Clinic Flow Diagram

This diagram is generalized and will need modification for use in varied shapes/sizes of rooms, and number of persons being seen.



Attachment 12
Clinic Supply & Equipment Checklist

Equipment Needs:		
Computers	Printers	Power strips & cables
Refrigerator:	Thermometer for fridge	Water bottles for fridge
TVs	VCRs/DVD players	Fax machine
Copier		

General Supplies		
Tables	Chairs	Portable toilets
Pens	Pencils	Colored markers
Clear tape	Stapler & staples	Paper clips
Paper	Sticky notes	Envelopes
Paper towels	Tissues	Trash bags
Garbage containers	Food & drink	ID badges for staff
Scissors	Standard first aid kit	Scale for child weighing
Copies of relevant emergency plans (e.g., AH, CD Annex, Appropriate Appendix, SNS plan)		
Immunization records	VISs	Disease specific fact sheets
Colored tape (for arrows on floor)	Signage for each station	Rope barriers
Duct tape	Informational signs (mainly triage, education, and post- vaccination)	
Cleaning supplies	Paper towels	Education videos/DVDs (+ spares)
File boxes	Folders	Clipboards

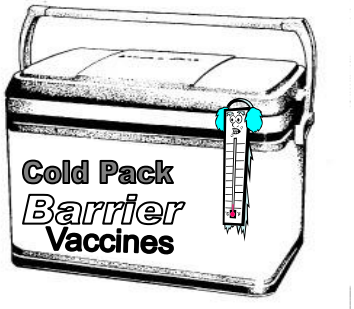
Vaccine Administration Supplies		
Cooler	Thermometer for cooler	Cold packs
Vaccine (pandemic or regular)	Needles; 22-25g, 1", 1.5", few 2" or bifurcated	Syringes
Sharps containers	Adhesive bandages	Exam gloves
Cotton balls	Antiseptic (70% EtOH or other)	Alcohol swabs
Paper tape	Privacy screens	Cots
Anti-bacterial gels (handwashing)	Gauze	Bleach solution (1:10) in sprayers

Communication Supplies		
Cell phones	Telephones (land line)	Lists of important phone #s
2-way radios (800 MHz or other)	Phone cables	Internet access (optional)

Emergency Kit		
Standing orders for emergencies	Inhalants (ammonia or similar)	Alcohol swabs
2 Epi Pens, or 2 ampules epinephrine 1:1000 IM plus needles (tuberculin syringes with 5/8" needles)		
2 ampules diphenhydramine (Benadryl) 50 mg IM with 3cc syringes & 22g-25g 1" and 1.5" needles		
Tongue depressors	Stethoscope	Tourniquet
Blood pressure gauge	Child & adult cuffs for BP gauge	2 thermometers
Adult airway	Pediatric airway	Asthma inhalers
Adult pocket mask (1-way valve)	Child pocket mask (1-way valve)	AED (defibrillator)
Aspirin	Tylenol (acetaminophen)	Insulin
Gurney	Blankets	Pillows
Oxygen tank with tubing	IV electrolytes with tubing	Flashlights & batteries
Biohazard bags	Sharps container	Emesis basin

ATTACHMENT 13
PACKING, TRANSPORT, AND STORAGE OF INACTIVATED INFLUENZA VACCINE

- Influenza vaccine should always be transported in an insulated cooler with ice/cold packs (large quantities will require a refrigerated truck/trailer).
- Use crumpled newspaper, bubble wrap, or corrugated cardboard between vaccine and cold packs as a barrier to prevent vaccine from contacting the cold pack and freezing



- Place a thermometer in the cooler to monitor temperature (35°– 45°F or 2°–8°C)

STORAGE & HANDLING OF INFLUENZA VACCINE

Shipping Requirements
Should be delivered in the shortest possible time. Should not be exposed to excessive temperatures.

Condition on Arrival*
Should not have been **frozen**. Refrigerate on arrival.

Storage Requirements
Refrigerate immediately on arrival. Store at 2° – 8°C (35° – 46°F). **Do not freeze**.

Shelf Life
Formulated for use within current influenza season.

Instructions for Reconstitution or Use
Shake vial vigorously before withdrawing each dose.

Shelf Life after Reconstitution, or Opening
Until outdated, if not contaminated.

Special Instructions
Rotate stock so that the shortest dated vaccine is used first.

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* If you have questions about the condition of the material at the time of delivery, you should:
1) Immediately place material in recommended storage; and 2) Notify the Quality Control office of the vaccine manufacturer; or 3) Notify the MDCH Regional Immunization Field Representative (see Attachment H6 for contact info)

Attachment 14
Pandemic Influenza Public Information Materials

Public Information Materials Links

International: http://www.who.int
Europe: http://www.pandemicflu.ca/m_14.asp
South America: http://www.pandemicflu.ca/s_317.asp
Africa: http://www.pandemicflu.ca/s_120.asp
Federal: http://www.pandemicflu.gov
State: http://www.michigan.gov/flu
Local: Visit local health department website

For people with access to the Michigan Health Alert Network:
https://michiganhan.org/btrs/Documents/State of Michigan Agencies/Department of Community Health/Response Plan/Public Information on Influenza/ Includes information on the following:

- Information Resources on Influenza
- Cover Your Cough-Chinese, Spanish, Tagalog, Vietnamese
- Cover Your Cough-English
- Influenza Vaccine Myths and Facts- Spanish
- Influenza Vaccine Myths and Facts-English
- Hand washing
- Flu-Mist Q and A
- Influenza-Information for the Public
- Recommendations for Businesses
- Recommendations for Childcare
- Recommendations for Health Care Facilities and Emergency Medical System
- Recommendations for Long-Term Care Facilities
- Recommendations for Schools
- Recommendations for Home
- Model Scripts for Phone Banks
- Patient Respiratory Infections Poster

For Community and Public Settings like Schools and Child Care Facilities

For Community and Public Settings like Schools and Child Care Facilities

view larger

Size	English	Spanish	Vietnamese	Chinese	Tagalog
FLYER (8½" x 11") POSTER (11" x 17")	http://www.cdc.gov/flu/protect/covercough.htm				

CDC Influenza Prevention Materials for Specific Groups	
Schools, Childcare Providers, Parents	http://www.cdc.gov/flu/school/
Health Care Professionals	http://www.cdc.gov/flu/professionals/
Laboratories	http://www.cdc.gov/flu/professionals/labdiagnosis.htm
Health Care Facilities	http://www.cdc.gov/flu/professionals/infectioncontrol/
Provider Education Materials	http://www.cdc.gov/flu/professionals/flugallery/posters_providers.htm#pready
Patient Education Materials	http://www.cdc.gov/flu/professionals/flugallery/index.htm http://www.cdc.gov/flu/protect/covercough.htm
Businesses and the Workplace	http://www.cdc.gov/flu/workplace/
Colleges and Universities	http://www.cdc.gov/flu/school/college.htm
People with Chronic Conditions	http://www.cdc.gov/flu/protect/hiv-flu.htm
Legal Professionals	http://www2a.cdc.gov/phlp/docs/PHLP_HHSPandemicInfluenzaPlan.pdf
Children Under 6 months Old	http://www.cdc.gov/flu/protect/infantcare.htm

CDC Influenza Prevention Materials for Specific Groups	
Schools, Childcare Providers, Parents	http://www.cdc.gov/flu/school/
Health Care Professionals	http://www.cdc.gov/flu/professionals/
Laboratories	http://www.cdc.gov/flu/professionals/labdiagnosis.htm
Health Care Facilities	http://www.cdc.gov/flu/professionals/infectioncontrol/
Provider Education Materials	http://www.cdc.gov/flu/professionals/flugallery/posters

	_providers.htm#pready
Patient Education Materials	http://www.cdc.gov/flu/professionals/flugallery/index.htm http://www.cdc.gov/flu/protect/covercough.htm
Businesses and the Workplace	http://www.cdc.gov/flu/workplace/
Colleges and Universities	http://www.cdc.gov/flu/school/college.htm
People with Chronic Conditions	http://www.cdc.gov/flu/protect/hiv-flu.htm
Legal Professionals	http://www2a.cdc.gov/phlp/docs/PHLP_HHSPandemicInfluenzaPlan.pdf
Children Under 6 months Old	http://www.cdc.gov/flu/protect/infantcare.htm

MDCH Pandemic Influenza Materials	
Pandemic Flu and you Toolkit	http://www.michigan.gov/documents/mdch/FLUtookkitNEWstandard_181707_7.pdf
School Pandemic Influenza Toolkit	http://mdch.train.org/panflu/education/

Attachment 15

Attachment 16
Modular Emergency Medical System
(MEMS)
Definitions/Concepts
Revised: 12/28/06

MEMS: The Overall Concept

The MEMS is Designed to provide a systematic, coordinated and effective medical response to a large-scale incident where the number of casualties significantly overwhelms a community's existing medical capabilities (surge capacity). It establishes a framework *to* facilitate augmentation of local response efforts through the rapid organization of outside medical resources and available assets into two types of expandable patient care modules, the ACC (Acute/Alternate Care Center) and the Neighborhood Emergency Help Center. The built in flexibility accommodates multiple component modules depending on the nature and extent of the event.

Implementation of the MEMS allows existing medical infrastructure to continue to function as massive numbers of casualties and asymptomatic exposed and non-exposed individuals present for medical care.

Activation of MEMS:

- Implementation is based on the Incident Command System (NIMS) or Incident Management system which is utilized nationally by the emergency response community
- Each region will need to define the mechanisms, roles and responsibilities for activation
- Emergency Management involvement

Regional Medical Coordination Center:

The Regional Medical Coordination Center is intended to support local EOCs. It is designed to be a medical resource to local emergency management, not another layer in the response efforts. The purpose of this component is to assist with the provision of a flexible, coordinated, uninterrupted health response. It will help facilitate standardization and interoperability of health care operations and ensure optimum and efficient use of resources.

Acute/Alternate Care Center (ACC):

ACCs (Acute/Alternate Care Center) are designed to treat patients who need more extensive care such as hydration or pain management. They are not designed to provide acute critical care for patients requiring ventilatory assistance. Patients admitted to an ACC may be admitted for end of life care utilizing the hospice concept. The alternate care center concept also facilitates cohorting of patients with the same infectious process or exposure.

Neighborhood Emergency Help Center (NEHC):

The Neighborhood Emergency Help Center is designed to be the entry point into the medical system for casualties and asymptomatic exposed and non-exposed individuals who present for care when the MEMS is activated. The purpose is to keep non-critical victims away from local Emergency Departments. Basic triage is performed. Medical treatment is limited to first aid, distribution of prophylactic medications, self-help information and instructions. Medical Stabilization can be performed for those needing transfer to an ACC (Acute/Alternate Care Center) or Hospital.

Depending on the situation a NEHC may include a SNS Dispensing site, which the SNS Planners must be involved during the planning phase. The SNS Dispensing sites has specific requirements from the Centers of Disease Control (CDC). If these functions are combined, a SNS Dispensing site may be used as a NEHC.

Hospital Emergency Operations Center:

Hospital Emergency Operations Centers (EOC) are hospital or hospital system specific and provide coordination, administrative assistance, technical supervision and consultation services in support of health and medical response operations during times of emergency or disaster conditions.

Hospitals form their own EOCs, to coordinate their health care operations within current established protocols that integrate into Regional initiatives. This includes communication on a hospital's capacity and need to establish modular care sites.

Casualty Transportation Systems:

Casualty Transportation Systems are used to provide transportation of patients within the components of the MEMS model. They may be utilized to transport non-critical patients out of existing hospitals to other facilities in order to free up bed space for casualties requiring hospitalization in an acute care facility. *To implement global transportation systems Emergency Management must be involved.*

Community Outreach Effort:

Community Outreach efforts are multifaceted and will vary based on the type and extent of the incident. The community outreach efforts occur "in the community" and may consist of such activities as disseminating information related to the incident, assessing affected areas and augmenting mass prophylaxis by going door to door if necessary. Community Outreach may also assist with screening and the assessment of victims. Planning activities should include special needs populations such as: visiting nurses, home healthcare, meals on wheels, nursing homes, etc.

Attachment 17-A
Seasonal Influenza Disease report Forms
Michigan Disease Surveillance System
December 2006

Influenza
Michigan Department of Community Health
Communicable Disease Division

This form is for use in reporting of: 1) All influenza cases during May-Sept.; 2) Facility outbreak cases; 3) Unusual or severe cases. NOTE: For novel or avian influenza cases, please use the Novel Influenza MDSS case form. For suspected or confirmed pediatric influenza deaths, please contact MDCH at (517) 335-8165 for the appropriate form.

Investigation Information

Investigation ID	Part of an outbreak?	Outbreak Name	Referral Date mm/dd/yyyy
	○ Yes ○ No ○ Unknown		

Investigation Status	Case Status
○ New ○ Active ○ Completed ○ Superceded ○ Cancelled	○ Confirmed ○ Not a Case ○ Probable ○ Suspect ○ Unknown

Patient Status	Patient Status Date mm/dd/yyyy	Diagnosis Date mm/dd/yyyy	Onset Date mm/dd/yyyy
○ Inpatient ○ Outpatient ○ Died			

Patient Information

Patient ID	First	Last	Middle

Street Address

City	County	State	Zip

Home Phone ###-###-####	Ext.	Other Phone ###-###-####	Ext.

Parent/Guardian (required if under 18)

First	Last	Middle

Demographics

Sex	Date of Birth mm/dd/yyyy	Age	Age Units
○ Male ○ Female ○ Unknown			○ Days ○ Months ○ Years

Race
○ Caucasian ○ African American ○ American Indian/Alaska Native ○ Hawaiian/Pacific Islander
○ Asian ○ Unknown ○ Other (Specify)_____

Ethnicity	Worksites/School	Occupations/Grade
○ Hispanic/Latino ○ Non-Hispanic/Latino ○ Unknown		

Referral Information

Person Providing Referral

First	Last	Phone ###-###-####	Ext.	Email

Referral Information cont.

Primary Physician

First	Last	Phone ***-***-****	Ext.	Email

Street Address

City	County	State	Zip

Hospital Information

Patient Hospitalized	Hospital Name and City	Hospital Record No.
○ Yes ○ No ○ Unknown		

Admission Date mm/dd/yyyy	Discharge Date mm/dd/yyyy	Days Hospitalized	Patient Died	Is/was the patient isolated in the hospital?
			○ Yes ○ No ○ Unknown	○ Yes ○ No ○ Unknown

Previous Hospital/ER visits (Most Relevant)

Hospital/ER Name and Location	Admission Date	Discharge Date	Reason for Visit
	mm/dd/yyyy	mm/dd/yyyy	

Clinical Information

Fever	Sore Throat	Cough	Headache/Myalgia
○ Yes ○ No ○ Unknown	○ Yes ○ No ○ Unknown	○ Yes ○ No ○ Unknown	○ Yes ○ No ○ Unknown

Runny nose/Congestion	Encephalopathy/Encephalitis	Chest X-ray or CAT scan for Pneumonia
○ Yes ○ No ○ Unknown	○ Yes ○ No ○ Unknown	○ Positive ○ Negative ○ Not Done ○ Unknown

Other clinical signs

Epidemiologic Information

Epi-linked to a suspected or confirmed influenza case?	In the 7 days prior to illness onset, did the patient travel out of state?
○ Yes ○ No ○ Unknown	○ Yes ○ No ○ Unknown

If yes, list travel location(s) and dates
(city, state, country)

Is this case a suspect or confirmed influenza pediatric death?	Is this a case of suspect or confirmed influenza-associated encephalitis?
○ Yes ○ No ○ Unknown	○ Yes ○ No ○ Unknown

Does the patient have any of the following risk factors for severe disease?
(check all that apply)

☐ Asthma/reactive airway disease	☐ Cardiac disease	☐ Chronic lung disease
☐ Diabetes mellitus	☐ Metabolic disorder	☐ Immunosuppressive condition (specify)_____
☐ Pregnant	☐ Renal disease	☐ Other (specify)_____

Case ID | First Name | Last Name | Influenza | Page 3

Epidemiologic Information cont.

Was the patient receiving any of the following medications when the influenza illness started?
(check all that apply)

- ☐ *Aspirin or aspirin-containing products*
- ☐ *Chemotherapy*
- ☐ *Radiation therapy*
- ☐ *Systemic steroids (not inhaled)*
- ☐ *Other immunosuppressive medications (specify)* _____
- ☐ *Unknown*

Treatment Information

Were antiviral medications given?	Antiviral received
○ *Yes* ○ *No* ○ *Unknown*	○ *Oseltamivir (Tamiflu)* ○ *Zanamavir (Relenza)* ○ *Amantadine* ○ *Rimantadine*

Date first started antiviral treatment mm/dd/yyyy	Number of Days Antiviral Taken	Is the patient on a ventilator? ○ *Yes* ○ *No* ○ *Unknown*

Vaccine Information

Vaccinated against influenza during current flu season? ○ *Yes* ○ *No* ○ *Unknown*	Vaccination Date, if known (Dose 1): mm/dd/yyyy	Vaccination Date, if known (Dose 2): mm/dd/yyyy

If vaccinated, specify influenza vaccine received:

- ○ *Trivalent inactivated influenza vaccine (TIV), injected*
- ○ *Live-attenuated influenza vaccine (LAIV), nasal spray*
- ○ *Monovalent inactivated influenza vaccine, injected*
- ○ *Monovalent LAIV, intranasal spray*
- ○ *Unknown*

Laboratory Information

Was laboratory testing for influenza done?
○ *Yes* ○ *No* ○ *Unknown*

Laboratory testing

Influenza Test Type	Result	Specimen Source	Specimen Collection Date
RAP=Rapid test CULT=viral culture DFA=Direct fluorescent antibody IFA=Indirect fluorescent antibody EIA=Enzyme immunoassay RTPCR=Reverse transcriptase-PCR IHC=Immunohistochemistry	A=Influenza A + B=Influenza B + P=Positive but type unknown N=Negative PEND=Pending I=Indeterminate U=Unknown	NP=NP swab ASP=NP Aspirate OP=OP swab BAL=BAL TIS=Tissue OTH=Other	mm/dd/yyyy

Specify Commercial Rapid Diagnostic Test Name (if applicable)	Specify Other or Tissue Specimen Source (if applicable)

Name(s) and location(s) of the laboratory that performed testing	Subtype/Strain

Specimen used for subtyping	Was testing for any other respiratory diseases performed? ○ *Yes* ○ *No* ○ *Unknown*

If yes, list tests and results

Case ID First Name Last Name Influenza Page 4

Contact Information (Use for contacts with concurrent or similar illness. Optional, unless requested by MDCH.)					
Name of Contact	Age	Onset Date	Relation	Flu vaccine past 12 months?	Contact Information
		mm/dd/yyyy		YesYes NoNo UNKnUnknown	

Case ID First Name Last Name Influenza Page 5

Other Information				
Local 1		Local 2		
Name of Person interviewed		Relationship to patient		Date of interview mm/dd/yyyy
Submitted by:	Date mm/dd/yyyy	Health Department	Phone Number ###-###-####	Ext.
Comments or Additional Information				

Attachment 17-B

Novel Influenza

Michigan Department of Community Health

Communicable Disease Division

Investigation Information

Investigation ID	Part of an outbreak?	Outbreak Name	Referral Date mm/dd/yyyy
	○ Yes ○ No ○ Unknown		

Investigation Status	Case Status
○ New ○ Active ○ Completed ○ Superceded ○ Cancelled	○ Confirmed ○ Not a Case ○ Probable ○ Suspect ○ Unknown

Patient Status	Patient Status Date mm/dd/yyyy	Diagnosis Date mm/dd/yyyy	Onset Date mm/dd/yyyy
○ Inpatient ○ Outpatient ○ Died			

Patient Information

Patient ID	First	Last	Middle

Street Address

City	County	State	Zip

Home Phone ***-***-****	Ext.	Other Phone ***-***-****	Ext.

Parent/Guardian (required if under 18)

First	Last	Middle

Demographics

Sex	Date of Birth mm/dd/yyyy	Age	Age Units
○ Male ○ Female ○ Unknown			○ Days ○ Months ○ Years

Race

○ Caucasian ○ African American ○ American Indian/Alaska Native ○ Hawaiian/Pacific Islander
○ Asian ○ Unknown ○ Other (Specify)_____

Ethnicity	Worksites/School	Occupations/Grade
○ Hispanic/Latino ○ Non-Hispanic/Latino ○ Unknown		

Referral Information

Person Providing Referral

First	Last	Phone ***-***-****	Ext.	Email

Primary Physician

First	Last	Phone ***-***-****	Ext.	Email

Street Address

City	County	State	Zip

Case ID | First Name | Last Name | Novel Influenza | Page 2

Hospital Information

Patient Hospitalized	Hospital Name and City	Hospital Record No.
○ Yes ○ No ○ Unknown		

Admission Date mm/dd/yyyy	Discharge Date mm/dd/yyyy	Days Hospitalized	Patient Died
			○ Yes ○ No ○ Unknown

Previous Hospital/ER visits (Most Relevant)

Hospital/ER Name and Location	Admission Date	Discharge Date	Reason for Visit
	mm/dd/yyyy	mm/dd/yyyy	

Isolation Information

Is/was the patient isolated?	Hospital isolation start date mm/dd/yyyy	Hospital isolation end date mm/dd/yyyy
○ Yes ○ No ○ Unknown		

If isolated outside of the hospital, specify isolation location	Non-hospital isolation start date mm/dd/yyyy	Non-hospital isolation end date mm/dd/yyyy

Clinical Information

Fever (Temp > 100.4 F)	Sore Throat	Cough	Headache/Myalgia
○ Yes ○ No ○ Unknown	○ Yes ○ No ○ Unknown	○ Yes ○ No ○ Unknown	○ Yes ○ No ○ Unknown
Runny nose/Congestion	**Shortness of Breath**	**Conjunctivitis**	**Dehydration**
○ Yes ○ No ○ Unknown	○ Yes ○ No ○ Unknown	○ Yes ○ No ○ Unknown	○ Yes ○ No ○ Unknown
Diarrhea	**Encephalopathy/Encephalitis**	**Chest X-ray or CAT scan for Pneumonia/Pulmonary Infiltrates**	
○ Yes ○ No ○ Unknown	○ Yes ○ No ○ Unknown	○ Positive ○ Negative ○ Not Done ○ Unknown	
Multi-organ dysfunction syndrome (MODS)	**Acute Respiratory Distress Syndrome (ARDS)**		
○ Yes ○ No ○ Unknown	○ Yes ○ No ○ Unknown		

Other clinical signs

Treatment Information

Was patient receiving antiviral medications for prophylaxis prior to illness onset?	If yes, antiviral received
○ Yes ○ No ○ Unknown	○ Oseltamivir (Tamiflu) ○ Zanamavir (Relenza) ○ Amantadine ○ Rimantadine

Date first started antiviral prophylaxis mm/dd/yyyy	Number of antiviral doses taken for prophylaxis

Has the patient received antiviral medications for treatment?	If yes, antiviral received
○ Yes ○ No ○ Unknown	○ Oseltamivir (Tamiflu) ○ Zanamavir (Relenza) ○ Amantadine ○ Rimantadine

Date first started antiviral treatment mm/dd/yyyy	Number of antiviral doses taken for treatment	Is the patient on a ventilator?
		○ Yes ○ No ○ Unknown

Case ID | First Name | Last Name | Novel Influenza | Page 3

Vaccine Information

Vaccinated against influenza during current flu season?
○ *Yes* ○ *No* ○ *Unknown*

Vaccination Date, if known (Dose 1):
mm/dd/yyyy

Vaccination Date, if known (Dose 2):
mm/dd/yyyy

If vaccinated, specify influenza vaccine received:
○ *Trivalent inactivated influenza vaccine (TIV), injected*
○ *Live-attenuated influenza vaccine (LAIV), nasal spray*
○ *Monovalent inactivated influenza vaccine, injected*
○ *Monovalent LAIV, intranasal spray*
○ *Unknown*

Laboratory Information

Was laboratory testing for influenza done?
○ *Yes* ○ *No* ○ *Unknown*

Were samples sent to the CDC?
○ *Yes* ○ *No* ○ *Unknown*

Laboratory testing

Influenza Test Type	Result	Specimen Source	Specimen Collection Date
RAP=Rapid Test CULT=Viral Culture DFA=Direct Fluorescent Antibody IFA=Indirect Fluorescent Antibody EIA=Enzyme Immunoassay RTPCR=Reverse transcriptase-PCR IHC=Immunohistochemistry	A=Influenza A + B=Influenza B + P=Positive but type unknown N=Negative PEND=Pending I=Indeterminate U=Unknown	NP=NP Swab ASP=NP Aspirate OP=OP Swab BAL=BAL TIS=Tissue OTH=Other	mm/dd/yyyy

Specify Commercial Rapid Diagnostic Test Name
(if applicable)

Specify Other or Tissue Specimen Source
(if applicable)

Name(s) and location(s) of the laboratory that performed the testing

Subtype/Strain

Specimen used for subtyping

Was testing for any other respiratory diseases performed?
○ *Yes* ○ *No* ○ *Unknown*

If yes, list tests and results

Travel Information

In the 10 days prior to illness onset, did the patient travel out of state?
○ *Yes* ○ *No* ○ *Unknown*

Specify travel location(s) and dates:
(city, state, country)

Did the patient travel during illness or 24 hours prior to onset?
○ *Yes* ○ *No* ○ *Unknown*

If yes, transport type:
(check all that apply)
☐ *Airline company and flight*_____ ☐ *Other*_____

If yes, specify departure date and city, arrival date and city:

Case ID | First Name | Last Name | Novel Influenza | Page 4

Epidemiologic Information

Epi-linked to a suspected or confirmed novel influenza case?
○ *Yes* ○ *No* ○ *Unknown*

Does the patient have any of the following risk factors for severe disease?
(check all that apply)

☐ *Asthma/reactive airway disease* ☐ *Cardiac disease* ☐ *Chronic lung disease*
☐ *Diabetes mellitus* ☐ *Metabolic disorder* ☐ *Immunosuppressive condition (specify)*_____
☐ *Pregnant* ☐ *Renal disease* ☐ *Other (specify)*_____

Was the patient receiving any of the following medications when the influenza illness started?
(check all that apply)

☐ *Aspirin or aspirin-containing products* ☐ *Chemotherapy*
☐ *Radiation therapy* ☐ *Systemic steroids (not inhaled)*
☐ *Other immunosuppressive medications (specify)*_____ ☐ *Unknown*

Does the patient work in a biological laboratory with human and/or animal specimens?
○ *Yes* ○ *No* ○ *Unknown*

Does the patient live or work on a farm?
○ *Yes* ○ *No* ○ *Unknown*

In the 10 days prior to illness onset, did the patient:	
	Y=YES N=NO UNK=UNKNOWN
Have any direct physical contact with live domestic poultry including chickens, ducks, geese, and turkeys or their feces?	
Have direct physical contact (i.e. touching) with horses?	
Have direct physical contact (i.e. touching) with pigs/swine?	
Have direct physical contact (i.e. touching) with dogs/canines?	
Have direct physical contact (i.e. touching) with other live domestic animals?	
Have direct physical contact (i.e. touching) with wild waterfowl (e.g. ducks, geese, herons, other) or their feces?	
Touch any recently butchered poultry or incompletely cooked poultry products? (NOT including commercial products bought within the U.S.)	
Visit or stay in the same household with anyone with pneumonia or severe flu-like illness? (If yes, fill out contact information in next section)	
Visit or stay in the same household with anyone with suspected or known novel influenza? (If yes, fill out contact information in next section)	

If the patient had direct contact with other domestic animals, please specify the type of animal:	**If the patient had direct contact with waterfowl, please indicate the geographic location:**

Case ID | First Name | Last Name | Novel Influenza | Page 5

Contact Information (A contact is defined as all ill and well persons who were within 1 meter (3 feet) of this case)

Name of Contact	Age	Relation	Flu-like symptoms?	Quarantined?	Symptom Onset Date	Flu vaccine past 12 months?	Phone Number
			Fever, cough, sore throat, shortness of breath, etc.	Y=Yes N=No UNK=UnKnown	mm/dd/yyyy	Y=Yes N=No UNK=UnKnown	

Case ID | First Name | Last Name | Novel Influenza | Page 6

Other Information

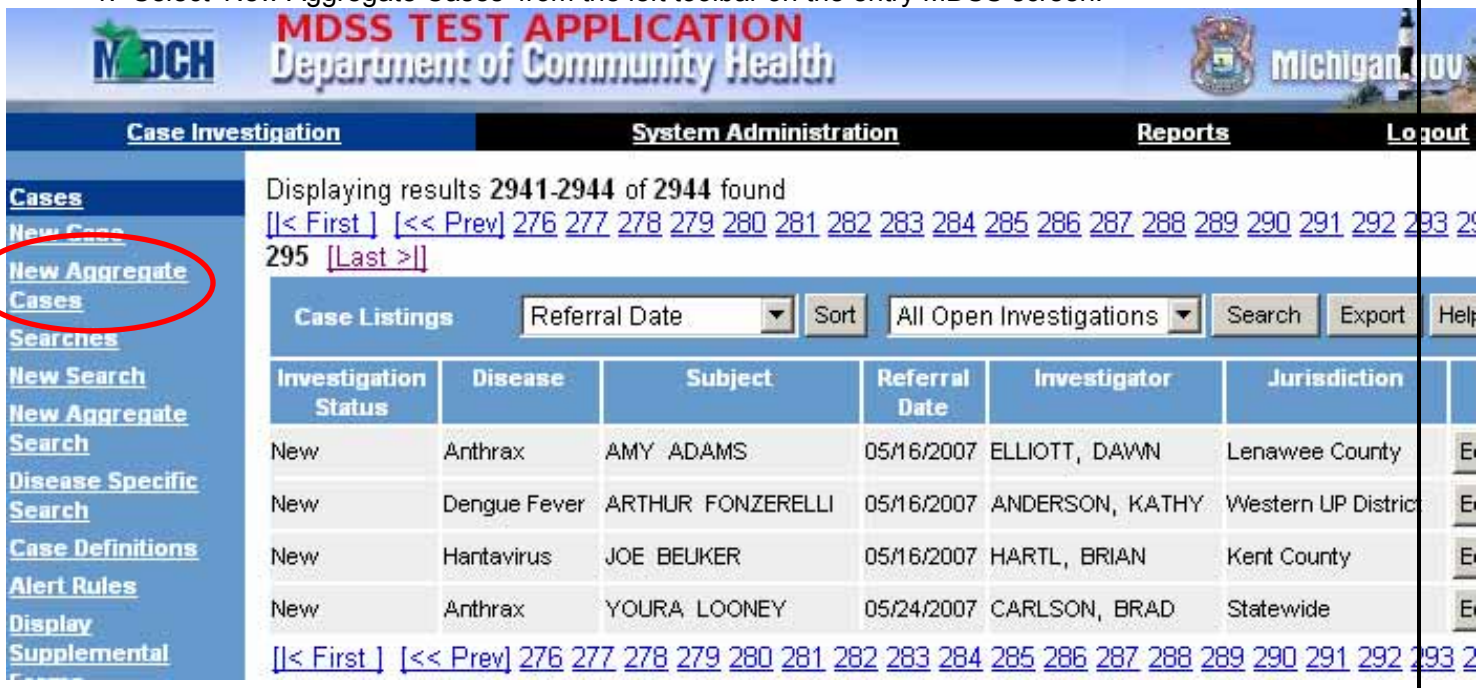
Local 1		Local 2		
Name of Person interviewed		Relationship to patient		Date of interview mm/dd/yyyy
Submitted by:	Date mm/dd/yyyy	Health Department	Phone Number ***-***-****	Ext.
Comments or Additional Information				

Attachment 17-C
A Quick Reference Guide to Aggregate Reporting for "Flu-like Disease"

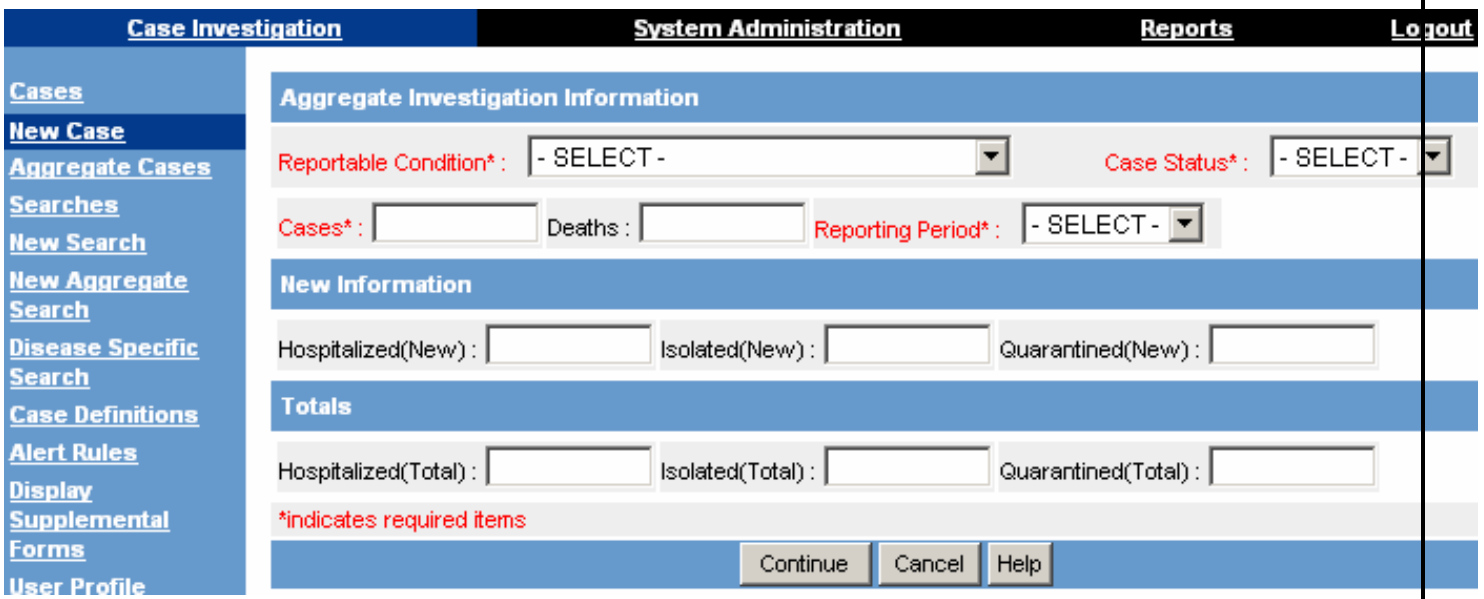
Michigan Department of Community Health
October 2007

The new aggregate report is very similar to an individual case entry:

1. Select 'New Aggregate Cases' from the left toolbar on the entry MDSS screen.



2. The updated Aggregate Cases form will appear



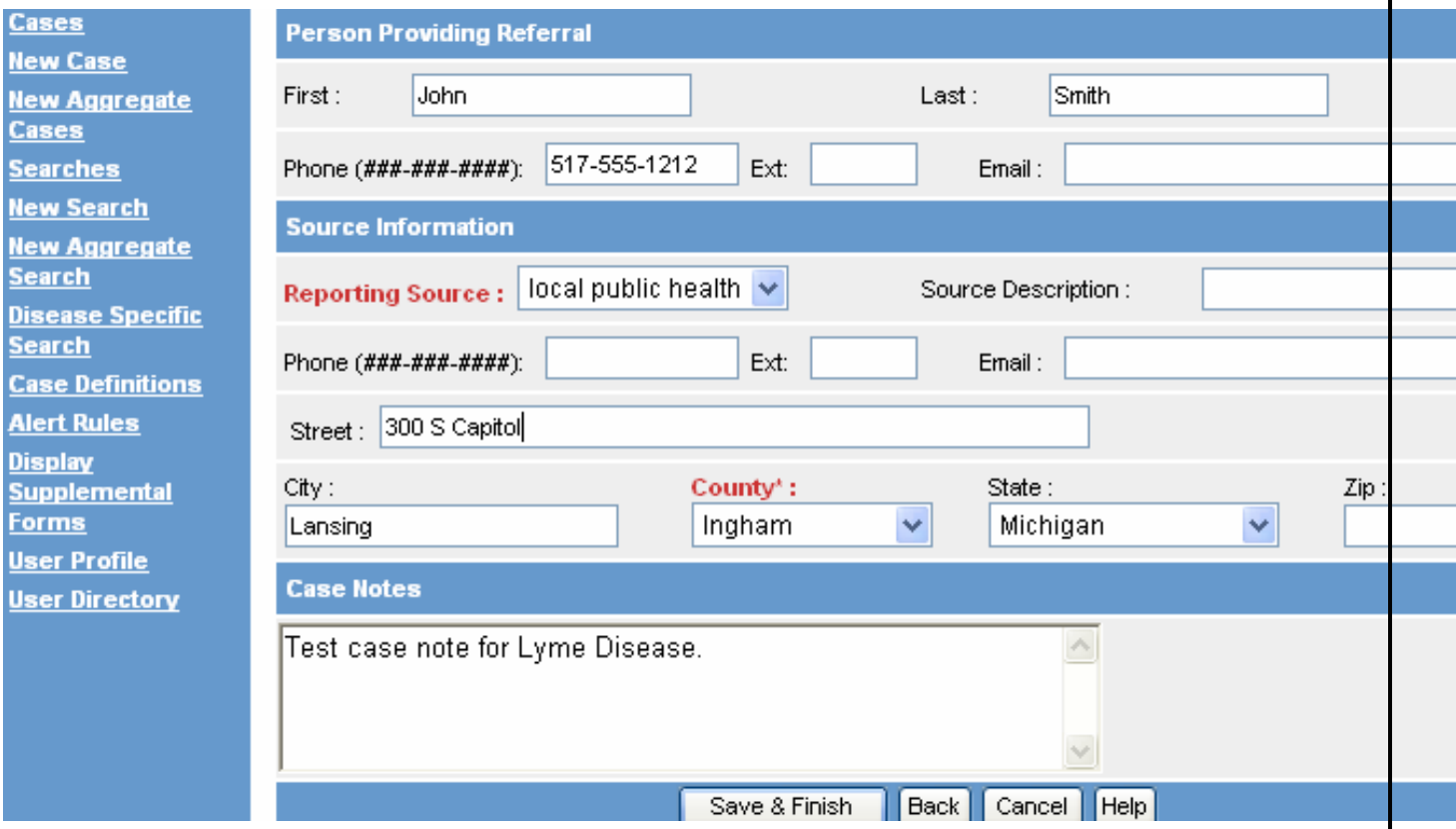
3. Fill in the Aggregate Investigation Information:
   A. Choose 'Flu-like Disease' from the Reportable Condition dropdown.

B. Case Status automatically defaults to 'Confirmed'.

C. Enter in the number of aggregate flu-like disease cases from your county. If there are no cases to report, enter '0'.

D. You now have the option to report on a daily or weekly basis. Choose either 'Daily' or 'Weekly' from the Reporting Period dropdown based on the time period for which you are reporting cases. Most health departments will choose to report on a weekly basis, as was previously done. Daily reporting is optional and was designed for potential pandemic influenza reporting. You may enter multiple reports using either a weekly or daily reporting period as this is only used to determine how cases are aggregated when running reports.

E. The New Information and Totals sections of this page are optional and were designed for potential pandemic influenza reporting.



F. On the next page, choose your Reporting Source. LHDs have the option of individually tracking reports from schools, hospitals, etc. Counts from different sources that are grouped together into one report by the LHD should have 'local public health' selected as the reporting source.

G. Choose the county that this report is for. District health departments need to enter an aggregate report for each county in the district.

H. All other information is optional at this time for aggregate reporting of Flu-like Disease.

Important Points to Remember:

- If a case has already been entered into MDSS as an individual "Influenza" case, do not double count it in the aggregate "Flu-like Disease" counts
- If you enter reports on a daily basis, MDSS automatically totals them for the week when you run a report.

- It is critical that each county have a report entered by the end of Friday each week, even if it is '0'. A '0' indicates that you have no cases rather than a failure to report. It also gives you a record that you can update because as long as a value was previously entered, counts can be adjusted retroactively.
- To edit an aggregate report, search for the report of interest (under 'New Aggregate Search' on the left toolbar) and click the 'Edit' button to view the report.
    - Investigation Status automatically defaults to 'Completed', so the report must be reactivated in order to edit the data.
    - At a LHD, an Administrator is the only role able to open an aggregate report for editing.
    - Don't forget to change the report to 'Completed' again after editing is complete.

Attachment 18

Foreign Diplomatic Corps and Communicable Disease Outbreaks: Exceptions for the Use of Public Health Measures in Michigan, including those for Pandemic Influenza

DRAFT Guidelines 2.0

Michigan state and local authorities should be aware of the following during the consideration of implementation of public health measures:

- There are 6 full-time career consuls and 33 honorary consuls within Michigan.
- Full-time diplomats and honorary consuls will be carrying Department of State identification cards. These cards identify the official and note that he/she is recognized by the Department of State and that, under international law, is not amenable to jurisdiction. For full-time diplomats, immunity is from criminal, administrative or civil jurisdiction. Honorary Consuls have more limited immunity (e.g., not immune from criminal arrest), and the immunity applies when official acts are being performed in the exercise of consular functions.
- Family members of full-time foreign diplomats also have an inviolable status.
- The White House Implementation Plan, Appendix C, released May 2006, states the following:

"Exemption of Certain International Persons from Quarantine or other Restrictions. There are certain legal bases pursuant to which Federal authorities could insist that certain people on an aircraft be released from quarantine (e.g., diplomats and their families are "inviolable" under the Vienna Convention on Diplomatic Relations; United Nations (UN) diplomats are "inviolable" under the UN General Convention on Privileges and Immunities and the HQ Agreement; diplomats attending UN conferences are "inviolable" under the General Convention; consular officers (not families) are potentially "inviolable" under Articles 40 and 41 of the Vienna Convention on Consular Relations; and heads of States are generally subject to immunity)."

Communicable Disease Mitigation and Foreign Diplomacy

Local authorities should communicate the risks of disease transmission (e.g. pandemic influenza) to the diplomatic official if he/she is:

- visiting at risk, symptomatic or exposed foreign nationals
- with family members at risk , symptomatic or exposed to a communicable disease
- at risk, symptomatic or exposed to the disease in question.

- Any questions of concerns regarding diplomatic officials should be directed to Michigan's Chief of Protocol

Point of Contact:
Jill Murphy
Chief of Protocol
Michigan Economic Development Corporation
murphyj1@michigan.org
517-241-0167 phone
517-241-0882 fax

- In the event of the illness and/or isolation (or quarantine) of an ill diplomatic official, assist with contacting their embassy:
    - If the quarantine is imposed by CDC, then CDC would be involved in the notification to the consular office or embassy
    - If the quarantine is done locally, the local agency would notify the consular office or embassy, or contact the appropriate federal embassy to do so.
- If a diplomatic pouch is being transported by the official, secure protection of the pouch is necessary- contact the Embassy and/or the Michigan Chief of Protocol.

Pandemic Influenza planning

- The Office of Foreign Missions maintains the following website (http://www.state.gov/ofm/c19455.htm),, which states:

"In the event the Director General of the World Health Organization announces that the world has entered "Phase 4" of the Global Influenza Preparedness Plan (Small cluster(s) with limited human-to-human transmission but spread is highly localized, suggesting that the virus is not well adapted to humans), information will be posted on this site specifically addressing the measures the United States is taking to address pandemic influenza. This information will describe issues that may arise regarding such measures and the privileges and immunities enjoyed by some members of the foreign mission community."

Attachment 19

Community Mitigation Measures in Michigan: Pandemic Influenza Response by WHO Phase, Federal Stage, and Category

Category of Severity	Widespread human to human spread of pandemic/novel strain influenza overseas (WHO Phase 6 / USG Stage 3)	First case of pandemic/novel strain influenza in North America (WHO Phase 6 / USG Stage 4)	Widespread pandemic/novel strain influenza in US and confirmed cluster in MI or region (WHO Phase 6 / USG Stage 5)
Category 1 (Least Severe)	Alert	Standby	Activate Recommend... • voluntary isolation of sick at home • antiviral treatment (if available)
Category 2-3 (Moderately Severe)	Alert	Standby	Activate Recommend... • voluntary isolation of sick at home • antiviral treatment (if available) Consider... • voluntarily quarantine • dismiss students / child care programs (≤ 4wks) • cancel activities / gatherings (≤ 4wks) • modify work schedules/practices
Category 4-5 (Most Severe)	Standby	Standby / Activate Recommend... • voluntary isolation of sick at home • antiviral treatment (if available) Consider / Recommend... • voluntarily quarantine • dismiss students / child care programs (≤ 12 wks) • cancel activities / gatherings (≤ 12 wks) • modify work schedules / practices	Activate Recommend... • voluntary isolation of sick at home • antiviral treatment (if available) • voluntarily quarantine • dismiss students / child care programs (≤ 12wks) • cancel activities / gatherings (≤ 12wks) • modify work schedules / practices

Attachment 20

Recommendations to Michigan Schools: Pandemic Influenza Community Mitigation - Response Levels

Alert

Alert activities may need to be addressed in WHO Phases 3 through 5.

- Continue daily functions, including school-based surveillance.
- Finalize plans.
- Continue educating on hand hygiene and cough etiquette.
- Tell students and parents you're in the "Alert" status, and notify them of possible future actions (dismissal, closure, etc.)
- Prepare staff, update and review Continuity of Operations Plan (COOP)
- Receive updates from the Michigan Department of Education (MDE) and local and state public health agencies.
- Superintendants regularly communicate with the Health Officer(s).
- Assess volunteeer/reserve team/ team clinic staff for surge capacity.
- Continue school-based disease reporting to local health department.
- Educate parents and students with pre-developed materials regarding family preparedness and pandemic response actions.
- Assess needs for stockpiling infection control items (soap, sanitizers, gloves, etc.)

Standby

- Continue daily functions.
- Continue and increase communications with students, parents, and staff.
- Receive updates from the Michigan Department of Education (MDE) and local and state public health agencies.
- Superintendants regularly communicate with the Health Officer(s).
- Consider continuing education.
- Prepare staff, review your Continuity of Operations Plan (COOP).
  - Review school calendar for potential impacted events.
- State Departments of Education (MDE) and Community Health (MDCH) will review legislative/policy issues needing governmental emergency orders.
- Advise students and staff that all sick individuals should stay home.
- Inventory infection control items.
- Enhance school-based surveillance.

Activate

Health Officer(s) may execute public health order(s) for the community, including but not limited to:

- cancel extracurricular activities
- dismiss students
- close school
- close public gatherings
- infection control
- isolation
- quarantine

Attachment 21: All Hazards Crisis Communications Plan-MDCH

Extracted from MDCH All-Hazards Response Plan (AH-II):

The Michigan Department of Community Health through the Office of Public Health Preparedness has been developing a comprehensive interoperable Communications System that can facilitate Communication between, State, Local and Regional Partners. The following describes the current systems available for Primary, Secondary and Tertiary Communications.

Communications Method: Software Applications

Michigan Health Alert Network (MIHAN)

Description: Internet based alerting system with primary and backup sites. Primary site is (https://michiganhan.org) backup site is (https://michiganhan.net) automatic failover from primary to backup when primary is unavailable.

Responsible CHECC Position: **HAN Leader**

Activation: **The MIHAN system is expected to be available 24 hours a day, 7 days a week, 365 days a year. Michigan Department of Community Health employees, local health department; health officers, emergency preparedness coordinators and regional bioterrorism coordinators have broad alerting rights on the system. Each of these positions can send alerts to nearly any role on the system at any time. During Community Health Emergency Coordination Center (CHECC) activation the HAN Leader is expected to monitor the system and cancel local or regional alerts which may interfere with the immediate delivery of high priority alerts ordered by the CHECC Incident Command.**

How are alerts distributed: **Each person with an account on MIHAN establishes an alerting profile and specifies up to five methods of contact for 3 priority levels of alerts. When sending alerts the priority level of low, medium or high must be specified. The alert can be received by phone, E-mail or text pager.**

When alerts should be sent: **The CHECC Operations Chief under the direction of the Incident Response Coordinator will determine when the HAN Leader should send alerts. The HAN Leader in consultation with the Operations Chief and Incident Command will determine the content, priority level and distribution of alert.**

MIHAN Back Up Database

Description: **The MIHAN backup database is stored on a laptop computer in the MIHAN Coordinators Office. The laptop must always remain within the Office of Public Health Preparedness. The database contains contact information for**

MIHAN participants and is updated monthly by downloads from MIHAN.

Responsible CHECC Position: **HAN Leader**

Activation: **When neither of the MIHAN sites is reachable.**

Use: **The MIHAN back up database can be used to access the contact information of MIHAN participants. The database can be queried to search for contact information by name, county or role.**

E-Team

Description: **Incident Management software hosted at the Michigan State Police State Emergency Operations Center and is the incident Command and control tool for the State of Michigan. Two logins are required to access E-Team** https://mieteam.state.mi.us **and (**https://mieteam4.state.mi.us/dch/eteam.nsf**)**

Responsible CHECC Position: **E-Team Leader**

Activation: **The E-Team software is expected to be available 24 hours a day, 7 days a week, 365 days a year. Each filled position in the CHECC is required to login to the operations side of E-Team during CHECC activation.**

Use: **The E-Team software is the primary Communication link between the Michigan State Police, State Emergency Operations Center (SEOC) and the Community Health Emergency Coordination Center (CHECC). The Michigan Department of Community Health's (MDCH) Emergency Management Coordinator at the SEOC will use E-Team incident management tools to keep the CHECC Incident Response Coordinator abreast of response needs to be fulfilled by the CHECC. CHECC will report completed tasks and update pertinent public health / health care information. One important aspect of the use of E-Team in the CHECC is the transfer of hospital status and bed availability information from EMSystem to E-Team. The CHECC Hospital Liaison will need to export this information from EMSystem for incidents in which hospital availability needs to be accessible in E-Team. The E-Team Leader must import the hospital availability data received from the Operations Section by attaching them to appropriate E-Team reports.**

EMSystem

Description: **Internet based hospital status reporting software. This system is expected to be available 24 hours a day, 7 days a week, and 365 days a year. URL and login information is needed. Every hospital in Michigan has access to the EMSystem application. It is used daily to report the capacity status of a hospital and its bed availability.**

Responsible CHECC Position: **Hospital Liaison**

Activation: **The Hospital Liaison should login to EMSystem for incidents in which hospital availability is a critical resource for response.**

Use: **The Hospital Liaison monitors the incident response in the E-Team incident management software. For incidents which require that hospital status information be available in E-Team, the CHECC Hospital Liaison will login to EMSystem to export the hospital status reports. The hospital status reports from EMSystem will be attached to appropriate E-Team resource status indicators by the E-Team Leader.**

MI Volunteer Registry

Description: **Internet based volunteer mobilization notification system. Primary site is** https://www.mivolunteerregistry.org **and backup site is** https://www.mivolunteerregistry.net **automatic failover from primary to secondary when primary site is unavailable.**

Responsible CHECC Position: **Volunteer Liaison**

Activation: **The Volunteer Liaison has responsibility to anticipate needed resources in response to an incident. When volunteer resources are needed the Volunteer Liaison will login to the MI Volunteer system and notify needed groups of volunteers. Local Health Departments may also access the MI Volunteer Registry to assist with activities in their jurisdictions.**

Use: **Alerts will be sent to mobilize groups of volunteers through the send alert part of MI Volunteer. Specific information about the incident, where to report, whom to report to and when will be posted to the volunteer groups home page on MI Volunteer.**

GroupWise

Description: **The GroupWise E-mail software is available on all computers connected to the State of Michigan network at the Michigan Department of Community Health's, Office of Public Health Preparedness.**

Responsible CHECC Position: **All CHECC personnel**

Activation: **All personnel filling positions at computer workstations within the CHECC must login to GroupWise while filling a position within the CHECC.**

Use: **GroupWise can be used to E-mail messages and attachments (smaller than 15MB) to other State network users listed in the GroupWise address books. The Office of Public Health Preparedness also maintains a number of GroupWise address book groups and list serve lists on the Michigan Public Health Institute's I-mail server which include the E-mail addresses of persons who are not part of the State's internal E-mail system.**

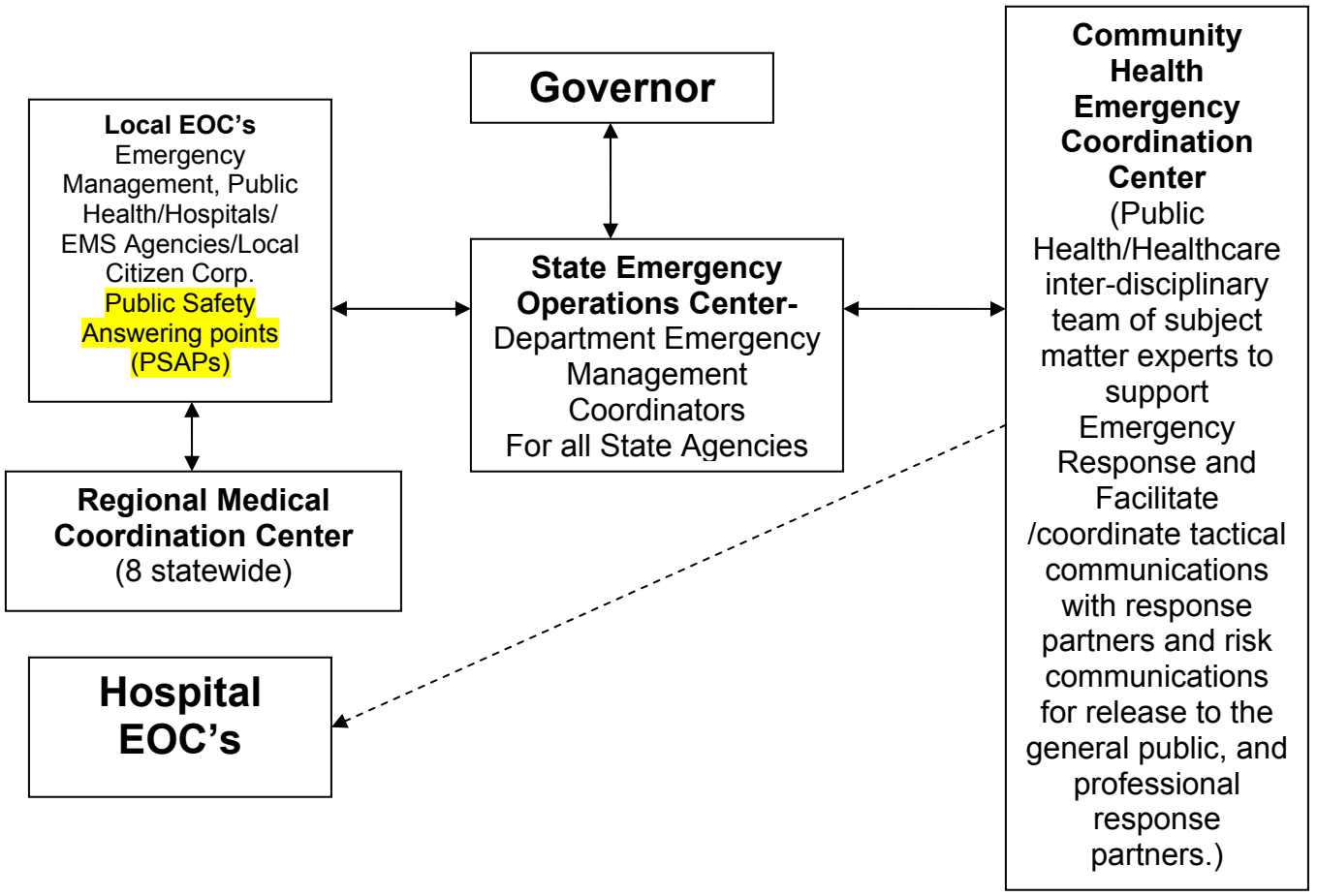
Communication Pathways

A Communication pathway schematic has been developed to visually depict the Communication process during a public health emergency. This pathway identifies and supports the importance of Communications and messaging between partners on the State, Local and Regional level.

Testing

Testing of redundant communications equipment, including Call Trees, MI-HAN and 800 MHz radios within MDCH is accomplished monthly and quarterly

Emergency Communications Pathway during a Public Health/Healthcare Emergency Response



Implementation Steps:

- Local EOC activates and communicates a need for a medical/public health resource to SEOC.
- MDCH EMC communicates need to CHECC(Community Health Emergency Coordination Center)
- CHECC communicates with medical/public health subject matter experts and partners to obtain information. May include local public health department and regional Medical Coordination Center.
- CHECC communicates information obtained back to SEOC who in turn communicates to local EOC.
- Hospital EOCs communicate status of Hospital resources to MCC
- MCC provides this information as requested to the local EOC healthcare representative

Communications Method: Phones

LAN Telephones

Description: **The Office of Public Health Preparedness has a total of 142 telephone lines in the building. The CHECC main room contains 23 phones at the position work stations. The entire list of phone lines and their numbers are detailed in the attachment entitled OPHP Phone List.**

Responsible CHECC Position: **Operations Chief**

Activation: **The CHECC main room phones are available any time the CHECC is activated.**

Use: **The Operations Chief must establish the telephone protocol within the CHECC during activation. First priority must be given to the establishment of the telephone protocol between the CHECC Incident Response Coordinator and the Michigan Department of Community Health's, Emergency Management representative at the State Emergency Operations Center (SEOC). The protocol established must assure direct telephone contact between these two positions during all periods of activation. The Operations Chief must designate Communications section staff during all shifts that will be responsible for answering all calls other than those from the SEOC and routing them to the appropriate CHECC staff.**

Cell Phones

Description: **OPHP has 60 Nextel and 1 Alltel cell phones assigned to staff. There are also 10 unassigned Nextel cell phones.**

Responsible CHECC Position: **Operations Chief**

Activation: **OPHP staff with assigned cell phones must keep them charged and with them at all times.**

Use: **Staff with assigned cell phones must include their cell phone numbers as a method of contact for medium and high level alerts in their alerting profile for the Michigan Health Alert Network system. Alerts from the MIHAN will be the primary method used for notifying staff of the activation of the CHECC and to notify 1st, 2nd and 3rd CHECC shifts when they are expected to report for duty. While on duty in the CHECC, OPHP staff with assigned cell phones must turn them off.**

The Operations Chief must determine if CHECC staff without cell phones should be assigned one of the extra phones during CHECC activation. The Operations Chief must notify the MIHAN Leader of the person to which a

spare cell phone has been assigned. The MIHAN Leader must be certain that the person assigned the spare cell phone are in the appropriate CHECC shift role on MIHAN. The MIHAN Leader must also make certain that the alerting profile for the person assigned a spare cell phone contains the spare cell phone number as a method of contact for high and medium level alerts. When the CHECC is deactivated the Operations Chief must collect the spare cell phones and the MIHAN Leader must update the CHECC shift roles.

Satellite Phones

Description: **The OPHP has 2 fixed unit and 12 portable satellite phones. One of the fixed unit satellite phones is accessed through a special circuit assigned to OPHP management and other designated OPHP staff. The special circuit is also available on the CHECC front desk and executive conference room phones. The special circuit on these phones is a secure channel when talking with someone on another secure channel. The unsecured fixed unit is in the 2nd floor OPHP server room. The 12 portable satellite phones are assigned to designated MDCH staff, 2 for RSS and 2 are unassigned.**

Responsible CHECC Position: **Incident Response Coordinator**

Activation: **The Incident Response Coordinator will determine when the secure satellite circuit phones must be used. The portable and unsecured fixed units may be used when needed as a redundant means of Communication with personnel to whom they have been assigned.**

Use: **The satellite phones provide a redundant means of Communication with personnel to whom they have been assigned.**

Teleconference

Description: **OPHP has 5 ConferenceNow teleconference accounts. Each of these accounts has the capacity to conference a large number of lines. International numbers can also be accommodated by the OPHP ConferenceNow accounts.**

Responsible CHECC Position: **Operations Chief**

Activation: **During CHECC activation the Operations Chief is responsible for having the OPHP ConferenceNow numbers, passwords and moderator codes.**

Use: **The Operations Chief will provide the conference numbers for use as directed by the Incident Coordinator or Deputy Coordinator.**

CHECC Telephone Bank

Description: **30 computer work stations and telephone lines that may be setup for public information response. All lines can be reached through a single number, 1-888-535-6136.**

Responsible CHECC Position: **Risk Communication Lead**

Activation: **The Risk Communication Leader will activate the CHECC Telephone Bank at the direction of the Incident Response Coordinator or Deputy Response Incident Coordinator. The Information Technology Leader must send a request to Michigan Department of Information Technology to activate the phone bank. The Logistics Chief has responsibility for the recruitment and scheduling of volunteers to staff the phone bank.**

Use: **The telephone bank volunteers will work under the direction of the Risk Communication Lead. Response to public information calls will be consistent with principals established in the Risk Communication Plan.**

Fax

Description: **The CHECC has 2 combination fax and copier machines. One of the machines is configured to send faxes the other to receive. The machine configured to receive faxes is connected to telephone number 517-335-8732.**

Responsible CHECC Position: **IT Leader**

Activation: **Both the incoming and outgoing CHECC fax machines must be on and functioning during CHECC activation.**

Use: **Faxing information is inefficient; the use of the CHECC fax should be limited to instances in which other Communication methods cannot be used.**

Communication Method: Pagers

CHECC Pagers

Description: **OPHP has 50 alpha numeric pagers.**

Responsible CHECC Position: **Logistics Chief**

Activation: **The Logistics Chief may as instructed by the Incident Response Coordinator distribute the pagers to assist in CHECC staffing during activation.**

Use: **The Logistics Chief may assign one of the pagers to persons assisting in CHECC operations during activation. The Logistics Chief must determine in consultation with the MIHAN Leader if persons assigned pagers should be included in MIHAN CHECC shift activation groups. The Logistics Chief must collect the pagers from the persons they were distributed to when the CHECC is deactivated. The MIHAN Leader must revise the CHECC shift roles to remove people who were added at the request of the Logistics Chief.**

Communications Method: Radios

800 MHz Radios

Description: **The CHECC Communications room is equipped with 6, 800MHz base stations and the CHECC security station has one. Numerous MDCH, local and regional staff has been assigned portable 800 MHz radios. In addition all 45 Local Health Departments and 179 Local Hospitals have this capacity which is tested on a monthly basis.**

Responsible CHECC Position: **Operations Chief**

Activation: **The MDCH, regional and local staff with radios has been included in 800 MHz radio activation roles in the Michigan Health Alert Network. The Incident Response Coordinator will determine the need for 800 MHz radio Communications and direct the Operations Chief to activate the 800 MHz radios. The Operations Chief will determine which roles should be alerted to turn on their radios.**

Use: **The 800 MHz radios must be activated when MDCH, Regional or Local staffs are in the field responding to an incident. The base stations in the CHECC Communications room must be staffed with knowledgeable radio operators when the 800MHz radios have been activated via MIHAN alerts. The 800MHz radio system must be used as the primary method of tactical Communications between the CHECC and MDCH, regional and local staff that are in the field responding to an incident.**

460 MHz Radios

Description: **OPHP has 30 portable 460 MHz radios, 1 base station and one repeater.**

Responsible CHECC Position: **Operations Chief**

Activation: **The Logistics Chief and Operations Chief must ascertain whether the 460 MHz radios are needed to assist with Communication within the OPHP building during CHECC activation.**

Use: **The 460 MHz radios may be used to help with coordination of activities within the OPHP building during CHECC activation. The Logistics Chief is responsible for the assignment of these radios and their return upon CHECC deactivation.**

900 MHz Radios

Description: **OPHP has 12, 900 MHz portable radios.**

Responsible CHECC Position: **Operations Chief**

Activation: **The Operations Chief must determine whether OPHP management and designees need a private radio channel outside of the 460 MHz radios for internal OPHP Communication during CHECC activation.**

Use: **The 900 MHz radios may be used as a private radio channel for OPHP management and designees working within OPHP during CHECC activation.**

Radio Amateur Civil Emergency Service (RACES)

Description: **The 2 RACES base radios are kept in the CHECC Communications Room. The RACES radios must be operated by a licensed amateur radio operator.**

Responsible CHECC Position: **Operations Chief**

Activation: **The CHECC Incident Response Coordinator will direct the Operations Chief to activate the RACES radios. The Operations Chief will phone Eagle Media 517-702-1302 to call in qualified operators. The Logistics Chief will schedule qualified operators during CHECC activation.**

Use: **The Radio Amateur Civil Emergency Service (RACES) is provided for in part 97 of the Federal Communications Commission rules and regulations governing amateur radio operators. The RACES base stations in the CHECC Communications Room will be used for Communications with the State Emergency Operations Center (SEOC) when requested by the SEOC. The RACES radios may also be used when needed for Communications with the Modular Emergency Medical System (MEMS), Alternate Care Centers (ACC) and Neighborhood Emergency Help Centers (NEHC).**

Communications Method: Conferencing

Adobe Breeze Web Conferencing

Description: **Internet based web conferencing system. Allows the sharing of the host's desktop with up to 129 other users with high speed connections to the Internet. Breeze also has the capability of broadcasting the host's voice and image if the host's computer is equipped with a microphone and video camera.**

Responsible CHECC Position: **Operations Chief**

Activation: **The Operations Chief is made aware that there is a need to hold a web conference on the Internet. IT Leader provides the Operations Chief with login information for a Breeze meeting which is then distributed by Operations Chief along with date and time to meeting participants.**

Use: **Breeze meetings arranged by the Operations Chief during CHECC activation must be hosted in the OPHP building so that the online meeting doesn't interfere with CHECC operations. Any Breeze meetings scheduled during CHECC activation should also be organized to preserve logins, i.e. use of a conference room with one login that can be viewed by multiple meeting participants. The IT Leader must be available to support the Operations Chief in hosting a Breeze meeting during CHECC activation.**

Video Conferencing

Description: **OPHP has 2 room based video conferencing systems; one in the 2nd floor conference room and the other in the main CHECC room. The third system is a roll-about that can be moved from room to room.**

Responsible CHECC Position: **Operations Chief**

Activation: **The Incident Response Coordinator or Deputy will request that the Operations Chief setup a video conference with selected parties. The Operations Chief with the assistance of the IT Leader will determine whether the video conference can be held via the Internet or Integrated Services Digital Network (ISDN). The Operations Chief and IT Leader will schedule the video conference between the CHECC positions and other parties using the most appropriate system for the video conference.**

Use: **Video conferencing may be used during CHECC activation with response partners who have this capability (list attached).**

Satellite Audio, Video Uplink and Downlink

Description: **The OPHP can receive satellite audio and video broadcasts. The OPHP can also broadcast satellite audio and video by calling Microwave Communications (734-320-6741) and having them hook up a broadcast truck to the special connections on the outside of the building.**

Responsible CHECC Position: **Operations Chief**

Activation: **The Incident Response Coordinator will notify the Operations Chief that a Satellite broadcast downlink or uplink is required. The Operations Chief with the assistance of the IT Leader will take the necessary actions to receive or broadcast satellite audio and video transmissions.**

Use: **The satellite broadcasts can be received in the OPHP 2nd floor conference room or library. To send a satellite audio, video broadcast the Microwave Communications truck must be connected to the outside of OPHP and a camera and microphone must be connected to the satellite uplink sockets in the OPHP multimedia room.**

PHIN EVALUATION AND COMPLIANCE INFORMATION

The following information systems have been or are being evaluated for PHIN Compliance within the Michigan Department of Community Health:

Early Event Detection:

- Michigan Disease Surveillance System (MDSS)
- Emergency Department Syndromic Surveillance
- National Retail Data Monitor (NRDM)

Outbreak Management:

- CDC OMS application

Countermeasures Response Administration:

- Michigan Care Improvement Registry (MCIR) (MCIR, the CDC's CRA and OMS and E-Team are currently being evaluated for the Patient Follow Up and Isolation and Quarantine functionality)

Partner Communication and Alerting:

- Michigan Health Alert Network (MIHAN)

Connecting Laboratory Systems: (Lab Reporting Systems)

- EPIC moving to STARLIMS soon

Cross Functional Components:

- PHIN Messaging Service (CDC Application)
- Currently evaluating systems for the Public Health Directory

Risk and Crisis Communications
All Hazards Response Plan

2.1 Purpose

The goals of crisis Communications are to:

- Provide accurate, consistent and comprehensive information to the general public through the media and other information outlets.
- Address rumors, inaccuracies, and misperceptions and prevent stigmatization of affected groups.
- Instill and maintain public confidence in the nation's public health system and its ability to respond to and manage a comprehensive response.
- Contribute to the maintenance of order, and minimization of public panic and fear.

2.2 Situation and Assumptions

- The MDCH Public Information Officer (PIO) leads the Communication response for MDCH.
- The MDCH Director is responsible for issuing health advisories and protective action guides.

2.3 Organization and Operations

2.3.1 Organization

- An emergency Communication response can be activated by:
    - The MDCH Director
    - The MDCH Chief Medical Executive
    - The OPHP Director
    - The Bureau of Laboratory Director
    - State Epidemiologist/Bureau of Epidemiology Director
    - Chief Administrative Officer of MDCH
    - The MDCH Public Information Officer (PIO)

- Within 60 minutes of notification, the MDCH PIO will activate Communications personnel

Designated Spokespersons

- The MDCH PIO or his/her designee will select a skilled and credible spokesperson, based on the type of public health emergency.
    - The spokesperson may be a member of the department management team with specific expertise in the type of incident at hand.
    - This role may be shared with the Chief Medical Executive.
    - Authorized public health spokespersons will be drawn from:
        - Director of MDCH
        - Director of OPHP
        - Director of Laboratories
        - Chief Medical Executive
        - State Epidemiologist
        - Public Health Chief Administrative Officer
- MDCH subject matter experts may be consulted for supporting information.

Joint Information Centers

- The CHECC Joint Information Center (JIC) will be activated during a public health emergency at the discretion of the MDCH PIO or designee in consultation with the OPHP Director.
- When the MSP-EMHSD Public Affairs Officer activates the SEOC JPIC the MDCH PIO or designee shall report to the SEOC JPIC.
- In the event of a widespread outbreak that requires federal participation, the DHHS Assistant Secretary for Public Affairs and CDC's Emergency Communication System will coordinate the federal public health Communication.

2.3.2 Operations

Consultation with the Executive Committee

- MDCH Communications personnel shall consult with the MDCH Executive Committee to facilitate appropriate and decisive actions in response to the emergency.
- All Communications and approvals for release shall emanate from this central point.

MDCH Notification

- Establish a call tree for notifications in public health emergencies.

- Maintain intradepartmental call-lists including staff members at the Michigan Public Health Institute (MPHI) and Southeast Michigan Health Association (SEMHA).
- Provide a Family Preparedness Guide to assist employees in developing and implementing a family emergency preparedness plan

Public Notification

- Notify public within 60 minutes of receiving information of a public health emergency or threat of emergency.
- Distribute Health Advisories and Public Action Guides addressing
- Monitor media to detect the broadcast of incorrect emergency information. .
- Identify population subgroups that are likely to be disproportionately affected by a public health emergency
- Design informational materials.

Statewide Emergency Response Partners

- Determines flow of information between SEOC, CHECC and local EOC
- Communicates critical tasks between the SEOC, CHECC, local public health and the Medical Control Authorities

2.4 Channels of Communication

References

- MDCH Divisions will collaborate with OPHP risk Communication staff to maintain a set of standard, peer reviewed medical references and summary tables on medical aspects of infectious and non-infectious diseases including diseases related to weapons of mass destruction (WMD), which can be provided to health care providers.

Web Resources

- MDCH Communications personnel shall determine which MDCH website to utilize for each specific emergency and make it available to the media.
- MDCH maintains a public information database, which includes multilingual materials on CBRNE and other public health emergencies.

Blast Fax

- Over 250 Media organizations are on the MDCH FAX list, which is available from the MDCH PIO and in the Risk Communications Data Base found at G:\Public Health Preparedness\Contact Lists.

MDCH Emergency Hotlines

- Hotlines include a “Community Health General Information” line and a ‘Community Health Physician Information’ line.

- Provides timely emergency information

Michigan 2-1-1

- Provides a Community based emergency assistance support
- Manages and tracks available resources against requests for assistance
- Provides evacuation/traffic/shelter information to the public
- Provides traveler assistance
- Provides connections to services for long-term recovery

CDC Public Response Service

- Information Hotlines for the public which are available year round.

Culturally-appropriate and Language Specific Information

- OPHP maintains charts for emergency communications in the CHECC:
  - CHECC Outreach Channels to Diverse Populations
  - Outreach Channels to Partners which can be utilized for necessary subject matter experts outside MDCH

As identified in the CHECC Communications Plan, the Public Information Officer (PIO) is the designated spokesperson:

"…implement and maintain an overall information release program: develop and publish a media briefing schedule, designate and coordinate spokespersons, coordinate information with other state agency PIOs, obtain materials clearance/approval from CHECC Executive Group, and prepare and deliver press releases."

In addition to the MDCH PIO, each other state-level department also has an appointed Public Information Officer or media contact to serve as the official media liaison.

Finally, many of the local public health jurisdictions and hospitals have appointed media liaisons as well. During non-emergencies, these individuals serve as the primary point of contact for all media-related queries. During emergency situations where the Strategic National Stockpile has been deployed, an additional local public health Public Information Liaison is dispatched to the dispensing sites to handle media queries. The Public Information Liaison is a role specified in each county's All Hazard Plan.

Local health department risk Communication preparedness:

- All local health departments have completed a plan for crisis and emergency risk Communication (CERC) and information dissemination, to educate the media, public, partners including Tribal Nations, and stakeholders regarding risks associated with the real or apparent threat and an effective public response.
- The CERC plans include outreach strategies for Communicating with diverse populations that include but not limited to people with disabilities, minority groups, the non-English speaking, children, and the elderly.
- The OPHP and LHDs have expanded their lists of interpreters and translation services in their CERC plans.
- All local health departments have identified hotline services within their departments and in their Communities for two-way Communication with the public.
- All local health departments have developed fact sheets and posted materials to their websites.
- All local health departments have developed clinician contact lists for all healthcare providers in their jurisdictions.
- The OPHP sustains the public information officer role in MIHAN, which allows OPHP to alert and activate state and local public health and healthcare partners regarding any public health threat.
- The OPHP continues to maintain back up PIO contact lists on GroupWise to meet redundancy requirements.
- These Communication channels are used to notify public health and healthcare PIOs to sources of pandemic materials.

Training, Education and Exercise

I. Training's

Trainings and exercises the MDCH PIO and OPHP have participated in:

- CERC: Pandemic Influenza October 2006
- OPHP-LHD PIO Communication Drill August 2006
- Mass Antibiotic Dispensing: Using Public Information to Enhance POD Flow December 2005
- Crisis and Emergency Risk Communication: by Leaders for Leaders January 2005
- Operation Perfect Game May 11 2005
- Operation Chicken Little Pandemic Tabletop January 31, 2006
- Michigan Pandemic Influenza Summit April 25, 2006
- NPHIC Annual conference 2005 & 2006
- State of Michigan Avian Influenza Tabletop Exercise March 13, 2006
- Great Lakes Homeland Security Training May 2-4, 2006
- BioWatch August 2006
- Ardent Century CBRNE Exercise 2006
- Fermi Nuclear Power plant exercise, communication between SEOC and CHECC June 2006
- Palisades Nuclear Power Plant Exercise, communication between SEOC and CHECCSeptember 2006
- Monthly 800 MHz radio testing across all partner agencies.

OPHP risk communication staff provided the following training to local counter parts
(All of these trainings are available on MiTRAIN as webcasts)

- *CERC* with Barbara Reynolds 2003
- four *MICERC* trainings in 2004/05 to 250 local health department and hospital PIOs
- *Michigan Public Health Media Summit* September 2004
- *Michigan CERC Leadership Training* May 2005
- *Michigan Public Health Media Summit* June 2005

II. Fostering collaboration

Several regions have regular public information meetings to foster collaboration between public information officers from neighboring jurisdictions. OPHP risk communication staff provide presentations at the PIO networking meetings: Examples:

- Region 2N & 2S Medical PIO Network
- Region 7 PIO Collaborative
- Mid-Michigan PIOs
- Region 6 PIOs
- Greater Kalamazoo Area PIO s

III. Materials for media organizations

OPHP has pandemic influenza and other threat-specific information 'on the shelf' and ready to use when Michigan media organizations need it. All of the following resources are posted on the State of Michigan Prepare website www.michigan.gov/prepares

World Health Organization
Handbook for Journalists: Influenza Pandemic
http://www.who.int/csr/don/Handbook_influenza_pandemic_dec05.pdf#search=%22WHO%20handbook%20for%20journalists%22

U.S. Department of Health and Human Services
Pandemic Influenza Pre-Event Message Maps
http://www.pandemicflu.gov/rcommunication/pre_event_maps.pdf#search=%22media%20guide%20pandemic%22

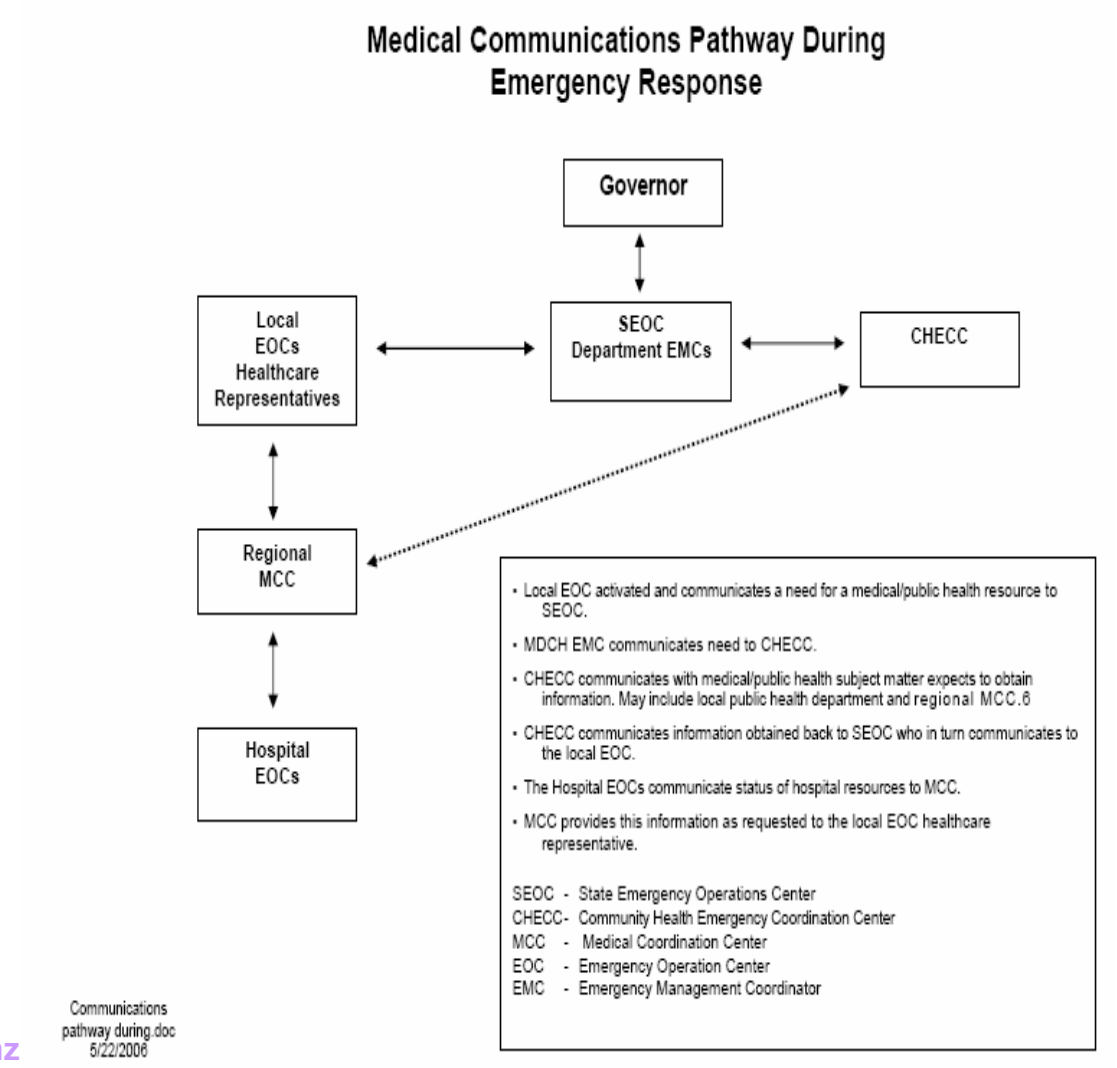
U.S. Department of Health and Human Services
Terrorism and Other Public Health Emergencies: A Field Guide for Media
http://www.hhs.gov/emergency/mediaguide/field/HHSMediaFieldGuideFinal.pdf
Terrorism and Other Public Health Emergencies: A Reference Guide for Media
http://www.hhs.gov/emergency/mediaguide/PDF/HHSMedisReferenceGuideFinal.pdf

National Academies and the Department of Homeland Security

News & Terrorism Communicating in a Crisis Series
Biological Attack
http://www.nae.edu/NAE/pubundcom.nsf/weblinks/CGOZ-6C2MCR/$file/Biological%20Attack%2006.pdf
Chemical Attack
http://www.nae.edu/NAE/pubundcom.nsf/weblinks/CGOZ-66JRHZ/$file/chemical%20attack%2006.pdf
Nuclear Attack
http://www.nae.edu/NAE/pubundcom.nsf/weblinks/CGOZ-6DZLNU/$file/nuclear%20attack%2006.pdf
Radiological Attack
http://www.nae.edu/NAE/pubundcom.nsf/weblinks/CGOZ-646NVG/$file/radiological%20attack%2006.pdf

Attachment 22
Regional Hospital Preparedness

Benchmark 1: **Organizational chart of unified incident management integrating the coalition and jurisdiction**



Signed mutual aid or cooperative agreements among the coalition partners.

In 2002 individual healthcare entities came together to form their regional healthcare coalition. Each of the 8 Regional Medical Bio-Defense Networks is composed of healthcare facilities and other healthcare assets that form a single functional entity to maximize Medical Surge Capacity and Capability (MSCC). This entity coordinates the mitigation, preparedness, response, and recovery actions of medical and health providers, facilitates mutual aid support and serves as a unified platform for medical input. Also included in the regional healthcare coalition are local public health, emergency management and traditional public safety partners. The regions emphasize coordination and cooperative planning of all public and private medical and health assets.

Each region has identified and established a medical coordination center (MCC) to accomplish the MSCC. The MCC often utilizes existing capabilities such as Emergency Medical Service (EMS) communications centers to ensure 24/7 operation. MCC's assist with the provision of a flexible, coordinated and uninterrupted health response. This facilitates standardization and interoperability of healthcare operations to ensure optimum and efficient use of resources. This structure not only supports individual healthcare facilities but also serves as a resource to local and state emergency management operations. The value of this proven resource has already been recognized locally and nationally during activities associated with Hurricane Katrina, Super Bowl XL and the Major League Baseball All-Star game.

Michigan participants in the Emergency Management Assistance Compact (EMAC) which provides resource access via the State Emergency Operations Center (SEOC). At the regional level, health partners work collaboratively with bordering county, states and countries. Region 2 South routinely collaborates with Windsor, Canada and Toledo, Ohio health disciplines during monthly regional meetings. In addition close planning, exercising and response occurred during the Super Bowl XL. Individual EMS agencies in Detroit and Windsor have maintained Mutual Aid Agreements since September 2001. Region 2 North is currently working with Canadian representatives in Sarnia, Ontario in preparation for a regional disaster exercise held in August 2007. Region 5 works closely with Indiana and is in the process of developing a formal Memorandum Of Understanding (MOU). This MOU will help facilitate implementation of the Modular Emergency Medical System (MEMS) to address MSCC. Region 8 also collaborates with Canadian partners and the state of Wisconsin.

Region 3 has MOU/MAA agreement from all regional hospitals. Region 5 hospitals and Medical Control Authorities have adopted MAA's. Region 7 has a region-wide hosp-to-hosp MAA and region-wide MCA-to-MCA MAA. In Region 8, all ACC and NEHC sites have current MOU's in place. Mutual Aid Agreements are being finalized through all hospitals. While all EMS agencies have Medical Control Authority, signed MOU's in place, but these are being reviewed for possible upgrade and revision. Since many of the regions have their own specified MOU/MAA, one copy cannot be attached but is available upon request.

Many relationships exist without formal MOUs however agreement to help in a medical emergency has been established. Efforts will continue to formalize this process. Regional partners continue to work to enhance existing relationships and agreements that exist.

Further exploration of legal issues associated with liability, workers' compensation and reimbursement resolution is needed and has been given priority. Michigan state government has entered into mutual aid agreements addressing civil liability, namely the Emergency Management Assistance Compact (EMAC), however a division exists for registry volunteers as they are still considered to be independent, non-State assets. Protections specific to Michigan and applicable to ESAR-VHP volunteers have been identified and are under examination for their relevance during certain events (i.e., declared vs. undeclared state of disaster, setting in which volunteer is providing services, etc.); the jurisdictions' involvement; volunteer professions, affiliation and employment status.

Contracts or other systems in place for moving and tracking equipment, supplies and personnel

At the regional level, each of Michigan's eight regions has a contract with EMResource for tracking and management of beds and supplies. Equipment and supplies purchased by the regions with funds provided through state contracts remains available as state assets. The regions provide a listing of equipment/supplies to the State at least quarterly. Therefore, the state health coordinating center always is aware of where these critical resources reside. Most of the regions maintain these critical surge equipment and supplies in trailers that allows rapid deployment around the state.

Mechanisms are in place to identify and communicate information to other state and federal agencies as appropriate.

At the State level, Michigan Volunteer Registry includes a notification system that will assist with the identificationn of volunteer personnel. Other State departments (Transportation, Management/Budget) resources are also available to assisting with transporting equipment, supplies and personnel.

Procedures for deploying and tracking volunteer health care providers using the ESAR-VHP system requirements

The MI Volunteer Registry is an Internet-based system enabling healthcare personnel and citizens to pre-register to volunteer their assistance during an emergency. The registry assembles volunteers based on verification of their identity, credentials, and qualifications. Those interested in volunteering can securely enter their contact information on the website. During an emergency, volunteer information will be gathered and appropriate volunteers contacted by authorized personnel. There are administrators at the state, regional and local levels that have access to the registry and are thus able to deploy volunteers as needed.

Physicians, nurses, behavioral health, emergency medical services personnel, ancillary support staff and all other individuals interested in assisting are encouraged to register. There are close to 2,200 volunteers registered from the state of Michigan and border state counties.

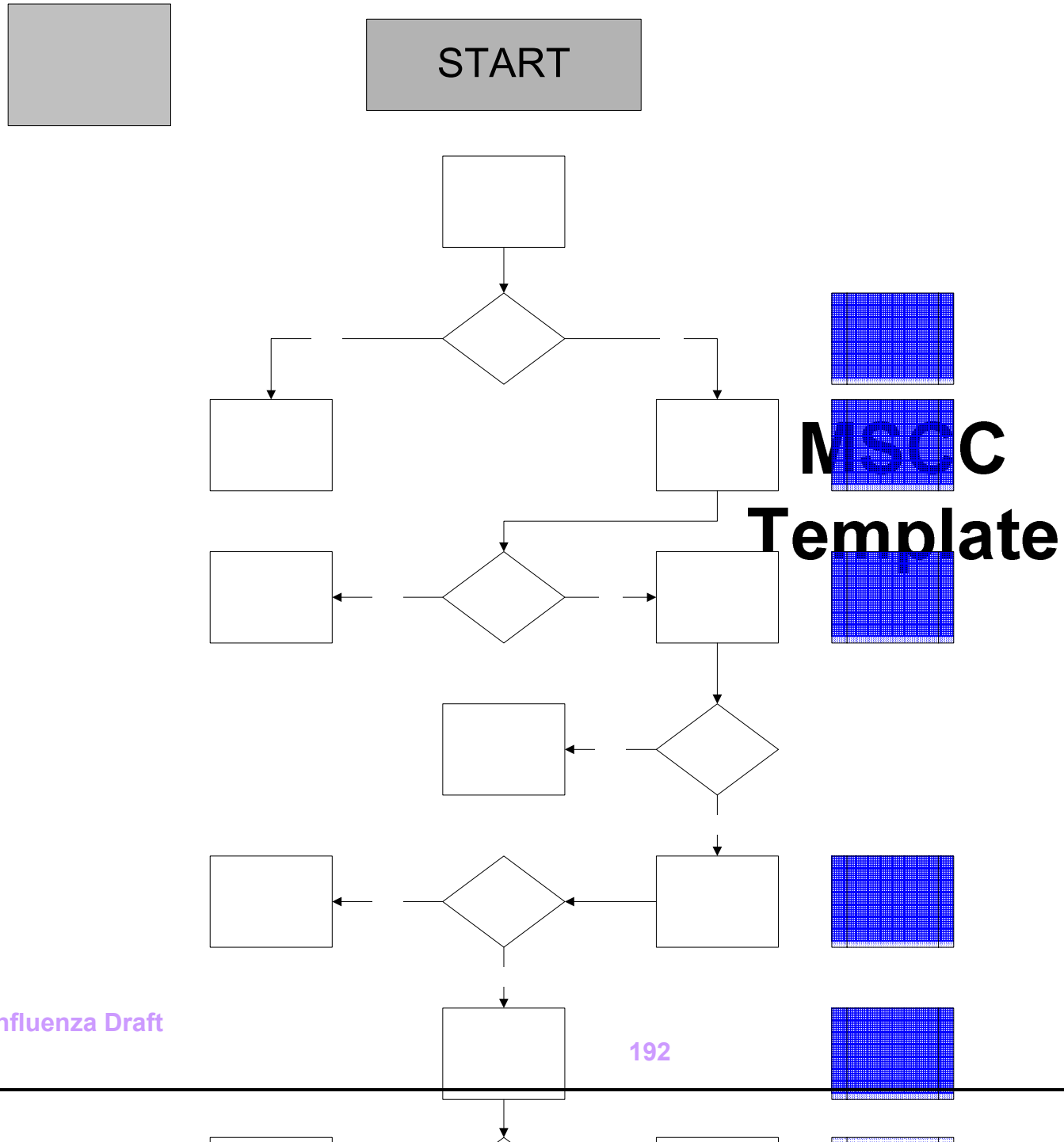
Several deployment protocols and operational procedures have been drafted from the federal, state, and local perspective for coordinating an organized and rapid response as managing volunteers among multiple agencies, counties, and jurisdictions is sure to be a challenge. As of January 2007, all five Emergency Management Citizen Corps Program (CCP) groups, including the Medical Reserve Corps (MRC), were added to the registry. By incorporating the CCP into the MI Volunteer Registry, volunteer mobilization will become more streamlined. All volunteers registered in the system are now also held to the same standard in terms of credentialing and verification.

Decision-making steps or matrices for the ethical distribution of scarce medical resources between the healthcare coalitions

MEMS establishes a framework to facilitate augmentation of local response efforts through the organization of outside medical resources and available assets into two types of expandable patient care modules, the Alternate/Acute Care Center (ACC) and the Neighborhood Emergency Help Center (NEHC). Activation of MEMS can occur at the local level in accordance with regional plans in consultation and with guidance of state authorities. Every effort will be made to identify traditional healthcare resources to address surge before implementing MEMS.

The Regional Medical Coordination Center (MCC) is designed to be a medical resource to local/regional medical health agencies and local emergency management. The purpose of this component is to assist with the provision of a flexible, coordinated, uninterrupted health response. It will help facilitate standardization and interoperability of health care operations and ensure optimum and efficient use of resources. The MCC coordinates activation, mobilization and resourcing of the MEMS components with the healthcare community, local public health, and Emergency Management (EM). It also responds to status updates requested by the State Emergency Operations Center (SEOC) and/or the Community Health Emergency Coordination Center (CHECC). Access to the critical resources available within each region provides important information to aid in allocation of resources. This may include Federal requests for information on available health resources.

Specific decision-making steps for the ethical distribution of medical resources during an incident have not been developed. However, the need for such is recognized and steps toward fulfilling this critical component have begun. State partners with such guidelines have shared resources. The AHRQ guidance, “Mass Medical Care with Scarce Resources”, has been reviewed and discussed among state and regional partners.


START
MSCC
Template

Plans for expanding health care services into alternative care sites including identification of locations, scope of care, procurement of staffing, equipment, supplies and pharmaceuticals

Essential plans associated with alternative care sites have been addressed in a Modular Emergency Medical System (MEMS) Planning Tool, created as a guideline for emergency preparedness partners in Michigan. This document, initiated in 2004, is a template for developing each region's plan. Each region should monitor their population and potential off site care numbers based on the guidelines established by the NBHPP from HHS HRSA. The two components of MEMS include Alternate Care Centers (ACC) and Neighborhood Emergency Help Centers (NEHC). Tools to assess the potential for sites have been developed to ensure consistent criteria across jurisdictions.

An ACC is not an immediate resource. Upon a hospital surging beyond their limits, an ACC may be activated. Management of the ACC is the primary responsibility of hospitals. ACCs are designed in 50 bed pods. An ACC is designed to treat patients who need more extensive care such as hydration or pain management. Patients admitted to an ACC may be admitted for end of life care utilizing the hospice concept. During pandemic influenza the alternate care center concept may facilitate cohorting of patients with the same infectious process or exposure. Criteria for transfer and discharge decisions are pre-established in order to maintain maximum bed availability. Staffing at an ACC may need to include non-traditional, additional healthcare providers and volunteers will be deployed through the MI Volunteer Registry. Predetermined locations for an ACC are close or adjacent to supporting hospitals, with a consideration of building size, parking requirements, within reasonable distance of the designated population intended to serve, recognizable, etc. A list of required supplies and equipment has been established and it is mandated that an ACC contain a minimum of 25 patient cots. It is recommended that a cache of equipment and supplies is developed and maintained. Pharmaceuticals are received through the SNS Program.

The NEHC provides the entrance point to MEMS and is coordinated by local health departments. It is designed to meet the capacity of processing 1,000 individuals each 24-hour cycle. Many local programs integrate the NEHC into mass prophylaxis and vaccination clinic initiatives. Medical treatment is limited to first aid, distribution of prophylactic medications, self-help information and instructions. Medical stabilization can be performed for those needing transfer to an ACC or hospital. An NEHC is a preexisting structure whereas the services offered and patient volume will directly influence site selection. Staff in a NEHC should include approximately 80 physicians/nurses/pre-hospital care providers, clerical personnel and civilian volunteers for a 12-hour shift.

Procedures and systems for documenting, collecting and accounting for final disposition of the dead including retrieval of bodies from homes if necessary

As local and regional partners continue to develop and refine plans to address fatality management, the State of Michigan can provide a resource known as MI-MORT to augment existing protocols, although fatality management plans vary from region to region. Procedures and systems for identifying and documenting the deceased including retrieval or remains (when necessary) related to MI-MORT are as follows.

The MI-MORT concept consists of personnel that assist in mass fatality response efforts. While each individual has a specific role, minimum requirements are used to classify each team member based on their respective training, education, and experience backgrounds. These requirements are identified within the parenthesis following the role of the team member.

Procedures and systems for storage of bodies

Each jurisdiction maintains responsibility to work on efforts to address an increase in the number of fatalities.

Alternatives to funerals when public gatherings are discouraged.

While plans are outlined for the disposition of human remains during a mass fatality incident, more discussion and planning is needed to address non-traditional disposition alternatives when public gatherings are discouraged. This may include supporting video conferencing to avoid congregation of family members, or delaying funeral services.

Attachment 23
Use of Masks in the Community
Interim Guidance, CDC May 2007
For full text see: http://www.pandemicflu.gov/plan/community/maskguidancecommunity.html

Recommendations

The timing and severity of the next influenza pandemic cannot be predicted. Information about the prevalence and severity of influenza in a pandemic may affect how these and other public health recommendations are applied. Once a pandemic is under way and more is known about the characteristics (e.g., virulence, transmissibility, clinical manifestation, drug susceptibility, and risk to different age groups and subpopulations) of a given pandemic strain, these recommendations may be modified. (Appendix 1 summarizes the interim guidance for facemask and respirator use during a pandemic, and Appendix 2 provides a sample public fact sheet that describes these recommendations in lay language).

1. **Avoid the Source**

During an influenza pandemic, people should avoid contact with ill individuals and with groups of people that might include infectious individuals. While close contact (within 6 feet) with an individual ill with influenza carries an increased risk of infection, more crowded conditions increase the probability of being exposed to infectious material (e.g., from coughs and sneezes). Crowded settings should be avoided to the greatest extent possible during a pandemic.

Some individuals, such as pregnant women and persons with certain underlying medical conditions (e.g., cardiopulmonary disease or immunodeficiency), are at increased risk for severe illness or complications from seasonal influenza infection, and they may likewise be at high risk during a pandemic as well. In addition to the usual risk groups, others may be at high risk for severe illness and complications during a pandemic (e.g., normally healthy children or young adults). It is especially important that all persons who are at high risk avoid crowded settings and adhere to recommended infection prevention practices.

2. **Contain the Source**

When individuals are ill with respiratory symptoms (e.g., coughing, sneezing) during an influenza pandemic, they should stay at home except when it is critically necessary to leave (e.g., to obtain medical care). Individuals with a respiratory illness should wear a facemask to contain respiratory secretions (e.g., to cover coughs and sneezes) if they are in the presence of others. For specific information about the use of facemasks by ill persons ("source control"), see *Interim Guidance for the Use of Masks to Control Influenza Transmission* (www.cdc.gov/flu/professionals/infectioncontrol/maskguidance.htm). For information about masks cleared by the FDA and legally marketed as medical devices in the United States, see *Masks and N-95 Respirators* (www.fda.gov/cdrh/ppe/masksrespirators.html). For information on cough etiquette and hand hygiene, see *Stopping the Spread of Germs at Home, Work & School* (www.cdc.gov/flu/protect/stopgerms.htm).

Since a facemask worn by a coughing person may reduce the amount of potentially infectious material released into the surrounding area, one strategy for reducing the spread of influenza would be to encourage everyone to wear a facemask while they are together if a group gathering is

unavoidable. This might reduce the overall risk to the group by increasing the likelihood that all unanticipated coughs and sneezes would be covered and that respiratory secretions would not be widely spread while people are speaking or breathing.

Another strategy that could reduce this risk would be to screen individuals as they enter a gathering and to exclude anyone with a cough or fever, or anyone who has been exposed to an ill household member. No approach is foolproof and instituting such measures may be problematic, but each strategy may have additive benefits when a gathering is unavoidable.

3. **Prevent/Limit Exposures**

If a gathering is unavoidable, crowding should be minimized and every effort should be made to encourage cough etiquette (see www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm) and hand hygiene (e.g., tissues, waste baskets, handwashing facilities, and alcohol-based hand sanitizers as an alternative to handwashing should be readily available; see www.cdc.gov/flu/protect/stopgerms.htm). In addition, individuals may consider wearing a facemask or respirator to help prevent exposure to respiratory secretions from symptomatic individuals. Different types of currently available facemasks and respirators are described in Appendix B of *Interim Guidance on Planning for the Use of Surgical Masks and Respirators in Healthcare Settings during an Influenza Pandemic* (www.pandemicflu.gov/plan/healthcare/maskguidancehc.html).

Facemasks do not form a tight seal on the wearer's face and are not designed to filter out small particles that can be inhaled and that may have a role in influenza transmission. However, facemasks are useful in blocking large infectious droplets (created when a person coughs or sneezes nearby) from landing on the susceptible mucous membranes of the wearer's nose and mouth; this is thought to be an important mode of influenza transmission. Facemasks have the advantages of being relatively comfortable to wear and inexpensive to purchase. In addition, small facemasks are available that can be worn by children, but it may be problematic for children to wear them correctly and consistently. Moreover, no facemasks (or respirators) have been cleared by the FDA specifically for use by children. For these reasons, other prevention strategies (e.g., hand hygiene, social distancing) should be considered for this population (see *Interim Pre-Pandemic Planning Guidance: Community Strategy for Pandemic Influenza Mitigation in the United States — Early, Targeted, Layered Use of Nonpharmaceutical Interventions*; www.pandemicflu.gov/plan/community/commitigation.html). Washable fabric masks are used in many parts of Asia and elsewhere in the world when disposable facemasks are unavailable. However, no reusable fabric masks have been evaluated by the FDA for use in preventing transmission of infectious agents, and none are legally marketed in the United States for use in infection control.

NIOSH-certified N95 and higher filtering facepieces are made of dense material that is certified to filter out very small particles that can be inhaled. To be most effective, these types of respirators should form a tight seal against the wearer's face. They also will block both small splashes and large droplets. These respirators are most effective and safest when the wearer has been properly fitted (i.e., fit-tested) and provided with a health assessment and training to use the device. In the non-work setting, this fit-testing, health assessment, and training may be difficult to obtain, since these activities are usually performed for workers as part of an occupational health program. Respirators are not designed to form a tight fit on people with very small faces (e.g., children) or who have facial hair. N95 and higher respirators are less comfortable to wear than facemasks because the density of the material makes it more difficult to breathe through. Reusable (e.g., elastomeric) respirators are also available. These respirators can be

cleaned, repaired, and re-used, but special precautions should be followed when using them. For more information about respirators, see NIOSH Safety and Health Topic: Respirators (www.cdc.gov/niosh/npptl/topics/respirators/).

Persons with pre-existing heart or lung disease or other health conditions may have difficulty breathing through some respirators and should consult with their personal physicians before using a respirator. For more information about respirators, refer to Appendix B of *Interim Guidance on Planning for the Use of Surgical Masks and Respirators in Healthcare Settings during an Influenza Pandemic* (www.pandemicflu.gov/plan/healthcare/maskguidancehc.html).

Both facemasks and respirators may be beneficial in discouraging wearers from inadvertently touching their nose or mouth with unwashed hands, which could help prevent virus transmission and infection.

Length of time and risk of exposure

Several activity-related and personal issues should be considered before deciding whether to wear a facemask or respirator for personal protection in non-occupational settings during a pandemic. The primary consideration in selecting between a facemask and respirator is whether close contact **is expected** with someone who has symptomatic pandemic influenza. Other considerations may include the duration of the event and whether it will or will not be crowded. One should also consider personal issues, such as the ability to wear a respirator correctly for the period of time anticipated. As noted above, compared with a respirator, a facemask is more comfortable to wear and could likely be worn for longer periods, but is not intended to provide protection against smaller inhalable particles. In contrast, if used correctly, a respirator can provide protection against most smaller inhalable particles, but is less comfortable than a facemask and is more difficult to wear for longer periods of time.

If the activity in which interaction with other members of the community is unavoidable, but is unlikely to involve close contact with an ill individual, a facemask could be comfortably worn during this interval to prevent unexpected splashes from a sneeze or cough reaching the wearer's nose or mouth. (Examples include a brief trip to a grocery store to purchase food and supplies or attending essential religious services.)

If there is the expectation of close contact with a symptomatic individual, every effort should be made to limit the duration of exposure to the ill individual(s) to as short a period as possible. In such situations, proper use of a well-fitted N95 or higher respirator may be a reasonable choice. (Examples include treating an ill family member in the home or visiting an ill neighbor to deliver food or medications.)

Planning assumptions project that there will likely be shortages of respirators during a sustained pandemic. For example, quantities of N95 or higher respirators may have to be prioritized for use by certain healthcare workers whose occupational activities place them at increased risk for infection. If supplies of N95 or higher respirators are not available, facemasks can provide protection against large-droplet exposure and should be worn when close contact with ill persons is anticipated. If supplies of respirators and facemasks are unavailable, washable fabric masks might afford some protection against exposure to large droplets. However, no reusable fabric masks have been evaluated by the FDA for use in preventing transmission of infectious agents, and none are legally marketed in the United States for use in infection control.

Considerations for using facemasks and respirators

To offer optimal protection, both facemasks and respirators need to be worn correctly and consistently throughout the time they are used. Facemasks can be worn comfortably for longer periods, but they are not designed to prevent inhalation of small particles. Respirators, if worn and fitted correctly, will provide protection against most small particles, although they are not specifically designed to prevent transmission of infectious agents. There is limited evidence available to suggest that use of a respirator without fit-testing may still provide better protection than a facemask against inhalation of small particles.

Respirators should be inspected for damage (e.g., cracks) and structural integrity. For example, if the filter material is physically damaged or soiled, the respirator should be discarded. Users should familiarize themselves with the different types and limitations of facemasks and respirators and with the proper method for wearing them (see Appendix B of *Interim Guidance on Planning for the Use of Surgical Masks and Respirators in Healthcare Settings during an Influenza Pandemic*; www.pandemicflu.gov/plan/healthcare/maskguidancehc.html).

Wearing a facemask or respirator incorrectly or removing or disposing of it improperly can contaminate the wearer's hands or mucous membranes with virus, possibly resulting in exposure of the wearer or others to the virus. Proper facemask or respirator use and removal include the following:

- Prior to putting on a facemask or respirator, wash hands thoroughly with soap and water. Use an alcohol-based hand sanitizer if soap and water are not available.
- Avoid touching the outside of the facepiece during and after use to help prevent contamination of hands with infectious material that may have collected there.
- Once worn, the disposable facemask or respirator should be removed carefully using the elastic bands or ties at the back of the head (avoid touching the facepiece) and appropriately discarded in the regular trash. If disposable facemasks and respirators are unavailable and a reusable fabric mask is used, it should be removed in the same way and laundered with normal laundry detergent and tumble-dried in a hot dryer. As noted previously, no reusable fabric masks have been evaluated by the FDA for use in preventing transmission of infectious agents, and none are legally marketed in the United States for use in infection control.
- After the facemask or respirator has been removed and discarded, wash hands thoroughly with soap and water. Use an alcohol-based hand sanitizer if soap and water are not available.