Executive Summary

Influenza viruses have threatened the health of animal and human populations for centuries. Their diversity and propensity for mutation have thwarted our efforts to develop both a universal vaccine and highly effective antiviral drugs.

The word "pandemic" is derived from the Greek *pan*, meaning all, and *demos*, meaning people. A pandemic occurs when a novel strain of influenza virus emerges that has the ability to infect and be passed efficiently between humans. Because humans have little immunity to the new virus, a worldwide epidemic, or pandemic, can ensue. Once a pandemic begins, it cannot be stopped easily. However, it can be slowed, giving the United States time to prepare and/or time to develop and distribute antiviral drugs, vaccines and other countermeasures to mitigate the effects.

The pandemic threat we now face is from new influenza strains, the Influenza A (H5N1) and A (H1N1). H5N1 is currently spreading throughout bird populations across Asia, Africa, and Europe, infecting domesticated birds and long-range migratory birds. Since late 2003 this virus has infected over 340 people in the Eastern Hemisphere with a mortality rate of over 62 per cent. Thus far, human-to-human transmission has been limited. The 2009 Influenza A (H1N1) strain, declared a pandemic strain in June 2009, – a triple re-assortment of human, swine, and avian origins – began in Mexico and the United States in April 2009, and spread to at least sixty-four countries within the first six weeks of its emergence.

The Michigan Department of Community Health's (MDCH) *Pandemic Plan* (the Plan) is a functional annex to the MDCH Michigan Emergency Operations Plan. The Plan outlines how MDCH will prepare for, respond to, and recover from a pandemic event in Michigan. This Plan is applicable for any novel strain that reaches pandemic levels.

The Plan describes systems and infrastructure that are currently in place to effectively respond to a pandemic event in Michigan. The Plan will provide detailed information on what actions need to be taken. The more practical element of "how" these actions will be carried out during an event will be determined by MDCH management. The Plan is broken into three response stages: pre-pandemic, pandemic, and post-pandemic. The Plan will discuss the following ten planning/response elements for each response stage:

- Command and Management
- Crisis Communication
- Surveillance
- Laboratory Guidelines
- Community Containment
- Infection Control
- Medical Management
- Data Management
- International Issues
- Recovery

The Current Situation

Avian viruses were involved in three of the last four pandemics. The 1918 pandemic [A (H1N1)] killed 20-50 million people, more than the death toll caused by World War I. The 1957 pandemic [A (H2N2)] caused approximately 70,000 deaths in the United States. The 1968 pandemic [A (H3N2)] killed approximately 34,000 people in the United States.

The 2009 Influenza A (H1N1) strain – a triple re-assortment of human, swine, and avian origins – spread rapidly in the United States in the spring of 2009. By fall 2009, over 99% of the subtyped cases of influenza in the U.S. were identified as the pandemic strain. Although this pandemic strain does not appear to produce illness as severe as the previous 20th Century pandemics, it still has the potential to mutate rapidly.

Using the previous century's pandemics as a guide, it is possible to extrapolate potential illness rates for a future pandemic. See Table 1. Assuming a moderate pandemic, similar to those experienced in 1957 or 1968, the United States could expect approximately 90 million individuals to become ill with an estimated 209,000 deaths. In Michigan, that would translate to 3.4 million ill with 5,000 fatalities. See Table 2.

Table 1. Projection of illness, healthcare utilization, and deaths associated with moderate or severe future pandemic influenza scenarios in the United States.[1]

Characteristic	**Moderate (1957- or 1968-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

[1] U.S. Department of Health and Human Services, *Pandemic Influenza Plan*, p. 18. http://www.hhs.gov/pandemicflu/plan/pdf/HHSPandemicInfluenzaPlan.pdf

Table 2. Minimum and maximum impact estimates, by health outcome, from two possible future scenarios of pandemic influenza in Michigan.[2]

	Gross Attack Rate 35%			
	Moderate (1957- or 1968-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

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

We live in an increasingly interconnected world. The availability of relatively easy world travel has made the possibility of world-wide spread of infectious diseases a significant possibility. It is therefore incumbent upon all of us to plan and prepare for pandemic conditions. In this process, we should strive to avoid the two extremes of apathy and panic. Rather, we should exercise prudence which requires a realistic assessment of the situation and undertaking reasonable preparations. It is this measured approach that characterizes this document.

[2] Centers for Disease Control and Prevention, Flu-Aid 2.0 software. http://www.cdc.gov/flu/tools/fluaid/index.htm. Historical data suggests 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.

The National Planning Landscape

Although most are aware of numerous pandemics throughout history, concerted effort in the United States to plan for, and mitigate the effect of, a pandemic is only a recent phenomenon. This section will provide details on some of the key milestones in our nation's progress toward pandemic preparedness.

Federal Guidance and Legislation: A Chronology

The U.S. Department of Homeland Security released the *National Response Plan*[3] in January 2005. The plan presented a unified and standardized approach within the United States for protecting citizens and managing homeland security incidents by integrating existing and formerly disparate processes. The plan was intended for use by agencies that might be required to assist or support during a national incident, whether from threats or acts of terrorism, major natural disasters, or man-made emergencies.

The *National Strategy for Pandemic Influenza*,[4] issued in November 2005, outlined the nation's preparedness and response to an influenza pandemic, with the intent of (1) stopping, slowing or otherwise limiting the spread of a pandemic to the United States; (2) limiting the domestic spread of a pandemic, and mitigating disease, suffering and death; and (3) sustaining infrastructure and mitigating impact to the economy and the functioning of society. The *Strategy* charged the U.S. Department of Health & Human Services (DHHS) with leading the federal pandemic preparedness efforts and being the lead agency for Emergency Support Function 8[5]. The Centers for Disease Control and Prevention is designated to be the lead agency for public health issues in the United States. DHHS and the CDC support to states includes:

- Providing technical information.
- Conducting research to support the scientific foundations of public health actions.
- Mobilizing and deploying personnel, when necessary, to assist state and local officials with epidemiological investigations.
- Advising states 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.

[3] The U.S. Department of Homeland Security amended the *National Response Plan* and re-issued it as the *National Response Framework* in January 2008. See footnote 6.

[4] Homeland Security Council. *National Strategy for Pandemic Influenza*. Washington, DC: Government Printing Office, 2006. http://www.whitehouse.gov/homeland/nspi.pdf

[5] http://www.fema.gov/pdf/emergency/nrf/nrf-esf-08.pdf

Also in November 2005, the U.S. Department of Health and Human Services (DHHS) released their *Pandemic Influenza Plan*.[6] This document served as a blueprint for all DHHS pandemic influenza preparedness and response planning. Part 1, the Strategic Plan, described a coordinated public health and medical care strategy to prepare for, and begin responding to, an influenza pandemic. Part 2, Public Health Guidance for State and Local Partners, provided guidance on specific aspects of pandemic influenza planning and response for the development and response actions to specific HHS agencies and offices.

In November 2005, the World Health Organization (WHO) updated their *Global Influenza Preparedness Plan*. This new plan addressed the possibility of a prolonged existence of an influenza virus of pandemic potential, such as the H5N1 influenza virus subtype in poultry flocks in Asia, which persisted from 2003 onwards. The WHO characterized a potential pandemic in terms of phases. Their new plan redefined the increasing public health risk associated with the emergence of a new influenza virus subtype, recommended actions for national authorities, and outlined measures to be taken by WHO during each phase of the pandemic.

The U.S. Congress passed the *Pandemic and All-Hazards Preparedness Act*[7] (PAHPA) in January 2006 which has broad implications for DHHS's preparedness and response activities. Among other things, the Act amended the Public Health Service Act to established within the Department a new Assistant Secretary for Preparedness and Response (ASPR); provided new authorities for a number of programs, including the advanced development and acquisitions of medical countermeasures; and called for the establishment of a quadrennial National Heath Security Strategy. Perhaps most importantly, the PAHPA required states and funded entities to:

> (i) measure progress toward achieving the outcome goals; and (ii) at least annually, test, exercise, and rigorously evaluate the public health and medical emergency preparedness and response capabilities of the entity, and report to the Secretary on such measured and tested capabilities and measured and tested progress toward achieving outcome goals, based on criteria established by the Secretary. §201(g)(1)(B)

The *National Strategy for Pandemic Influenza – Implementation Plan*,[8] released in May 2006 by the White House, outlined more than 300 actions for federal departments and agencies. This document introduced the concept of U.S. Government Stages of response to a pandemic, and compared these to the phases outlined by the World Health Organization. Clear expectations for state and local governments and other non-federal entities were outlined.

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[6] U.S. Department of Health and Human Services. *Pandemic Influenza Plan*. Washington DC: Government Printing Office, 2005. http://www.hhs.gov/pandemicflu/plan/

[7] Pandemic and All-Hazards Preparedness Act (2006). http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=109_cong_bills&docid=f:s3678enr.txt.pdf

[8] Homeland Security Council. *National Strategy for Pandemic Influenza – Implementation Plan*. Washington, DC: Government Printing Office, 2006. http://www.whitehouse.gov/homeland/nspi_implementation.pdf

In February 2007, the Centers for Disease Control and Prevention (CDC) released their *Interim Pre-pandemic Planning Guidance: Community Strategy for Pandemic Influenza Mitigation in the United States*.[9] This guidance document outlined using non-pharmaceutical interventions as one component of a comprehensive community mitigation strategy, and presented the concept of pandemic severity. See Figure 1. The overall goal of the community mitigation strategies outlined in this plan was to 1) delay the peak outbreak period, 2) decrease the burden on hospitals and infrastructure, and 3) diminish the overall cases and health impacts.

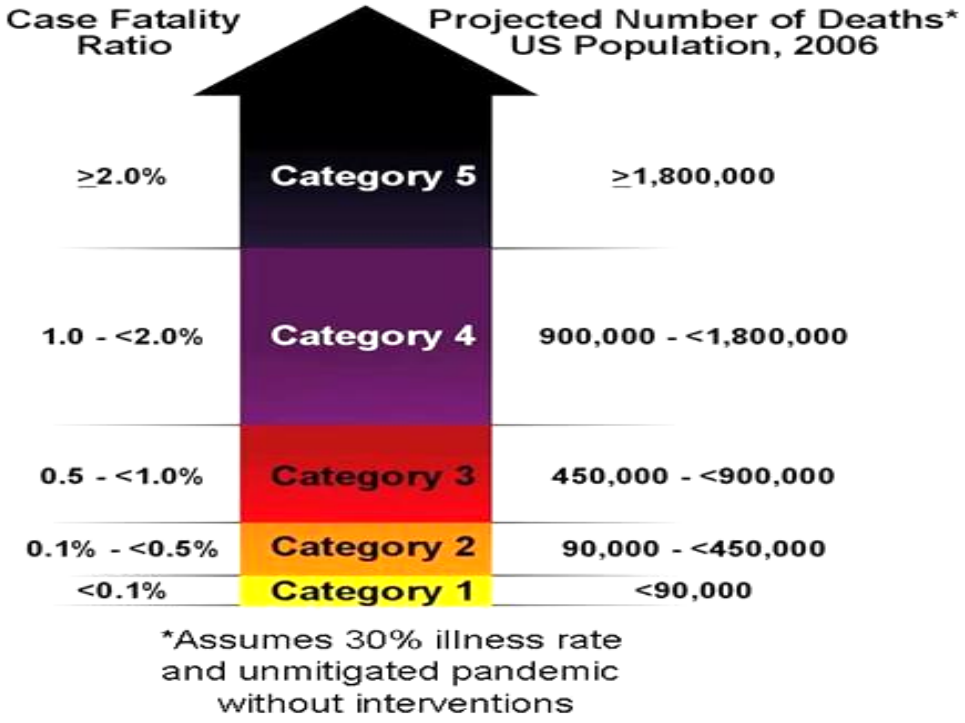

Figure 1. As outlined in the CDC's *Interim Pre-pandemic Planning Guidance: Community Strategy for Pandemic Influenza Mitigation in the United States*, it is possible to characterize pandemic severity based on case fatality ratio and projected number of death in the U.S. population.

9 Centers for Disease Control and Prevention. *Interim Pre-pandemic Planning Guidance: Community Strategy for Pandemic Influenza Mitigation in the United States – Early, Targeted, Layered Use of Non-pharmaceutical Interventions*. Washington, DC: Government Printing Office, 2007. http://www.pandemicflu.gov/plan/community/community_mitigation.pdf

The U.S. Department of Homeland Security released the *National Response Framework*[10] in January 2008. This document provided a guide to how the nation conducts all-hazards response. It is built to be scalable, flexible, and adaptable in coordinating structures to align key roles and responsibilities across the nation. The *Framework* describes specific authorities and best practices for managing incidents that range from the serious but purely local, to large-scale terrorist attacks or catastrophic natural disasters.

In March 2008, the federal government released their *Federal Guidance to Assist States in Improving State-Level Pandemic Influenza Operating Plans*. This document outlined the ASPR guidelines, as directed under the PAHPA legislation, for states' pandemic preparedness. There were three strategic goals as an overarching framework for the various functions of state government during a pandemic: ensure continuity of operations of state agencies and continuity of state government, protect citizens, and sustain/support critical infrastructure and key resource sectors. For each strategic goal, the guidance listed numerous, more specific, operating objectives. See Table 3.

In July 2008, the U.S. Department of Health and Human Services issued *Guidance on Allocating and Targeting Pandemic Influenza Vaccine*.[11] This guidance document placed each person in the United States into at least one vaccination target group. Occupationally defined vaccination target groups included only individuals who were critical for providing essential services during a pandemic, not the entire workforce.

The federal government released their *Assessment of States' Operating Plans to Combat Pandemic Influenza* in January 2009. This report summarized the status of states' operating plans with respect to preparedness for, response to, and recovery from an influenza pandemic. This assessment fulfilled a requirement established by the *National Strategy for Pandemic Influenza – Implementation Plan*. The report found that, in the aggregate, states made important progress toward preparing for their unique roles in combating an influenza pandemic, but have much more to do. Preparedness was most advanced, albeit not in every state, with respect to responsibilities specifically under the purview of state public health agencies. Michigan's particular performance in this evaluation will be discussed in the "State of Michigan's Planning Landscape" section of this document.

In March 2009, the federal government outlined their expectations for the states' 2009 submission of their pandemic influenza state operational plans, as required by the PAHPA. States and funded entities will be required to submit responses to seven key pandemic preparedness evaluation areas:

[10] U.S. Department of Homeland Security. *National Response Framework*. Washington, DC: Government Printing Office, 2008. http://www.fema.gov/pdf/emergency/nrf/nrf-core.pdf

[11] U.S. Department of Health and Human Services and U.S. Department of Homeland Security. *Guidance on Allocating and Targeting Pandemic Influenza Vaccine*. Washington, DC: Government Printing Office, 2008. http://www.pandemicflu.gov/vaccine/allocationguidance.pdf

- ensuring public health continuity of operations
- ensuring surveillance and laboratory capabilities
- strategies for controls at ports of entry
- implementation of communication mitigation interventions
- acquiring and distributing medical countermeasures
- ensuring mass vaccination capabilities
- ensuring communication capabilities

Table 3. As outlined in the *Federal Guidance to Assist States in Improving State-Level Pandemic Influenza Operating Plans*, this table shows the three overarching strategic goals and the more specific operating objectives falling within each goal.

Overarching Goals	Operating Objectives	
A. Ensure Continuity of Operations of State Agencies & State Government	A1	Operations of State Agencies
	A2	Public Health COOP
	A3	Continuity of Food Supply
	A4	Agricultural Emergency Response
	A5	Integration of Uniformed Military
	A6	Sustain Transportation Systems
B. Protect Citizens	B1	Surveillance and Laboratory Capability
	B2	Controls at U.S. Ports of Entry
	B3	Community Mitigation Interventions
	B4	Community Mitigation: Schools
	B5	Medical Countermeasures
	B6	Mass Vaccination
	B7	Provide Healthcare
	B8	Mass Casualties
	B9	Communications Capabilities
	B10	Impact on Workers in the State
	B11	Diplomatic Missions
	B12	EMS and 9-1-1
	B13	Public Safety Answering Points (PSAPs)
	B15	Public Safety and Law Enforcement
C. Sustain and Support Seventeen Critical Infrastructure Sectors and Key Assets	C1	Critical Infrastructure & Key Resources
	C2	Public-Private Partnerships
	C3	Risk Management Framework
	C4	Information Sharing
	C5	Leverage Activities for CIKR Protection
	C6	Integration of Government & Private
	C7	Prioritization/Allocation of Scarce Resources

National Infrastructure: Laboratories and Surveillance

Laboratory Response Network. In 1999, the Centers for Disease Control and Prevention (CDC) established the Laboratory Response Network (LRN). The LRN's purpose is to run a network of labs that can respond to biological and chemical terrorism, and other public health emergencies. The LRN now includes state and local public health, veterinary, military, and international labs. Reference laboratories are responsible for investigation and/or referral of specimens. They are made up of more than 100 state and local public health, military, international, veterinary, agriculture, food, and water testing laboratories. In addition to laboratories located in the United States, facilities located in Australia, Canada, and the United Kingdom serve as reference laboratories abroad. Sentinel laboratories play a key role in the early detection of biological agents. Sentinel laboratories provide routine diagnostic services, rule-out, and referral steps in the identification process. While these laboratories may not be equipped to perform the same tests as LRN reference laboratories[12], they can test samples.

Five Categories of Influenza Surveillance

1. Viral Surveillance — About 80 U.S. World Health Organization (WHO) Collaborating Laboratories and 70 National Respiratory and Enteric Virus Surveillance System (NREVSS), located throughout the United States participate in virologic surveillance for influenza. All state public health laboratories participate as WHO collaborating laboratories along with some county public health laboratories and some large tertiary care or academic medical centers. Most NREVSS laboratories participating in influenza surveillance are hospital laboratories. The WHO and NREVSS collaborating laboratories report the total number of respiratory specimens tested and the number positive for influenza types A and B each week to CDC. Most of the U.S. WHO collaborating laboratories also report the influenza A subtype (H1 or H3) of the viruses they have isolated and the ages of the persons from whom the specimens were collected. The majority of NREVSS laboratories do not report the influenza A subtype. Reports from both sources are combined and the weekly total number of positive influenza tests, by virus type/subtype, and the percent of specimens testing positive for influenza are presented in the weekly influenza update, FluView. Some of the influenza viruses collected by U.S. WHO collaborating laboratories are sent to CDC for further characterization, including gene sequencing, antiviral resistance testing and antigenic determination.

   Surveillance for Novel Influenza A Viruses- In 2007, human infection with a novel influenza A virus became a nationally notifiable condition. Novel influenza A virus infections include all human infections with influenza A viruses that are different from currently circulating human influenza H1 and H3 viruses. These viruses include those that are subtyped as nonhuman in origin and those that are unsubtypeable with standard methods and reagents. Rapid reporting of human

[12] http://www.bt.cdc.gov/lrn/

infections with novel influenza A viruses will facilitate prompt detection and characterization of influenza A viruses and accelerate the implementation of effective public health responses.

2. Outpatient Illness Surveillance — Information on patient visits to health care providers for influenza-like illness is collected through the US Outpatient Influenza-like Illness Surveillance Network (ILINet).

The Outpatient Influenza-like Illness Surveillance Network (ILINet) consists of about 2,400 healthcare providers in 50 states reporting approximately 16 million patient visits each year. Each week, approximately 1,300 outpatient care sites around the country report data to CDC on the total number of patients seen and the number of those patients with influenza-like illness (ILI) by age group. For this system, ILI is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat in the absence of a KNOWN cause other than influenza. Sites with electronic records use an equivalent definition as determined by the state public health authorities. The percentage of patient visits to healthcare providers for ILI reported each week is weighted on the basis of state population. This percentage is compared each week with the national baseline.

3. Mortality Surveillance — Rapid tracking of influenza-associated deaths is done through two systems:

- 122 Cities Mortality Reporting System — Each week, the vital statistics offices of 122 cities report the total number of death certificates received and the number of those for which pneumonia or influenza was listed as the underlying or contributing cause of death by age group. The percentage of all deaths due to pneumonia and influenza (P&I) are compared with a seasonal baseline and epidemic threshold value calculated for each week.
- Surveillance for Influenza-associated Pediatric Mortality — Influenza-associated deaths in children (persons less than 18 years) was added as nationally notifiable condition in 2004. Laboratory-confirmed influenza-associated deaths in children are reported through the Nationally Notifiable Disease Surveillance System.

4. Hospitalization Surveillance — Two systems monitor hospitalizations with laboratory confirmed influenza infections.

- Emerging Infections Program (EIP) — The EIP Influenza Project conducts surveillance for laboratory-confirmed influenza related hospitalizations in children (persons less than 18 years) and adults in 60 counties covering 12 metropolitan areas of 10 states (San Francisco CA, Denver CO, New Haven CT, Atlanta GA, Baltimore MD, Minneapolis/St. Paul MN, Albuquerque NM, Las Cruces, NM, Albany NY, Rochester NY, Portland OR,

and Nashville TN). Cases are identified by reviewing hospital laboratory and admission databases and infection control logs for children and adults with a documented positive influenza test (viral culture, direct/indirect fluorescent antibody assay (DFA/IFA), reverse transcription-polymerase chain reaction (RT-PCR), or a commercial rapid antigen test) conducted as a part of routine patient care. EIP estimated hospitalization rates are reported every two weeks during the influenza season.

5. Summary of the Geographic Spread of Influenza — State health departments report the estimated level of spread of influenza activity in their states each week through the State and Territorial Epidemiologists Reports. States report influenza activity as no activity, sporadic, local, regional, or widespread.

National Electronic Disease Surveillance System (NEDSS). NEDSS is an initiative that promotes the use of data and information system standards to advance the development of efficient, integrated, and interoperable surveillance systems at federal, state and local levels. This initiative is designed to detect outbreaks rapidly and to monitor the health of the nation, facilitate the electronic transfer of appropriate information from clinical information systems in the health care system to public health departments, reduce provider burden in the provision of information, and enhance both the timeliness and quality of information provided. State health department surveillance systems collect and monitor data for disease trends and/or outbreaks so that public health personnel can protect the nation's health.

Vaccine Adverse Event Reporting System (VAERS).[13] The VAERS is a cooperative program for vaccine safety of the Centers for Disease Control and Prevention and the U.S. Food and Drug Administration. VAERS is a post-marketing safety surveillance program, collecting information about adverse events (possible side effects) that occur after the administration of U.S. licensed vaccines.

Adverse Event Reporting System (AERS).[14] The Adverse Event Reporting System (AERS) is a computerized information database designed to support the U.S. Food and Drug Administration's (FDA) post-marketing safety surveillance program for all approved drug and therapeutic biologic products. The FDA uses AERS to monitor for new adverse events and medication errors that might occur with these marketed products. Reporting of adverse events from the point of care is voluntary in the United States. FDA receives some adverse event and medication error reports directly from health care professionals (such as physicians, pharmacists, nurses and others) and consumers (such as patients, family members, lawyers and others). Healthcare professionals and consumers may also report these events to the products' manufacturers. If a manufacturer receives an adverse event report, it is required to send the report to FDA as specified by regulations.

[13] http://vaers.hhs.gov/
[14] http://www.fda.gov/cder/aers/default.htm

National Infrastructure: Transportation Authorities

General Transportation Security Authorities. The Transportation Security Administration (TSA) has the authority to keep an airline flight destined for the United States from landing in the United States if it is determined that a flight may be transporting persons with a quarantinable disease.[15] These TSA authorities are also sufficiently broad to allow TSA to direct an air carrier to temporarily avoid disembarking its passengers until the U.S. Department of Health and Human Services or other medical authorities can screen the passengers. Finally, the Federal Air Marshal Service of TSA has the authority to exercise law enforcement powers in the transportation domain.[16]

Emergency Transportation Security Authorities. In the case of a national emergency, the Aviation and Transportation Security Act provides the U.S. Department of Homeland Security with four emergency responsibilities: 1) coordinate domestic transportation, including aviation, rail, and other surface transportation; 2) coordinate and oversee the transportation-related responsibilities of other departments and agencies of the federal government; 3) coordinate and provide notice to other departments and agencies about threats to transportation; and 4) carry out such other duties, and exercise such other powers, related to transportation during a national emergency as the Secretary shall subscribe. During a declared national emergency, the U.S. Department of Transportation, through the Maritime Administration, can enhance U.S. sealift capacity by taking control of vessels, containers, and chassis through requisitioning.[17]

Aviation. Any movement in the navigable airspace of the United States can be stopped, redirected, or excluded by the Federal Aviation Administration (FAA), regardless of the commodity involved.[18] Additionally, the FAA can order U.S.-flag air carriers not to enter designated airspace of a foreign country. The Chicago Convention, a multilateral treaty establishing the framework for the operation of international civil aviation, provides authority to deny entry to flights that do not comply with U.S. laws and regulations, including those relating to entry, clearance, customs, and quarantine.[19]

Rail. The Federal Railroad Administration (FRA) may issue an emergency order imposing any restrictions or prohibitions necessary to abate what the FRA determines is an emergency situation involving a hazard of death or personal injury caused by unsafe conditions or practices.[20]

Mass Transit. In general, the U.S. Department of Transportation is forbidden from regulating the operation, routes, schedules, rates, fares, tolls, rentals, or other charges of public transportation system grantees of the Federal Transit Administration.

[15] 49 U.S.C. § 114(1)(2)(A).
[16] 49 U.S.C. § 114(q)
[17] 46 App. U.S.C. § 1242; 50 U.S.C. §§ 196-198.
[18] 49 U.S.C. § 44701.
[19] http://www.icao.int/icaonet/dcs/7300.html
[20] 49 U.S.C. § 20104.

However, an amendment to the "Safe, Accountable, Flexible, Efficient Transportation Equity Act" created an express exception for national defense or in the event of a national or regional emergency.

Highways. States, local governments, and other federal agencies own, control, and operate the nation's roads and bridges.

Pipelines. The operation of any pipeline facility used to transport gas or hazardous liquid can be stopped by the Pipeline and Hazardous Materials Safety Administration if continued operations of the facility is, or would become, hazardous.[21]

Hazardous Materials. Any aspect of hazardous materials transportation that presents an 'imminent hazard' may be halted by court order.[22]

General Border Authorities. The U.S. Department of Homeland Security has broad authority to protect U.S. borders, including specific statutory provisions designating the U.S. Coast Guard and the U.S. customs and Border Protection to assist in the enforcement of state health laws and federal quarantine regulations.[23]

[21] 49 U.S.C. § 60112.
[22] 49 U.S.C. § 5122(b).
[23] 42 U.S.C. §§ 97, 268

Federal Legal Authorities for Pandemic Influenza Mitigation

Various statutes, administrative rules, and executive orders authorize or otherwise enable Michigan's state-level departments and agencies to engage in actions to support the three pillars of the *National Strategy for Pandemic Influenza*: preparedness and communication, surveillance and detection, and response and containment. This section will provide a comprehensive framework for contextualizing pandemic response and recovery.

Federal Authorities

The Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 93-288, 88 Stat. 143 [1974] as amended)[24] established programs and processes for the federal government to provide disaster and emergency assistance to states, local governments, tribal nations, qualified private nonprofit organizations, individuals, and certain businesses.

The National Emergencies Act of 1976 (Public Law 94-42 as amended)[25] established procedures for presidential declaration of a national emergency and the termination of national emergencies by the president or Congress. The presidential declaration of a national emergency, under this act, is a prerequisite to exercising any special or extraordinary emergency powers authorized by statute.

The Public Health Service Act[26] (PHSA) provided authorities to direct federal preparedness for, and response to, public health emergencies. Three laws provided the core of these authorities:

- The Public Health Threats and Emergencies Act of 2000 (Title I of the Public Health Improvement Act; Public Law 106-505) established a number of new programs and authorities, including grants to states to build public health preparedness.

- The Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (Public Law 107-188), passed in the aftermath of the 2001 terror attacks, reauthorized several existing programs and established new ones, including grants to states to build hospital and health system preparedness. It authorized: The National Disaster Medical System (NDMS) to mobilize and address public health emergencies; grant programs for the education and training of public health professionals; the streamlining and clarification of communicable disease quarantine provisions; enhanced controls on dangerous

[24] Codified in 42 U.S.C. §§ 5121-5206 (2007).
[25] 50 U.S.C. §§ 1601-1651 (2007).
[26] 42 U.S.C. 201, et seq. (2007) as amended

biological agents and toxins; and it added new provisions to protect the safety and security of food and drug supplies.

- The Project BioShield Act of 2004 (Public Law 108-276) established authorities to encourage the development of specific countermeasures (such as vaccines for bioterrorism agents) that would not otherwise have a commercial market.

The PHSA authorizes the core activities of the U.S. Department of Health and Human Services (DHHS) that will be needed to plan and implement a response to pandemic influenza, including:

- *Declaration of a Public Health Emergency*. Section 319(a) of the PHSA (42 U.S.C. 247d) authorizes the Secretary of DHHS to declare a public health emergency and take such action as may be appropriate to respond to that emergency consistent with existing authorities. Appropriate action may include making grants, providing awards for expenses, entering into contracts, and conducting and supporting investigation into the cause, treatment, or prevention of the disease or disorder that presents the emergency.

  The Secretary's declaration is the first step in authorizing emergency use of unapproved products or approved products for unapproved uses under section 564 of the Food, Drug, and Cosmetic Act (21 U.S.C. 360bbb-3), or waiving certain regulatory requirements of the department, such as select agents requirements, or – when the President also declares an emergency – waiving certain Medicare, Medicaid, and State Children's Health Insurance Program (SCHIP) provisions.

- *Vaccine Development and Immunization Programs*. DHHS has broad authority to coordinate vaccine development, distribution, and use activities under section 2102 of the PHSA, describing the functions of the National Vaccine Program. Section 317 of the PHSA provides for preventive health services such as immunization programs and vaccine purchase assistance.

- *The Strategic National Stockpile (SNS)*. Section 319F-2 of the PHSA authorizes the Secretary, in coordination with the Secretary of Homeland Security, to maintain the SNS to provide for the emergency health security of the United States.

- *Control of Communicable Diseases*. Section 361 of the PHSA (42 U.S.C. § 264) authorizes the Secretary of DHHS to make and enforce regulations necessary to prevent the introduction, transmission, or spread of communicable diseases from foreign countries into the United States, or from one state or possession into any other state or possession. The Centers for Disease Control and Prevention (CDC)

administers these regulations as they relate to quarantine of humans. Implementing regulations are found at 42 C.F.R. Parts 70 and 71.

Under section 362 (42 U.S.C. § 265) the Secretary may prohibit, in whole or in part, the introduction of persons and property from such countries or places as he/she shall designate for the purpose of averting a serious danger of the introduction of a communicable disease into the United States.

- *Quarantine*. Diseases for which individuals may be quarantined under federal law are specified by executive order.[27] The list of quarantinable communicable diseases includes:

    1. cholera
    2. diphtheria
    3. infectious tuberculosis
    4. plague
    5. smallpox
    6. yellow fever
    7. viral hemorrhagic fevers (Lassa, Marburg, Ebola, Crimean-Congo, South American, and others not yet isolated or named)
    8. Severe Acute Respiratory Syndrome (SARS), which is a disease associated with fever and signs and symptoms of pneumonia or other respiratory illness, is transmitted from person to person predominantly by the aerosolized or droplet route, and, if spread in the population, would have severe public health consequences.
    9. Influenza caused by novel or re-emergent influenza viruses that are causing, or have the potential to cause, a pandemic.

Other provisions in Title III of the PHSA permit DHHS to establish quarantine stations, provide care and treatment for persons under quarantine, and provide for quarantine enforcement. There is a CDC Quarantine Station at Detroit Metro Airport with a CDC medical officer in charge. The 24-hour access number is (734) 955-6197.

Section 311 of the PHSA provides for federal-state cooperative activities to enforce quarantine and plan and carry out public health activities. Section 311 authorizes the Secretary to make available the resources of the Public Health Service to help control epidemics and deal with other public health emergencies. Furthermore, the Secretary of DHHS may request that Customs, Coast Guard, and military officers aid in the execution of quarantines imposed by states (42 U.S.C. 97).

[27] Executive Order 13375 was issued on April 1, 2005. It amended Executive Order 13295 of April 4, 2003.

The violation of federal quarantine regulations is a crime punishable by a fine of not more than $1,000 or by imprisonment for not more than 1 year, or both (42 U.S.C. § 271). Additionally, individuals may be fined up to $250,000 if a violation of the regulation results in death, or up to $100,000 if a violation of the regulation does not result in death (18 U.S.C. §§ 3559, 3571 (c)).

The Pandemic and All-Hazards Preparedness Act (PAHPA)[28] reauthorized a number of expiring preparedness and response programs in the PHSA and established some new authorities, including the creation of a Biomedical Advanced Research and Development Authority (BARDA), a new office in DHHS to support, coordinate, and provide oversight of advanced development of vaccines and biodefense countermeasures.

Section 302 of this act is of special importance to hospitals because it amended the waiver of Emergency Medical Treatment and Active Labor Act (EMTALA) requirements during a public health emergency. It amended Section 1135(b) of the Social Security Act.[29] The new law stipulated: If the public health emergency declared pursuant to Section 319 of the PHSA involves a pandemic infectious disease: (1) the Secretary's waiver or modification of EMTALA requirements regarding direction of individuals to alternate locations for medical screening shall be pursuant to the appropriate state emergency preparedness or pandemic plan; and (2) if a hospital within such a declared emergency area implements its disaster protocol as a consequence of the emergency, the hospital may be exempt, for 60 days or until the termination of the Secretary's declaration, whichever is sooner, from the prohibitions against the transfer of an individual who has not been stabilized and the direction of individuals to an alternate location for medical screening.

Applicable Homeland Security Presidential Directives (HSPD)

- HSPD-5, issued on February 28, 2003, directed the Secretary of the Department of Homeland Security to develop and administer a National Incident Management System.
- HSPD-21, issued on October 18, 2007, established the National Strategy for Public Health and Medical Preparedness.

[28] Public Law 109-417. http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=109_cong_bills&docid=f:s3678enr.txt.pdf
[29] 42 U.S.C. §1320b-5(b).

The State of Michigan's Planning Landscape

The State of Michigan's administration is comprised of numerous state-level departments. To effectively prepare for, respond to, and mitigate the impacts of a pandemic, extensive coordination between and among state agencies is essential. Michigan has instituted several key pandemic preparedness initiatives and infrastructure to assure coordinated and efficient protection of Michigan's citizens.

Michigan Emergency Management Plan

The *Michigan Hazard Analysis*[30] identified and analyzed the potential for twenty-eight different natural, technological, and human-related hazards in Michigan that could cause widespread or severe damage, injury, loss of life or property, or other adverse impacts. The Michigan Emergency Management Plan (MEMP), required under the Michigan Emergency Management Act[31], addresses these identified hazards.

The MDCH Emergency Operations Plan

The MDCH Emergency Operations Plan (EOP) describes how the department will protect citizens, property, and the environment in a public health disaster or emergency. It describes actions to be taken by the department in response to all hazards. It delineates the department's roles, responsibilities, and emergency response structure. The EOP addresses the four critical components of public health and medical preparedness: biosurveillance, countermeasure distribution, mass casualty care, and community resilience.

The State Emergency Operations Center

Under the MEMP, the Michigan State Police Emergency Management and Homeland Security Division (MSP-EMHSD) operate and equip the State Emergency Operation Center (SEOC). Located in Lansing, the SEOC keeps the governor informed of emergency response and recovery activities.

The director of each department of state government (or his/her designee), and those agencies of state government required by the MEMP to provide an annex to that plan, serve as the emergency management coordinator for their respective departments or agencies. Each emergency management coordinator acts as the primarily liaison

[30] Michigan State Police, Emergency Management and Homeland Security Division, *Publication 103: Michigan Hazard Analysis*.
[31] 1976 Act 390, Michigan Emergency Management Act.
http://www.michigan.gov/documents/mspemd-Act_390_of_1976_7125_7.pdf

between his or her department or agency and the SEOC in all matters of emergency management.[32]

Within the SEOC, emergency managers monitor and assess incidents through ETeam software. This application allows those involved in responding to an emergency with the ability to collaborate and manage their efforts, across multiple organizations, from a single common view and coordination point.

The Michigan Pandemic Coordinator

The Michigan Department of Community Health has designated a Pandemic Plan Coordinator. Located in the Bureau of Epidemiology, this individual assists in developing and implementing the Michigan Pandemic Influenza State Operational Plan and coordinating plans across all state agencies and jurisdictions. S/He updates stakeholders and disseminates information. S/He can be reached at (517) 335-8165.

The Pandemic Influenza Coordinating Committee

In the fall of 2006, the governor directed the formation of a state-level Pandemic Influenza Coordinating Committee (PICC), whose membership includes all state-level agencies, local representatives, and tribal delegates. The PICC has various sub-committees to tackle the challenges of statewide pandemic planning: human health, legal/public safety, transportation and borders, community, school-public health, and animal health. The mission of the PICC is to:

- assist the state in articulating strategic priorities and overseeing the development and execution of the Michigan Pandemic Influenza State Operating Plan
- assure the Michigan Pandemic Influenza State Operating Plan is progressive, integrated, and coordinated
- ensure that planning occurs across all state-level departments and private sectors including (but not limited to): schools, businesses, faith-based organization, community organizations, refugees, healthcare, etc.[33]
- assure that Michigan has an effective Continuity of Government/Operations Plan

[32] 1976 Act 390, Michigan Emergency Management Act, §30.408. http://www.michigan.gov/documents/mspemd-Act_390_of_1976_7125_7.pdf

[33] For example, the Michigan Schools/Public Health Pandemic Issues Workgroup developed a draft template of guidance to schools regarding alert, standby and activate modes of pandemic response. See Attachment 7. The Health Insurers Pandemic Preparedness Workgroup to address coordination of reimbursements to providers, including healthcare provided in alternate care and/or surge centers during medical emergencies.

Interagency Coordination

Under the MEMP, the Michigan State Police (MSP) Emergency Management and Homeland Security Division operate and equip the SEOC. MDCH and MSP work closely together to develop aligned protocols and procedures for pandemic influenza. In 2009, the MEMP was revised and all MDCH responsibilities were updated, and these responsibilities included specific language relevant to a pandemic scenario.

The Avian Influenza Interagency Working Group (AIIWG) is comprised of members from the Michigan Departments of Agriculture, Natural Resources, Community Health, and State Police as well as the Michigan governor's office, the U.S. Department of Agriculture, and Michigan State University Extension. Under the direction of the State Veterinarian – Michigan Department of Agriculture, (517) 373-1077 – the AIIWG provides subject matter expertise regarding avian influenza risks.

MDCH has enjoyed a particularly close working relationship with the Michigan Department of Education (MDE) which has greatly advanced pandemic planning initiatives. For example, in 2007, MDE drafted their *Pandemic Influenza Operational Plan* that thoroughly documents the policy and process for school closures, phased communications protocols, and relevant authorities. In addition, MDCH and MDE partnered to produce the *Pandemic Influenza Toolkit for Educators*[34], which was launched statewide in 2007.

The Michigan Department of Agriculture's (MDA) Business Continuity Plan establishes a comprehensive structure to respond to numerous agriculture emergencies, including a pandemic, and still provide critical services. MDA has been instrumental in providing the framework to assure continued provision of federal and state-assisted nutritional assistance to schools during a pandemic.

The Michigan National Guard (MING) has provided infallible pandemic planning support to the state. As a standing member of the PICC, the MING is incorporated into all state-level pandemic planning. The MING has briefed the state's Pandemic Influenza Coordinator, and other key public health officials, on the capabilities the MING can offer during a pandemic. Similarly, public health officials have described their pandemic roles and responsibilities to the MING.

The Michigan Department of Transportation (MDOT) developed emergency action guidelines for pandemic influenza as part of their *Emergency Response Plan.* These guidelines provide for phased command and management, human resource management, communications, employee health and well-being, and response operations (where appropriate). In addition, MDOT has been particularly active with their employee outreach materials; see Attachment 6.

[34] http://mdch.train.org/panflu/education/

Michigan has several major ports of entry: the Detroit-Windsor tunnel, the Ambassador Bridge in Detroit, the Blue Water Bridge in Port Huron, and the International Bridge in Sault Ste. Marie. In addition, Detroit's Metropolitan Airport (DTW) serves as the primary international gateway for Northwest Airlines. Together with 15 additional passenger airlines – including six foreign flag carriers – Detroit's airlines and their regional partners offer service to more than 160 non-stop destinations around the globe. MDCH has extensively partnered with the CDC's Detroit Quarantine Station to assist in the development of DTW's *Communicable Disease Emergency Response Plan* which details triggers for implementation, the incident command structure, protocols for issuance of public health orders, logistics for isolation and quarantine, security and law enforcement, partnerships with local hospitals, and communications procedures.

Partnering with the Michigan Department of Energy, Labor, and Economic Growth (MDELEG) has allowed MDCH to provide pandemic preparedness information to businesses across the state. MDELEG has also developed emergency action guidelines that outlines (by pandemic phase) command and management, communication, and response and operations.

Recently, there have been productive partnerships forged between MDCH and Michigan 9-1-1 and Michigan 2-1-1. MDCH provided pandemic planning guidance documents to these organizations, participating in their respective workgroups to promote planning and integration, and delivered presentations at their annual meetings.

The Community Health Emergency Coordination Center (CHECC)

During a state of declared disaster or emergency[35], the primary function of the CHECC is to support the SEOC, as defined in the Michigan Emergency Management Plan (MEMP), with focus on public health and medical emergency management.[36]

The secondary missions of the CHECC are to:

- coordinate the overall public health and healthcare response to an incident with regional and local partners
- provide updated information from all sources (local health departments, healthcare agencies, regional partners, MDCH bureaus and divisions[37], etc.) to the MDCH Executive Group
- provide technical assistance and consultation to public health, medical, and other healthcare professionals during an incident
- coordinate federal support and assistance with the CDC Emergency Operations Center (EOC) and other Department of Health and Human Services (DHHS)

[35] 1976 Act 390, Michigan Emergency Management Act, §30.403. http://www.michigan.gov/documents/mspemd-Act_390_of_1976_7125_7.pdf

[36] See the *CHECC Manual*, published on the Michigan Health Alert Network (https://michiganhan.org), for a full discussion of technological assets, activation, staffing, operation, and deactivation of the CHECC.

[37] See the MDCH Intranet for the most current departmental organization chart.

agencies
- disseminate public health and healthcare information to partners as appropriate

In the event of a public health emergency that has not reached the level of an officially declared disaster or emergency, the CHECC may function as a unified command emergency coordination center. The CHECC operates under the Incident Command System in compliance with the National Incident Management System. For this reason, it is imperative that communications follow prescribed pathways. See Attachment 1. When the SEOC is activated, CHECC staff members monitor incidents and enter data via ETeam software.

Continuity of Operations (COOP)

The Michigan Department of Management and Budget (DMB) is the gubernatorial-designated lead agency for state-level COOP planning. DMB implemented a Michigan Continuity of Government Planning website which is hosted on the Michigan.gov portal in a secure and password-protected environment. The website provides individual Michigan agencies the opportunity to develop and maintain detailed Business Continuity Plans for their agency-critical functions.

As a key response partner in a pandemic scenario, MDCH's bureaus, offices, and divisions have each contributed data to the website repository. In addition, and as required by the Michigan Emergency Management Plan, MDCH regularly updates its *Continuity of Operations Plan*[38].

Other state agencies have also begun to embed pandemic-specific COOP planning provisions, as well. Using the FluWorkLoss software[39], many Michigan agencies have assessed potential employee absences and determined the likely impacts of a pandemic on the agency's workforce. DMB, through their MI-DEAL program, has instituted purchasing contract clauses to assure priority service and delivery during a pandemic scenario. The Office of the State Employer (OSE) has reviewed their collective bargaining agreements and civil service rules to prepare for, respond to, and mitigate the effects of a pandemic on state employees. Particularly noteworthy is OSE's *State of Michigan Model Pandemic Influenza Safe Work Practice*.

MDCH Office of Public Health Preparedness (OPHP)

The Office of Public Health Preparedness was established in 2002, and it is charged with protecting the health of Michigan citizens against chemical, biological and

[38] Michigan Department of Community Health, *Continuity of Operations Plan*, published on the Michigan Health Alert Network: https://michiganhan.org
[39] http://www.cdc.gov/flu/tools/fluworkloss/

radiological threats. The OPHP is the focal point for MDCH's comprehensive public health emergency management program. It is responsible for assuring the department's emergency management capabilities, including (but not limited to): planning, training, exercising, and managing operational capabilities.

OPHP maintains and directs the operations of the CHECC, which supports the SEOC. The Director of OPHP (or his/her designee) functions as the Incident Response Coordinator in the CHECC. All OPHP staff members serve on either first or second shift during a CHECC activation.

MDCH Bureau of Laboratories (BOL)

The Bureau of Laboratories was established under the provisions of the revised Public Health Code[40]. The MDCH BOL is dedicated to continuing leadership in providing quality laboratory science for healthier people and communities through partnerships, communication, and technical innovation. Laboratory staff are on-call and available for 24/7 coverage for testing of specimens as required. The BOL maintains redundant notification systems to notify staff members to report to work after normal business hours or to assess the availability of testing personnel.

For the purposes of the MDCH *Pandemic Plan*, it is instructive to understand the specimen processing procedures on a routine day in the BOL. All incoming specimens are received by the Bureau of Laboratories' Data Acquisition and Specimen Handling (DASH) Unit. The DASH Unit organizes incoming specimens, logs them in StarLIMS (the laboratory information system), and delivers them to the laboratory. Laboratory personnel perform quality control checks and print worksheets to use at the laboratory bench. Batch worksheets are used for testing larger numbers of specimens that require little worksheet entry and have rapid turn-around time, like *Bortedella* DNA testing or *Chlamydia/Neisseria* RNA testing. Single specimen worksheets are used for specimens or cultures that would take multiple days to process and require extensive documentation of testing performed, like culture identification. When the laboratory work is done, the microbiologist enters the final report into StarLIMS. A second microbiologist reviews the worksheet, the computer entry, and releases the final report. This information is uploaded into the Michigan Disease Surveillance System (MDSS), which is immediately viewable by state and local health departments. StarLIMS electronically places the report(s) on the print queue. Several times a day, StarLIMS takes all reports from the print queue and sends them to be printed in hard copy (to be mailed), faxed, and e-mailed via an HL7 message in MDSS. StarLIMS has been configured to identify reportable conditions so the reports will go to the submitter, the local health agency, Bureau of Epidemiology, and MDSS in the same print run.

[40] Act 368 of 1978, Part 96 (3333.9601)

Each week, the BOL, Bureau of Epidemiology, and Office of Public Health Preparedness participate in a joint conference call. During these calls, a general statewide status of communicable diseases and conditions are reported and discussed.

Michigan Regional Laboratory System

The mission of the Michigan Regional Laboratory System is to provide for the delivery of analytical data which is accurate, timely, relevant to public health, and serves clinical and/or epidemiological program needs. The Michigan Regional Laboratory system continuously strives to improve testing quality and service delivery, and strengthen public health programs throughout the state. For example, these labs maintain proficiency for LightCycler usage by routinely performing other testing of public health importance (e.g., Norovirus) on this equipment. In addition, the regional labs have received instrumentation and training in Norovirus Polymerase Chain Reaction (PCR), which would be a similar platform to that used during a pandemic. An up-to-date listing of Michigan's regional laboratories and proficiency testing information can be viewed on the MDCH website website[41].

MDCH Bureau of Epidemiology (BOE)

The Bureau of Epidemiology advances and promotes the health and quality of life of Michigan residents by:

- Responding to infectious disease outbreaks and chemical exposures.
- Collecting, analyzing, and reporting statistics on a wide variety of health topics including immunizations, injuries, cancer, diabetes, communicable diseases and HIV/AIDS.
- Improving access to and quality of public health services by evaluating state programs and related healthcare systems.
- Guiding health policy by presenting state and local public health agencies, community-based organizations, healthcare providers, and others with data on the health and well-being of state residents.

For the purposes of the MDCH *Pandemic Plan*, it is helpful to have a general understanding of influenza surveillance within the BOE. Each day, under the direction of a full-time influenza surveillance epidemiologist, staff members monitor the following surveillance indicators for trends in influenza activity.

Michigan Disease Surveillance System (MDSS): The MDSS is a web-based communicable disease reporting system developed for the State of Michigan. MDSS was created to facilitate coordination among local, state, and federal public health agencies; provide for the secure transfer, maintenance and analysis of communicable

[41] http://www.michigan.gov/mdch/0,1607,7-132-2945_5103_7168-14758--,00.html

disease surveillance information; promote participation from a variety of stakeholders including public health, health care providers and medical laboratories; and to address needs in many areas of traditional disease surveillance, emergent infectious diseases and biological terrorism. The advent of the MDSS allowed immediate communication among disease reporting authorities, local health departments, and the Michigan Department of Community Health (MDCH) regarding investigations into possible cases of communicable disease. Information on these possible cases is available in MDSS regardless of whether they are suspected, probable, or confirmed cases of disease. The MDSS is a dynamic, continually active system: counts of disease are constantly changing as cases are investigated, confirmed as cases, or ruled out as not meeting the case definition.

Emergency Department Syndromic Surveillance: This project is designed and implemented to facilitate public health rapid detecting and response to unusual outbreaks of illness that may be the result of bioterrorism, outbreaks of infectious disease, or other public health threats and emergencies. Real time detection of a notable increase in patients presenting for care with similar symptoms could allow early and appropriate public health intervention and minimize negative impact. The system provides tools that include automatic data collection, automatic aberration detection algorithms, and tools that support temporal and spatial data analysis and visualization.

Michigan Component of the CDC U.S. ILINet: MDCH participates in the U.S. Outpatient Influenza-Like Illness Surveillance Network[42], a collaborative effort between the Centers for Disease control and Prevention (CDC), state and local health departments, and volunteer sentinel physicians as part of our influenza surveillance. These physicians report the total number of patient visits to their facilities each week, as well as the number of patient visits for influenza-like illness (ILI) within four age categories (0-4 years, 5-24 years, 25-64 years, and 65+ years). In addition, they collect respiratory specimens from a sample of patients with ILI for virus culture at no charge by the MDCH Laboratory. Medical providers of any specialty (e.g., family medicine, internal medicine, pediatrics, infectious disease) in nearly any setting (e.g., private practice, public health clinic, urgent care center, emergency room, university student health center) who are likely to see patients with influenza-like illness can be sentinels. The only exception is for those providers who primarily care for institutionalized populations (e.g., nursing homes, prisons).

Real-time Outbreak and Disease Surveillance (RODS) and National Retail Data Monitoring System (NRDM): Real-time Outbreak and Disease Surveillance is free software for public health surveillance. RODS collects and analyzes disease surveillance data in real time. The software examines aggregate and de-identified data routinely collected by clinical and other information systems automatically and in real time for trends and anomalies suggestive of disease outbreaks. It is used by health

[42] http://www.michigan.gov/mdch/0,1607,7-132-2940_2955_22779-122498--,00.html

departments or urban regions to monitor clinical data, sales of over-the-counter medications, and other types of data.

The National Retail Data Monitor is a public health surveillance tool that collects and analyzes daily sales data for over-the-counter (OTC) health-care products. NRDM collects sales data for selected OTC health-care products in near real time from >15,000 retail stores. This data is then available to public health officials. NRDM is one of the first examples of a national data utility for public health surveillance that collects, redistributes, and analyzes daily sales-volume data of selected health-care products, thereby reducing the effort for both data providers and health departments.

Michigan Care Improvement Registry (MCIR): MCIR is a secure web-based system designed as an electronic immunization registry, and it has been modified to collect individual countermeasure information such as vaccines and antivirals. It is accessible to the majority of preparedness partners and healthcare providers throughout the state. An all-hazards public health emergency response component exists in the system. During a public health emergency, the Incident Response Coordinator of the CHECC may recommend that the department activate the MCIR All-Hazards Component. MCIR All-Hazards Component is being enhanced to include additional functionality to track, monitor and report pharmaceuticals allocated and doses administered in the event of pandemic influenza. This will include enhancing existing reminder/recall functionality to specifically generate letters to ensure vaccinated persons return for additional doses. The vaccine inventory component will be modified to allow for the tracking and distribution of Michigan's Strategic National Stockpile (SNS) pharmaceutical allocation. The online VAERS reporting form will be enhanced to pre-populate with patient demographics, the dose administered, the lot number and manufacturer.

MDCH Vital Records

While a primary purpose for collection of vital records is to record information on vital events for legal purposes, vital records files also serve as an important source for statistical information. Vital statistics data developed from these records can be accessed through the links on the Vital Records website[43]. Basic counts for the number of events, rates, and detailed cross tabulations are provided. Statistical information for Michigan with national comparisons is included along with extensive data at the county- and community-level. In 2008, MDCH Vital Records received a competitive pandemic influenza grant to support development of a web-based death certificate processing and secure tracking.

[43] http://www.michigan.gov/mdch/0,1607,7-132-2944_4669---,00.html

Licensed Provider Emergency Notification

MDCH policy 11.2 establishes a communication mechanism for notifying licensed health professionals of urgent clinical information during the time of a public health emergency in support of Emergency Support Function (ESF) 8 of the *National Response Framework*. The MDCH Bureau of Health Professions is responsible for tracking health professionals' licensure in the State of Michigan, and they are in the best position to provide information to that sector. A copy of MDCH Policy 11.2 is included in Attachment 5 of this document.

The MI-Volunteer Registry

The Michigan Volunteer Registry[44] is utilized to identify and mobilize appropriate volunteers during an emergency. Administrators of the Registry can rapidly query healthcare personnel including physicians, nurses, behavioral health professionals, and others to fill critical support function roles during any public health event. The MI-Volunteer Registry is compliant with the national Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP).

The Michigan Health Alert Network

The Michigan Health Alert Network (MIHAN)[45] is a secure, internet-based, emergency notification system. The MIHAN contains over 4,000 participants from each of the local health departments, hospitals, clinics and many other critical first responders across the state. See Table 4. The system uses an innovative, role-based directory for selection of those to be notified. This directory is geographically based on Michigan's eight emergency preparedness regions and the counties. The role structure consists of public health, healthcare and many additional groups such as emergency managers and life support roles.

[44] http://www.michigan.gov/mdch/0,1607,7-132-2945_21919_38882-131617--,00.html
[45] http://www.michigan.gov/mdch/0,1607,7-132-2945_21919_25536-72730--,00.html

Table 4. Contact lists available through MIHAN (as of July 2009).

- American Red Cross, Mid-Michigan chapter
- Health Care Association of Michigan
- Michigan Academy of Family Physicians
- Michigan Association of Local Public Health
- Michigan Association of Health Plans
- Michigan Association of Occupational and Environment Physicians
- Michigan Association of Occupational Health Nurses
- Michigan Association of Osteopathic Family Physicians
- Michigan Association of School Nurses
- Michigan Center for Assisted Living
- Michigan Center for Rural Health
- American College of Cardiology, Michigan chapter
- Michigan County Medical Care Facilities Council
- Michigan Hospital Association
- Michigan Nurses Association
- Michigan Osteopathic Association
- Michigan Otolaryngological Society
- Michigan Pharmacists Association
- Michigan Primary Care Association
- Michigan Public Health Institute
- Michigan Society for Adolescent Medicine
- Michigan Society of Infection Control

OPHP Contacts Database

OPHP maintains a secure Access database with over 4000 Michigan contacts. This database allows immediate access (from OPHP or the CHECC) to phone numbers, mailing addresses, email addresses, etc. See Table 5.

Table 5. Contact lists available through OPHP (as of April 2009).

- acute care centers
- communicable disease contacts
- CHEMPACK
- community mental health
- critical access hospitals
- dialysis centers
- district emergency managers
- medical control authorities
- OPHP newsletter recipients
- hospital contacts (CEO, PIO, etc.)
- LHD emergency prep. coordinators
- LHD health officers
- LHD medical directors
- LHD PIOs
- local emergency managers
- long-term care facilities
- MI Care Improvement Registry
- MDCH Executive Group
- MEDDRUN
- medical Coordination Centers
- medical examiners
- NEHCs
- pharmacists
- primary care clinics
- regional BT coordinators
- regional epidemiologists
- regional immunization coor.
- regional medical directors
- rural health clinics
- special populations
- state EMCs and PIOs
- volunteer defense force

Michigan Mortuary Response Team (MI-MORT)

The mission of MI-MORT is to provide dignified and respectful fatality management services during disaster response. This team can assist and support county medical examiners and law enforcement officials with the identification of the dead, preservation of evidence, and return of remains to families.

MI-MORT is organized under the auspices of MDCH in cooperation with the Michigan Funeral Directors Association. The team is comprised of volunteers from various professions, including: site recovery experts, forensic pathologists, dentists, anthropologists, funeral directors, x-ray technicians, DNA specialists, fingerprint specialist, photographers, data entry personnel, and others.

MI-MORT does not have the capability to decontaminate deceased victims. Therefore, incidents involving weapons of mass destruction would require additional support, such as the federal Disaster Mortuary Response Team (DMORT).

Michigan's Preparedness Website

In the September 2006, the State of Michigan launched its comprehensive emergency preparedness website: www.michigan.gov/prepare. This website was specifically designed to provide proactive emergency planning information for individuals, families, and businesses, marking a critical point in the state's effort to educate the public on what to do during a potential crisis. The website is continuously updated, and offers citizens the latest available information on family preparedness, chemical, biological, and radiological emergencies, natural disasters, and severe weather. The site features state resources, as well as links to other federal assets that are considered the last word for family emergency preparedness.

Michigan's Influenza Website

Administered by MDCH, the influenza website – www.michigan.gov/flu – provides citizens with up-to-date information regarding seasonal, avian, pandemic H1N1, pandemic influenza planning. The seasonal influenza webpages outline important vaccination and infection control protocols. Two of MDCH's premier publications, *MIFluFocus* and *FluBytes*, are available on the influenza website. These publications monitor and provide details of influenza activity in Michigan, the nation, and the world. The influenza website's avian influenza pages provide citizens with fact sheets, frequently asked questions, and links to global surveillance tools. Finally, the influenza websites' pandemic pages provide information on the causes of pandemics, control of pandemics, and information for particular groups (healthcare professionals, schools, local health departments, etc.).

During an outbreak of novel influenza strain, the state may decide to create an incident-specific website. As all Michigan websites conform to E-Michigan standards, it is highly likely that any new site would incorporate the elements of workflow and be subject to a temporary "holding period" before becoming live. Only certain individuals within each department have the ability to perform an immediate cache clear to force a page to become live. In addition, during an activation of the state's Joint Information Center, it may become necessary to separate media information from partner guidance.

Employee Service Program (ESP)

The mission of the Employee Service Program[46] is to provide the highest quality professional and confidential assistance to state employees and their family members. The goals of the mission are to promote wellness and to prevent or resolve personal and organizational issues that may interfere with work productivity, home life, or behavioral health. ESP accomplishes this by providing confidential, no-cost services to classified state employees who may be experiencing work-related problems, or personal problems that affect their work. Master's level counselors provide professional assistance in the identification and resolution of both work and personal issues. Employees may request administrative, annual, or medical leave for the initial meeting with an Employee Service Program counselor. The Employee Service Program provides assistance for a wide range of issues, including emotional difficulties, substance abuse, job performance problems, workplace conflicts, family problems and financial difficulties.

Local Health Departments

Through Centers for Disease Control and Prevention's Public Health Emergency Preparedness cooperative agreement, Michigan's forty-five local health departments receive earmarked funding for emergency preparedness. Since 2002, local jurisdictions have established and refined their all-hazards response plans. Since 2005 enhancements to the local plans have included a pandemic influenza component. The local emergency preparedness coordinators are required to show continued enhancements to the operational and functional nature of their pandemic influenza preparedness activities. In addition, the state developed a *Pandemic Influenza: Local Health Department Considerations* document to assist in their pandemic planning efforts.

[46] http://www.michigan.gov/ose/0,1607,7-143-6097_29351---,00.html

Local Healthcare Facilities

There are eight regional medical biodefense networks in Michigan. These were established in 2002 as required by the Hospital Preparedness Program, which is a federal-state cooperative agreement authorized by section 319C-2 of the Public Health Service Act, as amended by the Pandemic and All-Hazards Preparedness Act[47]. Each regional is staffed with a bioterrorism coordinator and medical director. These individuals coordinate emergency preparedness and response activities with all of the healthcare partners within the region, focusing on medical surge. They work directly with OPHP.

Each region has a number of capacities and technologies positioning them for pandemic preparedness success.

- Each region is responsible for the operation of a regional Medical Coordination Center whose purpose is to support the healthcare system and local emergency operations centers within the region. They assist with the provision of a flexible, coordinated, uninterrupted health response, and they ensure optimum and efficient use of medical resources.
- Michigan Transportable Emergency Surge Assistance (MI-TESA). Coordinated by MDCH, these two interoperable mobile medical facilities can augment a local hospital's capacity. One unit contains 100 beds and the other contains 40 beds. The units are stored in two regionally disparate and secure locations. Through mutual aid agreements, health professionals and support personnel can be called on to support operations.
- Since 2004, all Michigan hospitals have utilized *EMResource*[48] to monitor and track healthcare facilities' bed utilization. This is an internet-based system that has been adopted within healthcare statewide. It allows real-time status of hospital bed capacity including the ability to meet the requirements of the DHHS SOC to provide hospital bed capacity within two hours of a request. Ventilator availability within hospitals is also collected via this system. Users on the system are tested at least monthly in all regions and the system has been successfully used in real Michigan events. This is an important tool used by each Regions Medical Coordination Center (MCC). This system is being modified to include pandemic influenza patient submission and tracking.

Community Mental Health Services Programs

Most mental health services are provided by the private sector in outpatient settings. Publicly-funded mental health services are delivered through Community mental Health

[47] http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=109_cong_bills&docid=f:s3678enr.txt.pdf
[48] http://corp2.emsystem.com/info/emresource.html

Services Programs (CMHSPs) that have been established by county government. Michigan's 83 counties are served by 46 single of multi-county CMHSPs. A CMHSP may be an official county agency or it may be a public governmental entity separate from the county or counties that established it.

The purpose of a CMHSP is to provide a comprehensive array of mental health services appropriate for conditions of individuals who are located within its geographic service area, regardless of an individual's ability to pay. Among their required array of services, CMHSPs provide crisis stabilization and response including a 24-hour/7-day per week crisis emergency service that is prepared to respond to persons experiencing acute emotional, behavioral, or social dysfunctions, and the provision of inpatient or other protective environment for treatment.

In general, CMHSPs are integrated within the local emergency management programs of their jurisdictions. The availability of disaster mental health services vary, but most CMHSPs can provide or arrange for: Critical Incident Stress Management (CISM), grief/bereavement counseling, Post-Traumatic Stress Disorder (PTSD) counseling, and crisis intervention.

The Preliminary Assessment Team

The Preliminary Assessment Team (PAT) meets quarterly to monitor the global influenza trends to determine whether a public health response is necessary and/or if the CHECC should be activated. The PAT provides the following information to the MDCH Executive Group and/or to the CHECC:

- 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 local health departments and healthcare providers on medical and epidemiologic issues
- communication and consultation with the CDC as needed, including requests for assistance

State and Local Authority for Pandemic Influenza Mitigation

A comprehensive pandemic mitigation strategy includes both pharmaceutical and non-pharmaceutical measures. However, at the beginning of an influenza pandemic, the most effective mitigation tool (i.e., a well-matched pandemic strain vaccine) will probably not be available. Therefore, the state must be prepared to face the first wave of the pandemic without vaccine and, possibly, without sufficient quantities of influenza antiviral medications.

The pandemic mitigation framework is based upon an early, targeted, layered application of multiple, partially effective, non-pharmaceutical measures. These mitigation strategies include: isolation, home quarantine, school dismissal, and social distancing. These interventions can and should be undertaken voluntarily. However, state and local authorities shall compel action if necessary to protect public health. Most of the state and local authorities regarding public health emergencies, such as pandemic influenza, are contained in the Emergency Management Act[49] and the Public Health Code.[50]

- *Emergency Management Act*. When the first human cases of pandemic influenza is confirmed in the State of Michigan, the governor may declare a State of Disaster pursuant to the Emergency Management Act. Upon making that declaration, the governor has broad power to issue such executive orders, proclamations, and directives, having the force and effect of law, which are necessary and appropriate under the circumstances. The governor also has the power to suspend regulatory laws that impede response (e.g., suspension of health facility and health professional licensing requirements and state Medicaid policies), seek and accept federal assistance, and take control of private property.

  These broad powers enable the governor to direct the implementation of a comprehensive pandemic mitigation strategy that includes, but are not limited to, the following measures:

  1. Isolation and quarantine.
  2. Restriction of traveler movement.
  3. Closure of public venues.
  4. Suspension of public gatherings.
  5. Curfews.
  6. Related social distancing.
  7. School closing/school dismissal.

[49] Emergency Management Act, 1976 Act 390 as amended, MCL 30.401 et seq.
[50] Public Health Code, 1978 Act 368 as amended, MCL 333.1101 et seq.

8. Dispensation of antiviral drugs.
9. Administration of mass vaccination without the completion of standard medical examinations.[51]

- *Public Health Code*. The Public Health Code is expansive in its public health powers. It includes explicit legislative intent that it be liberally construed to protect the health, safety, and welfare of the people of this state. The structure of the Code provides parallel authority to the state health department and to the forty-five local health departments. This partnership, and the authorities conferred separately on both levels of government, is essential for the protection of public health.

Local Governments

Many state statutes apply to local governments. For example, Part 24 of the Public Health Code includes the authority for local health officers to issue imminent danger orders and emergency orders to control an epidemic. Various sections of the Emergency Management Act authorize local emergency and disaster declarations and emergency management programs. Furthermore, some counties and municipalities have adopted local ordinances and resolutions pertaining to emergency management and communicable disease control.

In addition, counties, municipalities, townships and various other political subdivisions of the State of Michigan may become party to the Michigan Emergency Management Assistance Compact (MEMAC).[52] This intrastate mutual assistance compact is administered by the Michigan State Police, Emergency Management and Homeland Security Division.

Tribal Government

There are twelve federally recognized Indian tribes in the State of Michigan.[53] Each sovereign tribe has an independent relationship with each other and with the state. The State of Michigan and tribal governments share a responsibility to provide for and protect the health, safety and welfare of our common constituents.

Federally recognized Indian tribes are sovereign governmental entities with police power authority to enact their own disease control rules and regulations. However, the Secretary of DHHS has the authority to implement disease control measures in Indian

[51] Federal Guidance to Assist States in Improving State-Level Pandemic Influenza Operating Plans. 2008. p. 11.
[52] http://michigan.gov/msp/0,1607,7-123-1593_3507-9460--,00.html
[53] 25 U.S.C. 479a "Federally Recognized Indian Tribe List Act of 1994."

country, if necessary.[54,55] In addition, there is significant authority for federal law enforcement action.[56,57,58] Furthermore, states have limited authority to enter upon Indian tribal lands, reservations, or allotments for the purpose of making inspection of health and enforcing sanitation and quarantine regulations.[59]

State and tribal affairs are guided by the 2002 Government-to-Government Accord between the State of Michigan and the Federally Recognized Indian Tribes in the State of Michigan[60], along with Executive Directive 2004-5[61].

Legal Resources

- *Public Health Law Bench Book for Michigan Courts.*[62] This bench book was created as a significant part of the public health emergency legal preparedness initiative at the Public Health Law Program of the CDC. It is a legal reference for Michigan judges to use in the courtroom, providing, for example, procedural frameworks, statutory texts, summaries of relevant case law, and model orders. It is focused on four topics: (1) searches, seizures, and other such government actions to ensure the public health; (2) judicial proceedings centered on permissibility of limiting certain individual liberties in order to protect the public health; (3) operation of the courts amid public health threats; and (4) the role of the courts during a state of emergency triggered by public health concerns. This bench book is not only an excellent reference tool for judges, it is an essential tool for public health officials, including local health officers and emergency preparedness coordinators.

- *Social Distancing Law Project, Michigan Department of Community Health, Assessment of Legal Authorities.*[63] This report is included in the Public Health Law Bench Book for Michigan Courts (in Section VII Selected Memoranda of Law). It is also available as a stand-alone document published on the Michigan Health Alert Network. This report was prepared as part of the CDC Social Distancing Law Project. It provides an assessment of Michigan's legal readiness to address pandemic influenza, including the legal authority for pharmaceutical and non-pharmaceutical (social distancing) measures. This report focuses on the ability of Michigan to implement social distancing measures to prevent and

[54] 25 U.S.C. 198 Contagious and infectious diseases; quarantine.
[55] 42 U.S.C. 2001 Indian hospitals and health facilities transferred to Public Health Service.
[56] 18 U.S.C. 1151 Indian country defined.
[57] 18 USC 1152 "Indian Country Crimes Act."
[58] 18 U.S.C. 1153 "Major Crimes Act."
[59] 25 U.S.C. 231 "Enforcement of state laws affecting health and education; entry of State employees on Indian lands".
[60] State of Michigan, Office of the Governor, http://www.michigan.gov/documents/Accordfinal_53478_7.pdf
[61] State of Michigan, Office of the Governor, http://www.michigan.gov/som/0,1607,7-192-29701_41909-92821--,00.html
[62] Michigan Office of the Attorney General. *Public Health Law Bench Book for Michigan Courts.* 2007. http://www2a.cdc.gov/phlp/port_bench.asp
[63] Michigan Department of Community Health. *Social Distancing Law Project, Michigan Department of Community Health, Assessment of Legal Authorities.* Published in 2007 on the Michigan Health Alert Network. https//michiganhan.org.

control the spread of pandemic influenza, both when an emergency has been declared pursuant to the Emergency Management Act (1976 Act 390) and in the absence of such a declaration. It cites the legal authority for the following public health measures: restrictions on the movement of persons (isolation and quarantine), curfew, inter-jurisdictional cooperation and restricting movement of persons, closure of public places, and mass prophylaxis readiness.

- *Public Health Round Table on Legal Authorities for Isolation and Quarantine, Consensus Report.*[64] The CDC cooperative agreement for public health emergency preparedness requires state and local health departments to complete a series of critical tasks in support of the National Preparedness Goal. One of the critical tasks is to assure legal authority to isolate and/or quarantine individuals, groups, facilities, animals, and food products. This document was prepared to fulfill that critical task.

  This report identifies the legal authority for isolation and quarantine and discusses the application of these powers. The report includes examples of imminent danger orders that have been issued by the State Health Director pursuant to section 2251 of the Public Health Code (MCL 333.2251). (Note: Local health officers have the same authority pursuant to MCL 333.2451). It also discusses the use of emergency orders to control an epidemic pursuant to section 2253 (state) and 2453 (local) of the Public Health Code (MCL 333.2253 and MCL 333.2453).

- *Communicable Diseases Public Health Authorities and Information Sharing.*[65] This is a compendium of information for local health departments. It identifies the legal authorities for disease control and includes several memoranda from the MDCH Director regarding: *The Disclosure of Protected Health Information for Disease Prevention and Control Under the Michigan Public Health Code and the Federal Privacy Rule*; and, *The Legal Authority of MDCH to Respond to a SARS Outbreak* (which is applicable to communicable disease control in general).

MI Volunteer Registry, Frequently Asked Questions – Legal Issues. This information is available on the MI Volunteer Registry website.[66] This document addresses various legal issues pertaining to emergency volunteer health practitioners, including: licensure, liability protection, and workers compensation.

[64] Michigan Department of Community Health, Office of Public Health Preparedness. *Public Health Round Table on Legal Authorities for Isolation and Quarantine, Consensus Report 2006*. Published 2006, Michigan Health Alert Network. https://michiganhan.org

[65] Michigan Department of Community Health. *Communicable Diseases Public Health Authorities and Information Sharing.* Published 2004, Michigan Health Alert Network. https://michiganhan.org

[66] http://www.michigan.gov/ophp

Summary

Michigan has a range of capacities and well-established partnerships to effectively prepare for, and respond to, a pandemic. The Michigan Department of Community Health has integrated comprehensive surveillance activities into the fabric of the institution, and remains poised to respond to any public health emergency.

Although substantial progress toward pandemic preparedness has been made in Michigan, much work remains. Michigan continues to strategically enhance it all-hazards preparedness and response capacity. The *Michigan Pandemic Plan* outlines Michigan's key operational actions and activities for the pre-pandemic, pandemic, and post-pandemic phases.

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

In order to synthesize the various categorization schemes in existence, it is helpful to compare them side-by-side. See Figure 2.

Comparison of MDCH Actions to World Health Organization (WHO) Phases, U.S. Government Stages (USG), and Centers for Disease Control and Prevention (CDC) Intervals

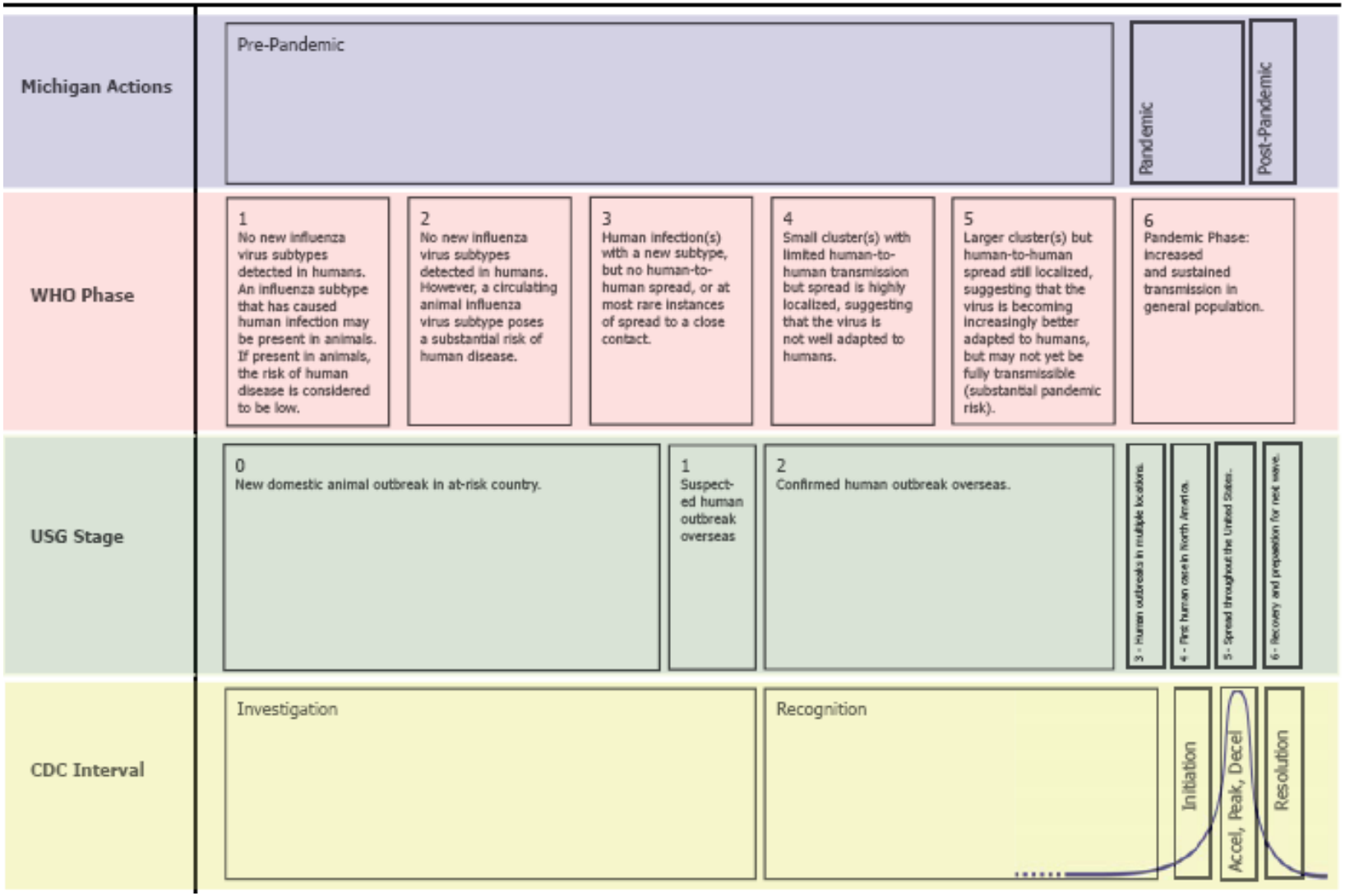

Figure 2. This chart overlays Michigan actions, World Health Organization (WHO) phases, U.S. government (USG) stages, and Centers for Disease Control and Prevention (CDC) intervals.

MDCH Pandemic Planning Assumptions

1. In a novel influenza outbreak, the CHECC will be activated at the discretion of the Preliminary Assessment Team, the OPHP Director, and/or the MDCH Executive Group.
2. The lead state agency in a pandemic event will be determined based on how the novel strain presents in Michigan (domestic animals, wildlife, humans, etc.).
3. Operational procedures for response roles have been provided by the respective agency, bureau, division, office, etc.
4. Under certain scenarios, the usual functions and activities within MDCH will be significantly reduced to allow MDCH to wage an efficient pandemic response.
5. During a pandemic, most parts of the state will be simultaneously affected, and diverting resources from other locations will not be possible.
6. A pandemic may increase the likelihood of sudden and potentially significant gaps in public services and safety, particularly healthcare capacities in Michigan.
7. Local public health and healthcare partners will use the reporting and tracking mechanisms provided by the state.
8. Local public health and healthcare partners will provide treatment and care within their jurisdictions in a fair and equitable manner.
9. In the initial stages of a pandemic, vaccine is unlikely to be available and community mitigation strategies will be the most effective measures available.

Michigan Pre-Pandemic Actions
(Investigation/Recognition Intervals)

Command and Management

The state's Pandemic Influenza Coordinating Committee meets quarterly to progress preparedness initiatives across departments and private-sector agencies. A summary of the PICC's activities is maintained by the Michigan Pandemic Coordinator[67].

The Preliminary Assessment Team meets monthly, or as needed, via conference call to assess global trends in influenza activity, and determine if any further action is necessary. A summary of the PAT's activities is maintained by the Michigan Pandemic Coordinator[68] and the OPHP Evidentiary Library.

The CHECC is exercised regularly to assure streamlined activation, operation, and deactivation processes. A summary of the CHECC exercise and training schedule is maintained by the OPHP Exercise and Technical Support Coordinator[69].

Crisis Communication

The *Michigan Emergency Management Plan* outlines communication systems and protocols available through the SEOC. The *CHECC Manual* outlines tactical and risk communication capacities available through the CHECC.

OPHP risk communicators have developed pre-pandemic fact sheets, frequently asked questions (FAQs), press releases templates, and talking points. These materials have been widely distributed to stakeholders throughout the state, and are also available on Michigan's influenza website. General preparedness information is publicly available on Michigan's preparedness website. Some of MDCH's pre-pandemic outreach activities are provided in Attachment 6.

In Michigan's pre-pandemic phase, MDCH maintains regular communication with partners and stakeholders. Michigan's influenza activity is publicly reported, on at least a weekly basis, in *MiFluFocus*.[70] The Michigan Health Alert Network is utilized for frequent communications between MDCH, local health departments, long-term care facilities, hospitals, and other partners.

[67] Michigan Pandemic Coordinator – (517) 335-9085
[68] *ibid*
[69] OPHP Exercise and Technical Support Coordinator – (517) 335-8277
[70] http://www.michigan.gov/mdch/0,1607,7-132-2940_2955_22779_40563-143382--,00.html

During the CDC's Recognition Interval, the MDCH Executive Group will make recommendations, through the SEOC (if activated), for the development and distribution of any additional public information materials.

Surveillance

The Bureaus of Laboratories and Epidemiology operate 24/7 coverage for issues regarding the notification of communicable disease, public health emergencies, or the shipping, testing, or handling of clinical specimens. In addition, this information is publicly available via the BOL website.[71]

Throughout any given year, BOE monitors and tracks influenza-like illness activity through aggregate school-based, sentinel-based, and syndromic surveillance systems. During the CDC's Recognition Interval, MDCH will enhance its surveillance of seasonal and novel influenza activity. The goals of these surveillance initiatives are to detect early cases/clusters in Michigan.

Diagnosis-based Surveillance. Michigan routinely monitors various systems to gather an accurate picture of influenza activity in Michigan. Michigan's Communicable Disease Reporting rules outline the required influenza reporting timeframes.[72] Diagnosis-based surveillance systems include (but are not limited to):

- Sentinel Provider Surveillance Network (SPSN) will be used for reporting influenza-like illness. BOE staff will ensure that the SPSN has at least one regularly reporting provider per 250,000 citizens, review participation status of enrolled sites, and recruit new sites as necessary.
- BOE will monitor clinically consistent clusters of illness compatible with equine, avian, and swine influenza. This function is conducted through partnerships with the Michigan Department of Agriculture (including VetNet), U.S. Department of Agriculture, Michigan State University, the University of Michigan Influenza Research and Surveillance Program, veterinarians, and poultry researchers, all who have representation of the Avian Influenza Interagency Working Group, which is represented in the PICC.
- BOE will track influenza-related mortality by enhancing communications with the MDCH Office of Vital Records to ensure timely and accurate counting of deaths attributable to influenza and pneumonia, and enhancing communications with medical examiners to obtain information on influenza-, pneumonia- or other respiratory infection-related deaths[73]. MDCH investigations all pediatric influenza-associated deaths.

[71] http://www.michigan.gov/mdch/0,1607,7-132-2945_5103---,00.html
[72] http://www.michigan.gov/mdch/0,1607,7-132-2945_5104-12538--,00.html
[73] A list of Michigan's medical examiners is maintained by OPHP through their Contacts Database. See "The State of Michigan's Planning Landscape" section of this document for further information on the Contacts Database.

- Michigan's Disease Surveillance System (MDSS).[74] MDCH has developed the trigger to switch from individual to aggregate case reporting in MDSS, but will update the trigger in the Recognition Phase based upon disease activity and strain severity. This will be communicated to partners through standard communication pathways available in the CHECC.

Syndromic-based Surveillance. In addition to diagnosis-based surveillance, Michigan also utilizes syndromic-based surveillance to gather an accurate assessment of influenza activity.

- Michigan's primary methods of syndromic surveillance are the Real-time Outbreak Disease Surveillance (RODS) National Retail Data Monitor (NRDM), which tracks day-old pharmaceutical purchasing at retail establishments, and the monitoring of emergency department chief complaints throughout the state.
- The state has developed case definitions for presumptive/definitive diagnosis of novel and pandemic influenza cases, and has distributed these to local public health and healthcare providers. See Attachment 3.
- The Michigan Care Improvement Registry (MCIR) will be used for tracking adult and child pharmaceutical administration.[75]
- Vaccine and Drug Safety Surveillance. If vaccine is available, the MDCH Safety Coordinator[76] and VAERS Coordinator[77] will participate in national and state planning and surveillance meeting to address potential VAERS/AERS events.

Laboratory Guidelines

The BOL maintains year-round seasonal influenza testing of SPSN specimens. BOL's Virology Section isolates, types, and subtypes influenza A and B. BOL will provide respiratory virus testing for outbreak and cluster investigations.

BOL maintains updated guidance for notification, clinical specimen selection, and submission during seasonal, novel virus, or pandemic scenarios. This information is publicly available on the BOL website.[78] BOL periodically sends representative virus isolates to the Centers for Disease Control and Prevention (CDC) for further antigenic characterization. Any unusual virus isolates are immediately sent to CDC for further investigation.

[74] http://www.michigan.gov/mdch/0,1607,7-132-2945_5104_31274-96821--,00.html
[75] See "The State of Michigan's Planning Landscape" section of this document for further information on MCIR capabilities.
[76] The MDCH Vaccine Safety Coordinator is located within the Bureau of Epidemiology, Division of Immunizations – (517) 335-8159.
[77] The MDCH VAERS is located within the Bureau of Epidemiology, Division of Immunizations – (517) 335-8159.
[78] http://www.michigan.gov/mdch/0,1607,7-132-2945_5103---,00.html

BOL has developed algorithms to identify routine, novel, and pandemic influenza; see Attachment 4. During the CDC's Recognition Interval, BoL will increase testing capacity for influenza viruses, including pandemic strains; specimens will be obtained from affected areas and other targeted surveillance populations.

Community Containment

A comprehensive pandemic mitigation strategy includes both pharmaceutical and non-pharmaceutical measures. However, at the beginning of an influenza pandemic, the most effective mitigation tool (i.e., a well-matched pandemic strain vaccine) will probably not be available. Therefore, the state must be prepared to face the first wave of the pandemic without vaccine and, possibly, without sufficient quantities of influenza antiviral medications.

The pandemic mitigation framework is based upon an early, targeted, layered application of multiple, partially effective, non-pharmaceutical measures. These mitigation strategies include: isolation and treatment, voluntary home quarantine, dismissal of students from school, and use of social distancing measures. See Michigan Pandemic Actions for further information.

The MDCH Executive Group at the CHECC will make recommendations, through the SEOC (if activated), for the implementation of any community containment measures. See Attachment 7 for implementation triggers.

Infection Control

Health practitioners, hospitals, and medical facilities within the state are expected to follow their respective agency's infection control protocols and procedures. The Association of Professionals in Infection Control and Epidemiology offer many helpful infection control documents on their website.[79] During the CDC's Recognition Interval, MDCH may provide additional infection control recommendations.

Medical Management

Local health departments will document, investigate, and monitor novel strain influenza cases within their jurisdiction as per their respective policies and procedures. The CHECC will solicit and collate regional and local information. The MDCH Executive

[79] http://www.apic.org//AM/Template.cfm?Section=Home1

Group will make recommendations, through the SEOC (if activated), for the implementation of any statewide medical management measures.[80]

The MDCH Public Health Emergency Countermeasure Distribution Strategy (the Strategy) outlines the responsibilities and procedures for distributing public health emergency countermeasures before or during a public health emergency.[81] The Strategy defines the distribution and administration of countermeasures held within the state, or assets available from other sources under pre-event emergency response agreements. The MDCH Strategic National Stockpile Plan addresses all elements of distribution and administration logistics for countermeasures outlined in the Strategy.

Data Management

During Michigan's Pre-Pandemic Actions, the following surveillance and reporting tools[82] will be utilized:

- Sentinel Provider Surveillance Network
- Michigan Disease Surveillance System
- Laboratory Specimen Tracking: StarLIMS
- Michigan Care Improvement Registry
- Hospital Emergency Department Syndromic Surveillance

In addition, MDCH maintains several additional redundant data tracking systems. The MDCH Virology Section Manager maintains an Excel spreadsheet that contains the results of all specimens from sentinel providers and all positive respiratory cultures from non-sentinel sites. The MDCH Communicable Disease Division maintains reports and data regarding suspect or confirmed influenza outbreaks. MDCH's Immunization section maintains sentinel reporting data, updated weekly, in Excel spreadsheets which are saved on a secure network drive at MDCH. MDCH maintains paper records for three years; these files are kept in a secure location within MDCH's Communicable Disease Division.

During SEOC and/or CHECC activation, emergency management and situations reports are entered and monitored via the ETeam emergency management application.

[80] Community mental health services are a local responsibility pursuant to 1974 Act 258, Mental Health Code (MCL 330.1001 *et seq*). Mental health services for state employees are available through the Employee Service Program (www.michigan.gov/ose) and Traumatic Incident Stress Management (TISM) program.

[81] Note that two versions of the Countermeasure Distribution Strategy exist. The full version is intended only for MDCH staff use and is kept confidential. The public version of the plan is redacted.

[82] See "The State of Michigan's Planning Landscape" section of this document for more information on available surveillance and reporting tools.

International Issues

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 factors to prevent the spread of disease will depend on multiple factors including the location of outbreak(s), transmissibility of the novel virus, probable effectiveness of control measure(s), and available resources.

Each of Michigan's major ports of entry – the Detroit/Windsor Tunnel, the Sault Ste. Marie Bridge, and Detroit Metropolitan Airport – has developed a communicable disease and/or pandemic plan. Each plan describes relevant authorities, characterizes its port, provides a response overview, and assigns responsibilities to achieve that response. MDCH will provide a supportive role, within its capacity at the time, to any port requesting assistance.

The MDCH Executive Group will make recommendations, through the SEOC (if activated), for the implementation of any travel restrictions or other containment strategies.[83]

Recovery

Recovery strategies are discussed in the MDCH Emergency Operation Plan.

[83] General and Honorary Consuls have diplomatic immunities which may impact the implementation of community mitigation measures by public health authorities. See Attachment 9.

Michigan Pandemic Actions
(Initiation, Acceleration, Peak, Deceleration Intervals)

Command and Management

As per the MDCH Planning Assumptions, at the CDC's Initiation Interval, the SEOC and CHECC will both be activated. In compliance with the *National Response Framework*, activation can be partial or full, as indicated by the level of response required or requested. See Table 8 for a description of the various CHECC response modes. A full description of CHECC functionality and capacity can be reviewed in the *CHECC Manual*.

Table 8. Likely Community Health Emergency Coordination Center (CHECC) activation status by CDC Interval, World Health Organization (WHO) phase, and U.S. Government (USG) stage.

PSI	CDC Investigation WHO 3 USG 0-1	CDC Recognition WHO 4 USG 2	CDC Recognition WHO 5 USG 2	CDC Initiation WHO 6 USG 3	CDC Initiation WHO 6 USG 4	CDC Accel, Peak, Decel WHO 6 USG 5
1	Standby	Standby	Standby	Partial	Partial	Full
2-3	Standby	Standby	Standby	Partial	Partial	Full
4-5	Standby	Standby	Partial	Partial	Full	Full

Crisis Communication

The *Michigan Emergency Management Plan* outlines communication systems and protocols available through the SEOC. Excerpt of communications capabilities available through the CHECC are provided at Attachment 5.[84] Subject matter experts will be drawn from within MDCH and other state agencies to support decision-making of the MDCH Executive Group.

From the CHECC, the risk communication staff will maintain regular communication with partners and stakeholders through MIHAN, email distribution lists, and public websites. Distributed information will likely include (but not limited to):

[84] A full description of communication capacities available through the CHECC is available in the *CHECC Manual* which is published on the Michigan Health Alert Network.

- case definitions
- clinical epidemiologic and treatment criteria
- community mitigation strategies and procedures
- infection control procedures
- public press releases
- health alerts
- medicinal distribution locations

The SEOC may activate a Joint Information Center (JIC) to release coordinated public messages and be the focal point for media enquiries. When a JIC is activated at the state level, the MSP-EMHSD Public Information Officer serves as the lead. S/He has the responsibility to invite individuals from affected jurisdictions and state agencies to participate in the JIC. During a pandemic, the MDCH PIO, supported by his/her risk communication staff in the CHECC, will be key contributing member of the JIC as well as a member of the MDCH Executive Group. The MDCH Executive Group will direct the development and distribution of any public information materials. If a JIC is activated, all public information produced from the CHECC will be formally announced from the JIC.

Surveillance

In addition to surveillance activities (See Michigan Pre-Pandemic Actions), MDCH epidemiologists will participate in special studies (as requested) by the CDC to enhance surveillance. Pertinent health-related information will be channeled through the CHECC. This data will be monitored by the CHECC Epi Desk (under Operations):

- morbidity and mortality trends
- geographic outbreak maps
- transmissibility factors
- populations at increased risk for severe disease, hospitalization complications, or death
- vaccine failure
- antiviral resistance
- antibiotic susceptibility
- unusual pathologic features associated with fatal cases
- VAERS, AERS reports from the Vaccine Safety Coordinator or VAERS Coordinator

The MDCH Director (or designee), as state health officer, may implement a change in reporting requirements at any time in order to protect the citizens of Michigan. If/When the MDCH Executive Group recommends that MDSS data input switches to aggregate reporting, that change in reporting methodology will be disseminated to partners via the standard communication capabilities available through the CHECC. MDSS will be the primary tool to collect morbidity and mortality data. The Michigan

Care Improvement Registry will be used to collect information regarding inventory, distribution, administration, and adverse events. Throughout the pandemic, there will be a concerted effort to increase sentinel physician enrollment and reporting.[85]

During a pandemic, the MDCH Bureaus of Laboratories and Epidemiology will maintain 24/7 coverage at (517) 335-9030 to answer questions regarding the notification of communicable disease, public health disasters, and shipping/testing/handling of clinical specimens. In addition, this information is publicly available on the BOL website.[86]

Laboratory Guidelines

The MDCH Bureau of Laboratories, in consultation with the Bureau of Epidemiology, will determine appropriate diagnostic testing for each received sample. BOL has developed algorithms to identify routine, novel, and pandemic influenza; see Attachment 4. BOL will determine surge capacity, align staff, and procure supplies accordingly, via their standard operational procedures. The BOL will send selected isolates to the CDC for strain characterization and/or antiviral resistance testing. The BOL will collaborate with clinicians and clinical laboratories to obtain information and/or samples of secondary bacterial infection isolates. Working with the BOE, pathologists, and medical examiners, the BOL will facilitate transport of select case or post-mortem specimens to BOL for testing and/or forwarding to the CDC.

All BOL testing is tracked and reported via StarLIMS. The Virology Section manager maintains an Excel spreadsheet containing the results of all specimens from sentinel physicians and all positive respiratory cultures from non-sentinel sites.

During a pandemic, BOL and BOE will maintain 24/7 coverage at (517) 335-9030 to answer questions regarding the notification of communicable disease; public health disasters; and shipping, testing, and handling of clinical specimens. All testing requests for novel influenza must be approved by BOE before BOL can process.

In an event where the BOL exceeded its surge capacity, the Michigan Regional Laboratory System would be asked for assistance. See Attachment 4 for a listing of regional LRN reference laboratories. The regional reference laboratories have personnel on-call 24/7 for emergency or surge capacity testing. In addition, they maintain emergency notification protocols for testing their personnel. Secondarily, the federal Laboratory Response Network may be called upon for assistance, if available. Finally, BOL will utilize clinical laboratories identified with advanced molecular testing capabilities.

[85] Additional surveillance tools which may be utilized during a pandemic are discussed in "The State of Michigan's Planning Landscape" section of this document.
[86] http://www.michigan.gov/mdch/0,1607,7-132-2945_5103---,00.html

Community Containment

A comprehensive pandemic mitigation strategy includes both pharmaceutical and non-pharmaceutical measures. However, at the beginning of an influenza pandemic, the most effective mitigation tool (i.e., a well-matched pandemic strain vaccine) will probably not be available. Therefore, the state must be prepared to face the first wave of the pandemic without vaccine and, possibly, without sufficient quantities of influenza antiviral medications.

The pandemic mitigation framework is based upon an early, targeted, layered application of multiple, partially effective, non-pharmaceutical measures. These mitigation strategies include:

1. Isolation and treatment (as appropriate) with influenza antiviral medications of all persons with confirmed or probable pandemic influenza. Isolation may occur in the home or healthcare setting, depending on the severity of an individual's illness and/or the current capacity of the healthcare infrastructure.

2. Voluntary home quarantine of members of households with confirmed or probable influenza case(s) and consideration of combining this intervention with the prophylactic use of antiviral medications, providing sufficient quantities of effective medications exist and that a feasible means of distributing them is in place.

3. Dismissal of students from school (including public and private schools as well as colleges and universities), cancellation of school-based activities, and closure of childcare programs, coupled with protecting children and teenagers through social distancing in the community to achieve reductions of out-of-school social contacts and community mixing.

4. Use of social distancing measures to reduce contact between adults in the community and workplace, including, for example, cancellation of large public gatherings and alteration of workplace environments and schedules to decrease social density and preserve a healthy workplace to the greatest extent possible without disrupting essential services. Enable the institution of workplace leave policies that align incentives and facilitate adherence with the non-pharmaceutical interventions outlined above.

These interventions can and should be undertaken voluntarily. However, state and local authorities shall compel action if necessary to protect public health. Most of the state and local authorities regarding public health emergencies, such as pandemic influenza, are contained in the Emergency Management Act[87] and the Public Health Code.[88]

[87] Emergency Management Act, 1976 Act 390 as amended, MCL 30.401 et seq.
[88] Public Health Code, 1978 Act 368 as amended, MCL 333.1101 et seq.

Pharmaceutical interventions available for containment strategies are described in the *MDCH Countermeasure Distribution Strategy*, the *Michigan Strategic National Stockpile Plan*, and the *MDCH Mass Vaccination Plan*.

The MDCH Executive Group will make all recommendations through the CHECC for the implementation of any community containment measures, and these recommendations will vary depending on the severity of the pandemic.[89] See Attachment 7 for implementation triggers.

If/When the MDCH Executive Group recommends voluntary quarantine, local health departments' roles become much more significant. The CHECC will distribute information to partners as detailed in the Crisis Communication section. However, tracking, monitoring, follow-up, and basic necessities will be handled by local public health and local emergency operations centers. As such, MDCH has embedded outreach requirements in the local health departments' work plans since 2006.

Infection Control

Infection control guidelines for a pandemic influenza strain may differ from that of seasonal or avian influenza. Updated guidelines during a pandemic will be distributed as described in the Crisis Communication section of this document.

Medical Management

Pharmaceutical interventions available for containment strategies are described in the Michigan Countermeasure Distribution Strategy, the Strategic National Stockpile Plan, and the Mass Vaccination Plan.

Community mental health services are a local responsibility pursuant to 1974 Act 258, Mental Health Code.[90] Mental health services for state employees are available through the Employee Service Program and Traumatic Incident Stress Management program.

Redundant patient tracking systems such as EMTrack, UPS-PTS, HAvBED, Raytheon's EPTS will be utilized by regional Medical Coordination Centers (MCC), and forwarded to the CHECC, to gauge and monitor pandemic surge. The CHECC will serve as the ultimate collection point for information regarding number of new cases, their locations, newly quarantined persons, and hospital bed status.

[89] Any social distancing orders will include colleges, universities, and daycare centers. In addition, General and Honorary Consuls have diplomatic immunities which may impact the implementation of community mitigation measures by public health authorities.
[90] MCL 330.1001 et seq

Surge capacity for healthcare partners will be achieved by utilizing a Modular Emergency Medical System (MEMS) coordinated through regional MCCs. The MEMS concept calls for the rapid organization of two types of expandable patient care modules, the Neighborhood Emergency Help Centers (NEHC) and the Acute Care Center (ACC). The mission of the NEHC is to direct casualties, especially non-critical and asymptomatic, potentially exposed patients, away from the emergency departments, allowing hospitals to continue to remain open in some capacity. In addition, the NEHC will render basic medical evaluation and triage while also providing limited treatment including the stabilization and distribution of prophylaxis, medication, self-help information, and instruction. The ACC is designed to treat patients who need in-patient treatment but do not require mechanical ventilation.

Data Management

During Michigan's Pre-Pandemic Actions, the following surveillance and reporting tools[91] will be utilized:

- Sentinel Provider Surveillance Network
- Michigan Disease Surveillance System
- Laboratory Specimen Tracking: StarLIMS
- Michigan Care Improvement Registry
- Hospital Emergency Department Syndromic Surveillance
- HAV-a-BED

During SEOC and/or CHECC activation, emergency management and situation reports are entered and monitored via the ETeam emergency management application.

International Issues

Michigan has several major ports of entry: the Ambassador Bridge in Detroit, the Windsor Tunnel in Detroit, the Blue Water Bridge in Port Huron, and the International Bridge in Sault Ste. Marie. In addition, the Detroit Metropolitan Wayne County Airport is the largest hub and primary U.S. international gateway for Northwest Airlines. Each of these ports of entry has developed their own communicable disease and/or pandemic plans. To the extent practicable during a pandemic, the Michigan Department of Community Health will support local officials' execution of their local port of entry response plans.[92]

[91] See "The State of Michigan's Planning Landscape" section of this document for more information on available surveillance and reporting tools.

[92] General and Honorary Consuls have diplomatic immunities which may impact the implementation of community mitigation measures by public health authorities. See Attachment 9.

MDCH maintains communications with Michigan's Chief of Protocol (see Attachment 9) to address international traveler issues as well as to address any other concerns that arise during the pandemic event.

Recovery

Recovery strategies are discussed in the MDCH Emergency Operation Plan.

Michigan Post-Pandemic Actions
(Resolution Interval)

Command and Management

At some point, it is expected that the first wave of the pandemic will subside. This occurrence will be noted and announced by both the World Health Organization and the Centers for Disease Control and Prevention (CDC). The MDCH Executive Group will report the subsidence of the first pandemic wave in Michigan and terminate emergency orders and/or community containment measures.

All divisions involved with the pandemic public health response will generate a list of successes and challenges related to their area of the response. These reports will be forwarded to the MDCH EMC for compilation and analysis. The MDCH EMC and the OPHP Director will use this information to generate a comprehensive After Action Report (AAR)[93] and Corrective Action Plan (CAP)[94]. The MDCH Emergency Operations Plan and the MDCH Pandemic Plan will be revised based on the AAR and CAP.

Depending on the MDCH Executive Group's assessment of need, the CHECC may scale back its activation status.

Crisis Communication

As directed by the MDCH Executive Group and/or the MDCH PIO, CHECC risk communicators will distribute information to the JIC, and to partners utilizing standard communication channels available through the CHECC. Likely items being distributed will include (but are not limited to):

- termination of emergency orders, including travel restrictions (if any)
- termination of community containment orders
- summary of adverse events related to antivirals and/or vaccines
- characterizations of the pandemic wave(s)
- updated infection control guidelines
- reminders that subsequent pandemic waves are likely

Each chief of the main CHECC areas (Finance, Logistics, Operations, and Planning) will provide summary response information to the CHECC Incident Commander for inclusion in the AAR/CAP. Any crisis communication related information included in the AAR and/or CAP will be heeded prior to response to the next pandemic wave.

[93] After Action Report = addresses the successes, failures, and remedial actions taken by the department in response to the pandemic. For more information, visit the HSEEP 101 document at https://hseep.dhs.gov/support/HSEEP_101.pdf

[94] Corrective Action Plan = addresses issues identified as requiring change and needing correction before the next pandemic wave. For more information, visit the HSEEP 101 document at https://hseep.dhs.gov/support/HSEEP_101.pdf

Surveillance

The Vaccine Safety Coordinator and/or VAERS Coordinator will continue to monitor vaccine and/or antiviral adverse events in MCIR, report these events to the MDCH Executive Group and the CHECC Incident Response Coordinator, and upload the information to VAERS or AERS. BOE staff will continue to monitor MDSS for detection of the next pandemic wave. The Vaccine Safety Coordinator and/or the VAERS Coordinator will continue additional surveillance at the direction of the CDC.

Each chief of the main CHECC areas (Finance, Logistics, Operations, and Planning) will provide summary response information to the CHECC Incident Commander for inclusion in the AAR/CAP. Any surveillance-related information included in the AAR and/or CAP will be heeded prior to response to the next pandemic wave.

Laboratory Guidelines

The BOL Virology Section will maintain year-round laboratory testing of specimens submitted by sentinel influenza sites. This system will be augmented with other activities according to CDC recommendations.

Each chief of the main CHECC areas (Finance, Logistics, Operations, and Planning) will provide summary response information to the CHECC Incident Commander for inclusion in the AAR/CAP. Any laboratory-related information included in the AAR and/or CAP will be heeded prior to response to the next pandemic wave.

Community Containment

BOE will assess, in consultation with local partners, the impact of any recommended community containment measures. This assessment will include secondary, tertiary, and unintended consequences. The MDCH Executive Group will note the subsidence of the first pandemic wave in Michigan and terminate emergency orders and/or community containment measures. This information will be distributed by CHECC risk communications staff to the JIC and partners through standard communications channels available in the CHECC.

Each chief of the main CHECC areas (Finance, Logistics, Operations, and Planning) will provide summary response information to the CHECC Incident Commander for inclusion in the AAR/CAP. Any community containment related information included in the AAR and/or CAP will be heeded prior to response to the next pandemic wave.

Infection Control

Health practitioners, hospitals, and medical facilities within the state are expected to follow their respective agency's infection control protocols and procedures. The Association of Professionals in Infection Control and Epidemiology offer many helpful infection control documents on their website.[95] Any additional guidelines for infection control related to a pandemic influenza strain will be distributed to the JIC and partners via standard communication channels available in the CHECC.

Each chief of the main CHECC areas (Finance, Logistics, Operations, and Planning) will provide summary response information to the CHECC Incident Commander for inclusion in the AAR/CAP. Any infection control related information included in the AAR and/or CAP will be heeded prior to response to the next pandemic wave.

Medical Management

CHECC staff will continue to monitor vaccine and/or antiviral adverse events in MCIR. This information will also be uploaded to VAERS or AERS, respectively. The MDCH Executive Group will determine when to discontinue data entry into the adverse events reporting systems.

Community mental health services are a local responsibility pursuant to 1974 Act 258, Mental Health Code.[96] Mental health services for state employees are available through the Employee Service Program and Traumatic Incident Stress Management program.

Each chief of the main CHECC areas (Finance, Logistics, Operations, and Planning) will provide summary response information to the CHECC Incident Commander for inclusion in the AAR/CAP. Any medical management related information included in the AAR and/or CAP will be heeded prior to response to the next pandemic wave.

Data Management

CHECC data will be provided to the MDCH Executive Group for decision on further dissemination to partners.

Each chief of the main CHECC areas (Finance, Logistics, Operations, and Planning) will provide summary response information to the CHECC Incident Commander for inclusion in the AAR/CAP. Any data related information included in the AAR and/or CAP will be heeded prior to response to the next pandemic wave.

[95] http://www.apic.org//AM/Template.cfm?Section=Home1
[96] MCL 330.1001 et seq

International Issues

BOE will assess, in consultation with local partners, the impact of any recommended border travel restrictions. This assessment will include secondary, tertiary, and unintended consequences.[97]

MDCH maintains communications with Michigan's Chief of Protocol (See Attachment 5) to address international traveler issues as well as to address any other concerns that arise during the pandemic event.

Recovery

At the conclusion of the first pandemic wave in Michigan, MDCH will host a debriefing session for select staff and managers. The status of departmental assets will be assessed as provided in the department Continuity of Operations Plan. All divisions involved with the pandemic public health response will generate a list of successes and challenges related to their area of the response. These reports will be forwarded to the MDCH EMC for compilation and analysis. The MDCH EMC and the OPHP Director will use this information to generate a comprehensive After Action Report (AAR)[98] and Corrective Action Plan (CAP)[99]. The MDCH Emergency Operations Plan and the MDCH Pandemic Plan will be revised based on the AAR and CAP.

Further recovery activities are detailed within the MDCH Emergency Operations Plan.

[97] General and Honorary Consuls have diplomatic immunities which may impact the implementation of community mitigation measures by public health authorities. See Attachment 9.

[98] After Action Report = addresses the successes, failures, and remedial actions taken by the department in response to the pandemic. For more information, visit the HSEEP 101 document at https://hseep.dhs.gov/support/HSEEP_101.pdf

[99] Corrective Action Plan = addresses issues identified as requiring change and needing correction before the next pandemic wave. For more information, visit the HSEEP 101 document at https://hseep.dhs.gov/support/HSEEP_101.pdf