

# **HPAI Outbreak Outbreak Emergency Response Plan in Michigan**

**Centers for Disease Control and Prevention**  
Atlanta, Georgia, USA



Afreen Khimani, Samantha Whitegeese, and Sara Merken  
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## Preface

Highly Pathogenic Avian Flu H5N1 (HPAI) is a disease that is caused by the avian influenza Type A virus, which spreads in wild aquatic birds as well as domestic poultry, with rare, sporadic infections in humans.<sup>10</sup> Avian flu is spread to humans through interaction with saliva, mucous, and feces of infected birds. Those with frequent contact with cows and birds are at higher risk for developing avian flu. In the United States between April 1, 2024 and May 29, 2024, there have been three human cases, all contracting avian flu after contact with dairy cows.<sup>10</sup> In order to monitor H5N1 activity in humans, the Centers of Disease Control and Prevention (CDC) is utilizing the flu surveillance system.

The CDC works in tandem with the Food and Drug Administration (FDA), the US Department of Agriculture (USDA), and the Administration for Strategic Preparedness and Response to best respond to this type of outbreak. In order to evaluate pandemic preparedness and make proper decisions relating to the development of countermeasures, the CDC implements the Influenza Risk Assessment Tool, or IRAT, which has been used to assess various influenza A strains.<sup>9</sup> IRAT analyzes potential pandemic risk in terms of emergence and public health impact; emergence refers to the “risk that a virus not circulating in the human population has potential for sustained human-to-human transmission,” while public health impact refers to the fact that “if the virus were to achieve sustained human-to-human transmission, what is the risk for significant impact on public health?”<sup>6</sup>

# Signature Page

By signing below, I acknowledge I have read and understand the Avian Influenza Outbreak Response Plan and agree to uphold the proposed plan.

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CDC Principal Deputy Director, Nirav D. Shah

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Date

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CDC Influenza Division Director, Vivien Dugen

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Date

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US Department of Agriculture Director

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Date

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MDARD Director, Dr. Tim Boring

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Date

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Michigan Department of Health and Human Services  
Director, Elizabeth Hertel

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Date

## **Mission Statement and Purpose**

The Centers for Disease Control and Prevention “works to protect America from health, safety and security threats, both foreign and in the U.S. Whether diseases start at home or abroad, are chronic or acute, curable or preventable, human error or deliberate attack, CDC fights disease and supports communities and citizens to prevent and respond to health threats. The CDC’s mission is to protect and increase the health security of our nation. To accomplish this mission, CDC conducts critical health science surveillance and research and provides health information to protect our nation against expensive and dangerous health threats, and responds when these arise.”<sup>4</sup>

“CDC increases the health security of our nation. As the nation’s health protection agency, CDC saves lives and protects people from health threats. To accomplish this mission, CDC conducts critical health science, surveillance, research, and provides health information to protect our nation against expensive and dangerous health threats, and responds when these arise.”<sup>4</sup>

## **Plan Objectives**

The main objectives of this plan are to outline the CDC’s responsibilities and collaboration efforts to support the Michigan DHS and MDARD in the event of future cases of Avian Influenza amongst the human population in Michigan. This plan establishes methods and protocols to effectively respond and manage an avian influenza outbreak, including identifying key stakeholders and putting in place a plan for immediate action. The CDC continues to utilize a One Health approach.<sup>6</sup> A primary action objective of the CDC would be to implement a nationwide influenza virus monitoring plan so that the agency can work with the Michigan DHS and MDARD to quickly identify positive cases in both animals and humans in the state. In tandem, the authorities would increase avian flu testing and increase the ability to gather more subtyping.<sup>9</sup>

## **Authorities**

The Public Health Service Act of 1944 authorizes the U.S. Department of Health and Human Services, and the CDC by delegated authority, to create measures to prevent the spread of communicable disease.<sup>7</sup> Below are some authorities relevant to public health emergencies.

### ***Section 319 of the PHSA: Public Health Emergencies***<sup>12</sup>

If the HHS Secretary determines that “a disease or disorder presents a public health emergency” or that “a public health emergency, including significant outbreaks of infectious diseases or bioterrorist attacks, otherwise exists,” this section of the law authorizes the Secretary to take appropriate action to respond to the emergency. The section also addresses many other authorities related to public health emergencies.

### ***Section 319F-2 of the PHSA: Strategic National Stockpile and Security Countermeasure Procurements***<sup>12</sup>

The section authorizes the Secretary, in collaboration and coordination with other authorities, to “maintain a stockpile or stockpiles of drugs, vaccines and other biological products, medical devices, and other supplies,” in order to ensure the emergency health security of the country if there is a bioterrorist attack or other public health emergency.

### ***Section 311 of the PHSA: General Grant of Authority for Cooperation***<sup>12</sup>

The section authorizes the Secretary to accept help from state and local authorities in enforcing quarantine regulations, and authorizes the Secretary to help state and local authorities in their own quarantine enforcement efforts to prevent and mitigate communicable diseases.<sup>7</sup> The section also authorizes the Secretary to encourage states to cooperate on health planning; train personnel for health work at the state and local levels; and develop a plan to control epidemics and other health emergencies, among other things.

## **Definitions**

**CDC - Center of Disease Control and Prevention:** The CDC is a federal government agency under the U.S. Department of Health and Human Services. The CDC is the United States’ national public health agency with a mission to protect the country from domestic and foreign threats to health, safety and security.<sup>4</sup>

**USDA - US Department of Agriculture:** The U.S. Department of Agriculture (USDA) is made up of 29 agencies and offices with nearly 100,000 employees who serve the American people at more than 4,500 locations across the country and abroad.<sup>3</sup>

**APHIS - Animal and Plant Health Inspection Service:** APHIS’ work centers around animal and plant health, but our programs also address animal welfare, biotechnology, wildlife damage management, and global trade<sup>1</sup>.

**GISAID - Global Initiative on Sharing Avian Influenza Data:** An international agency that seeks to promote the sharing of data on priority pathogens including genetic sequencing of viral strains in addition to clinical and epidemiological data, free of charge.<sup>11</sup>

**Avian Flu (also “bird flu” or “HPAI - highly pathogenic avian influenza”)** - Avian influenza or bird flu refers to the disease caused by infection with avian (bird) influenza (flu) Type A viruses. These viruses naturally spread among wild aquatic birds worldwide and can infect domestic poultry and other bird and animal species.<sup>9</sup>

**One Health:** One Health is a collaborative, multisectoral, and transdisciplinary approach — working at the local, regional, national, and global levels — with the goal of achieving optimal health outcomes recognizing the interconnection between people, animals, plants, and their shared environment.<sup>5</sup>

**MDARD - Michigan Department of Agriculture & Rural Development:** MDARD oversees 4 bureaus and 8 divisions that focus on economic development in the food and agriculture sector, control diseases impacting the agriculture system and ensure proper animal health practices.<sup>2</sup>

**Michigan DHS - Michigan Department of Health and Human Services:** Oversees public health response, health policy and management, and promotes a healthy and safe environment to inhabitants of Michigan.<sup>12</sup>

## **Communication Plan**

### ***Internal Communication***

The event of additional reported cases of avian influenza within Michigan, the CDC will continue to collaborate with MDARD, local and Michigan DHS officials, and APHIS to ensure proper documentation, regulations are followed, and additional cases are reported. It is the responsibility of Michigan DHS to provide case information to the CDC, APHIS and GISAID as necessary. Michigan DHS will provide specific recommendations of areas and activities that require strengthening to control and prevent further spread of the disease. CDC will utilize this information to best support Michigan DHS response. If a steep increase of cases is expected, CDC will assist Michigan DHS in obtaining strategic materials, necessary resources, and personnel to monitor and evaluate the situation. Michigan DHS will provide updates to their reporting system and expand as necessary in the event of an increase of cases.

### ***External Communication***

The CDC will communicate and collaborate with affiliates to ensure the media receives the most up to date and accurate information to present to the public. Michigan DHS will offer regular press briefings, when necessary, to communicate any updates. Michigan DHS will provide up to date information on the DHS website for the public to view and provide a hotline in which the public can ask questions to experts. Michigan DHS will provide farmers and agricultural workers materials to raise awareness of signs of Avian Influenza.

## **Mutual Aid Agreement**

The CDC will continue to work in close collaboration with the Michigan DHS and the MDARD to prevent, monitor, and evaluate future cases of Avian Flu within Michigan. If a steep increase in reported cases occurs, an updated plan will need to be developed with the collaboration of the following agencies.

1. Michigan Department of Health and Human Services
2. Michigan Emergency Management & Homeland Security
3. Centers for Disease Control and Prevention
4. US Department of Agriculture
5. US Food and Drug Administration
6. Animal and Plant Health Inspection Service
7. Global Initiative on Sharing Avian Influenza Data



## VI. Concept of Operations

### **Assessing the Needs of Patients with Avian Flu**

The Centers for Disease Control and Prevention (CDC) will work closely with key stakeholders in Michigan, including the Michigan Department of Health and Human Services (Michigan DHS) and Michigan Department of Agriculture and Rural Development (MDARD) to continuously monitor for and document cases of avian flu in the state.

The general public is not currently at significant risk of exposure to the virus. However, those at higher risk include individuals who frequently and closely interact with birds and cows, those involved in outbreak response efforts, and anyone who has direct or indirect contact with infected animals.<sup>10</sup> Patients that have had potential exposure should monitor for symptoms, which could include conjunctivitis, respiratory symptoms, fever, cough, sore throat, runny nose, muscle and body aches, among others.<sup>15</sup> It is also possible to be asymptomatic. The incubation period for A(H5N1), on average, ranges from two to five days, and can vary.<sup>14</sup> The Michigan DHS will be prepared to conduct laboratory testing to confirm diagnoses.

Antiviral medication known as Oseltamivir is the recommended immediate treatment for individuals who are suspected, probable and confirmed cases of avian flu.<sup>16</sup> Suspected cases should begin antiviral treatment as soon as possible, even ahead of confirmed lab testing. Suspected contacts of confirmed cases should also receive Oseltamivir as post-exposure prophylaxis.<sup>17</sup>

### **Matching Available Resources/Addressing the Needs**

The CDC will continue to work closely with the Michigan DHS to provide technical assistance to conduct a serology epidemiological study of people exposed, reaching out to health care providers and clinics in affected counties, as well as conducting sequencing of the virus with labs in Michigan.<sup>18</sup>

Given the need for a laboratory test to confirm diagnosis in addition to clinical signs and symptoms, it is vital for Michigan DHS and clinics to have rapid testing available for accurate and timely diagnosis. In addition to diagnostic resources, having Oseltamivir and antiviral chemoprophylaxis readily available is also vital to prevent potential spread of disease.<sup>19</sup>

Through the signed Determination of Extraordinary Emergency, MDARD will further prioritize the HPAI in an effort to prevent further avian flu spread and protect both animal and public health.<sup>20</sup> These guidelines are evidence-based practices to be implemented for all Michigan dairy farms to enhance biosecurity measures, limit cattle and poultry exhibitions, as well as increased regulations for racing pigeons.

### **Evaluating the Effectiveness of Disaster Response**

There are several measures that would be appropriate for evaluating the effectiveness of the CDC and Michigan disaster responses. The agencies should track and evaluate several key elements of their flu surveillance and treatment protocols. The speed and accuracy at which the agencies are able to identify positive cases are critical measures to assess if the surveillance system is functioning properly. Another measure, for example, might be geared to the antiviral medication, i.e., the percentage of people who received antiviral medication as treatment or as a preventative measure, compared to the total number of people requiring such treatment. Due to the necessity for antivirals to be administered as soon as possible, a key success evaluation would be to track how quickly the agencies were able to get the medication to the right people. These figures would highlight the effectiveness of the CDC and state monitoring and surveillance system, and how well the responding authorities were able to effectively implement their response plan.

In addition, the coordination of the federal and state agencies should be evaluated, as their cooperation is critical to a successful response. If the situation progresses to necessitate additional agency responses, duties and responsibilities of existing agencies will be updated as needed.

## Annex 1. Threat and Hazards Assessment Table: Michigan

<b>Natural</b> Resulting from acts of nature	<b>Technological</b> Involves accidents or the failures of systems and structures	<b>Human-Caused</b> Caused by the intentional actions of an adversary
<ul style="list-style-type: none"> <li>● <b>Flooding:</b> Lake Michigan borders Michigan and has seen record high water levels in recent years. Water levels also increase after storms.</li> <li>● <b>High Winds:</b> High winds are prevalent typically from April to August, which is also tornado season in Michigan.</li> <li>● <b>Tornados:</b> Michigan gets around 15 tornadoes each year.</li> <li>● <b>Severe storm events:</b> Severe storms frequently occur in the summer months between May and September with heavy rainfall and high winds.</li> <li>● <b>Winter storms:</b> Winter in Michigan has temperatures ranging from 30s to low 20s and can get below 20 degrees Fahrenheit some winter nights.</li> <li>● <b>Climate Change:</b> Michigan in recent years has gotten less snow and has had warmer winters.</li> <li>● <b>Infectious diseases:</b> Infectious diseases</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Power Outage:</b> Michigan State has an estimated population of 10 million residents. Several power companies supply electricity to the inhabitants of Michigan including, Grand Haven Board of Light and Power, Board of Light and Power Diesel Plant, and Holland Board of Public Works.</li> <li>● <b>Wi-Fi:</b> 75% of farmers have wi-fi, which allows them to conduct business activities.</li> <li>● <b>Transportation:</b> The Macatawa Area Express (MAX) provides fixed bus routes to the inhabitants of Ottawa County.</li> <li>● <b>Contamination of wells:</b> Non-community water supplies are at risk of contamination from landfills and waste disposal sites. Wells are inspected and require a permit in order to register the use of them. These can be utilized by schools, motels, etc.</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Theft:</b> Stealing of livestock, goods, or equipment is a risk in agriculture.</li> <li>● <b>Harm to crops/animals:</b> Agricultural businesses in the county have livestock and crops that have the risk of being threatened.</li> <li>● <b>Man-made Fires:</b> During droughts or dry seasons, the risk of fires increases and increases the risk of crops and livestock may be harmed or burned down.</li> <li>● <b>Cyberattacks:</b> Threat actors have the potential ability to cripple the state's digital infrastructure.</li> <li>● <b>Terrorism and Bioterrorism:</b> Intentional acts of terrorism and bioterrorism pose risks to the state.</li> </ul>

<p>within livestock among agriculture has the potential to threaten human populations in this county. There have been 2 reported cases of Avian flu with one in this county in a local farmer.</p>		
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## Annex 2. Training Plan

<b>Training Seminar Title: Avian Flu - What you must know</b>	
<b>Objectives of your Training Seminar (What mitigation strategy are you advocating?)</b>	Training seminar on best safety practices for handling animals that are potentially infected with H5N1 or another virus to prevent human infection.
<b>Estimate Length of Training</b>	Length: 60 minutes Frequency: Once per year, plus additional training as needed or requested
<b>Target Audience and max size of audience.</b>	The target audience is farmers and agricultural workers in the community. Additional community members who work directly with livestock, including veterinarians, should also be targeted for the session. The max size of the audience is
<b>Who would be a good candidate (e.g., structural engineer, health dept. official, first responder?) as Facilitator of this session? Why?</b>	<ul style="list-style-type: none"> <li>- Michigan Department of Health Officials               <ul style="list-style-type: none"> <li>- To promote public health</li> </ul> </li> <li>- USDA Officials               <ul style="list-style-type: none"> <li>- To promote safe animal care practices and food standards</li> </ul> </li> <li>- Michigan State University Veterinary School Professors/Lecturers               <ul style="list-style-type: none"> <li>- To provide practical information and teachings on safe animal handling, sanitary practices, and awareness of Avian Flu</li> </ul> </li> </ul>
<b>What do you want community members to do as a result of their attending this session?</b>	<ol style="list-style-type: none"> <li>1. Key leaders will disseminate information to those in their respective industries</li> <li>2. Raise awareness of signs and symptoms of avian flu in livestock and humans</li> <li>3. Utilize safe practices in handling animals</li> <li>4. Prepare for increase in testing</li> </ol>
<b>Strategies to increase community uptake of your mitigation</b> (We have lots of useful links for checklists on the Course Home page under the Important Links page.)	<ol style="list-style-type: none"> <li>1. Offer free protective gear (gloves, face masks, other personal protective equipment). In addition to free PPE, provide information about where community members can purchase their own for future use.</li> <li>2. Provide pamphlets and posted notices of Avian flu symptoms and signs to be shared amongst each industry cluster</li> </ol>

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