Annex O

Pandemic Influenza Response Plan

Taney County Health Department

ANNEX TO TANEY COUNTY HEALTH DEPARTMENT
EMERGENCY RESPONSE PLAN

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PANDEMIC INFLUENZA
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Preface

Pandemic Influenza Plan

The contents of this plan should be reviewed annually and revised according to the most recent epidemiological and public health information pertaining to Pandemic Influenza response. This will ensure that the plan continues to be strengthened and remains familiar to all local response partners.

The current influenza response plan was based on assumptions of potential Pandemic impacts based on a “worst-case” scenario similar to the 1918 Spanish Influenza Pandemic. However, in light of the 2009 Influenza A H1N1 pandemic and the lessons learned, these situations and assumptions require some adjustment to take into account varying levels of pandemic severity, the likelihood of events changing quickly, and the uncertainty that occurs as the virus moves through the population and additional epidemiological information is identified.

The tasks assigned and delegated during each phase of pandemic response plan should be considered as possible actions and should be implemented based on the current situation and guidance from the Missouri Department of Health, Centers for Disease Control and Prevention, and the Missouri State Emergency Management agency. Local response partners should work in unison to ensure a coordinated, measured response to protect the residents and visitors to Taney County.

Pandemic severity information provided by the Centers for Disease Control and Prevention and the Department of Homeland Security, should be used to help gauge the current level of response. The TCHD and response partners should determine which actions in the Pandemic Phase to implement and which may be delayed based on this information. The actions listed under each Pandemic Phase should be implemented only as needed.
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PANDEMIC INFLUENZA RESPONSE PLAN

Purpose of Plan:

This plan is intended to provide guidelines to implement an effective response to Pandemic Influenza. This response will reduce the impact on public health (i.e. reduce illness and save lives) and maintain essential services while minimizing economic loss. The following response plan will be implemented after a novel influenza strain begins to spread readily from person to person, and it is geared toward action and specific responsibilities, and designed to complement existing TCHD emergency response plans.

Definition of Pandemic Influenza:

Pandemic Influenza refers to a global influenza epidemic that, in contrast to seasonal influenza: 1) is a novel influenza virus that has undergone an “antigenic shift”; 2) has high population susceptibility worldwide; 3) shows evidence of high person-to-person transmissibility; 4) is spread over a broad range of geographic areas, causing unusually high rates of morbidity and mortality because of its virulence.

Background:

Epidemics of influenza occur annually in the United States, and the Taney County Health Department (TCHD) has an ongoing program of education, surveillance, control and prevention to minimize the effects of these epidemics.

The primary disease prevention strategies for Pandemic influenza include:

• Targeted vaccination* and anti-viral usage aimed at high-risk populations to minimize the effects of expected outbreaks.
• Public information and education.
• Enhanced surveillance.
• Isolation, quarantine, public facility closures and other community control and social distancing measures.
• The TCHD Pandemic Influenza Annex would be implemented as a part of the County’s Emergency Response Plan. ** Notification of a pandemic influenza would come from CDC in phases.

If an unexpected epidemic should occur as a result of a known circulating strain of influenza, parts of the pandemic flu plan would be implemented to minimize the outbreak. The parts implemented would depend upon the specifics of the outbreak and would be determined in consultation with CDC, DHSS experts, local public health agencies, and local and state elected officials.

Vaccination continues to be the primary strategy to limit the impact and spread of influenza in the community. But, the time requirements to develop a vaccine and limited influenza vaccine production capabilities will ultimately result in shortages and barriers to relying on vaccination as a primary strategy to limit influenza transmission in the
community. Various community-based strategies will need to be enhanced to supplement any vaccination strategy that is implemented. Community-based strategies include: disease surveillance; community education regarding disease prevention; providing information to healthcare providers regarding infection control; prophylaxis with antiviral medications; quarantine and isolation strategies; and limiting or restricting large community gatherings.

(*see Appendix A for a discussion of Vaccine Delivery)
(**see Appendix B for a discussion of the integration of the Pandemic Annex with the County Emergency Response Plan)

Characteristics of an influenza pandemic that must be considered in preparedness and response planning include:

1) Simultaneous impacts in communities across the U.S., limiting the ability of any jurisdiction to provide support and assistance to other areas;
2) An overwhelming burden of ill persons requiring hospitalization or outpatient medical care;
3) Likely shortages and delays in the availability of vaccines and antiviral drugs
4) Disruption of national and community infrastructures including transportation, commerce, utilities and public safety; and
5) Global spread of infection with outbreaks throughout the world.

The impact of a large-scale influenza pandemic locally cannot be determined. However, based on past experiences with epidemic situations such as SARS and previous influenza pandemics, it is safe to assume that some type of consequences will occur locally.

The following assumptions have been adapted from CDC, WHO, DHSS documents and the most up-to-date research regarding a possible influenza pandemic, and should be kept in mind at all times during the planning and response stages.

- The flu will infect over 30% of the US population potentially causing 2 million deaths, 10 million hospitalizations, 45 million outpatient visits and 90 million cases.
- Absenteeism could rise to 40%, severely crippling critical services and businesses, including first responders, health care workers, utility providers, etc.
- Hospitals will have shortages of beds, medications, supplies (ventilators, masks, antivirals, antibiotics, etc.) and workers.
- The economic impact on the nation will range between $160 billion to $800 billion dollars.
- LPHAs will not be able to rely on external resources beyond what they have already prepared locally.
- Healthcare workers will be exposed to the disease more frequently than the general population, and will therefore experience more illnesses.
- Anti-virals will be in limited supply, and will only shorten the course of the disease by a day or less.
• No vaccine will be available for 4-6 months after the disease becomes readily transmissible from person-to-person. At that point only small amounts will be available, and these may require 2-3 doses to be effective.
• Social distancing strategies may have to be instituted to minimize disease spread.
• Basic hygiene and infection control strategies may have to be reiterated and encouraged.

Guiding Principles in Pandemic Influenza Response

TCHD will be guided by the following principles in initiating and directing its response activities:

1) TCHD will base levels of preparedness and response, in coordination with DHSS, the United States Department of Health and Human Services (HHS), on the World Health Organization’s Pandemic Plan and Pandemic Phase guidance.
2) TCHD will follow the guidance and direction of the DHSS’ Pandemic Influenza Plan on the prioritization of groups for distribution of vaccine and antivirals, and maintain consistency with federal agency guidance on laboratory diagnostics, case definitions, clinical management, surveillance, and so forth.
3) TCHD will follow the concepts and principles of the National Response Plan and the National Incident Management System in planning and response.
4) TCHD will work to build a flexible response system determined, in addition to the above, by the epidemiological features of the virus and the course of the pandemic.
5) TCHD will provide honest, accurate and timely information to the public.
6) In advance of an influenza pandemic, TCHD will work with federal, state, and local government partners and the private sector to coordinate pandemic influenza preparedness activities to achieve interoperable response capabilities.
7) In advance of an influenza pandemic, TCHD will encourage all county residents to be active partners in preparing the community, workplaces, and homes for pandemic influenza and will emphasize that a pandemic will require residents to make difficult choices. An informed and responsive public is essential to minimizing the health effects of a pandemic and the resulting consequences to Taney County.
8) TCHD will strive to ensure that preparations made for an influenza pandemic will benefit overall preparedness for any public health emergency or disease outbreak and serve to build capability and capacity to protect the health of all county residents and visitors.
9) In advance of an influenza pandemic, TCHD, in concert with state and local partners, will work to achieve countywide reliable, efficient and rapid distribution mechanisms for vaccine and antiviral drugs through the Strategic National Stockpile and local stockpiles.
10) Clusters of human-to-human transmission anywhere in the world (the advent of Phase 4) will trigger initiation of a pandemic response in Missouri. Because we live in a global community, a human outbreak anywhere means risk everywhere.
Any change in Pandemic Phases by DHSS will also be implemented in Taney County.
11) TCHD, with State and local partners, will attempt to prevent an influenza pandemic or delay its emergence in the state by striving to arrest isolated outbreaks of a novel influenza (through isolation, quarantine, travel restrictions, public facility closures, etc.) wherever circumstances suggest that such actions might be successful. At the core of this strategy will be basic public health measures (such as hand washing) to reduce person-to-person transmission.
12) At the onset of an influenza pandemic, TCHD will work with the State government to procure virus vaccine and distribute it to local pre-determined priority groups, based on pre-approved local plans.
13) At the onset of an influenza pandemic, TCHD, in collaboration with State and local partners, will begin to distribute and deliver antiviral drugs from public stockpiles to healthcare facilities and others with direct patient care responsibility for administration to pre-determined priority groups.

Prevention and Control Measures:

There are three key strategies for preventing influenza transmission, these include:
- Decreasing the probability that contact will result in infection, such as providing education to the public regarding respiratory etiquette, hand hygiene, use of masks, the importance of staying home if sick, and receiving annual flu vaccination
- Decreasing contact between infected and uninfected individuals, such as isolation, quarantine, travel advisories, and canceling public events/activities
- Antiviral prophylaxis if available.

Zoonotic Influenza

The poultry industry in Missouri provides an important contribution to the economy of the state of Missouri and its citizens. In 2004, Missouri ranked 4th in turkey production in the United States as well as 15th in egg production, and is estimated to be among the top ten states in meat chicken production. Additionally, during this year it was estimated that over $970 million had been contributed to Missouri’s economy through goods and services associated with the production of poultry and eggs. Consequently, an outbreak of avian influenza in this industry could result in a significant impact on the economy of local communities in southwest Missouri and the state.

Many considerations concerning an outbreak of avian influenza in poultry flocks need to be addressed during the planning and response to by local public health agencies and local response partners. During local community pandemic preparedness meetings, local poultry growers and industry representatives will be included in the process. Local public health agency response activities are outlined in Appendix C and will be reviewed and coordinated with poultry industry representatives and other...
response partners. The response to an avian influenza outbreak among poultry should be considered a subsection of the Pandemic Influenza plan.

**National Incident Management System (NIMS):**

The National Incident Management System (NIMS) is a consistent nationwide approach for all levels of government to work effectively and efficiently together to prepare for, and respond to domestic incidents. The training consists of a core set of concepts, principles, and terminology for incident command and multi-agency coordination.

The National Response Plan was developed to provide the structure and mechanisms for a comprehensive nationwide approach to domestic incident management. It is applicable to all federal departments and agencies that may be involved in responding to an Incident of National Significance. As part of the National Response Plan, all federal departments and agencies are required to adopt NIMS. All state and local agencies must also become NIMS compliant as a condition for federal preparedness funding assistance.

For a more complete description of NIMS, please refer to Appendix D of this plan.
The Phases of a Pandemic

The phases described have been summarized from the World Health Organization (WHO) global influenza preparedness plan published in 2005. It is important to understand that actual spread of the virus may or may not be described by these phases.

Interpandemic Period:

Phase 1: No new influenza virus subtypes have been detected in humans. An influenza virus subtype that has caused human infection may be present in animals. If present in animals, the risk of human infection or disease is considered low.

Phase 2: No new influenza virus subtypes have been detected in humans. However, a circulating animal influenza virus subtype poses a substantial risk of human disease.

Pandemic Alert Period:

Phase 3: Human infection(s) with a new subtype, but no human-to-human spread, or at most, rare instances of spread to a close contact.

Phase 4: Small cluster(s) with limited human-to-human transmission but spread is highly localized, suggesting that the virus is not well-adapted to humans.

Phase 5: Large cluster(s) but human-to-human spread still localized, suggesting that the virus is becoming increasingly better adapted to humans, but may not yet be fully transmissible (substantial pandemic risk).

Pandemic Period:

Phase 6: Pandemic; increased and sustained transmission in general population.
Emergency Responsibilities:

1. TCHD has primary responsibility to safeguard the health of the people of the county and all its subdivisions and will respond in the event of Pandemic Influenza to limit the impact on public health. These actions will limit the impact on the social and economic infrastructure of the county. TCHD will serve to support the local responding agencies in this effort, and lead the response of a coordinated multitude of state, local, and private organizations and agencies.

2. The following pages provide the general roles and responsibilities that will be for TCHD and coordinated agencies and organizations during the Phases of Pandemic response.

3. The attached flowchart outlines the organizational structure of TCHD and other agencies with responsibilities and activities.
Glossary of Acronyms/Definitions

ACIP: Advisory Committee on Immunization Practices
AI: Avian Influenza
APHIS: Animal and Plant Health Inspection Service
ARDS: Acute Respiratory Disease Syndrome
BIAA: Bureau of Immunization Assessment and Assurance
CDC: Centers for Disease Control and Prevention
CERT: Center for Emergency Response and Terrorism
DHS: Department of Homeland Security
DHSS: Missouri Department of Health and Senior Services
DNR: Department of Natural Resources (Missouri)
DoD: Department of Defense
DSR: Department Situation Room
EMS: Emergency Medical Services
EOC: Emergency Operations Center
FDA: Federal Drug Administration
HCW: Health Care Worker
HPAI: Highly Pathogenic Avian Influenza
IAP: Incident Action Plan
IC: Incident Commander
ICS: Incident Command System
ICU: Intensive Care Unit
ILI: Influenza Like Illnesses
LEPC: Local Emergency Planning Committee
LPAI: Low Pathogenic Avian Influenza
LPHA: Local Public Health Agency
MDA: Missouri Department of Agriculture
MHA: Missouri Hospital Association
NIMS: National Incident Management System
PCR: Polymerase Chain Reaction
PPE: Personal Protective Equipment
PIO: Public Information Officer
POD: Point of Dispensing
SEMA: State Emergency Management Agency (Missouri)
SNS: Strategic National Stockpile
SPHL: Missouri State Public Health Laboratory
TCAD: Taney County Ambulance District
TCHD: Taney County Health Department
USDA: United States Department of Agriculture
VA: Veteran’s Administration
VAERS: Vaccine Adverse Event Reporting System
THE PLAN

Existing command and control procedures should be utilized as outlined in the TCHD Emergency Response Plans and Administrative Policy Manuals. These procedures will follow the EOC-NIMS command and control structure during this emergency period. These plans will identify operational priorities and identify who is responsible for decision making related to public health response activities before, during, and after a public health emergency involving a highly infectious respiratory disease, such as influenza. Distribution of ICS roles and responsibilities will be based on the actions that are described in Phases 4-6. Job responsibilities for each Phase of the response will be listed by ICS position in the operational plan.

Pandemic Alert Period: Phase 3

Command and Control

- The TCHD will be the lead agency involved with planning the public health response to influenza for Taney County.
- The TCHD will review and update the response plan on an annual basis and assure integration with the plans of our partners.
- The TCHD will coordinate emergency response planning with DHSS, other area jurisdictions, essential service organizations, and local responding agencies (LEPC, fire, law enforcement, hospitals, ambulance services, utilities, elected officials, etc.).
- The TCHD will work with area partners to ensure enforcement of orders of isolation, quarantine and social distancing.
- THCD will work with area agencies to ensure that current MOUs are established and updated.
- TCHD and area response partners will exercise the Pandemic Flu plan and provide after action reports and improvement plans on an annual basis. Updated plans will be distributed to area response partners and DHSS.
  - The TCHD Pandemic Flu Plan and Taney County Emergency Response plan will provide the foundation for the NIMS compliant tabletop or functional exercise. This plan in conjunction with the county emergency management plan will be used to educate public health workers and first responders.
- TCHD and response partners will work to increase training and integration of ICS structure and procedures to ensure NIMS compliance.
- TCHD will work with regional partners to identify roles and responsibilities in Region D.

Communications

- The TCHD will work with area response partners to develop a communication plan to ensure daily updates are received and disseminated to area agencies.
- The appointed TCHD PIO for the County EOC will work to coordinate communications activities for a public health response with the Regional PIO in
Springfield, the LEPC, DHSS, Skaggs Community Health Center, City of Branson PIO, and other participating organizations.

- The TCHD will work with county government officials, business leaders, religious leaders, school superintendents, etc. to develop an educational plan regarding influenza, prevention measures and preparation measures for families and businesses.
- The PIO will work with area partners to develop contingency plans for establishing a phone bank to address questions of concerned citizens.
- The PIO will work with area partners and DHSS to develop education and message templates.
- The PIO and Regional Epidemiologists will work to update and maintain a communication plan to inform all responding agencies, media, elected officials, etc. concerning disease surveillance reports and updates. This plan will include a review of current communication equipment such as radios, fax, telephones, satellite phones, and internet-based communications. Key staff will receive risk communication training.

**Surveillance**

- The regional epidemiologist will coordinate surveillance and epidemiological investigation activities including implementing ongoing seasonal influenza surveillance, planning for epidemiological investigation and coordination of specimen testing with the Missouri State Public Health Laboratory (MSPHL).
- Surveillance activities for seasonal influenza will continue.
- TCHD will collaborate with local healthcare providers to count positive rapid influenza test kits and influenza viral cultures on a weekly basis during the months of October through March.
- TCHD will collaborate with area hospitals to count ER visits, hospital admissions, and deaths due to acute febrile respiratory illness on an ongoing basis.
- TCHD will collaborate with Sentinel Sites to monitor reports of Influenza Like Illnesses (ILI) complaints and absences.
- TCHD will work with area health care providers to develop educational material regarding testing, surveillance, etc.
- TCHD will evaluate current surveillance systems to identify gaps in coverage.
- TCHD will work with the county coroner and mortuary services to update and develop surveillance plans to identify acute febrile respiratory illness deaths in the county.

**Community Control Measures**

- The TCHD will review appropriate legal authorities regarding the implementation of community level control measures, including quarantine laws.
- Templates of documentation needed to enact community level control measures will be obtained.
- Local response partners will also be consulted concerning isolation and quarantine strategies and roles and responsibilities.
• The TCHD will work with county government officials, business leaders, religious leaders, school superintendents, etc. to develop an educational plan regarding social distancing measures for county residents and visitors.
• The TCHD will work with area emergency managers and healthcare providers to plan for the use of quarantine measures for contacts of early cases. The viability of self-isolation as an alternative will be examined.
• TCHD will work with area businesses, schools, etc to develop plans for closing or eliminating large gatherings during pandemic.

Vaccine Management and Antivirals
• The TCHD will define and quantify local priority populations in accordance with DHSS recommendations to receive vaccine or antiviral medications in case of a vaccine shortage.
• The TCHD will coordinate planning for the procurement of vaccines, antivirals and supplies with local response agencies.
• The TCHD will coordinate planning for the distribution of vaccines, antivirals and supplies to area response agencies. The Plan shall include:
  o Written agreements with agencies that will help with vaccine administration during a pandemic.
  o Evaluation parameters for Tabletop and Functional exercises
  o Tracking and monitoring system of patients and equipment and supplies
  o Security of vaccines and vaccination sites
  o Requirements for distribution of vaccine and antivirals to response agencies for their personnel.
• TCHD will initiate or continue activities to enhance the annual influenza vaccination coverage levels in traditional high-risk groups. Activities will be carried out prior to the beginning and during the traditional influenza season each year and include:
  • Evaluating and implementing epidemic control strategies according to CDC recommendations.
  • Disseminating educational materials to area health care providers, including a summary of the most current influenza vaccine recommendations, suggested strategies for reaching at-risk populations and a list of resources to help promote and deliver influenza vaccine to patients.
  • Providing education to area hospital staff about the importance of vaccinating healthcare workers and patients with high-risk medical conditions.
  • Providing education to area nursing home and assisted living facility staff about the importance of vaccinating persons over the age of 65.
  • Recommending that all persons responsible for community safety and security receive annual influenza vaccination, including emergency medical personnel, police, and firefighters.
• Utilizing traditional and non-traditional communications channels to educate the general public about the importance of influenza vaccination.
• Maintaining current information about influenza and influenza vaccination on the TCHD website. Information will be targeted to the healthcare community and to the general public.
• Educating corporate partners about the importance of a vaccinated workforce.

- TCHD will review and update the methodology within its Mass Prophylaxis Plan for providing vaccination to priority groups during a pandemic in the event of a severe or moderately severe vaccine shortage.
- TCHD will review and update its Mass Prophylaxis Plan to ensure that it addresses issues specific to influenza vaccination. This plan includes:
  - Sites to use as mass vaccination clinics
  - Staffing needs and duties
  - Supplies needed for vaccine clinic operations
  - Maintaining “Cold Chain” during shipping and storage
  - Model clinic flow design
  - Methodology for tracking vaccine supply, distribution, and administration

- TCHD will identify and maintain information about local sources of supplies needed for administering vaccine.
- TCHD will ensure that appropriate legal authorities are in place that will allow for the implementation of measures relevant to mass vaccination activities during a pandemic.
- TCHD will collaborate with DHSS and other area jurisdictions to coordinate plans for mass vaccination efforts.

**HealthCare Response**

- THCD will work with area long-term care and health care providers to identify needs and provide information regarding infection control, patient isolation, and education.
- TCHD, the local LEPC group, Healthcare providers, and Ambulance district will work to develop educational material concerning infection control practices for emergency responders and healthcare providers.
- TCHD will work with local long-term care facilities and hospitals to determine resources, needs and availability of volunteer professionals during a Pandemic.
- TCHD will work with area clinics to recruit their use as distribution sites for antiviral medications and vaccine if needed.
- TCHD will work with hospitals and long-term care facilities to identify needs and request resources.
- TCHD will work with area healthcare providers, hospitals, and local ambulance district to establish:
  - Plans for a community triage facility
  - Alternate facilities for mass healthcare
Laboratories
- TCHD will coordinate planning for specimen testing with the Missouri State Public Health Laboratory (SPHL).
- TCHD will work with area laboratories to ensure that surge capacity and worker absenteeism issues have been identified.

Mass Fatality Management
- TCHD will work with area response partners, coroners, and mortuary services to review plans for processing mass fatalities as established in the Taney County Emergency Response Plan.

Mental Health
- TCHD will work to recruit mental health providers for emergency response.
- TCHD will work with area mental health service providers to update and maintain plans for providing mental health services to local public health agency workers during an emergency.
- TCHD will work with area mental health service providers to update and maintain plans and message templates for providing mental health services and messages to the public during an emergency.
- TCHD will work with area mental health service providers and local responding agencies to update and maintain plans for providing mental health services to responding agency workers during an emergency.
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Clusters of human-to-human transmission anywhere in the world (the advent of Phase 4) will trigger initiation of a pandemic response in Missouri. Any change in Pandemic Phases by DHSS will also be implemented in Taney County.

**Pandemic Alert Period: Phase 4**

Phase 4: Small cluster(s) with limited human-to-human transmission but spread is highly localized, suggesting that the virus is not well-adapted to humans.

**Command and Control**

- TCHD will notify local response partners of phase shift and will begin initial response and establishment of limited EOC with Emergency Management officials.
- TCHD and the local emergency management director will review next steps and preparation for pandemic response.
- TCHD and LEPC will confirm availability of resources to support a public health response.

**Communications**

- The director of TCHD will communicate daily with local and state agencies to maintain situational awareness. This will include daily updates from DHSS, SEMA, CDC, TCHD, Skaggs Community Health Center, other local response partners and local emergency management.
- The PIO will activate communication plans to inform all responding agencies, media, elected officials, etc. concerning disease surveillance reports and updates.
- The TCHD PIO will coordinate release of information messages with the Regional PIO in Springfield, the LEPC, DHSS, Skaggs Community Health Center, City of Branson PIO and other participating organizations.
- The director of TCHD through the public information officer in conjunction with other area PIOs will issue a health advisory to healthcare providers, emergency response agencies, and the community.
- The PIO in accordance with other response partners will develop and disseminate appropriate information to the public regarding sheltering in place (self-isolation), basic hygiene, prevention and updates concerning spread of influenza.
- The PIO will work with area partners to activate a phone bank to address questions of concerned citizens.
- TCHD will distribute educational information to county government officials/agencies, businesses, religious organizations, schools, etc. regarding influenza, prevention measures and preparation measures for families and businesses.
Surveillance

- The TCHD will monitor surveillance data, the DHSS health advisories and alerts, and other channels of information and will provide ongoing assessments of the situation to the directors of the TCHD and other local responding partner agencies.
- The TCHD will work with the PIO to distribute information to area hospitals, clinics, first responders, long-term care clinics and home health agencies regarding influenza signs and symptoms, notification of health department, testing, PPE, etc.
- TCHD will work with area hospitals and clinics to provide samples of confirmed Influenza A cases for further sero-typing with the Missouri State Public Health Lab.
- TCHD will notify area hospitals that activation of increased surveillance activities will be needed including: numbers of ER visits, hospital admissions, and deaths due to acute febrile illnesses. Full implementation will be initiated upon Phase 5 notification.
- TCHD will notify area sentinel sites of phase shift and provide educational material regarding influenza signs and symptoms, notification of health department, testing, isolation, and PPE. Implementation of daily reports will be initiated upon Phase 5 notification.
- TCHD will notify area coroners and mortuary services of phase shift and provide educational material regarding notification of health department of deaths involving acute febrile illnesses. Implementation of reports of deaths will be initiated upon Phase 5 notification.
- The Regional Epidemiologist, communicable disease nurses, in conjunction with area health care providers will increase local disease surveillance in order to rapidly initiate case identification and investigation activities.
- TCHD will ensure that area health care providers have received educational material regarding testing, surveillance, etc.

Community Control Measures

- TCHD will work with area emergency managers and healthcare providers to implement plans for the use of quarantine measures for contacts of early cases. The viability of self-isolation as a realistic alternative depending on situational variables will be determined.
- TCHD will work with local response partners to review plans for social distancing measures including closing large gatherings.
- TCHD in consultation with county government officials, business leaders, religious leaders, school superintendents, etc. will initiate education plan regarding social distancing measures among county residents and visitors.

Vaccine Management and Antivirals

- The TCHD will notify predetermined sites to inform them about the possibility of utilizing their locations as mass vaccination sites in accordance with agreements currently in place.
• TCHD will consult with DHSS regarding availability of vaccine and antiviral medications from state resources and provide information regarding local resources of medications, equipment, and supplies.
• TCHD will review and modify the Mass Prophylaxis Plan as needed to account for updates received regarding the novel virus. Such updates may include recommended target groups and projected vaccine supply.
• TCHD will assess their human resources and logistics capabilities to ensure that appropriate staff and supplies are available to begin vaccination activities, if necessary.
• Local response partners will be notified regarding availability of vaccine, priority groups and plans for distribution.
• TCHD will provide information to area health care professionals concerning disease treatment recommendations concerning antiviral medications.

HealthCare Response
• The TCHD staff will coordinate with area healthcare providers to ensure that testing is accomplished and that advanced testing of samples for serotyping are directed to the state laboratory for testing.
• Area infection control professionals, healthcare providers, and the regional epidemiology specialist will provide guidance to area hospitals and health care providers regarding implementation of severe respiratory illness precautions and appropriate PPE.
• TCHD, the local LEPC group, Healthcare providers, and Ambulance district will provide educational material concerning infection control practices for emergency responders and healthcare providers. These groups will also be contacted in order to identify PPE needs and acquire materials/supplies if needed and if financially possible.
• Area volunteer professionals will be contacted regarding potential needs of health care agencies for pandemic response.
• Area clinics acting as potential vaccination or antiviral distribution sites will be notified regarding phase shift and provided updated information concerning availability of vaccine and antivirals.
• TCHD will communicate with area long-term care providers. Current information regarding health advisories will be provided. Additional information regarding infection control, patient isolation, and education will be provided as needed.
• TCHD and local response partners will meet to identify needs and resources in the community for establishing triage facility and mass healthcare sites.

Laboratories
• The TCHD staff will coordinate with area laboratories to ensure that testing is accomplished and that advanced testing of samples for serotyping are directed to the state laboratory for testing.

Mass Fatality Management
• TCHD will work with area response partners, coroners, and mortuary services to review resources and needs for processing mass fatalities as established in the Taney County Emergency Response Plan.

**Mental Health**
• TCHD will notify area mental health service providers concerning phase shift and necessity to prepare for plan activation.
Pandemic Alert Period: Phase 5

Command and Control
- TCHD will notify local response partners of phase shift and will initiate response and establish EOC with Emergency Management officials.
- TCHD and LEPC will continue to determine availability of resources to support a public health response and initiate further plans of action.
- TCHD and emergency management will request resources to support a public health response.

Communications
- The director of TCHD will communicate daily with local and state agencies to maintain situational awareness. This will include daily updates from DHSS, SEMA, CDC, TCHD, Skaggs Community Health Center, other local response partners and local emergency management.
- The PIO will activate communication plans to inform all responding agencies, media, elected officials, etc. concerning disease surveillance reports and updates.
- The TCHD PIO will coordinate release of information messages with the Regional PIO in Springfield, the LEPC, DHSS, Skaggs Community Health Center, City of Branson PIO and other participating organizations.
- The PIO will work with area partners to activate a phone bank to address questions of concerned citizens.
- The director of TCHD through the public information officer in conjunction with other area PIOs will issue a health alert to healthcare providers, emergency response agencies, and the community.
- The PIO with area partners will maintain a phone bank to address questions of concerned citizens.
- TCHD will distribute educational information to county government officials/agencies, businesses, religious organizations, schools, etc. regarding influenza, prevention measures, preparation measures for families and businesses, sheltering in place (self-isolation), basic hygiene, social distancing and updates concerning spread of influenza.
- TCHD in consultation with county government officials, business leaders, religious leaders, school superintendents, etc. will initiate education plan regarding social distancing measures among county residents and visitors.

Vaccine Management and Antivirals
- The TCHD will notify response partners to inform them about the possibility of implementation of Mass prophylaxis plan in accordance with agreements currently in place. Implementation of plan will depend upon availability of medications and recommendations of DHSS and CDC.
- TCHD will communicate with the regional DHSS office regarding the availability and delivery of vaccine. TCHD will provide DHSS with the estimated number of persons within each priority population, as well as the population as a whole.
Prior to widespread vaccine availability, TCHD will provide vaccine as it is available to priority groups based on the methodology described in the *Mass Prophylaxis Plan* and guidelines provided by the CDC.

Mass prophylaxis supplies located at the TCHD will be delivered to the Point of Distribution Sites (PODS). The number of PODS activated will be determined by the availability of vaccine and/or severity of the outbreak.

Delivery of the vaccine to the PODS will be carried out according to the *Mass Prophylaxis Plan* of the Taney County Emergency Response Plan.

Upon widespread vaccine availability, TCHD will fully activate mass vaccination activities according to the *Mass Prophylaxis Plan* and guidelines provided by the CDC.

TCHD will collaborate with DHSS and other area jurisdictions to coordinate mass vaccination efforts.

TCHD will track and monitor adverse vaccine reactions. TCHD will provide persons receiving vaccine with information about reporting such reactions to the department. TCHD will then report any occurrences to the CDC Vaccine Adverse Event Reporting System (VAERS).

TCHD will maintain patient information regarding who received vaccine according to DHSS and CDC requirements.

TCHD will provide information to area health care professionals concerning vaccine and antiviral medication recommendations.

### Community Control Measures

- TCHD will work with area emergency managers and healthcare providers to establish or maintain areas of quarantine for contacts of early cases. Self-isolation may be a realistic alternative depending on situational variables.

- TCHD in consultation with county government officials, business leaders, religious leaders, school superintendents, etc. will continue education plans regarding social distancing measures among county residents and visitors. Some gatherings may be limited or ended based on situational variables and recommendations from DHSS and CDC.

- TCHD in consultation with county government officials, business leaders, religious leaders, school superintendents, etc. will continue educational efforts regarding social distancing measures among county residents and visitors.

- TCHD may recommend that persons who are identified as positive for Influenza A or have ILI be placed in isolation at home or in a hospital until isolate subtyping can be accomplished (This measure would be dependant upon epidemiological characteristics of the case and recommendations from DHSS and CDC). Isolation should be at least seven days, until viral shedding is not longer detected or until the isolate is laboratory confirmed not to be the novel virus.

- TCHD may recommend self-isolation at home for contacts of cases.

- TCHD may recommend that residents limit travel to destinations outside of Taney County or to areas affected by the novel influenza virus.

- TCHD may recommend cancellation, limitation, or suspension of large gatherings and recreation activities depending on the level of person-to-person transmission (Pandemic, regional, etc).
TCHD may consider and recommend closure of schools, including colleges and universities, and closure of businesses depending on situational variables.

TCHD may recommend the limitation of non-essential work activities, encouraging telecommuting when possible depending on situational variables.

TCHD may recommend an area quarantine if identified cases are identified in the area.

**HealthCare Response**

- TCHD will provide instructions regarding the safe handling of a potential novel influenza virus, as well as any other recommendations provided by the DHSS and CDC to area hospitals, physicians, emergency rooms, laboratories, and urgent care clinics and will notify health professionals to request increased laboratory diagnosis of influenza for persons presenting with ILI.

- TCHD will communicate with area long-term care providers. Current information regarding antivirals, vaccine availability, and health alerts will be provided. Additional information regarding infection control, patient isolation, laboratory testing, reporting and education will be provided.

- TCHD, the local LEPC group, Healthcare providers, and Ambulance district will provide educational material concerning infection control practices for emergency responders and healthcare providers and work with these groups to identify PPE needs and provide supplies if possible.

- TCHD and local response partners will request resources in the community for establishing triage facility and mass healthcare sites.
  - TCHD will work with the local emergency management director, area healthcare providers, hospitals, and local ambulance district to implement plans as needed for:
    - Community triage facility
    - Alternate facilities for healthcare to alleviate surge capacity

- Area clinics acting as potential vaccination or antiviral distribution sites will be notified regarding phase shift and provided updated information.

- TCHD will communicate with area long-term care providers. Current information regarding health alerts will be provided.

**Surveillance**

- The TCHD will monitor surveillance data, the DHSS health advisories and alerts, and other channels of information and will provide ongoing assessments of the situation to the directors of the TCHD and other local responding partner agencies.

- The TCHD will work with the PIO to distribute information to area hospitals, clinics, first responders, long-term care clinics and home health agencies regarding influenza signs and symptoms, notification of health department, testing, PPE, etc.

- TCHD will work with area hospitals and clinics to provide samples of confirmed Influenza A cases for further sero-typing with the Missouri State Public Health Lab.
• TCHD will activate increased surveillance activities including: numbers of ER visits, hospital admissions, and deaths due to acute febrile illnesses.
• TCHD will notify area sentinel sites of phase shift and provide educational material regarding influenza signs and symptoms, notification of health department, testing, isolation, and PPE. Implementation of daily reports will be activated.
• TCHD will notify area coroners and mortuary services of phase shift. Implementation of reporting of deaths from acute febrile illness will be activated.
• TCHD will ensure that all influenza surveillance activities are underway regardless of the time of year, enhancing activities and investigating the epidemiology of early cases through case investigation activities
  o The Regional Epidemiologist, communicable disease nurses, in conjunction with area health care providers will rapidly initiate case identification and investigation activities.
• TCHD will provide area health care providers additional educational material regarding testing, surveillance, etc. as updated by DHSS and CDC.
• TCHD will inform regional and state partners about increased local surveillance activities and will request additional resources and information as necessary (i.e. Epidemiology Specialists, protocols for safe handling and testing of a potential novel influenza, data regarding regional surveillance, SPHL resources, etc).
• TCHD will assess the completeness and timeliness of reports from all participating surveillance sites and will collaborate with reporters to facilitate complete and timely reporting.
• TCHD will issue regular updates regarding surveillance and case investigation activities to health care providers in the county through health advisories and infection control professionals. This function will be coordinated with the PIO.

Laboratories
• Laboratories will be provided up-to-date information regarding phase shift, testing recommendations and advised to implement emergency surge capacity and staffing plans as needed.
• Available and needed resources will also be collected to assist with resource requests from state.

Mass Fatality Management
• Area emergency managers, coroners, and mortuary services will request area resources to assist with implementation of plans for processing mass fatalities as established in the Taney County Emergency Response Plan.
• Coroner and mortuary service providers will provide information on available resources to local emergency management officials.
• TCHD in conjunction with local emergency managers will work with mortuary service providers to locate resources in the community to meet anticipated needs.

Mental Health
• TCHD and mental health service providers will activate plans to provide mental health services to local public health agency workers.
- TCHD and mental health service providers will activate plans to provide mental health services and messages to the public.
- Area mental health service providers and local responding agencies will activate plans to provide mental health services to responding agency workers.
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Pandemic Period: Phase 6

Command and Control
- The director of the TCHD will activate a unified incident command structure in coordination with the Taney County Emergency Manager to:
  - Continue surveillance and investigation activities
  - Determine the need for, scope of, and possibility of mass vaccination activities, if medications are available.
  - Coordinate delivery of vaccine and/or antivirals with DHSS as they are made available.
  - Carry out mass vaccination or dispensing activities in accordance with the Mass Prophylaxis portion of the Taney County Emergency Response Plan. Medications will be provided according to the guidelines established by DHSS.
  - Develop and disseminate appropriate information to the public.
  - Ensure ongoing communication with local authorities and partners for advice and support concerning suspension of large, public gatherings in the county.
  - Ensure ongoing communication with local, state, and federal authorities.

Communications
- The director of TCHD will communicate daily with local and state agencies to maintain situational awareness. This will include daily updates from DHSS, SEMA, CDC, TCHD, Skaggs Community Health Center, other local response partners and local emergency management.
- TCHD in consultation with county government officials, business leaders, religious leaders, school superintendents, etc. will initiate educational plans regarding social distancing measures among county residents and visitors.
- The PIO will activate communication plans to inform all responding agencies, media, elected officials, etc. concerning disease surveillance reports and updates.
- The TCHD PIO will coordinate release of information messages with the Regional PIO in Springfield, the LEPC, DHSS, Skaggs Community Health Center, City of Branson PIO and other participating organizations.
- The PIO will work with area partners to activate a phone bank to address questions of concerned citizens.
- The director of TCHD through the public information officer in conjunction with other area PIOs will issue a health alert to healthcare providers, emergency response agencies, and the community.
- The PIO with area partners will maintain a phone bank to address questions of concerned citizens.
- TCHD will distribute educational information to county government officials/agencies, businesses, religious organizations, schools, etc. regarding influenza, prevention measures, preparation measures for families and businesses,
sheltering in place (self-isolation), basic hygiene, social distancing and updates concerning spread of influenza.

**Vaccine Management and Antivirals**

- TCHD and area response partners will implement the mass vaccination plan of the Taney County emergency response plan. Levels of implementation will depend upon availability of vaccine.
  - TCHD will communicate with the regional DHSS office regarding the availability and delivery of vaccine. TCHD will provide DHSS with the estimated number of persons within each priority population, as well as the population as a whole.
  - Prior to widespread vaccine availability, TCHD will provide vaccine as it is available to priority groups based on the methodology described in the *Mass Prophylaxis Plan* and guidelines provided by the CDC.
  - Mass prophylaxis supplies located at the TCHD will be delivered to the Point of Distribution Sites (PODS). The number of PODS activated will be determined by the availability of vaccine and/or severity of the outbreak.
  - Delivery of the vaccine to the PODS will be carried out according to the *Mass Prophylaxis Plan* of the Taney County Emergency Response Plan.
  - Upon widespread vaccine availability, TCHD will fully activate mass vaccination activities according to the *Mass Prophylaxis Plan* and guidelines provided by the CDC.
  - TCHD will collaborate with DHSS and other area jurisdictions to coordinate mass vaccination efforts
  - TCHD will track and monitor adverse vaccine reactions. TCHD will provide persons receiving vaccine with information about reporting such reactions to the department. TCHD will then report any occurrences to the CDC Vaccine Adverse Event Reporting System (VAERS).

- TCHD and area response partners will dispense antiviral medications to population groups as determined by DHSS and CDC. Levels of implementation will depend upon availability of medications.
- TCHD will maintain patient information regarding who received vaccine according to DHSS and CDC requirements.
- TCHD will provide information to area health care professionals concerning vaccine and antiviral medication recommendations.

**Community Control Measures**

- The Director of TCHD, as a public health authority, will consider implementing measures of social distancing including the use of large-scale quarantine, self-isolation, and closure of public areas for Taney County as appropriate. This decision will be made in accordance with local emergency management, response partners, county officials, and healthcare providers.
• TCHD, in consultation with county government officials, business leaders, religious leaders, school superintendents, etc. will initiate social distancing measures to decrease contact among county residents.

• TCHD will recommend that persons who are positive for influenza or have ILI be placed in isolation at home or in a hospital until isolate sub-typing can be accomplished. Isolation should be at least seven days, until viral shedding is no longer detected or until the isolate is laboratory confirmed not to be the novel virus.

• TCHD will recommend self-isolation at home for contacts of cases.

• TCHD will recommend that residents limit travel to destinations outside of Taney County, as well as limit non-essential travel within the county

• TCHD will recommend cancellation, limitation, or suspension of large gatherings and recreation activities depending on the level of person-to-person transmission (Pandemic, regional, etc.).

• TCHD will consider and recommend closure of schools, including colleges and universities, and closure of businesses and government offices.
  o TCHD will recommend the limitation of non-essential work activities, encouraging telecommuting when possible.

• TCHD may recommend an area quarantine depending on situational variables.

HealthCare Response
• TCHD will communicate with area healthcare providers including long-term care facilities. Current information regarding antivirals, vaccine availability, testing, and health advisories will be provided. Additional information regarding infection control, patient isolation, reverse isolation, and education will be provided as needed. Emergency plans for each facility will be activated according to their already established procedures.
  o Education for healthcare providers, including those who provide care for family members, will include information regarding Standard Precautions, Droplet Precautions and Isolation Restrictions.

• TCHD will provide information regarding up-to-date PPE recommendations to emergency responders and essential personnel including: law enforcement, fire, ambulance, healthcare providers, mortuary services, long-term care providers, essential services personnel (utilities, government, etc.).

• TCHD, the local LEPC group, Healthcare providers, and Ambulance district will continue to provide educational material concerning infection control practices for emergency responders and healthcare providers and work with these groups to identify PPE needs and provide materials if possible.

• TCHD will work with area emergency management directors, healthcare providers, hospitals, local ambulance district, and other local response partners to activate:
  o Community triage facilities
  o Alternate facilities for healthcare to alleviate surge capacity
Area clinics acting as potential vaccination or antiviral distribution sites will be notified regarding phase shift and provided updated information.

THCD will communicate with area long-term care providers regarding phase shift. Current information regarding health alerts will be provided.

**Surveillance**

- TCHD will enhance ongoing surveillance activities to include the following:
  - Monitoring health impacts, including deaths and hospitalizations
  - Monitoring community impacts, including absenteeism in schools and essential services.
  - Monitoring TCAD calls for numbers of patients with acute respiratory illness associated with ILI.
  - Monitoring antiviral effectiveness
  - Monitoring vaccine effectiveness
  - Monitoring CDC updates
  - Assist with area responding agencies to monitor absentee rates among: hospital personnel, laboratory workers, law enforcement, ambulance district personnel, essential services (utilities, government, etc.), fire district personnel, public health workers, etc.

- The TCHD will monitor surveillance data, the DHSS health advisories and alerts, and other channels of information and will provide ongoing assessments of the situation to the directors of the TCHD, and other local responding partner agencies.

- The TCHD will work with the PIO to distribute information to area hospitals, clinics, first responders, long-term care clinics and home health agencies regarding influenza signs and symptoms, notification of health department, testing, PPE, etc.

- TCHD will work with area hospitals and clinics to provide samples of confirmed Influenza A cases for further sero-typing with the Missouri State Public Health Lab.

- TCHD will provide area health care providers additional educational material regarding testing, surveillance, etc. as updated by DHSS and CDC.

- TCHD will inform regional and state partners about increased local surveillance activities and will request additional resources and information as necessary (i.e. Epidemiology Specialists, protocols for safe handling and testing of a potential novel influenza, data regarding regional surveillance, SPHL resources, etc).

- TCHD will assess the completeness and timeliness of reports from all participating surveillance sites and will collaborate with reporters to facilitate complete and timely reporting.

- TCHD will issue regular updates regarding surveillance and case investigation activities to health care providers in the county through health advisories and infection control professionals. This function will be coordinated with the PIO.
**Laboratories**
- Laboratories will be provided up-to-date information regarding phase shift and testing recommendations. Review surge capacity plans and effectiveness and worker absenteeism. TCHD will work with area labs to identify and request needed supplies and resources.

**Mass Fatality Management**
- Area emergency managers, coroners, and mortuary services will implement plans for processing mass fatalities as established in the Taney County Emergency Response Plan.
- Coroner and mortuary service providers will provide information on available resources to local emergency management officials.
- TCHD in conjunction with local emergency managers will work with mortuary service providers to locate resources in the community to meet unanticipated needs and issues.

**Mental Health**
- TCHD and mental health service providers will continue to provide mental health services to local public health agency workers.
- TCHD and mental health service providers will continue to provide mental health services and messages to the public.
- Area mental health service providers and local responding agencies will continue to provide mental health services to responding agency workers.

**Second or Later Waves of Illness**
- The director of the TCHD will review procedures conducted during the first wave of Phase 6 and continue response activities as appropriate.
Post-Pandemic

- The EOC will initiate demobilization efforts some of which may include:
  - TCHD will suspend all community level control measures
  - TCHD will assess the compliance with community level control measures and evaluate the efficacy of community level control measures.
  - TCHD will discontinue and demobilize mass vaccination activities, ensuring that supplies are inventoried and returned as appropriate
- TCHD will evaluate vaccine delivery and administration procedures and modify plans as necessary.
- The director of the TCHD will convene local response partners and stakeholders to discuss issues surrounding the effectiveness of influenza response and preparedness.
- Mental health services will continue as needed.
- The director of the TCHD will communicate the status of response efforts to appropriate local, state, and federal authorities.
- The TCHD regional response planner will review and update the Taney County Influenza Control and Response Plan Based on lessons learned.
- TCHD will develop a detailed summary of the pandemic, utilizing surveillance data to evaluate the efficacy of local response activities and will disseminate the information to regional partners. Analysis may include:
  - Severity of influenza outbreaks among demographic groups
  - Efficacy of vaccination and infection control measures
  - Extent of medical, social, and economic impact.
- Other activities will continue as appropriate or be discontinued depending on situational variables.
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Appendix A

Vaccine and Antiviral Delivery
Appendix B

Integration with the Department’s Emergency Response Plan
Appendix B:

Integration with the Department’s Emergency Response Plan:

Preparing for, responding to, and recovering from pandemic influenza will require a strategy with many similarities to other disease outbreaks, be they naturally occurring or resulting from terrorist action. The goals of prevention and control of these outbreaks, and the time-honored public health activities to lessen the impact on morbidity and mortality, namely, education, vaccination, prophylaxis, isolation/quarantine, and the closure of public facilities are common to all, despite the particular disease of concern. In addition, clear, concise communication with the public, within the TCHD, and with other agencies remains a critical component, as does the ability of the involved agencies to achieve collaboration and coordination.

TCHD has Emergency Response Plans in place that have been tried, tested, and exercised for all aspects of response and recovery, including those mentioned above relating to disease surveillance, investigation, and control. Where necessary, details or public information templates unique to pandemic influenza have been added into the existing plan and this annex. This annex outlines the pandemic mechanics from the State level and lists pandemic specific job duties for TCHD staff and the roles of partnered agencies and organizations.
Appendix C

Zoonotic Influenza
Zoonotic Influenza Plan

Background information

The poultry industry in the United States is organized into segments that are “vertically integrated”. This means that most large companies own the facilities that provide services from breeding to processing to sales. Some companies use contract growers, but these facilities have to maintain strict standards of bio-security. The chicken industry is almost 100% vertically integrated.

The integrated segments that are involved with growing the poultry include:
- **Layers**: Segment of the poultry industry that will use birds to lay eggs that will either be sent to market (chicken) or sold to breeders who will hatch the eggs.
- **Broilers**: Segment of the chicken industry that will grow the birds for slaughter.
- **Primary Breeders**: Industry segment that will hatch eggs received from layers.

The turkey industry is not as fully “integrated” as the chicken industry but they have similar segments.

The US is responsible for approximately 72% of the world’s poultry production and China is the second largest producer. Forty companies in the U.S. produce broiler chickens. Tyson is the top U.S. Company in poultry production with Pilgrim’s Pride located in Carthage, Missouri being the second largest.

Twelve companies in the U.S. produce turkeys. Missouri has the fourth largest turkey industry in the country. Most turkey companies in Missouri are vertically integrated. Nationally only about 50% of the turkey industry is organized this way.

About 250 million broilers are produced in Missouri per year. Most of these birds are from Southwest Missouri and represent a substantial economic resource for the state and companies. Because of the potential economic impact of any poultry related disease, these companies with State and Federal agriculture agencies have developed an in-depth contingency plan for identifying and controlling disease outbreaks. The commercial poultry industry manages illness in birds based on flocks rather than individual birds. Therefore any illness in one bird will result in the entire flock being depopulated. Larger commercial producers also maintain high levels of bio-security to control access to their facilities to protect their flocks from disease.

Missouri ranks second in the number of smaller non-commercial flocks in the nation. Non-commercial flocks are at greater risk of Avian Influenza and may pose a greater risk to human health. “Backyard” flocks may experience the first outbreaks of disease. Smaller operations will most likely not have resources to control the situation.
Avian Influenza (AI) Virus

Worldwide, there are many strains of the AI virus that can cause varying amounts of clinical illness in poultry. AI viruses can infect chickens, turkeys, pheasants, quail, ducks, geese, and guinea fowl, as well as a wide variety of other birds, including migratory waterfowl. This virus changes rapidly in nature by mixing its genetic components to form slightly different virus subtypes. AI is caused by this collection of slightly different viruses rather than by a single virus type. There are 144 different characterizations of the AI virus based on two groups of proteins found on the surface of the virus. One group is the hemagglutinin proteins (H), of which there are 16 different types (H1–H16); the other group is the neuraminidase proteins (N), of which there are 9 different types (N1–N9).

AI viruses can be further classified into low pathogenicity and high pathogenicity forms based on the severity of illness they cause in poultry. Most AI strains are classified as low pathogenic avian influenza (LPAI) and cause mild or asymptomatic infections in birds. In contrast, highly pathogenic avian influenza (HPAI) causes a severe and extremely contagious illness and death among infected birds. Mortality rates for birds affected by an HPAI outbreak can be as high as 90 to 100 percent, and any surviving birds are usually in poor condition. While LPAI infections are typically mild, some low pathogenic subtypes—the H5 and H7 strains—have the capacity to mutate into highly pathogenic strains. LPAI poses no known serious threat to human health. However, some strains of HPAI viruses can be infectious to people.

Incidents of LPAI are commonly detected in domestic poultry flocks. HPAI is much rarer, and there is no evidence that it currently exists in the United States. Historically, there have been three HPAI outbreaks in poultry in this country—in 1924, 1983, and 2004. No significant human illness resulted from these outbreaks. Furthermore, the most recent outbreak in 2004 was quickly detected and eradicated. Because of the quick response, the disease was limited to one flock of 6,600 birds.

Since December 2003, a growing number of Asian countries have reported outbreaks of a H5N1 HPAI virus in chickens and ducks. At present, the United States does not have HPAI H5N1 and does not import poultry from countries currently experiencing H5N1 outbreaks. The unique aspect of this particular virus is that it has been transmitted from birds to humans, most of whom had reported extensive direct contact with infected birds. The infection of humans with this AI virus has resulted in necessary concern and caution regarding the role of avian species in the epidemiology of human influenza.

Sources of AI Infection
AI viruses are most often found in migratory waterfowl, which appear to be the natural reservoirs for the influenza A viruses. The reservoir of AI viruses in wild birds should be considered a major source of infection for domestic birds, particularly free and open range poultry, and it is important to reduce the contact between these two groups. Live bird markets are the second most important reservoir of influenza virus for commercial poultry.
Transmission of the Virus

AI is spread primarily by direct contact between healthy birds and infected birds, and through indirect contact with contaminated equipment and materials. The virus is excreted through the feces of infected birds and through secretions from the nose, mouth, and eyes. Contact with infected fecal material is the most common means of bird-to-bird transmission. Wild ducks often introduce LPAI into domestic flocks raised on range or in open flight pens through fecal contamination. Within a poultry house, transfer of the HPAI virus between birds can also occur via airborne secretions. The spread of avian influenza between poultry premises almost always follows the movement of contaminated people and equipment. AI also can be found on the outer surfaces of egg shells. Transfer of eggs is a potential means of AI transmission. Airborne transmission of virus from farm to farm is highly unlikely under usual circumstances. HPAI viruses can survive indefinitely when frozen. The avian viruses have also been isolated from the water in ponds where ducks swim.

HPAI can be spread from birds to people as a result of extensive direct contact with infected birds. Broad concerns about public health relate to the potential for the virus to mutate, or change into a form that could spread from person to person.

Clinical Signs and Symptoms

LPAI symptoms are typically mild. Decreased food consumption, respiratory signs (coughing and sneezing), and a decrease in egg production might demonstrate the presence of the disease. Birds that are affected with HPAI have a greater level of sickness and may die suddenly. They could also exhibit one or more of the following clinical signs: lack of energy and appetite; decreased egg production; soft-shelled or misshapen eggs; swelling; purple discoloration; nasal discharge; coughing, sneezing; lack of coordination; and diarrhea.

Diagnosis

Samples are usually taken by swabbing the mucus that coats the throat of live birds. With wild birds, a fecal sample can be taken instead. These samples go into sealed tubes and are taken to USDA-approved laboratories where a polymerase chain reaction (PCR) test is run. A PCR test is a rapid method of identifying the virus, typically producing results within 3 hours. If a sample from an area where avian influenza has not been previously detected tests positive on a rapid test, an additional confirmatory test is performed. This test involves growing the sample in embryonated chicken eggs, which then provides the material to allow detailed identification of the strain of virus and whether it is HPAI or LPAI. This test can take 3-5 days to produce results. Serological tests, including agar gel immunodiffusion, hemagglutination inhibition and ELISAs, may be used as supplemental tests.

Control and Cleanup

When AI outbreaks occur in poultry, quarantine and depopulation (culling) of all infected, exposed, or potentially infected birds, followed by proper disposal of carcasses
and the quarantining and rigorous disinfection of farms and surveillance around affected flocks, are the preferred eradication and control options. AI viruses are susceptible to control using chemical and physical measures such as heat, extremes of pH, nonisotonic conditions, and dryness, which can inactivate AI viruses. In addition, AI viruses are inactivated by organic solvents and detergents.

Avian Influenza outbreaks have occurred in areas around the country before. However, H5N1 has received enormous media coverage and any H5N1 outbreak will receive national and international media attention. Also, many people have the false assumption that when the birds in an area become sick with H5N1 then the virus will start infecting humans with the same ease as the normal flu. This could cause fear and possibly panic. To date, less than 200 people worldwide have been identified as being infected with the “bird-flu”.

**National Animal Health Emergency Management System**

Following the principles of the National Response Plan and the National Incident Management System, APHIS has established the National Animal Health Emergency Management System (NAHEMS). The NAHEMS provide an operational framework for responding to a foreign animal disease emergency. NAHEMS guidelines are designed for use at any of three levels of response commensurate with the severity of the outbreak. These levels include:

- **A local/limited response**: This level of response is managed by local, State, Federal, and industry officials, with response coordination provided primarily at the State and regional levels and with national-level consultation and consequence management (e.g., trade issues).
- **A regional response**: A regional response is managed by local, State, Federal, and industry officials, and in some cases includes the involvement of the appropriate State emergency management agency as specified in State animal health emergency response plans. National-level crisis management, response coordination, consultation, and consequence management are required.
- **A national response**: This level of response requires the combined efforts of local, State, industry, and Federal agricultural officials as well as nonagricultural personnel from Government (e.g., the Federal Emergency Management Agency) and the private sector in national-level crisis management, response coordination, consultation, and consequence management.

**Guiding Principles in Zoonotic Influenza Preparedness and Response:**

- Disease outbreaks in poultry populations will result in a different response than disease outbreaks in human populations.
- Early detection of H5/H7 avian influenza in wild/domestic birds is critical in implementing prevention and control programs.
- A rapid, coordinated response effort among federal, state, local, and industry partners will be essential following confirmed cases of H5 or H7 influenza in poultry or animals.
• The assessment of the health and educational needs of poultry workers (pre-event, during, post-event) will be coordinated by the Missouri Department of Health and Senior Services and local public health agencies.
• With effective risk communication, consumer confidence in the safety of poultry products is more likely to remain high.

Assumptions in Zoonotic Influenza Preparedness and Response:

• The Missouri poultry industry provides an important contribution to the economy of the state of Missouri and its citizens. In 2004, Missouri ranked 4th in turkey production in the United States as well as 15th in egg production, and is estimated to be among the top ten states in meat chicken production. The total dollar value added to Missouri’s economy through goods and services associated with the production of poultry and eggs that year was over $970 million.
• Migratory waterfowl are important to the citizens and economy of Missouri. Hunters of migratory birds in Missouri spend $34,857,535 annually. These expenditures generate $66,044,839 in annual economic activity.
• Migratory birds are important to non-hunters. In a recent survey, almost 9 out of 10 (88%) Missourians reported they were "very" or "somewhat" interested in observing ducks and geese in the outdoors. Only 10 percent reported "not at all."
• Avian influenza virus may infect people exposed to infected birds but may not evolve into a form capable of efficient human-to-human transmission.
• High pathogenicity avian influenza may not be lethal to commercial poultry. Lethality in poultry in Asia may not be an accurate indication of lethality in poultry in the United States. United States poultry are under a higher level of care and may have better resistance.
• Pandemic influenza will have a substantial direct impact on people, and the poultry industry will be severely disrupted due to lack of labor from ill employees and employees afraid to report to work.

Local Public Health Agency Response

The activities of the local public health agency during an Avian Influenza outbreak among poultry or other susceptible birds will be in support of, and in coordination with, other response partners including: area poultry industry representatives and individual growers, Missouri Department of Agriculture (MDA), Missouri Department of Health and Senior Services (DHSS), local emergency management director, local and state law enforcement, the United States Department of Agriculture (USDA), the Missouri Department of Natural Resources (DNR), The Missouri State Emergency Management Agency (SEMA), agencies and business leaders from nearby states, elected officials, and other local response partners.

Existing command and control procedures should be utilized as outlined in the TCHD Emergency Response Plans and Administrative Policy Manuals. These procedures will follow the NIMS command and control structure during any emergency period. These
plans will identify operational priorities and identify who is responsible for decision making related to public health response activities before, during, and after a public health emergency involving a highly infectious disease.

**Command and Control**

- TCHD will notify local response partners of avian influenza outbreak and will begin initial response and establishment of EOC with Emergency Management officials.
- TCHD and the local emergency management director will review next steps and preparation for response.
- TCHD and the LEPC will confirm availability of resources to support the response.

**Communications**

- The director of TCHD will communicate daily with local and state agencies to maintain situational awareness. This will include daily updates from DHSS, SEMA, MDA, DNR, other local response partners and local emergency management.
- The PIO through the Joint Information Center (JIC) will activate communication plans to inform all responding agencies, media, elected officials, etc. concerning disease surveillance reports and updates.
- The director of TCHD through the PIO and JIC will issue health advisories and alerts to healthcare providers, emergency response agencies, and the community. TCHD will also work with poultry industry representatives, state agencies, emergency management directors, etc, to help with public information and health messages regarding the safety of the poultry industry and the food supply, as well as other issues of concern for the community.
- The PIO in accordance with other response partners will develop and disseminate appropriate information to the public regarding avian influenza and provide guidance to local poultry workers who may have had contact with the infected birds.

**Surveillance**

- Conduct dead bird surveillance for HPAI in wild and domestic birds in the county. Formalize the local system for processing dead/sick bird reports received by agencies, industry representatives, etc. by utilizing system developed by the State of Missouri DHSS and MDA.
- Review state requirements for testing for HPAI in animals at state laboratories (VMDL, SPHL, MDA) and federal laboratories (USDA, USDI).
- Testing of Dead Birds will be conducted by MDA and/or DHSS according to the protocols established in the Missouri State Pandemic Influenza Plan. Information regarding testing will be provided to area response partners as needed. Test
samples collected by the county health department will be submitted to SPHL according to their most current protocol and procedures.

- During an avian Influenza outbreak among poultry, surveillance for human influenza cases that could be due to HPAI strains of virus will be conducted. Possible cases of HPAI among people will be in workers who had contact with the infected birds and possibly their close contacts.
  - Surveillance should include: monitoring of workers, and possibly close contacts, for signs and symptoms and serology tests if suggested by DHSS.
  - TCHD will continue the surveillance activities and epidemiology investigations of those who were exposed to sick birds and during the culling process. Workers may be isolated and/or monitored for 10 days after last exposure.
  - Increased disease surveillance in the area will also be initiated to identify potential influenza cases in the community. Rapid response disease investigations for any severe respiratory illness that may be associated with contact with poultry will also be conducted.

**Community Control Measures**

- During an outbreak of avian influenza community containment measures will be focused on quarantine measures, mass culling, and stop movement orders that would affect area poultry producers. Such measures will be initiated and maintained by local emergency management officials, poultry industry emergency response officials, local law enforcement, and MDA.
  - The local public health agency’s role in these efforts will involve monitoring health of workers who may have had contact with infected birds and providing flu vaccine to workers who have contact with poultry.
  - Additional services offered by the LPHA would include collaborative efforts with local mental health agencies to provide counseling to affected workers.

**Vaccine Management and Antivirals**

- TCHD will work with area poultry agencies to ensure yearly routine vaccinations are provided to workers who may have contact with flocks.
  - TCHD will also work with poultry industry officials to develop plans to provide flu vaccine to workers who will be working in mass culling activities.
- Antiviral medications will be requested through the SNS and managed inventory during a large-scale avian influenza outbreak if workers begin developing flu-like symptoms and local resources are not sufficient.
Mental Health

- TCHD will work with mental health agencies to work with farmers and workers in poultry industry as they lose their livelihood and experience stress, anxiety, depression, etc.
- TCHD will work with mental health agencies to develop mental health messages for the general public to help ease anxiety and fear related to the incident.
Appendix D

National Incident Management System (NIMS)
&
Incident Command System (ICS)
Incident Command System (ICS) Organization

The Local Public Health Agency’s will utilize the Incident Command System (ICS) as its’ organizational framework to respond to emergencies and coordinate activities with local response partners. This ICS is consistent with the National Incident Management System (NIMS). During an emergency, Department resources such as personnel and supplies as well as activities, may need to be mobilized across programs. The ICS response utilizes a structure that fosters communications between the tactical (front line responders) and through a chain-of-command. This structure is NIMS compliant.

ICS Staff
(See the Influenza Pandemic ICS Response Organizational Chart located after this introduction as a visual example)

The Department Director or their designee will oversee the response in coordination with city and county emergency management directors and representatives of other responding agencies. A unified command structure will be used to coordinate response activities in the county. The Department Director may assign an Incident Commander, other than his or herself who would be responsible for managing the Department’s response activities by coordinating the Operations, Planning, Logistics and Finance/Administration sections. In addition, this individual develops the Public Health Incident Action Plan (IAP) in conjunction with the Planning Section.

The Incident Commander is supported by a command staff that is represented by the regional Epidemiologist or communicable disease nurse, Public Information Officer, Liaison Officer, Safety Officer and a Chief for each of the Operations, Planning, Logistics and Finance/Administration sections.

The ICS Command Staff is comprised of an Information Officer, Liaison Officer and a Safety Officer. The Information Officer develops material, has it reviewed internally and releases it to the media. The Liaison Officer maintains relations between the Department and outside agencies and the Safety Officer oversees the safety of the response.

The ICS General Staff includes Operations, Planning, Logistics, and Finance/Administrative responsibilities. These responsibilities remain with the Incident Commander (IC) until they are assigned to other individuals. When the Operations, Planning, Logistics or Finance/Administrative responsibilities are established as separate functions under the IC, they are managed by a section chief and can be supported by other functional units (Group Supervisors and Unit Leads)

The Operations Staff is responsible for carrying out the response activities described in the Incident Action Plan (IAP). The Operations Section Chief coordinates Operation Section activities and has primary responsibility for receiving and implementing the IAP. The Operations Section Chief reports to the Incident Commander and determines the required resources and organizational structure within the Operations Section. Here are some examples of activities that the Operations Section might be involved in:
Conduct human case surveillance and characterize an outbreak
Conduct human case follow-up
Disseminate data (cases, geographical distribution)
Handle public, media and health care provider inquiries
Develop messages covering clinical information and prevention
Oversee funding to counties for activities
Make regular updates to local health departments
Identify need and broker vaccine/antivirals
Provide Behavioral Health Services to staff
Determine needs of hospitals

The **Planning** Staff is responsible for the collection, evaluation, dissemination and use of information about the development of the incident and status of resources. This section’s responsibilities also include creation of the Incident Action Plan (IAP), which defines the response activities and resource utilizations for a specified time period.

- Development of IAP
- Compilation of Updates/Briefs into the weekly/daily Situation Report
- Reports to the IC’s Office

The **Logistics** Staff is responsible for providing additional facilities, services, and materials for the incident response.

- Additional equipment for EOC, Communications, Call Center, etc.
- Facilities
- Personnel (above and beyond routine need)

The **Finance and Administration** Staff is responsible for all financial, administrative, and cost analysis aspects of the incident.

- Procurement of items/services
- Maintenance of contracts

The modular organization of the ICS allows responders to scale their efforts and apply the parts of the ICS Structure that best meet the demands of the incident. For example, many incidents will never require the activation of Planning, Logistics, or Finance/Administration Sections, while others, such as an influenza pandemic, will require some or all of them to be established.

Communications occurs across groups, but also comes directly to one’s supervisor and subsequently to the Section Chiefs and Command Staff. The Section Chiefs and Command Staff meet as needed to use information to make decisions. Information from these meetings and regular updates are incorporated into Situation Reports that are disseminated by e-mail or other means to the entire response network to keep everyone up to date and anticipate future issues.
Local Public Health Agency ICS Structure*

*This ICS Structure may be amended as needed during an emergency. Positions may be added or removed as needed. This structure should be used as a guide to help distribute roles and responsibilities among the four section chiefs and their subordinates.
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Appendix F

Taney County Quarantine Ordinance
Diseases, control of--condemnation for public facilities--police jurisdiction, city-owned property.

79.380. The board of aldermen may make regulations and pass ordinances for the prevention of the introduction of contagious diseases in the city, and for the abatement of the same, and may make quarantine laws and enforce the same within five miles of the city. They may purchase or condemn and hold for the city, within or without the city limits, or within ten miles therefrom, all necessary lands for hospital purposes, waterworks, sewer carriage and outfall, and erect, establish and regulate hospitals, workhouses, poorhouses, airports and provide for the government and support of the same, and make regulations to secure the general health of the city, and to prevent and remove nuisances; except that the condemnation of any property outside of the city limits shall be regulated in all respects as the condemnation of property for railroad purposes is regulated by law. The police jurisdiction of the city shall extend over such land and property to the same extent as over other city property, as provided in this chapter.

(RSMo 1939 § 7173, A.L. 1969 p. 136)