Manitoba

Public Health Branch

Interim Public Health Guidelines for H5N1 Avian Influenza

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Summary of Updates

March 2025

The Public Health Agency of Canada's Public Health Management of Human Cases of Avian Influenza and Associated Human Contacts document, in addition to updates to the Guidance on human health issues related to avian influenza in Canada - Canada.ca, resulted in changes from the previous version of these guidelines (2023):

- Case definitions have been updated.
- Recommendations on human case management (including confirmed case, probable case and person under investigation) have been added.
- Guidance on contact management has been updated based on exposure risk level (high, moderate or low) for human contact with avian influenza both from human-to-human and avian/animal sources.
- Guidance on antivirals has been updated, listing oseltamivir as the preferred treatment and post-exposure prophylaxis (PEP) option, and changing the duration of PEP from a range of 7 to 10 days to a more conservative 10 days.
- The Manitoba Health Letter for Contacts of Avian Influenza Virus has been updated (Appendix A).

November 2023

The updated Public Health Agency of Canada Guidance on human health issues related to avian influenza in Canada (HHAI) resulted in changes from the previous version of these guidelines (2022). Sections on chemoprophylaxis recommendations have been revised to align with current practice recommendations and now reflect the current goals and expectations for case and contact management.

Amendments that may result in a change in practice:
gov.mb.ca/health/publichealth/environmentalhealth/docs/avian_contact_letter.pdf

1. Situation and Background

1.1. Situation

The purpose of this document is to provide public health officials with guidance on the management of human exposures to avian influenza in birds or animals or suspected human cases of avian influenza, specific to the currently circulating avian influenza H5N1 strain.

These guidelines are based on the Public Health Agency of Canada's Guidance on human health issues related to avian influenza in Canada (HHAI) and Public Health Management of Human Cases of Avian Influenza and Associated Human Contacts and reflect recommendations for the currently circulating strains. They will be updated and adjusted as the situation, or the virus evolves.

1.2 Background

Avian influenza is an infectious disease caused by type A strains of influenza virus, and mainly affects birds but can, on occasion, infect humans and other mammals. The diagnosis of avian influenza must be made based on laboratory confirmation.

All birds are thought to be susceptible to avian influenza viruses, though the degree to which they are clinically affected can vary by species. Avian influenza A viruses are designated as highly pathogenic avian influenza (HPAI) or low pathogenicity avian influenza (LPAI) based on molecular characteristics of the virus and the ability of the virus to cause disease and mortality in birds. However, the severity of the illness in birds (i.e. whether the avian influenza virus is considered LPAI or HPAI) does not predict severity in humans. Both HPAI and LPAI strains have the potential to cause serious illness in humans. The risk to humans varies by strain type, and thus the outbreak response will vary depending on the circulating strain.

In addition to domestic and wild birds, transmission events of HPAI and LPAI have been observed in several mammalian species across the globe.

1.3 Impact of Avian Influenza on Human Health

Significant risks to human health from avian influenza include:

- Human infection with the avian influenza virus: Although avian influenza A viruses usually do not infect people, rare cases of human infection occur with these viruses. Illness in humans range in severity from no symptoms or mild illness to severe disease resulting in death. Currently, there has been no evidence of sustained person-to-person spread of avian influenza A(H5N1).
- Emergence of a new strain of type A influenza: Concurrent infection with avian influenza and human influenza in a human host may provide an opportunity for genetic mutation or viral reassortment. This may result in the emergence of a new strain of influenza with the risk for a new global pandemic.

2. Human Case Definitions

Lab Confirmed Case
A person with laboratory confirmation[1] of influenza A(H5N1) infection at Canada's National Microbiology Laboratory (NML).

Probable Case
A person who has influenza A results suggestive of a non-seasonal influenza strain pending confirmatory test results by the NML and/or the provincial public health laboratory[2] AND

- meets the exposure criteria[3], regardless of symptoms,

OR

- has symptoms compatible with illness criteria[4]

Person under investigation (PUI)

A person meeting the exposure criteria with or without symptoms that are compatible with illness criteria, who is positive for influenza A and for whom subtyping laboratory test results are unknown or pending[5].

For more information visit National case definitions: Human infections with avian influenza A(H5N1) virus - Canada.ca.

[1] The NML can confirm detection of the virus using H5N1 or H7N9 specific reverse transcription polymerase chain reaction (RT-PCR) and/or further genetic analysis.
[2] A positive non-seasonal influenza A test is appropriate when there is no alternative etiologic hypothesis. For example, an individual who meets the exposure and/or illness criteria and is positive for influenza A and is negative for A(H1) and A(H3) should be included in this definition of a probable case. However, an individual who tests positive for influenza A and an H3 infection is not a probable case. Efforts to obtain additional specimens to clarify case status may be warranted.
[3] **Exposure criteria:** Exposure within the previous ten (10) days to any of the following: direct or indirect close contact (within 2 metres) to presumptive/confirmed infected birds or other animals (e.g., visiting a live market, touching or handling infected animals, under- or uncooked poultry or egg); close contact (within 2 metres) with a PUI, probable, or confirmed human case; unprotected exposure to biological material (e.g., primary clinical specimens, virus culture isolates) known to contain avian influenza virus in a laboratory setting; or unprotected, direct or close contact (within 2 metres) to contaminated environments.
[4] **Illness criteria:** Illness onset is defined by the earliest start of SARI or ILI. SARI symptoms are fever (over 38 degrees Celsius), and new onset of (or exacerbation of chronic) cough or breathing difficulty and evidence of severe illness progression. ILI is defined as acute onset of respiratory illness with fever and cough and one or more of the following: sore throat, arthralgia, myalgia or prostration, which could be due to influenza virus. In children under 5, gastrointestinal symptoms may also be present. In patients under 5 or 65 and older, fever may not be prominent. If the index of suspicion is high and depending on clinical judgement, individuals with the following additional signs and symptoms may also be considered as meeting illness criteria: rhinorrhea, fatigue, headache, conjunctivitis, shortness of breath or difficulty breathing, pneumonia, diarrhea, respiratory failure, acute respiratory distress syndrome, neurologic symptoms, or multi-organ failure. The variation in spectrum of illness ranges from mild, atypical to severe.
[5] Limited data suggest that A(H5N1) can present as a co-infection with other viral as well as bacterial pathogens. The identification of one causal agent should not exclude A(H5N1) where the index of suspicion may be high. In the context of high community circulation of other respiratory pathogens, an individual positive for another viral pathogen (e.g., SARS-CoV-2, seasonal influenza) in the absence of unusual disease does not comprise a situation where suspicion of A(H5N1) infection is high.

3. Reporting Requirements

MHSU will report confirmed and probable human cases of H5N1 to the Public Health Agency of Canada (PHAC) within 24 hours of notification as per the Emerging Respiratory Pathogens and Severe Acute Respiratory Infection (SARI) Case Report Form.

Under the International Health Regulations, enhanced reporting of avian influenza to the World Health Organization (WHO) is mandatory. PHAC notifies the WHO.

3.1. Laboratory

Initial diagnostic tests specific for Avian Influenza A(H5N1) can be performed in select laboratories (i.e. Cadham Provincial Laboratory (CPL)), however such cases are considered probable until confirmatory testing can be completed at the National Microbiology Laboratory (NML).

All positive laboratory results noted in the case definitions are reportable by laboratory to the Manitoba Health Surveillance Unit (MHSU) via secure fax or established electronic interface. A phone report must be made to a Medical Officer of Health at 204-788-8666 on the same day the result is obtained, in addition to the standard reporting.

3.2. Health Care Professional

All probable cases and persons under investigation are reportable to the Manitoba Health Surveillance Unit using the Clinical Notification of Reportable Diseases and Conditions form within 24 hours.

3.3. Manitoba Agriculture

In Manitoba, influenza viruses are reportable zoonotic diseases. The Office of the Chief Medical Officer of Health will be notified by the Office of the Chief Veterinarian, Animal Health and Welfare Branch of Manitoba Agriculture through the Manitoba Health Surveillance Unit when avian influenza infection is confirmed in avian/animal source within the province of Manitoba.

3.4. Canadian Food Inspection Agency (CFIA)

In Canada, HPAI (all strains) and LPAI (H5 and H7 strains) are considered Notifiable Avian Influenza and must be reported to CFIA under the Health of Animals Act. CFIA will be notified by the Office of the Chief Veterinarian, Animal Health and Welfare Branch of Manitoba Agriculture.

4. Testing

Nucleic acid and amplification testing (NAAT) is the primary method used to confirm infection with Influenza A. Infection may also be confirmed by isolation of influenza virus by cell culture and/or by identification of viral antigens. When testing is indicated, specimens should be

collected as close to the onset of illness as possible, preferably within five days of onset. The Shared Health respiratory virus specimen collection procedure is available at healthproviders.sharedhealthmb.ca/files/respiratory-virus-specimen-collection.pdf.

Lab requisitions should specify exposure to avian influenza. Anyone who works with poultry or animals, has influenza-like symptoms and is seeking testing or treatment should be reminded to always identify themselves as an agricultural worker to health care providers / medical officials to assist with identification of influenza variants.

History or results suggestive of a non-seasonal influenza strain will need to be sub-typed. Confirmatory testing is done by the NML.

5. Transmission to the Human Population

Potential sources include:

- Exposure to infected animals:
  - infected poultry
  - infected wild or pet birds
  - other infected animals (e.g., cows, pigs, goats, foxes, etc.)
- Exposure to products of infected animals:
  - under- or uncooked products from infected birds or animals
  - raw milk or raw milk products from infected cows
- Exposure to contaminated spaces or surfaces:
  - manure and litter of infected birds/animals (can contain high concentrations of virus)
  - contaminated surfaces
  - contaminated vehicles, equipment, clothing and footwear at involved sites (e.g., infected poultry farms)
  - contaminated air space (e.g. a barn when movement of birds or manure may have resulted in aerosolization of the virus)
  - Unprotected exposure to biological material (e.g., primary clinical specimens, virus culture isolates) known to contain avian influenza virus in a laboratory setting
- Exposure to individuals known to be infected with an avian influenza virus

Avian influenza viruses are usually not spread from an infected person to close contacts, and when it has happened, it has only spread to a few people. However, because of the possibility that the virus could change and gain the ability to spread easily between people, monitoring for human infection and person-to-person spread is extremely important for public health.

6. Incubation Period

6.1. For human cases

Available data suggest that the estimated incubation period for human infection with avian influenza A(H5N1) and A(H7N9) viruses is generally 1 to 5 days but has been reported to be 7-10 days. The available evidence supports exposure criteria based on 10 days for the purpose of case identification and public health follow up of contacts within Canada.

6.2. For Animal Cases

In poultry, the incubation period can be a few hours to a few days in individual birds, and up to 2 weeks in the overall flock. In dairy cattle, the current evidence indicates that the incubation period is variable and ranges from 12 to 21 days (US Department of Agriculture: Animal and Plant Health Inspection Service: Avian Influenza). A 21-day incubation period, which considers the transmission dynamics of the virus, is used for bird populations in the context of disease control.

7. Communicability

In the absence of evidence surrounding the infectious period for avian influenza, the national guidance documents recommend a 14-day isolation period to align with the overall goal of containment and the assumptions used to frame the guidance (e.g., current epidemiological context, precautionary approach). A different isolation period may be recommended within health care facilities as per infection prevention and control guidelines.

8. Signs and Symptoms

Symptoms of avian influenza in humans may range from no symptoms or mild illness to severe. Influenza-like illness signs and symptoms include:

- Fever
- Cough
- Rhinorrhea
- Sore throat
- Myalgia/arthralgia
- Headache
- Conjunctivitis including redness to sclera, eyelid/conjunctival inflammation, excessive tearing, pruritis, eye pain/burning, discharge, photosensitivity
- GI symptoms including abdominal pain, nausea, diarrhea, vomiting
- Shortness of breath
- Chest pain

Reported complications of avian influenza have included: pneumonia, acute respiratory distress syndrome, respiratory failure, shock, multi-organ failure, meningoencephalitis, secondary bacterial or fungal infection.

9. Response to Avian Influenza in Birds and Animals

In responding to avian influenza outbreaks, Public Health will work closely with the Department of Agriculture, the Canadian Food Inspection Agency (CFIA), and the poultry or other animal industry to coordinate an inter-agency response to an avian influenza outbreak. Depending on the strain of avian influenza involved, animal health response activities may differ from outbreak to outbreak.

The CFIA is the lead agency for the animal health response for domestic flocks infected with H5 or H7 LPAI or HPAI. The CFIA responds to avian influenza outbreaks by establishing quarantines, ordering the humane destruction of all infected and exposed poultry, conducting trace-out activities, overseeing the cleaning and disinfection of premises, and verifying that affected farms remain free of avian influenza according to international standards.

Upon notification of an avian influenza outbreak with human health implications, public health officials should implement appropriate public health measures, which may require a response on evenings and weekends. Primary prevention (including infection control and antiviral prophylaxis), case and contact management, risk assessment and public education should be a top priority.

Further information is available at:

- Avian influenza (bird flu) - inspection.canada.ca
- Bird Flu | Bird Flu | CDC

10. Human Case Management (including confirmed case, probable case and PUI)

10.1. Public health Roles

- Confirm case definition. Facilitate collection of laboratory specimens for testing if not already completed.
- Obtain history of illness. Determine incubation period and period of communicability.
- Determine the possible source of infection. Consider all possible exposures, including:
    - Exposure to area where human or animal cases of avian influenza are known to be circulating
    - Close contact with a person with confirmed, probable, or under investigation for avian influenza infection
    - Close contact with an ill person (i.e. respiratory illness) who resided in or returned from an area where avian influenza is known to be circulating
    - Occupational risks (e.g. health care workers, lab workers who work with live avian influenza virus, working directly with live, dead, or recently killed birds/animals

- Bird/animal exposures, including
  - Touching infected birds/animals, or touching/breathing in contaminated sites
  - Handling carcasses or preparing infected meat
  - Attending fairs or markets that sell live birds/animals

10.2. Management of a Case

Hospitalized cases should be isolated in accordance with facility infection prevention and control guidelines. Additional information regarding provincial and national infection control practices and guidance for healthcare settings, can be found at the following links:

- Manitoba Health: Routine Practices and Additional Precautions: Preventing the Transmission of Infection in Health Care
- Shared Health: Respiratory Virus Season IP&C Planning and Response
- Public Health Agency of Canada: Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Healthcare Settings.

Non-hospitalized cases:

- Provide information to the case about their illness and advise to seek medical care from a health care provider (while adhering to appropriate public health measures during transportation) if their illness becomes more severe.
  - Public transportation should not be used to seek medical care (if possible).
- Facilitate isolation of cases (refer to section 10.2.1).
- Facilitate access to clinical care if required, including early antiviral treatment (refer to section 10.2.2).
- Active daily monitoring (i.e., through regular communication) of the case.
  - Monitoring can support learning about the clinical evolution of the infection, address emerging issues, as well as encourage isolation compliance (e.g., by connecting the individual to community supports as appropriate).
  - Although daily monitoring is recommended for cases, the mode and frequency of active monitoring may vary according to the situation.
- Determine seasonal influenza vaccination status of the case.
  - Individuals should be offered inactivated seasonal influenza vaccine after the isolation period has ended, if not already received.
- Identifying all contacts during the case's infectious period (1 to 2 days leading up to the case's sign/symptom onset to 14 days after the case's sign/symptom onset).
- Identify (groups of) individuals with the same potential avian/animal/environmental/human exposure as the case. This includes individuals exposed to avian influenza via activities associated with their occupation, study, leisure/recreation, etc.

10.2.1. Isolation and Public Health Measures in the Community for Cases

Cases should:

- Isolate for 14 days from onset of first sign(s)/symptom(s) or until avian influenza infection is ruled out by laboratory testing (for PUIs). Consultation with a Medical Officer of Health/ Infectious Disease Specialist is recommended for cases that are immunocompromised, who may require a longer isolation period.
- Isolate away from other individuals as well as from animals (both domestic and wild) for the duration of the infectious period (e.g., do not go to school, work, or other public places).
- Recover in a suitable environment to maintain effective isolation, and refrain from leaving unless necessary or instructed to seek medical care.
- Have their own room (separate from household members or domestic animals) with access to a separate washroom, if possible.
- Self-monitor for onset or progression/worsening of signs/symptoms of avian influenza infection, including daily temperature-taking and recording, while:
    - Avoiding the use of fever-reducing medication (e.g., acetaminophen, ibuprofen) as much as possible as it may mask the onset or progression/worsening of signs/symptoms of avian influenza (advise Public Health if taken).
        - Should signs/symptoms worsen, facilitate assessment by a health-care provider for additional instructions.
- Unless required for assistance (e.g., human caregivers, service/support/therapy animals) avoid:
    - Close contact activities (e.g., watching television, dining, or playing games together) and
    - Sharing indoor/outdoor spaces with others, including household members, visitors, and animals.
- If sharing a space with others is unavoidable, maintain physical distance (and separate with dividers such as curtains, if possible) and wear a well-fitting medical mask regardless of whether others are present at the time, and especially when:
    - Around others who are at risk of more severe disease or outcomes (e.g., individuals who are immunocompromised, individuals who are pregnant, young children).
    - In a crowded or poorly ventilated setting.
- Others in the same space as the case should also maintain physical distance and wear a well-fitting medical mask, especially if they are:

  - At risk of more severe disease or outcomes (e.g., individuals who are immunocompromised, individuals who are pregnant, young children).
- Avoid direct contact with domestic or wild birds and other susceptible animals (e.g., wild mammals, swine, farmed fur animals).
- Avoid sharing personal items with other humans and animals (e.g., unwashed towels, bed linen, eating utensils).
- Practise respiratory etiquette, including covering coughs and sneezes.
- Take steps to improve indoor ventilation by:
  - Opening windows and doors to the outside, if possible, depending on weather, outdoor air quality, and safety (e.g., no fall hazards), especially in shared spaces (e.g., kitchen, dining areas, hallway), regardless of if others are present.
  - For shared washrooms, also turning on the exhaust fan and closing the toilet lid before flushing.
  - Ensuring the mechanical ventilation system (e.g., heating, ventilation and air conditioning (HVAC) system) is functioning properly and continuously on, if possible.
- Perform frequent hand hygiene by:
  - Washing hands with soap and running water for at least 15 seconds (preferable, especially when hands are visibly dirty), or
  - Using a hand sanitizer containing at least 60% alcohol for 15 seconds or until dry.
    - if hands are visibly soiled, remove as much residue as possible before using hand sanitizer.
- Clean and disinfect high-touch surfaces and objects (e.g., toilets, taps, kitchen countertops) frequently with household cleaner followed by household disinfectant with efficacy against influenza.
- Wash clothes and bed linen with regular laundry soap and water.

10.2.2. Treatment

Antiviral treatment is recommended for persons one year of age and over, who develop compatible illness following exposure to a source of avian influenza virus. Treatment of infants less than one year of age should only be considered after a thorough risk assessment and consultation with a physician as there are limited data on this age group and this would constitute an off-label use.

The effectiveness of neuraminidase inhibitors for treatment of severe disease caused by avian influenza virus infections has not been determined due to a lack of data from randomized clinical trials among patients with novel influenza A virus infections. However, based on data from seasonal (human) influenza A treatment studies, observational data from the treatment of cases that are severely ill and infected with novel/avian influenza viruses, and mechanism of action of

neuraminidase inhibitors, treatment of suspect, probable, or confirmed avian influenza with neuraminidase inhibitors is recommended.

To be optimally effective, antiviral treatment should begin no more than two days after the onset of symptoms of influenza. However, considering evidence showing continuing replication of avian influenza virus beyond 48 hours after onset of symptoms and therefore a potentially beneficial treatment effect with antivirals, consideration should be given to treating individuals presenting at any point during their illness.

All treatment decisions should be made by a physician in consultation with the case. When there is a strong epidemiological link to a source of avian influenza and symptoms are consistent with influenza infection, the decision to treat the suspected case should not be delayed pending laboratory confirmation.

For as-yet untreated cases, therapy may not be of benefit if disease is uncomplicated, fever is absent, and symptoms are improving. Decisions to initiate antiviral treatment should always be based on clinical judgment. Persons who are not treated with antiviral medications should be monitored for progression of illness.

Most avian influenza A(H7N9), A(H5N1), and A(H5N6) viruses are susceptible to the neuraminidase inhibitors (oseltamivir, zanamivir and peramivir) and the polymerase acidic endonuclease inhibitor (baloxavir), but they are often resistant to the adamantanes (amantadine and rimantadine). Adamantanes also have a significantly higher rate of adverse events, including potentially serious adverse events. Amantadine and rimantadine are not recommended for treatment of avian influenza.

Neuraminidase inhibitors are preferentially recommended. As per PHAC's updated guidance provided in February 2025, **oseltamivir is currently the preferred antiviral** for use in AI due to its widespread availability, efficacy and effectiveness data in AI (although limited), favourable side effect and drug interaction profile, and currently very low prevalence of antiviral resistance in AI. Zanamivir, peramivir and baloxavir may be considered in specific situations, such as when resistance to oseltamivir is detected.

10.2.2.1 Dosage

The recommended oral dose of oseltamivir for adults and adolescents 13 years and older is 75 mg twice daily, for 5 days. The treatment dose for children 1-12 years of age is based on their weight and is consistent with the new prophylaxis dosing recommendation, in that it is also two doses daily but for only 5 days (refer to section 11.5.1).

Longer courses of treatment (e.g., 10 days) may be indicated for cases that are severely ill with avian influenza. Avian influenza A(H5N1) and A(H7N9) viruses have been shown to be associated with higher virus levels and longer duration of viral replication (particularly in the

lower respiratory tract) in cases who were hospitalized when compared to those with seasonal influenza A or B virus infection.

11. Human Exposure (Contact) Management

Early identification of human contacts is a key component of rapid case identification and management to limit human-to-human transmission of avian influenza. Contact management largely focuses on interrupting chains of transmission by identifying individuals at risk of avian influenza infection from exposure to a human or avian/animal case of avian influenza A (PUI, probable, or confirmed) and/or to the same exposure source as the case.

11.1. Definition of a contact to a human case

Contacts are individuals who have been in near proximity (within 2 metres of the case without PPE use) of a human case of avian influenza during the infectious period, which may span from 1 to 2 days leading up to the case's sign/symptom onset to 14 days after the case's sign/symptom onset (refer to section 11.4.1, Table 1).

11.2. Definition of a contact to an Avian/ Animal Case

An asymptomatic individual that has been exposed to avian influenza through direct contact (within 1 to 2 meters) with a known/suspected animal/avian case or an environment/object known to be associated with a suspect/known avian influenza outbreak (refer to section 11.4.1, Table 1).

In the poultry setting:
Public health should obtain a list of all human exposures and individuals entering an infected poultry farm premise in the 21-day period prior to the onset of clinical signs.

In other livestock settings:
Public health should obtain a list of all individuals entering an infected non-poultry livestock premise since the onset of clinical signs in the given livestock herd and throughout the duration of the outbreak in the herd to determine who may have been exposed. Based on the animal species affected and what is known about the incubation period and transmission dynamics in the species, further traceback of contacts may be required.

11.3. Public Health Roles

- All individuals who have been exposed to avian influenza should be notified of their exposure (refer to section 11.4).

- All contacts should monitor for signs/symptoms, including daily temperature taking and recording, while avoiding the use of fever-reducing medication (e.g., acetaminophen, ibuprofen) as much as possible as it may mask early symptoms of avian influenza.
- Provide information on the importance, including the public health rationale, and proper practice of recommended public health measures.
- Conduct active/passive monitoring as indicated by the exposure risk assessment
    - Active daily monitoring is generally recommended for higher risk exposures or if there are concerns about the contact's ability or willingness to complete passive monitoring (e.g., cognitive impairment or transient population). Consider other factors such as current avian influenza epidemiology or delays in implementation of control measures.
    - As an alternative to active daily monitoring, contacts may be instructed to self-monitor for symptoms. With a passive monitoring approach, public health is recommended to conduct a follow-up call or other method of active engagement at the end of the monitoring period.
- Assess and facilitate the contact's ability to adhere to recommended public health measures.
- Offer information on when, where and how to access diagnostic testing, should signs/symptoms develop:
    - In the absence of a sufficient evidence base on the incidence/prevalence and transmissibility of asymptomatic avian influenza A in humans, laboratory testing of asymptomatic individuals exposed to human avian influenza cases is not recommended as part of routine contact management. However, testing of asymptomatic contacts may be considered in some situations to expand collective understanding of asymptomatic infection and the subsequent human health risks.
- Any exposed person who has any new illness symptoms, particularly fever or feeling feverish or any respiratory symptoms in the 10 days following exposure should be referred for prompt medical evaluation, antiviral treatment, and testing for avian influenza A virus infection.
    - When seeking care, call ahead to inform the facility that they have been exposed to avian influenza, and follow any directions provided. Minimize exposures during transportation, including minimizing number of occupants in vehicle, opening the windows if possible, wearing a mask (all occupants), and cleaning/disinfecting touched surfaces.
    - In the event of a medical emergency, call 911 and inform the dispatchers that the individual requiring care has been exposed to avian influenza, so that appropriate infection prevention and control measures can be implemented.
    - The laboratory sample should be flagged for CPL as a sample from someone with known avian influenza exposure.
    - If the test is positive for influenza A, sub-typing will need to be done. The person should be advised of a preliminary positive influenza result, but further analysis is

required to determine the sub-type of influenza. Since seasonal influenza virus may also be circulating, sub-typing is necessary before avian influenza can be confirmed. Isolation protocols should be reinforced (refer to section 10.2.1)
    - If HPAI infection is suspected, antiviral treatment (i.e. oseltamivir) should be provided without delay (refer to section 11.5); waiting for lab confirmation is not recommended. If laboratory testing is negative for influenza virus, treatment can be stopped.
    - Place in isolation suspected cases and manage them according to recommended procedures for case management (refer to section 10.2).
- For asymptomatic contacts, facilitate access to antiviral prophylaxis, as appropriate (refer to section 11.5).
- Facilitate access to seasonal influenza vaccination, as appropriate:
    - Individuals should be offered inactivated seasonal influenza vaccine after the monitoring period has ended, if not already received.

Note: If human-to-human transmission is suspected or known to be occurring, consider implementing more stringent public health measures for contacts, including quarantine, in efforts to achieve the overall goal of containment. This is especially important in the window of opportunity between limited human-to-human spread and the establishment of sustained/widespread human-to human transmission unrelated to an avian/animal exposure of avian influenza.

To further reduce the risk of spread, contacts should implement the following additional public health and personal protective measures (which are also applicable to cases):

- Provide advice on minimizing further exposure. Those involved in the care, animal depopulation, or cleaning up of infected birds or their environments should wear personal protective equipment (refer to section 12).
- Consider advice on restriction of movement of contacts based on exposure risk and context. This may include recommendations not to visit other farms, to avoid serving as a vehicle for the spread of contaminated material as much as possible.
- Avoid direct contact with domestic or wild birds and other susceptible animals (e.g., wild mammals, swine, farmed fur animals).
- Avoid sharing personal items with other humans and animals (e.g., unwashed towels, bed linen, eating utensils).
- Practise respiratory etiquette, including covering coughs and sneezes.
- Take steps to improve indoor ventilation by:
    - opening windows and doors to the outside, if possible, depending on weather, outdoor air quality, and safety (e.g., no fall hazards), especially in shared spaces (e.g., kitchen, dining areas, hallway), regardless of if others are present.
    - For shared washrooms, turn on the exhaust fan and close the toilet lid before flushing

- ensuring the mechanical ventilation system (e.g., HVAC system) is functioning properly and continuously on, if possible.

- Perform frequent hand hygiene by:
  - washing hands with soap and running water for at least 15 seconds (preferable, especially when hands are visibly dirty), or
  - using a hand sanitizer containing at least 60% alcohol for 15 seconds or until dry
    - If hands are visibly soiled, remove as much residue as possible before using hand sanitizer.
- Clean and disinfect high-touch surfaces and objects (e.g., toilets, taps, kitchen countertops) frequently with household cleaner followed by household disinfectant with efficacy against influenza.
- Wash clothes and bed linen with regular laundry soap and water.

11.4. Exposure risk

Individuals who have exposures falling into more than one risk group should be managed based on their highest risk exposure. Initially, it is expected that those most likely to be exposed would include individuals who are involved in outbreak control (e.g., CFIA), depopulation of infected flocks or birds/animals, disposal of carcasses, or cleaning of involved sites, as well as individuals living and working on affected sites who have such contact (e.g., farmers, wildlife workers, veterinarians).

The exposure-risk categories are not limited to the descriptions above. Other situations may apply and should be assessed on a case-by-case basis.

The individual-level risk exposure assessment should also be informed by the national and the local risk assessments, as well as the global risk assessment conducted by WHO, which tend to emphasize population risk hazard.

11.4.1. Table 1: Classification of contacts by exposure risk level

Exposure risk	Description	Possible examples	Recommendations
High	**Human case exposure** • Direct and/or intimate physical contact (e.g., hugging, kissing) with the case without PPE use • Being within 2 metres of the case without PPE use • Contact with items and surfaces contaminated with bodily fluids of the case without PPE use	• Household members who shared a living space with the case • Individuals, including caregivers, who had unprotected direct or indirect contact with the case and/or their contaminated	• Active monitoring by PH for 10 days after last exposure to the case • Follow recommended Public Health Measures for all contacts. • Wear a well-fitted medical mask when in shared spaces with others, especially: o in public settings o around people who are at risk of severe

	• Being in a poorly ventilated enclosed space with the case without PPM/PPE use **Avian/animal exposures** • individuals with unprotected and very close exposure (i.e., within 1 to 2 meters) to a flock or group of infected animals (asymptomatic or sick/dead) or to particular birds or other animals that have been directly implicated in human cases (e.g., farm family member or worker who handled sick or infected animals) • individuals involved in the handling and slaughtering of live poultry and other animals, such as those in a live animal market, in an area experiencing an AI outbreak or visitors to an area where such activities are being undertaken while unprotected • individuals involved in handling infected (asymptomatic or sick/dead) animals or decontaminating affected environments (including animal disposal) as part of outbreak control efforts (e.g., cullers) who did not have, or were wearing insufficient PPE, or had a breach in the use of PPE, during these activities	environment, and/or their bodily fluids (e.g., respiratory secretions) • Individuals who had a face-to-face interaction with the case • Individuals who sat next to the case on a plane or other mode of transportation • Other contacts of a case based on a risk assessment completed by PH • Personnel involved in depopulation of sick/infected birds/animals) • Farm family member or worker who handled sick animals	disease or outcomes (e.g., individuals who are immunocompromised, individuals who are pregnant, young children) • Post-exposure antiviral prophylaxis is recommended. Refer to HCP. • Maintain a record of all individuals with which the contact is in near proximity during the monitoring period

Intermediate	**Human case exposure**
	• Limited or intermittent exposure to a case without proper and adequate PPE (i.e., PPE proportionate to the activity/care being performed/provided to the case)
	
	Avian/animal exposures
	• individuals without PPE who handle single or small groups of animals infected with AI (asymptomatic or sick/dead) in an open-air environment which is not densely populated by animals of the same species as the infected animal.
		• Individuals, including caregivers, who had **improper and/or inadequate**, or breach in, PPM/PPE use when in direct or indirect contact with the case and/or their contaminated environment, and/or their bodily fluids (e.g., respiratory secretions)
		• Individuals who shared a living space where interactions with the case and their personal items were limited
		• Individuals who had brief social interactions with the case
		• Individual who handles a single wild bird in a park
			• Active monitoring by PH for 10 days after last exposure to the case
			• Follow recommended public health measures for all contacts
			• Wear a well -fitted medical mask when:
			  ○ around others who are at risk of more severe disease or outcomes (e.g., individuals who are immunocompromised, individuals who are pregnant, young children)
			  ○ in a crowded or poorly ventilated setting
			• Post-exposure antiviral prophylaxis should be considered. Refer to HCP. See section below (section 11.5) for more details.
			• Maintain a record of all individuals with which the contact is in near proximity during the monitoring period

Low	**Human case exposure** • Limited exposure to a case in a shared enclosed space with proper and adequate PPM/PPE use • Providing direct care to a case with proper and adequate PPM/PPE use **Avian/animal exposures** • Personnel involved in depopulation of non-infected or likely non-	• Individuals, such as HCWs or laboratory personnel, who used appropriate PPE during contact with a human AI case • Laboratory personnel working with the influenza virus using appropriate	• Passive monitoring for 10 days after last exposure to the case • PH should inform all contacts of their exposure, and follow up as feasible at the end of the monitoring period (day 10) • Follow recommended Public Health Measures for all contacts • Consider wearing a well-fitted medical mask when:

	infected animal populations as a control measure (e.g., those exclusively depopulating asymptomatic animals in a control area outside of the infected and primary control zones) • Individuals who handle (i.e., have direct contact with) single or small groups of asymptomatic animal(s) with a possible proximity to a geographic area where AI has recently been identified (e.g., hunters/trappers, bird banders, Indigenous hunters and harvesters) • personnel involved in handling infected (asymptomatic or sick/dead) animals or decontaminating affected environments (including animal disposal) as part of outbreak control efforts (e.g., cullers) who did have, or were wearing sufficient PPE during these activities	laboratory procedures and infection control precautions (e.g. wearing proper PPE)	○ around others who are at risk of more severe disease or outcomes (e.g., individuals who are immunocompromised, individuals who are pregnant, young children) ○ in a crowded or poorly ventilated setting

Acronyms: personal protective equipment (PPE), personal protective measures (PPMs) public health authority (PHA), public health measures (PHMs)

11.5. Post-Exposure Prophylaxis (PEP)

Public health should direct individuals to their primary health care provider for consideration of antiviral prophylaxis. Chemoprophylaxis with influenza antiviral medications, for the purposes of protecting the individual and/or preventing further transmission, is recommended for exposed persons in the high-risk category and should be considered for exposed persons in the intermediate risk category (see recommendations in above Table 1 - Classification of contacts by exposure risk level).

Decisions to initiate post-exposure antiviral chemoprophylaxis for exposed persons in the intermediate risk category should be based on an assessment of the risk level to the exposure of

avian influenza with consideration given to the type of exposure (e.g. without use of respiratory and eye protection), duration of exposure, time since exposure, and whether the exposed person has underlying medical conditions and is at higher risk for progression to severe disease.

If post-exposure antiviral chemoprophylaxis is initiated, treatment dosing for oseltamivir (twice daily dosing) should be provided for 10 days, and has been recommended instead of the once daily antiviral chemoprophylaxis regimen used for seasonal influenza. Antiviral post-exposure prophylaxis should begin as soon as possible (ideally within 48 hours) after the first exposure to the symptomatic confirmed or probable case, or up to 10 days after the last exposure.

11.5.1. Table 2: Recommended oseltamivir dosage for prophylaxis indications

		Dosage bid (i.e., twice a day)
Adults (≥ 13 years)		75 mg bid
Children weight *(> 1 year of age)*	< 15 kg	30 mg bid
	> 15-23 kg	45 mg bid
	> 23-40 kg	60 mg bid
	> 40 kg	75 mg bid

Note: The dose may need to be adjusted, for example if the individual has renal impairment. More details regarding dose adjustments are available in the respective product monographs.

For post-exposure prophylaxis, a 7-10 day course may be recommended based on the specific exposure risk category (see section 8 Guidance on human health issues related to avian influenza in Canada - Canada.ca). Post-exposure prophylaxis should be offered to household and other close contacts of human cases of AI, if the risk assessment suggested that it is prudent.

If a neuraminidase inhibitor is prescribed for pre-exposure prophylaxis, its use should continue for the duration of potential exposure. The maximum duration of time for continuous prophylactic should be eight weeks, this can include intermittent use if, for example, a worker will be in an office setting (i.e., not the potential exposure setting) in between periods of potential exposure. Consideration may be given to extending oseltamivir pre-exposure prophylaxis beyond eight weeks on a case-by-case basis after consultation with a physician who has expertise in influenza treatment and prevention.

For more information see : Guidance on human health issues related to avian influenza in Canada - Canada.ca

11.6. Pre-exposure Prophylaxis (PrEP)

Pre-exposure prophylaxis (PrEP) is not a routinely recommended approach as infection control practices, such as PPE and biosecurity are effective measures in prevention. However, PrEP may be considered on a case-by-case basis when the subtype is known to cause severe human illness (e.g. H5N1) in consideration with any specific risk factors. PrEP dosing is the same as treatment dosing, twice daily of oseltamivir, but required duration needs to be individually considered.

12. Infection Control

When the circulating avian influenza strain is known to cause risk to human health (such as highly pathogenic H5N1), individuals within the affected area should take precautions to minimize risk of infection:

- Avoid direct contact with wild and domestic birds, manure or other surfaces that may be contaminated with avian influenza virus.
- Farm personnel and residents not directly involved in depopulation activities should avoid exposure to infected birds, manure or surfaces that may be contaminated with avian influenza virus.
- Personnel involved in depopulation activities and/or environmental clean up who may be exposed to infected birds, manure or surfaces that may be contaminated with avian influenza virus should wear appropriate PPE. If the case requires admission to hospital, airborne, droplet and contact precautions are recommended.

12.1. Personal protective equipment (PPE)

PPE, when used consistently and appropriately, reduces an individual's risk of infection with avian influenza. PPE is recommended for people that may be exposed to both avian/animal and human cases of avian influenza.

12.1.1. PPE in a Farm Setting

Farm personnel that participate in outbreak control efforts, including depopulation activities or environmental clean up, must follow PPE recommendations to minimize risk of infection.

Recommended personal protective equipment:

- Fit-tested N95 respirator
- Protective eye wear
- Reusable gloves
- Protective clothing (re-usable if washed immediately after use, or disposable)

12.1.2. PPE in a Health care setting

Human to human transmission of the avian influenza virus occurs through airborne and respiratory droplet routes, as well as indirect contact with contaminated objects/surfaces. Airborne, contact, and droplet precautions are recommended for health care workers providing care to a person with avian influenza.

Recommended personal protective equipment:

- Fit-tested N95 (or an equivalent or higher protection) respirator
- Protective eye wear

- Gown
- Gloves

A medical mask (if tolerated) should be worn by the case when outside their room or care area and hand hygiene should be performed prior to masking and after touching or removing a mask. A medical mask worn by the case (if tolerated) may be considered while health care workers are providing care.

Refer to WRHA Severe Acute Respiratory Infection (SARI) Protocol for further information.

13. Documentation

In Manitoba, communicable disease investigations are documented in the provincial Public Health Information Management System (PHIMS).

13.1. For Contacts

As the source cases for most avian influenza exposures are non-human, contact investigations must be created for all contacts, unless linked to a human case.

Create a new contact investigation for each exposed individual:

Disease Summary:
- Disease: select Influenza
- Authority: select Provincial
- Classification: select Contact: Person under investigation
- Microorganism: select Influenza A
- Subtype and Strain: select Influenza type A, avian, H5N1 strain

Interventions: The following interventions should be completed if applicable for each contact:
- Education and counselling
- Testing and Treatment
- Isolation
- Immunization
- Status assessment (active daily monitoring may be necessary based on risk assessment)

Signs and Symptoms: Document all symptoms, including start and end dates (if applicable).

Treatment & Immunizations: Document any treatment or immunization provided.

Outbreak Information: Create an outbreak in the outbreak module for each location identified with H5N1. Contact investigations can be linked to the outbreak.

13.2. For Cases

Case investigations should be created for suspect and confirmed human cases.

The Emerging Respiratory Pathogens and Severe Acute Respiratory Infection (SARI) Case Report form may be required and used for additional guidance on documentation requirements.

14. Public Education

While the risk of avian influenza in the human population is low, individuals can take action to protect themselves and others:

- Avoid unnecessary contact with poultry and wild birds and potentially infected cattle or other animals. Sick and dead birds pose the greatest risk for avian flu transmission.
- Avoid contact with surfaces contaminated with bird droppings or secretions.
- Ensure eggs and poultry dishes are well cooked and only drink pasteurized milk.
- Boil any untreated water from areas where waterfowl gather (ponds, lakes, rivers) prior to consumption.
- Get the influenza vaccine. Human influenza remains a more significant risk for serious adverse outcomes. An annual influenza vaccination reduces these risks while also reducing the risk of mutation of the avian influenza virus.
    - Seasonal influenza vaccination will not prevent infection with avian influenza viruses but can reduce the risk of getting sick with human and avian influenza viruses at the same time. If a person is infected with both avian and human strains of influenza virus at the same time, it is possible that the virus could change and spread more easily from person to person.
- Follow all public health recommendations to prevent illness and infection include covering your cough, frequent hand washing with soap and water and staying home when you are sick.

15. Resources

MHSLTC:

- Letter for Contacts of Avian Influenza Virus: www.gov.mb.ca/health/publichealth/environmentalhealth/docs/avian_contact_letter.pdf
- Clinical Notification of Reportable Diseases and Conditions: www.gov.mb.ca/health/publichealth/cdc/protocol/mhsu_0013.pdf
- Manitoba Health's Avian Influenza website: www.gov.mb.ca/health/publichealth/environmentalhealth/avian.html
- Manitoba Health: Routine Practices and Additional Precautions: Preventing the Transmission of Infection in Health Care: www.gov.mb.ca/health/publichealth/cdc/docs/ipc/rpap.pdf

PHAC:

- Emerging respiratory pathogens and Severe Acute Respiratory Infection (SARI) case report form: www.canada.ca/en/public-health/services/emerging-respiratory-pathogens/coronavirus/emerging-respiratory-pathogens-severe-acute-respiratory-infection-sari-case-report-form.html
- Guidance on human health issues related to avian influenza in Canada (HHAI): www.canada.ca/en/public-health/services/publications/diseases-conditions/guidance-human-health-issues-avian-influenza.html#acr
- Public health management of human cases of avian influenza associated human contacts: www.canada.ca/en/public-health/services/diseases/avian-influenza-h5n1/health-professionals/management-human-cases-associated-contacts.html
- National case definitions: Human infections with avian influenza A(H5N1) virus: www.canada.ca/en/public-health/services/diseases/avian-influenza-h5n1/health-professionals/national-case-definition.html
- Avian influenza A(H5N1): For health professionals: www.canada.ca/en/public-health/services/diseases/avian-influenza-h5n1/health-professionals.html
- Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Health Care Settings: www.canada.ca/en/public-health/services/publications/diseases-conditions/routine-practices-precautions-healthcare-associated-infections.html

CFIA:

- Avian influenza: inspection.canada.ca/en/animal-health/terrestrial-animals/diseases/reportable/avian-influenza

CDC :

- Avian Influenza: https://www.cdc.gov/bird-flu/index.html

USDA:

- Animal and Plant Health Inspection Service: Avian Influenza: www.aphis.usda.gov/sites/default/files/hpai-livestock-case-definition.pdf

WRHA:

- Severe Acute Respiratory Infection (SARI) Protocol: professionals.wrha.mb.ca/files/ipc-SARI-Protocol-Final.LtdRev.Nov24.pdf

Appendix A:

Manitoba

Health, Seniors and Long-Term Care
Public Health
300 Carlton Street
Winnipeg, Manitoba Canada R3B 3M9

Re: Letter for contacts of avian influenza – important information to protect yourself and your community

You have received this letter because you have been at a location where avian influenza virus has been detected. If you have any questions after reading this letter, please contact your local public health office or Health Links – Info Santé at 204-788-8200 or toll-free at 1-888-315-9257.

What is avian influenza?
Avian influenza is a contagious viral infection that mainly affects birds but can sometimes infect humans and other mammals. Human infections with avian influenza are rare and usually occur after close contact with infected birds or highly contaminated environments such as poultry farms or live animal markets. Most avian influenza viruses are rarely spread from person-to-person.

What is the risk to me?
Although the risk is generally low, it is possible for people to become infected with an avian influenza virus if they have contact with a living or dead infected bird or animal or its feces, respiratory secretions, products or contaminated surfaces. Another concern is if a person is infected with both an avian influenza virus and a human influenza virus at the same time. The two viruses can exchange information leading to mutations in the virus. Mutations in influenza viruses can allow them to spread more easily between people or cause more severe illness. When these changes occur, there is the risk that large scale human outbreaks may start. For this reason, it is important for everyone to follow public health and workplace safety recommendations to help prevent outbreaks.

How do I protect myself and others when exposed to an avian influenza outbreak?
The following safety guidelines should be followed when at a site with an avian influenza outbreak:

- You should receive the current season's influenza vaccine as soon as possible and ideally two weeks before planned work or other exposure. Although the vaccine will not protect you from avian influenza, it will lower your risk of being infected with both avian and human influenza viruses at the same time. The vaccine can be obtained free from your local pharmacy, health care provider or public health. For more information on where to access the vaccine, please visit: manitoba.ca/respiratoryviruses/vaccinefinder.html.

- Follow personal protective measures while exposed including wearing disposable gloves, protective clothing and shoes, safety goggles and disposable fit-tested masks (particulate respirators, N95 type). After contact with living or dead infected birds or animals, products or contaminated surfaces and after removal of personal protective equipment, wash your hands with soap and water thoroughly for at least 15 seconds. Full safety precautions should be reviewed with your supervisor and/or workplace health and safety representative before entering the site.
- Watch for signs of illness such as fever, respiratory symptoms (e.g., cough, sore throat, runny nose, and difficulty breathing), eye irritation including redness or tearing, or other flu-like symptoms for 10 days after your last exposure to live or dead avian influenza-infected birds or animals, products, secretions or contaminated surfaces. Early symptoms may also include diarrhea or vomiting.
- If you have had significant exposure to the infected birds or animals or contaminated surfaces without wearing protective equipment, it is recommended that you see your health care provider within 24 to 48 hours to discuss if you should receive treatment to prevent infection. Post-exposure treatment may be recommended for people at higher risk of complications from influenza or have had intense exposures.

If you develop symptoms:

- Seek immediate medical care. Notify the health care provider of your exposure to avian influenza and take this letter from public health with you so they can take proper precautions and prescribe appropriate testing and treatment. Treatment is most effective if given within 48 hours of onset of symptoms so see your physician right away.
- Notify Health Links – Info Santé at 204-788-8200 or toll-free at 1-888-315-9257, who will notify your local public health office that you have developed symptoms. Your local public health office will contact you.
- You may wish to notify your workplace health and safety representative, if applicable.
- Except for visiting your health care provider, stay home and minimize contact with others until you are advised by your local public health office that you can return to normal activities (usually 24 hours after you no longer have symptoms).

For more information, please visit:

- Manitoba Health: www.gov.mb.ca/health/publichealth/environmentalhealth/avian.html
- Manitoba Agriculture: www.gov.mb.ca/agriculture/animal-health-and-welfare/animal-health/avian-influenza-and-your-farm.html
- Health Canada: www.canada.ca/en/public-health/services/diseases/avian-influenza-h5n1.html
- Canadian Food Inspection Agency: inspection.canada.ca/animal-health/terrestrial-animals/diseases/reportable/avian-influenza/eng/1323990856863/1323991018946

Sincerely,

Communicable Disease Control Unit
Public Health Division
Health, Seniors and Long-Term Care

FOR HEALTH CARE PROVIDERS

Guidance for testing and treatment post-avian influenza exposure in someone with symptoms:

If the patient is presenting with fever, respiratory symptoms, conjunctivitis or other influenza-like illness with symptom onset within 10 days of last exposure to live or dead avian influenza infected animals, products, secretions or contaminated surfaces, please do the following:

- Use airborne, droplet and contact precautions when in contact with the patient (i.e.: fit-tested N95 respirator, protective eye wear, gowns, and gloves). Perform hand hygiene with donning and doffing of personal protective equipment. For more information, see Appendix VIII and IX– Elements That Comprise Airborne, Droplet and Contact Precautions in the Routine Practices and Additional Precautions document: www.gov.mb.ca/health/publichealth/cdc/docs/ipc/rpap.pdf.
- Notify the local public health office by completing a clinical notification form found here: www.gov.mb.ca/health/publichealth/cdc/protocol/mhsu_0013.pdf.
- Obtain a nasopharyngeal swab for influenza virus testing. On the laboratory requisition, specify under clinical indication/history: “Exposure to avian influenza”.
- Prescribe antiviral treatment, unless contraindicated. Oseltamivir is the preferred treatment. Ideally, treatment should be started within 48 hours of symptoms onset but can be considered if patient is presenting after that. Note: if avian influenza infection is suspected, antiviral treatment should be provided without delay; waiting for laboratory confirmation is not recommended. If laboratory testing is negative for influenza virus, antiviral treatment can be stopped.

Guidance for post-exposure antiviral prophylaxis for individuals who have had significant avian influenza exposure and are asymptomatic:

Prophylaxis with influenza antiviral medications can be considered for the purposes of protecting the individual and/or preventing further transmission. Prophylaxis can be started up to 10 days after the last exposure. Canadian guidelines for H5N1 recommend offering prophylaxis to those at high risk of exposure to avian influenza, and consideration of prophylaxis to those at intermediate risk of exposure to avian influenza. To assess the risk level to the exposure of avian influenza, consider the following factors:

- the use of PPE, and whether any breaches occurred,
- the type and duration of exposure (e.g. farm workers working directly with affected birds/ animals or contaminated surfaces, open air vs closed air environment),
- the time since exposure.

Refer to Table 1 in section 11.4.1 of the Interim Public Health Guidelines for H5N1 Avian Influenza for further information on exposure categories: www.gov.mb.ca/health/publichealth/environmentalhealth/docs/avian_interim_guidelines.pdf. The decision to initiate post-exposure antiviral prophylaxis should also consider factors such as the individual's underlying medical condition and risk of progression to severe disease.

If post-exposure antiviral prophylaxis is initiated, treatment dosing for oseltamivir (twice daily dosing) has been recommended instead of the typical antiviral prophylaxis regimen (once daily) used for seasonal influenza. Antiviral post-exposure prophylaxis should begin as soon as possible (ideally within 48 hours) after the first exposure to the symptomatic confirmed or probable case and should be provided for 10 days.