

Irish Guidelines for the Public Health Management of Human Cases of Influenza (A/H5N1) and their Contacts

November 2008

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Background Information

Avian Influenza

- Avian Influenza (AI) or “bird flu” is an infectious disease of birds caused by type A strains of the influenza virus. All birds are thought to be susceptible to infection.
 - Avian Influenza A/H5N1 has caused the largest outbreak in birds both wild and domestic on record since late 2003. Despite culling more than 150 million birds, it has become endemic in parts of South East Asia and has spread to Europe.
 - Migratory waterfowl most notably wild ducks are the natural reservoir of avian influenza viruses, and these birds are also the most resistant to infection.
 - Direct or indirect contact of domestic flocks with wild migratory waterfowl has been implicated as a frequent cause of epidemics of highly pathogenic avian influenza (HPAI).

- In domestic poultry, infection with avian influenza causes two main forms of disease, distinguished by low and high extremes of virulence. Only viruses of the H5 and H7 subtypes are known to cause the highly pathogenic form of the disease.
 - Current knowledge suggests that H5 and H7 viruses are introduced to poultry flocks in their low pathogenic form. When allowed to circulate in poultry populations, the viruses can mutate, usually within a few months, into the highly pathogenic form. **This is why the presence of H5 or H7 virus in poultry is always a cause for concern, even when the initial signs of infection are mild.**

- The document: ***“The Guidance on the Public Health Actions to be taken on Notification of Avian Influenza (AI) in Birds in Ireland”*** clearly details the human health actions necessary in the event of an outbreak of AI in birds.

Why is there concern about Avian Influenza A/H5N1 in humans?

Of all the influenza viruses that circulate in birds, the H5N1 virus is of greatest concern for human health for two reasons:

- The H5N1 virus has crossed the species barrier to infect humans in recent years: in Hong Kong in 1997 (18 cases with six deaths), in Hong Kong in 2003 (two cases with one death). Prior to this, H5N1 was not known to infect humans.
- While AI is mainly an animal health issue, the risk to the human population is confined to those who have been in close contact with infected birds or their droppings, or to those involved in outbreak control activities.
- AI in humans takes an extremely aggressive clinical course with severe disseminated disease affecting multiple organs and systems. There is usually rapid deterioration and high fatality rates. It causes death in more than 50% of those affected. Most cases to date have occurred in previously healthy children and young adults.

The greatest implication for human health is that the H5N1 virus will remain endemic and that continued transmission to humans and other animals will provide opportunities for human and avian viruses to exchange genes (reassortment) to produce a virus that can replicate in humans. Another fear is that the H5N1 virus may slowly adapt to become more infectious in humans.

In a human population with no pre-existing immunity, such a virus could trigger a global influenza pandemic.

What plans are in place?

In 2005, the World Health Organisation developed a [global influenza preparedness plan](#), which defines the responsibilities of WHO and national authorities in the occurrence of an influenza pandemic.⁽¹⁾ This plan incorporates new scientific data and experience obtained during recent outbreaks that had pandemic potential. It defines the phases of increasing public health risk associated with the emergence of a new influenza virus

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subtype that may pose a pandemic threat, recommends actions for national authorities and outlines measures to be taken by WHO at each phase. The various pandemic phases may be seen in Appendix 1.

We are currently in **Pandemic Alert Period, Phase 3**. This phase refers to the presence of human infection(s) with a new influenza virus sub-type, but no human-to-human spread, or at most rare instances of spread to a close contact.

WHO is regularly assessing the risk of human-to-human transmission. Should evidence of human-to-human transmission be substantiated, WHO will raise the pandemic influenza alert level to Phase 4, corresponding to “small cluster (s) with limited human-to-human transmission but spread is highly localised suggesting that the virus is not well adapted to humans.” ⁽¹⁾

Purpose of this Document

The purpose of this document is to set out the current guidance as to how human cases of influenza A/H5N1 will be managed in Ireland, which is currently free from any influenza A/H5N1 activity in animals.

In the event of influenza A/H5N1 being detected in humans, healthcare professionals will be required to ensure:

- 1. Early detection of cases**
- 2. Appropriate clinical management and infection control practices**
- 3. Prompt reporting of any suspected, probable or confirmed human cases of Influenza A/H5N1 (See Section B for Case Definition).**
- 4. Contact tracing to identify any common exposure.**

In the event of a person presenting with an acute respiratory illness and fulfilling the criteria of the case definition for influenza A/H5N1, appropriate clinical management and adherence to infection control guidelines will be

crucial. This is to ensure the best possible outcome for the patient. It is also important that contacts are identified and managed appropriately. This will entail assessment of contacts for post exposure prophylaxis, administration of seasonal influenza vaccine to contacts and monitoring for development of symptoms.

Surveillance, which underpins many of the above actions, is critical to the public health management of human cases of influenza A/(H5N1) as it ensures:

- ❑ Early identification and tracking of cases
- ❑ Timely reporting as human transmission of influenza A/(H5N1) anywhere in the world has global implications
- ❑ Identification, evaluation and monitoring of contacts of human cases for potential spread of disease
- ❑ Real-time data analysis
- ❑ Dissemination of updated information to assist in the detection and containment of the disease

Contact Tracing

Rigorous follow-up of contacts of probable or confirmed human cases of influenza A/H5N1 is one of the critical public health actions, which will be employed in an attempt to identify person-to-person viral transmission and to prevent or delay influenza outbreaks and evolution to a pandemic. ^ψ

Contact tracing will be ongoing during Pandemic Phases 3 to 5 and will cease at Phase 6, when increased and sustained transmission of the new pandemic virus in the general population will be occurring (Appendix 1).

^ψ In certain situations, depending on the circumstances i.e. if there are avian influenza A/H5N1 outbreaks in Ireland and the index case originates here; consideration may be given to undertaking follow-up of contacts of suspected cases.

Layout of the Document

The document is divided in to two sections; Section A and Section B, contents of which are outlined below:

Section A: This comprises an [algorithm](#) for the management of persons with acute febrile respiratory illness who may have influenza A/H5N1 i.e. returning travellers and visitors from countries affected by avian influenza and people with close contact with sick poultry and/or wild birds.⁽²⁾

Section B: This section sets out what happens when a human case of influenza A/H5N1 is suspected in terms of:

- The notification process
- The control measures applicable locally, regionally and nationally
- The specific public health management of cases including the identification of contacts and the subsequent management of these contacts.

The following appendices will assist when dealing with contacts.

Appendix 4: Algorithm for the management of persons with acute febrile respiratory illness who may have Avian Influenza: web link
Appendix 6: Contact Surveillance form
Appendix 7: Algorithm for doctors prescribing oseltamivir as prophylaxis for avian influenza
Appendix 8: Information for those who have been in contact with a human case of influenza A/H5N1
Appendix 10: Template letter to GP for contacts of human case
Appendix 11: Information leaflet on Oseltamivir

Section B

Introduction

These guidelines outline the public health management of suspected, probable and confirmed cases of influenza A/H5N1 and their contacts.

Case Definition for Influenza A/H5N1 in Humans (WHO)

The case definition for influenza A/H5N1 which is used in Ireland is the case definition developed by the World Health Organisation and issued in August 2006. It is notable that this case definition applies to the current phase of pandemic alert (Phase 3) and may change as new information about the disease or its epidemiology becomes available.

This case definition is defined by a set of clinical, epidemiological and microbiological criteria and is classified as Person under Investigation (PUI), suspected case, probable case and confirmed case. These definitions are outlined as follows:

Person Under Investigation

A person whom public health authorities have decided to investigate for possible influenza A/H5N1 infection.

Suspected case of Influenza A/H5N1

A person presenting with unexplained acute lower respiratory illness with fever (>38 °C) and cough, shortness of breath or difficulty breathing.

AND

One or more of the following exposures in the 7 days prior to symptom onset:

- a. Close contact (within 1 metre /3 feet) with a person (e.g. caring for, speaking with, or touching) who is a suspected, probable, or confirmed H5N1 case

- b. Exposure (e.g. handling, slaughtering, defeathering, butchering, preparation for consumption) to poultry or wild birds or their remains or to environments contaminated by their faeces in an area where H5N1 infections in animals or humans have been suspected or confirmed in the last month

- c. Consumption of raw or undercooked poultry products in an area where H5N1 infections in animals or humans have been suspected or confirmed in the last month

- d. Close contact with a confirmed H5N1 infected animal other than poultry or wild birds (e.g. cat or pig)

- e. Handling samples (animal or human) suspected of containing H5N1 virus in a laboratory or other setting.

Probable case of Influenza A/H5N1

Probable definition 1:

A person meeting the criteria for a suspected case

AND

One of the following additional criteria:

- a. infiltrates or evidence of an acute pneumonia on chest radiograph plus evidence of respiratory failure (hypoxemia, severe tachypnoea)

OR

- b. positive laboratory confirmation of an influenza A infection but insufficient laboratory evidence for H5N1 infection.

Probable definition 2:

A person dying of an unexplained acute respiratory illness who is considered to be epidemiologically linked by time, place, and exposure to a probable or confirmed H5N1 case.

Confirmed Case of Influenza A/H5N1

A person meeting the criteria for a suspected or probable case

AND

One of the following positive results conducted in a national, regional or international influenza laboratory whose H5N1 test results are accepted by WHO as confirmatory:

- a. Isolation of an H5N1 virus
- b. Positive H5 PCR results from tests using two different PCR targets, e.g. primers specific for influenza A and H5 HA
- c. A fourfold or greater rise in neutralization antibody titre for H5N1 based on testing of an acute serum specimen (collected 7 days or less after symptom onset) and a convalescent serum specimen. The convalescent neutralising antibody titre must also be 1:80 or higher;
- d. A microneutralisation antibody titre for H5N1 of 1:80 or greater in a single serum specimen collected at day 14 or later after symptom onset and a positive result using a different serological assay, for example, a horse red blood cell haemagglutination inhibition titre of 1:160 or greater or an H5-specific western blot positive result.

Notification Process for a Suspected, Probable or Confirmed Human Case of Influenza A /H5N1

Introduction

An [algorithm](#) for the management of persons with acute febrile respiratory illness who may have Influenza A/H5N1 has been developed and has been sent to all GPs and hospitals.⁽²⁾ Reporting procedures are set out and clinicians are advised to inform Public Health when a suspected case is being investigated. (See algorithm in Appendix 4 and Appendix 2 for notification procedure).

This may happen following on from an outbreak of avian flu in poultry or when a returning traveller or a visitor from countries affected by avian influenza presents to a GP or to an A&E department. This may just be a single isolated case (Appendix 4) or in some circumstances it may be more than one case and result in an outbreak.

Note: Fast exchange of information and prompt notification are essential in enabling a rapid response so that control measures can be implemented as soon as possible.

Notification

If the investigation reveals that the case is either suspected, probable or confirmed influenza A/H5N1 the clinician is required to immediately notify the HSE-area Director of Public Health/Medical Officer of Health (DPH/MOH).

The steps to be undertaken in the notification process are outlined below. These steps apply to Pandemic Phases 4 and 5.

Note: For Pandemic Phase 3, the same steps will be followed in the process except it will **only** apply to **PROBABLE AND CONFIRMED CASES**. **National authorities must formally notify only probable or confirmed cases of influenza A/H5N1 to WHO.**

1. **On first notification of a suspected, probable or confirmed case, the Area DPH/MoH will notify:**
 - The Health Protection Surveillance Centre (HPSC) (Director or responsible SPHM) and
 - The Assistant National Director of Population Health-Health Protection

2. **The Director of HPSC will inform:**
 - National Virus Reference Laboratory (NVRL)
 - CDSC Northern Ireland,
 - The National Pandemic Influenza Expert Group including the Department of Agriculture and Food (DAF),
 - EU Early Warning and Response System (EWRS),
 - European Centre for Disease Prevention and Control (ECDC)
 - World Health Organisation (WHO)

3. **The Assistant Director of Population Health–Health Protection will inform:**
 - The National Director of Population Health
 - The Assistant National Director of Population Health-Emergency Planning
 - Chief Medical Officer (CMO) and
 - Will liaise with the Department of Health and Children (DoHC) to inform all other relevant government departments and agencies.

4. **If the suspected, probable or confirmed case is first notified to HSE-HPSC the Director of HPSC to notify the following:**
 - Director of Public Health (MOH) in the affected HSE area

- National Assistant Director of Population Health-Health Protection
- National Director of Population Health
- Assistant National Director of Population Health-Emergency Planning
- Chief Medical Officer (CMO)
- National Virus Reference Laboratory
- The National Pandemic Influenza Expert Group and DAF
- CDSC Northern Ireland,
- ECDC
- EU-EWRS (Depending on the Phase) and
- WHO

The HSE-area DPH/MOH should then consider the need to put on standby alert or to activate the Regional Public Health Emergency Plan (RPHEP). This may result in the establishment of the Regional Crisis Management Team.

Public Health Response

Outbreak Control and Management

One or more human case (s) of influenza A/H5N1 should be considered an outbreak. An outbreak team (OCT) should be convened. This will usually be the regional OCT but it may be necessary in some instances to convene a national OCT (See section on National Outbreak Control Team). This multidisciplinary, multiagency group has responsibility for coordinating the investigation of the incident/outbreak and for the implementation of control measures. The outbreak investigation will cover the following areas:

- Case Management
- Epidemiological investigation
- Laboratory investigation
- Contact Management
- Risk Communication

(The membership of the Regional and National Outbreak Control Teams is outlined in Appendix 3.)

The remit of the Regional OCT is outlined under the following headings:

Case Management

- The role of this investigation is to reduce to a minimum the number of cases of illness by promptly recognising the incident, defining how cases have been exposed, identifying and controlling the source of exposure and preventing secondary exposure.

Epidemiological Investigation

- Collect information, which will be of use in better understanding the nature and origin of the incident and how to best prevent and manage future incidents.

Laboratory Investigation

- Liaise with clinicians and NVRL to ensure that all specimens for examination on human cases are taken correctly and transported to the laboratory in accordance with agreed protocols. (Protocols to agreed by OCT and NVRL in liaison with clinicians)

Contact Management

- Identify all contacts and ensure provision of post exposure prophylaxis with oseltamivir to all relevant contacts of the index case within 48 hours of exposure.
- Ensure provision of seasonal influenza vaccine to all unvaccinated contacts
- Ensure provision of information on influenza A/H5N1 to all contacts including information on infection control measures
- Ensure the institution of clinical surveillance for symptoms of influenza A/H5N1 in all contacts as soon as identified as a contact (including provision of a digital thermometer and record sheet)
- Inform the contact's GP of their contact status

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Communications

- Plan the media and communications campaign in conjunction with HPSC
- Inform the public and the media of the health risks associated with the incident and how to minimise these risks
- Provide information on influenza A/H5N1 to all relevant professionals

The OCT will meet **at least daily initially** until it is deemed appropriate to meet less frequently depending on the extent and severity of the situation.

National Outbreak Control Team

A National Outbreak Control Team will be convened if deemed appropriate following a risk assessment.

1. It will be co-ordinated by HPSC in liaison with the Assistant Director of Population Health-Health Protection and will include specialist(s) in public health medicine from the HSE area where the case is occurring.
2. It will work in collaboration with the Regional OCT and will assist in the co-ordination of the tasks undertaken by the Regional Outbreak Team, which will include:
 - a. Epidemiological investigation of cases
 - b. Management of contacts and
 - c. It will also lead on additional surveys e.g. serosurveys, modelling etc. Staff may also be redeployed from the ECDC on request.
3. The National and Regional OCTs will consider in conjunction with the Assistant National Director of Population Health-Health

Protection the public health surge capacity and the need for additional resources and/or redeployment of resources e.g. redeployment of staff to assist in the field investigation if required.

Reporting and Dissemination of Information

1. Daily reports on the number of cases and contacts (results of epidemiological investigation) will be forwarded to HPSC by HSE-areas for the purposes of national surveillance and also for producing reports for international partners such as ECDC, EU and WHO. HPSC will report to ECDC and WHO on a daily basis
2. The HPSC will provide a daily situation report on the number of cases and contacts to the Assistant National Director of Population Health-Health Protection.
3. The Assistant National Director of Population Health-Health Protection will provide daily reports to the National Director of Population Health and the Department of Health and Children.
4. HPSC to review laboratory testing protocols and arrangements in collaboration with NVRL. Details of protocols and arrangements will be conveyed to HSE area.
5. HPSC to liaise closely with the Department of Agriculture and Food re findings of enhanced veterinary surveillance if appropriate.
6. HSE areas to liaise with HPSC and NVRL re evidence of other human influenza strains currently circulating in or near the region where the human case is identified.

Case Management and Epidemiological Investigation

On notification of a suspected, probable or confirmed human case of influenza A/H5N1, the Department of Public Health should carry out a **risk assessment** in conjunction with the HPSC, NVRL and the patient's clinician (infectious disease consultant or other relevant clinician) to assess the nature of the exposure.

This assessment is necessary not only to assess exposure, but also to identify risk factors and assess the likelihood of human-to-human transmission. HPSC staff may be seconded to assist in this field investigation.

The **Case Surveillance Form** will be used to gather data on all cases (Appendix 5). Where possible **CIDR** will be used for case management, reporting and analysis. Daily updates will be required on the progress of the case(s) as soon as significant information is available. Zero reports will also be required.

This investigation will allow the case definition to be refined and a hypothesis to be generated regarding modes of transmission. The OCT in consultation with the HPSC will then review and agree:

- The type of descriptive epidemiological data to be collected,
- The type of analytical epidemiological study to be undertaken
- Data collection processes,
- Questionnaires and methods of data collation and
- Analysis and reporting formats.

Epidemiological investigation should commence as soon as possible following confirmation of the probable or confirmed human case of influenza A/H5N1.

Active surveillance and case finding for further probable and confirmed cases will entail the dissemination of **updated case definitions, notification mechanisms** and **algorithms for clinical assessment** to all relevant stakeholders: public health, occupational health, GPs and hospital clinicians. If further cases are identified, the [algorithm](#) for investigation should be followed. (Section A)

Any further cases should be reported immediately to HPSC. This information will then be reported to ECDC, WHO and the European Commission.

Subsequent human cases of influenza A/H5N1 if they arise should also be investigated in order of priority as follows:

1. Cases with reported contact with a confirmed case and with no other reported risk or exposure
2. Cases with most recent dates of onset
3. Cases in healthcare workers
4. Cases that are part of a cluster
5. Cases resident in an area without reported HPAI outbreaks in the animal populations
6. Sporadic cases with no reported risk or exposure ⁽³⁾

Laboratory Investigation

The first positive laboratory identification of avian influenza A/H5N1 in humans in Ireland as per WHO recommendations should be confirmed by one of the [WHO reference laboratories](#) for diagnosis of influenza A/H5N1 infection.

In addition and until further notice, the WHO will request that all human influenza A/H5 virus isolates or samples in humans be sent to one of the WHO reference laboratories for confirmation of diagnosis of influenza A/H5N1 infection.⁽³⁾

Serological Surveys/Studies

Consider the need for special laboratory studies which may require data collection or laboratory specimen collection during or following the outbreak /case. Consider sending samples from patients for influenza A/H5N1 testing who have died but fulfilled the case definition or possibly been part of a cluster.

Clinical Specimens

- Appropriate specimens (combined nose/throat swab and /or nasopharyngeal aspirate in viral transport medium) should be sent to the

NVRL in consultation with the local DPH/MOH and Clinical Microbiologist or Infectious Disease Physician.

- The following specimens will be required to confirm influenza A/H5N1 infection:
 1. Viral specimen—combined (combined nose/throat swab and /or nasopharyngeal aspirate)
 2. Acute and convalescent blood samples for serological investigation.
- Specimens must be clearly labelled as being for investigation for influenza A (H5N1) and include details of:
 - The case definition,
 - Date of onset of illness
 - Full clinical details
 - Patient demographics.
 - Contact details of the treating Consultant Microbiologist or Infectious Disease Physician.

Communications

Agreement will be required in advance between the HSE areas, the HPSC and the National Directorate of Population Health as to who will deal with specific issues. Designated spokespersons/ experts should be identified. If this has not been done in advance, agree this as soon as possible.

Regional and local communications departments in each agency should ensure that their communications strategies include measures that will be activated in the event of a human case of avian influenza H5/N1 being notified. These measures should ensure that accurate, factual and relevant information is conveyed to the public, using methods appropriate to target audiences. Ensure HPSC and other relevant websites are updated on a daily basis or as deemed appropriate.

Procedures will be required to ensure that timely information is communicated to HSE staff so that they can comply fully with what they are required to do in

terms of outbreak control measures so that they minimise risk to themselves and the public.

Public health personnel involved in management of contacts/workers involved in outbreak control should have access to real time information, which they can use in dealing with particular queries. This information should be in multilingual format taking account of variations in literacy levels.

The main public health messages that need to be communicated at the time are:

- The virus does not spread easily from birds to humans or readily from person-to-person. Human infections remain a rare event.
- At present, the risk to the human population is confined to those who have been in close contact with infected poultry and other domestic birds, their droppings, or to those involved in outbreak control activities. Close contact with infected poultry and other domestic birds remains the most important source of human infections. This situation may change in time if the virus adapts to become more infectious to humans.
- To date, no human cases have been linked to exposure to wild birds or domestic cats. Precautions are being taken for those at risk, i.e. use of personal protective equipment (PPE) and oseltamivir
- Good personal hygiene, i.e. washing your hands with soap and water will protect against infectious diseases, including AI
- Careful preparation and eating properly cooked poultry and eggs do not pose a threat to human health

Contact Tracing / Management

On notification of a probable or confirmed human case of influenza A/H5N1, the Department of Public Health should carry out a **risk assessment** in conjunction with the HPSC, the NVRL and the patient's clinician (infectious

disease consultant or other relevant clinician) to assess the degree of infectiousness of the index case and whether close contacts have had significant exposure to the index case.

Definition of a contact

A contact of a human case of avian influenza H5N1 is defined as having been in close contact (within one metre/three feet) with the symptomatic index case reported as a probable or confirmed case of influenza A/H5N1 within the past seven days. **(Adapted from HPA).**

A household contact is defined as any person sharing living accommodation or on an overnight stay with the index case while he/she is symptomatic and within the past seven days. It is assumed that the case will be symptomatic if he/she presents clinically.

A healthcare worker contact is defined as a healthcare worker engaged in the clinical care or examination of a symptomatic index case irrespective of the use of PPE.

Post exposure chemoprophylaxis and active daily surveillance will only be required for household and healthcare worker contacts. Management of other contact types is laid out in Table 1 below.

Contact Tracing Actions

Public health will be responsible for the identification and follow-up of contacts of all probable or confirmed human cases of influenza A/H5N1. In certain situations, depending on the circumstances i.e. if there are avian influenza A/H5N1 outbreaks in Ireland and the index case originates here, consideration may be given to undertaking identification and follow-up of contacts of suspected cases. This should be decided following the risk assessment outlined below.

Risk Assessment

This will include:

- **Identification** of all potential contacts and
- The **assessment** of their level of exposure

The risk assessment should include consideration of the following:

1. The likelihood that the virus is circulating at a particular location e.g. laboratory confirmation in a poultry flock or wild birds or of other human cases
2. Nature and duration of exposure to the case i.e. household contact, healthcare worker caring for the case, workplace contact etc.
3. The status of the case i.e. suspected, probable or confirmed. If the case is a suspected case of influenza A/H5N1 and laboratory results are not available, consider the likelihood of confirmation taking the travel history and symptoms into account.
4. Likelihood that the virus is transmitted from person-to-person with moderate to high efficiency.
5. The feasibility of conducting contact tracing given the short incubation period of influenza

The greatest risk is most likely to those who are household contacts and have had very close contact with the case over a continuous period of time in the past seven days **and** to healthcare workers who have been engaged in the clinical care or examination of a symptomatic index case.

Also, if there is a small cluster of human-to-human transmission occurring or the virus is becoming increasingly better adaptable to humans (Phase 4 and 5 -Appendix 1), then the risk will also increase.

Potential Contacts

A **list of potential contacts** (including household and healthcare contacts) of each probable and confirmed case will be compiled recording the following:

- The date of their last contact with the case (s)
- The number of contacts per case

This may involve interviewing the case or surrogates where necessary. A more comprehensive list of all suspected contacts should also be considered e.g. persons who may work in the same building, school, college, leisure centre etc. but do not meet the definition of a contact as described above.

Assessment of level of exposure

Level of exposure will be determined using the following information:

- Relationship to the case
- Nature and duration of exposure
- Has the contact received antiviral prophylaxis
- Has the contact been vaccinated with seasonal influenza vaccine or
- Number of days between onset of symptoms (case) and reporting to public health.

The **contact surveillance form** for avian influenza H5/N1 should be completed for each contact of a probable or confirmed case (Appendix 6). Obtain and record daily updates on the progress of the contacts as part of daily active surveillance. **Provide zero reports also.**

HSE areas will forward details of all contacts of probable and confirmed avian influenza H5/N1 to HPSC.

If the avian influenza contact-tracing module of **CIDR** is operational at this point, it should be used where possible for contact management, reporting and analysis. If not, then an interim access based contacts database will be provided by HPSC for use locally.

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Management of Household and Healthcare Worker Contacts

For the above contact categories, the following actions should be undertaken by public health:

1. Record demographic details, contact details and the exposure history using the contact surveillance form (Appendix 6).
2. Prophylaxis with oseltamivir must be given as soon as possible and within 48 hours of exposure (if greater than 48 hours discuss with HPSC). Oseltamivir 75mg daily for 10 days following last exposure (see Appendix 4).
 - Provide them with information leaflet on oseltamivir (Appendix 11).
 - If possible obtain a convalescent blood specimen (10ml clotted) 28 days after last contact with the index case and send to NVRL for analysis.
3. Arrange that all contacts are immunised with current human influenza vaccine (if they are not already immunised); local arrangements with GPs may be required.
4. Institute voluntary home quarantine of all household and healthcare contacts **if human-to-human transmission is occurring**. Provided the contact does not become *symptomatic*, *quarantine should be implemented for 7 days from the day of the last exposure OR until the diagnosis of influenza A/H5N1 has been excluded in the index case (pertains to suspected and probable cases)*. The period of quarantine may be subject to revision depending on the features of the virus.
5. Provide all contacts with clear public health recommendations and information on avian influenza – (Appendix 8 and 9)
6. Inform the contact's GP that the person is being monitored as a contact and what measures are being taken (Appendix 10)

7. Public Health to coordinate daily active follow-up by telephone. Ask contacts to self-monitor for the development of fever (twice daily), respiratory or other symptoms for seven days after the last exposure to a probable or confirmed case of influenza virus A (H5/N1).
8. Contacts should be provided with a public health contact number for queries and also if they develop symptoms. (Appendix 8)
9. Provide a digital thermometer and record sheet for twice-daily oral temperature readings.

If they develop **any** of the following:

- Temperature $\geq 38^{\circ}\text{C}$
- Cough
- Shortness of breath
- Sore throat, runny nose
- Watery diarrhoea, stomach pain, nausea or vomiting

They should seek medical assessment immediately (clinic/hospital) as agreed in advance locally with Public Health.

10. Provide a small supply of surgical masks to be used if symptomatic.
11. Advise all contacts to strictly adhere to all Infection Control precautions as follows:

- Avoid touching their faces, including their eyes and mucous membranes with their hands
- Wash hands frequently This means washing with soap and running water for a minimum of 15-20 seconds or the use of an alcohol based hand sanitizer if the hands are not visibly soiled.

Table 1 outlines the management of all other contact types of probable or confirmed human cases of influenza A/H5N1.

Table 1. Management of contacts of probable and confirmed human cases of influenza A/H5N1[Ⓜ]

Contact Type	Action
Close contact other than household contact or healthcare worker caring for index case	Prophylaxis not indicated Self-monitor for the development of fever (twice daily), respiratory or other symptoms for seven days after the last exposure to a probable or confirmed case of influenza virus H5/N1. Active follow-up will be done by Public Health by telephone
Travel Contact (air, coach) Travel lasting more than 4 hours at a time when the index case is symptomatic. For non-enclosed travel e.g. trains, ferries follow rules for close contact other than household.	Prophylaxis not indicated. If possible via airline/tour operator trace all other passengers and cabin crew and institute self monitoring for the development of fever (twice daily), respiratory or other symptoms for seven days after the last exposure to a probable or confirmed case of influenza virus H5/N1
Holiday contact of index case i.e. sharing the same package holiday, travel tour or itinerary (risk of common exposures)	Prophylaxis not indicated. If possible via tour operator trace all other passengers and cabin crew and institute self monitoring for the development of fever (twice daily), respiratory or other symptoms for seven days after the last exposure to a probable or confirmed case of influenza virus
Contact other than above i.e. casual contact	Prophylaxis or follow up not indicated

Note 1:

Contact tracing, monitoring and quarantine of close contacts of probable or confirmed cases of influenza A/H5N1 will only be undertaken during Pandemic Phases 3 to 5 and may only be effective in special situations during the earliest stages of the pandemic i.e. Phase 6. **As previously stated tracing of contacts of probable or confirmed cases will cease at Phase 6.** At this point, there will be increased and sustained transmission in the general population and the feasibility and usefulness of these measures will be limited so community based measures that reduce disease transmission by social distancing will be implemented.

[Ⓜ] Certain situations, depending on the circumstances i.e. if there are avian influenza A/H5N1 outbreaks in Ireland and the index case originates here; consideration may be given to undertaking follow-up of contacts of suspected case

Other ongoing surveillance activities to consider at this point

1. HPSC to liaise with NVRL to undertake enhanced laboratory surveillance of non-sentinel samples in order to monitor influenza isolates and also to detect novel influenza strains in travellers returning from areas affected by outbreaks of avian influenza.
2. Institute cluster surveillance of respiratory tract infections and pneumonia both in the community and in healthcare settings.
3. HPSC to liaise with the General Register's Office (GRO) and HSE areas to increase mortality surveillance for influenza and pneumonia deaths.
4. Surveillance of cases of influenza and pneumonia in intensive care units should also be instituted. This will provide valuable information on the clinical course and outcome of the infection.
5. Ensure a mechanism is in place for prompt detection of unusual morbidity and mortality due to acute respiratory illness e.g. pneumonia with triggers to prompt laboratory investigation and appropriate public health measures.

References

1. WHO. WHO Global Influenza Preparedness Plan. www.who.int . 2005.
2. HPSC. Algorithm for the management of persons with acute febril respiratory illness who may have avian influenza. www.hpsc.ie . 2007.
3. WHO. WHO guidelines for global surveillance of influenza A/H5. 2004.