



HSE Public Health: Health Protection

Management of contacts of highly pathogenic avian influenza H5N1 clade 2.3.4.4b

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List of Abbreviations

PHAs	Public Health Area
DAFM	Department of Agriculture, Food and Marine
HPAI	Highly Pathogenic Avian Influenza
UK-HSA	UK – Health Security Agency
BCCDC	British Columbia Centre for Disease Control
PPE	Personal Protective Equipment
IPC	Infection, Prevention and Control
NAS	National Ambulance Service
NVRL	National Virus Reference Laboratory
ECDC	European Centre for Disease Prevent and Control
BCCDC	British Columbia Centre for Disease Control
WOAH	World Organisation for Animal Health
IP	Infected Premises
PEP	Post-exposure Prophylaxis
RNA	Ribonucleic acid
rt PCR	Realtime PCR

1.0 Introduction

Since October 2021, there has been an unprecedented change in the epidemiology of highly pathogenic avian influenza (HPAI) of the subtype H5N1 in wild birds. In addition to affecting wild bird populations, the virus has passed into mammals). The currently circulating H5N1 strain - H5N1 clade 2.3.4.4b - is highly pathogenic to birds and has been responsible for large numbers of outbreaks resulting in millions of bird deaths. This has resulted in large numbers of human exposure events since 2020. However, only a very small number of human cases have been detected since January 2022.

To date, no significant symptomatic infection has been identified and reported in Europe (European Centre for Disease Prevention and Control) [ECDC Risk assessment H5 clade 2.3.4.4b viruses¹](#), or in the US. Four severe cases of infection due to H5N1 clade 2.3.4.4b (including a single death) have however been reported two in China, and two in South America. In Europe, individuals – all of whom were asymptomatic - who have recently had H5N1 RNA detected in respiratory samples, had been living with or working with H5N1 clade 2.3.4.4b-infected poultry. In the UK, such cases were detected part of a national swabbing exercise of close contacts, and the majority of these are considered to be contaminations.

Currently, H5N1 clade 2.3.4.4b has not developed significant adaptive genetic changes to enable human-to-human transmission, and lacks the ability preferentially to bind to sialic acid receptors in the human upper respiratory tract, further impacting its ability to readily infect or transmit among humans (see CDC – [Technical Report: Highly Pathogenic Avian Influenza A\(H5N1\) Viruses](#))².

The most up to date national and international epidemiological information is available from ECDC³ [here](#), the World Organisation for Animal Health (WOAH)⁴ [here](#) and Department of Agriculture, Food and the Marine⁵ [here](#).

The [Area Public Health Teams](#) lead the regional public health response to HPAI incidents involving large-scale commercial poultry establishments and smaller backyard premises, as well as smaller incidents involving wild birds or mammals. Responding to these incidents requires coordinated collaboration with animal health colleagues including the Department of Agriculture, Food and Marine (DAFM).

This guidance has been developed by a working group on national health protection and reviewed by the National HSE/DAFM/HPAI Coordination Group. It is an update of previous guidance of dating from 2017 and reflects the

emergence of the H5N1 clade. We wish to acknowledge that we have adapted guidance from British Columbia Centre for Disease Control (BCCDC)⁶. We acknowledge permission from the United Kingdoms' Health Security Agency (UKHSA) to adapt their guidance⁷. This is a live document and will be revised in line with emerging developments and updated evidence.

1.1 Scope of this Guidance

This document provides the minimum necessary information to 1) identify and control veterinary incidents of public health significance involving H5N1 clade 2.3.4.4b and 2) establish rapid and effective public health control over such an incident. It also serves as a portal to supplementary and explanatory documentation related to HPAI management and control.

This document provides updated guidance for human health and animal health staff on:

- definition of a probable case of HPAI H5N1 in birds, wild birds, and mammals (see [section 4.0](#))
- categorisation of exposure risk to guide subsequent management (see [Algorithm 1](#))
- public health follow-up of contacts who were wearing personal protective equipment (PPE) during exposure (see [Appendix 5](#) and [Algorithm 1](#))
- public health follow-up of contacts who were not wearing PPE during exposure or had a breach in PPE (see [section 7.3](#) and [Algorithm 1](#))
- use of asymptomatic swabbing for certain categories of contact
- management of symptomatic contacts under PH surveillance [[Algorithm 2](#)]
- management of possible human AI cases not under public health surveillance [[Algorithm 3](#)]

2.0 Purpose

The purpose of this document is to provide guidance for management of confirmed or suspected incidents involving H5N1 clade 2.3.4.4b. **All guidance in this document refers is specific to H5N1 clade 2.3.4.4b.** For all other subtypes

of avian influenza, please refer to existing HPSC guidance found [here](#). For full details of appropriate PPE for occupational exposures to birds/ mammals please refer to [Appendix 5](#).

3.0 Definitions

3.1 Animal Health Definitions

Throughout this document “mammal” is used to indicate any mammalian species apart from humans.

3.1.1 Animal case definitions

I. Confirmed Case of H5N1 clade 2.3.4.4b in animal

- i. A bird or mammal that has tested positive for Influenza A virus subtype H5N1 and characterised as HPAI (usually processed at the Department of Agriculture, Food, and the Marine (DAFM) Laboratories, Backweston).

II. Suspect/Probable Case in a wild bird

- i. A probable case is a dead or ill bird of a species known to be susceptible to the H5N1 that is found within an area where the virus is known to be circulating.

III. Suspect/Probable case in a wild mammal

A suspect/probable case in a wild mammal is any mammal, particularly a carnivore that has:

- been found dead or exhibiting clinical signs which are consistent with Influenza A virus infection i.e., neurological signs or respiratory signs, **AND**
- had confirmed or highly probable contact¹ with a suspect case of H5N1 in birds **OR**
- been near an area in which there has been mass mortality in wild birds (such that the animal has had possible contact with dead and dying birds) **OR**
- been near a premises where an influenza outbreak has occurred in poultry (such that the animal has had possible exposure to the virus within the previous three weeks)

IV. Suspect/Probable case in a domestic dog, cat, ferret:

A domestic cat, dog or ferret presenting to a private veterinary practitioner and fulfilling **all three criteria** below should be considered a suspect case:

- The animal is exhibiting clinical signs of respiratory disease or neurological disease or has died suddenly after exhibiting such signs, **AND**
- Other common differential diagnoses for this clinical presentation have been ruled out, **AND**

¹ Confirmed or highly probable contact in this case relates to consumption, killing, or attacking a bird and may include being fed raw wild bird meat⁸.

- The animal has had probable contact with H5N1 infected birds within the previous three weeks, e.g., contact with dead or dying birds.

All suspect cases in these species should be notified to the Department of Agriculture, Food and Marine (DAFM) so that testing for influenza virus can be arranged.

3.2 Human Contact Definitions

The infectious period of avian influenza in for birds and mammals is considered to start 72 hours before the onset of [symptoms](#). DAFM can provide an estimate of infectious period for birds/ mammals if date of onset is unclear.

3.2.1 Definition of a human contact

I. Exposure to farmed and captive flocks or birds

A human contact is a person who has:

- entered the DAFM-declared infected premises (IP) where H5N1 infected birds are kept (while birds are still within the premises or before cleaning, if the birds are no longer present) **OR**
- handled a bird from the IP or its faeces **OR**
- handled eggs or other poultry products from the IP

This applies for the duration of the infectious period for the flock or captive birds on the IP, and until DAFM states that the IP are no longer infected.

II. Exposure to wild birds

A human contact is a person who has:

- been within one metre of a probable or confirmed H5N1 infected bird when the bird was alive in an enclosed space (for example in a building or vehicle) **OR**
- handled a probable or confirmed HPAI H5N1 infected bird (alive or dead) or its faeces

This applies for the duration of the infectious period for the affected birds.

III. Exposure to mammals

A human contact is a person who has:

- been within one metre of a probable or confirmed H5N1 infected mammal when the mammal was alive in an enclosed space (for example in a building or vehicle) **OR**
- handled a probable or confirmed animal/mammal (alive or dead) or its faeces.

This applies for the duration of the infectious period for the affected animal/ mammal.

3.3 Personal Protective Equipment

For full details of appropriate PPE for occupational exposures to birds/animals please refer to [Appendix 5](#).

NB: For PPE to be considered appropriate and adequate in HPAI avian/animal/veterinary settings, all the three following requirements **must** be fulfilled. The person **must**:

1. Have been trained in the correct use (including donning and doffing) of PPE, **AND**
2. Have been fit-tested for the FFP3 respirator that they will be wearing, **AND**
3. Have worn the appropriate PPE during the entire period of exposure, with no breaches.

3.4 Types of follow up

Contacts will be classified for follow up (surveillance) depending on the risk assessment undertaken by the incident CPHM. The default pathway for surveillance will be passive follow up - active follow up will be used if there are concerns about a contact's ability to comply with instructions.

Passive Follow-up/surveillance

The great majority of H5N1 contacts will require only passive follow up (surveillance). Passive follow up involves the exposed person being provided with:

- information on human avian influenza symptoms, and
- emergency instructions on what to do if they develop symptoms, including an H5N1 contact letter indicating that they are an H5N1 contact under passive surveillance, and that in the event they develop symptoms, they should seek medical advice and inform any medical practitioner of their contact.

Active Follow-up/surveillance

In only a very small proportion of cases will active follow (surveillance) up be required. Active follow up involves the exposed person having daily contact (by text, telephone or email) with Area Public Health teams to check that the exposed person has not developed any symptoms compatible with human avian influenza. The necessity of active

surveillance is advised by the Public Health physician. It should be considered if there are concerns about the contact's ability or willingness to complete passive monitoring (e.g., cognitive impairment or transient population).

If a contact under surveillance develops any of the symptoms of avian influenza in the 10 days following the last date of exposure and/or until the completion of their course of post-exposure prophylaxis, the individual should be instructed to:

- immediately self-isolate,

and

- **During office hours**, contact Area Public Health team
- **OR out of hours**, the individual will be advised to contact their local Emergency Department (not their GP) and/or contact the National Ambulance Service (NAS) if very unwell. The local Emergency Department and NAS should be informed that the person is an H5N1 contact, and the contact (or next of kin) should bring their H5N1 contact letter with them. The Eircode of the contact will be provided to the NAS in the event that urgent contact is made with services so that appropriate PPE/ IPC precautions can be taken by responding health personnel. NAS will collect a combined nose/throat swab and place into inactivation buffer and transport to the NVRL for testing. The Emergency Department/NAS should inform the Area Public Health Team that the contact has developed symptoms and is being assessed. The Area Public Health Team should, ahead of time, alert local health services of the potential for H5N1 contacts to present to their services in the event of a confirmed/ highly suspect case of H5N1 in birds or mammals and considered providing a letter for the patient to bring to the Emergency Department if required.

Any individual who develops symptoms must be immediately referred for clinical assessment per the guidance on management of symptomatic contacts known to Area Public Health [\[Algorithm 2\]](#)

4.0 Employer responsibilities

- Employers or contracting organisations are responsible for ensuring that poultry workers and poultry staff have access to PPE, are fit tested and are trained in PPE donning, doffing and disposal and appropriate biosecurity and infection prevention and control.
- Employers must ensure that they have the proper policies and procedures in place. Further information for employers is provided by ECDC and is available [here](#).
- Employers and contracting organisations are responsible for ensuring that employees have access to an occupational health service that can provide management, including pathways for referral to allow access to clinical care for diagnostic testing and prescription of treatment-dose antivirals, if symptomatic with avian influenza symptoms.
- With respect to management of asymptomatic contacts, as an interim measure, Area Public Health Teams will provide post-exposure chemoprophylaxis to contacts identified by DAFM contracted occupational health services as at moderate or high-risk pending provision by DAFM of full occupational health services. Area Public Health teams will coordinate swabbing of asymptomatic contacts as outlined below.

5.0 Principles of prevention of human infection with HPAI H5N1

In premises/situations where H5N1 is suspected or confirmed, the following principles should apply:

- only those individuals required to enter IP for occupational/control reasons (such as for collection or disposal of birds and/ or mammals and cleaning or decontamination) should have access to the premises
- keep the number of people exposed to the infected birds and/ or mammals to a reasonable minimum; this may need to be balanced against the need to undertake necessary control measures
- only those trained in PPE donning, doffing and disposal and appropriate biosecurity and infection prevention and control should be involved in control activities
- only those considered medically fit to take antivirals should be involved in control activities
- all involved in control activities should be provided with information about the symptoms of H5N1 infection, how to identify these and what to do if they develop.

Public settings

- members of the public should be advised never to touch sick or dead wild birds or wild mammals. Where removal and disposal of dead wild birds/ mammals is required members of the public should be advised to contact the DAFM helpline consult [here](#) and/ or consult their webpages [here](#).

6.0 Management of Contacts of HPAI H5N1

The management of contacts of HPAI H5N1 including risk assessment, follow-up, antiviral post-exposure prophylaxis and asymptomatic swabbing is summarised in [Algorithm 1](#). Further details are provided below.

6.1 Risk Categorisation

Management of individual contacts is based on the current dynamic assessment of virus-specific risk, an individual exposure risk-assessment, and consideration of other factors specific to the individual or situation i.e., a **general individual risk assessment**. Individuals who have exposures falling into more than one risk group should be managed based on their highest risk exposure.

In general, follow-up of contacts is determined by whether, and how, appropriate PPE was used. The day of last exposure should be counted as day 0 for the purposes of determining duration of follow-up, and the window for starting antiviral post-exposure prophylaxis.

The following sections provide examples of low, moderate, and high-risk exposures.

6.2. Follow-up of contacts where appropriate PPE was used

Low Risk

Contacts of probable wild bird cases or confirmed H5N1 in any birds, mammals, or IP, where **all** the following apply, should undergo **passive follow-up** and inform the local HPT if they develop symptoms:

- trained in the correct use (including donning and doffing) of PPE
- were fit-tested for the FFP3 respirator that they wore
- wore the appropriate PPE with no breaches

Further details of PPE required during occupational exposures are detailed in [Appendix 5](#).

Examples of Low-Risk Exposures

- Personnel involved in culling non-infected or likely non-infected animal populations as a control measure (e.g., those exclusively culling asymptomatic animals in a control area outside of the infected and restricted zones)
- Personnel involved in handling sick animals or exposed to affected environments (including animal disposal) as part of outbreak control efforts (e.g., cullers) and **where consistent use of PPE can be reasonably assured**

- Individuals who handle (i.e., have direct contact with) asymptomatic animals in proximity to a geographic area where AI has recently been identified (e.g., bird banders).
- Laboratory personnel working with the influenza virus using appropriate laboratory procedures and infection control precautions.

6.3 Follow-up of contacts where appropriate PPE was not used/ or there was a breach in PPE

6.3.1 Moderate Risk (BCCDC)

Examples of individuals at moderate risk include those who handle single or small groups of sick or dead animals infected with H5N1 in an open-air environment which is not densely populated by animals of the same species as the infected animal (e.g., single wild bird in a park) without PPE.

Those considered at moderate risk should:

- undergo passive follow-up if within 10 days of exposure.
- be considered for antiviral prophylaxis if within 7 days of exposure
- if asymptomatic should be considered for self-administered nose and throat swabbing i.e., swabs at days 2 (or as soon as feasible), 5 and 8 following exposure. Testing beyond day 8 from last exposure likely of little diagnostic value.

6.3.2 High Risk

Contacts of a probable wild bird case or confirmed HPAI H5N1 in any birds who were not wearing appropriate PPE or had a breach in PPE at the time of exposure should:

- undergo passive follow-up if within 10 days of exposure
- be offered antiviral prophylaxis if within 7 days of exposure
- undergo self-administered nose and throat swabbing i.e., swabs at days 2 (or as soon as feasible), 5 and 8 following exposure. Testing beyond day 8 from last exposure likely be of little diagnostic value.

The following contacts are likely to include individuals who were exposed *prior to* the identification of an incident:

- farm workers,
- owners of backyard flocks or other people resident at the premises who have had exposure to birds or infected materials,
- veterinary staff,

- members of the public who have had direct contact with a probable or confirmed wild bird/ or mammal case.

Examples of high-risk exposures

- Individuals with insufficient/inappropriate PPE and very close exposure to a flock or group of sick or dead animals infected with H5N1 or to particular birds that have been directly implicated in human cases (e.g., farm family member or worker who handled sick animals)
- Individuals involved in the handling and slaughtering of live poultry and other animals, such as in a live animal market, in an affected area or visitors to an area where such activities are being undertaken while unprotected.
- Personnel involved in handling sick animals or exposed to affected environments (including animal disposal) as part of outbreak control efforts (e.g., cullers) and where consistent use of PPE cannot be assured.

6.4 Post-exposure Antiviral Chemoprophylaxis

The standard recommended dosage for anti-viral chemoprophylaxis is 75mg of oseltamivir, once daily. This should be given as a 10-day course and can be started up to 7 days following the last date when exposure occurred. The course should be started as soon as possible.

Special considerations

Dose adjustment may be required for paediatric patients and those with co-morbidities such as renal impairment. Please refer to the manufacturer's [Summary of Product Characteristics](#) for further information. Oseltamivir should not be used in pregnancy unless the benefit for the mother outweighs the potential risks to the unborn child. There are no data from studies investigating oseltamivir treatment in pregnant women. It has shown no foetal toxicity or teratogenicity in animal testing. However, pregnant women may be at higher risk of developing serious complications of influenza infection. Oseltamivir is not approved for use in children <1 year of age for chemoprophylaxis outside of an influenza pandemic setting. Oseltamivir Patient information leaflets are available in a number of languages, see [here](#).

In line with international practice, the use of pre-exposure anti-viral chemoprophylaxis is not routinely recommended.

6.5 Duration of follow-up

Passive surveillance should be commenced up to 10 days from the last unprotected exposure, or for the duration of post-exposure antiviral treatment, whichever is longer. Contacts under health surveillance should be advised to contact the Area Public Health Team if they develop any of the symptoms of avian influenza in the 10 days following their last exposure, or for the duration of post exposure antiviral treatment, whichever is longer.

6.6 Asymptomatic Swabbing

Area Public Health teams should consider testing of any asymptomatic individual with a moderate or high-risk exposure in either occupational or non-occupational settings to birds or mammals known to be, or suspected of being, infected with avian influenza. Area Public health teams will coordinate testing of asymptomatic contacts.

Sampling procedure

Samples for asymptomatic individuals should include self-administered nose and throat swabs. Sampling should be undertaken at days 2 (or as soon as feasible), 5 and 8 following exposure. Testing beyond day 8 from last exposure is likely to be of little diagnostic value. NAS will provide the individual with pre-packaged swabs and buffer for sample collection. If the individual remains asymptomatic, all three swabs will be collected by NAS after the day 8 sample collection and transported to the NVRL for laboratory investigation.

Area Public Health Teams should contact the NVRL to discuss testing in advance. Specimen request forms are available from NVRL.

Symptomatic contacts should have sampling performed by a clinician/NAS (as opposed to self-administered) as per algorithm on management of symptomatic known contacts of HPAI incidents available [here](#).

6.7 Follow-up of contacts of wild birds/ mammals of unknown status

Members of the public who have handled birds/ and/or animals with unidentified disease (or their faeces) do not require public health follow-up, unless information or risk assessment from DAFM suggests a different approach.

7.0 Additional information and resources

7.1 Useful Contact details:

Courier service for PCR Samples (Biomnis) – 1800 252 967 (Monday- Friday normal working hours)

Courier service for PCR Samples Out of Hours arrangement– Contact Richard Quinlan via NEOC at 1800 211 86

NEOC – 1800 211 869

NVRL - 01 7164401 (Mon-Fri 9-5) 01 7164050 (24/7 Emergency No.)

Area Public Health [Contact Details](#):

Public Health HSE Dublin and North East - 046 928 2700

Public Health HSE Dublin and Midlands - 057 9359891

Public Health HSE Dublin and South East – 056 7704301

Public Health HSE South West - 021 4927601

Public Health HSE Mid West - 061 483 338

Public Health HSE West and North West - : 091 775200/ 071 9174750

OOH contact for Area Public Health CPHM/SPHM on call/MOH—Call Ambulance Control on 0818 501 999 and ask to be connected to Public Health On Call.

HPSC CPHM/SPHM on call – Call Ambulance Control on 0818 501 999 and ask to be connected.

7.2 Useful email addresses

Area Public Health Teams emails:

- **Public Health HSE Dublin and North East** PublicHealth.AreaA@hse.ie
- **Public Health HSE Dublin and Midlands** PublicHealth.AreaB@hse.ie
- **Public Health HSE Dublin and South East** publichealth.areac@hse.ie
- **Public Health HSE South West** Publichealth.AreaD@hse.ie
- **Public Health HSE Mid West** MWnCoV1@hse.ie
- **Public Health HSE West and North West** Public.health@hse.ie
- **Public Health HSE West and North West (NW)**: infoid@hse.ie

HPSC (SPHM on call): healthprotection@hpsc.ie

Director of National Health Protection: dnhp@hpsc.ie

8.0 Bibliography

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Appendices

APPENDIX 1 - Occupational Health Risk for staff engaged in HPAI H5N1 control in domestic or wild birds / mammals

The Information in this document may change in the light of experience in Ireland and internationally and if new information emerges.

This guidance was updated by the HPAI Guidance Development Group in October 2023.

An individual risk assessment must be conducted in every case.

Staff potentially exposed include those:

- 1) dealing with positive, or highly suspicious, commercial flock
- 2) engaged in active surveillance in contiguous, and contact, flocks
- 3) dealing with infection in wild birds
- 4) exposed to contaminated or potentially contaminated material (specimens, litter, faeces, feed, equipment, environment)
- 5) dealing with isolated injured, sick or dead birds when AI has been confirmed on the Island of Ireland
- 6) dealing with isolated injured, sick or dead birds when AI has not been confirmed on the Island of Ireland
- 7) working in poultry processing plants when HPAI confirmed on Island of Ireland

Note: It is important to ensure that only personnel that are deemed medically fit to take antivirals, to receive human influenza vaccine, to wear respiratory protection and to work in poultry houses are allowed to work in outbreak control activities. Personnel must be screened individually and pronounced medically fit before they are permitted to engage in any exposure activities.

Many staff assisting with outbreak control will have no exposure to hazardous material e.g. manning road blocks, checking paperwork etc. (CATEGORY 6)

APPENDIX 2 - Table 1 Exposure category, protection and training required

Worker Category	Exposure	Vaccination ¹	PPE	Training; Putting on and taking off PPE; Respirator fit test; Monitoring ⁸	Comments
1	Exposure to infected, or highly suspect HPAI H5N1 infected (HSIA), live birds in confined space for prolonged period.	Flu vaccine (in season)	<ul style="list-style-type: none"> • Coveralls with integrated hood² • Disposable nitrile gloves³ • Heavy duty gloves⁴ • Disposable/reusable respirator face mask (FFP3)⁵ • Powered air purifying respirator (PAPR)⁶ • Eye protection⁷ • Wellington boots 	Yes	<p>In endemic⁹ situations the precautionary principle (Full PPE) should always apply.</p> <p>In terms of risk, the larger the number of birds a worker is exposed to and the greater the number of exposures the greater the risk.</p>

2	<p>Exposure to infected, or HSIA, live birds in confined space for brief period.</p> <p>Exposure to infected, or HSIA, dead birds in confined or open space.</p> <p>Exposure to contaminated or potentially contaminated material (specimens, litter, faeces, feed, equipment, environment).</p>	Flu vaccine (in season).	As above	Yes	<p>Not all of these exposure scenarios carry the same level of risk.</p> <p>A risk assessment is required considering the following parameters :</p> <p>Depends on the activity, duration of contact.</p> <p>Depends on the number of birds involved, amount of handling, whether exposure occurs outdoors or indoors.</p> <p>Depends on the type and quantity of materials involved and degree of interaction with the environment.</p>
3	Engaged in active surveillance in contiguous flocks & contact flocks.	Flu vaccine (in season)	As above	Yes	<p>Risk assessment – as for 2.</p> <p>In endemic situations given the nature of the tasks and the fact that these are live birds and sampling will be involved -</p>

					adopt precautionary principal (i.e., full PPE).
4	<p>Exposure to injured, sick or dead wild birds in restricted zone when HPAI H5N1 on Island of Ireland.</p> <p>Exposure in investigation of large die off in wild birds.</p>	Flu vaccine (in season)	As above	Yes	Risk assessment – as for 2
5	<p>Exposure to isolated injured, sick or dead wild birds outside restricted zone when HPAI H5N1 on Island of Ireland.</p> <p>Exposure to isolated injured, sick or dead wild birds when HPAI H5N1 not on Island of Ireland but there is a there is a sustained HPAI H5N1 outbreak or risk scenario elsewhere (e.g. sustained outbreaks of HPAI H5N1) in Europe).</p>		<ul style="list-style-type: none"> • Disposable nitrile gloves • Knee high wellington boots <p>Additional PPE that may be required as per risk assessment:</p> <ul style="list-style-type: none"> • Heavy duty rubber gloves Disposable/reusable face mask (FFP3)/eye protection • Eye/face protection 	<p>Yes</p> <p>Information</p>	<p>Risk assessment – as for 2</p> <p>If exposure is likely to occur in a controlled environment and the worker is experienced and they are not dealing with a contiguous flock.</p> <p>Additional PPE that may also be required e.g.:</p> <p>Heavy duty rubber gloves if handling sick or injured birds.</p> <p>Respirator mask if within 1m of the affected bird and contact likely)</p>

					Eye/face protection is recommended in addition to a respirator half mask during any activity where there is a risk of splash to the eyes/face for example when a worker is taking samples from flocks.
6	Assisting in outbreak control not exposed to known hazardous material		NONE	Information	

1. Offer Vaccination with seasonal human influenza vaccine for personnel in categories 1-4
2. Head covers may not be necessary if coveralls with an integrated hood are worn however, it is important that workers with long hair keep their hair tied up and off their face when working in areas where intense exposure for long periods is likely e.g. during culling activities. A hair band and hair net may suffice in these situations
3. Vinyl gloves are not advised as they are prone to leakage and tearing.
4. Industrial weight gloves if personnel are involved in activities that are likely to tear gloves for example chain mail gloves
5. Respirator mask (FFP3). Positive pressure respirator with lightweight helmet and FFP3 filter (personnel with facial hair or those at highest risk i.e. Exposed to infected, or highly suspect (HS), live birds in confined space for prolonged period). Disposable FFP3 negative pressure respirator (personnel involved in surveillance, sampling, carcass removal, cleaning and disinfection and untreated litter handling activities). There are several models of disposable P3 negative pressure respirator and those staff whose face shape doesn't allow a good fit with the standard model will be offered an alternative.
6. A powered air purifying respirator (PAPR) may be required by individuals with facial hair during culling activities (if shaving is not an option). Caution should be exercised as the wearer would need extensive training in its use.
7. Eye protection: should be worn when there is a risk of contamination to the eyes from splashing with bird droppings, or other fluids or secretions (including respiratory secretions, blood, guts etc.), dust and feathers. Close fitting goggles complying with EN standard, anti-mist, without vents (that can be worn over prescription glasses). Only types that fit with disposable masks or reusable half-masks should be used.
8. Monitor appropriateness, quality, fit, maintenance and use of PPE.
9. An endemic disease is a disease that is permanently/always present in a particular region or population

APPENDIX 3 - Table 2 Individuals assisting in the control of an outbreak in a poultry flock*

INFECTED PREMISES	
Individuals Potentially Exposed	Category
Farm staff, manager, owner	1 or 2
DAFM veterinary Inspector/TAO on site	2
Sealing crew: (1 vet, 2 AOs)	
o Inside house	1
o Outside house	2
Gas delivery driver	2
Fire brigade staff:	
• 2 to go inside,	2
• 2 outside	6 or 2
• 1 supervisor on periphery/outside house	6
(If not gassing) Catching and slaughter crew	1
Collection team (s) for dead birds	2
Driver of waste transport vehicle **	6 provided that there is no exposure to waste material
Staff in intake area of Rendering Plant receiving waste **	2 or 6 depending on exposure activity
Dealing with litter, feed and water	2
Staff involved in erecting and operating:	
• Porto cabins for office, rest rooms etc	6
• Canteen on site	6
• Porto loos on site	6
Personnel removing PPEs (already bagged & binned)	6
Engineers/environmental technicians assessing burial composting sites	6
TAO/Garda security at periphery of infected premises	6
STAFF WORKING OFF SITE:	

Active surveillance in contiguous flocks	3
Operating road checks	6

*Individuals may be moved into a higher risk category if need arises but if so must receive the appropriate protection. ** The category these staff will be assigned to depends on their anticipated level of exposure which is influenced by the following factors including (a) Whether the transport vehicle has manual or automatic loading (b) whether the driver's cabin is physically separated from the loading compartment of the transport vehicle (c) whether staff in intake area of rendering plant for waste will have any direct contact with waste and/or the interior of a contaminated vehicle. It is important when agreeing contracts with a transport company/s to check that the contract details that the staff have been trained in the use of PPE, that they understand the risks and that company and meet relevant health and safety regulations.

DAFM= Department of Agriculture, Food and the Marine

TAO=Technical Advisory Officer

APPENDIX 4 - Table 3 Individuals assisting in control of incident in wild birds*

Individuals Potentially Exposed	Category if HPAI H5N1 not in IRL	Category if HPAI H5N1 in IRL (restricted zones)	Category if HPAI H5N1 in IRL (outside restricted zones)
Wildlife rangers	5	4	5
DAFM Veterinary Inspector	5	4	5
DAFM TAOs	5/6	4/5/6	5/6
LA Veterinary Inspector	5/6	5/6	5/6
Other LA staff	5/6	5/6	5/6
Wild birds collection teams (large die off, where HPAI H5N1 is officially suspected):			
o DAFM staff	4	4	4
o Army	4	4	4
o Civil Defence	4	4	4
o Others	4	4	4
• Drivers of waste transport vehicles**	5	2 (large die off)	5
• Staff in intake area of rendering plant	5	2	5
• Staff manning roadblocks (if present)	6	6	6

*Individuals may be moved into a higher risk category if need arises but if so must receive the appropriate protection.

Categorisation depends on risk assessments.

** The category these staff will be assigned to depends on their anticipated level of exposure which is influenced by the following factors including (a) Whether the transport vehicle has manual or automatic loading (b) whether the driver's cabin is physically separated from the loading compartment of the transport vehicle (c) whether staff in intake area of rendering plant for waste will have any direct contact with waste and/or the interior of a contaminated vehicle. It is important when agreeing contracts with a transport company/s to check that the contract details that the staff have been trained in the use of PPE, that they understand the risks and that company and meet relevant health and safety regulations.

DAFM= Department of Agriculture, Food and the Marine

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APPENDIX 5 - Details of types of PPE

1. Disposable fluid resistant coveralls with integrated hood and with/without integrated feet are required when exposure to infected or highly suspect live birds in a confined space for prolonged duration is likely.

2. Gloves: should be worn for all exposures to infected or highly suspect birds, and to contaminated or potentially contaminated material (specimens, litter, faeces, feed, equipment, and/or environment). Vinyl gloves are not advised as they are prone to leakage and tearing.

Types available

- a. Disposable nitrile gloves
- b. Heavy duty rubber gloves
- c. Industrial weight gloves (e.g. chain mail gloves).

3. Eye protection: should be worn when there is a risk of contamination to the eyes from splashing bird droppings, or other fluids or secretions (including respiratory secretions, blood, guts etc), dust and feathers:

Types available

- a. Close fitting goggles without vents and anti-mist-must be able to fit over disposable respirator masks or reusable half masks
- b. Visor*

4. Respirator face masks (FFP3) disposable half masks are recommended for situations where workers are in direct contact with live infected poultry (< 1 M)

- Check to determine if respirator masks are fluid repellent. If respirator masks are not fluid repellent, additional protection, such as a visor, is required in situations where there is a splash risk. Valved respirator masks are not fully fluid resistant unless they are shrouded. If a valved non-shrouded respirator mask is used, facial protection such as a visor must always be worn.

5. Powered Air Respirator System-may be required for personnel with facial hair or those at highest risk i.e. workers who are exposed to infected, or highly suspect live birds in a confined space for a prolonged period of time.

6. Mob caps; There is no evidence that contamination of hair is a significant route of transmission for HP Avian Influenza. Head covers may not be required if coveralls with an integrated hood are worn however, it is important that workers with long hair keep their hair tied up and off their face when working in areas where intense exposure for long periods is likely e.g. during culling activities. A hair band and hair net may suffice in these situation

*Footnote: Visors do not provide the same level of protection to the eyes as tight-fitting goggles. The decision to use a visor rather than goggles should be determined by the wearer following a risk assessment taking into consideration: the situation including the location (indoors/outdoors), level of exposure to dust, feathers, number of birds, weather conditions etc.