UK Health Security Agency

Managing the human health risk of avian influenza in poultry and wild birds

Guidance for health protection teams

Version 6.0: January 2023

Contents

Summary

This document updates the previous version ('Guidance for health protection teams on assessing and managing the human health risk of avian influenza (AI) in poultry and wild birds' version 4).

This update covers, as did the previous version, guidance for UK Health Security Agency (UKHSA) health protection teams (HPTs) with regard to the human health risk when responding to suspected and confirmed AI in avian species, and includes the strict and standard approaches for avian influenza incidents. This update includes additional information on the response required for AI incidents identified in wild birds.

Whilst the Department for the Environment Food and Rural Affairs (Defra) leads on the management of AI incidents and outbreaks in poultry and wild birds, HPTs are responsible for leading the local public health response to these incidents, working in close collaboration with Defra and the Animal and Plant Health Agency (APHA). The public health response will be delivered jointly with the local authority, local NHS and with support from UKHSA colleagues regionally and nationally.

Purpose

The purpose of this guidance is to assist HPTs in planning for, and dealing with, the human health risk of a suspected or confirmed AI incident, in either live or dead wild birds or domestic poultry. Based on standard health protection principles, this guidance aims to ensure that a consistent approach is adopted across UKHSA in responding to AI incidents.

Introduction

HPTs have a lead role in leading the local public health response to AI incidents involving large-scale commercial poultry establishments, smaller backyard premises or wildlife. Responding to these incidents requires close collaboration with Defra, APHA, local authorities and the local NHS.

This guidance document has been developed to support HPTs in undertaking the risk assessment underpinning the management of avian influenza incidents. The guidance builds on standard principles of outbreak management and incorporates lessons learnt during previous AI incidents in the UK (Table 1). In 2017 there was an increase in the number of incidents reported in both wild birds and poultry. To reflect this, the update to the guidance includes additional information for HPTs on the management of incidents in wild birds.

Table 1. Avian Influenza H5 and H7 subtype events in the UK, data as of 3 March 2020

Year	Type of incident	Number of incidents	Subtypes involved
2006	Poultry	2	H7N3; H5N1
	Wild birds	1	H5N1
2007	Poultry	3	H7N2; H7; H5N1
2008	Poultry	1	H7N7
	Wild birds	1	H5N1
2014	Poultry	1	H5N8
2015	Poultry	2	H7N7
2016	Poultry	2	H5N1; H5N8
2017	Poultry	13	H5N8
	Wild birds	29	H5N8
2018	Wild birds	22	H5N6
2020 to 2021	Poultry and other infected premises	23	H5N8;H5N1;H5N2
2020 to 2021	Wild birds	310	H5N8, H5N1, H5N5

The guidance references Defra's latest contingency plan for exotic notifiable diseases of animals in England (2019) (1) and its Notifiable avian disease control strategy for Great Britain (2012, revised in 2018) (2).

HPTs should use the document in their ongoing dialogue with local APHA colleagues, local authorities and the NHS and in developing their own local plans for responding to AI incidents.

Background on viruses causing AI

AI is a disease of animals caused by influenza A viruses. Influenza A viruses are classified according to the types of haemagglutinin (H1 to H18) and neuraminidase (N1 to N11) proteins on their surface. Influenza A viruses can also cause influenza in humans and other mammals. All known influenza A virus subtypes have been found in birds, except H17N10 and H18N11, which have only been identified in bats. Wild fowl act as natural, often asymptomatic carriers of influenza A viruses. Strains of influenza A virus may be transmitted from wild fowl to other birds, pigs, horses, seals, whales and humans.

AI viruses are categorised as being Highly Pathogenic Avian Influenza (HPAI) or Low Pathogenic Avian Influenza (LPAI) depending on their virulence in poultry (3). These terms do not reflect the seriousness of disease caused in humans; not all HPAI viruses infect humans, and LPAI viruses can cause severe illness in humans. Avian influenza subtypes A(H7N9), and

A(H5N1) have caused significant morbidity and mortality in humans outside Europe; there have been no human cases within Europe (4).

AI is considered notifiable to the World Organization for Animal Health (OIE) (4) when:

- the subtype is either H5 or H7 (even if LPAI)
- any influenza A virus causing HPAI

Under the International Health Regulations (2015), all human cases of influenza infections caused by a new subtype would be assessed for notification to WHO due to the potential public health impact

For references relating to currently circulating avian influenza subtypes that are causing concern for either human or animal health, please see Annexe 1.

Agency roles and responsibilities

Animal health

Defra is the lead government department for the management of AI incidents and outbreaks in poultry and wild birds and is the policy lead for outbreaks in England. Key Defra officials will make decisions concerning the policies upon which the disease control operation will be based (for example, Chief Veterinary Officer). Officials are responsible for ensuring that strategic advice is translated into practical instructions to those carrying out the operational response.

In Great Britain, APHA is the delivery body and the lead for operational activities. A summary of the key APHA actions following notification of suspected AI can be found in Annexe 2.

Defra/APHA organisational arrangements

Defra manages AI incidents centrally using a command, control and communication structure which is common for all notifications of exotic notifiable disease outbreaks. Three levels of command are established. Strategic functions are conducted by the National Disease Control Centre (NDCC). At the tactical level the outbreak director from the APHA will establish a Central Disease Control Centre (CDCC). The CDCC coordinates operational activities that may be carried out by the forward operations base (FOB) or customer service centres (CSS). The response delivered is flexible and there may be variations on the functions delivered. For example, in the case of a small outbreak, it may not be necessary to establish all of the formal structures. A summary of the Defra command structure and the roles and responsibilities of each level can be found in Defra's Contingency plan for exotic notifiable diseases of animals in England (1).

Communications

Defra and APHA are the lead bodies for communications during AI incidents. UKHSA provides health messaging and advice where necessary. Defra communications team will also liaise with other agencies, such as the Food Standards Agency to produce relevant messaging where appropriate. Briefings produced by Defra will be passed directly to regional teams for cascade locally. Relevant strategic information from the NDCC will be passed via the UKHSA National Situational Awareness Cell (NSAC) to the HPTs. When AI is identified in wild birds, APHA virology will share this information with UKHSA Acute Respiratory Infections team (ARI) and UKHSA NSAC, whothen cascade this information to the relevant HPT for follow up of human exposures.

If AI is confirmed by the Chief Veterinary Officer (CVO), ARI and NSAC will cascade the information to the relevant HPT for notification and follow up of human exposures. Any further details relating to human health risk discussed at CVO stocktake or bird table meetings are cascaded to relevant HPTs where necessary for follow up of human exposures.

Human health

HPTs are responsible for leading the public health response, working in close collaboration with Defra and APHA. Health service responses will be delivered by the local NHS commissioners. The public health response will also involve the local authority, with support from UKHSA colleagues regionally and nationally. Specialist support will be provided by UKHSA UKHSA Acute Respiratory Infections team, and the EPRR.

UKHSA organisational arrangements

Within UKHSA, AI incidents requiring follow up of exposed humans are led locally by the HPT, unless escalated to an enhanced national response as defined in the National Incident and Emergency Response Plan (2016) (5). Where AI has been identified at a premise (for example, poultry farm), this will ordinarily be the HPT responsible for the region where the site is located.

When wild birds with AI are identified, the HPT covering the region in which birds were collected or handled will be responsible for follow up of human exposures. Where large numbers of birds are involved, where there are complex or ongoing incidents or where there is the potential for media interest the HPT should consider convening an Incident Management Team (IMT) (Annexe 3 and Annexe 4). This should be initiated when an AI incident has been declared by DEFRA which includes when :

- disease is confirmed by Defra on the basis of clinical examination or laboratory confirmation
- culling is planned as a disease control measure

The role of the IMT is to co-ordinate measures for protecting the health of exposed people who have been in close contact with infected birds (and their close contacts), local residents and the wider public.

When wild birds with AI are identified, APHA is responsible for sharing details of the people involved in identification or collection of the birds and this information is passed to the relevant HPT which is responsible for initiating follow up. This involves identifying any person who has been exposed to the bird and ensuring appropriate health surveillance and antiviral prophylaxis as necessary. There will likely be fewer people exposed to a wild bird and an IMT is not usually required but may become necessary if any issues arise in the follow up of humans exposed. If further human exposures to the bird are identified outside of the HPT's area, these details should be handed over to the relevant HPT as soon as possible.

Incident management team (IMT) membership

The IMT core members may include:

- UKHSA Consultant in health protection (CHP)
- representative of local NHS to co-ordinate the NHS response (either from the Integrated Care Board and/or regional NHS England team)
- local authority director of public health (DPH)
- appropriate Defra or APHA representative
- UKHSA field services liaison
- UKHSA emergency planning manager
- UKHSA communications
- administrative support

Other professionals may be invited as appropriate (for example, representative of UKHSA Acute Respiratory Infections (ARI) Team, UKHSA virology representative).

Roles and responsibilities of the IMT

The role of the IMT is to manage the public health impact of the incident ensuring that the potential consequences of AI on public health and the health of staff involved in disease control operations are minimised.

The role of the IMT will include:

- identifying and managing all those already exposed by:
    - agreeing exposure criteria
    - undertaking human health risk assessment
    - agreeing and coordinating human health intervention according to the relevant management algorithm

    - liaison with specialist colleaguesin UKHSA Acute Respiratory Infections (ARI) Team
    - co-ordinating provision of post exposure antiviral prophylaxis, in line with local NHS arrangements
    - providing and coordinating follow-up (clinical and laboratory) investigations and management with specialist support from the ARI Team
    - agreeing and coordinating implementation using information from Defra/APHA about persons exposed to infected birds or associated materials

- advising on minimising further exposure and reducing the likelihood of infection
- agreeing and coordinating (in consultation with others such as the Health and Safety Executive (HSE), and Defra/APHA, health and safety professionals) the arrangements for protecting those who will potentially be exposed including implementing locally agreed arrangements for:
    - the prescription and administration of pre-exposure antivirals
    - delivery of antivirals
    - follow up of exposed people
    - agreeing and coordinating the local response

- communication - provision of information on human health-related matters as required to:
    - tactical and operational command levels of the APHA response (direct liaison with local APHA field operations colleagues; liaison via ARI Team for tactical or strategic issues)
    - other divisions of UKHSA (including national teleconferences)
    - individuals potentially exposed
    - local partner organisations
    - GPs and other local health services
    - Media or general public (including a spokesperson)
    - declaring the end of the human health aspects of the incident

- writing an incident report to include lessons identified and how these will be taken forward

The above actions are co-ordinated by the IMT. However, this does not imply that delivery of these actions will be undertaken by UKHSA itself. The IMT will agree where actions are the responsibility of either UKHSA (the relevant HPT or ARI Team) or of external teams, including APHA, ICSs and local authorities.

Alerting of an AI incident

Notification of AI

Poultry incidents

By law, anyone who keeps poultry has a responsibility to report any signs of suspicion of AI to APHA. These reports may come from the keeper themselves, a private veterinarian, an inspector from an LA who is attending for other purposes or from Food Standards Agency staff at a slaughterhouse suspecting disease. After a discussion with the reporting person an APHA veterinary officer may visit the site in order to conduct an investigation. Once a site is under investigation Defra impose restrictions on that site, such as restrictions on movement of poultry.

Defra also conducts surveillance of H5 and H7 AI in poultry through sampling at randomly selected premises. It is not unusual for a small number of samples to test positive for H5 or H7 antibodies. Positive results trigger further laboratory testing.

Restrictions are placed on the site while these tests are conducted. The restrictions may be lifted if tests reveal that there is no active infection present in the flock.

Wild bird incidents

National surveillance for AI is also carried out among wild birds. The surveillance consists of patrols by wild bird reserve wardens/ non-governmental organisations and collections of found dead wild birds reported by members of the public or bird charities. Where dead birds are found the APHA is notified by the individual who made the discovery, via a national helpline. APHA will then make a decision as to whether collection and testing of the wild birds is indicated.

Alerting the local HPT

APHA should contact UKHSA to alert them of all cases of suspected avian influenza. The initial contact from APHA may be to any of:

- UKHSA NSAC or EPRR duty officer
- UKHSA Acute Respiratory Infections (ARI) Team
- relevant HPT

National UKHSA teams are responsible for cascading the relevant information to the relevant HPT and will notify the HPT as soon as the details have been obtained details from APHA.

The HPT which covers the geographical area where the incident is occurring should co-ordinate the public health response to the incident. However, it is recognised that exposed individuals may live in other areas. The HPT co-ordinating the response would, therefore, need to alert other HPTs where follow-up in other areas is necessary. Each HPT is responsible for leading the response to human exposures in their region.

Alerting within UKHSA

HPT staff should alert appropriate people as outlined in the UKHSA Emergency Preparedness Resilience and Response Concept of Operations (CONOPS) depending on the level of the incident. This may include:

- UKHSA Regional Deputy Director
- regional Communications Manager if not already aware:
- Acute Respiratory Infections (ARI) Team (or Colindale Duty Doctor Out of Hours)
- EPRR Duty Officer

Alerting the local NHS and local authority

NHS partners will be responsible for prescribing and dispensing antiviral prophylaxis to exposed persons during AI incidents and for facilitating collection of specimens, by healthcare workers with appropriate Personal Protective Equipment (PPE), from symptomatic exposed persons. Therefore, where AI is suspected or confirmed, the CHP should alert local NHS partners and the duty pharmacist at local hospitals holding UKHSA oseltamivir stocks (in preparation for mobilisation of these supplies). The local DPH should also be alerted as per existing local arrangements. For situations where a premises is under investigation, the CCDC or CHP may consider alerting local authority and NHS partners.

Alerting the local APHA office

HPT staff should alert local APHA staff if they become aware of any reports of a febrile respiratory illness in persons who have been in contact with sick, dying or dead birds or contaminated materials from an infected premise in the UK within 10 days of onset of their illness.

APHA should also inform the HPT or IMT of any local staff responding to an AI incident with symptoms of febrile respiratory illness as soon as possible.

Public health response

Initial stages

The UKHSA response is based on a combination of the available laboratory results and a risk assessment of the nature of individual human exposures.

When to initiate public heath actions

Public health action should be initiated by the HPT when:

- laboratory results confirm that disease or deaths in birds are due to AI, or
- culling is required by animal health on suspicion of disease in birds, or
- disease is suspected in a premises with a verified association to a laboratory confirmed AI incident (as advised by animal health)

Public health action generally should not be initiated for human exposures to unidentified disease in birds or in cases where sites are under investigation without confirmed AI, in the absence of specific supporting animal health advice.

Laboratory results

Confirmation of AI is made on isolation of an influenza virus from the APHA reference laboratory in Weybridge. Further laboratory testing, which guides the extent of the public health response, includes subtyping of the virus and pathogenicity.

In the initial stages of an incident, laboratory results may not be available, or may only provide partial information. As further results become available the public health response may change. The usual sequence of reports would be:

1. HPT are notified of an unidentified avian disease in birds, and AI is suspected.
2. Laboratory confirmation of AI.
3. Confirmation that the subtype is (or is not) H5 or H7.
4. Final confirmation of the subtype and pathogenicity.

Results 2 to 3 are often available within 8 hours of receipt of specimens at the veterinary laboratory in Weybridge. It may take approximately 72 hours for confirmation of the full virus subtype. Pathogenicity results (HPAI or LPAI for birds) will generally be available between 2 and 12 days from receipt of samples.

Risk assessment

UKHSA and APHA will assess the public health risk associated with any reported incident. Until positive laboratory results are available, this risk assessment is necessary to decide on the appropriate course of action.

On notification to an HPT of an incident, that HPT should conduct an initial risk assessment to identify all individuals who may have been exposed and assess the nature of the exposure. Individuals should be considered as potentially exposed if they have handled a diseased or dead bird or a bird which subsequently died or became unwell. Individuals should also be considered as potentially exposed if they have handled the faeces, litter or eggs of a dead or diseased bird.

Details of the information required as part of the risk assessment are shown in Table 2.

In large incidents involving disease in poultry, APHA officials may assist with collection of this information during site visits based on local agreement. A health questionnaire is available in Annexe 5 to assist in these situations.

Risk assessment of laboratory exposures

Although APHA staff working in the field on incidents will need to be included in the risk assessment, APHA staff working in laboratories have their own safety arrangements and will generally not need to be included in the public health response. For non-APHA laboratories, there should be assurance that the staff were working with appropriate PPE. In laboratories, if aerosol is likely to be produced (as assessed by the laboratory), work should be conducted in a microbiological safety cabinet or within other suitable containment or protective measures. If the laboratory is uncertain as to whether appropriate precautions have been taken, then exposed individuals may need to be considered as having had unprotected exposure. Consideration should also be given as to how any specimens with confirmed AI infection may have been stored within non- APHA laboratories, if relevant.

Table 2. A guide to initial risk assessment for individuals exposed to avian influenza

Information to be collected during initial risk assessment	**Details**
Name and contact details	• first name • last name • preferred contact (mobile phone number preferable) • date of birth This will be needed for follow-up of exposed individuals

Information to be collected during initial risk assessment	Details
Type of person	• bird collector • nature reserve worker • farm worker • veterinary staff • contractor • member of the public • other
Date of exposure last exposure or whether the exposure is ongoing	If exposure is no longer ongoing, the last date of exposure is needed to inform the period of follow-up. Some exposures may be ongoing in which case this should be recorded.
Type of contact with bird or bird faeces	• handled dead or diseased bird • handled faeces, litter, eggs of dead or diseased bird • handled a bird during a high risk window (as defined by APHA) prior to it becoming unwell • transient contact with dead or diseased bird
Personal protective equipment (PPE) use during exposure	Was the individual wearing complete PPE throughout the entire period of exposure? (1) If PPE was not used for the complete period, when did this start?
Antiviral prophylaxis use	• was the individual already taking antiviral prophylaxis prior to the exposure? • has the individual commenced antiviral prophylaxis since the exposure? • if any antiviral chemoprophylaxis has been used, ascertain date which antivirals were started and which agents were used
Clinical symptoms	• has exposed persons experienced any symptoms of influenza like illness • has the exposed person experienced any conjunctivitis?

The strict and standard approaches

The strict and standard approaches to managing AI incidents were approved by the Advisory Committee on Dangerous Pathogens (ACDP) (6). The strict and standard approaches recognise that a different level of response may be required, depending on the virus subtype and risk assessment. The strict and standard approaches are not static, and the response may

be upgraded or downgraded as further information becomes available or as the incident progresses. The decision as to whether to use a strict or standard approach is based on the same criteria for poultry incidents and wild bird incidents.

Principles of the standard approach

The principles of the standard approach are:

- keeping the numbers of people exposed to the infected birds to a reasonable minimum
- not starting prophylaxis with neuraminidase inhibitors (or discontinuing use if already started as part of a strict approach) provided there have been:
    - no human deaths
    - no serious human illness
    - no sustained person-to-person transmission (as confirmed by laboratory tests) confirmed to be linked to that subtype
    - no large numbers of humans affected by common clinical syndrome suspected or confirmed to be linked to that subtype
- advising people who are likely to be exposed as responders on the correct appropriate use of PPE
- passive follow-up of persons exposed (provision of information and advised to contact HPT if feeling unwell)

Principles of the strict approach

The principles of the strict approach include:

- keeping the numbers of people exposed to an absolute minimum (balanced against practical needs to undertake necessary control measures)
- commencing prophylaxis with neuraminidase inhibitors for people already exposed (who have been in close contact with infected birds or contaminated materials from an infected premise) as soon as possible
- advising people who are likely to be exposed as responders to commence prophylaxis in advance of commencement of duties
- advising on the appropriate need for PPE use
- active follow-up of persons exposed and/or their close or family contacts dependent on expert epidemiological and virological advice

Circumstances where a strict approach should be used

The strict approach should be used when any of the following criteria are met:

- when the haemagglutinin (H) subtype is known to be an H5, H7 or H9
- any incident when human deaths are already apparent, or are previously associated with the subtype

- any incident in which serious human illness is already apparent or strongly suspected, or is previously associated with the subtype
- when person-to-person transmission is confirmed by laboratory tests
- when widespread person-to-person transmission is suspected (but not necessarily confirmed)
- any incident, in which the expert virological or epidemiological advice suggests that the identified virus has pandemic potential

Identification of a H2 or H10 virus may also qualify for a strict approach as these have caused severe infection in humans. Expert virological and epidemiological advice should be sought on an incident-by-incident basis for these subtypes from ARI Team. The standard approach may be upgraded to a strict approach when:

- AI associated human deaths are discovered
- severe illness in humans has occurred in this incident, or is associated with this subtype
- any incident in which person-to-person transmission is confirmed by laboratory tests
- any incident in which widespread person-to-person transmission is suspected (but not necessarily confirmed) if expert virological or epidemiological advice suggests that the identified virus has pandemic potential

Figure 1 is a simplified decision tree for choosing the appropriate approach. It should be read with consideration for the points above.

Exposure to unidentified disease in birds

Members of the public who have handled birds with unidentified disease (or their faecal material) where there is no specific information to indicate avian influenza do not require public health follow-up, unless information or risk assessment from APHA suggest a different approach.

Subtype specific adaptations

Situations may occur when more information is available about the outcomes of human exposures to a specific avian influenza virus subtype, and as this information evolves, different adaptations may be recommended by the UKHSA ARI Team. Where sufficient information is available, it may be possible for the strict approach to be adapted to account for this; if there is a change in information related to a subtype, then advice may be updated further. This occurred previously for the AI A(H5N8) incidents in winter 2016 to 2017, which was updated in March 2020, following emerging information internationally. If such a situation occurs, UKHSA will publish interim recommendations which will be specific to a particular virus subtype; this will be

communicated within UKHSA. The availability of such information is kept under review. In the absence of any interim recommendations, the strict approach should be used as described

above. It should also be noted that risk related to virus subtypes is dynamic, and interim recommendations may be withdrawn. Please consult the UKHSA website for the latest information.

A summary decision tree for choice of strict or standard approach is outlined below and in Figure 1.

Situation 1. Human exposure to Avian Influenza but subtype not confirmed

Are any of the following present in the incident (or previously associated with this subtype?)

- death or serious illness in humans
- laboratory confirmed human-human transmission
- widespread person-to-person transmission of a relevant AI associated clinical illness, for example conjunctivitis?

Is yes, use the strict approach.

If no, use the standard approach.

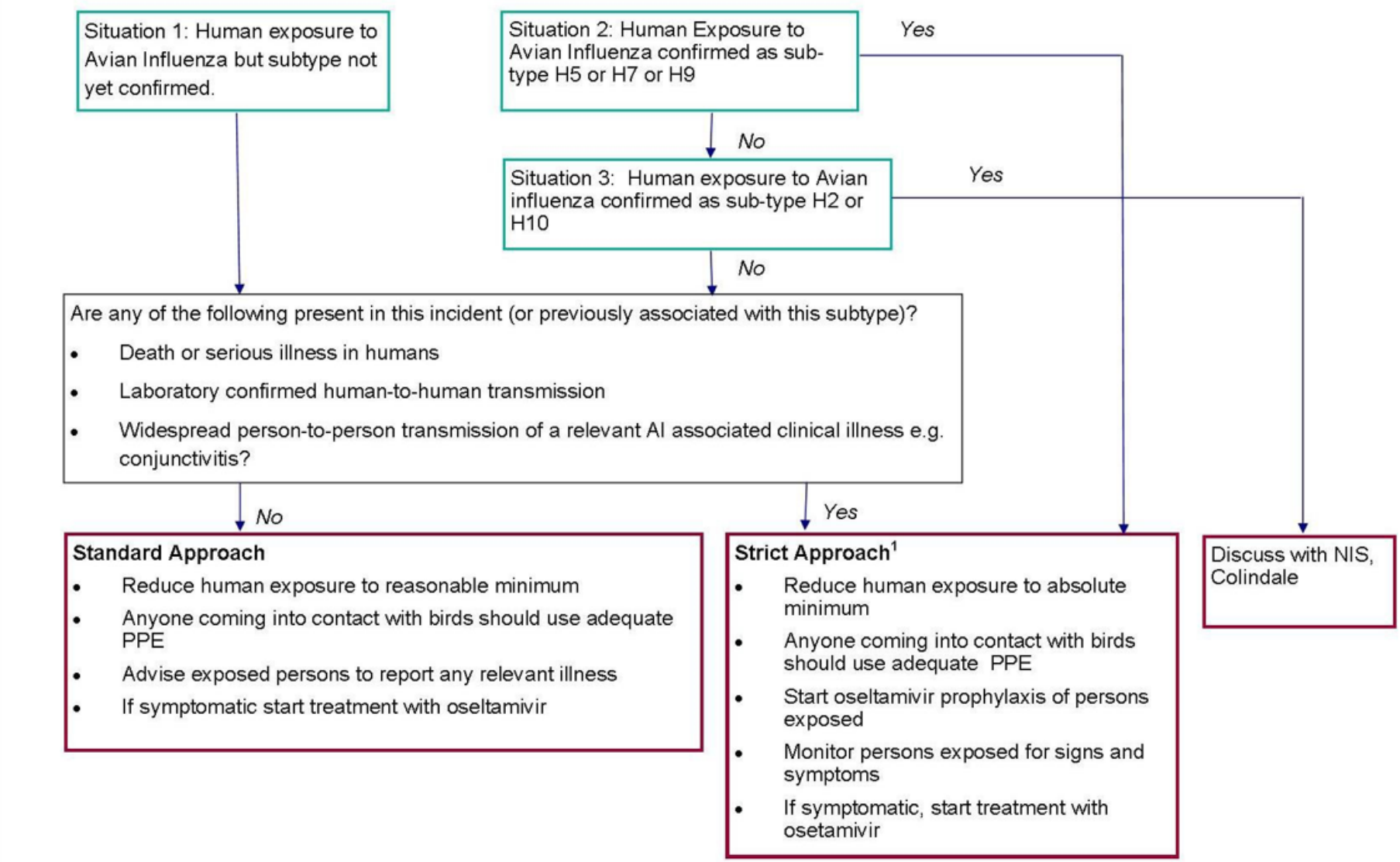
Situation 2. Human exposure to Avian Influenza confirmed as subtype H5 or H7 or H9

Use the strict approach.

Situation 3. Human exposure to Avian Influenza confirmed as subtype H2 or H10

Discuss with Colindale.

Figure 1. Summary decision tree for choice of strict or standard approach (see the strict and standard approaches for full details)



[1] Check Managing incidents in birds on the UKHSA website for any current sub-type specific variations from this algorithm.

Management of persons exposed during an incident

There may be up to 3 key categories of persons exposed during an avian influenza incident:

Category A

Persons who are exposed prior to the identification of an incident, who were not wearing appropriate PPE (and using antivirals, if applicable) at all times of exposure. For example, this could include:

- farm workers, other exposed 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 infected wild birds

Category B

Persons exposed during the response to the incident, whilst wearing appropriate PPE (and using antivirals, if applicable). For example, this could include anyone involved in the culling, disposal and clean-up operations at the premises or rendering facilities. This may also include laboratory staff where suitable PPE have been worn and work was undertaken with appropriate laboratory precautions.

Category C

Non-occupational exposures: may include members of the public (or others) inadvertently handling sick or dead birds, or their faecal matter that is confirmed to be infected with AI. These individuals are unlikely to have been using appropriate PPE (and antivirals, if applicable) and would have been identified through passive reports to APHA or affected farms directly.

Individuals who have not handled dead or diseased birds or their faeces, litter or eggs are not considered to be at risk and therefore do not require follow-up.

Further details on the management of these groups can found in Annexe 6 and Annexe 7.

For both the strict and standard approach, the key public health actions will always include:

- co-ordination of health surveillance of individuals exposed during the incident (as described in section Health surveillance of individuals exposed during the incident)
- investigation and management of any individuals within the above groups who develop potential symptoms of avian influenza infection (such as influenza-like illness or conjunctivitis); these individuals should be managed according to UKHSA guidance as possible human cases of avian influenza

- provision of regular updates to the UKHSA Regional Deputy Director, local authority DPH and national team
- ensuring other responding agencies have addressed issues of PPE implementation

In addition, the strict approach will also require the provision of antiviral prophylaxis.

Details of all exposed individuals should be entered onto HPZone as Common Exposure Contacts. This allows the use of the UKHSA SMS Text Monitoring Service for further follow-up.

Antiviral chemoprophylaxis

The decision on use of chemoprophylaxis is dependent on whether a strict or standard approach is deemed appropriate, to be started up to 7 days after the last exposure. The minimum course is normally of 10 days' duration for Oseltamivir.

Strict approach

In all AI incidents considered to require a strict approach, antiviral chemoprophylaxis is advised. This is likely to include all incidents where the subtype of avian influenza is H5, H7 or H9, unless there are subtype-specific guidelines already in place.

Chemoprophylaxis of responders to incidents should be considered on a case-by-case basis, taking into account the evidence of the virus' ability to cause human infection and/or severe disease. If in doubt, discuss with the Acute Respiratory Infections Team.

The standard recommended dosage for chemoprophylaxis against avian influenza is 75mg of oseltamivir, once daily for each day that exposure occurs. This should be continued for 10 days after the last exposure to the incident. Dose adjustment may be required for those with co-morbidities such as renal impairment.

Prophylaxis should be started prior to individuals having contact with infected birds or contaminated materials. If exposure has already occurred, prophylaxis should be started within 7 days of the last exposure. The maximum recommended duration of prophylaxis is 42 days, and advice should be sought as early as possible if it is likely to be required for longer than this.

For further guidance on managing prolonged, ongoing exposures see Annexe 7.

Additional guidance for individuals who are responding to an AI incident is provided in Annexe 8. This includes a link to guidance on appropriate use of PPE. It is important to note that the number of people exposed during the response to an incident should be kept to a minimum.

It is essential that the full quantity of antiviral prophylaxis required by the exposed person are provided locally where the incident is occurring, before the exposed persons leave, if they are living elsewhere.

Note on A(H7N9): for A(H7N9) a treatment dose (75mg oseltamivir, twice daily) is recommended for prophylaxis, due to concerns over potential resistance to oseltamivir – see UKHSA guidance.

If any individuals are unable to take oseltamivir, this should be discussed with Acute Respiratory Infections (ARI) Team.

UKHSA provides specialist public health advice but does not undertake prescribing of antivirals in avian influenza incidents, which remains the responsibility of the NHS.

A factsheet for individuals provided with Oseltamivir and a template letter for GPs of individuals provided with Oseltamivir are provided in Annexe 9 and Annexe 10.

Standard approach (all categories)

Antiviral chemoprophylaxis not routinely advised as long as all conditions in Principles of the standard approach are applicable and the conditions for the strict approach are not met.

Any refusal of antiviral chemoprophylaxis should be discussed by the HPT with UKHSA NIS.

Health surveillance of individuals exposed during the incident

If the strict approach is applied:

Category A

Active follow-up for every day up to 10 days from the last date when exposure occurred without complete PPE and antivirals, or for the duration of post exposure antivirals, whichever is longer.

This active follow-up consists of daily contact between the HPT and the individual to check the latter has not developed any symptoms compatible with human AI (including conjunctivitis).

If PPE and antivirals were started at a later date after an unprotected exposure, then the contact should be re-assigned to passive follow-up after the end of the active follow-up period. Passive follow-up should be continued for 10 days after the last exposure (passive follow-up is described below).

The individual should also receive standard information on potential symptoms and emergency contact instructions for the HPT (in case symptoms develop between daily contacts).

Category B

- if the individual has been exposed to the incident while wearing complete PPE and using antivirals during all exposures, then they should undergo passive follow-up until 10 days after the last exposure to the infected site; passive follow-up involves provision of information on human AI symptoms for the individuals to be aware of and emergency contact instructions for the HPT

- any individual who has not worn complete PPE or used antivirals during all
- exposures will require active follow-up according to category A from the date of the last exposure without full PPE or antivirals
- in situations where an individual has unprotected exposure, followed by protected
- exposure with complete PPE and antivirals, then they should have 10 days of active follow-up from the date of last exposure without complete PPE and antivirals; the individual should then be given instructions for passive follow-up from this points for a period up to 10 days after the last exposure with complete PPE and antivirals

Category C

To be considered for active follow-up for 10 days from the date of exposure. If the standard approach is applied:

Categories A to C:

All persons exposed to the infected site should undergo passive follow-up for 10 days after the last exposure (as explained above).

The local HPT will remain the contact point for all persons under surveillance in relation to their incident. The response to development of symptoms or other issue which requires action, can then be communicated to the relevant HPT if the individual has left the local area.

UKHSA has an SMS text monitoring service which is available for follow-up of individuals exposed to AI. The service allows sending of an initial SMS test message to establish contact with an exposed person and a series of 10 daily messages requesting information about general health. Exposed individuals can respond by replying to the SMS text.

Surveillance of exposed individuals is important for rapid investigation of symptoms. For this reason, foreign travel of exposed individuals should be avoided during their follow-up period. Please discuss with UKHSA Acute Respiratory Infections Team if this issue arises.

Management of symptomatic individuals

Prompt diagnosis and treatment is an important health service function for the clinical benefit of symptomatic individuals as they may require further clinical assessment following any laboratory confirmation of infection.

There should be local plans to respond swiftly to any reports of avian influenza- compatible symptoms in individuals under passive or active follow-up. These plans should include arrangements for prompt start of antiviral treatment, virological testing and infection prevention and control precautions for human avian influenza cases.

The HPT acts as a contact point to facilitate rapid contact with local relevant NHS services. Individuals under active and passive follow-up should be given the contact details (as above) for

the local HPT, to assist with accessing appropriate clinical assessment and patient management.

The UKHSA Colindale Duty Doctor should be informed of any symptomatic individuals who are clinically assessed as suspected avian influenza cases and require virological testing. Further information on swabbing of symptomatic individuals is available in Annexe 11.

A summary of all public health actions related to an incident is outlined below and in Figure 2.

For all incidents, the HPT should be prepared to:

- coordinate management of individuals exposed who develop symptoms of influenza-like illness or conjunctivitis
- ensure PPE advice has been provided (via partners)
- provide regular updates to the Regional Deputy Director, DPH and Acute Respiratory Infections (ARI) Team

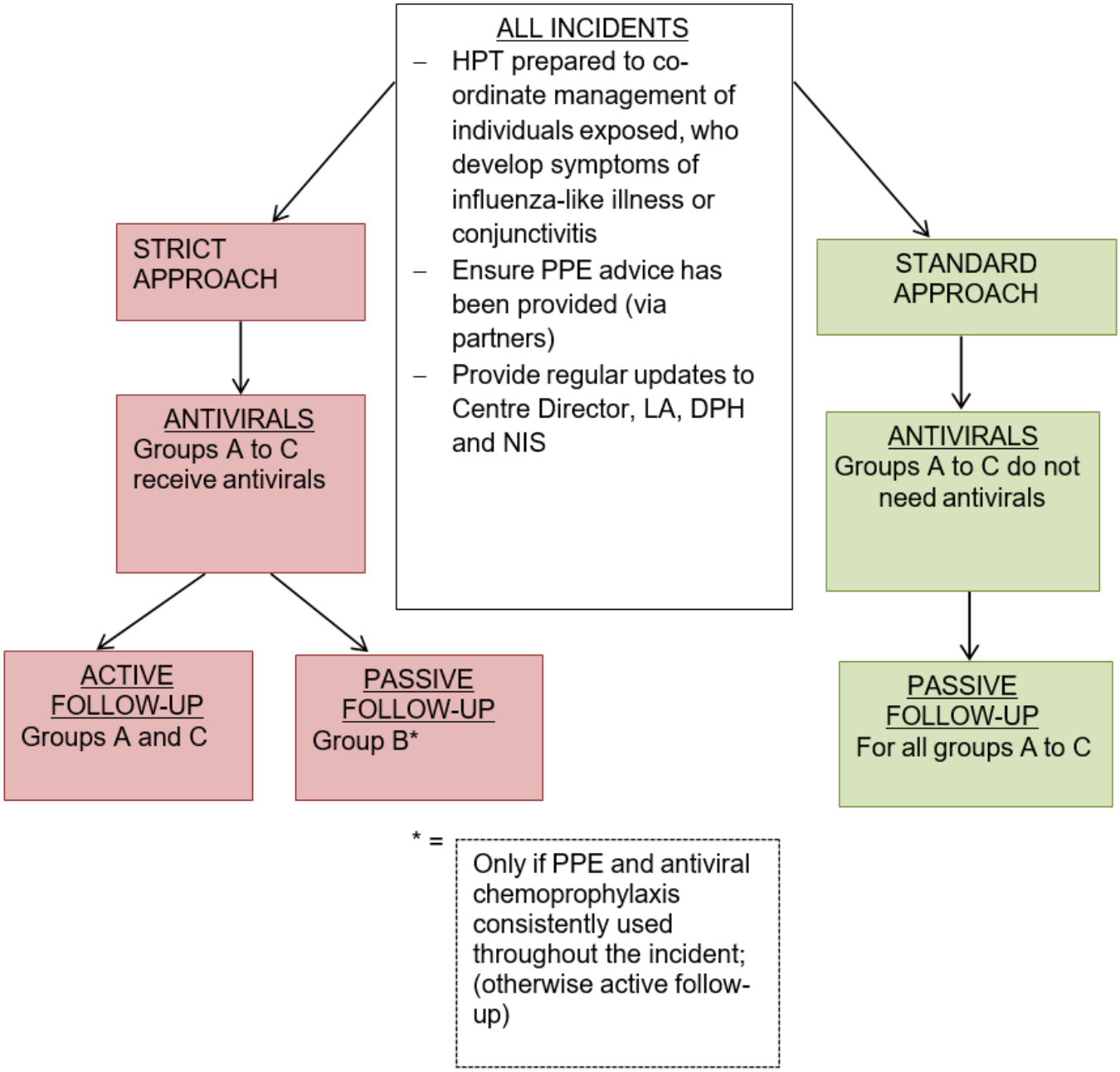
Summary of the strict approach

- antivirals for groups A to C
- active follow up for groups A and C
- passive follow up for group B, only if PPE and antiviral chemoprophylaxis consistently used throughout the incident; see ‘Health surveillance of individuals exposed during the incident’ (otherwise active follow up)

Summary of the standard approach

- groups A to C do not need antivirals
- passive follow up for groups A to C

Figure 2. Summary of public health actions



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Annexes

Annexe 1. Currently circulating avian influenzas of concern

AI mainly affects birds, but some strains can be transmitted to humans and other mammals and cause illness. It is those strains that are of interest to public health and so they are monitored through various routes. Of particular concern are influenza H5 strains, especially H5N1. In recent years there have been recombination events involving H5N1 that have resulted in the generation of new subtypes, some of which have been highly pathogenic for avian species (for example A(H5N8)). Influenza H7 strains are also monitored, partly because there are some strains highly pathogenic for avian species and partly because of the appearance of LPAI A(H7N9), which, although of low pathogenicity for avian species, has proved to cause higher morbidity and mortality in humans.

Defra monitors the situation in avian species in the UK but is alert to events in Europe and the rest of the world, which may have an impact on the UK. Defra updates on current situations and guidance for keepers of avian species can be found online.

The World Organisation for Animal Health (OIE) carries a web portal where updates on avian influenza are posted.

The Food and Agriculture Organisation of the United Nations has a web-based application designed to support veterinary services by facilitating the organisation and access to regional and global disease information. This is updated regularly with up-to-date information on global animal disease distribution and current threats, including avian influenza.

The World Health Organization publishes a monthly risk assessment summary of influenza at the human-animal interface. It also publishes regular Disease Outbreak News, which sometimes includes avian influenza of significance to public health.

UKHSA monitors all of these sources of information and publishes updates, guidance and analyses.

Annexe 2. The APHA response: summary of key actions following notification of suspected AI

Notification of suspected AI to the APHA Local office can be made by:

- owner or person responsible
- private veterinarian
- inspector
- active surveillance (UK Poultry Survey)
- FSA (for example, at slaughterhouse)

A telephone assessment is then carried out by the duty Veterinary Officer (VO) at the APHA Local Office.

AI can either be ruled out on clinical grounds or, if AI is suspected, a duty VO will plan to visit the premises and movement restrictions are put in place.

The duty VO visits the premise and discusses the case with VENDU, after which AI can either be ruled out on clinical grounds or AI remains suspected.

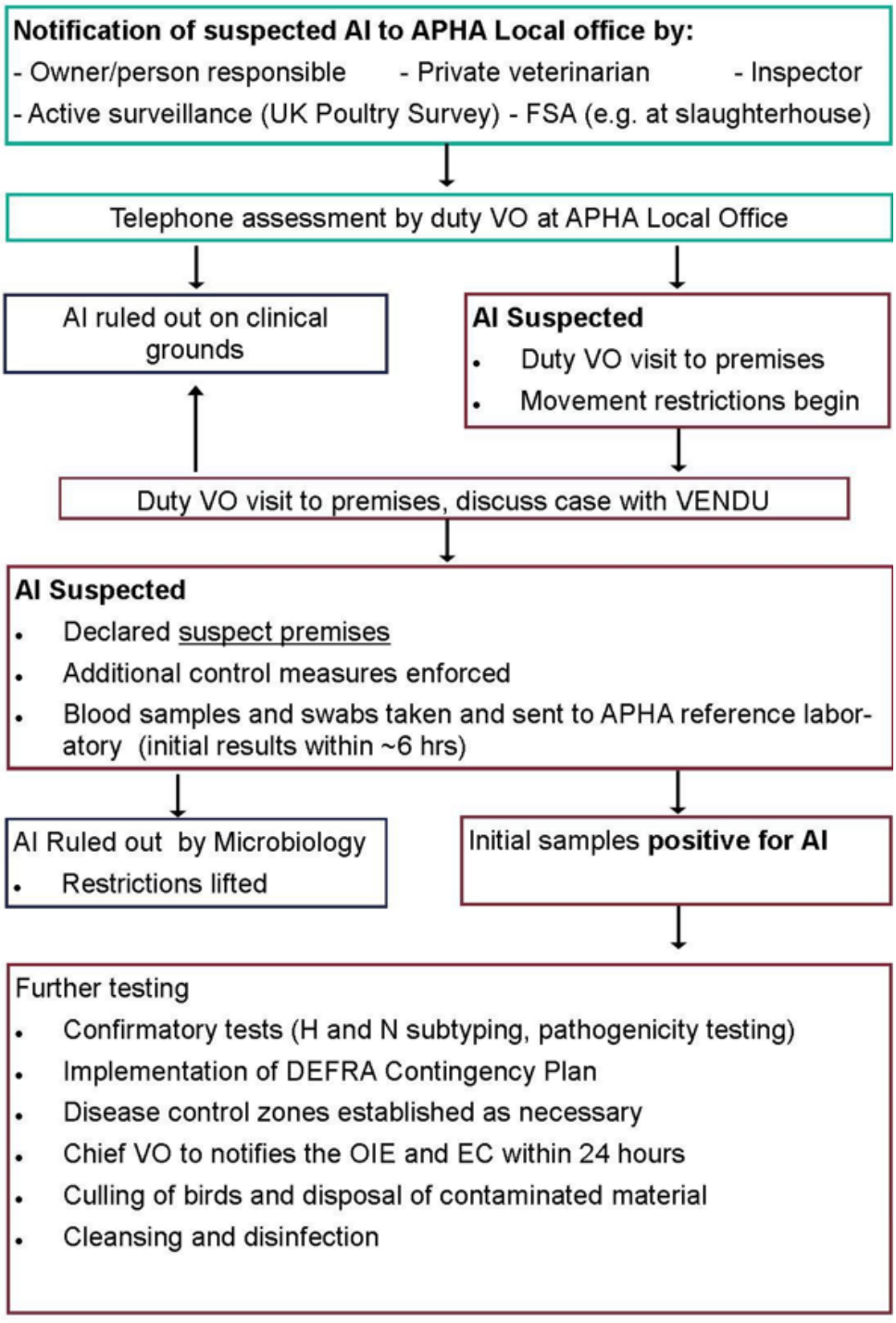
If AI is suspected, the premises is declared a suspect premises. Additional control measures are enforced and blood samples and swabs taken are sent to the APHA reference laboratory (initial results within approximately 6 hours).

AI will then either be ruled out by laboratory testing (according to a defined APHA protocol) and restrictions lifted, or, if initial samples are positive for AI, further testing will be carried out:

- confirmatory tests (H and N subtyping, pathogenicity testing)
- implementation of DEFRA Contingency Plan
- disease control zones established as necessary
- chief VO notifies the OIE and EC within 24 hours
- culling of birds and disposal of contaminated material
- cleansing and disinfection

These steps are outlined in the flowchart below.

Figure 3. The APHA response: summary of key actions following notification of suspected AI



Annexe 3. Key roles within the UKHSA incident management team

Chair

Strategic overview of local health response, appropriate delegation of tasks, receiving progress reports, briefing others (for example, local authority, government office, UKHSA teleconference). The chair should clarify liaison arrangements with Defra/APHA to ensure appropriate timely briefings. The chair should also ensure access to appropriate epidemiological and data management support at an early stage of an incident. The chair may be the UKHSA Consultant in Health Protection or the DPH.

APHA liaison

Liaison between Defra and the IMT. Defra's Health and Safety Team have oversight of the department's occupational health provider during an outbreak. HPT must ensure that the nominated occupational health representatives at operational and strategic levels are kept appraised of key decisions, to enable appropriate advice and actions to be taken in terms of occupational health management.

Local authority DPH

The DPH has the overall assurance role and is responsible for communication with the public and local stakeholders.

Consultant in health protection

Responsible for leading the local human health risk assessment, and for advising the IMT on the most appropriate response measures, taking account of all the circumstances of the current incident and advice from UKHSA staff with specialist epidemiological and virological expertise in the field of influenza. In addition, they will be responsible for ensuring there are clear arrangements locally for managing and testing suspected symptomatic human cases among persons exposed during the incident, accessing emergency supplies of antivirals and liaison with NIS.

Office manager and administrative staff

Record keeping, call handling, staff welfare, information for staff unfamiliar with local office systems, maintenance of rotas. Supporting appropriate epidemiological investigation to determine risk factors for infection and establishing extent of human-to-human transmission.

Emergency Planning Manager

Staffing support and planning.

Communication managers

Local authority, NHS and UKHSA communication managers are responsible for appropriate liaison with their colleagues from partner agencies to ensure consistent public health messages and agreeing multi-agency media statements.

NHS representative

Responsible for liaison with local NHS partners who will be tasked with prescribing and dispensing antiviral chemoprophylaxis.

Annexe 4. Key interactions of the local IMT and external partners

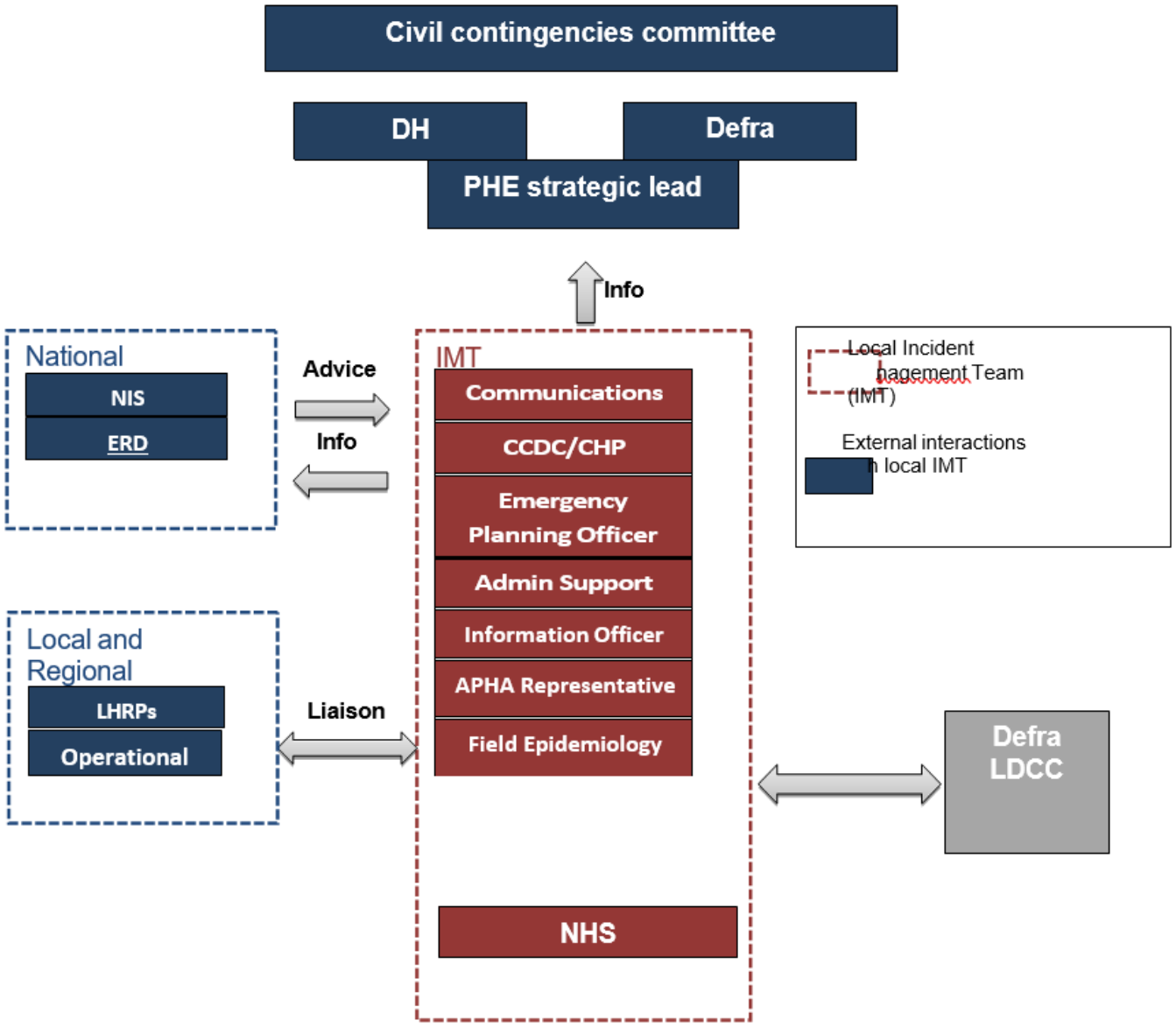
Relevant members of an IMT for AI incidents include the CCDC/CHP, communications, emergency planning officer, admin support, information officer, APHA representative, NHS representative and field epidemiology.

The IMT should also liaise with the Local Health Resilience Partnership (LHRP) and Defra Local Disease Control Centre (LDCC) as needed.

The IMT should share relevant information from the IMT with UKHSA's Acute Respiratory Infections (ARI) Team and EPRR who can offer further advice as needed. In instances where further national strategic oversight is required, the Acute Respiratory Infections (ARI) Team or EPRR will share information with the relevant UKHSA Director, the Department of Health and Social Care, Defra and the Civil Contingencies Committee.

See diagram below.

Figure 4. Key interactions of the local IMT and external partners



Annexe 5. Example health questionnaire for follow-up of exposed persons

Avian influenza: health questionnaire

Consent to collect information concerning your current health; for this information to be reviewed by the Animal and Plant Health Agency (APHA); and for this information to be passed to your local public health authority:

Avian influenza is primarily a disease of birds. It can, very rarely, be passed from birds to humans. You are being asked to provide the clinical information set out in the questionnaire, to assess whether there is any possibility that you, or any other people that you know of, are suffering from any symptoms of influenza.

The answers that you give will be checked by the official from the Animal and Plant Health Agency (APHA) who has come to your premises today. If you have answered ‘yes’ to any of these questions they will contact your local public health authority for further advice.

The completed form will be passed to your local public health authority and will become part of their records of this incident.

By completing this form you give consent to the information you provide being checked by APHA, and for APHA to pass this information, and information to enable them to contact you, to your local public health authority.

By providing the information requested on this form to the official from APHA you are helping your local public health authority to respond to any problems that you, your family, friends and contacts might have as quickly as possible.

Should you not wish to give this information to the official from APHA please ask them to arrange for your local public health authority to contact you directly.

Please complete the details overleaf and immediately hand back to one of the APHA team who has issued this form.

Contact details and health information

Personal details of the individual for whom the questionnaire is being completed
(Please print)

First name	
Second name (surname)	
Contact phone number	
Date of birth (DD/MM/YYYY)	
Name and address of GP surgery	
Please state your role on the site	Private vet, farmer, culling staff, catcher, APHA Staff, other (specify)

‘Contact’ is defined below as anyone who has been in contact with poultry, eggs, poultry litter or manure on this premises or has entered any building containing them, within last 10 days.

Details of contact with poultry with and without use of PPE

Personal protective equipment (PPE) includes FFP3 respirator, coverall, goggles, rubber or polyurethane boots and disposable nitrile, vinyl or heavy duty rubber (not latex) gloves. If you have not worn all these, then you should answer ‘no’ to wearing PPE in the questions below.

Have you had any contact with the following:	**Yes**	**No**
Dead or sick birds?		
Birds in the 48 hours before they became sick?		
Faecal material, eggs, litter or manure produced or contaminated by infected birds while the birds were sick?		
Faecal material, eggs, litter or manure produced or contaminated by the infected birds in the 48 hours before they became sick?		
If you have answered yes to any of the above, when did you start having this contact?		
If you have answered yes to any of the above, when was the last date you had this contact **without wearing PPE?**	Date:	

If you have answered yes to any of the above, when was the last date you had this contact **while wearing PPE?** If you continue to work on the site, please state 'Ongoing'	Date:

Health information

If you have ticked Yes to any of the questions above about contact with sick, dead birds or their faecal material, litter, manure or eggs, please answer the questions below.

Questions	**Yes**	**No**
1. Have you developed a flu like illness (for example, high temperature, cough, sore throat, runny nose, headache, aching muscles) in the 10 days since your last contact?		
2. Have you developed shortness of breath in the 10 days since your last contact?		
3. Have you developed sticky eyess or conjunctivitis up to 10 days from after your last contact?		
4. Are you aware of anyone else associated with this incident who has developed any of these symptoms? If yes, provide name and contact number if known, in the space below:		
5. Have you taken any medication to prevent avian influenza (antiviral prophylaxis)?		
6. If you have taken medication to prevent avian influenza, what was the name of this medication?	Name of medication:	
7. If you have taken medication to prevent avian influenza did you start taking this before or after your first contact?	(Please circle) Before After	
8. If you have taken any medication to prevent avian influenza prior to your contact, what date did you start taking this and when did you stop taking it? (If you are still taking this medication, please state 'ongoing').	Date started: Date stopped:	

Signed:…… Dated:…….

APHA staff must immediately phone the relevant health protection team if any answers to questions 1 to 4 are yes.

Annexe 6. Management of persons exposed to avian influenza without PPE under the strict approach

The following algorithm applies to the public health management of persons who have been exposed to a confirmed, or possible, avian influenza in poultry or wild birds, where adequate PPE was not worn at the time of exposure and the strict approach has been applied.

For information and guidance on dosage for antiviral prophylaxis and treatment, please see guidance about Influenza: treatment and prophylaxis using anti-viral agents and specific guidance for A(H7N9).

Further information about avian influenza in birds may be found on the Defra website.

Advice on occupational exposure, including PPE, can be found on the HSE website.

Follow-up

Active follow-up should be for a period of 10 days following the last exposure (even if PPE was worn). Persons exposed are asked to report any symptoms, including conjunctivitis.

If in any doubt on the correct course of action, discuss with the Acute Respiratory Infections (ARI) Team or the UKHSA Duty Doctor (out-of-hours) on 020 8200 4400.

If any person subject to public health follow-up becomes symptomatic, alert the Acute Respiratory Infections (ARI) Team or the UKHSA Duty Doctor (out-of-hours) on 020 8200 4400.

Text version of Figure 5: Flowchart showing management of persons exposed to avian influenza without PPE under the strict approach (below)

The following types of exposure (among people who have not worn adequate PPE) are listed in order of risk, from highest risk (vet and farm workers) to very low risk (no known exposures). The appropriate public health response (under the strict approach) is listed beneath each category of exposure.

1. Category A

Vet workers, farm workers or equivalent who had direct contact with birds or their faecal material or eggs before the incident was declared (or 48 hours prior to the onset of clinical signs in birds and not wearing PPE).

This may include persons living on the farm if they have had direct contact with potentially infected material.

Response

0 to 7 days since last exposure: start oseltamivir prophylaxis, provide information and active follow-up*

7 to 10 days since last exposure: oseltamivir not indicated, provide information, active follow-up
For all symptomatic persons (including conjunctivitis):

- initiate oseltamivir treatment promptly
- arrange for swabbing and serology testing
- alert NIS

2. Category C

For example, members of the public (or others) inadvertently handling sick or dead birds, or their faecal matter that is confirmed to be infected with AI.

Response

0 to 7 days since last exposure: start oseltamivir prophylaxis, provide information and active follow-up*

7 to 10 days since last exposure: oseltamivir not indicated, provide information, active follow-up
For all symptomatic persons (including conjunctivitis):

- initiate oseltamivir treatment promptly
- arrange for swabbing and serology testing
- alert NIS

3. No direct exposure

Visitors to the infected premises who have not actually handled birds or their faecal material.

Response

Provide information, and passive follow-up.

4. Contacts

Close contacts of people in category 1 or 2.

Response

Dependent on AI subtype. Provide information if requested.

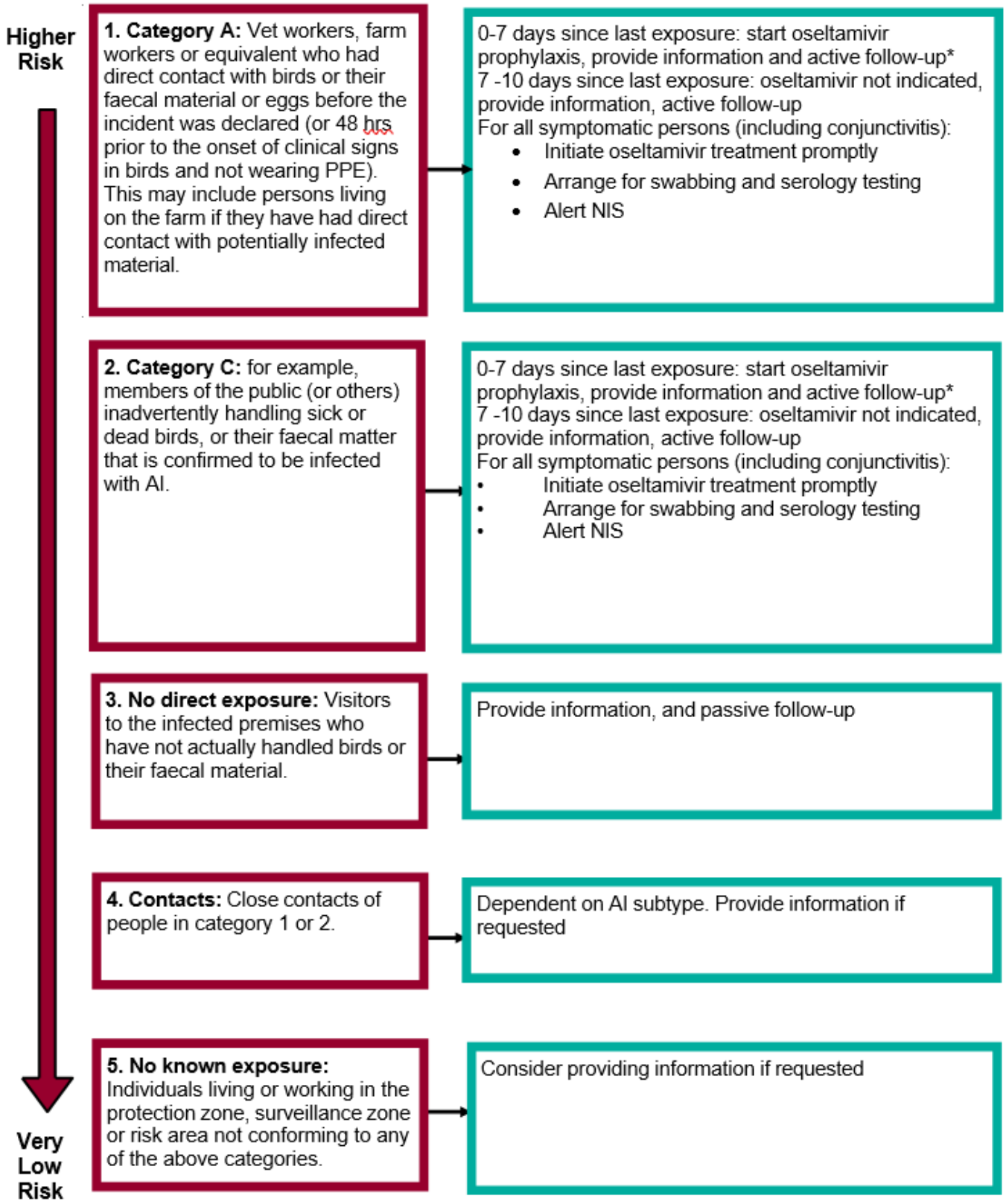
5. No known exposure

Individuals living or working in the protection zone, surveillance zone or risk area not conforming to any of the above.

Response

Consider providing information if requested.

Figure 5. Flowchart showing management of persons exposed to avian influenza without PPE under the strict approach



Annexe 7. Management of individuals with prolonged ongoing exposure

The maximum recommended use of antivirals is for 42 days.

Where an individual has ongoing exposure which is likely to last longer than 42 days, a break in antiviral treatment is required.

Individuals with ongoing exposure should be allowed to continue their duties with ongoing exposure for 32 days while taking antiviral chemoprophylaxis. They should then be redeployed to duties where they are not exposed and should be followed up for 10 days while they continue prophylaxis and are exposure free.

If further exposure is necessary, a 3-day break from antiviral prophylaxis should be observed. Subsequent to this they may return to duties where they are exposed and should recommence antiviral prophylaxis.

Annexe 8. Supplementary guidance relating to people responding to a suspected or confirmed avian influenza incident

On declaration of a confirmed of suspected influenza, the number of persons responding should be kept to a workable minimum.

Personal protective equipment (PPE)

Anyone involved in the response to an AI incident who will be handling live or dead birds or contaminated materials should use the recommended level of PPE. This is covered in guidance from the Health and Safety Executive (HSE).

Logistical arrangements

HPTs will be aware of the locations of small local emergency antivirals stocks and how to access these. If urgent replenishment is likely to be needed to meet the needs of the incident, this should be raised during normal office hours with National Infection Service, Colindale.

Seasonal influenza vaccination

Seasonal influenza vaccination is not recommended as a routine action in the response to avian influenza incidents. This is related to the time required for an individual to be protected from such a vaccination, which is normally longer than an individual's exposure during the response to a single incident. It should be noted that a seasonal influenza vaccination is not expected to protect against a particular avian influenza strain identified in the incident itself. This advice has been discussed and agreed with the Advisory Committee on Dangerous Pathogens (ACDP).

Serology

Unless otherwise advised, serology is not a routine investigation for these incidents and should only be obtained from exposed individuals following prior discussion with the UKHSA Virus Reference Department.

Useful contact details

Acute Respiratory Infections (ARI) Team (in-hours): ef.colindale@ukhsa.gov.uk

Colindale Duty Doctors (out of hours, health professionals only): 020 8200 4400

Virus reference department: 020 8327 6017 or VRD.enquires@ukhsa.gov.uk

Annexe 9. Oseltamivir prophylaxis: factsheet for contacts

Avian (bird) flu: antiviral medicine

Why you have been given this medicine

You have been given a course of antiviral medicine called Oseltamivir (Tamiflu®) because you have come into close contact with poultry/contaminated materials from poultry suspected or confirmed (delete as appropriate) to be infected with bird flu virus type [insert virus type]. This means that you might have been exposed to the bird flu virus. The risk to your health is low but taking antiviral medicine reduces this risk even further. It will also reduce the risk of you becoming unwell with an ordinary human flu virus, while you are taking the antivirals.

How much you should take

To work effectively you must take one capsule every day until the course you have been given finishes or until your GP or other health professional tells you to stop.

Taking this medicine if you are pregnant

If you are pregnant or are currently breast feeding, please bring this to the attention of the health professional who gave you the medicines, before you start taking them and they will advise you.

If you have another medical condition

Please tell the health professional who is providing the antiviral medicines about any medical condition or allergies to medicines.

Side effects

Not usually and side effects will generally be mild. Side effects have been rarely reported and include nausea and mild stomach ache or upset. Nausea is less likely if the medicine is taken with food.

When to start taking this medicine

As soon as you get it.

Your family doesn’t need this medicine

Only people who are believed to have come into close contact with a bird infected with bird flu need to take the medicine. This is because only people who have handled or have been in very close contact with infected birds are at risk of getting bird flu.

If you develop symptoms

If you suddenly develop any of the following symptoms up to 10 days after your last contact with the affected birds or affected farm or premises it is important that you contact either your GP or other health professional by telephone as soon as possible. You should refer to this information sheet so they understand why you are taking these medicines

The most important symptoms to look for are:

- high temperature or fever (temperature of 38°C or more)
- cough
- shortness of breath
- red, sore and sticky eye

Other symptoms may include:

- body or muscle pain or aches
- sore throat
- runny nose

If you need any further advice or have any of the above symptoms and have not been able to contact a health professional, please contact [insert local HPT details] quoting [HPZONE reference].

Outside office hours you will be put through to [specify details of how to contact out of hours].

Annexe 10. Letter to GPs for patients who have received antiviral prophylaxis

Dear colleague

Antivirals provided to your patient in relation to avian flu outbreak on xxxxxxxxxx at XXXXX

Your patient detailed below is among those identified as potentially exposed to avian flu during an incident in [specify]. They have been provided with oseltamivir prophylaxis, as follows:

[patient name and address field]

Oseltamivir 75mg OD for 10 days PO (modify as required*)

You will want to update your records with this information.

This potentially exposed person may contact you in the event that they experience fever, respiratory symptoms or conjunctivitis symptoms, up to 10 days after their last exposure to the affected premises.

We recommend that you contact your local health protection team immediately if the patients contact you. Your local team will provide advice on how to investigate and manage these patients.

The team can be contacted via [specify details for team local to GP surgery] quoting [HPZone reference].

Further information and guidance is also available online.

We thank you for your cooperation.

Yours faithfully

[suggest copy to local HPT duty desk for those not resident in same HPT area]

Annexe 11. Advice on swabbing of symptomatic individuals exposed to confirmed avian influenza incidents

When an exposed person has developed symptoms compatible with human infection with Avian Influenza (AI) (including conjunctivitis), it is preferable to arrange for swabs to be taken by a healthcare worker using appropriate PPE, as per national guidance, which will include FFP3 respirators, gloves and eye protection.

This facilitates obtaining the best sample safely. It is acknowledged that this will require communication with healthcare staff with appropriate skills and equipment, and that this can be difficult to facilitate. However, this is similar to the IPC requirements which would need to be in place to ensure that a patient could be safely clinically assessed if they requested it. This is no different to the situation posed by significant respiratory infections such as MERS-CoV. It should be clear that confirming the diagnosis for such individuals is for their clinical benefit, by facilitating appropriate clinical management.

There has previously been discussion about the use of self-swabbing in scenarios where an individual has a relevant exposure to an Avian Influenza incident but does not require immediate medical admission. It should be noted that in these situations, a human case of AI is regarded as an emerging infection, that is, there is no existing significant community transmission and likely to be little population immunity to any infection. This is why it is important to confirm or refute the diagnosis with a high-quality specimen, explaining the preference for a healthcare professional to take this specimen and for appropriate PPE to be used. This is in contrast to the use of self-swabbing in other scenarios such as seasonal influenza, where community transmission is occurring. It should be noted that even in any future pandemic, self-swabbing would not be used before community transmission is established.

Glossary of abbreviations

Abbreviation	Meaning
ACDP	Advisory Committee on Dangerous Pathogens
ARI	Acute Respiratory Infections
AI	Avian influenza
APHA	Animal and Plant Health Agency
CCG	Clinical commissioning group
CHP	Consultant in health protection
CVO	Chief Veterinary Officer
Defra	Department for the Environment, Food and Rural Affairs
DH	Department of Health
DPH	Director of Public Health
EPM	Emergency planning manager
EPRR	Emergency Preparedness Resilience and Response Directorate
FFP3	Filtering facepiece class 3
FOB	Forward operations base
GP	General practitioner
HPAI	Highly pathogenic avian influenza
HPT	Health protection team
HSE	Health and Safety Executive
IMT	Incident management team
JCC	Joint coordination centre
LA	Local authority
LDCC	Local disease control centre
LHRP	Local health resilience partnership
LPAI	Low pathogenic avian influenza
NDCC	National Disease Control Centre
NHS	National Health Service
NHSE	NHS England
OIE	The Office International des Epizooties, now the World Organisation for Animal Health, but the acronym was retained
CONOPS	Concept of Operations
PPE	Personal protective equipment

Abbreviation	Meaning
ROD	Regional operations director
VENDU	Veterinary exotic notifiable diseases unit
VO	Veterinary officer

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About the UK Health Security Agency

UKHSA is responsible for protecting every member of every community from the impact of infectious diseases, chemical, biological, radiological and nuclear incidents and other health threats. We provide intellectual, scientific and operational leadership at national and local level, as well as on the global stage, to make the nation health secure.

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