

Northern Ireland Infectious Disease Incident / Outbreak Plan

Public Health Agency

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Contents

1. INTRODUCTION.....	7
2. AIM AND SCOPE.....	8
Interface with Major Incident Plans	9
3. INCIDENTS AND OUTBREAKS.....	11
Early Recognition of an Incident / Outbreak	11
Risk Assessment	11
4. INCIDENT / OUTBREAK MANAGEMENT.....	14
First Incident/ Outbreak Control Team Meeting	14
Declaring an Outbreak	15
Incident/Outbreak Control Team Roles and Responsibilities	16
Organisational Responsibilities for Incident/Outbreak Settings	17
Foodborne Incidents/Outbreaks in Trust facilities	18
ICT/OCT Situation Room	18
Systematic Investigation	19
Control measures	19
Epidemiological Investigation	20
Microbiological Investigation	21
Environmental Investigation	21
Veterinary Investigation	22
Samples and Legal Issues	23
Record keeping	23
Communication	24
Telephone Helpline	25
Confidentiality	26
End of the Incident/Outbreak Investigation	27

Debriefing	28
Incident / Outbreak Report	28
Recovery	28
5. TESTING AND REVIEW OF PLANS	30
APPENDIX 1: DEFINITIONS	31
APPENDIX 2: MEMBERSHIP OF THE ICT/OCT	34
APPENDIX 3: DUTIES OF THE INCIDENT/OUTBREAK CONTROL TEAM AND SUGGESTED TERMS OF REFERENCE	36
APPENDIX 4: AGENDA FOR AN INCIDENT/OUTBREAK CONTROL TEAM MEETING	39
APPENDIX 5: ROLES AND RESPONSIBILITIES OF USUAL MEMBERS OF ICT/OCT ...	40
APPENDIX 6: ROLES AND RESPONSIBILITIES OF ORGANISATIONS.....	47
APPENDIX 7: FLOWCHART FOR THE MANAGEMENT OF AN INCIDENT/OUTBREAK	51
APPENDIX 8: INVESTIGATION AND CONTROL OF AN INCIDENT/OUTBREAK CHECKLIST	53
APPENDIX 9: ICT/OCT SITUATION ROOM CHECKLIST	56
APPENDIX 10: GUIDELINES FOR THE ORGANISATION OF AND PARTICIPATION IN REGIONAL TELECONFERENCES	57
APPENDIX 11: SETTING UP A TELEPHONE HELPLINE.....	59
APPENDIX 12: OUTLINE STRUCTURE FOR AN INCIDENT/OUTBREAK REPORT	62
APPENDIX 13: CURRENT CONTACTS LIST	64
APPENDIX 14: CONTACT DETAILS FOR INTERPRETING AND TRANSLATION SERVICES	65
Effective Communications with Ethnic Minorities and Ethnic Minority Businesses	65

APPENDIX 15: ACCESSING BUILDINGS OUT OF HOURS.....67

APPENDIX 16: PHA / HSCB / BSO JOINT RESPONSE EMERGENCY PLAN - LEVELS OF JOINT EMERGENCY RESPONSE.....68

APPENDIX 17: DYNAMIC RISK ASSESSMENT MODEL.....69

APPENDIX 18: LEGAL76

HEALTH AND SOCIAL CARE (REFORM) ACT (NORTHERN IRELAND) 2009.....76

**PUBLIC HEALTH ACT (NORTHERN IRELAND) 1967APPENDIX 19:
INCIDENTS/OUTBREAKS INVOLVING THE REPUBLIC OF IRELAND76**

APPENDIX 20: AUTHORIZATIONS & MEMORANDA OF UNDERSTANDING78

Acknowledgements

The document has also been informed by comments provided by colleagues within the PHA and from stakeholder organisations.

Abbreviations

BSO	Business Services Organisation
CHP	Consultant in Health Protection
CMO	Chief Medical Officer
DOH	Department of Health, Social Services and Public Safety
DPH	Director of Public Health
EHO	Environmental Health Officer
GP	General Practitioner
HPA	Health Protection Agency
HPS	Health Protection Service (functional division within PHA)
HSC	Health & Social Care
HSCB	Health & Social Care Board
HSENI	Health and Safety Executive
IPCN	Infection Prevention & Control Nurse
ICT	Incident Control Team
OCT	Outbreak Control Team
PHA	Public Health Agency

1. Introduction

- 1.1 The Public Health Agency (PHA) was established under the Health and Social Care (Reform) Act 2009 and statutory functions for health protection transferred to the Director of Public Health (DPH) in the PHA. The statutory health protection functions are discharged primarily through the Health Protection division under the Director of Public Health. The functions include the surveillance, prevention and control of communicable disease and environmental hazards; early identification, dynamic risk assessment and management of incidents and outbreaks; and emergency preparedness and response.
- 1.2 **This document is a generic template to identify, risk assess and manage an incident or outbreak of infectious disease against which infection-specific plans may be developed.** It does not cover the surveillance of, or the day-day management of infectious diseases.
- 1.3 This Plan should be reviewed and updated on a regular basis and should be regarded as a 'living' document.

2. Aim and Scope

2.1 The primary objective in the identification, risk assessment and management of an incident or outbreak is to protect public health by promptly identifying the source, implementing necessary measures to prevent further spread or recurrence, ensuring appropriate medical attention for those infected and communicating with patients / clients, the public and professionals. These can be summarised as:

- Investigate
- Control
- Treat
- Communicate

The protection of public health, including patient and population safety, takes priority over all other considerations.

2.2 The secondary objective is to improve surveillance, refine incident/outbreak management, add to the evidence base and learn lessons to improve communicable disease control for the future.

2.3 The purpose of this incident/outbreak plan is to provide a framework which will facilitate the achievement of the above objectives in an efficient and timely manner.

2.4 The plan is intended to ensure that a coordinated approach is taken throughout Northern Ireland. It identifies the roles and responsibilities of the key organisations and individuals, and covers management and organisational aspects, communication, investigation and control procedures.

2.5 The plan covers all infectious diseases, defined as all illnesses caused by microbiological agents including bacteria, viruses, fungi and parasites. It also covers food poisoning as a result of food borne toxins and heavy metal

contamination. Responding to any incidents/outbreak may require significant involvement of a number of staff from different organisations e.g. Trusts, Environmental Health, DAERA etc.

- 2.6 Incidents or outbreaks might have a number of causes in addition to infectious causes, including chemical and radiological. Biological agents may be released deliberately. This document may provide a framework for the initial management of such incidents, although as soon as there is suspicion of such an incident, consideration should be given to the activation of the PHA/HSCB/BSO 'Joint Response Emergency Plan'. Appendix 16 details the 4 levels of response in this Plan.
- 2.7 Incidents/outbreaks may occur within the community or within institutions, or a combination. Health and Social Care Trusts will use their own Plans for the management of incidents/outbreaks occurring in any of their premises.
- 2.8 This Plan consists of a generic template and appendices pertinent to all incidents/outbreaks and should be read in conjunction with more specific plans if required / available

Interface with Major Incident Plans

- 2.9 Most incidents/outbreaks are small to medium-sized and may not impact greatly on routine services. In some situations, small incidents/outbreaks may give rise to significant public concern despite having little impact on services. On occasion, outbreaks may be of such a magnitude that there is a significant impact on services throughout the region. In these circumstances, the ICT/OCT may establish a service continuity subgroup or other appropriate structure to manage the service issues. Within Health and Social Care, if there are service continuity issues which cannot be managed within one Trust, the Health and Social Care Board will take the lead regionally and the lead should be a member of the ICT/OCT.

2.10 In rare circumstances e.g. pandemic flu, the impact on services may be such that the major incident plans of one or more relevant stakeholder organisations will be invoked e.g. local council, HSC Trusts, NI Water, or PHA/HSCB/BSO 'Joint Response Emergency Plan'.

3. Incidents and Outbreaks

3.1 An outbreak will often first be recognised as an 'unusual' or 'unexpected' incident which, following on-going risk assessment by the incident team, is recognised as an outbreak. Whatever the terminology, either scenario might be handled in a similar way and either might demand significant resources. This plan will refer to both incidents and outbreaks.

Early Recognition of an Incident / Outbreak

3.2 To ensure early recognition of a possible incident/outbreak each organisation must have its own robust procedures for surveillance of infectious disease levels, detection of abnormal patterns, and escalation to senior level. Suspicion and recognition of an incident or outbreak can be by, amongst others, Trust Infection Prevention and Control Teams, Microbiologists, clinical staff, residential facility managers, Environmental Health or Health Protection, PHA.

3.3 Outbreaks can present and evolve in different ways:

- Acute – lead to a sudden increase in numbers of cases, and is often associated with a point source;
- Persisting – develop over a number of days and weeks, and often involve a disease in which person to person spread is common (with or without an initial point source) and/or continued exposure to the suspect source/food etc..

Risk Assessment

3.4 An outbreak should be considered when there are:

- two or more people experiencing a similar illness, are linked in time or place;
- a greater than expected rate of infection compared with the usual background rate for the place and time where the outbreak has occurred;
- a single case of certain rare diseases, such as diphtheria, botulism, rabies, viral haemorrhagic fever or polio; or

- a suspected, anticipated or actual event involving microbial or chemical contamination of food or water.
- 3.5 If there is, for example, an increased incidence or an unusual case identified, but it is not possible to immediately confirm an outbreak, relevant staff in the organisation e.g. PHA, Trust or Council should hold **preliminary discussions as part of a local level review** to establish the facts. This should include a risk assessment (appendix 17). The key objectives in this initial phase are to determine:
- Whether a problem exists;
 - The nature and extent of the potential incident;
 - Any immediate investigation or control measures required;
 - Who to inform, e.g. whether or not to contact the PHA;
 - Whether or not to establish an Incident or Outbreak Control Team.
- 3.6 If an incident/outbreak cannot be excluded through local level review, an **Incident Control Team (ICT)** should be established with relevant organisations. In this situation an 'incident' should be used to describe the initial assessment or investigation of a potential outbreak. The lead organisation with responsibility for convening the ICT and which other organisations should be involved will depend on the nature of the incident (this is described further in section on Organisational Responsibilities for Incident / Outbreak Settings). The ICT, as part of the response, should consider and implement relevant control measures.
- 3.7 If after local level review, an outbreak is strongly suspected then an **Outbreak Control Team (OCT)** should be established without the need for an Incident Control Team and PHA advised.
- 3.8 An Incident / Outbreak Control Team (ICT/OCT) is responsible for controlling an incident/outbreak. The ICT/OCT or delegated subgroup (e.g. Environmental Health subgroup) should make all the major decisions involved in controlling the

incident/outbreak and multiple lines of reporting or responsibility should be avoided.

- 3.9 If an ICT / OCT is not established, the relevant organisations should review and risk assess the situation and any control measures regularly and be prepared to convene an ICT / OCT if necessary. Rationale for decisions and on-going risk assessments should be fully documented.
- 3.10 It is recognised that outbreaks can range in severity, size and frequency. Some outbreaks can be managed without the need for establishing a full incident / outbreak team e.g. norovirus or flu outbreak in a nursing home. In these situations, provided a full risk assessment is completed, processes are documented, control measures implemented appropriately and follow up agreed, an OCT may not need to be established. If on-going risk assessment raises any concerns, an OCT can be established at that time.

4. Incident / Outbreak Management

First Incident/ Outbreak Control Team Meeting

- 4.1 An agenda should be prepared and shared with all members of the team (appendix 4 is a draft agenda for an ICT / OCT meeting).
- 4.2 The ICT meeting may take place via telephone or video conference (appendix 10), although it is often preferable to meet.
- 4.3 The ICT (or OCT if it has been established instead) should:
 - Confirm the validity of the initial information upon which the potential outbreak is based (e.g. possibility of laboratory false positives, change to laboratory practice, or change to reporting practices)
 - Consider whether or not the cases have the same diagnosis and what the working diagnosis is
 - Establish a preliminary case definition
 - Conduct preliminary interviews with the initial cases to gather basic information including any common factors
 - Collect relevant clinical and/or environmental specimens
 - Form a preliminary hypothesis
 - Consider the likelihood of a continuing public health risk
 - Consider case finding
 - Consider further investigations
 - Consider and implement any immediate control measures based on a precautionary principle of protecting public health and if necessary without waiting for further investigations or confirmation of source
 - Carry out an initial risk assessment to guide the decision making (appendix 17) and consider whether the episode is of sufficient significance to require special arrangements for investigation and management

- Determine whether or not the incident constitutes an outbreak (see section 3.4). The ICT may not be able to make that determination at the first meeting and should review it as more information becomes available.
- 4.4 All ICT/OCT discussions and decisions should be fully documented for on-going / future reference, preferably by appropriately trained (loggist trained) administration staff. If the Incident Team continues to meet, they must regularly review the need to declare an outbreak.

Declaring an Outbreak

- 4.5 Following the above assessment, the Incident Team should determine if the incident constitutes an outbreak. The Incident Team should clearly state that they are declaring an outbreak and record the decision and the elements of the risk assessment on which the declaration is based. The Incident Team then becomes the **Outbreak Control Team** (OCT) and should review membership to ensure there is appropriate representation from all organisations. Trusts should inform relevant organisations e.g. PHA of the decision to establish an OCT.
- 4.6 The ultimate decision about whether to formally declare an outbreak will be the responsibility of the Incident Control Team as only they have all of the relevant information. However, in complex or unusual incidents, it would be appropriate for the ICT to discuss the situation and on-going control / management with regional and national colleagues with particular expertise.
- 4.7 If an outbreak is not declared, the ICT should continue to meet to review and risk assess (Appendix 17) the incident and declare an outbreak at a later date if required.
- 4.8 The formal declaration of an outbreak will enhance Director level awareness and involvement and aid the timely redeployment of staff / resources to manage the response. However, appropriate control measures should be implemented for every incident regardless of whether an outbreak is formally declared.

Incident/Outbreak Control Team Roles and Responsibilities

- 4.9 Responsibility for managing incidents/outbreaks is shared by all the organisations who are members of the Incident/Outbreak Control Team (ICT/OCT). Membership of the ICT/OCT should be in accordance with appendix 2 and it is the responsibility of the chair and other members to ensure that all key individuals are invited. Within the ICT/OCT, each organisation remains responsible for its specific designated and statutory functions.
- 4.10 Participants at the ICT/OCT should have delegated authority from the parent organisations and representatives must be of sufficient seniority to make and implement decisions. The ICT/OCT is recognised as the group with overall responsibility and decision making for managing the incident/outbreak. If internal organisations' response teams are established, it should be clear to all involved the roles of the response team and the roles of the Incident/Outbreak Control Team.
- 4.11 The involved organisations must provide adequate and appropriate resources at the disposal of the ICT/OCT including administrative, human resources and financial resources if required.
- 4.12 The Chair of the ICT/OCT will normally be appointed at the first meeting or agreed by the relevant organisations' Directors beforehand. It is the duty of the chair to ensure that the team is managed appropriately in a professional manner in order to meet the objectives of the ICT/OCT. The duties of the ICT/OCT (appendix 3) should be agreed at the first meeting.
- 4.13 General guidelines for who should chair the ICT/OCT are detailed below. However, each incident / outbreak should be assessed individually and roles and responsibilities agreed by members of the ICT/OCT. As an incident/outbreak evolves, the organisation of the response may also change e.g. if an incident/outbreak initially affecting one Trust becomes more widespread, PHA may take over the chair.

Organisational Responsibilities for Incident/Outbreak Settings

Within a Community Setting (includes schools, nurseries, food premises etc.)

4.14 The response to an incident/outbreak in a community setting will normally be led by PHA. Typically, a Consultant in Health Protection (CHP) will chair the ICT/OCT, with input as appropriate from HP Nurses, Environmental Health and HSC Trust staff.

4.15 Individual roles and responsibilities will be agreed at the outset (see appendix 5 & 6). Provision for appropriate resources including personnel will be decided and appropriate advice will be sought as necessary.

4.16 In the event of a major incident/outbreak, the ICT/OCT should be chaired by the Assistant Director of Public Health (Health Protection) or the Director of Public Health. This will be determined in discussion with the Director of Public Health.

Within a Community Healthcare Setting

4.17 If the community health care setting is an independent sector residential or nursing home, the PHA will normally lead the response, and therefore chair the ICT/OCT, with input from HSC Trust(s), RQIA and Environmental Health as appropriate. The PHA should keep relevant partner organisations e.g. other Trusts, HSCB, HSE informed of the situation.

4.18 If the community healthcare setting is a Trust service, the ICT/OCT will normally be chaired by a senior member of staff in the Trust, with input from RQIA, PHA and Environmental Health as appropriate unless it is a food borne outbreak (see 4.21). The Trust should keep relevant partner organisations e.g. other Trusts, HSCB, HSE informed of the situation. With reference to food borne outbreaks see section 4.21.

Within one Acute Healthcare Setting

4.19 An incident/outbreak within one hospital or Trust e.g. *Pseudomonas*, *Clostridium difficile* will normally be led by the Trust. The ICT/OCT will be chaired by a senior member of Trust staff in accordance with their Incident/Outbreak Plan. The ICT/OCT should consider if there has been a Serious Adverse Incident (SAI) and report and investigate as appropriate. The PHA should be alerted, kept informed of the situation by the Trust, and as appropriate, be invited by the Trust to the ICT/OCT. With reference to food borne outbreaks see section 4.21.

Incident/Outbreak in more than one Trust or with HSC service Continuity Issues beyond a single Trust

4.20 If an incident/outbreak involves more than one HSC Trust, relevant organisations should risk assess and agree who will chair the ICT/OCT. This may be a regional organisation e.g. PHA.

Foodborne Incidents/Outbreaks in Trust facilities

4.21 If an incident/outbreak in a hospital or other Trust facility could be food borne e.g. listeria, to facilitate the statutory responsibilities of OCT members e.g. Environmental Health, it would be appropriate for PHA to chair the Incident/Outbreak Control Team. This should be agreed by the PHA Health Protection lead and Trust lead during the preliminary phase of 'incident recognition and risk assessment' and formalised at the first incident / outbreak control team meeting. The ICT/OCT should consider establishing subgroups e.g. environmental health subgroup to facilitate the work of the ICT/OCT and the statutory responsibilities of ICT/OCT members.

ICT/OCT Situation Room

4.22 In an incident/outbreak of any significant size or impact (i.e. could not be managed by routine arrangements), consideration should be given to the establishment of an ICT/OCT Situation Room to manage the case management, laboratory results, surveillance and flow of information in the response to the incident/outbreak. The

ICT/OCT Situation Room in a community outbreak chaired by PHA, will typically be on the second or fourth floor of Linenhall Street, Belfast or in a back-up location(s). The equipment/facilities which may be required in an ICT/OCT Situation Room are listed in Appendix 9.

Systematic Investigation

4.23 A systematic approach to the investigation and control of an incident/outbreak is required. A schematic overview is shown at Appendix 7, a checklist at Appendix 8 and definitions at Appendix 1.

4.24 The purpose of a systematic investigation is to provide timely and reliable information on which to base sound decisions about the management of the incident/outbreak.

Control measures

4.25 The basic principles of communicable disease incident/outbreak control are:

- Control the source / potential source (may be animal, human or environmental);
- Control the mode of spread;
- Protect persons at risk;
- Continue surveillance of the impact of control measures.

4.26 A systematic approach to the investigation, and the rigorous application of scientific methods, allow control measures to be implemented with greater confidence of success. Control measures may be directed at the source, or the vehicle, or both. Measures will depend on the mode of spread and the particular circumstances of the incident/outbreak. Control measures may be necessary and justifiable to protect public health before definite source or mode of spread is established.

4.27 Control may also include offering protection to people at risk (e.g. giving immunoglobulin to those exposed to infection during an outbreak of hepatitis A).

Continued monitoring of the control measures themselves, and to identify any further cases of illness associated with the incident/outbreak, is essential to ensure that the measures are working.

4.28 The ICT/OCT should seek assurance that control measures / actions that have been recommended have been implemented appropriately. If cases continue, further more robust assurance should be sought.

4.29 In the event of an incident /outbreak requiring the activation of the PHA/HSCB/BSO 'Joint Response Emergency Plan' and HSC Silver, the lines of communication would be escalated as per this guidance.

Epidemiological Investigation

4.30 Descriptive epidemiology characterises the outbreak once it has been confirmed. This is done by collecting and examining information from cases. The goal of the descriptive stage of the investigation is to provide sufficient information to make preliminary control recommendations and to develop hypotheses for further analytical investigation, if required.

4.31 Further epidemiological analysis may be required in the form of an analytic epidemiological study. Possible reasons for an analytic epidemiological investigation include:

- descriptive epidemiology has not adequately informed the development and implementation of measures to control the outbreak or prevent further outbreaks occurring due to the same source
- on-going nature of the outbreak
- high public health impact of the outbreak (mortality or morbidity)
- high public interest
- a new or unusual disease agent or transmission mechanism
- an unknown disease agent
- a high likelihood of a common source
- availability of suitable human and financial resources

4.32 The ICT/OCT will act promptly when carrying out the epidemiological investigation. The epidemiological investigation is the responsibility of the ICT/OCT and may be led by the Consultant in Health Protection on the ICT/OCT, in discussion with the chair or other nominated individual as agreed by ICT/OCT.

Microbiological Investigation

4.33 The microbiological investigation involves appropriate microbiological analysis of samples from, as appropriate to the incident/outbreak, human cases, contacts, food and water, the environment (including equipment) and animals, to identify the causative organism and its likely origin. It may also determine the extent of contamination and allow evaluation of the effectiveness of implemented control measures.

4.34 Results from human microbiological investigation are usually the responsibility of the Consultant Microbiologist(s) at the local Trust(s) within the area(s) the incident/outbreak is occurring. Most food and environmental samples (with the exception of water samples from private supplies – see 4.35) are sent to the Public Health Laboratory in Belfast. Results from food and environmental samples are usually the responsibility of the Consultant Microbiologist(s) with responsibility for the Public Health Laboratory function. Further microbiological analysis can be required by the appropriate reference laboratory – this is important in identifying specific incident/outbreak strains. The Consultant Microbiologist(s) at the reference laboratory are usually responsible for these results.

4.35 Microbiological analysis of water from registered private supplies which falls under the responsibility of Drinking Water Inspectorate (DWI) is undertaken by DWI approved external laboratories accredited for the testing of water.

Environmental Investigation

4.36 This investigation is undertaken to highlight possible sources of infection and modes of transmission, the extent of contamination and the effectiveness of any control measures. The ICT/OCT determines appropriate investigations. In potential foodborne incidents/outbreaks, investigation may include examination of

food handling practices, review of premises and personal hygiene, environmental sampling, scrutiny of procedural documentation and critical records, and tracing of all risk foods back to source (as appropriate). In other incidents/outbreaks investigation will be based on the causative organism and potential sources of that organism and may include scrutiny of recent audit and assurance evidence results.

4.37 The responsibility for the environmental investigation depends on the location and nature of the incident/outbreak. It will either be the Trust Infection Prevention & Control Team or the relevant Environmental Health Department or other relevant organisation in liaison with PHA. Should food be the suspect source or vector of transmission, the local Environmental Health Department, must be involved as the enforcement authority.

4.38 Where the drinking water supply is implicated in an outbreak, DWI have enforcement responsibility at a premises supplied by a registered private supply and a regulatory role over NI Water where there is a public supply of water. DWI liaise with Environmental Health Departments as the food enforcement authority to decide who will take the lead in enforcement where a food premises with a private water supply is involved. Where Environmental Health enforcement powers are wider ranging, action may be taken by them.

4.39 PHA have agreed, or are in the process of agreeing, a Memorandum of Understanding with each Council Environmental Health department for the investigation of potential food borne outbreaks. There may also be instances when other organisations such as FSA, DAERA, HSENI, DWI will have involvement, depending on which Organisation has enforcement responsibility in the particular premises. See Appendix 6 – Roles & Responsibilities of Organisations.

Veterinary Investigation

4.40 The ICT/OCT will liaise with the Veterinary Officers of DAERA if appropriate. In such circumstances the Veterinary Officers will be invited to participate as members of the ICT/OCT and attend ICT/OCT meetings. A memorandum of

understanding has been agreed with DAERA, AFBI and PHA regarding the investigation and collection of appropriate clinical samples from animals.

Samples and Legal Issues

4.41 All personnel involved in the taking or handling of any food / environmental samples must be mindful of chain of evidence issues should criminal prosecutions result from the investigation.

4.42 Other legal issues, such as authorisation of EHOs, and the relevant Public Health legislation are addressed in Appendices 18 & 20.

Record keeping

4.43 Anyone involved in the incident/outbreak is responsible for keeping clear, accurate and comprehensive records of their involvement. In addition, the ICT/OCT should nominate an individual, preferably an appropriately trained loggist, to create a detailed timeline of all the events and information related to the incident/outbreak, including the rationale behind decisions taken. Legal action may ensue and this should always be borne in mind.

4.44 The Chair of the ICT/OCT is ultimately responsible for ensuring that detailed minutes are available for each meeting. This should include if appropriate an Actions log, Decisions log and an Issues log, preferably kept by a trained loggist. The minutes will:

- document the rationale and date for all decisions taken;
- record and date all actions agreed and by whom they should be taken;
- remain confidential.

4.45 All correspondence and minutes of meetings should be filed together in chronological order.

4.46 In addition, individual members of the ICT/OCT should keep personal logs of their activities and include details of information received, conversations held and meetings attended.

4.47 All documentation, including computer-generated information relating to the incident/outbreak, must be retained and regular back-ups of electronically stored information made.

Communication

4.48 Use of communication through the media may be a valuable part of the control strategy for the incident/outbreak. The ICT/OCT should consider the risks and benefits of pro-active versus reactive media engagement in any incident/outbreak.

4.49 It is important that when considering information for the media, the ICT/OCT should typically work on the principle of first informing the affected individuals / families using a variety of methods, including verbal and/or written. This is particularly relevant in the tragic circumstances of patient death(s).

4.50 The ICT/OCT will appoint a media spokesperson and will, with the support of the press officer, prepare interim and final briefing statements to be used. Any statements will be circulated to all team members and to all relevant organisations as agreed by the ICT/OCT.

4.51 During an incident/outbreak the Team will decide:

- How information will be communicated to individual cases or contacts;
- How information will be communicated to other units in NI and as necessary, in ROI, GB and elsewhere. To ensure relevant staff are informed, communication lines must be stated and recorded clearly. Multiple lines may be appropriate e.g. IPC to IPC, clinical to clinical. The overarching aim is to formally communicate the up to date position to all in the region (NI) who need to be aware. The frequent movement of patients between units makes good communication essential. It is the responsibility of the ICT/OCT to seek assurance that the agreed communications have happened;

- The information to be made available to the press and public – there are advantages in providing a regular update for the media at an agreed time (frequency to be agreed by the ICT/OCT) and for the production of media briefing notes. Daily updates are likely only to be required in major incidents/outbreaks;
- The timing and methods in which such information should be released. Special arrangements may need to be made for those who may not hear or understand the advice given including ethnic minority groups. Contact details for interpreting services are provided in Appendix 14;
- Whether to establish a telephone information service for the public. Advice on how to set up a helpline is given in Appendix 11.

4.52 In reaching decisions on these issues, the ICT/OCT should be alert to the importance of providing early and clear information on the nature and scale of the problem and on the action recommended, if any, and of updating this information regularly.

4.53 A press officer will be identified who will act as the initial point of contact for all media enquiries. It is often beneficial for the press officers of the lead and key partner organisations to be present at ICT/OCT meetings to be fully aware of the rationale behind actions. If the incident/outbreak may have potential impact on HSC services, the HSCB press officer should also be present at ICT/OCT meetings if appropriate.

4.54 Appropriate prevention and control information will be reinforced throughout the incident/outbreak.

4.55 The ICT/OCT should always maintain clear internal communications with staff caring for affected individuals and relevant decisions taken by the ICT/OCT should be communicated to staff before actions are taken.

Telephone Helpline

4.56 Advice on setting up a telephone helpline is given in Appendix 11.

Confidentiality

- 4.57 Individual clinical/food histories should be treated as medical records and managed with the same degree of confidentiality. Additionally, relevant staff are also bound by GMC or NMC requirements or other professional codes of practice.
- 4.58 All members and co-opted members of the ICT/OCT should be fully apprised of the requirement for confidentiality.
- 4.59 Personal, including but not only medical, information should generally not be divulged without permission of the individual. Any disclosure of personal information must be justifiable if necessary in court e.g. in the interests of public health where permission is not obtainable.
- 4.60 Information regarding Food Business Operators (FBO) disclosed during ICT/OCT meetings should also be treated as confidential.
- 4.61 Information given or obtained for one purpose should not be used for a different purpose without the consent of the provider of the information, other than in exceptional circumstances e.g. for the protection of members of the public.
- 4.62 The fact that the name of an ill person may potentially be already known to others outside the ICT/OCT and the media, is no reason to breach patient/case confidentiality either directly or indirectly. Such considerations also apply after death. Generally information should be shared on a need to know basis only. It should be highlighted that information which will not identify a person, can be provided to others if/as requested.
- 4.63 The ICT/OCT may disclose information about a person / Food Business Operator in certain circumstances to prevent serious risk to public health or the health of other individuals. Each disclosure is considered on its merit after consultation with relevant people. If in doubt, legal advice should be sought.
- 4.64 Confidentiality extends to personal information in relation to deceased persons. The contents of the above paragraphs also apply to the deceased.

- 4.65 Caution should be used when publishing epidemiological data relating to small numbers in case it could lead to deductive disclosure. Generally raw data should only be published if the number in the cell is five or more, otherwise the data should be suppressed or aggregated before publication to prevent identification of individuals.
- 4.66 All data, including computer-held data, are covered by the Data Protection Act 1998.

End of the Incident/Outbreak Investigation

- 4.67 The end of the incident/outbreak does not necessarily coincide with the end of the incident/outbreak investigation. The incident/outbreak may be ostensibly over, but the work of the ICT/OCT continues until the investigation is complete. Due to the incubation period of the causative organism, it may not be possible to declare the formal end of the incident/outbreak for some time.
- 4.68 The ICT/OCT will decide when the outbreak is over, usually informed by the on-going risk assessment and should be considered when:
- there is no longer a risk to public health that requires an ICT/OCT to conduct further investigation or to manage control measures;
 - The number of cases has declined and/or returned to baseline levels;
 - An agreed number of incubation periods have passed.
- 4.69 In the event of a food borne outbreak, the Environmental Health investigation and subsequent enforcement action may take a significant period of time and may impact upon the publication of the ICT/OCT report.

Debriefing

- 4.70 A debriefing meeting of ICT/OCT members should be convened in a timely manner to consider and capture lessons learned and any further preventive action required. This should be as soon as possible after the last meeting of the ICT/OCT, but if the ICT/OCT needs to continue to meet for a prolonged period, consideration should be given to an interim debrief and circulation of lessons learnt.
- 4.71 Consideration should also be given to debriefing at an organisational level, to identify learning and provide support for staff involved in the management of the incident/outbreak.

Incident / Outbreak Report

- 4.72 It may be necessary to produce an initial report, as soon as practically possible, and a final report at the end of the investigation, which must be suitable for publication, if appropriate. Ideally the final report should be completed as soon as possible to the close of the incident/outbreak (within 3 months). However, consideration should be given to legal and/or other proceedings which may impact on the timing of the report e.g. proposed prosecutions.
- 4.73 Learning from debriefs should be cascaded if possible, even if the final report is not available.
- 4.74 An outline structure for a report is detailed in Appendix 12.

Recovery

- 4.75 If the incident/outbreak was major and in particular if the PHA/HSCB/BSO Joint Response Emergency Plan was activated, then the ICT/OCT will need to liaise with any relevant recovery teams that have been established in response to the incident/outbreak to facilitate a smooth transition back to 'normal' business.
- 4.76 Following a prolonged incident/outbreak, and particularly if staff work additional hours in the response, provision should be made for staff recovery time. Other

commitments may need to be deferred to enable this to happen. Deferment should be agreed through normal line management responsibilities.

5. Testing and Review of Plans

- 5.1 This plan should be tested every 2 years if not used in an incident/outbreak situation. Responsibility for arranging such exercises rests with the designated Health Protection Consultant in PHA.

- 5.2 Following each activation/use of this plan, the lessons learned (as captured through the debrief) should be reviewed and the plan should be refreshed to reflect the learning arising.

Appendix 1: Definitions

Airborne transmission	Airborne transmission occurs by dissemination of either airborne droplet nuclei or small particles in the respirable size range containing infectious agents that remain infective over time and distance (e.g. spores of <i>Aspergillus</i> spp, and <i>Mycobacterium tuberculosis</i>). Microorganisms carried in this manner may be dispersed over long distances by air currents and may be inhaled by susceptible individuals who have not had face-to-face contact with (or been in the same room with) the infectious individual.
Analytical study	A study which compares groups of people to test a hypothesis to ascertain what the source of infection might be. An analytical study may take the form of a case control study or a cohort study.
Carrier	People who intermittently or continuously harbour infective organisms without suffering the clinical manifestations of the disease. People who excrete the organisms only occasionally are referred to as intermittent carriers. Convalescent carriers are those who remain infective if this condition persists over months or years. Typhoid carriers may excrete the organism for years because <i>Salmonella typhi</i> infects the gallbladder. Some infections are carried by people who give no history of illness caused by the agent. This healthy carrier state occurs in diphtheria and meningococcal infection.
Case	A person in the population or study group identified as having the particular disease, health disorder, or condition under investigation. A variety of criteria may be used to identify cases e.g. individuals physicians' diagnosis, registries and notifications, clinical notes, population screening and reporting of defects.
Case-case study	An analytical study in which exposures of people with the disease (cases) are compared to the exposures in cases of other diseases (control-cases).
Case-control study	An analytical study in which exposures of people with the disease (cases) are compared to the exposures of people without the disease (controls). When a study is retrospective, investigators look at past exposure.
Case definition	A case is defined above. A case definition defines who is a case in an outbreak situation or for surveillance purposes, in time, place and person. Can be classified

	<p>as</p> <ul style="list-style-type: none"> • Confirmed e.g. clinical diagnosis of the condition confirmed microbiologically as caused by an identified organism • Probable e.g. clinical diagnosis of a condition without full microbiological confirmation in which consultation took place with the clinician managing the case, considers that it is most likely caused by the condition under investigation e.g. as in MERS coronavirus or flu H7N9. • Possible e.g. as probable case, but the consultation with the clinician managing the case, considers that it is unlikely caused by the condition under investigation.
Chi Squared Test	The chi squared test compares two proportions (generally the observed frequency of occurrence with an expected frequency of occurrence) to determine whether the two (or more) groups differ significantly.
Cohort study	The method of epidemiological study in which subsets of a defined population can be identified who have been exposed or not exposed to a factor, which influence the probability of the occurrence of the disease.
Communicable disease	Synonymous with 'infectious diseases' and sometimes referred to as 'contagious disease or 'transmissible diseases'. Communicable diseases are caused by a living organism and transmitted by person to person or animal or bird to man either directly or indirectly.
Confidence interval (CI)	Quantifies the uncertainty in measuring association. It is usually reported as 95% CI, which is the range of values within which one can be 95% confident that the true value for the whole population lies.
Confirmed Case	A person with a positive laboratory result, i.e. isolation of the causative agent or a positive serological test. This case definition has high specificity.
Confounder	A variable which correlates with both the independent (exposure) and dependent (illness) variables.
Contact	A person who has the opportunity to acquire infection by virtue of having come into contact with an infected individual or animal, or contaminated environment.
Control	A person who does not have the illness. Exposure characteristics of the controls and cases are compared in a case control study.
Control-cases	A person who does not have the illness being studied, but has had another unrelated illness.

Droplet transmission	Infection caused by a projection of small droplets from the nose or mouth due to sneezing, coughing, talking or exhaling. The range of spread is usually limited to a few feet.
Endemic	An endemic disease is one, which is constantly present in a given geographical area; although it may temporary increase its incidence to become an epidemic.
Epidemic	An epidemic is an increase in the frequency of occurrence of a disease in a population above its baseline level for a specified period of time.
Exclusion	Means advice to refrain from or prohibition of working or attending school etc.
Food handler	There is no legal definition of a food handler but usually a food handler is understood to be any person who handles or prepares food whether open/unwrapped or packaged. The primary concern is the avoidance of microbiological contamination of food by infected persons whether by direct contact with open food or by indirect contact with surfaces in production and processing areas.
Food poisoning	Any disease of an infectious or toxic nature caused by, or thought to be caused by, the consumption of contaminated or potentially contaminated food or water(as defined by CMO)
Incubation period	The time which elapses between the person becoming infected and the appearance of the first symptoms. Its length is mainly determined by the nature of the infecting organism but it is also influenced to some extent by the dose of the organism, the route of entry into the body and the susceptibility of the host.
Outbreak	Two or more persons have the same disease, similar symptoms or excrete the same pathogens and in which there is a time, place and/or person association between these persons. An outbreak may also be defined as a situation when the observed number of cases unaccountably exceeds the expected number. A single case of a rare disease. A food borne or waterborne outbreak results from ingestion, by those affected, by food or water from the same contaminated source or which has become contaminated in the same way.

Appendix 2: Membership of the ICT/OCT

Depending on the circumstances of the incident/outbreak and the institutions involved there could be variation in the membership of the Incident/Outbreak Control Team. Typically the core team will be drawn from the following staff.

- Assistant Director of Public Health (Health Protection)
- Consultant in Health Protection
- Local Consultant Microbiologist / Virologist (in a major outbreak, may require more than one Consultant Microbiologist)
- Nominated EHO for involved councils
- Health Protection Nurse(s)
- Trust Lead Director for Infection Prevention and Control or nominee
- Hospital Control of Infection Doctor
- Infection Prevention and Control Nurse
- Senior Administrative Support
- Information/surveillance staff
- Epidemiological Scientists
- Communication Officer

In major regional incidents/outbreaks the Director of Public Health (DPH) may participate in and/or chair the ICT/OCT.

Co-opted Members as necessary

(The Team should seek assistance if additional expertise which could provide help and advice to the investigation)

- Human Resources
- Environmental Health Departments
- Department of Agriculture and Rural Development
- Public Analyst
- Engineering staff re water and waste systems
- Northern Ireland Water
- Drinking Water Inspectorate
- Health and Safety Executive Northern Ireland
- Health & Social Care Board (including social services staff or PHA staff from Commissioning and Screening division)
- Port Health

Immunisation Co-ordinator
Food Standards Agency
Public Health England
Agri Food and Biosciences Institute
Clinical staff
Pharmaceutical Advisor
Legal Advisor
DoH
Occupational Health
Others as appropriate

Appendix 3: Duties of the Incident/Outbreak Control Team & Suggested Terms of Reference

Duties of the ICT/OCT may include:

- Appointing a Chair (bearing in mind the requirement for continuity)
- Taking minutes to record decisions and actions
- Reviewing evidence (epidemiological, microbiological and environmental)
- Determining that there is an incident or outbreak
- Defining cases and identification of cases or carriers as appropriate
- Identifying the population at risk
- Identifying the nature, vehicle and source of infection by using microbiological, epidemiology and environmental health expertise
- Regularly conduct a dynamic risk assessment whilst the outbreak is on-going.
- Agreeing and advising appropriate control measures
- Developing a strategy to deal with the incident/outbreak and allocating individual and organisational responsibilities for implementing actions agreed
- Investigating the incident/outbreak, implementing control measures and monitoring their effectiveness, using laboratory, epidemiological and environmental health expertise
- Ensuring adequate manpower and resources are available for the management of the outbreak
- To assess the potential impact of the outbreak / incident on service activity issues within the Trust and communicate / escalate issues as appropriate through both management and clinical accountability lines. Consider establishing a service continuity subgroup if warranted.

- Ensuring that in the absence of a team member, a competent deputy is made available
- Ensuring appropriate arrangements are in place for out of hours contact with all ICT/OCT members
- Preventing further cases elsewhere by communicating findings to national agencies
- Obtaining assurance that recommended control measures / actions have been implemented
- Keeping relevant local agencies, DOH, the general public and the media appropriately informed
- Providing support advice, and guidance to all individuals and organisations directly involved
- Considering the potential staff training opportunities for the outbreak (attendance at the ICT/OCT is at the discretion of the chair)
- Identifying and utilising any opportunities for the acquisition of new knowledge about communicable disease control
- Declaring the conclusion of the incident/outbreak, based on the on-going dynamic risk assessment and preparing a final report
- Evaluating lessons learnt

Suggested Terms of Reference:

To investigate the source and cause of the incident/outbreak

To implement measures necessary to control the incident/outbreak

To monitor the effectiveness of the control measures

To provide clear communication to the population affected, the media and other health and social care services within and outside the region, as appropriate

To evaluate the overall experience of managing the incident/outbreak and implement the lessons learnt

Appendix 4: Template Agenda for an Incident/Outbreak Control Team Meeting

1. Introduction; check membership
2. Apologies
3. Review minutes and actions of previous meetings
4. Purpose of meeting
 - a. First meeting: agree ground rules and terms of reference
5. Review of evidence
 - a. Epidemiological
 - b. Microbiological
 - c. Environmental
6. Current Risk Assessment (severity; uncertainty; spread; intervention; context)
7. Control measures
8. Further investigations
 - a. Epidemiological
 - b. Microbiological
 - c. Environmental
9. Communications
 - a. Public
 - b. Media
 - c. Healthcare providers
 - d. Other stakeholders
10. Agreed actions and allocated tasks
11. Any other business
12. Next meeting

Appendix 5: Roles and Responsibilities of Usual Members of ICT/OCT

Incident/Outbreak Control Team Chair

- To convene the ICT/OCT and, with the members of the ICT/OCT, ensure membership is appropriate
- To ensure all actions, including control measures, case-finding and investigations, are implemented as agreed at the Incident/Outbreak Control Team
- To ensure accurate and timely notes of the ICT/OCT meetings and records of the decisions made, actions agreed, issues identified are kept and updated.
- Following agreement from the members of the ICT/OCT to consider and as appropriate, declare an outbreak
- To identify what additional resources / personnel might be needed and ensure that these recommendations are returned to the relevant agencies involved. This would also involve considering relevant business continuity arrangements, which could vary depending on the nature and phase of the outbreak / incident.
- To consider the establishment of relevant subgroups to facilitate the work of the ICT/OCT e.g. Environmental Health / Communications / Descriptive Epidemiology
- To agree with the ICT/OCT who will lead the media response
- To ensure appropriate bodies and officers are kept informed and updated, including local Councils, local GPs and nurses
- To co-ordinate the written final report on the incident/outbreak and to ensure that the recommendations are acted upon
- To ensure the constructive debrief is held and lessons learned disseminated and acted upon as necessary
- To ensure all documentation relating to the incident/outbreak is correctly managed and disseminated, incorporating information governance and data protection requirements

- Keep the Director of Public Health and/or Assistant Director informed of key developments

Consultant/s in Health Protection (if not the Chair)

- To identify what additional resources / personnel might be needed e.g. public health practitioners or IT systems
- Depending on the nature and scale of the incident, to inform the Assistant Director of Health Protection and/or Director of Public Health
- When indicated, advise the Director of Public Health on the need for formal exclusion of a case or contact under the Public Health Act (1967)
- To provide epidemiological advice relevant to the incident/outbreak and support analysis and interpretation of data
- To advise senior management within PHA (if led by the PHA) of the need for an incident room at an appropriate venue having regard to the nature of the outbreak
- To arrange, in conjunction with environmental health or other colleagues, for appropriate identification and follow up of any contacts
- To arrange for the provision of prophylactic treatment and immunisation for contacts and others at risk as necessary
- To identify the need for advice from relevant experts and request advice as appropriate
- Liaise with clinicians (primary or secondary care) over need for specific testing and management of cases
- Inform and assist with Public Health messages and communications
- Liaise with the local District Council to determine arrangements in relation to submission of appropriate specimens to the laboratory for screening of patients, contacts and staff

These tasks may vary according to the nature or circumstances of the outbreak.

Environmental Health

- Act as a conduit for information between PHA, Councils and other relevant Public bodies
- Investigate potential sources of the outbreak and secure relevant improvements as appropriate where the District Council is the enforcing authority e.g. for food safety, health and safety, health protection. Where the health and safety enforcement falls to HSENI the District Council should advise the OCT
- To arrange, as necessary, for the identification, removal and safe disposal of contaminated food
- Complete the investigation form with cases and contacts to assist with the epidemiological aspects of the outbreak
- Provide mechanisms for out of hours communications with the CHP, OCT, the public and other stakeholders as appropriate
- Undertake appropriate food, water and environmental sampling and be responsible for the collection and transport of food samples, to a suitable Microbiology Laboratory
- If the Food Standards Agency decide that the food product should be withdrawn all District Councils should react to such food alerts
- Be responsible for ensuring the infection control advice is implemented by the potential / suspected source of the outbreak, using relevant legal powers as necessary and working closely with PHA or relevant community or acute NHS Infection Prevention and Control Nurse
- Provide reports to the District Council and undertake any necessary enforcement action
- Monitor the progress of the investigation (e.g. sources, cases, contacts within their area) and provide updates to the OCT, including any enforcement action
- Liaise with colleagues in neighbouring District Councils, including when the outbreak has ceased
- Ensure regular briefing of relevant EHOs
- Be jointly responsible for communicating the cessation of the outbreak to the general public, in collaboration with the CHP, if appropriate

- Be clear about Environmental Health responsibilities and tasks during the outbreak
- To identify resources to enable tasks to be undertaken speedily and efficiently and to report on this to the OCT
- Be responsible for informing relevant food and non-food businesses of hazards when appropriate
- To liaise with the Public Analyst regarding chemical analysis of samples if chemical contamination is suspected; and with the Northern Ireland Public Health Laboratory for microbiological testing of samples
- To undertake the investigation of food poisoning outbreaks in relation to food premises, and carry out all necessary enforcement actions as required by relevant legislation.
- Consult with DWI when a premises with a private water supply is implicated. In this scenario DWI would have enforcement responsibility under the Private Water Supply Regulations (NI) 2009; while EH have food safety enforcement responsibility

These tasks may vary according to the nature or circumstances of the outbreak.

**Consultant Microbiologist / Consultant Virologist in a non-Trust chaired OCT
e.g. independent sector care facility outbreak**

- To present to the OCT relevant microbiological information relating to the outbreak
- To identify additional resources that may be required to enable microbiological testing to be undertaken speedily and efficiently and to report on this to the OCT and Trust management. Where resources within the Trust are insufficient the OCT will discuss with DPH and senior management.
- To provide advice and guidance on the microbiological aspects of the investigation and control of the outbreak
- To advise the OCT if additional input from the Trust IPC Team (Consultant microbiologist / Infection Control Dr or IPC nurse lead) is required as part of the OCT response

- To arrange microbiological testing of relevant human and non-human samples and to arrange, as necessary, further investigations by other laboratories e.g. typing as agreed at the OCT
- To provide the results of all testing to the source of the request in an agreed format and to an agreed frequency
- To interpret the microbiology results for the OCT
- To participate, as necessary, in the inspection of premises and procurement of samples required as part of the outbreak response
- To liaise with microbiologists in other laboratories (PHE & NHS), including reference laboratories, which are involved in the investigation in accordance with their laboratory SOPs. Deviations from SOPs are only likely to be required in exceptional circumstances; and when these are needed this should be considered as part of the incident/outbreak debrief
- To advise on communications needed with microbiological colleagues and assist in briefings where necessary
- To advise clinical colleagues and PHA with treatment and prophylaxis protocols (if appropriate)

These tasks may vary according to the nature or circumstances of the outbreak.

HSC Trust representative(s)

Depending on the nature and size of the outbreak, it may be appropriate to have more than one representative from each Trust on the OCT and subgroups. Input from Trust reps is expected to include the following:

- Participants at the OCT should have delegated authority from the parent organisations and representatives must be of sufficient seniority to make and implement decisions.
- To identify additional resources that may be required to enable appropriate testing and control measures to be implemented and to report on this to the OCT and HSC Trust management

- To communicate OCT decisions / recommendations to relevant HSC Trust staff
- To ensure investigation of potential sources of the outbreak and secure relevant improvements as appropriate within the HSC Trust
- To ensure that appropriate infection control measures are being implemented in the Trust
- To liaise with clinicians over the need for specific testing and management of cases / contacts and to ensure that clinical services are available for the diagnosis and treatment of cases and potential contacts
- To report to the OCT the HSC Trust's position with regard to cases, investigations and control measures or issues identified
- To ensure that the Trust services have adopted suitable arrangements for patient isolation and admissions policies including the need to stop non-emergency admissions.
- To assess the need for ward closures and emptying to allow for increased numbers of admissions and potential staff illness.
- To assess the potential impact of the outbreak / incident on service activity issues within the Trust and communicate / escalate issues as appropriate through both management and clinical accountability lines.

These tasks may vary according to the nature or circumstances of the outbreak.

HSC Trust Community Services e.g. Community Nurses, School Health etc.

- Represent the Community Service Provider on the OCT
- Arrange for the availability of resources as required for the investigation and control of outbreaks, including human, financial and other resources
- Liaise with relevant staff and co-ordinate the community response
- To participate, as necessary, in the inspection of premises, procurement of samples, testing of cases and provision of prophylaxis if required.

These tasks may vary according to the nature or circumstances of the outbreak.



Appendix 6: Roles and Responsibilities of Organisations

Department of Health (DoH)

DOH is ultimately responsible for the Health and Social Care response. It can provide strategic Health and Social Care advice, direction, media management and access to UK assets to assist the HSC in its response to an incident/outbreak. CMO will also provide professional, medical and environmental health and social care advice to Ministers and other Departments and agencies to the health response.

Public Health Agency (PHA)

The Public Health Agency (PHA) was established under the Health and Social Care (Reform) Act 2009. The 3 core functions of the PHA are health protection, health improvement and commissioning support to the Health and Social Care Board. The statutory functions for health protection transferred to the Director of Public Health (DPH) in the PHA and are discharged primarily through the Health Protection Service. The functions include the surveillance, prevention and control of communicable disease and environmental hazards; early identification, dynamic risk assessment and management of incidents and outbreaks; and emergency preparedness and response.

Health and Social Care Board (HSCB)

The three core functions of the HSCB are finance, commissioning and performance management & service improvement. The HSCB and its Local Commissioning Groups are accountable for commissioning high quality, safe and efficient services. HSCB leads on service continuity and maintaining HSC services regionally, with support from the PHA and in liaison with Trusts and primary care.

Business Services Organisation (BSO)

Through provision of its business support functions, such as procurement, logistics and human resources, across the HSC sector, the BSO will contribute to an integrated approach to ensuring an effective health protection response.

Health and Social Care Trusts (HSCT)

Each Health and Social Care Trust has an obligation to manage any incident/outbreak of infection to prevent spread and protect patients, staff and visitors. Each HSC Trust has a responsibility to have in place comprehensive and robust plans for the management of incidents/outbreaks within the Trust including service continuity.

District Councils

District Councils play a key role in managing outbreaks of foodborne illness, and other water and airborne infections associated with certain work activities (e.g. Cryptosporidiosis, Legionellosis). EHOs from a relevant council will investigate cases or outbreaks of communicable disease within their area. They act as agents of the PHA in respect of the investigation of food poisoning incidents, and have a duty to assist in both the investigation and control of outbreaks in premises where they have enforcement responsibility.

Each District Council is a statutory food authority in its own right and is responsible for the enforcement of Food Safety legislation within their District Council area. Councils also have a statutory duty to enforce the provisions of the Health & Safety at Work legislation in certain types of premises.

District Councils have legislative powers of entry; inspection; sampling; seizure & detention of foodstuffs; powers to prohibit processes and close premises; serve enforcement notices and take prosecutions.

Food Standards Agency

The Food Standards Agency (FSA) is a UK-wide non-ministerial Government department, established under the Food Standards Act 1999 with responsibility for the protection of public health in relation to food. This guidance is issued under section 20 of the Act, which confers powers to issue guidance upon the FSA.

District Councils have a responsibility under the Food Law Code of Practice 2012 section 1.7.6 to inform FSA of all serious localised outbreaks. The FSA in NI Incidents Team is the point of contact for District Councils in relation to outbreaks

and incidents. The FSA will normally participate in regional OCTs and will assist in the investigation of implicated foods.

Where investigations implicate a food distributed in the UK, the FSA will carry out a risk assessment and work with District Councils to advise the food business operator (FBO) on steps that ought to be taken in relation to the affected product(s). Those steps may include the withdrawal or recall of food pursuant to EC Regulation 178/2002.

The FSA is the national contact point for the European Commission's Rapid Alert System for Food and Feed (RASFF) and will use the system to inform the EU and member states if foods implicated in outbreaks of foodborne disease have been distributed outside the UK. This system is also used to inform the Commission and originating third countries of serious incidents or outbreaks caused by a food whose origin is beyond the UK's national borders.

Department of Agriculture, Environment and Rural Affairs (DAERA)

There is a Memorandum of Understanding between PHA and DAERA (see appendix 22) to ensure robust arrangements for animal and environmental microbiological sampling are available when required for the purpose of *E coli* O157 outbreak investigation by an OCT convened by PHA under the direction of the Public Health Directorate.

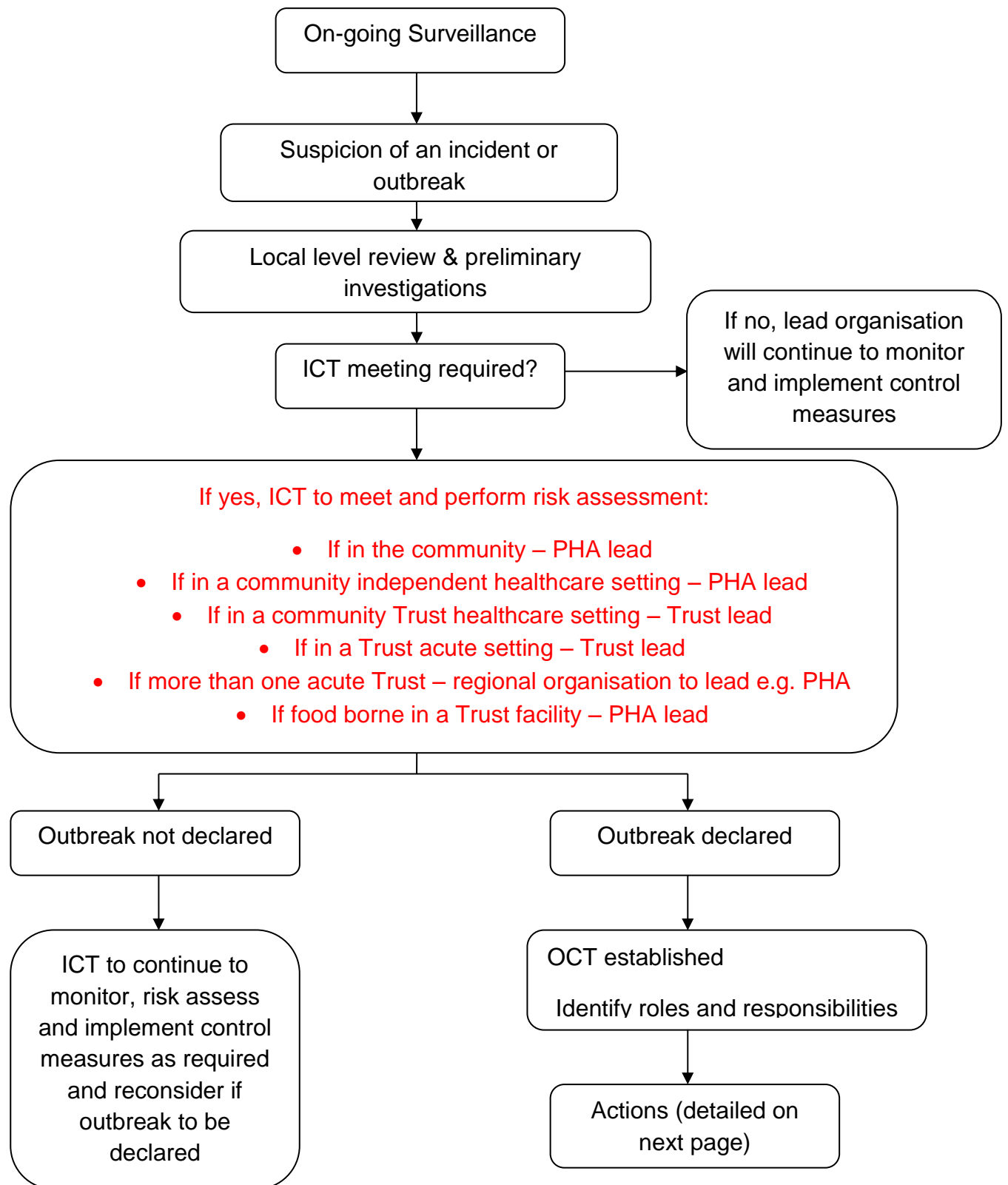
OCTs which investigate disease outbreaks which are suspected to be zoonotic in origin may include a DAERA / Agri-Food and Biosciences Institute (AFBI) veterinarian with relevant zoonotic expertise according to the circumstances of each case.

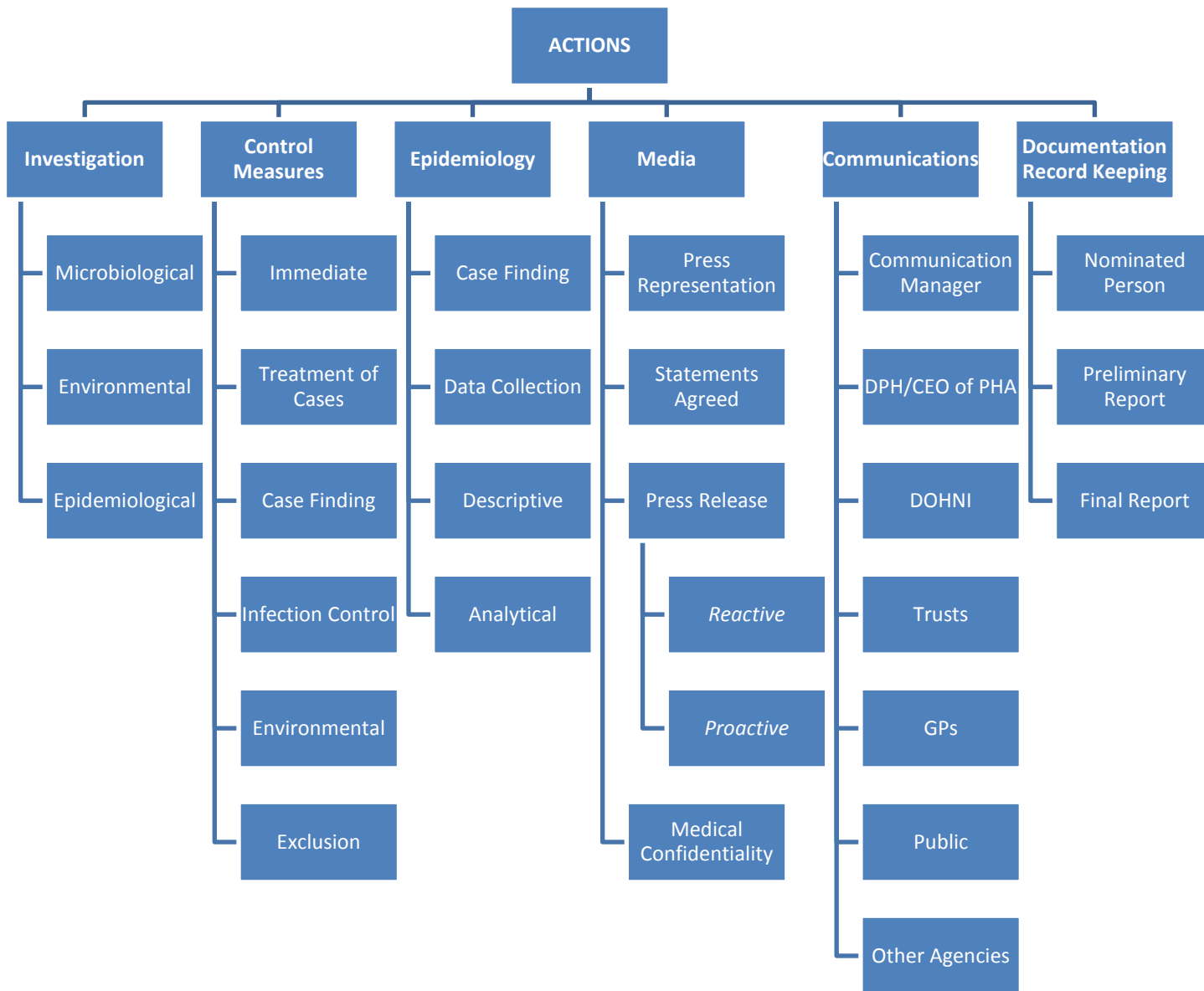
Drinking Water Inspectorate (DWI)

DWI has responsibility for the regulation of registered private water supplies which includes supplies to commercial and public buildings as well as those to two or more private dwellings. In a waterborne outbreak associated with a food business DWI execute their enforcement/regulatory role in consultation with EHOs to ensure the most effective course of action is taken.

In a waterborne outbreak linked to the public water supply, where NI Water has responsibility for providing a wholesome supply of water, DWI has a role in ensuring NI Water has met its regulatory responsibilities.

Appendix 7: Flowchart for the Management of an Incident/Outbreak





Appendix 8: Investigation and Control of an Incident/Outbreak Checklist

This step-by-step approach to the investigation of an outbreak is not meant to imply that each section must follow the one preceding it or that all steps are needed on every occasion. In practice some steps will be carried out simultaneously and others, for example, communication and collation of data, will be required throughout the whole process and some may not be appropriate considering the setting.

Preliminary Phase

- Consider whether or not the cases have the same illness and establish a tentative diagnosis
- Determine if there is a real incident/outbreak
- Collect specimens and consider informing local GPs
- Conduct in-depth interviews with initial cases
- Identify factors common to all or most cases
- Conduct site investigation at implicated premises
- Consider formal requests for information
- Form preliminary hypothesis
- Consider if there is a continuing public health risk
- Initiate immediate control measures
- Decide whether to convene a formal incident/outbreak control group
- Make decision about the need for further investigation
- Inform Food Standards Agency if food-related
- Consider need to formally seek legal advice

Communication

- Consider best routes of communication with colleagues, patients and the public
- Ensure accuracy and timeliness
- Include all those who need to know
- Use the media constructively
- Prepare written report for local use and for other relevant agencies

Risk Assessment

Descriptive Epidemiology

- Draw up lists of those at risk
- Identify persons posing a risk of further spread
- Establish case definition
- Identify as many cases as possible
- Collect data from affected persons on standardised questionnaire
- Construct epidemic curve

Analysis and interpretation

- Calculate attack rates
- Confirm factors common to all or most cases
- Categorise cases by 'time, place or person' associations
- Consider "4th dimension" of epidemiology *i.e.* molecular type
- Review all existing data
- Review hypotheses
- Collect further clinical and food specimens for laboratory tests
- Carry out analytical epidemiology study
- Ascertain source and mode of spread

Control Measures

- Control the source: animal, human or environmental
- Control the mode of spread
- Protect persons at risk
- Continue surveillance of control measures
- Declare the outbreak over (usually) when the number of new cases has returned to background levels

Further Studies

- Conduct further analytical case/control or cohort studies
- Conduct further microbiological studies

Conclusion of ICT/OCT

- Produce final report on incident/outbreak

Appendix 9: ICT/OCT Situation Room Checklist

Equipment	Paper	Files
Telephone and Fax	A4/A3 sectional paper	A4 box files
Access points for telephones and PCs	A4/A3 graph paper	A4 ring binder files
PC and Email Access	A4 refill pad	A4 correspondence files
Printer	Telephone message pad	A4 lever arch files
Photocopier	Removable self-stick notes	A4 transparent document files
	Envelopes	A4 document wallets
		Magazine box files
Stationery	Maps	Other
Pens, Felt-tip pens, pencils	A to Z	Telephone directories
Paper clips	Street Maps	Flip charts and holder
Drawing/map pins	UK Atlas	Card Index, boxes and cards
Filing tags		Notice board/white board
Erasers		
Calculators		Refreshments for OCT
Scissors		
Sellotape		
Staples and stapler remover		
Tippex		
Hole punch		
Date stamp and pad		

Appendix 10: Guidelines for the organisation of and participation in regional teleconferences

Consider if there should be a teleconference or a face-to-face meeting. If the purpose of the meeting is to report activities, a teleconference may be appropriate but if detailed discussions are likely or it is the first meeting of a group it may be more appropriate to meet in person.

Membership, frequency, timing and length of teleconferences should be carefully considered to make best use of time and resources during a very busy period. Consideration should be given to business which could be more efficiently carried out by subgroups or outside the main teleconference. The roles and responsibilities of the group participating in the teleconference should be carefully considered, clear and agreed by all, and should not overlap with the roles and responsibilities of other groups.

Within the Public Health Agency, the phones and codes can be booked through the Assistant Director / Director's PAs. Emergency codes are available for out-of-hours use (2nd on-call can access the codes via Contact details, PHA / HSCB / BSO Joint Response Emergency Plan).

Ten Key Points to note:

1. The agenda, papers and dial in number / participation code should be circulated in advance (preferably a week but at least 24 hours however it is recognised that in the acute phase of an outbreak this may not be possible). In certain circumstances where a teleconference has been arranged at very short notice, this may not be achievable.
2. Approximately 10 minutes before the start of the teleconference, the phone will be set up by the PA. The chair should be available 5 minutes before the start time.
3. There should be a prompt start and following a roll call the teleconference should be 'locked down' (*7 to lock and unlock).
4. All those joining the teleconference should identify themselves by name, location, organisation and function (i.e. infection control; catering etc.) when joining. The chair reserves the right to 'lock out' any unidentified participants.

5. Throughout the course of the teleconference, participants should give their name and organisation when they start to speak. Wait for one person to finish before speaking otherwise comments will be muddled or cut off on speaker phones.
6. All participants should be mindful of the potential for background noise and use their phone mute facility when not speaking (refer to mobile phone provider instructions).
7. No-one should leave during the telephone conference unless in a real emergency (this will be facilitated by making all telephone conferences targeted and as short as possible).
8. Emphasis should be placed on keeping teleconferences short, focused and objective. All participants should have the opportunity to speak in turn and not be interrupted.
9. Patient confidentiality should be strictly adhered to - there should be no sharing of patient names, initials or any other identifiers on teleconferences, especially as there may be other organisations on the conference call that may not be bound by HSC legal requirements with regard to patient data. Such information can be shared through approved routes, off line, if required. If in exceptional circumstances patient identifiable information must be exchanged, the chair should remind all participants that this information should be managed in confidence.
10. The general rule is to be specific and stick to the point, and this should be borne in mind:
 - Keep information as concise as possible –
 - A accuracy – ensure information is accurate
 - B brevity – keep points and discussion brief
 - C clarity – communicate as clearly as possible

Appendix 11: Setting up a Telephone Helpline

The decision to set up a help line will be taken by the ICT/OCT. The purpose and necessity of a helpline should be carefully considered, and alternatives explored. Trusts may have established methods of setting up helplines and are likely to be used in Trust-based outbreaks or incidents. Information lines may be more appropriately out-sourced.

For community outbreaks led by PHA, where a helpline is considered essential, further guidance on the establishment and running of a telephone helpline is outlined within the JREP. The guidance below should be read in conjunction with this. Organisation and planning should be delegated to a subgroup, which includes:

- A public health consultant.
- Telecommunications expertise.
- Access to the type of staff likely to be needed on the line.
- Someone with the managerial power to make and implement financial decisions, probably the senior administrative support.
- Administrative support officer, to whom organisational tasks can be delegated.
- Co-ordination Officer.

The purpose of the help line must be explicitly defined and is likely to include:

- Provision of general information to members of the public who are anxious.
- Identification of individuals at risk/contacts/cases.

Goodbriefing notes and/or a draft script with frequently asked questions and data collection forms for the help line workers are essential, to provide consistent advice and to ensure completeness of any information collected. The ICT/OCT, or a subgroup, would normally be responsible for their production and should cover:

- Background to the incident.
- Responses to expected questions.

- Procedures for following up individuals identified as at risk, contacts or cases, with a failsafe dataflow system to keep track of such individuals.
- Procedures for dealing with unexpected queries.
- Guidelines on confidentiality/dealing with enquiries from the press.
- Details of other resources available.
- Procedures for dealing with threatening or obscene calls.

The following data should be collected for monitoring the help line:

- Date and time of call.
- Sex, age, postcode of caller.
- Category of caller e.g. general enquiry/potential case/contact.
- Name, address and phone number.

The media can be used to publicise the help line once a press statement has been released. It is important to notify other switchboards that may be contacted by callers e.g. neighbouring hospitals, health centres *etc.*

The needs of specific groups e.g. ethnic minorities and the hearing impaired should also be considered.

Staffing

Ideally, sources of an appropriate number of potential help line workers should be identified in advance, as part of the emergency planning process. They should have both appropriate knowledge of the subject, and sufficient communication skill, to deal with callers effectively and sympathetically.

All should receive a careful group briefing before the lines opens, on background information, use of the equipment and completion of any forms. Four-hour shifts are standard practice, though some workers may feel able to do two shifts. A rota covering at least the first week should be arranged at the outset. A shift supervisor is needed for each shift to deal with administration and cover staff breaks.

Operation

The hours of operation will depend on the circumstances: 9 am - 5 pm is usually adequate, though continuing till 9pm may be appropriate. An answering machine with a recorded message giving the opening hours should be available overnight.

The ICT/OCT must keep the help line staff fully aware of changes in the situation and a whiteboard in the help line room can be used to display new information. In particular, action may be required to deal with anxiety raised by misleading press coverage. Debriefing allows information gathered during the shift to be shared and may clarify issues of concern. Separate numbers may be published e.g. one for cases and one for general public.

After the help line

The decision to close the help line will depend on the number of incoming calls and the cause of the outbreak. A formal debriefing session for all staff involved is valuable.

Other guidance

The HPSS Regional Governance Network produced *A Practical Guide to Conducting Patient Service Reviews or Look Back Exercises* which contains advice about setting up a patient helpline.¹

The Health Protection Agency has also produced detailed guidance.²

¹ A Practical Guide to Conducting Patient Service Reviews or Look Back Exercises – Regional Governance Network – February 2007 http://www.DoHni.gov.uk/microsoft_word_-_hss_sqsd_18-07_patient_service_review_guidelines_-_final_feb07.pdf

² Cummins, A., Irwin, D., Millership, S..Look(back) before you leap: A practical guide to patient notification exercises. May 2001.
http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1194947417434

Appendix 12: Outline Structure for an Incident/Outbreak Report

All reports and other documents produced by the ICT/OCT must comply with the requirements of the Data Protection Acts 1994 and 1998. For that purpose reports and other documents will anonymise any sensitive personal information and references to patients and businesses will be numerical and alphabetical, respectively.

Executive Summary

Introduction/Background: Brief narrative of circumstances and chronology of outbreak

Investigation:

- Case Definition
- Epidemiological
- Microbiological
- Environmental
- Chemical

Results:

- Epidemiological
- Microbiological
- Environmental
- Chemical

Control Measures

Conclusions/Recommendations:

- a statement on the causes of the incident/outbreak, including any failures of procedures or breaches of legislation
- referrals to other agencies for their actions
- comments on the conduct of the investigation
- comments on any training needs identified by the investigation and performance against agreed standards

Appendices:

- Results of statistical analyses
- Epidemiological Report
- Surveillance Report form
- Press statements

Appendix 13: Current Contacts List

Once an incident/outbreak has been declared, a copy of the current contacts list should be obtained from the Health Protection Duty Room. The contacts list should be made available in the incident room if one has been established.

The contacts list should be afforded a 'Protect' Protective Marking.

Appendix 14: Contact Details for Interpreting and Translation Services

Effective Communications with Ethnic Minorities and Ethnic Minority Businesses

It is essential that proper consideration be given to communicating effectively with Ethnic Minorities / Ethnic Minority Businesses. Issues such as language barriers and cultural differences must be considered to ensure messages are fully understood by persons for whom English is not their first language³.

Consideration of the following seven points advised by Sills and Desai (1996)⁴ and positively tested by Derry City Council in 2010 (with Chinese employers and EHOs), while having no formal status in law, may assist in helping to improve the effectiveness of communications shared with ethnic minorities / ethnic minority businesses regarding incidents / issues.

These are:

- Level of awareness (written communications can often assume too high a level of awareness);
- Message (if communications are to be effective the message needs to be of interest to the intended audience);
- Level of literacy (the level of literacy of the ethnic minority audience targeted by the communication must be considered);
- Language (simply translating information may not always be the solution);
- Medium (one form of communication may not always be the solution);
- Delivery (careful consideration needs to be given to how the target audience is reached; and
- Monitoring (it is essential to monitor all stages of the communication process to ensure rapid and appropriate responses that are effective).

³ Derry City Council, 2010. The art of communication: A landscape shared between regulator and ethnic employer. Derry: Derry City Council. http://www.cieh-nireland.org/reports/the_art_of_communication.html

⁴ Sills, A. and Desai, P., 1996. Qualitative research amongst ethnic minority communities in Britain. Journal of the market research society, 38 (3), 247-265

Access to interpreting services

All HSC bodies, including PHA, are registered with the Regional Interpreting Service to book face to face interpreters. This service is available during normal business hours and out of hours.

PHA also have access code for The Big Word which is a telephone interpreting service facilitated by a 3 way call.

Details for accessing these services are held by the PHA.

The ICT/OCT will determine the most appropriate service to access in the management of an incident/outbreak.

Alternatives (some may provide written translation and/or telephone interpreting services)

STEP Dungannon <http://www.stepni.org/>

FLEX Language Services <https://www.flexlanguageservices.com/>

NI Council for Ethnic Minorities 028 9023 8645 info@nicem.org.uk

District Councils

Most district councils will have Community Relations Officers (CROs) and/or Equality Officers who will have access to not only general translation/interpretation services but crucially, access to local contacts within a range of ethnic minority community support structures.

Appendix 15: Accessing Buildings Out of Hours

Appendix D of the Joint Response Emergency Plan should be consulted for up to date details on buildings and facility access arrangements, *i.e.* alarm codes and key holders.

Appendix 16: PHA / HSCB / BSO Joint Response Emergency Plan - Levels of Joint Emergency Response

The four levels cover incidents that range from those that are entirely local in their management and impact, through to those which require NI wide intervention.

Level of Joint Response (JR)	Public Health / Service Continuity Implications	Joint Response
Level 1 JR	An Acute Incident with no Public Health or Service Continuity implications	Noting and Monitoring
Level 2 JR	An Acute Incident with potential PH /+ Service Continuity implications	Advice from either PHA or HSCB or both
Level 3 JR	An Acute Incident with definite PH /+ Service Continuity implications	<p>LOWER END OF SPECTRUM Action by an Incident Control Team⁵ of PHA <u>and</u> HSCB +/- BSO</p> <p>HIGHER END OF SPECTRUM Action by an Incident Control Team⁶ of PHA <u>and</u> HSCB. This level may also include the setting up and running of an EOC / Information Hub</p>
Level 4 JR	An Acute Incident with definite major PH /+ Service Continuity implications	Action by Incident Control Team⁷ of PHA; HSCB & BSO. This level <u>will</u> include the setting up and running of an EOC / Information Hub

⁵ This may in the initial stage be 3 senior officers, one from each of PHA, HSCB and BSO.

⁶ IC Team is a formal process with agendas; minutes and actions etc and as a minimum will include Assistant Directors / Directors or their nominated representatives from at least one organisation.

⁷ This ICT will include senior Management Team members from the three organisations.

Appendix 17: Dynamic Risk Assessment Model

This model should be used by the ICT / OCT as a template to consider the incident / outbreak and assess current risk (in conjunction with the other information from section 4.3). This model should enable the ICT / OCT to clearly document the risk in terms of severity of illnesses, confidence of diagnosis, risk of spread, intervention required and the context and manage the response in terms of these risks.

The assessment should be repeated regularly as the situation or outbreak evolves and should guide the ICT / OCT to respond appropriately.

Regardless of the ICT/OCT decision on whether a situation is an incident or an outbreak, the team should ensure that patients / parents are informed in ways that explain openly, while reassuring and minimising anxiety.

Severity

The seriousness of the incident in terms of the intrinsic propensity in the specific circumstances to cause harm to individuals or to the population.

Severity and prognosis of known cases

The degree of harm already incurred, or likely to be incurred by those already affected including, course, complications, death and morbidity rates as obtained from established knowledge, and the speed of onset and duration of illness.

Grade	Qualifier	Description	Examples
0	Very Low	Seldom causing severe illness.	<ul style="list-style-type: none"> • Hand, foot and mouth disease in a nursery. • MRSA in a domestic setting. Head lice.
1	Low	Occasional serious illness rarely with long term effects or death.	<ul style="list-style-type: none"> • Hepatitis A in a primary school.
2	Moderate	Often severe illness occasionally with long term effects or death.	<ul style="list-style-type: none"> • Toxigenic <i>E. Coli</i> O157. • Pulmonary Tuberculosis. • MRSA infection in a high dependency unit. • Hepatitis B or C infection • Legionnaires' Disease.
3	High	Usually severe illness often with long term effects or death.	<ul style="list-style-type: none"> • Meningococcal disease • MDRTB
4	Very High	Severe illness almost invariably fatal.	<ul style="list-style-type: none"> • Rabies • Ebola • VCJD

Confidence

The level of confidence, epidemiologically, clinically, statistically and from laboratory evidence, that the diagnosis is correct in the set of circumstances.

Confidence in the hypothesis

Extent of confidence in and consistency of the clinical picture in terms of available laboratory diagnostic results and associated confounding factors including ambiguity and uncertainty.

Grade	Qualifier	Description	Examples
0	Very Low	Available evidence suggests that the hypothesis is correct with an empirical probability of less than 10%.	<ul style="list-style-type: none"> Hunch.
1	Low	Available evidence suggests that the hypothesis is correct with an empirical probability in the range of 10% to 25%.	<ul style="list-style-type: none"> Alternative hypothesis more likely but cannot exclude the working hypothesis.
2	Moderate	Available evidence suggests that the hypothesis is correct with an empirical probability in the range of 25% to 50%.	<ul style="list-style-type: none"> Alternative hypothesis equally likely.
3	High	Available evidence suggests that the hypothesis is correct with an empirical probability in the range of 50% to 85%.	<ul style="list-style-type: none"> Typical incident picture without conflicting information.
4	Very High	Available evidence suggests that the hypothesis is correct with an empirical probability higher than 85%.	<ul style="list-style-type: none"> Typical incident picture with increasing confirmation.

Spread

The intrinsic temporal and spatial potential for spreading including the infective dose, the virulence of the organism, the availability of the route(s) of spread, the observed spread and the susceptibility of the population (e.g. lack of immunity) in the set of circumstances.

Potential of the organism to spread given the circumstances

The transmissibility of the organism, its characteristics (virulence and infective dose), its mode(s) of transmission and the availability of the routes of infection.

The susceptibility of population at risk i.e. the state of immunity, general health and nutrition of population under consideration and the extent to which normal defence mechanisms will protect that population.

Grade	Qualifier	Description	Examples
0	Very Low	Very low likelihood of spread with very few new cases.	<ul style="list-style-type: none"> • A single case of <i>Campylobacter</i>.
1	Low	Low likelihood of spread with few new cases.	<ul style="list-style-type: none"> • A single case of meningococcal disease. • A smear negative culture positive case of TB.
2	Moderate	Moderate likelihood of spread with new cases. May develop into a limited outbreak.	<ul style="list-style-type: none"> • Viral gastro-enteritis in a nursing home. • A handful of cases of Hepatitis A occurring over a prolonged period of time in a large community. • A smear positive case of TB.
3	High	High likelihood of spread with many new cases. May develop into a large outbreak.	<ul style="list-style-type: none"> • Multiple cases of Dysentery in a deprived population of children under 8 years old. • Epidemic of influenza in an army camp.
4	Very High	Spread almost inevitable.	<ul style="list-style-type: none"> • Measles in a non-immune sub-population.

Intervention

The feasibility to intervene to alter the course and influence the outcome of the event in terms of containing, reducing or eliminating the transmission of the organism, or assuaging public anxiety. The feasibility of delivering what is needed, to whom it is needed and when and where it is needed, considering the extent to which interventions are intrinsically simple, effective, available, affordable, cost-effective, acceptable, accessible, timely and well-targeted.

Grade	Qualifier	Description	Examples
0	Very Easy	Intervention well established with clear benefits and no anticipated difficulties to implement.	<ul style="list-style-type: none"> • Hand washing advice.
1	Easy	Intervention with clear beneficial effects and few difficulties to implement.	<ul style="list-style-type: none"> • Withdrawal of contaminated food in a closed institution. • Measles or Hepatitis A immunisation to a small group of vulnerable contacts of a case. • A case of meningococcal infection in a child with contacts confined to the household.
2	Passable	Intervention with some beneficial effects and some difficulties to implement.	<ul style="list-style-type: none"> • Prophylaxis to immediate family and close contacts in a meningococcal case where they are dispersed.
3	Difficult	Some remedial intervention possible but either difficult to implement, relatively ineffectual or other significant problems.	<ul style="list-style-type: none"> • National food withdrawal. • Urgent mass immunisation campaign. • Response to rabid dog on the loose.
4	Very Difficult	Remedial intervention very difficult.	<ul style="list-style-type: none"> • Response to a cluster of vCJD. • MRSA in a busy high dependency unit.

Context

The broad environment, including public concern and attitudes, expectations, pressures, strength of professional knowledge and the overall setting of external factors including politics, in which events are occurring and decisions on responses are being made.

- **Media, parents and local concern**
The degree to which media, parents, local concern, politics cause alarm and raise the profile of the event under consideration.
- **Historical problems**
Influence of local experience of similar interests and previous events, the way they were handled, associated consequences and expectations arising.
- **Peer group practice**
Extent to which an established approach or recommended best practice is tested and documented (national guidelines).
- **What is happening elsewhere**
Extent to which other similar incidents are being managed and publicised, with resultant effect on public attitudes and expectations.

Grade	Qualifier	Description	Examples
0	Very Calm	No raised level of interest.	<ul style="list-style-type: none"> • Apathy. Public / media are supportive of immunisation. • Common adverse problems are fairly well understood.
1	Calm	A small degree of increased interest with a low level of conflicting factors. Little public concern.	<ul style="list-style-type: none"> • Misunderstanding corrected by routine information. • Head-lice control campaign. • A few cases of diarrhoea in a nursery school.

Continued on next page.

2	Passable	A degree of unease and anxiety on the part of the public and the media. The context could deteriorate if the event is mishandled.	<ul style="list-style-type: none"> • A series of gastro-enteritis cases associated with an outdoor centre to which school children are sent. • TB in a school in a low incidence area.
3	Difficult	Context is sensitive with significant difficulties, press interest and local people (unaffected) involved. The incident could go very wrong unless carefully handled. The event could have re-occurred in spite of preventative actions.	<ul style="list-style-type: none"> • Surgeon is found to have HIV / AIDS. • Wide spread food poisoning affecting several schools. • Unjustified allegation about the safety of childhood vaccines with media coverage.
4	Very Difficult	Significantly raised public concern and political and emotional pressure with the public and the media declaring antagonistic and unhelpful views.	<ul style="list-style-type: none"> • If BSE-like illness linked to new source e.g. pork. • If a vaccine was shown to have serious unsuspected side effects.

Appendix 18: Legal

Key legislation underpinning communicable disease control in Northern Ireland:

[Health and Social Care \(Reform\) Act \(Northern Ireland\) 2009](#)

[Public Health Act \(Northern Ireland\) 1967](#)

Appendix 19: Incidents/Outbreaks involving the Republic of Ireland

There are a number of occasions where cross-border co-operation with the Republic of Ireland is needed.

1. Where people from Northern Ireland are suffering from an infectious disease which is associated with a source in the Republic of Ireland or vice versa.
2. Tourists travelling around Ireland who are suffering from an infectious disease e.g. tourist on a bus.
3. Where the primary producer of food is in one jurisdiction but consumer resides in another.
4. Where passengers on international flights are dispersed throughout the whole island.
5. Where a cruise ship is travelling around Ireland or the British Isles.

This could lead to a number of organisational responses depending on the above circumstance. Overall any incident/outbreak will be co-ordinated by means of the establishment of an Incident/Outbreak Control Team, and the chair of the ICT/OCT or Health Protection AD will generally initiate cross border contact. Arrangements for the roles and responsibilities could vary.

1. If there was an equal distribution of cases and related activity, there might be a need to establish 2 ICTs/OCTs which would link their activity.
2. If the majority of the cases and subsequent investigations fall in one jurisdiction, then the ICT/OCT would be established by and with staff from within that area. Membership could include a number of key persons from the other jurisdiction.
3. Situations in relation to cruise ships, aircraft and bus tours would involve a response which would be related to peculiarities of that particular situation.

When food is considered to be a risk factor in the development of the outbreak and is processed or manufactured outside the jurisdiction then the investigation would be co-ordinated by the Food Standards Agency.

If different laboratories are involved in the analysis of samples then it is important that they establish contact to share information / isolates / techniques etc. with each other if further external analysis is undertaken.

Appendix 20: Authorizations & Memoranda of Understanding

A file is held by the business support manager for the PHA's Health Protection Service containing relevant Memoranda of Understanding between the PHA and stakeholder organisations. The file also contains copies of certificates authorising those working on behalf of the PHA.
