



UK Health
Security
Agency

Communicable disease outbreak management: appendices

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Appendix 1. Outbreak-specific guidance

Outbreaks in hospitals and other healthcare premises

In premises such as hospitals and other healthcare institutions, the staff responsible for routine infection control will usually be the first people to be aware of a potential outbreak. Most hospital outbreaks will be dealt with using the hospital's own internal outbreak plan. It is expected that all hospital outbreak policies will stipulate that the local consultant in health protection (CHP) will be informed whenever a hospital OCT is convened regardless of the circumstances. If the outbreak is linked to food exposure, then the local authority will be informed, who are required to inform the FSA. However, if the outbreak has any potentially serious public health implications, then the UKHSA communicable disease outbreak management guidance takes precedence in control of the outbreak. While it is difficult to be prescriptive as to what constitutes a potentially serious public health implication, suggestive features are that the outbreak:

- has significant implications for the community
- involves many cases of a notifiable disease
- involves small numbers of a disease that constitutes a serious public health hazard
- involves suspected food- or water-borne transmission of infection

The role of the UKHSA HPT region with respect to healthcare associated (HCAI) outbreaks is mostly supportive, advisory and facilitative, as the trusts will predominantly lead on them. The role of the UKHSA region with respect to HCAI and outbreaks includes:

- discussion of emerging problems with the Trust Infection Prevention and Control (IPC) Team – this will include supporting investigation and control through active membership of Trust OCTs; where this is the case the precise role of the UKHSA region should be defined at the first incident meeting (for example, who is responsible for following up community contacts or collecting data from patients)
- co-ordinating investigations of outbreaks involving more than one NHS organisation – in this scenario UKHSA may be the appropriate organisation to lead following agreement by the NHS trusts
- providing specialist epidemiological and infection control support and leadership in the event of a serious outbreak or infectious disease incident – this may include working with trusts, supporting the trust to follow their own outbreak control plan and ensure early involvement of the UKHSA consultant in public health infection and the FSA in the event of a food-related outbreak

Outbreaks on local authority premises

A conflict of interest may occur where a local authority is the relevant enforcing authority in relation to premises in which it also has an ownership or management interest. This situation could arise where local authorities are called upon to exercise their responsibilities as a health and safety regulator in leisure centres that are wholly owned, but not managed, by themselves.

A conflict of interest can either be an actual or a perceived conflict of interest. If this conflict is not dealt with appropriately, it can cause unnecessary difficulties in the regulatory activities that may follow a work-related death or other serious incident.

Where the local authority has a management or ownership interest in premises for which it is the enforcing authority, it should consider whether that interest is so great that should no longer act in a regulatory capacity.

In some situations, transfer of enforcement authority to another local authority, the Food Standards Agency or the Health and Safety Executive (HSE) may be appropriate.

HSE has produced some guidance on local enforcement in premises where it may have conflict of interest.

Other guidance

UKHSA has produced a wide range of outbreak-specific guidance which can be accessed from gov.uk. Examples from UKHSA and partner organisations are provided below.

Food-specific outbreaks

The guidance listed below will assist in the management and control of a food poisoning outbreak:

- [Gastrointestinal infections: guidance for public health management](#)
- [Management of outbreaks of foodborne illness in England and Wales: Food Standards Agency](#)
- [Food handlers fitness to work](#)

Legionnaires' disease

Various [guidelines](#) are available to support the management and investigation of legionnaires' disease.

Shiga toxin-producing Escherichia coli (STEC)

[Shiga toxin-producing Escherichia coli: guidance, data and analysis](#)

Appendix 2. UKHSA health protection teams

The role of UKHSA health protection team (HPT) regions is to:

- provide local health protection services, expertise, response and advice to the local NHS, local authorities and other partners
- lead UKHSA's contribution to EPRR
- support local action to promote and protect health and wellbeing, and create a health care system which improves health and reduces inequalities
- work with the Association of Directors of Public Health (ADPH) and Local Government Association (LGA) to support innovation
- ensure UKHSA staff and partners can access high quality data, statistics and expert knowledge
- provide specialist support to prevent and reduce the effect of infectious diseases
- undertake local disease surveillance and maintain alert systems
- investigate and manage health protection incidents and outbreaks
- deliver and monitor national action plans for infectious diseases at local level

The local teams are supported by UKHSA colleagues in:

- specialist and reference microbiology services which provide laboratory analysis facilities
- the Field Service

UKHSA has 9 HPT regions:

- North East
- North West
- Yorkshire and the Humber
- East Midlands
- East of England
- West Midlands
- South East
- South West
- London

Appendix 3. UKHSA incident levels

The UKHSA Incidence Response Plan (IRP) describes the processes and arrangements that the organisation will implement in its preparedness for and response to incidents and emergencies. This plan embodies an all risks and hazards approach to managing public health emergencies as directed by the dynamic public health risk, including a pan agency response where appropriate.

Incident levels

UKHSA operates 3 levels of response for all public health threats and hazards as described below. These cover the whole spectrum of incidents from those that are dealt with as part of day-to-day business through to those requiring significant coordination and resource to respond to. The criteria for escalation and de-escalation of these are described below:

Level	Description
Routine	<p>Region or service leadership arrangements. The incident response is managed via BAU arrangements and reported through the National Response Centre (NRC) / All Hazards Situational Awareness Report (AHSR).</p> <p>No national incident management team (IMT).</p> <p>May require co-ordination by a UKHSA region, specialist public health function and/or enabling corporate services.</p> <p>An OCT may be convened to co-ordinate the response and facilitate liaison with external organisations.</p>
Standard	<p>Region or service leadership arrangements with IMT and incident director (ID).</p> <p>No enhanced national incident leadership.</p> <p>May require co-ordination by a UKHSA region, specialist public health function and/or enabling corporate services.</p> <p>Liaison with relevant external bodies as required, for example NHS, Food Standards Agency, Environment Agency, DEFRA.</p>
Enhanced	<p>National leadership arrangements with national command and control including strategic response director (SRDs) and IDs.</p> <p>Will require co-ordination by a UKHSA Region, specialist public health function and/or enabling corporate service.</p> <p>Liaison with relevant external bodies as required, for example NHS, Food Standards Agency, Environment Agency, DEFRA.</p>

National and cross-regional alerting routes

Initial alerting of national incidents to UKHSA is through to the NRC, under the directorate of EPRR, via an established route available 24 hours per day, 7 days per week as set out in UKHSA NRC On-Call Rota. All reports of incidents are communicated through to the duty officer (Monday to Friday 9am to 5pm) or UKHSA NRC on call (out-of-hours) via the following telephone number; NRC duty officer on call: 0300 303 3493. On receipt of an initial alert, the NRC duty officer or on-call officer will escalate information to both the on-call senior medical advisor (SMA) and strategic response director (SRD) who will determine the appropriate action necessary.

Escalation and de-escalation of incident level

The level of UKHSA public health response may need to be escalated or de-escalated for several reasons. This escalation and de-escalation may not happen in a linear manner. The decision to escalate or de-escalate should be made by reviewing the criteria as part of the dynamic risk assessment alongside a review of progress against management objectives set by the IMT.

Appendix 4. The outbreak control team

Membership of the OCT

Membership of the OCT will vary according to the nature or circumstances of the outbreak and the incident level. The UKHSA HPT region are expected to be involved in all outbreaks. Usually an EHO, a consultant public health microbiologist and director of public health (DPH) will also be required. Additional members will be expected to be involved dependent on the nature of the outbreak. In some circumstances it may be appropriate for the OCT to consist only of UKHSA staff, although these may be from different parts of the organisation or from more than one UKHSA HPT region.

The usual minimum membership is:

- CPH or CCDC
- FS consultant epidemiologist or senior epidemiologist
- consultant in public health infection
- communications officer
- DPH (or nominated deputy)
- EHO
- administrative support

Suggested additional members as determined by nature of outbreak are:

- data or epidemiological scientist
- Care Quality Commission (CQC)
- community infection prevention and control nurse
- NHS consultant from relevant speciality
- Department for Environment, Food and Rural Affairs (DEFRA)
- DHSC
- Animal and Plant Health Agency (APHA)
- Environment Agency (EA)
- food chemist and/or microbiologist
- Food Standards Agency (FSA)
- Food Standards Scotland
- food, water and environment (FWE) microbiologist
- general practitioner (GP)
- health protection surveillance or information officer
- HSE
- ICB representative
- IPC lead
- legal advisor (UKHSA or local authority as appropriate)

- local authority education department
- NHS England regional team
- pharmaceutical advisors (medicines management or optimisation)
- public health teams in developed nations
- NHS medical microbiologist, pathologist or clinical scientist
- police
- reference microbiology services
- screening and immunisation lead (SIL)
- water company

Note: this is not a comprehensive list

OCT terms of reference

The terms of reference should be agreed upon at the first meeting and recorded accordingly. Suggested terms of reference are to:

- review the epidemiological, microbiological and environmental evidence and verify an outbreak is occurring
- regularly conduct and review a full risk assessment while the outbreak is on-going
- develop a strategy to deal with the outbreak and allocate responsibilities based on the risk assessment and roles and responsibilities of the OCT members
- determine the level of the outbreak according to the UKHSA IRP and Concept of Operations documents
- ensure that appropriate control measures are implemented to prevent further primary and secondary cases
- agree appropriate further epidemiological, microbiological, environmental, food and feed chain investigations
- communicate with other professionals, the media, the relevant industry and the public as required providing accurate and timely information
- brief relevant ministers and the chair of the FSA board when determined necessary and appropriate
- determine when the outbreak can be considered over based on on-going risk assessment and taking account effectiveness of risk management actions
- make recommendations regarding the development of systems and procedures to prevent a future occurrence of similar incidents and where feasible enact these
- produce reports at least one of which will be the final report containing lessons identified and recommendations

Template agenda for OCT meeting

Outbreak control team meeting agenda

<Title of outbreak>

<Date, time and venue>

1. Introductions

2. Apologies

3. Minutes and actions of previous meeting (for subsequent meetings)

4. Purpose of meeting

- at first meeting agree chair and terms of reference
- confirm incident arrangements

5. Situation update and review of evidence

- epidemiological
- microbiological or phylogeny
- environmental and food chain
- international situation

6. Current risk assessment

7. Control measures

8. Next steps including further investigations

- epidemiological
- microbiological
- environmental and food chain
- international

9. Communications

- internal or external
- public
- media
- key stakeholders, for example healthcare providers (that is GPs, A&E and so on)
- ministerial or chair of FSA board
- others

10. Review of agreed actions

11. Any other business

12. Date of next meeting and any change to OCT membership

Roles and responsibilities of usual members of the OCT

(Note that tasks may vary according to the nature or circumstances of the outbreak.)

UKHSA CCDC or CHP

Responsibilities are to:

- declare an outbreak following appropriate consultation
- convene the OCT and ensure appropriate membership
- chair the OCT unless a different chair has been agreed
- ensure initial response and investigation begins within 24 hours of outbreak reported
- ensure an incident room is set up at an appropriate venue, if required
- inform relevant UKHSA regional deputy director
- identify resources that might be needed to manage the situation
- liaise with clinicians over need for testing and management of cases
- agree with OCT who will lead the media response
- ensure communications such as letters, briefings and SITPREs or press statements and so on are agreed and disseminated
- arrange for appropriate identification and follow up of contacts
- provide advice on and arrange with partner organisations the provision of prophylaxis or immunisation as necessary
- provide epidemiological advice and support analysis and interpretation of data
- ensure appropriate stakeholders are informed and updated, including local authority, NHS England, ICSs, acute trusts, microbiologists, FS and UKHSA Clinical Public Health Group
- liaise with colleagues in adjacent UKHSA HPT regions and wider UKHSA as necessary
- ensure all documentation relating to the outbreak is correctly managed and disseminated, incorporating information governance and data protection requirements
- ensure the constructive debrief is held and lessons identified, disseminated and acted on
- coordinate production of outbreak report and ensure recommendations are acted on

Environmental Health Officer (representative of Chief Environmental Health Officer)

Responsibilities are to:

- investigate potential sources of outbreak and secure improvements where the local authority is the enforcing authority or where it is the primary authority for companies that operate across local authority boundaries
- advise the OCT where enforcement falls to another body, for example the HSE, FSA, APHA
- provide help and advice including the investigation of cases or contacts
- provide mechanisms and points of contacts for out of hours communications with the OCT and stakeholders
- arrange collection of samples from cases and contacts and undertake appropriate sampling of food, water and environmental samples
- arrange delivery of all samples to appropriate laboratories
- provide reports to the local authority and undertake necessary enforcement actions to inform relevant food and non-food businesses of hazards as appropriate
- arrange for the identification, seizure, removal and safe disposal of contaminated food within their local authority area
- ensure infection control advice is implemented, using relevant legal powers as necessary and working with UKHSA staff, NHS IPC nurse or others
- ensure arrangements for collection and disposal of clinical waste remain appropriate and discuss any required changes with OCT and contractors
- identify resources so that tasks can be undertaken efficiently
- monitor the progress of the investigation and provide updates to the OCT
- report to colleagues in the Environmental Health Department and liaise with those in neighbouring districts or own district where other officers need to be involved, for example trading standards officers responsible for animal feed
- be jointly responsible for communicating the cessation of the outbreak to the stakeholders and the general public, in collaboration with the CCDC
- ensure continuity of evidence in case results are needed for subsequent criminal prosecution

Director of Public Health

Under the Health and Social Care Act 2012, the DPH is responsible for the local authority contribution to health protection, including planning for and responding to incidents that present a threat to the health of the population. They are also responsible for:

- overall executive responsibility for reviewing the health of the population including surveillance, prevention and control of communicable diseases
- ensuring, in liaison with NHS England and ICBs, that appropriate resources are available to support the investigation and control of outbreaks

- ensuring 24-hour local authority emergency management availability
- ensuring that hospital trusts are alerted and able to cope with a potential influx of patients
- informing leader of the council and elected members as appropriate
- liaison with other local authorities as appropriate
- agree who will lead the media response

UKHSA Field Services (FS) Consultant Epidemiologist or Senior Epidemiology Scientist

Responsibilities are to:

- provide advice to the OCT on epidemiological aspects of the outbreak
- provide advice and support for local descriptive epidemiological summaries and analytical epidemiological investigations
- run an epidemiological investigation on behalf of the OCT
- organise a dedicated epidemiology cell as part of the UKHSA incident response if required
- co-ordinate cross-boundary or widespread regional or national investigations

UKHSA Consultant in Public Health Infection or NHS Consultant Microbiologist

Responsibilities are to:

- present relevant microbiological information to the OCT
- provide guidance on the microbiological aspects of investigation and control
- identify resources to enable rapid microbiological testing
- arrange testing of relevant samples and arrange further investigations by other laboratories as agreed by the OCT, for example, typing or whole genome sequencing (WGS)
- liaise with microbiologists in other laboratories (UKHSA and NHS), including reference laboratories, involved in the investigation
- advise on communications needed with microbiological colleagues and assist in briefings where necessary
- provide the results of testing to the source of the request
- participate, as necessary, in the inspection of premises and procurement of samples
- assist clinical and health protection colleagues with treatment and prophylaxis protocols

In addition, the consultant in public health infection will:

- deliver public health microbiology for the regions in which they are based
- provide microbiological expertise for UKHSA HPT regions and local authorities

- support trusts and UKHSA HPT regions in the investigation and control of community outbreaks and HCAI in acute trusts
- liaise with consultant microbiologists, laboratory, CCDC, EHOs, senior trust managers and DPH as appropriate

UKHSA communications lead

Responsibilities are to:

- liaise with incident lead to establish an incident spokesperson
- coordinate media handling for UKHSA HPT regions in close liaison with partners
- ensure appropriate health protection advice is made available to the public and media throughout, including appropriate messages articulating UKHSA HPT regions advice locally
- provide a regional lead for communications relating to high impact outbreaks
- manage the reputation of the UKHSA in the region, specifically horizon scanning for issues that might damage that reputation and as appropriate provide high level advice to the ID and other colleagues on any action required
- monitor press and social media coverage of the outbreak

Food Standards Agency

Responsibilities are to:

- investigate potential sources of outbreak and secure improvements in FSA approved establishments
- co-ordinate local authority investigations in outbreaks deemed by the FSA as serious and/or widespread to identify links in findings and food chain investigations
- provide information, advice, food and feed safety expertise to the OCT
- provide risk management advice and risk assessment support to LAs where required to inform appropriate food or feed safety risk based actions
- liaise with other bodies as required including relevant trade associations, INFOSAN ECPs
- arrange for the identification, seizure, removal and safe disposal of contaminated food within their FSA approved establishments
- ensure infection control advice is implemented, using relevant legal powers as necessary as a Food regulator and as the enforcing authority
- be jointly responsible for communicating the cessation of the outbreak to the stakeholders and the general public
- communicate food safety risks including publication of food safety alerts to consumers
- issue general guidance to local authorities or other public authorities on matters connected with the management of outbreaks or suspected outbreaks of food-borne disease

Administrator

Administrative support should be provided to each outbreak control team. Responsibilities include:

- taking accurate and detailed minutes of OCT meetings including a record of actions and the individual or organisation responsible
- timely circulation of minutes to members of the OCT
- organisation and circulation of dates for OCT meetings or associated activities
- act as task manager for incidents where this is required
- other administrative support as required

Roles and responsibilities of organisations

The roles of UKHSA and local authorities in the public health system are complementary. These organisations will work together as part of a single public health system to deliver effective protection from health threats for the population. Commissioning responsibilities are split between NHS England Area Teams, ICBS and local authorities.

Measures taken to control an outbreak can require a need to urgently mobilise resources. This might include the provision of vaccines or antibiotic prophylaxis for contacts or the collection of samples for screening or diagnostic purposes. In a large outbreak this will often include the provision of suitable clinical staff to deliver an intervention.

To prevent any delays in mobilising resources there should be a local agreement in place regarding the commissioning and provision of any extra resources required. This should include a clear statement of how these will be funded, delivered and accessed during an incident.

UK Health Security Agency

UKHSA has specific responsibilities for planning for and managing the response to emergencies and health protection incidents and outbreaks in an extended team that works across government. UKHSA exercises specific functions on behalf of the Secretary of State under the National Health Service Act 2006, the Health and Social Care Act 2012 and the Civil Contingencies Act 2004. The Secretary of State has cross-government responsibility to provide assurance on the health system's emergency preparedness.

UKHSA provides government, local government, the NHS, Parliament, public health professionals, social care settings, academia, industry and the public with evidence-based professional, scientific and delivery expertise and support.

UKHSA plays a key role in providing assurance of the preparedness of the wider health protection system for future public health emergencies, including pandemics. This brings together a comprehensive understanding of the nature of potential threats to health and

UKHSA's insight into the strengths and challenges of the wider system. It will complement the role of the civil contingencies secretariat in managing the national security risk assessment process and of DHSC in stewarding the health and care system.

UKHSA Clinical Public Health Group

UKHSA Clinical Public Health Group is responsible for the collection and collation of data on outbreaks of communicable disease and is involved in prevention and control of communicable diseases at a national level in England. Where appropriate, the UKHSA Clinical Public Health Group can provide experts to assist in local outbreak investigations or, in the case of outbreaks with a national distribution, its experts may themselves design and carry out outbreak investigations.

UKHSA specialised microbiology and laboratories

Microbiology Services comprise the UKHSA reference laboratories which assist in the identification and investigation of outbreaks by subtyping isolates and the Specialist Microbiology Network (SMN). The SMN includes the FWE laboratories and also has Consultants in Public Health Infection who manage or commission regional public health microbiology services (including FEW microbiology). UKHSA's regional laboratories undertake specialist tests and provide support for NHS microbiology laboratories. In addition, the reference laboratory at Porton Down deal with special pathogens.

UKHSA advice and support in relation to genomics for outbreak control teams are available through genomicsupport@UKHSA.gov.uk

Lead public health laboratories

Specimens are submitted to public health microbiology laboratories to determine the cause and extent of an outbreak in a community (institution, family group or the wider community) or determine whether an observed cluster of cases is related and constitutes an outbreak.

Specimens may also be submitted to detect spread and contain and/or prevent an outbreak (for example diphtheria, group A streptococcus or other pathogens).

UKHSA Field Services

The FS was created to improve the consistency of high-quality investigations including those in response to outbreaks and incidents. FS is a nationally coordinated but geographically dispersed service with epidemiologists, public health microbiologists and scientists specialising in communicable disease surveillance and outbreak response. Each UKHSA HPT region has an FS head of team who maintains close liaison with the HPTs to ensure FS supports the investigation of outbreaks or incidents, including providing on-site support where needed. FS should be contacted in all significant incidents or as agreed with their UKHSA HPT region.

Local authorities

Local authorities and port health authorities have a key role in investigating and managing outbreaks of communicable disease. The specific statutory responsibilities, duties and powers available to them during the handling of an outbreak are set out in the following legislation:

- Public Health (Control of Disease) Act 1984 and associated regulations
- Health Protection (Notification) Regulations 2010
- Health Protection (Local Authority Powers) Regulations 2010
- Health Protection (Part 2A Orders) Regulations 2010
- Health and Safety at Work Act 1974 and associated regulations
- European Union (Withdrawal Agreement) Act 2020 (numbers 178/2002, 852-854/2004, 2017/625 and 2073/2005)
- the General Food Regulations 2004
- Food Safety and Hygiene Regulations 2013
- Food Law Code of Practice (England)
- International Health Regulations 2005
- the Health Protection (Ships and Aircraft) Regulations 2013
- Private Water Supplies regulations 2016

In cross-local authority boundary outbreaks, a lead authority should be appointed at the first meeting of the OCT. The following factors should be taken into account:

- the local authority where any function, event or institution associated with the incident is located
- the local authority where the premises associated with the outbreak is located
- the local authority where most of the cases have occurred

Each authority will make available the necessary resources to investigate and control the outbreak at the request of the OCT. It is inevitable in a cross-boundary outbreak that relevant information may need to be released to a neighbouring authority or agency.

Information will be released on a 'need to know' basis. All authorities and agencies will ensure confidentiality of information obtained during cross boundary outbreaks. A common data set and database, password protected as necessary, should be established as soon as possible. Lines of communication should be established, and clarity of roles and responsibilities is vital to prevent duplication of effort.

NHS commissioners and providers

The Health and Care Act 2022 established NHS England, a single regulatory body responsible for overseeing the funding, planning, delivery, transformation, and performance of NHS healthcare in England. NHS England is responsible for ensuring an effective local response including the mobilisation of local resources through the appropriate commissioner. DPHs will hold NHS England to account for delivering that response.

ICBs are the local commissioners of NHS funded community and secondary care services. ICBs sit on their LHRP as part of the NHS system to prepare and plan for EPRR. Commissioned healthcare services should include the necessary surge capacity that may be needed for outbreaks.

Under the Civil Contingencies Act 2004 NHS England and ICBs are identified as Category 1 responders. ICBs have the following duties as a Category 1 responder:

- fulfil the relevant duties under the Civil Contingencies Act 2004 and the requirements in respect of emergencies within the National Health Service Act 2006 and the Health and Care Act 2022
- accountable emergency officer to co-chair the LHRP and maintain the involvement and support of LHRP partners at strategic and tactical level
- ensure appropriate director level representation at the Local Resilience Forum (LRF)
- establish a mechanism to provide NHS strategic and tactical leadership and support structures to effectively manage and coordinate the NHS response to, and recovery from, incidents and emergencies. This will include representing the NHS at Strategic Coordinating Groups and Tactical Coordinating Groups
- support NHS England in discharging their EPRR functions and duties locally, including supporting ICS tactical coordination during incidents
- ensure robust escalation procedures are in place to respond to disruption to delivery of patient services
- provide a route of escalation for resilience planning issues to the LHRP in respect of commissioned provider EPRR preparedness
- develop and maintain incident response arrangements in collaboration with all NHS-funded organisations and partner organisations
- ensure that there is an effective process for the identification, recording, implementation and sharing of lessons identified through response to incidents and emergencies and participation in exercises and debrief events
- provide annual assurance against the NHS EPRR Core Standards, including by monitoring each commissioned provider's compliance with their contractual obligations in respect of EPRR and with applicable Core Standards
- ensure contracts with all commissioned providers (including independent ICB or LRF covers more than one geographical location then agreement will be made locally in respect of representation for planning and response

Registered Medical Practitioners have a statutory duty to notify the proper officer of the local authority of suspected cases of certain infectious diseases and non-infectious health hazards that could represent significant harm to human health. Registered Medical Practitioners are also required to notify the proper officer (usually a UKHSA CHP) of new or emerging diseases when they suspect there is a risk of significant harm to human health.

Food Standards Agency

The Food Standards Agency (FSA) is a non-ministerial government department operating in England, Wales and Northern Ireland (Food Standards Scotland have a similar role in Scotland) established under the Food Standards Act 1999 with responsibility for the protection of public health in relation to food. Instead of a minister, the FSA is accountable to the chair of the FSA board and its board members.

The FSA is the enforcing authority in establishments approved by the FSA. FSA-authorized officers enforce public health, hygiene and animal welfare at slaughter legislation in approved establishments for meat, primary dairy production and wine. The FSA is also responsible for the classification of shellfish harvesting areas which is a pre-requisite for shellfish production.

Local authorities have a responsibility outlined in the Codes of Practice ([Food Law Code of Practice 2023 section 5.2.2](#) and Feed Law Code of Practice 2018 section 3.3) to inform the FSA of all widespread or serious localised outbreaks. The FSA Incidents team is the point of contact for local authorities in relation to outbreaks and incidents. The FSA will normally participate in local OCTs that are coordinating response to serious outbreaks and national OCTs, assist in the investigation of foodborne outbreaks and will lead on any food and feed chain analysis and action that may be required.

Where investigations implicate a food distributed the FSA will carry out a risk assessment where required by FSA policy to inform their risk management advice and work with local authorities to advise the food business operator (FBO) on steps that ought to be taken in relation to the affected products. Those steps may include the withdrawal and/or recall of food and feed under regulations which prohibit food being placed on the market if it is unsafe. Under food safety regulations FBOs are also required to notify the competent authorities immediately (both the FSA and relevant local authority depending on the nature of the business), where they consider or have reason to believe that food is not in compliance with food or feed safety requirements.

The FSA is Emergency Contact Point (ECP) for the International Food Safety Authority Network (INFOSAN). This system is used to exchange information with all international food safety counterparts in the event of food or feed safety risks or food borne outbreaks that have arisen as a result of food imported to Great Britain from the European Union (EU) or the rest of the world, or to exchange information on any matter in connection with food safety concerns from imported or exported foods.

Animal and Plant Health Agency

The Animal and Plant Health Agency (APHA) provides assistance to OCTs as appropriate where a direct or indirect animal source is implicated in outbreaks of enteric (or other zoonotic) illness and where veterinary investigation (including collection of appropriate animal samples) or intervention could help reduce risks to the public.

APHA is responsible for:

- identifying and controlling endemic and exotic diseases and pests in animals, plants and bees, and surveillance of new and emerging pests and diseases
- scientific research in areas such as bacterial, viral, prion and parasitic diseases and vaccines, and food safety, and acting as an international reference laboratory for many farm animal diseases
- regulating the safe disposal of animal by-products to reduce the risk of potentially dangerous substances entering the food chain

Local resilience forums (LRFs) and local health resilience partnerships (LHRPs)

LRFs are multi-agency partnerships which bring together senior representatives of emergency services, local authority partners, NHS bodies and other responders. The purpose of the LRF is to prepare for and support member organisations to respond to emergencies as part of national coordination arrangements. The LRF also enables and builds local resilience capability through planning and testing. There are currently 39 LRFs that map directly on to police areas; LRFs typically have 3 seats for health representatives from NHS, local authority public health and UKHSA.

The LHRP is a strategic forum for organisations in the local health sector which facilitates health sector preparedness and planning for emergencies at LRF level. It supports the NHS, UKHSA and local authority representatives on the LRF in their role to represent health sector EPRR matters.

Health and Safety Executive (HSE)

HSE is an executive non-departmental public body established under the Health and Safety at Work etc. Act 1974, and is the enforcing authority responsible for health and safety regulation for certain premises and activities in the UK. HSE's primary function is to secure the health, safety and welfare of people at work and protects the public from risks to health and safety from work activity.

HSE works in many areas including mines, factories, farms, hospitals and schools, offshore gas and oil installations, the gas grid and the movement of dangerous goods and substances. Companies have a legal requirement to control the risks from hazards such as biological agents. HSE publishes guidance on control measures necessary to minimise risks and comply with legislation and routinely carries out inspections to ensure controls are adequate.

Appendix 5. Legal duties

Health and Safety at Work Act 1974 and associated regulations

The Health and Safety at Work Act 1974 and associated regulations and codes of practice provide the legal powers for the investigation of non-food related outbreaks in workplaces. For example, where outbreaks are associated with water systems such as cooling towers, swimming pools, spas; or with animals such as at visitor attractions where contact with animals is permitted.

Depending on the type of activity carried on the premises, the HSE or the local authority will undertake appropriate regulatory action under the Health and Safety at Work Act 1974 and associated legislation for premises and processes for which they are responsible. Section 3 of the act relates to the protection of people, other than those employed by the undertaking concerned, from risks to their health and safety arising out of or in connection with the activities of persons at work. Guidance on the application of Section 3 is available.

Corporate Manslaughter and Corporate Homicide Act 2007

The Corporate Manslaughter and Corporate Homicide Act 2007 has been implemented and a multi-agency work-related death protocol has been agreed.

A work-related death is a fatality resulting from an incident arising out of, or in connection with, work. The principles within the protocol also apply to cases where the victim suffers injuries that are life-threatening. There will be instances in which it is difficult to determine whether a death is work-related, and each fatality must be considered individually. The relevant enforcing authorities should make this conclusion at the earliest opportunity. A police officer of supervisory rank should assume responsibility for the investigation, which in practice may run in parallel to investigations by the OCT.

Food Safety Act 1990 and associated regulations

The Food Safety Act 1990 and associated regulations and codes of practice provide the legal powers for investigation of food borne outbreaks, implementation of necessary control measures to prevent spread of infection, and where appropriate legal sanctions.

The Food Standards Agency has produced a range of guidance that may be of help to local authorities that are required to carry out formal sampling as a result of a foodborne outbreak.

Public health protection powers

The Public Health (Control of Disease) Act 1984 (as amended) together with the Health Protection (Local Authority Powers) Regulations 2010 and the Health Protection (Part 2A Orders) Regulations 2010 provide important legislative powers. These provide for an 'all hazards' approach, which is consistent with the International Health Regulations 2005, encompassing infection and contamination of any kind.

Generally, there is no need to compel people to take action to protect other people's health. The health protection powers are for use where voluntary measures are insufficient and legal powers are needed to deal with infections or contamination that present a significant risk to human health. The powers available to unitary and lower tier authorities include powers that can be exercised by the local authority without judicial oversight and other powers that involve an application to a Justice of the Peace (JP).

A JP can make a Part 2A Order requiring a person to:

- undergo medical examination (not treatment or vaccination)
- be taken to hospital or another suitable establishment
- be detained in hospital or another suitable establishment
- be kept in isolation or quarantine
- be disinfected or decontaminated
- wear protective clothing
- provide information or answer questions about their health or other circumstances
- have their health monitored and the results reported
- attend training or advice sessions on how to reduce the risk of infecting or contaminating others
- be subject to restrictions on where they go or who they have contact with
- abstain from working or trading

In addition, a JP can make a Part 2A Order requiring that:

- a thing is seized or retained, kept in isolation or quarantine, disinfected or decontaminated, or destroyed or disposed of
- a body or human remains be buried or cremated, or that human remains are otherwise disposed of
- premises are closed, premises are disinfected or decontaminated, a conveyance or movable structure is detained, or a building, conveyance or structure is destroyed

Appendix 6. Risk assessment

Risk assessments should be conducted at the beginning of an outbreak, reviewed regularly and used to inform control strategies. Different organisations use different risk assessment frameworks. The choice of framework should depend on the circumstances and be agreed at the OCT.

The risk management model for communicable disease control is embedded in HPZone and is the model commonly used by UKHSA regions. It considers 5 separate elements (severity, confidence, spread, intervention and context) and is described below.

Risk management model for communicable disease control

Severity

The seriousness of the incident in terms of the potential to cause harm to individuals or to the population

Grade	Qualifier	Description	Examples
0	Very low	Seldom causing severe illness	<ul style="list-style-type: none"> • 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 E.coli O157 • pulmonary tuberculosis • MRSA in a high dependency unit • legionnaires' disease
3	High	Usually, severe illness often with long-term effects or death	<ul style="list-style-type: none"> • meningococcal disease • diphtheria

Grade	Qualifier	Description	Examples
4	Very high	Severe illness almost invariably fatal	<ul style="list-style-type: none"> • rabies • Ebola virus disease • Variant Creutzfeldt-Jakob disease (vCJD)

Uncertainty

The level of uncertainty that the diagnosis is correct, based on epidemiological, clinical, statistical and laboratory evidence

Grade	Qualifier	Description	Examples
0	Very low	Available evidence suggests hypothesis is correct. Empirical probability greater than 85%	<ul style="list-style-type: none"> • typical incident picture with increasing confirmation
1	Low	Available evidence suggests hypothesis is correct. Empirical probability: 50% to 85%	<ul style="list-style-type: none"> • typical incident picture without conflicting information
2	Moderate	Available evidence suggests hypothesis is correct. empirical probability: 25% to 50%	<ul style="list-style-type: none"> • alternative hypothesis equally likely
3	High	Available evidence suggests hypothesis is correct. Empirical probability 10% to 25%	<ul style="list-style-type: none"> • alternative hypothesis more likely but cannot exclude the working hypothesis
4	Very high	Available evidence suggests hypothesis is correct. Empirical probability less than 10%	<ul style="list-style-type: none"> • hunch

Spread

The likelihood of the infection spreading

This includes an assessment of the infective dose, virulence of the organism, modes and routes of transmission, the observed spread and the susceptibility of the population (for example lack of immunity).

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 campylobacter
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 tuberculosis
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 tuberculosis
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 is 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 and contain, reduce or eliminate the transmission of the organism

This includes feasibility of delivering appropriate interventions, taking into consideration how simple, effective, available, affordable, acceptable and accessible they are.

Grade	Qualifier	Description	Examples
0	Very easy	Intervention well established with clear benefits and no anticipated difficulties	<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 a contaminated food in a closed institution • hepatitis A immunisation to a small group of vulnerable contacts of a case • a case of meningococcal infection with contacts confined to the household
2	Passable	Intervention with some beneficial effects but 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 • national food withdrawal and/or recall
3	Difficult	Some remedial intervention possible but either difficult to implement, relatively ineffectual or other significant problems	<ul style="list-style-type: none"> • national product recall with product withdrawals not being feasible • urgent mass immunisation campaign • response to rabid dog in the loose
4	Very difficult	Remedial intervention very difficult	<ul style="list-style-type: none"> • response to a cluster of vCJD • MRSA on a busy high dependency unit

Context

The broader environment in which events are occurring, including public concern, attitudes, expectations, pressures, strength of professional knowledge and politics, that may influence decisions about the response

Consideration should be given to:

- media, parents, local concern and politics and the degree to which these factors aggravate and raise the profile of the event
- historical problems – influence of local experience of similar incidents and previous events, the way they were handled, associated consequences and expectations
- peer group practice – extent to which an established approach or recommended best practice is tested and documented (national guidelines)
- extent to which other similar incidents are being managed and publicised and the impact this may have on public attitudes and expectations

Grade	Qualifier	Description	Examples
0	Very easy	No raised level of interest	<ul style="list-style-type: none"> • apathy • common adverse problems are fairly well understood
1	Easy	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 • few cases of diarrhoea in a nursery school

Grade	Qualifier	Description	Examples
2	Passable (manageable)	A degree of unease and anxiety on the part of the public and the media. The context could deteriorate if the incident is mishandled	<ul style="list-style-type: none"> • a series of gastro-enteritis cases associated with an outdoor centre to which children are sent • tuberculosis in a school in a low incidence area
3	Difficult	Context is sensitive with significant difficulties, press interested 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 • widespread food poisoning affecting several schools • 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"> • vCJD linked to a new source, for example pork • a childhood vaccine found to have serious unsuspected side effects

Appendix 7. Outbreak investigation and control

The approach to the investigation and control of an outbreak is likely to vary depending on the circumstances. The following is designed to assist in systematically addressing key points for consideration.

Each action does not automatically follow the one preceding it and not all steps are needed on every occasion. Some actions will be carried out simultaneously while others, such as communication and collation of data, will be required throughout the whole process.

A written plan of investigation should be drawn up at the earliest possible point, usually after confirmation of the outbreak (Appendix 10). The ID/OCT should consider whether an epidemiology cell, food-chain cell, media cell is required to support this investigation.

Initial response

Confirm the validity of the initial information on which the potential outbreak is based establish a diagnosis and collect relevant clinical and demographic information such as onset date, severity and so on.

Conduct preliminary interviews with cases to gather information including common exposures for example food consumption, attendance at an event, premises visited.

Identify the population at risk.

Agree a case definition.

Agree arrangements for proactive and early case finding.

In the case of significant outbreaks, inform the relevant specialist team in Clinical and Public Health Group, if a food or animal feed source is suspected, inform the FSA Incidents Branch.

Other actions

Consider the likelihood of a continuing public health risk.

Carry out an initial risk assessment to guide decision-making and implement any immediate control measures.

Agree any immediate additional investigations required such as microbiological, environmental or food product or food environment testing.

Notify laboratory staff of the investigation and agree a locally agreed identifier to be assigned to specimens.

Conduct investigations at implicated premises.

Identify the need to convene an OCT and activation of the outbreak control plan.

Consider whether additional cells are required such as epidemiology, food chain or media cell should be formed to support the OCT.

Review the information gathered, assess the need for further investigation and identify the roles and responsibilities of the relevant partners.

Descriptive epidemiology

Review initial information and establish the number of confirmed and probable cases based on the case definition.

Describe the outbreak in terms of person (age, sex or other factors), time (symptom onset or date of diagnosis) and place (geographical distribution of cases), clinical severity.

Conduct in-depth interviews with cases to identify risk factors, share food and animal feed exposure information with the FSA to inform supply chain investigations and root cause identification.

Form preliminary hypotheses based on information gathered.

Communication

Agree who will have lead media responsibility and ensure the relevant communications officer is involved at the earliest possible stage.

Agree a communication strategy including the most effective routes of communication.

Identify all parties that need to receive information.

Ensure accuracy and timeliness of communication, while complying with relevant legislation for example the Data Protection Act 2018.

Prepare both proactive and reactive media statements for release as appropriate.

Ensure UKHSA alerting occurs as outlined in the UKHSA IRP.

FSA to ensure FAS alerts are published in accordance with their standard operational procedures.

Ensure relevant material is collected to inform a final report for distribution.

Ensure relevant minister and where food and feed are involved, the chair of the FSA board are informed as necessary.

Inform developed nation contact points as necessary.

Analytical epidemiology and further investigation

Confirm factors common to all or most cases and calculate attack rates.

Review preliminary hypotheses and consider whether further epidemiological or microbiological investigations are required.

Collect any further clinical and environmental specimens for testing.

Conduct further analytical epidemiological studies (see Appendix 11).

Conduct further microbiological studies (for example specialised typing or WGS).

Ascertain source and mode of spread.

Control measures

Control the source and cause (animal, human or environmental) and mode of spread.

Protect persons at risk.

Monitor effectiveness of control measures or maintain disease surveillance.

Final phase

Identify the end of the outbreak.

Produce outbreak report, identify and address lessons identified.

Appendix 8. Conducting an analytical study

Analytical studies are conducted to test hypotheses generated by descriptive epidemiology regarding the cause of an outbreak. Analytical studies are resource intensive but necessary as they enable the investigator to generate convincing evidence of the suspected source of infection. This may be important to support and justify interventions implemented to protect public health.

Before starting an analytical study, a descriptive analysis should have been conducted and, a specific hypothesis or hypotheses identified. A written protocol for the study must be drawn up prior to commencing the analytical study.

Reasons for conducting an analytical study include:

- a disease with unknown source, or unknown mode of transmission
- where new risk factors for a disease may have been recognised
- a new or unknown pathogen or hazard
- the need for new knowledge to inform future public health action
- an outbreak of a rare disease not normally occurring in the UK
- an outbreak of disease with significant morbidity or mortality
- an outbreak of national interest where evidence to support interventions is required
- an outbreak linked to a nationally distributed product
- a high level of public or media concern
- an absence of known effective control measures
- an outbreak potentially related to poor standards of institutional care
- training experience to be gained

Cohort and case control studies are the traditional study designs which provide a scientific framework to assess the relationship between exposure to a risk factor and the occurrence of illness. The appropriate study design will depend on the nature of the outbreak. Other novel methods have been described and may be appropriate, Field Services (FS) or National Disease Expert in Clinical and Public Health Group are able to provide expert advice and support on study design.

Cohort studies

Cohort studies are the gold standard for outbreak investigation because they enable an estimation of the relative risk of becoming unwell after being exposed to a potential source of infection. The cohort method has the advantage over case-control studies that there is no need to identify and select controls, so the possibility of bias is reduced.

A cohort is a complete group of people who attended an event or who were exposed to a potential source of infection (for example, food, surgical intervention, environmental hazard). In a cohort study the following are measured:

- the level of exposure by each member of the group in terms of amount of food eaten or time spent exposed to an environmental source
- the outcome in terms of illness or adverse health effects

A comparison is then made between those exposed and those not exposed, or among those exposed to high versus low 'doses'.

Case-control studies

A case-control study is used when it is not possible to identify a defined population at risk, or when the source population is so large in proportion to the numbers who are ill that it is not cost effective to include them all in the study.

Cases are those who have had the illness of interest. Controls should be people who have had similar opportunities to be exposed and to be diagnosed as cases. The purpose of the study is to determine whether the exposure of interest occurred more or less frequently in cases than controls. Analysis produces an odds ratio that describes the ratio of the probability of exposure in the cases to the probability of exposure in the controls.

Controls can be chosen from neighbours and friends of the cases or from various registers and lists, such as people who are registered with the same general practitioner. Each case will usually have one, or preferably more, controls.

Matching controls to cases based on demographic or other factors should be considered as this can control for confounding. Care should be taken not to overmatch, as this is likely to make cases and controls more similar with respect to exposure history. For example, if the suspect food is a confectionery bar and most cases are children, matched controls would be children of similar age, living in the same area. If controls are too similar to cases, then no association with the suspected exposure might be found.

Data quality

Good data quality is underpinned by good questionnaire design: FS or National Disease Expert in the UKHSA Clinical and Public Health Group are able to provide expert advice and support questionnaire design. The preferred method for collecting data is via an electronic questionnaire as quality checks can be carried out at data entry. Where transfer of data from questionnaire to an appropriate electronic format for analysis is required, care should be taken so as not to inadvertently introduce errors. Ideally, 2 staff members would independently enter data onto an

electronic database. Databases should then be compared to identify and correct any differences. This corrected database should then be used for the statistical analysis.

Tests for statistical significance

Data showing the differences in illness between those who were exposed and unexposed to a suspected source should be tested for statistical significance. If the calculation shows a statistically significant difference between exposed and unexposed, this supports the hypothesis that the source was the likely cause. Chi-square (χ^2) and Fisher's Exact tests are most commonly used in this calculation. The level of significance required to demonstrate that a difference is not merely a result of chance is specified beforehand. The commonest significance level used is 5%; that is, there is a one in 20 (5%) likelihood that chance alone would account for the statistical difference between the 2 groups.

Appendix 9. Media strategy

A key member of the OCT is the communications officer. The role of the communications officer in the OCT is to ensure that any media implications are considered among all the members of the OCT and planned for in the shape of either a reactive holding statement or a proactive media release.

Depending on the incident it may be necessary to keep the public fully informed via the media, especially if there is a wider public health risk. The approach taken to risk communication will be informed by the OCT risk assessment. The risk assessment will be agreed between all OCT members and will incorporate epidemiological evidence, microbiological evidence, infection control knowledge and, where appropriate, food chain investigation findings.

Any media activity would need to be considered with the following considerations: that it would not prejudice the investigation; compromise any statutory responsibilities or legal requirements and not reveal the identity of any cases or premises under investigation, unless there is a material risk to the public, in which case public protection will be the paramount consideration and not cause avoidable alarm to the public.

Following the first meeting of the OCT, a reactive media statement will be prepared which will detail the number of people affected by the outbreak which will be broken down by region where appropriate. This information will be cascaded to other communications colleagues in the regions. Details of the infection (for example, measles, *E.coli*) will be given together with any details of hospitalisations and deaths, as is normal practice. The head of the relevant department or other suitable senior member of the team will be quoted, and a spokesperson nominated for any media enquiries. Where the outbreak is linked to food or feed safety, the local authority or the FSA will in addition identify a nominated spokesperson for any matters related to food and feed safety.

All media material prepared by the OCT communications officer will be signed off by relevant OCT members. This is usually the epidemiologist as well as the OCT chair. In incidents where it is appropriate for there to be a joint media response, media material would then also need to be shared and agreed with lead members of the OCT from associated organisations. A single point of contact for media enquiries should be decided at the relevant organisation.

Once all the media materials have been signed off by all relevant OCT members and the spokes persons signed off their spokesperson sections, the communications officer will be responsible for all the external communication, except with professional stakeholders.

Where the media statement is being made public (a proactive release) this will be published on the [UKHSA website](#). Other media activities may include uploading a tweet and updating the UKHSA Facebook page. Where the proactive media statement involves the FSA, this will be published on [food.gov.uk](#), ordinarily the local authorities will be informed via smarter

communication platform in advance or soon after, and the relevant social media channels used to reach appropriate target audiences.

The communications officer will also be responsible for sharing information with other press officers both within UKHSA and other organisations such as DHSC, DEFRA, FSA and local partner agencies. No other member of the OCT or the participating agencies will release information to the press or arrange press conferences – this will be solely the role of the communications officer.

Appendix 10. Constructive debriefing and lessons identified

The UKHSA lessons identified methodology involves complementary approaches drawn from constructive debrief methodology and from a logical framework approach to capture the learning from each incident or emergency or exercise and ensure that lessons identified are acted upon and implemented. It is important that any lessons identified system enables the views of all participants to be gathered at the individual and group level whilst keeping the process simple. Participants must be given every opportunity to contribute their observations freely and honestly.

The lessons identified process follows the UKHSA IRP and this guidance at whatever the level of response. In the UKHSA IRP, the ID by default is responsible for ensuring that the lessons identified process takes place. The ID will decide who is to manage the debriefing process and agree with them the terms of reference for the debriefing.

The process takes an integrated approach in order to provide a forum for those involved in the real incident or exercise to express their observations and allow the identification of:

- the principle issues
- the root causes of these issues

The process will produce recommendations to address the issues and an action plan with clearly identified responsibilities and time

A facilitated or virtual constructive debrief brings together staff involved to draw out learning, both positive and negative encountered as part of the response to the outbreak. The template below can be used to guide this process.

The following categories are provided as examples of the issues that will need to be covered as part of the constructive debrief (this list is not exhaustive and can be added to as required):

A) Co-ordination

- internal
- multiagency

B) Preparation

- internal
- multiagency

C) Communications

- internal

- multiagency
- media
- public

D) Resources

- staff
- organisation

For UKHSA routine or standard incidents a local reporting process will be used to ensure recommendations from lessons are implemented. Following a UKHSA routine or standard incident or exercise, the ID and Debrief Facilitator will meet to determine the key lessons identified from the debrief. These lessons will then be reported to the appropriate SMT for their input on decisions regarding actions that need to be taken and who will be tasked with leading on them.

Once this is completed an administrator is identified to ensure all SMT decisions have been recorded and staff involved (Lesson Leads) are aware of their responsibilities in the delivery of actions or recommendations. These leads must then provide regular updates on the delivery of the action to the administrator and appropriate SMT to ensure that staff are aware of progress.

For UKHSA enhanced incidents, the reporting process will be through the UKHSA EPRR Oversight Group via the CRT team in EPRR Directorate. Outputs from the lessons identified facilitated debriefing process are used to populate a lessons-identified report table which clearly identifies lead, responsibilities and target dates for completion. This will also detail who in UKHSA is responsible for following up whether all lessons identified have been addressed and how and when they will be reported to the UKHSA EPRR Oversight Group.

Appendix 11. Final outbreak investigation report

Standard structure

A written final report should ideally be prepared within 6 weeks of the end of the outbreak investigation, and definitely within 12 weeks. This report should ideally be agreed by all members of the OCT.

The report should follow the usual format of an outbreak investigation report and include a statement about the effectiveness of the investigation, the control measures taken and recommendations for the future. The final report should be comprehensive, protect confidentiality and be circulated to appropriate individuals and authorities.

Publication in a peer-reviewed journal should be considered, once any legal action by the local authority and other enforcement agencies have been completed. The [Strengthening the Reporting of Observational studies in Epidemiology \(STROBE\) Statement](#) provides guidance on what should be included in reports of observational studies submitted to peer-reviewed journals.

Structure of report

Title page

The title should contain the type of outbreak, pathogen, location and date. Names of authors and investigators with affiliations, including members of the OCT should be listed.

Executive summary

This section should be concise and contain all key facts that describe what happened. The summary should provide an overview of the background (for example how many people were affected, severity of disease, which pathogen caused the outbreak, settings affected), investigation methods, results, how the outbreak was controlled, and any recommendations for preventing future outbreaks.

Introduction

This should contain a brief introduction to the outbreak, including details of outbreak recognition, initial investigations, immediate control measures, timeline and objectives of the investigation.

Background

This should include a brief description of clinical features, incubation period, infectious dose, recognised sources and modes of spread, and diagnosis. It should also provide the background prevalence of the disease locally, nationally and globally if relevant.

Incident co-ordination

This should include a statement about UKHSA incident response level and command structure, UKHSA incident commander and lead organisation. If relevant, multi-agency or NHS incident response level should be stated.

Outbreak investigation methods

This section should provide an overview of investigation methods used, including:

- epidemiological
 - descriptive – including description of initial cases and case definition, data collection methods, epidemic curve and hypothesis generation
 - analytical – case control or cohort, selection of cases or controls, data collection methods, outline of statistical analysis
- microbiological
 - samples taken, laboratories used, characterisation of isolates
- environmental
 - samples taken, risk assessments of production and distribution, including food chain
- food chain
 - traceability investigations, analysis, food establishment investigations, enforcement strategies and approach
 - supply chain network investigation
- veterinary
 - samples taken, risk assessments and inspection of local farms

Results

The results section should present all the results from all the methods used, with analysis and interpretation of the data, for example:

- epidemiological – essential time, place, person
- microbiological
- environmental
- food or animal feed chain – traceability investigation findings, food safety concerns and breaches
- veterinary

Control measures

This section should describe measures taken to control the outbreak, and how effective they were, for example:

- overall co-ordination and management of the outbreak
- care of cases
- prevention of further cases (primary and secondary spread)
- public and industry information
- information to, for example professionals or businesses
- outline of food safety interventions and control measures, infection control, health and safety, enforcement action, alert publications
- media response
- international coordination

Discussion and conclusions

This section should describe:

- the summary of the main findings
- the validity of the data and possible sources of bias
- interpretation of epidemiological and microbiological findings
- justification for conclusions drawn and actions taken
- assessment of the control measures implemented
- explanation of action to protect public health
- problems encountered

Constructive debrief and lessons identified templates

Recommendations

The outbreak report should include a summary of the lessons identified and recommendations for any changes in policies, procedures or guidance. The purpose of this is to:

- prevent future outbreaks
- improve surveillance and detection of outbreaks
- improve the process of outbreak investigation and control

References

As required.

Appendices

Appendices might include:

- chronology of events
- details of risk assessments undertaken including date and time
- OCT (members, terms of reference, roles and responsibilities, meeting dates)
- detailed results
- epidemiological or environmental questionnaires
- food chain traceability maps
- letters to patients or physicians
- press releases and food safety alerts published

- costs of the outbreak, for example extra resources used or commissioned
- acknowledgements

Circulation list

Who the report will be sent to.

Legal and confidentiality issues related to final outbreak reports

In recent years there has been an increase in the number of requests from solicitors for outbreak reports. In these instances, there is a possibility that the reports will be used in litigation or information contained therein requested as part of a freedom of information (FOI) request. It is therefore important that they are written with this in mind.

Traditionally, outbreak reports have been written for the use of OCTs and may explore hypotheses and learning points. These may contain elements that are fundamental to the outbreak but inappropriate to make publicly available for individual litigation cases such as the inclusion of named premises (and the potential for defamation if critical), case histories that may be deductively identifiable (even if anonymised), or lessons identified that may be inappropriately interpreted as admissions of errors by external parties. In light of this, the OCT and authors should consider the following when preparing the report.

To be considered by authors

Proofread the document, use a date and version number and remember to take the word “draft” off the final document.

Is further assurance through independent professional or expert scrutiny or peer review needed?

Are the conclusions supported by evidence and would the conclusions and opinions stand up to independent scrutiny?

State who contributed what to the report and who signed off the report.

Clarify where the evidence came from and who acted on this evidence. Organisations sometimes have overlapping roles and responsibilities. A report, mainly written by one author on behalf of a multi-agency group, may confuse the reader regarding the legal and professional responsibilities of individual incident responders. To promote a consistent understanding and avoid UKHSA being unnecessarily associated with an inappropriate or inadequate response, it is therefore important to document this.

To be considered by OCT

The purpose of report and who it is for. If there are lessons identified relating to the response of individual organisations to the outbreak, consideration should be given to including these in a separate report to be used internally and complying with information governance requirements. Ownership of the report. If multi-agency sign-off procedure, ownership of copyright and responsibility for formal disclosures needs to be agreed.

Disclosure and publication. Clear arrangements for formal and informal disclosure are needed. Agreement is required regarding where the report will be published and whether this will be in full. It is good practice to allow those affected by the report see it in advance of publication.

Whether the publication of the report could prejudice any on-going or intended legal proceedings or other enforcement action being undertaken or considered by the local authority or other enforcement agency. Publication may need to be delayed until legal proceedings have been concluded.

The identification of individuals, organisations and business. If to be identified, consideration should be given to whether they are content for disclosure.

Legal and reputational risks around the report. If these are high, consideration should be given to increasing the scrutiny of the report and getting a legal opinion before publication.

Legal considerations

Is legal advice required prior to sign off? This may be appropriate if it is known or suspected that the outbreak may be the subject of a civil or criminal prosecution, or if it is a high profile or high impact outbreak?

Does the report include any material gained during the investigation that was not intended for disclosure or inclusion in a report (for example information from emails), that should be withheld or redacted (for example because it is personal, confidential or commercially sensitive) whether statements of fact or opinion, or that is defamatory?

Has any material relevant to the subject of the document been omitted?

Are there any active legal proceedings which could be affected by publication or disclosure of the report?

Are there other government bodies or departmental reports that conflict with the content of the UKHSAs report and therefore wider reputational and legal issues to be considered?

Have all local authority actions been completed?

Is there clarity about what can be disclosed, when and under what systems (for example request from individual or solicitor; FOI or another statutory request)? Does any legislation preclude disclosure of any of the information in the report?

Disclosure of outbreak reports

Removing 'deductively identifiable' patient information

It is generally accepted that information provided by patients to the health service is provided in confidence and must be treated as such so long as it remains capable of identifying the individual it relates to. This is an important point, as once information is effectively anonymised it is no longer confidential.

Effective anonymisation generally requires more than just the removal of name and address. Full postcode can identify individuals, NHS Number can be a strong identifier and other information, for example date of birth, can also serve as an identifier, particularly if looked at in combination with other data items.

Preparing report for insurers or claimants

If UKHSA would not otherwise write an OCT report, then UKHSA is under no obligation to do so simply because an insurer or claimant requests one. If the insurer or claimant wishes to instruct UKHSA to prepare an independent expert report (and potentially give such evidence at trial) and pay UKHSA an appropriate fee, then subject to any policy UKHSA may have in respect of such expert witness work, it is a matter for UKHSA whether it accepts or declines such instructions.

Similarly, if the insurer or claimant wants UKHSA to undertake further diagnostic tests or additional analyses which were not necessary for outbreak management purposes, UKHSA is under no obligation to do so. Subject to any policy UKHSA may have in relation to such tests or analyses, it is a matter for UKHSA whether it undertakes them and if so, on what basis, for example payment of an appropriate fee.

Public requests for outbreak reports under the Freedom of Information Act 2000

The Freedom of Information Act 2000 gives the public the right to request any information held by any type of public authority or by persons or organisations providing services for them. The public can request information held within things like minutes of meetings, work emails, work diaries, corporate reports and other work documents. The information must be released unless an exemption applies and, where an exemption requires a public interest test to be carried out, the public interest favours withholding the information rather than in disclosing it.

The exemptions may include:

- the applicant could easily obtain the requested information from elsewhere
- the organisation already has published or has firm plans to publish the information
- the information relates to confidential business information
- the information relates to on-going legal or regulatory action

Or where the information is personal information about the applicant is personal information about someone other than the applicant and disclosure of it would breach either the principles or section 10 of the Data Protection Act 1998, for example, if it is confidential to a third party. Any request made under the Freedom of information Act should be handled in accordance with established procedures, including consulting members of the OCT on the release of information if appropriate.

FOI requests for clarifications relating to reports

Requests for clarification should be responded to, either pursuant to S.1 (1) of the Freedom of Information Act 2000 (complex clarification) or S.16 (1) of the act (straightforward clarification).

If UKHSA's involvement in the management of the outbreak is over and a report has already been prepared by UKHSA, then generally no additional work will be required beyond disclosing the report and any documents referred to in the report. FOI does not require UKHSA to generate new information in response to requests.

If UKHSA receives requests for copies of questionnaires for example, then provided the patients have consented these are disclosed in accordance with the Data Protection Act 2018.

If UKHSA does not respond to the request for clarification, then the requester can initially appeal against the refusal internally and subsequently to the Information Commissioner.

Once a report has been shared with a member of the public or premises owner any requests should be passed to the UKHSA communications information access team at foi@UKHSA.gov.uk

Copyright law

UK copyright law is set out in the Copyright, Designs and Patents Act 1988.

Copyright extends to literary works which will include reports.

The first owner of copyright will be the author (section 11(1) of the act).

Where a work is made by an employee in the course of his employment, the employer will be the first owner of copyright in the work, subject to any agreement to the contrary (section 11(2),

of the act). The critical elements here are "employee" and work made "in the course of his employment".

Where more than one person has created a work, the work may be classed as a work of joint authorship if the contribution of each author is not distinct from that of the other authors (section 10(1) of the act). If it is distinct, 2 or more separate works will exist.

Each person claiming authorship must have expended sufficient skill and labour to be classed as an author under the Copyright, Design and Patents Act 1988. In general, each joint author has the same rights as a sole author (except that licensing or assignment requires the consent of all joint authors) in the case of a normal report, the copyright will belong to the organisation(s) who employs the authors.

If it is important for UKHSA to exercise sole rights (that is to the exclusion of others) it needs to be the sole author, or the copyright of the other authors should be assigned or exclusively licensed to UKHSA.

If it is sufficient for UKHSA to be able to publish the report (alongside other organisations), it is sufficient for UKHSA to be a joint author to the entire report or to have a non-exclusive license to such parts of the report which are distinct from those written by UKHSA.

Appendix 12. Audit tool for outbreak standards

	Standard	Data source	Suggested compliance
Outbreak recognition	Initial investigation to clarify the nature of the outbreak begun within 24 hours	HPZone or log	100% Level 2 and above 90% level 1
	Immediate risk assessment undertaken and recorded following receipt of initial information	HPZone or log	100% Level 2 and above 75% level 1
Outbreak declaration	Decision made and recorded at end of initial investigation regarding outbreak declaration and convening of outbreak control team	HPZone or log	100%
	OCT held within 3 working days of decision to convene**	Minutes* and report	95%
	All agencies or disciplines involved in investigation and control represented at OCT meetings	Minutes* and report	95%
Outbreak Control Team	Roles and responsibilities of OCT members agreed and recorded	Minutes* and report	95%
	Lead organisation with accountability for outbreak management agreed and recorded	Minutes* and report	100%
	Control measures documented with clear timescales for implementation and responsibility	Minutes* and report	100%

	Standard	Data source	Suggested compliance
Outbreak investigation and control	Case definition agreed and recorded	Minutes* and report	95%
	Descriptive epidemiology undertaken and reviewed at OCT, to include number of cases in line with case definition, epidemic curve, description of key characteristics including gender, geographic spread, pertinent risk factors, hypothesis generated	Minutes* and report	95%
	Review risk assessment in light of evidence gathered	Minutes* and report	95%
	Analytical study considered and rationale for decision recorded	Minutes* and report	95%
	Investigation protocol prepared if an analytical study is undertaken	Minutes* and report	100%
Communications	Communications strategy agreed at first OCT meeting and reviewed throughout investigation	Minutes	100%
	Absolute clarity about UKHSA lead at all times with appropriate handover consistent with handover standards	HPZone or log	100%
	Final outbreak report completed within 12 weeks of the formal closure of the outbreak	Report	100% level 2 and above
End of outbreak	Report recommendations and lessons identified reviewed within 12 months of formal	Currently dependent on local arrangements for reviewing	100% level 2 and above

	Standard	Data source	Suggested compliance
	closure of the outbreak	recommendations and lessons identified	

* If a report has not been written (for example for routine incidents) minutes should be used to assess compliance.

** Dependent on the immediate risk assessment, and that this will determine the appropriate urgency according to the severity and potential risks of the illness concerned. Specific infection protocols should be followed.

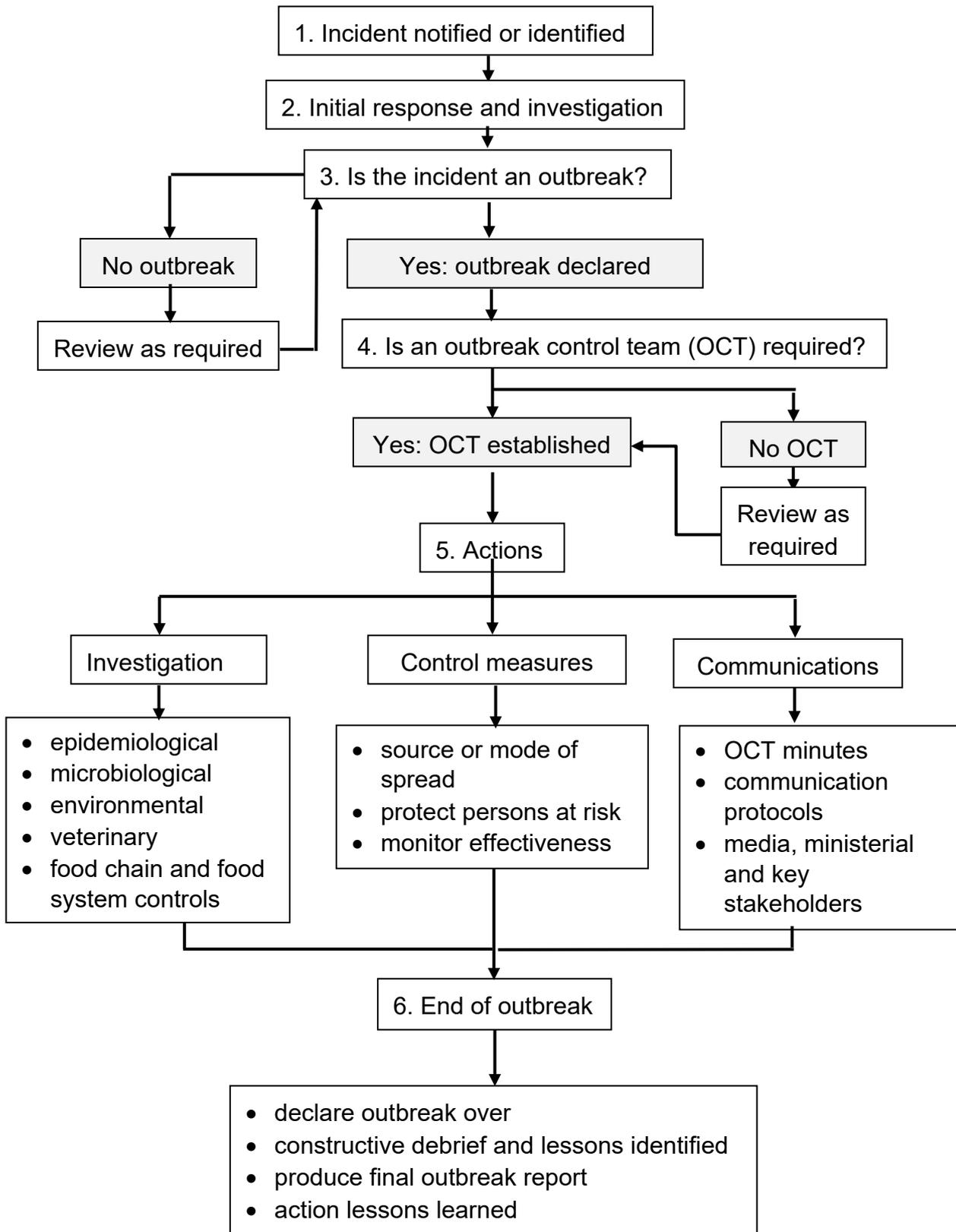
Appendix 13. Standards for managing outbreaks

Note that these standards for managing outbreaks were agreed by the original 2014 guideline development working group. Appendix 12 provides an audit tool to measure performance against these standards.

Outbreak recognition	Initial investigation to clarify the nature of the outbreak begun within 24 hours of detection and notification to UKHSA
	Immediate risk assessment undertaken and recorded following receipt of initial information
Outbreak declaration	Decision made and recorded at the end of the initial investigation regarding outbreak declaration and convening of outbreak control team
Outbreak Control Team	OCT held as soon as possible and within 3 working days of decision to convene
	All agencies and disciplines involved in investigation and control represented at OCT meeting
	Roles and responsibilities of OCT members agreed and recorded
	Lead organisation with accountability for outbreak management agreed and recorded
Outbreak investigation and control	Control measures documented with clear timescales for implementation and responsibility
	Case definition agreed and recorded
	Descriptive epidemiology undertaken and reviewed at OCT.
	Review risk assessment in light of evidence gathered
	Analytical study considered and rationale for decision recorded
	Investigation protocol prepared if an analytical study is undertaken and shared with OCT members
	Clear aims and objectives for response identified and agreed
	Outbreak control measures are evidence based and appropriate to the hazard or threat to health, as well as the population at risk and wider context
	Health equity, inequalities and disparities are considered as part of the risk assessment and selection of control measures
	The implementation of control measures is monitored and evaluated

Communications	Communications strategy agreed at the first OCT meeting and reviewed throughout the investigation.
	Absolute clarity about the outbreak lead at all times with appropriate handover consistent with handover standards
End of outbreak	Agree closure of the outbreak
	Final outbreak report completed within 12 weeks of the formal closure of the outbreak
	Report recommendations and lessons identified reviewed within 12 months after formal closure of the outbreak

Appendix 14. Outbreak management overview



Accessible text version of 'Outbreak management overview' flowchart

This flowchart provides an overview of the outbreak management process and consists of a number of steps and actions.

1. Incident notified or identified
2. Initial response and investigation undertaken
3. Is the incident an outbreak?

If yes, outbreak declared, go to step 4.

If no, review as required. No further action required unless a change in the incident occurs and an outbreak is confirmed, repeat step 3.

4. Is an outbreak control team (OCT) required?

If yes, outbreak control team established, go to step 5.

If no, review as required. No further action required unless a change in the incident occurs and an outbreak control team is established, in which case repeat step 4.

5. Undertake 3 actions
 - a) Investigation: consider epidemiological, microbiological, environmental and veterinary investigations
 - b) Control measures: consider source and mode of spread, protect persons at risk and monitor effectiveness
 - c) Communications: consider outbreak control team minutes, communications protocols and media

Go to step 6.

6. End of the outbreak
 - declare outbreak over
 - undertake constructive debrief and lessons identified
 - produce final outbreak report
 - action lessons learnt

Appendix 15. Investigation protocol

The following are guidelines for the structure of an outbreak investigation protocol. The level of detail should be appropriate to the nature of the outbreak and will reflect the resources available to the OCT. The preparation of a detailed investigation protocol should not detract from management of the outbreak.

Title

The title should contain, at a minimum, the type of outbreak, suspected pathogen, location and date.

Background

This section should include, for example:

- information on the organism
- outbreak details (for example number affected, date first cases reported, date and time of onset of first cases and any laboratory confirmation, symptoms, severity, geographical distribution, gender distribution)
- setting details and implicated premises (if known)
- how the outbreak was identified
- the initial response to the outbreak

Aim and objectives of investigation

Epidemiological investigations

This section should describe the methods and timescales for the:

- descriptive epidemiological study (for example case definition, case finding, questionnaires)
- analytical epidemiological study design and plan of analysis, if necessary
- identify food or animal feed exposure where food or animal feed is suspected as a possible vehicle for infection

Microbiological investigations

This section should describe the laboratory methods for clinical diagnosis and the characterisation of isolates (clinical, environmental, veterinary, food) to distinguish the outbreak strain.

Environmental investigations

This section should describe the methods for the microbiological sampling and analysis of food, animal feed, water and environmental samples taken from implicated premises as part of the investigation. If the outbreak is foodborne, this section would also describe methods for source tracing of food products and existing information held on incidents and signals.

Veterinary investigations

This section would describe the methods for the microbiological sampling and analysis of animal samples taken as part of the outbreak investigation.

Management and communications

This section will set out how the requirements of the protocol are met through the provision of adequate coordination, resources and through the timely communication of information.

It will also outline roles and responsibilities for local, regional or national authorities or agencies (depending on the nature of the outbreak) in responding to gastrointestinal outbreaks.

Appendix

This section may include, for example:

- questionnaires used as part of the outbreak investigation
- schematic overview of protocol

Appendix 16. Bibliography

[Directors of Public Health in Local Government. Roles, Responsibilities and Context](#)
Department of Health, October 2013

[Foodborne disease outbreaks: guidelines for investigation and control](#) World Health
Organization 2008

[Field Epidemiology Manual](#)

[Health Protection Regulations 2010 Toolkit](#) Health Protection Agency, Chartered Institute of
Environmental Health and Lewes District Council 2011

Appendix 17. Abbreviations list

Abbreviation	Meaning
ADPH	Association of Directors of Public Health
APHA	Animal and Plant Health Agency
CCDC	Consultant in Communicable Disease Control
CHP	Consultant in Health Protection
DEFRA	Department for Environment Food and Rural Affairs
DPH	Director of Public Health
EA	Environment Agency
ECDC	European Centre for Disease Prevention and Control
EHO	Environmental Health Officer
EPRR	Emergency Preparedness Resilience and Response
FBO	Food Business Operator
FOIA	Freedom of Information Act
FS	Field Services
FSA	Food Standards Agency
FSS	Food Standards Scotland
GP	General Practitioner
HPT	Health Protection Teams
HSE	Health and Safety Executive
ICB	Integrated Care Board
ICS	Integrated Care System
ID	Incident Director
LHRP	Local Health Resilience Partnership
LRF	Local Resilience Forum
NHS	National Health Service
NHSE	NHS England
OCT	Outbreak Control Team
UKHSA	UK Health Security Agency
WGS	Whole Genome Sequencing
WHO	World Health Organization

About the UK Health Security Agency

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

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