



Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

HSE Standard Operating Procedures for responding to an outbreak of nosocomial Legionnaires' Disease

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Glossary of Terms

AND: Assistant National Director

CEO: Chief Executive Officer

CIDR: Computerised Infectious Disease Reporting System

CPHM: Consultant in Public Health Medicine

DPH: Director of Public Health

GP: General Practitioner

HSA: Health and Safety Authority

HSE: Health Service Executive

HPSC: Health Protection Surveillance Centre #

ISD: Integrated Services Directorate

LHO: Local Health Office

MOH: Medical Officer of Health

OCT: Outbreak Control Team

PEHO: Principal Environmental Health Officer

RDO: Regional Director of Operations

SI: Statutory Instrument

HSE Standard Operating Procedures for responding to an outbreak of nosocomial legionnaires' disease in healthcare facilities

Investigation of legionnaires' disease should be carried out in line with National Guidelines for the Control of Legionellosis in Ireland, 2009 (HPSC). Chapter 9 of this document contains detailed guidelines for investigation of an outbreak.

Definitions

Outbreak

An outbreak is defined as two or more cases associated with the same geographical location or probable source during the preceding six months.

Outbreak of nosocomial legionnaires' disease An outbreak of nosocomial legionnaires' disease is defined as at least one case of legionnaires' disease associated with a healthcare facility or hospital.¹

- 1. Detection of a nosocomial outbreak of legionnaires' disease:** At least one or more nosocomial case(s) may be identified by the healthcare facility or hospital and must be notified promptly as per the [Infectious Diseases \(Amendment\) Regulations 2003. SI No. 707 of 2003](#) to the local Department of Public Health who in turn notify HPSC.
- 2. Declaration of nosocomial outbreak of legionnaires' disease:** Following confirmation of case(s) and consultation between the healthcare setting/hospital and relevant Department(s) of Public Health an outbreak/ is declared following a risk assessment. The Director of Public Health (DPH) or designate may establish a multidisciplinary outbreak control team (OCT). A meeting of the OCT will be convened.
- 3. Chair of OCT:** Once an outbreak is declared the OCT should determine at its first meeting, which disciplines should be represented. The Director of Public Health or designate should identify the chairperson. The chairperson may include the CEO of the hospital/manager of healthcare facility/health service manager /consultant microbiologist/Director of Public Health.
 - i. In the context of a nosocomial outbreak of legionnaires' disease, associated with an acute hospital, the chair should either be the CEO/manager of the hospital or the consultant microbiologist attached to the hospital. This should be decided by the hospital personnel.
 - ii. If the outbreak is associated with HSE healthcare facilities other than acute hospitals e.g. nursing home, residential care facilities etc, the chair should be the LHO manager or senior designate In some

¹ The decision to define an outbreak as one nosocomial case of legionnaires' disease is based on the serious consequences for this susceptible population if they contract legionellosis.

situations, the Director of Public Health or designate may chair the OCT.

4. Members of outbreak control team

The membership of the OCT will vary dependant on the location of the outbreak. Membership may include the following:

- i. CEO/Manager of facility/LHO manager or senior designate (Chair) (as outlined above)
- ii. Consultant Microbiologist attached to the facility (Chair on some occasions)
- iii. Director of Public Health /or designate (Chair on some occasions)
- iv. Infection Prevention and Control nurse
- v. Attending GP or medical consultant
- vi. Director of Nursing for the facility
- vii. Estates Manager or designate
- viii. Environmental services officer
- ix. Health and Safety Officer for HSE facility
- x. Clinical risk manager for HSE facility
- xi. PEHO or designate
- xii. HPSC (CPHM) when requested
- xiii. HSE Communications Officer
- xiv. Occupational Health Physician
- xv. Infectious Diseases Physician

5. Roles of the OCT and its members

OCT

To advise on and coordinate the response to the outbreak.

The OCT must ensure the following actions are undertaken:

a. Environmental Investigation:

- i. An immediate risk assessment or review of all documentation relating to any previous risk assessment(s) of the healthcare facility is undertaken.
- ii. Schematic of water system and existing maintenance records for the facility are reviewed i.e. temperature monitoring, results of previous environmental sampling, cleaning, flushing and disinfection procedures
- iii. An environmental investigation is conducted and environmental sampling is undertaken.
- iv. Control measures currently in place and implemented following any previous risk assessments are reviewed.
- v. Recommended remedial control measures based on the risk assessment (or review) are instituted.

- vi. Ensure ongoing monitoring of water systems and of all possible legionellosis exposure sites e.g. cooling towers, air conditioning, nebulisers, fountains, whirlpool baths.
- vii. Ensure that all maintenance records are up to date

b. Epidemiological investigation:

- i. Arrange active case finding and undertake descriptive and analytical studies as appropriate
- ii. Ensure that ongoing surveillance for additional cases is implemented by the hospital/healthcare facility/GPs.
- iii. Ensure that all new cases of legionellosis are reported to the DPH or designate
- iv. Ensure that surveillance details are provided to the DPH or designate

c. Microbiological investigation:

- i. Liaise with the consultant microbiologist and laboratory in relation to confirmatory testing and interpretation of clinical and environmental specimens. This may involve sending samples to HPA London in Colindale, UK.

d. Communication

- i. Provide updates on the outbreak investigation to the Regional Director of Operations and to the Assistant National Director, ISD-Health Protection as required.
- ii. Issue any other communication updates as appropriate
- iii. Prepare a holding media statement
- iv. Inform the Health and Safety Authority (HSA) of the outbreak

Role of Chair of OCT

- i. Through management of the OCT confirm that all involved clearly understand their respective roles, and carry out their investigative and management tasks promptly and effectively in co-operation with each other as required
- ii. Ensure members from all relevant disciplines participate on the OCT
- iii. Ensure meetings are convened
- iv. Ensure minutes of OCT meetings are taken and circulated.
- v. Be responsible for all communications issued from the OCT
- vi. Inform the Health and Safety Authority (HSA) of the outbreak
- vii. Ensure that a final report of the incident is produced

CEO or manager Healthcare Facility/Hospital

- i. The CEO/manager of facility should Chair the OCT.
- ii. The CEO/manager of facility must ensure that all actions to manage and control the outbreak are implemented.

- iii. The CEO/manager of facility must provide support and resources (including human resources) to the OCT to implement control measures as instructed by the OCT
- iv. The Chair of the OCT should co-ordinate the production of the final report.

Consultant Microbiologist

- i. Provide interpretation of the clinical and environmental laboratory findings.
- ii. Provide advice on infection prevention and control measures
- iii. Provide advice if necessary on the clinical management of cases
- iv. Notify the MOH/DPH of all cases of legionellosis

Department of Public Health

- i. Support the OCT and assist with the epidemiological investigation
- ii. Alert local GPs, hospital clinicians and laboratories, if appropriate
- iii. Assist with rapid investigation and follow up of cases.
- iv. Completion of the [enhanced surveillance questionnaire](#) with details of possible exposure sites and times as soon as possible (see [checklists 4 and 5, P. 86-87 in national guidelines](#)).
- v. Ensure that the incident is promptly reported to HPSC and surveillance details entered onto CIDR.
- vi. Provide updates on the investigation to the Assistant National Director, ISD-Health Protection when/if required.

Infection Prevention and Control Nurse

- i. Assist with surveillance of new cases including provision of surveillance data to local public health
- ii. Assist with implementation of infection prevention and control measures
- iii. Provide advice to and educate staff on infection control measures in relation to legionellosis
- iv. Ensure practice in relation to nebulisers, if indicated, is as per National Guidelines for the Control of Legionellosis in Ireland, 2009

Attending GP/clinician

- i. Advise the OCT of any new cases
- ii. Undertake clinical management of the cases
- iii. Notify MOH/DPH of any cases of legionellosis

Environmental Health Services

- i. Provide expertise as required e.g. advise on risk assessment, environmental investigation and sampling

HPSC

- i. Provision of expertise on surveillance, analytical and epidemiological studies, infection control, and supporting communications as required
- ii. In a large scale outbreak alert all Departments of Public Health, GPs, consultant microbiologists, hospitals physicians and international colleagues if appropriate.

Information Disclosure and Dissemination

- i. **Confidentiality is essential regarding both the patient and site investigation information. No information should be released without agreement of the OCT.**
- ii. Procedures for disseminating information should be agreed in advance, so that all relevant professionals are aware of the latest findings and developments in the investigation.
- iii. All communication with the cases should be agreed by the OCT.
- iv. All communication with the media and the public should be agreed by the OCT.
- v. Identify one person to lead on communication with all professionals and external agencies
- vi. Identify a media spokesperson and designate

6. Correspondence from OCT: In general correspondence from an OCT issues from the chair of the OCT. However, in the situation of a legionnaires' disease investigation specific correspondence may need to issue from various members of the OCT, as outlined below.

- a. Correspondence to the media and public: This will usually issue from the HSE communications through the CEO/manager of the hospital or healthcare facility (chair of the OCT). In serious incidents communication may issue through the RDO or AND for health protection.
- b. Correspondence re health and safety issues. This will usually issue from CEO/manager or the health and safety officer to the facility.

7. Final report: The Chair of the OCT should co-ordinate the production of the final report.

Appendix 1. Definition of nosocomial (healthcare-acquired) legionnaires' disease case

Nosocomial (healthcare-acquired) case

Laboratory-confirmed case of legionnaires' disease that occurs in a patient who was in a hospital or other healthcare institution during the 10 days before onset of symptoms.

The following sub-divisions are used for classifying nosocomial cases of legionellosis:

Definitely nosocomial

Patients who spent all of the ten days in a hospital or other healthcare institution before onset of symptoms.

Probably nosocomial

Patients who spent between one and nine of the ten days in a hospital or other healthcare institution prior to onset of symptoms and either:

- Became ill in a hospital or other healthcare institution associated with one or more cases of legionnaires' disease **or**
- Yielded an isolate that was indistinguishable by monoclonal antibody (mAb) subgrouping or by molecular typing methods from isolates obtained from the hospital water system at about the same time.

Possibly nosocomial

Patients who spent between one and nine of the ten days prior to onset of symptoms, in a hospital or other healthcare institution not known to be associated with any other cases of legionnaires' disease and where no microbiological link has been established between the infection and the hospital.

Source: UK Health Protection Agency Legionella case definitions available [here](#) and National Guidelines for the control of Legionellosis in Ireland, 2009 available [here](#).

Appendix 2. Incident/Outbreak Control Meeting – Suggestions for an Agenda

1. Introduction and reminder of “confidentiality”.
2. Declarations of conflicts or vested interests e.g. relative of OCT member owns nursing home or external company undertaking risk assessment
3. Minutes of last meeting (if applicable) including review of actions agreed at previous meeting.
4. Incident/outbreak resume/update – risk assessment:
 - 4.1 General situation statement
 - 4.2 Case definition and patient(s) report
 - 4.3 Microbiological report
 - 4.4 Environmental health report – inspection of premises, sampling undertaken
 - 4.5 HSA report – inspection of premises, sampling advised
 - 4.6 Other relative reports.
 - 4.7 Risk assessment conclusion.
5. Management of incident/outbreak – risk management:
 - 5.1 Control measures
 - 5.2 Investigation
 - 5.2.1 Inspection
 - 5.2.2 Epidemiological
 - 5.2.3 Microbiological aspects (specimen and resources).
6. Advice and risk communication;
 - a. Health care facility or hospital in relation to main suspected source of exposure.
 - b. Advice to professionals (cases, GPs, hospital doctors, PH in other HSE areas) ,
 - c. Media/press.
 - d. Agree content of further press statements
 - e. Nominate others to assist chair of OCT in interviews (if required)
 - f. Consider need for Helpline or arrangement for enquiries from the public.
7. Obtain telephone numbers of all key personnel within and outside hours.
8. Agree actions required and a timetable for action. Identify individuals responsible for delivering actions as agreed.
9. Agree criteria for defining the end of the outbreak.
10. Date and time of next meeting.

Appendix 3. Health and Safety Legislation

- i. HSA will seek to ensure compliance with H&S legislation, in particular, the Safety, Health and Welfare at Work Act 2005 and the Safety, Health and Welfare at Work (Biological Agents) 1994 (as amended)
- ii. HSA would consider enforcement action where necessary. Sections 8 (c) (i) and 8(c) (iii) of the 2005 Act would be relevant in this context. In addition the HSE may be in position to use its powers under the Infectious Diseases Act 1981, following legal advice.

A more detailed description is available in Chapter 3 of the National Guidelines on the control of Legionellosis in Ireland, 2009. P. 28-32