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<b>Developed by: The Village Residence Hospital Drogheda.</b>	<b>Date Developed: Revised February 2011 and again Feb 2013, May 2017, August 2020. January 2021, Sept 2023</b>
<b>Developed By: Nursing Department.</b>	<b>Date Approved: February 2011, February 2013, August 2014, May 2017, August 2020. January 2021, Sept 2023</b>
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Legionnaires Disease

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## **Legionella Policy'**

### **Introduction.**

#### **What is legionella?**

Legionella bacteria are common in natural and artificial water systems. They can survive at low temperatures and thrive at temperatures between 20°C and 45°C. They are killed at higher temperatures and this is the main method used for their control in domestic water systems.

Legionellosis is the name given to a group of pneumonia-like illnesses caused by legionella – the most serious and well-known being Legionnaires' disease.

Legionnaires' disease is serious in elderly and infirm residents; pneumonia is a common cause of death in people over 70. Infection is caused by breathing small droplets of water contaminated by the bacteria. Anyone can get infected but those most at risk include elderly people, smokers, alcoholics, and those suffering from cancer, diabetes, chronic respiratory disease or kidney disease.

#### **1.Statement of Intent**

This policy outlines the strategic arrangements for the prevention and control of Legionella across the The Village Residence premises and includes consideration and the protection of the neighbourhood surrounding the site. The Health Service Executive is aware of and supports the contents, requirements and intentions of the Health and Safety at work Act, The Health Service Executive, Estates Management Administrator are responsible for the assessment, prevention and control of risks associated with the Legionella bacteria and subsequent development of Legionnaires disease from work activities and water systems on The Village Residence premises.

Industrial Water Management

#### **2.Introduction**

Legionella bacteria survive and multiply in water and have been shown to colonise water systems in buildings. Certain conditions improve and encourage growth i.e. water

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temperature between 20° c and 45°c , poor water flow and areas of water stagnation. Legionella bacteria particularly Legionella pneumophila serogroup 1 can cause serious illness called Legionnaire's disease. In order for the bacteria to result in illness the organism must be inhaled therefore the highest risk from Legionella bacteria in water is when water has been converted to aerosol. This can occur from various sources including showers, respiratory equipment, hoses etc, less well known is that a 'fog' of aerosols is generated when a bath or basin is filled. Aerosols can be generated from any water outlet and no water outlet can be considered free from potential risk. Aspiration of contaminated drinking water into the respiratory system has also been described as a mode of transmission. For some patients there is the additional risk of Legionella infection from the use of nasogastric tubes. The number of bacteria that cause infection is unclear and is likely to vary from person to person. The risk increases if the number of Legionella in the air is high, the length of time a person is exposed and the general health of the individual.

### **Controlling the risk**

#### **Design**

The system should be designed to avoid the conditions that favour the growth of legionella:

- ensuring pipework is as short and direct as possible;
- ensuring adequate insulation of pipes and tanks;
- using materials that do not encourage the growth of legionella; and
- protecting against contamination, e.g fitting storage tanks with lids.

#### **Operation and maintenance**

We have to ensure that our system is operated to minimise growth of legionella. One way of doing this is to store hot water above 60°C and distribute it at above 50°C.

Water systems need to be routinely checked and inspected by a competent person and the risk assessment should be reviewed regularly. This is undertaken by Tony Halton

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and Arranged through Maintenance Personnel and PIC.

There needs to be proper installation, maintenance and monitoring of all pipework and all new pipework.

### 3.Implementation

The policy will be applied to all areas of The Village Residence and should be used in conjunction with National Guidelines for the Control of Legionellosis in Ireland, 2009 Report of Legionnaires' Disease Subcommittee of the Scientific Advisory Committee. The Village Residence will continually review and develop practices in order to comply with all present and future Legionella control regulations and guidance within resources available. That the risks from Legionella associated to The Village Residence activities will be clearly identified and suitable control measures employed to protect as far as reasonably practical the health, safety and welfare of its staff, residents, clients, visitors, neighbourhood and contractors. Equipment and plant and storage water tanks will be adequately cleaned, disinfected and maintained according to its function so as to protect as far as reasonably practical the health and safety and welfare of its staff, patients, visitors and surrounding areas from Legionella. All staff must be aware of their role in implementing the policy in their areas of work. Monitoring compliance will be via auditing, reviewing practise, carry out work place inspections and regular monitoring of the water system.

### 4. Management Arrangements

4.1 The General Manager has overall responsibility for all aspects of the quality of water supplies within this Centre.

b. The General Manager is responsible for the appointment of designated staff, including the Infection Control Team (Legionella).

c. The General Manager is responsible for the implementation of management procedures to ensure that compliance is continuing and not notional. On a day to day operational basis this responsibility will be delegated to the Officer Responsible for

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Estates and facilities AND THE pic,.

Head of Estates and Facilities will have ultimate responsibility to ensure that the correct systems are in place

- a. Co-ordinate and lead the Control of Legionella programme including convening emergency meeting in the event of unsatisfactory water sample results in conjunction with Infection Prevention and Control Team
- b. Chair Legionella meeting
- c. Provide reassurance to the General Manager that systems are in place and being monitored to control legionella
- d. Ensure that competent persons are in place within estates and facilities to control Legionella and that where necessary expert guidance is sort from external sources.
- e. Ensure good liaison takes place between Estates & Facilities and Infection Prevention and Control team.
- f. Make estates and facilities staff aware of the contents and consequences of this policy.

Industrial Water Management on behalf of the Health Service Executive will:

Responsible Person (Water) who is the Head of Estates (operational) Will;

- a. Possess a thorough knowledge of the Control of Legionella and would ideally be a Chartered Engineer with appropriate training in water management particularly the control of Legionella.
- b. Be responsible for devising and managing the necessary procedures for the prevention of Legionnaire's Disease.
- c. Ensure that planned preventative maintenance is undertaken to reduce and control Legionella.
- d. Advise on the potential areas of risk and identifying where systems do not comply.
- e. Ensure current legislation and guidance relating to Legionella control is applied.
- f. Have prepared a written scheme/risk assessment for preventing and controlling the risk including an up to date plan or schematic diagram of the water system.

See Water Treatment Logbook 2020/2021/2022/2023.

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- g. Monitor the implementation and efficiency of procedures to prevent Legionella approving and identifying any changes to those procedures and maintaining adequate records.
  - h. Responsible for calling upon and co-ordinating the activities of specialist in specific subjects such as water treatment and microbiology.
  - i. Appoint a Responsible Person (Water) Delegate and ensure that sufficient training is provided to maintain competencies, keeping up to date with legislation and current guidance
  - j. Liaise with the Infection Prevention & Control Team/Health & Safety Department.
  - k. Participate and assist in the management and control of an outbreak.
  - l. Liaise and co-operate with relevant authorities.
  - m. Ensuring equipment that is to be permanently connected to the water supply is properly installed;
  - n. Ensuring adequate operating and maintenance instructions exist and adequate records are kept.
  - o. The Responsible Person (water) should be aware that manufacturers, importers, suppliers, installers and service providers have specific responsibilities that are set out in the Health and Safety.
  - p. Maintain an up to date operational procedure manual in Estates including safe systems of work and risk assessments.
  - q. . Ensure that evidence of compliance is available for inspection.
- Responsible Person (Water) Delegate Maintenance personnel, Malachy Callan and Christopher Woods will;
- a. Act for the responsible person (Water) when the responsible person (Water) is unavailable.
  - b. Carry out duties and responsibilities as delegated by the Responsible person (Water)
  - c. Be qualified and deemed competent in the role

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d. Identify, assess and regularly review sources of risk including identifying where systems do not comply.

Flush all taps for a minimum of five minutes once per week

Flush all frequently unused taps at least twice per week.

Disinfect, clean replace all shower heads

Facilitate inspection of all water systems

Keep records of action taken and routine monitoring for at least 5 years.

The Infection Prevention & Control Team will;

- a. Be involved in the production of the policy and management procedures for the control of Legionella. Including calling for an emergency meeting in conjunction with estates if water results are unsatisfactory.
- b. Assist in the identification, assessment and control of risk associated with Legionella.
- c. Play an active role in outbreak management associated to The Village Residence premises including convening an outbreak meeting as required.

**The Person in Charge and Assistant Directors of Nursing will;**

- a. Ensure that this policy and procedure is fully adhered to within their area of responsibility
- b. Establish local procedures with advice and guidance to ensure local work instructions reflect best practice and current legislation and guidance related to the prevention and control of Legionella.
- c. Identify Legionella risk reporting to the 'responsible person (Water)
- d. Notify Estates and Facilities of all significant changes to room usage.
- e. Reduce the risk of stagnating water by removing all unused sinks, showers, baths, etc.

During temporary closure of part or whole of a building make suitable provision for flushing the hot and cold water systems.

Records will be maintained and retained for 5 years.



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Flushing includes running taps and showers for a period of 5 minutes and flushing WC cisterns. Twice a week in Centre premises and once a week in non residents areas. When frequent flushing is impracticable a full disinfection of the water system will be required and will need to be co-ordinated by Estates.

- g. Ensure that all respiratory equipment which requires the use of water is used correctly.
- h. Provide any required PPE.
- i. Managers will consult Estates and Infection Prevention & Control before the purchase of fountains and water features. If purchased, Managers will be responsible for ensuring that they are regularly maintained and cleaned. Records must be retained for inspection and auditing.
- j. Make staff aware of the contents and consequences of this policy.

Michael McCaul will ensure

- a. Ensure that all taps, showers etc are frequently flushed with running water for a minimum of 3 minutes at least weekly but preferably twice weekly in clinical areas, except in areas which are not in use .
- b. All taps must not be run together. Instead individual taps are run at a time, three minutes hot water and three minutes cold, or three minutes for mixer taps.
- c. Toiles should also be flushed.
- d. High low baths should be raised to ensure pipes can be straightened so that they are not in a flexed position all the time.
- e. Liaise with Managers and Estates to ensure that areas which are closed for operational or estates reasons are receiving regular flushing of the water system.
- f. Ensure that the domestic services contract includes water system management functions, e.g. running taps and showers etc.
- g. Maintain records of water management functions carried out during periods of ward/department closure.

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**The Health and Safety Department will;**

- a. Assist staff in the risk assessment process.
- b. Participate in the outbreak control team
- c. Report staff acquired legionnaires disease using the NIMS form
- d. Consult with accredited Trade Union Health and Safety Representatives.

**6. Risk Assessment**

A Risk Assessment shall be carried out whenever, water is stored and used in a way which may create a reasonably foreseeable risk of Legionellosis. The risk assessment shall take account of the following:

- The potential for aerosol formation
- Water temperature
- Means of preventing or controlling the risk

The likely risk to those who will inhale water droplets. For health care organisations, the susceptibility to the population exposed to Legionella can be divided into three categories:-

HIGH MEDIUM LOW.

With the removal of the old building the Risk in The Village Residence is LOW but with testing and controls continuing.

Systems which are susceptible to colonisation by Legionella, and which incorporate means for creating and disseminating water droplets, should be identified, and the risk they present should be assessed.

Risk should be assessed not just for the routine operation or use of the system, but also in instances of unusual circumstances, breakdown, abnormal operation and commissioning. Water testing for the presence of Legionella cannot form the basis of a Legionellosis risk assessment.

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### **Personal Protective Equipment**

The appropriate Personal Protective equipment e.g. gloves respiratory and eye protection, aprons etc, will be available for use. It is the responsibility of Michael McCaul to monitor the correct and safe working of the protective measures and employees are responsible to follow such procedures.

Record Keeping The Village Residence will maintain adequate records to demonstrate that precautions continue to be carried out and that adequate information is available for checking what is done in practice a record shall be kept for five years.

Precautionary measures and treatments, monitoring results and remedial work shall be logged and signed or initialled by the person who has carried out the work.

Sufficient information shall be recorded to show what measures have been taken and how they have been monitored.

Contractors will be monitored and compliance with all relevant legislation will be enforced.

### **Action in the Event of a Suspected Outbreak of Legionnaires Disease (outbreak plan)**

Legionella will normally be detected by water sampling by Industrial water management.

If Legionella is detected in the water on a particular tap then a risk assessment will be completed highlighting

#### **This will involve:**

- Checking the performance of the system and its component parts
- Inspecting the accessible parts of the system for damage and signs of contamination
- Monitoring to ensure that the treatment regime continues to control to the required

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standard.

- **Taps will be cleaned and disinfected with Milton**
- **Water will be run for five minutes from these taps by Maintenance personnel**
- **TMV Filters will be changed immediately by plumbing.**
- **If there is more than one tap affected from water sampling then arrangements will be made with Industrial water management to flush the whole system through. This normally occurs throughout night time hours when there is less usage of water.**
- **Maintenance personnel will continue to record water temperatures to ensure that water does not leave boiler between 20 degrees centigrade and 50 degrees centigrade**
- **The rule of measurement is that**
- **Water is heated and should leave the boiler greater than 62 degrees centigrade.**
- **Should flow through pipes at greater than 55 degrees centigrade**
- **Flow from taps greater than 42 degrees centigrade**
- **All inward flowing pipes have silver copper plates and these need to be regularly checked for build up of slime, which is where legionella tend to thrive.**

Legionnaires' Disease is caused by the legionella bacteria and is a notifiable disease in Ireland Under the Infectious Diseases (Amendment) (No. 3) Regulations 2003 (S.I. No. 707 of 2003), which came into effect on 1 January 2004, laboratory and clinical notification of legionellosis (includes legionnaires' disease and pontiac fever) is mandatory.

The Responsible Person (Water) will usually be informed of a suspected case of Legionnaires'Disease possibly associated with healthcare premises by either the

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Infection Prevention & Control Team (Legionella) or a local Consultant in Communicable Disease Control.

In the case of a suspected outbreak of Legionnaires' Disease, it is essential that systems are not drained or disinfected before samples have been taken.

The Responsible Persons (Water) role is to guide the investigation team to the various water systems within a building and in particular, to the points from which samples can be taken. The investigation will concentrate upon all potential sources of Legionella infection, including:

- • the domestic hot and cold water distribution
- wet spray cooling water systems
- showers or spray washing equipment
- drainage systems and traps
- spas, whirlpool baths or therapy pools
- humidifiers in ventilation systems
- cooling coils in air-conditioning systems
- fountains and sprinklers.

The Responsible Person (Water) must be able to provide details of all associated equipment, including all documentation, as well as advising on the extent of servicing on the site, and by locating taps and sample points.

The Responsible Person (Water) must also identify the locations of any medical equipment used for dental care, respiratory therapy and within haemodialysis units, etc. Off-site information will also be required, such as whether there have been any local excavation or earthmoving works, alterations to water supply systems, or drainage systems or any other factors which may have a bearing on the site.

The investigation team is responsible for identifying the cause of infection and will advise on cleaning, disinfection, any modifications and long-term control measures.

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The Responsible Person (Water) Will inform the accredited Trade Union Representatives the outcome of any investigations in compliance with Health and Safety legislation.