

THE STATE HOSPITALS BOARD FOR SCOTLAND

WATER SAFETY MANAGEMENT POLICY

(To be read in conjunction with the Water Safety Management Procedures)

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Advisory Group	Infection Control Committee
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Accountable Executive Director	Director of Security, Estates and Resilience

The date for review detailed on the front of all State Hospital policies/procedures/guidance does not mean that the document becomes invalid from this date. The review date is advisory and the organisation reserves the right to review a policy/procedure/guidance at any time due to organisational or legal changes.

Staff are advised to always check that they are using the correct version of any policy, procedure or guidance rather than referring to locally held copies.

The most up to date version of all State Hospital policies, procedures and guidance can be found on the Hospital's Intranet policies page.

REVIEW SUMMARY SHEET

Changes required to policy (evidence base checked)

Yes ☒

No ☐

Summary of changes within policy: 2024 review

- Names and titles of groups and personnel changed to reflect current model.
- No legislative changes required to policy.

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1 POLICY STATEMENT

The policy of The State Hospitals Board for Scotland is to provide and maintain safe and healthy working conditions, equipment and systems of work for all patients, staff and visitors, and to provide such resources, information, training and supervision as needed for this purpose.

The State Hospitals Board for Scotland aims to do all that is reasonably practicable in the management and control of Legionella, Pseudomonas and other similar harmful micro-organisms.

The State Hospitals Board for Scotland recognises its duty as a public sector healthcare organisation to identify, assess and control the risk of potential exposure to Legionella, Pseudomonas and other similar harmful micro-organisms from all water systems used to maintain hygiene in the delivery of healthcare and all the associated work activities.

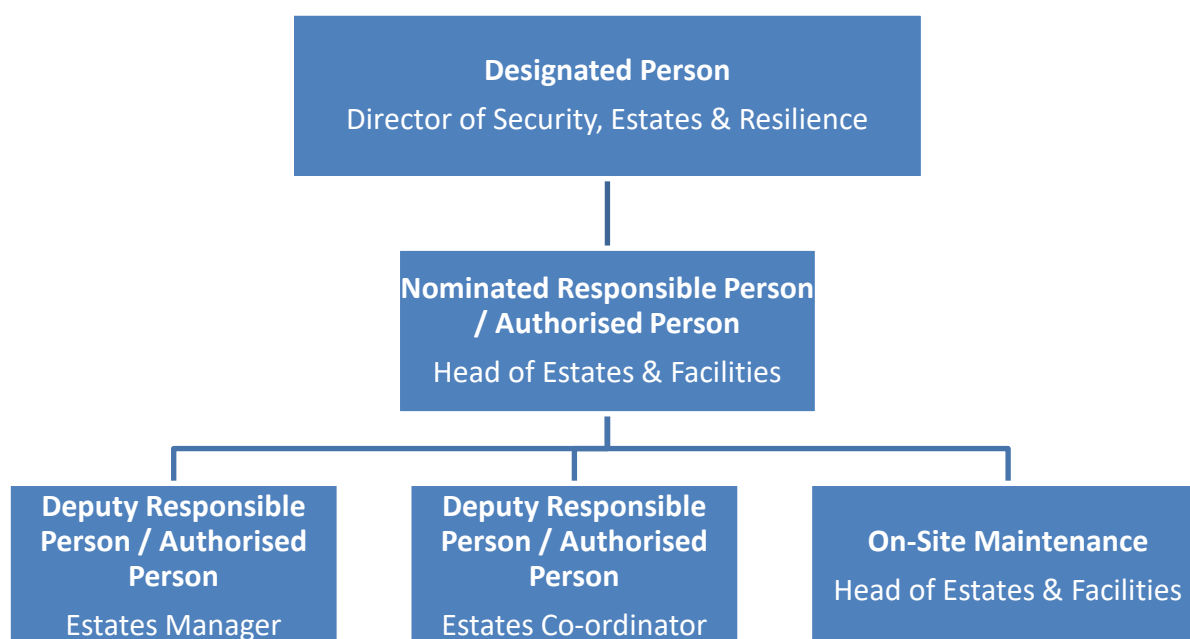
The State Hospitals Board for Scotland has developed, implemented and maintains a scheme with assessment, control measures, maintenance arrangements and monitoring with an annual performance review of arrangements set in place, to ensure the provision of a safe environment for all who may use, interface with and support healthcare delivery (to include all staff, patients and members of the public).

Legionellosis is a notifiable disease in Scotland. The finding of a case, whether healthcare associated or not, requires notification to the Consultant in Public Health Medicine (CPHM). The finding of a case associated with The State Hospitals Board for Scotland premises will generate an outbreak control team chaired by the CPHM as a matter of course.

The policy of The State Hospitals Board for Scotland is to meet the requirements of the relevant guidance, and to comply with these procedures so far as is reasonably practicable.

The State Hospitals Board for Scotland will do all that is reasonably practicable to comply with its requirements, and will make the necessary resources available.

The Head of Estates & Facilities has been appointed as the Nominated Responsible Person Water for The State Hospitals Board for Scotland. Management structure as follows:



2 POLICY OBJECTIVES

The State Hospitals Board for Scotland will minimise the of risk from potential exposure to Legionella, Pseudomonas and other similar harmful bacteria by managing and controlling the conditions, including clinical practice and cleaning procedures, to avoid the proliferation of the bacteria, through 'suitable and sufficient assessment, design, maintenance, management and monitoring both the system control scheme and by the effective implementation of remedial works so far as is reasonably practicable'.

The policy has been developed to complement the Scottish Health Technical Memorandum (SHTM) 04-01 and the Approved Code of Practice and Guidance, Legionnaire's disease, the control of legionella bacteria in water systems (ACoP) L8. CEL 08 (2013) is intended to minimise the risk of Pseudomonas aeruginosa infection from water.

Water services throughout The State Hospitals Board for Scotland have Risk Assessments and Written Schemes with Water Safety Procedures for Monitoring, Maintenance and Alterations for Water Systems, developed and implemented to supplement this policy and to provide an effective management tool to reduce the risks posed by Legionella, Pseudomonas and other similar harmful micro-organisms.

3 SCOPE

Legionella

The bacteria occurs naturally in all sources of water. They can enter man-made systems such as building hot and cold water systems or water services, and if conditions are right, they can multiply to levels where they can potentially present a significant health risk. If there is a way of creating and dispersing aerosols it may be possible for the tiny water droplets in the aerosols containing legionella bacteria, to be inhaled. If the individual is susceptible, infection may develop. Aerosols, such as from a shower or a spray tap, are a particular risk, because the very small water droplets can remain airborne for some time and if breathed in, can penetrate deeply into the lung.

Persons at Risk

- Persons most at risk include smokers, people with alcohol dependency, patients with cancer, diabetes, chronic respiratory, kidney and similar diseases, also those undergoing treatment involving immunosuppression.
- Whilst anyone can contract the disease, those in the 40 to 70 year age group appear to be most at risk and men are more likely to be affected than women.

Habitat

The Legionella bacterium (*Legionella pneumophila*) is present in natural water, soil and can also survive in many water systems in buildings.

Included water systems are:

- Drinks Vending Machines.
- Portable Cooling Units / Humidifiers.
- Air Conditioning / Air Handling Units.
- Water features.
- Cold Water Systems.
- Domestic Hot Water Systems including shower heads.
- Dental Unit Water Lines (DUWL's).

Infection

Infection is caused by breathing in contaminated aerosols into the lungs. These aerosols are formed in water sprays, produced by equipment such as spray taps, showers and any item of water related equipment that can cause spray and aerosols.

The incubation period is generally two to ten days.

Symptoms include high fever, chills, headaches, muscular aches, breathlessness, diarrhoea and vomiting.

Growth

Conditions conducive to the multiplication of the bacterium in water systems include:

- The presence of sludge, scale, rust, algae and organic material.
- Water temperature in the range 20 C to 45 C, the optimum being 37 C. The organism can exist in water at temperature below 20 C but growth is likely to be inhibited. In water at temperatures above 60 C, depending upon the duration of exposure, the organism may be killed.
- The presence of materials in the water storage and distribution system such as leather, natural rubber and some plastics.
- Presence of areas of low flow and stagnation in water systems such as pipework dead legs or where little used appliances are present.

Risk Situations

Situations, which could be conducive to an occurrence of the disease are:

- Poorly designed or maintained water systems in which conditions exist that allow the bacterium to survive and multiply.
- The operation of equipment and fittings involving the discharge of aerosols which contain the bacterium from contaminated water systems.
- The presence of a susceptible person or persons who may inhale the contaminated aerosols.
- Sinks, showers or other water appliances that are not normally used or are used infrequently.
- Wards/labs or departments, which are out of use for more than three days and which, as a result, may allow the organism to grow.
- Hot and Cold water that fails to meet the specified temperature guidelines.
- Building alterations and or change of use profiles of the water systems.
- Additions / alterations to water systems and any associated water system equipment such as storage tanks and showers.
- Failure to disinfect systems after additions / alterations to pipework.
- Where secondary disinfection is used, failure to meet the required chemical levels in the water.
- The use of hemp and unapproved jointing compounds.
- The use of fittings that do not meet WRAS guidelines.

Pseudomonas

The CEL 08 (2013) Guidance for neonatal units (NNUs) (levels 1, 2 & 3), adult and paediatric intensive care units (ICUs) in Scotland is intended to minimise the risk of *Pseudomonas aeruginosa* infection from water. There are no areas within The State Hospital that this CEL applies to, therefore guidance on the control on pseudomonas is not incorporated within this document.

4 RESPONSIBILITIES AND DUTIES

4.1 Management Responsibility

Duty Holder

Defined as owner and who is ultimately accountable and on whom the duty falls to ensure safe operation of health care premises and is responsible for:

- Ensuring Operational Procedures, Health, Safety and Risk Management arrangements are in place to meet policy requirements.
- Providing resources for implementing and maintaining this policy.
- Reviewing performance of this policy.

Designated Person

The Designated Person (Water) provides the essential senior management link between the NHS Board and its professional support, which also provides independence of the audit-reporting process. The Designated Person will maintain close liaison with the hospitals Infection Control Committee which incorporates the Water Safety Group (WSG) to provide an informed position at Board level and by:

- Making appointments in writing for 'the Authorising Engineer (Water)' and 'the Legionella Risk Assessor'.
- Making appointments in writing for 'Responsible Person and Deputy Responsible Person (Water)' and 'Authorised Persons' (Water).
- Ensuring through the Infection Control Committee that water is safe.

Responsible Person Water

The WSG will be led and chaired by a Responsible Person (Water) appointed by the Designated Person. He/she will possess sound professional knowledge of Legionella and water safety issues and have appropriate training. The appointment should be in writing by management to devise and manage the necessary procedures to ensure that the quality of water in healthcare premises is maintained. The Responsible Person (Water) should have sufficient authority to ensure that all operational procedures are carried out in an effective and timely manner and is required to liaise closely with other professionals in various disciplines. In addition, the Responsible Person (Water) should possess a thorough knowledge of the control of Legionella.

Pseudomonas outbreaks would have an over-bearing influence from clinical and cleaning procedures and would primarily come within the responsibility of the Infection Prevention and Control Team who would be represented on the Water Safety Group and from whom the Responsible Person (Water) would draw appropriate expertise via a consultant medical microbiologist.

The role of Responsible Person (Water), as part of the Water Safety Group, as described above involves:

- Advising on the potential areas of water-related risks and identifying where systems do not adhere to this guidance.
- Liaising with the water authority (See Note 1 in Part A of SHTM04 - 1) and environmental health departments and advising on the continuing procedures necessary to ensure acceptable water quality.
- Monitoring the implementation and efficacy of those procedures.
- Approving and identifying any changes to those procedures.

- Ensuring equipment that is to be permanently connected to the water supply is properly installed.
- Ensuring adequate operating and maintenance instructions exist and adequate records are kept. Implementation of an effective maintenance policy must incorporate the preparation of fully detailed operating and maintenance documentation and the introduction of a Written Scheme and logbook system.
- The Responsible Person (Water) should appoint deputies to whom delegated responsibilities may be given.
- The deputies should act for the Responsible Person (Water) as delegated and directed.
- The Responsible Person (Water) should also be fully conversant with the design principles and requirements of water systems and should be fully briefed in respect of the cause and effect of water-borne organisms including *Legionella pneumophila*.
- The role can extend to the operation and maintenance of associated plant. It is recognised that the Responsible Person (Water) cannot be an expert on all matters and must be supported by specialists in specific subjects such as water treatment and microbiology, but they must undertake responsibility for calling upon and coordinating the activities of such specialists. Roles and responsibilities may vary across NHS Boards depending on operational structures.
- 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 Executive's Approved Code of Practice L8.

Authorising Engineer

An Authorising Engineer acts as an independent professional advisor to the healthcare organisation, appointed by the organisation with a brief to provide services in accordance with SHTM guidance. The Authorising Engineer acts as an assessor, making recommendations for the appointment of Authorised Persons, monitoring the performance of the service and providing an annual audit to the organisation's Designated Person.

Advanced Practitioner Infection Control (APIC) and Consultant Microbiologist

The Advanced Practitioner Infection Control (APIC) and consultant microbiologist are the persons nominated by management to provide advice on infection control policy. The policy should be acceptable to the infection control team and they should agree any amendment to that policy. They provide advice on procedures for the prevention of Legionnaires' disease and *Pseudomonas aeruginosa* infection, and the microbiological aspects its control.

Water Safety Group

Water Safety Groups (WSG) within The State Hospitals Board for Scotland will be led and chaired, by the Responsible Person (Water) who will ensure that responsibility is taken for microbiological hazards that are identified by appropriate Group members. They will assess risks, identify and monitor control measures and develop incident protocols. The WSG will report to the Chair of the hospital Infection Control Committee and ensure a coordinated approach exists between Infection Prevention and Control Teams, clinical staff and Estates and Facilities on all water issues. There should be a clear line of responsibility to the Chief Executive through the Infection Control or other Committee. The Water Safety Group will be responsible for supporting, co-ordinating and reviewing operational management and controls in accordance with statutory requirements (such as COSHH and HSE ACOP L8) and mandatory requirements (such as SHTM 04-01), for when and where water is supplied, stored, distributed and used. This group will meet annually.

Deputy Responsible Person (Water)

The Deputy Responsible Person Water (DRP) should be contacted as required for support. In association with the Responsible Person and Infection Control team the DRP will implement and manage the necessary procedures to ensure that the quality of water in healthcare premises is

maintained in line with the duties and responsibilities. This role, in association with the responsible person, Advanced Practitioner Infection Control (APIC) and maintenance staff, involves:

- Possessing a thorough knowledge of the cause, effect and control of waterborne organisms, including *Legionella pneumophila*.
- Advising on the potential areas of risk and identifying where systems do not adhere to this guidance.
- Liaising with the Advanced Practitioner Infection Control (APIC) and Responsible Person and advising on the continuing procedures necessary to ensure acceptable water quality and monitoring the implementation and efficacy of those procedures.
- Ensuring equipment that is to be permanently connected to the water supply is properly installed and maintained.
- Ensuring adequate operating and maintenance instructions exist and adequate records are kept.
- Will act for the Responsible Person when he is absent or unavailable.
- Be fully conversant with design principles and requirements of water systems.
- Be aware that manufacturers, importers, suppliers, installers and service providers have specific responsibilities that are set out in the Health and Safety Commission's (2000) Approved Code of Practice L8.

Authorised Person

The Authorised Person has the key operational responsibility for the service, qualified and sufficiently experienced and skilled for the purpose. He/she will be nominated by the Authorising Engineer and be able to demonstrate his/her application through familiarization with the system and attendance at an appropriate professional course; a level of experience; evidence of knowledge and skills. The Authorised Person (Water) will be appointed in writing as the single person with sole responsibility for the Written Scheme for an individual water system. No work will be carried out on the water system without the knowledge and written consent of the Authorised Person. An important element of the Authorised Person's role is the maintenance of records, quality of service and maintenance of system safety (integrity). The Authorised Person will also be responsible for establishing and maintaining the roles and validation of Competent Person who may be employees of the organisation or appointed contractors. Larger sites may require more than one Authorised Person for a particular service. Administration duties, such as record keeping, should be assigned to specific Authorised Persons and recorded in the operational policies.

Competent Person

The Competent Person may be a Maintenance Technician / Tradesperson or Maintenance Assistant. The Tradesperson or Maintenance Technician may provide skilled installation and/or maintenance of a specialist service. He/she will demonstrate a sound trade background and specific skill in the specialist service. A maintenance technician is someone who has sufficient technical knowledge and the experience necessary to carry out maintenance and routine testing of the water, storage and distribution system. They will be appointed, or authorised to work (if a contractor) by the Authorised Person.

Installer

An installer is the person or organisation responsible for the provision of the water storage and distribution system and any equipment linked to that system.

Contractor

A contractor is the person or organisation designated by management to be responsible for the supply, installation, validation and verification of hot and cold water services, and for the conduct of the installation checks and tests.

In relation to the control of Legionella for example, it is essential to ensure that potential contractors have suitable qualifications (for example companies/individuals who are members of the Legionella Control Association).

Contract Supervising Officer

The person nominated by the management to witness tests and checks under the terms of contract. He/she should have specialist knowledge, training and experience of hot and cold water supply, storage and mains services. Note: This role within The State Hospitals Board for Scotland will be fulfilled by the Authorised Person / Responsible Person or Deputy Responsible Persons.

4.2 Departmental

Responsible Nurse / Clinical Staff / Departmental Managers / Line Managers

- Ensure that all staff are aware of this policy and are familiar with the relevant compliance procedures to manage and control water safety risks (e.g. undertake and record a twice weekly review of water system outlets, to ensure flushing of little used outlets and removal of unused water systems in their devolved areas of responsibility).
- Put into practice local compliance procedures, protocols and safe systems of work which are designed to reduce water safety risks.
- Ensure that all staff and workers engaged in healthcare provision have adequate information, training, instruction, supervision and support (this includes refreshing staff knowledge and skills at defined frequencies).
- Monitor the effectiveness of local compliance procedures and safe systems of work, including annual review of occurrence recording, investigation and management inspections (such as through Infection Control Audit recorded by way of HEI Inspection Audit Tool).
- Ensure that local policies and procedural guidelines are developed and maintained.
- Ensure staff receive suitable and effective support following any accidents or incidents relating to the management and control of water.
- Ensure that suitable and sufficient risk assessments are carried out by competent staff and that the findings are implemented or escalated as appropriate.

All staff and workers

All staff and workers engaged in healthcare provision and support services are responsible for:

- Taking precautions and reasonable care with regard to their own safety and that of any other persons who may be affected by their actions and the environment.
- Co-operating with policy, procedures and safe systems of work that are in place to minimise risk to persons and the environment.
- Reporting of all incidents that arise, including near misses; assisting managers with the identification of any risks arising from the management and control of Water.
- Identifying, reporting and recording infrequently used appliances e.g. WCs, sinks, showers within area of responsibility.
- Maintain records of flushing regime.
- Arrange for a flushing regime to be carried out if one not already in place.
- Attend appropriate training and instruction and ensuring practical skills are refreshed as required.
- Liaise with relevant Deputy Responsible Person (Water) and where required Responsible Person Water.

5 EQUALITY AND DIVERSITY

The State Hospitals Board (the Board) is committed to valuing and supporting equality and diversity, ensuring patients, carers, volunteers and staff are treated with dignity and respect.

Policy development incorporates consideration of the needs of all Protected Characteristic groups in relation to inclusivity, accessibility, equity of impact and attention to practice which may unintentionally cause prejudice and/or discrimination.

The Board recognises the need to ensure all stakeholders are supported to understand information about how services are delivered. Based on what is proportionate and reasonable, we can provide information/documents in alternative formats and are happy to discuss individual needs in this respect. If information is required in an alternative format, please contact the Person-Centred Improvement Team on 01555 842072.

Line Managers are responsible for ensuring that staff can undertake their role, adhering to policies and procedures. Specialist advice is available to managers to ensure that reasonable adjustments are in place to enable staff to understand and comply with policies and procedures. The Equality and Impact Assessment (EQIA) considers the Protected Characteristic groups and highlights any potential inequalities in relation to the content of this policy.

Patient pre-admission assessment processes and ongoing review of individual care and treatment plans support a tailored approach to meeting the needs of patients who experience barriers to communication (e.g. Dementia, Autism, Intellectual Disability, sensory impairment). Rapid access to interpretation/translation services enables an inclusive approach to engage patients for whom English is not their first language. Admission processes include assessment of physical disability with access to local services to support implementation of reasonable adjustments. Patients are encouraged to disclose their faith/religion/beliefs, highlighting any adapted practice required to support individual need in this respect. The EQIA considers the Protected Characteristic groups and highlights any potential inequalities in relation to the content of this policy.

Carers/Named Persons are encouraged to highlight any barriers to communication, physical disability or anything else which would prevent them from being meaningfully involved in the patient's care (where the patient has consented) and/or other aspects of the work of the Hospital relevant to their role. The EQIA considers the Protected Characteristic groups and highlights any potential inequalities in relation to the content of this policy".

The volunteer recruitment and induction process supports volunteers to highlight any barriers to communication, physical disability or anything else which would prevent them from contributing meaningfully to patient care and/or engage in other aspects of the work of the Hospital relevant to their role. The EQIA considers the Protected Characteristic groups and highlights any potential inequalities in relation to the content of this policy.

6 STAKEHOLDER ENGAGEMENT

This policy is governed by specialised national guidance. Therefore engagement with the Key Stakeholders noted below is not necessary.

Key Stakeholders	Consulted (Y/N)
Patients	N/A
Staff	N/A
Carers	N/A
Volunteers	N/A

7 COMMUNICATION, IMPLEMENTATION, MONITORING AND REVIEW OF POLICY

This policy will be communicated to all stakeholders within the State Hospital via email, the hospital's intranet and through the staff bulletin. The Infection Control Committee as Policy Advisory Group will be responsible for the implementation and monitoring of this policy.

Any deviation from policy should be notified directly to the policy Lead Author. The Lead Author will be responsible for notifying the Advisory Group of the occurrence.

This policy will be reviewed every two years or earlier if required.