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WHTM 01-04

Welsh Health Technical Memorandum

Decontamination of linen for health and social care

Social care

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Welsh Health Technical Memorandum 01-04: Decontamination of linen for health and social care. Social care

Overview

Introduction

This WHTM supersedes HSG(95)18 *Hospital laundry arrangements for used and infected linen*.

This change realigns it with WHTM 01-05:2014 *Decontamination in primary care dental practices* and the naming convention used for other healthcare estates and facilities related technical guidance documents within Wales. It will also help to address the recommendation to align decontamination guidance across the four nations.

Purpose

The purpose of this WHTM is to provide guidance regarding the management, use and decontamination of healthcare and social care linen. The guidance is designed to ensure patient safety and enhanced outcomes are at the forefront of decision making.

The WHTM decontamination suite is listed below:

- WHTM 01-01: Management and decontamination of surgical instruments (medical devices) used in acute care
- WHTM 01-04: Decontamination of linen for health and social care
- WHTM 01-05: Decontamination in primary care dental practices
- WHTM 01-06: Decontamination of flexible endoscopes

Who should use the WHTM 01-04 series

This guidance will be of direct interest to providers of care and those working in laundry management and linen decontamination. Management and technical information is also provided for care providers and linen services providers.

Definition of linen

For the purposes of this document, “linen” means all reusable textile items requiring cleaning/disinfection via laundry processing including:

- Bed linen: blankets, counterpanes, cot sheets and blankets, duvets, duvet covers, pillowcases and sheets (woven, knitted, half sheets, draw and slide sheets);
- bibs;
- blankets;
- canvases;
- curtains;

- hoist slings;
- patient clothing (gowns, nightdresses and shirts, pyjama tops and bottoms);
- staff clothing (coats, scrub suits, tabards, uniforms);
- towels.

Status

If any laundry installation or premises includes facilities for the sterilization of medical devices, then the Requirements of WHTM 01-01 Part A:2013 will also apply to the sterilizer installation. Other existing regulations and industry standards are discussed in the 'Engineering, equipment and validation' volume of this WHTM 01-04 series.

Structure

WHTM 01-04 is divided into four volumes. The 'Management and provision' volume includes:

- a description of the overall structure of the guidance and the rationale behind the structure;
- Welsh Government and related UK policy on safe linen decontamination and processing.

The 'Social care' volume gives guidance on how to implement linen decontamination in social care settings.

The 'Guidance for linen processors implementing BS EN 14065' volume gives guidance on ways of complying with WHTM 01-04 specifically for those organisations that have implemented or will be implementing the European standard BS EN 14065:2016.

The 'Engineering, equipment and validation' volume covers:

- the standards and regulatory framework;
- roles of key personnel;
- the built environment;
- design and pre-purchase considerations; and
- validation and verification of disinfection performance of washers, washer-extractors and continuous tunnel washers (CTWs).

Each volume contains disinfection-specific information only.

Acknowledgements

This guidance is based on HTM 01-04:2016 *Decontamination of linen for health and social care: social care* published by the Department of Health in 2016. NHS Wales Shared Services Partnership – Specialist Estates Services is grateful to the Department of Health for its permission to adapt the original guidance for application in Wales.

The contents of the original document were reviewed by NHS Wales Shared Services Partnership – Specialist Estates Services, decontamination representatives from NHS Wales and Welsh Government.

Abbreviations

ACDP: Advisory Committee on Dangerous Pathogens

BP: Best practice

BSI: British Standards Institution

CEN: European Committee for Standardization (comité européen de normalization)

Cfu: Colony forming units

CTW: Continuous tunnel washer

DIPC: Director of Infection Prevention and Control

EQR: Essential quality requirements

GCL: Guild of Cleaners & Launderers

HIW: Health Inspectorate Wales

HSE: Health and Safety Executive

IQ: Installation qualification

MDD: Medical Devices Directive

OJEU: Official Journal of the European Union

OQ: Operational qualification

PPE: Personal protective equipment

PQ: Performance qualification

RABC: Risk analysis and biocontamination control

SHLSLM: Society of Hospital Linen Services & Laundry Managers

TSA: Textile Services Association

TVC: Total viable count

UKAS: United Kingdom Accreditation Service

W/E: Washer-extractor

WEL: Workplace exposure limits

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Executive Manager

NHS/Organisation Decontamination Lead

Designated Person

User

Organisation Lead for Infection Prevention and Control

Infection Control Practitioner

The Microbiologist (Decontamination)

Operator

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Chapter 1

Guidance Summary

- 1.1 This volume in the WHTM 01-04 suite gives an overview of the Welsh Government's policy and directive guidance on the decontamination of linen for the social care setting.
- 1.2 It will be of direct interest to providers of care and those working in laundry management and linen decontamination.
- 1.3 This guidance is designed to help social care professionals to procure and deliver the level of decontamination that service-users have a right to expect, by building on existing practice.
- 1.4 The provider's linen handling and laundry policy needs to ensure that service-users' dignity is upheld and that it promotes their care and well-being, while being sensitive to their gender, religion and beliefs. Where appropriate, the policy should support the use of personal clothing.
- 1.5 Linen to be provided and used by care providers:
 - should be fit-for-purpose;
 - should look clean;
 - should be the right material;
 - should be the correct type of linen for the intended purpose; and
 - should not be damaged or discoloured.

Chapter 2

Introduction

- 2.1 This volume contains practical advice to help those working in the adult social care setting (and those processing non-infectious linen in a healthcare setting using either small on-premise laundries or local small ward-type machines) on how to implement this WHTM. It summarises the recommendations of the WHTM 01-04 series and explains further how they could be adopted in this sector.
- 2.2 Guidance for commercial laundries providing services to adult social care sector is given in the ‘Management and provision’ volume.
- 2.3 The provision of clean linen is a fundamental requirement of care. Incorrect handling, linen processing and storage of linen can pose an infection hazard. Infection can be transferred between contaminated and uncontaminated items of linen and the environments in which they are stored. Within the care home, specific hygiene measures should be taken to reduce these risks, including:
- correct handling of linen to prevent the spread of infection;
 - appropriate decontamination of linen.
- 2.4 Some small care homes (for example, those for people who have a learning disability or mental health needs) provide linen processing services that are similar to normal domestic arrangements. This type of arrangement can continue for existing installations as long as the standards set out within this WHTM series are achieved. However, additional criteria apply to those providers that are likely to process infectious linen routinely.

Categorisation of linen

- 2.5 The ‘Management and provision’ volume of this WHTM series uses the term infectious linen to denote a category of linen that is distinct from ordinary soiled or fouled linen. However, to simplify this process and to make it more appropriate for the type of linen experienced in many small social care settings, this WHTM recommends a different categorisation from that used in healthcare settings:
- The principle adopted in this WHTM is that most service-users in an adult social care setting are well or stable most of the time. This will mean that a standard process (see [Chapter 5](#), ‘Categorisation and segregation of linen’) is implemented most of the time.
- 2.6 Where a care worker believes that a service-user poses an infection risk, this would necessitate a change in the standard process to an enhanced process (see [Chapter 5](#)). Care homes are also free to choose to use the categorisations outlined in the ‘Management and provision’ volume for example, if they were to outsource their linen processing.



Provision of linen processing services

- 2.7 When setting up a care home, owners should consider whether they are going to have an on-site laundry or make other arrangements. 'Options for the provision of linen processing services' in the 'Management and provision' volume lists the factors that should be considered when any decision is made. Proper facilities that meet the requirements of this guidance for an on-site laundry could be expensive; commercial washing machines, dryers, ongoing costs of maintenance and labour may be higher than anticipated. A long- term contract with a commercial laundry or hospital could be a more satisfactory and cost-effective solution. However, all options should be considered and evaluated, and in many cases an on-site laundry may still be a viable option.

Chapter 3

Requirements for linen processing

3.1 This chapter details the provision of linen processing services in a social care setting.

- When washing machines are due to be replaced, organisations should consider procuring a washing machine for household use that achieves an EU Ecolabel wash performance rating of A (not to be confused with the energy performance A rating) when measured in accordance with BS EN 60456:2016 (or equivalent commercial model).
- Documentary evidence (for example, a logbook) of any service and repair visits should be kept and be available for inspection along with written local policies and safe working procedures for the operation of all washing machines and dryers. The written local policies should be based on the following principles:
 - (i) ongoing observation of the condition of the machine in order to detect any major problems that may occur;
 - (ii) correct operation of the machine and use of detergents including educating staff to operate the machines correctly (for example, instructions on correct dosing of detergent and precautions against overloading the machine);
 - (iii) observation of the condition of processed items that come out of the machine.
- Processes should be safe and protect staff and service-users against exposure to infection.
- Organisations that regularly use the enhanced process (as described in [Chapter 5](#), 'Categorisation and segregation of linen') should undertake a risk analysis of their processes, including identifying key areas requiring control of contamination.
- An appropriate management structure (discussed in [Chapter 7](#), 'Implementation of functional responsibilities') should be in place.
- Appropriate personal protective equipment (including appropriate clothing and eye protection) should be available for all staff.
- Processed linen should be stored in a clean area above floor level and should not be kept in the laundry area.

- The laundry area should be designed to minimise the risk of recontamination of linen and to ensure the protection of service-users and staff involved in the handling of used linen. This should include:
 - (i) procedural segregation of clean and dirty items/areas within the laundry room;
 - (ii) hand decontamination facilities including a wash-hand basin, liquid soap, disposable paper towels, pedal-operated clinical and domestic waste receptacles and a first-aid kit;
 - (iii) a safe and segregated dirty area for the removal of solids and sluicing of linen.

3.2 An industrial/commercial-type washing machine capable of meeting the disinfection requirements given in 'Disinfection of linen' within the 'Management and provision volume' is required. A hot wash cycle is recommended (71°C for at least three minutes or 65°C for at least ten minutes) or alternatively a chemical disinfection process may be adopted as long as it meets the requirements of 'Disinfection of linen'. This should be professionally installed and maintained.

Note

Independent advice is available from the Society of Laundry Engineers and Allied Trades (SLEAT) on industrial and commercial washers, tunnels and dryers at: www.sleat.co.uk

- 3.3 The washing machine's disinfection stage must be validated at least annually to prove it meets the requirements above (in accordance with the 'Schedule of periodic tests' within the 'Engineering, equipment and validation' volume). It is likely that an external validation contractor or the machine manufacturer would need to undertake these tests on behalf of the organisation.
- 3.4 There should be a designated separate laundry area for that purpose only and a workflow system such that clean and soiled/fouled linen is physically separated throughout the process. Where enhanced processes are used (see **Chapter 5**, 'Categorisation and segregation of linen'), this area should be accessible only to staff performing laundry duties.
- 3.5 Where the enhanced process is regularly used, organisations should operate systems that minimise manual handling/opening of infectious linen (for example, the use of water-soluble bags) and where larger batch-loaded type machines are used, they should be fully automated for loading and be capable of being adequately disinfected.

Chapter 4

Handling dirty linen

- 4.1 All dirty linen should be handled with care and attention paid to the potential spread of infection.
- 4.2 Personal protective equipment (PPE) such as plastic aprons and suitable gloves should be worn for handling dirty or contaminated clothing and linen.
- 4.3 Linen should be removed from a service-user's bed with care and placed in an appropriate container according to the segregation category (see [Chapter 5](#), 'Categorisation and segregation of linen'). Personal clothing should also be removed with care and placed in the bag, not placed upon the floor.
- 4.4 Soiled or fouled linen should not be held close to the chest to prevent contamination of the uniform (an apron should be worn).
- 4.5 Any segregation required prior to washing should be carried out before transport to the laundry area, negating the need for additional handling within the laundry. Staff should never empty bags of linen onto the floor to sort the linen into categories – this presents an unnecessary risk of infection. Many care homes currently use water-soluble bags within cotton sacks in a wheeled trolley to facilitate this separation, keeping linen off the floor before taking the bags to the laundry.
- 4.6 After handling linen, hands should be washed properly.
- 4.7 If linen is sent to an off-site laundry, the laundry should be made aware of its nature, and written guidelines should be agreed and followed regarding its transportation and handling.
- 4.8 The care-home manager and laundry staff should be satisfied that the processing of items sent will meet decontamination guidelines set out in this WHTM.

Chapter 5

Categorisation and segregation of linen

- 5.1 It is the responsibility of the person handling linen to ensure that it is segregated appropriately. For the large-scale processing of linen in a commercial setting, the advice offered in ‘Classification of linen’ (in the ‘Management and provision’ volume) should be followed. If a commercial or hospital laundry is used, the appropriate categorisation and segregation option from ‘Classification of linen’ should be agreed with the laundry contractor.
- 5.2 In the simple on-site care-home setting, two categories should be used relating to the process, and these can be colour-coded as follows:
- Standard process – off white or white. Soiled and fouled items should be placed into a water-soluble bag(s) (and additionally within a white cotton sack if required) or alternatively placed directly in a white impermeable bag. Heavily soiled items should have any solids removed prior to being placed into the bag. In larger premises, patients’ clothing may sometimes be bagged separately to bed linen.
 - Enhanced process – red. These items should be sealed in a red water-soluble bag immediately on removal from the bed. This primary container should then be placed in an impermeable or nylon/ polyester bag. The enhanced process is defined in [Chapter 6](#), ‘Linen processing’. Additionally the outer bag must carry a bold legend stating “Infectious linen”.

Chapter 6

Linen processing

The standard process

- 6.1 This is the normal process applied for most of the service-users most of the time. It is generally comparable to the soiled or fouled definition used in the 'Management and provision' volume.
- 6.2 Many microorganisms will be physically removed from the linen, by the detergent and water, during the washing cycle of a well-made "A"-rated (for washing performance) washing machine for household use.
- 6.3 The standard processes should be performed in a washing machine for household use achieving an EU Ecolabel wash performance rating of A (not to be confused with the energy performance rating) when measured in accordance with BS EN 60456:2016 (or equivalent commercial model). The items should be washed in the highest suitable temperature in accordance with the garment care label.

The enhanced process

- 6.4 The enhanced process should be used when triggers are identified relating to the possibility of infectious linen or clothing being generated. Example triggers include:
 - unexplained diarrhoea and vomiting;
 - confirmed infection;
 - unexplained rashes;
 - confirmed cases of scabies/lice;
 - unexplained fever.
- 6.5 The enhanced process should be performed in a machine as for the standard process, but using a cycle with a minimum temperature of 60°C, or the highest temperature suitable for heat-sensitive items.
- 6.6 All enhanced processes should use a washing cycle that has either:
 - a thermal disinfection cycle that reaches 71°C for at least three minutes or 65°C for at least ten minutes; or
 - a chemical disinfection process that satisfies the requirements in the section 'Disinfection of linen' (in the 'Management and provision' volume).
- 6.7 All linen/clothing should enter the laundry through the appropriate dirty entrance and should not be stored but processed as soon as possible.



- 6.8 The laundry staff should never open any inner water-soluble bags. Instead, the bags should be transferred to the washing machine for decontamination.
- 6.9 Washing machines should not be overloaded.
- 6.10 Heavily soiled items should also have a pre-wash/sluice cycle selected.
- 6.11 Heat-labile items should be washed at the highest temperature possible for the item.
- 6.12 All items should then enter a drying process (when the item is compatible). Once removed, they should be stored in a clean area above floor level and not be kept in the laundry area.

Chapter 7

Implementation of functional responsibilities

- 7.1 The 'Management and provision' volume contains a section detailing functional responsibilities for those involved in linen processing. However, it is written from the starting premise of larger organisations that operate dedicated laundries and not those that may only be responsible for single machines in a care home or similar.
- 7.2 The following sections provide further guidance on implementing the roles. 'Management and provision' should be referred to for the full definitions for the healthcare sector.

Executive Manager

- 7.3 The Executive Manager is defined as the person with ultimate management responsibility, including allocation of resources and the appointment of personnel, for the organisation in which the laundry equipment is installed.
- 7.4 This role is likely to be filled by the registered manager or chief executive of larger care homes or the owner of the care home.

NHS/Organisation Decontamination Lead

- 7.5 Every health and adult social care organisation should have a nominated Decontamination Lead with responsibility for decontamination. Further guidance is given in the *Code of practice for the prevention and control of healthcare associated infections* (Welsh Government 2014).

Designated Person

- 7.6 This role acts as the interface between the linen processor and support services supplied internally or externally including service, maintenance and testing. This is likely to be the care home's registered manager.

User

- 7.7 The User is defined as the person designated by Management to be responsible for the management of the process. The User is also responsible for the Operators as defined below. In a social care setting, this could be the care home's registered manager.

Organisation Lead for Infection Prevention and Control

- 7.8 This is as defined in the *Code of practice* (Welsh Government 2014).



Infection Control Practitioner

- 7.9 This person is designated by Management to be responsible for advising the User on all infection control issues. This is unlikely to be found within the organisation. The health board / Trust infection control team should be consulted.

The Microbiologist (Decontamination)

- 7.10 The Microbiologist (Decontamination) is defined as a person designated by Management to be responsible for advising the User on the microbiological aspects of the disinfection and recontamination of linen. This is likely to be a specialist subcontracted role, appointed when needed or in partnership with a health board /Trust via a service level agreement.

Operator

- 7.11 The Operator is defined as any person with the authority to load and operate the washing machine and any other laundry equipment, including undertaking simple housekeeping duties. This may also include night-staff who are not part of the dedicated laundry team.



References

BS EN 60456:2016 *Clothes washing machines for household use. Methods for measuring the performance*

Welsh Government (2014). *Code of practice for the prevention and control of healthcare associated infections*
<http://gov.wales/docs/phhs/publications/140618appendixen.pdf>