



Government of **Western Australia**
Department of **Health**

Infection Prevention and Control of Vancomycin- Resistant Enterococci in Western Australian Healthcare Facilities Policy

Title: Infection Prevention and Control of Vancomycin-Resistant Enterococci in Western Australian Healthcare Facilities Policy

1. Background

The purpose of this policy is to ensure appropriate management is undertaken in Western Australian (WA) healthcare facilities (HCFs) to prevent transmission of vancomycin-resistant enterococci (VRE) to patients who are at increased risk of VRE infection and thereby minimise morbidity and mortality associated with VRE infection.

The strict adherence to standard precautions and the implementation of transmission-based contact precautions are the primary interventions to minimise VRE transmission. Contamination of environmental surfaces and equipment with VRE can occur from VRE-positive patients and may persist for prolonged periods, therefore intensive cleaning, and disinfection of the environment and shared equipment is critical to prevent the transmission of VRE.

2. Scope

This policy applies to all public HCFs in WA and those private HCFs, including satellite haemodialysis units, contracted to provide services to public patients.

3. Policy statement

The routine screening and subsequent management of people identified with VRE in WA HCFs is to be undertaken as described in the attached document *Infection Prevention and Control of Vancomycin-resistant enterococci in Western Australian Healthcare Facilities* (Attachment 1).

At no time, is a person's VRE status interfere with admission to, or provision of, appropriate healthcare in any WA HCF.

The key principles of this policy are:

- screening and early detection of VRE in higher-risk patient groups
- promotion of high level compliance with standard precautions and environmental cleaning
- implementation of transmission-based precautions in acute care wards on identification of a VRE-positive patient
- promotion of the micro-alert system as a clinical flag within acute care HCFs to aid in clinical management and guide antimicrobial management
- communication between HCFs when transfers of VRE-positive cases occur
- the notification and provision of information for those patients identified as VRE-positive.

4. Definitions

A complete Table of Definitions is contained in Attachment 1 *Infection Prevention and Control of Vancomycin-resistant enterococci in Western Australian Healthcare Facilities*

5. Roles and responsibilities

5.1 Executive Directors of public and licensed private HCFs contracted to provide services for public patients, including satellite haemodialysis units, are responsible for ensuring:

- implementation and compliance with this policy
- their local infection prevention and control (IP&C) policies are aligned with the requirements described in this policy
- identification of their higher-risk wards/units that require screening, and that screening is performed in a timely manner in accordance with this policy
- a high level of communication is maintained between HCFs when transferring patients who are known to be either VRE-positive or a physical contact of a VRE-positive patient and who require VRE screening.
- outbreaks of VRE are reported to the Healthcare Associated Infection Unit (HAIU) located within the Communicable Disease Control Directorate (CDCD) via the outbreak notification process.

5.2 Governance bodies of WA residential care facilities (RCFs) are to ensure they have effective IP&C programs in place that address the management of VRE-positive residents.

5.3 All Healthcare workers (HCWs) are responsible for ensuring they comply with standard precautions at all times and adopt the recommended transmission-based contact precautions when a patient is identified as having VRE.

5.4 The HAIU is to review state-wide VRE epidemiology and ensure that there is accurate and effective communication of this information to relevant stakeholders including the Healthcare Infection Council of Western Australia (HICWA) and the WA Multi-Resistant Organism (WAMRO) Expert Advisory Group.

6. Compliance

Compliance with this policy is mandatory for all public hospitals and those private HCFs, including satellite haemodialysis units, contracted to provide services to public patients.

7. Evaluation

Evaluation of this policy is to be carried out by the HAIU in collaboration with the WAMRO EAG. The following data is to be regularly reviewed to determine the impact of VRE on WA HCFs:

- Review of VRE epidemiological data.
- Review of VRE clinical isolate and sterile site infection data.
- Burden of VRE-positive patients and those alerted as contacts admitted to HCFs.

8. References

A complete Reference / Bibliography list is included in Attachment 1 *Infection Prevention and Control of Vancomycin-resistant enterococci in Western Australian Healthcare Facilities*.

9. Relevant Legislation

Nil applicable.

10. Related documents

VRE Fact Sheet for Consumers (Appendix 4) or access from http://www.healthywa.wa.gov.au/Healthy-WA/Articles/U_Z/vancomycin-resistant-Enterococci-VRE

MRO Advisory Letter – Positive Patient (Appendix 5)

MRO Advisory Letter – Contact Patient (Appendix 6)

11. Authority

Title:	Healthcare Associated Infection Unit		
Contact:	9388 4868		
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Infection Prevention and Control of Vancomycin-Resistant Enterococci in Western Australian Healthcare Facilities

Version Control			
Version	Review Date	Revised by	Summary of Changes
V 1.0	November 2010	VRE Advisory Group	Introduction of routine screening for all patients admitted to WA hospitals who have been inpatients outside of WA. Increased routine screening in high risk units. Incorporated OP 2101/06 Guidelines for Haemodialysis Units.
V 2.0	December 2011	VRE Advisory Group	Introduced higher-risk patient groups. Improved communication strategies between facilities. Increased cleaning recommendations. Provided guidance for acute care mental health. Added definitions to improve clarity.
V 3.0	March 2014	VRE Advisory Group	Review requested by A/Director General. Routine screening limited those patient groups at increased risk of developing VRE infection. A requirement that screening outside the recommendations contained in the document can only occur with permission from the Chief Medical Officer was included. Incorporated OD 1802/04 Guidelines for the Management of Residents with VRE in Residential Care Facilities.
V 4.0	September 2015	VRE Advisory Group	Review requested by WAMRO VRE clearance protocol introduced. Revision of definitions. Introduced standard precautions for management of VRE-positive patients in subacute wards.

Version 4, September 2015

VRE Advisory Group

Armstrong P, Cadwallader H, Coombs G, Darragh H, Ingram P, Jones J, Keil A, Kenny S, Lee R, McCann R, McGeachie D, Pereira L, Peterson A, Popkiss K, Reilly M, Speers D, Meyer-Henry S.

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Definitions

Definitions for the purpose of this document are:

Acute care refers to healthcare that provides general medical and surgical treatment, with or without emergency services, to patients for episodes of acute illness, disease, injury or recovery.

Acute Healthcare Facility refers to all public hospitals, including mental health hospitals that provide acute care services and all haemodialysis units excluding home-based haemodialysis services.

Acute care ward/unit refers to all wards/units within an acute healthcare facility that are not categorised as subacute wards/units (see definition) and includes all higher-risk units.

Carrier refers to any patient who has had VRE isolated from any site.

Colonisation is the presence, growth and multiplication of microorganisms without observable clinical signs or symptoms of infection. Enterococci are not a cause of diarrhoea, so if isolated from a patient with diarrhoea it is a case of colonisation and not infection.

Contact refers to any patient who has shared a room, bathroom or toilet facility with a VRE-positive patient.

Healthcare facility refers to acute healthcare facilities, haemodialysis units, non-inpatient acute care facilities, residential and rehabilitation facilities, and ambulatory care services.

Healthcare worker (HCW) is any employee of a healthcare or residential care facility including students, trainees, contracted staff and volunteers.

Higher-Risk Unit refers to wards/units within acute HCFs that regularly admit patients who are at increased risk of VRE infection (refer page 11). Each acute HCF is to identify their higher-risk wards/units.

Infection is the invasion of bacteria into tissues with replication of the organism. Infection is characterised by isolation of the organism accompanied by clinical signs of illness such as fever, inflammation or pus formation.

Micro-alert is a generic term used to refer to a flag applied to the medical record number in the electronic management system (TOPAS/webPAS) to identify carriers of multi-resistant organisms.

Non-inpatient – acute care refers to facilities within or outside of an acute healthcare facility that provide acute care, such as invasive procedures, where the patient is not admitted overnight to the facility.

Outbreak is defined as when a single strain of VRE is detected at rates that are clearly higher than expected. For example, when transmission between patients beyond direct physical contacts is detected or closure of wards to admissions is required as part of the management plan.

Residential care facility (RCF) refers to healthcare facilities registered to provide 24 hour activity-of-daily-living care to persons who are not able to live independently. This includes nursing homes, hostels, transitional and respite care facilities, group homes and hospices.

Screening is a process to identify people at risk of being colonised with a particular microorganism and obtaining appropriate specimens.

Subacute care ward/unit refers to inpatient wards/units within an acute healthcare facility in which patients do not require acute care and the primary care is optimisation of the patient's functioning and quality of life e.g. rehabilitation, psychogeriatric, palliative care, geriatric evaluation and management (GEM) program. Each acute healthcare facility is to identify their subacute wards/units.

Standard precautions are work practices that constitute the first-line approach to infection prevention and control in healthcare facilities and are applied to everyone, regardless of their perceived or confirmed infectious status. Examples include hand hygiene, use of aseptic technique, cleaning of reusable equipment between use, environmental equipment and appropriate use of personal protective equipment.

Transmission-based contact precautions are work practices that are used in addition to standard precautions to prevent the transmission of infectious agents that are spread by direct or indirect contact with the person or their environment. Examples include single room allocation and use of personal protective equipment.

At no time, is a person's VRE status interfere with admission to, or the provision of appropriate healthcare in any WA HCF.

Abbreviations

ABHR	Alcohol-based hand rub
CDCD	Communicable Disease Control Directorate
GEM	Geriatric evaluation and management
HAI	Healthcare Associated Infection
HAIU	Healthcare Associated Infection Unit
HCF	Healthcare facility
HCW	Healthcare worker
HICWA	Healthcare Infection Council of Western Australia
IP&C	Infection Prevention and Control
MRO	Multi-resistant Organism
OD	Operational Directive
PPE	Personal Protective Equipment
RCF	Residential Care Facility
TOPAS	The Open Patient Administration System
VRE	Vancomycin-resistant enterococci
WA	Western Australia
WAMRO	WA Multi-Resistant Organism Expert Advisory Group
webPAS	Web-based Patient Administration System

Introduction

Enterococci are bacteria that are part of the normal flora of the human gastrointestinal tract and are inherently resistant to most antibiotics. Antibiotic therapy for enterococcal infections usually involves the use of penicillins and glycopeptides e.g. vancomycin. Although not highly pathogenic, these bacteria can be significant pathogens in immunocompromised patients. Most enterococcal infections are caused by a person's own normal flora, however, transmission between patients in HCFs does occur. There are a number of different enterococci but those of importance in the context of vancomycin-resistance are *Enterococcus faecium* and *Enterococcus faecalis*.

The Centres for Disease Control and Prevention in the United States of America report that 33% of enterococci causing healthcare associated infections in their intensive care units are now from vancomycin-resistant strains¹.

In Australia, data from national antimicrobial surveillance programs have shown a rapid increase in the number of clinical VRE isolates occurring in the eastern states since 2008. This trend is also reflected in WA data where an increase in clinical isolates has been reported, although rates have been significantly lower than elsewhere in Australia².

This increasing prevalence is of concern due to the limited antimicrobial agents available to treat VRE infections. In addition, the vancomycin resistance gene has the potential to be transmitted to other more pathogenic organisms, such as *Staphylococcus aureus*.

1. Characteristics

Vancomycin-resistant enterococci (VRE) have emerged as important pathogens that contribute to healthcare associated infections (HAIs).

1.1 Reservoir

- Enterococci are part of the normal flora of the lower gastro-intestinal tract and can be found at other body sites such as skin surfaces, the vagina and urethra.
- Enterococci are capable of prolonged (months) survival on environmental surfaces.
- VRE are found in the faeces of colonised people.
- Most people who acquire VRE are colonised rather than infected.

1.2 Risk Factors for Colonisation

- The following people are at increased risk of VRE colonisation if they are exposed to VRE e.g. due to close proximity to positive patients or have a long hospitalisation:
 - those who have severe underlying disease
 - those who have any invasive devices.
- People exposed to antibiotics, particularly broad spectrum agents, are at increased risk of VRE colonisation from either:
 - cross-transmission following exposure to VRE
 - selection of VRE due to antibiotic selection pressure.

1.3 Risk Factors for Infection

- People who are colonised are at increased risk of VRE infection if they are:
 - patients receiving care in intensive care and high-dependency units
 - renal dialysis recipients
 - solid organ and bone marrow transplant recipients
 - haematology and medical oncology patients.

1.4 Routes of Transmission

- The routes of transmission from patient to patient are either by:
 - direct contact through transient carriage of VRE on the hands of HCWs or
 - indirectly after contact with contaminated equipment or environmental surfaces.

1.5 Risk Factors for Transmission

- Certain VRE-positive patients are more likely to contaminate the environment and hands of HCWs. These include:
 - patients with diarrhoea or faecal incontinence
 - patients with enterostomies
 - patients with discharging wounds
 - catheterised patients with VRE colonisation / infection of the urinary tract
 - patients who are incapable of maintaining their own personal hygiene.
- HCWs providing direct patient care are at increased risk of transient hand carriage of VRE if standard and transmission-based contact precautions are not adhered to.
- There should be emphasis placed on hand hygiene for all HCWs, family and visitors involved in the care of these patients. HCWs should ensure that patients wash their hands or apply alcohol-based hand rub (ABHR) prior to leaving their room.

2. Infection Prevention and Control in Acute Care Facilities

2.1 Surveillance Screening

- All acute HCFs are to have a protocol in place that is applied to all patients admitted to their facility, to determine the infection prevention management requirements, including the need for any microbiological surveillance screening.
- Patients that require routine surveillance screening and the subsequent bed placement requirements and precautions are described in Section 2.2.
- The rationale for screening patients from HCFs outside of WA is because of the higher prevalence of VRE in those facilities and the risk of introducing new strains into WA.
- Specimen collection protocols are described in section 2.3.

2.1.1 General patients

- Routine microbiological surveillance screening for VRE is to be performed on or prior to admission, for patients who meet the following criteria:
 - Any patient who is a direct transfer from a HCF outside of WA or has been an inpatient/resident in a HCF outside of WA in the last 12 months and who requires admission for an overnight or multi-day stay.
 - Any patient who is identified as a VRE contact (micro-alert F).
- Routine screening of patients admitted from WA RCFs and rehabilitation facilities to acute HCFs is not required, however acute HCFs may consider screening this cohort.
- Routine screening of patients who have been hospitalised within WA acute HCFs, in the absence of a micro-alert or outbreak notification is not required.

2.1.2 Haemodialysis units

- All in-centre (within acute HCFs) haemodialysis patients are to be screened for VRE on initial admission to the unit.
- All haemodialysis patients (in-centre and satellite) are to be screened following provision of dialysis outside of WA.
- Routine three monthly screening is to be performed for all haemodialysis patients, excluding home-based haemodialysis patients, who are screened when admitted to an in-centre haemodialysis unit.
- The patient's most recent screening result is to be made available when transfer between units occurs. If a patient has been screened within the last 3 months, the patient does not require rescreening prior to transfer.
- More frequent surveillance screening may be implemented if transmission of VRE is detected and in consultation with the Infection Prevention and Control (IP&C) team.

2.1.3 Higher-risk wards/units

- Each acute HCF is to identify their higher-risk wards/units that require routine screening of patients for VRE (refer to definitions)

- Patients admitted to higher-risk wards/units are to be screened for VRE:
 - on admission to the ward/unit, and
 - either weekly or on discharge / transfer out of the ward/unit, but not on both occasions.
- The routine screening (admission, discharge or weekly) required for higher-risk wards/units is not to be conducted on wards/units that do not regularly admit patients at increased risk of VRE infection (refer page 11).

2.1.4 Opportunistic screening

- All faeces samples collected, as part of standard medical care, from patients admitted to higher-risk wards/units is to be tested for VRE.

2.2 Bed Placement and Precautions Pending Screening Results

- Direct transfers from a HCF outside of WA require a single, non-carpeted room with ensuite or dedicated bathroom facilities and initiation of transmission-based contact precautions immediately upon admission until a negative result from one screening specimen.
- For VRE contacts (micro-alert F) and patients who have been an inpatient or resident in a HCF outside of WA in the last 12 months, the minimum requirement is a single room, preferably with ensuite facilities, and managed with standard precautions pending screening results.
- Patients undergoing routine admission screening to higher-risk wards/units can be placed in shared rooms and managed with standard precautions.

2.3 Screening Specimen Collection

- One faecal specimen in a clean container or one rectal swab is required for routine screening.
- VRE contacts are to have three specimens, each collected on separate days.
- For those patients with enterostomies a stomal specimen is to be collected.
- The procedure for collecting a rectal swab is as follows:
 - dip a sterile cotton swab in sterile water or normal saline
 - insert swab 1cm into rectum and gently rotate 360 degrees
 - place swab into transport container and process as per normal procedure.
- All laboratory request forms are to be marked "For VRE Screening."

2.4 Clearance Screening

- VRE-positive patients are not to be cleared within one year of a positive screening and/or clinical specimen result.
- VRE-positive patients, excluding haemodialysis patients, can be cleared on the micro-alert system if:
 - following a review it is identified that at least 4 years has elapsed since their last positive specimen. No clearance specimens are required.
 - their last positive specimen was between one and four years ago, and a further three screening results collected on three separate days are negative.

- Repeated screening of VRE-positive patients is not required within one year of the last positive specimen unless requested by the IP&C team as part of a risk assessment.
- VRE contacts (micro-alert F) are cleared on receipt of three negative results collected on three separate days.
- Clearance specimens can be collected during antibiotic treatment.
- When VRE clearance criteria are met, update the micro-alert status on the system by recording a cleared date that reflects the date the patient's VRE carriage risk was reviewed.

2.5 Notification

- Microbiological surveillance and the testing of clinically significant enterococci for vancomycin susceptibility are required by all pathology laboratories.
- In WA, VRE is a reportable multi-resistant organism (MRO) via laboratory notification.
- All laboratories identifying a VRE isolate are to ensure:
 - the isolate is sent to the PathWest Gram Positive Typing Laboratory
 - the medical practitioner responsible for the care of the patient is promptly notified and if the case is an inpatient, notification to the HCFs IP&C team.
- Each HCF is to ensure local data collection of all VRE isolates occurs, including patient demographics, ward location and any identified patient contacts.
- When a person is identified as being VRE-positive they are to receive written notification of their status and an information sheet (Appendix 4 and 5).
- When a VRE contact is discharged prior to completion of screening it is preferable that HCFs supply them with written advice (Appendix 6).

2.6 Micro-Alert System

- A micro-alert system is an electronic flag utilised to alert HCFs of patients known to have a MRO. The system allows early identification and implementation of appropriate IP&C measures as soon as possible following admission.
- The following micro-alerts are utilised for VRE in the WA public hospital system:
 - micro-alert V: confirmed VRE-positive.
 - micro-alert F: contacts of a VRE positive-patient and for whom screening has not been undertaken or completed prior to discharge or transfer to another HCF. Micro-alert 'F' is automatically removed from the micro-alert system after one year.
- All patients are to be assigned the appropriate micro-alert by the hospital isolating the VRE as soon as possible.

2.7 Antimicrobial Stewardship

- Antimicrobial stewardship is a mandatory requirement of the National Safety and Quality Health Service Standards.
- All HCFs are to ensure an antimicrobial stewardship program is in place, that is congruent with the Operational Directive *WA Antimicrobial Stewardship 0626/15*, and that:

- the clinical workforce prescribing antimicrobials have access to endorsed therapeutic guidelines on antibiotic usage
- monitoring of antimicrobial usage and resistance is undertaken
- the micro-alert system is promoted and is used as a clinical flag to guide medical management and ensure appropriate antimicrobial prescribing.

2.8 Outbreak Management

- All acute HCFs are to have an outbreak management plan to ensure prompt action is taken to contain spread and ensure effective communication occurs between all concerned parties.
- Depending on the severity and location of an outbreak the HCF Executive should consider :
 - convening a VRE action group with representation across all relevant departments that meets regularly until the outbreak is contained
 - convening dedicated environmental cleaning teams led by an appropriately trained supervisor
 - restricting patient bed transfers unless essential for patient management
 - informing their Health Service Executives of any contingency plans that have significant resource implications and/or affect business continuity.
- All HCFs are to notify VRE outbreaks to the Healthcare Associated Infection Unit (HAIU) at the Communicable Disease Control Directorate (CDCD), by use of the *Outbreak Notification Form* (available from the HAIU). The HAIU is responsible for communication to other HCFs and key stakeholders as required.
- Depending on the severity of the outbreak, the Director of the CDCD may consider convening a state wide expert advisory group.

2.9 Environmental and Equipment Cleaning

- The importance of regular routine cleaning and disinfection of the environment and shared equipment in accordance with standard precautions is critical to prevent the transmission of microorganisms. All acute HCFs to:
 - have documented cleaning schedules for all areas of the facility available
 - ensure routine cleaning is performed in all areas on a daily basis and on patient discharge
 - have scheduled intensive cleaning of higher-risk wards/units with detergent and chlorine-based disinfectant
 - have documented surface disinfection procedures available to render shared equipment safe for re-use on other patients
 - provide education to cleaning staff on the correct use of detergent and chlorine-based disinfectant solutions, including dilution methodologies.
- Physical cleaning is the most important step in the cleaning process and sole reliance on a disinfectant without physical cleaning is not recommended.
- The establishment of dedicated cleaning teams with trained supervisors is recommended to ensure that the requirement for more intensive cleaning and auditing of the higher-risk wards/units occurs.

3. Management of VRE-Positive Patients in Specific Settings

VRE status must not compromise management of a person in a HCF and those who are VRE-positive are not be refused admission to any HCF.

- This section outlines the minimum requirements for management of VRE-positive patients in different settings. The implementation of standard precautions and transmission-based contact precautions are the primary interventions to minimise VRE transmission between patients.
- In all settings there should be a strong focus on ensuring high-level compliance with standard precautions i.e. hand hygiene, aseptic technique, correct glove use, use of PPE, reprocessing of equipment and environmental cleaning.
- In some settings, standard precautions are the minimum requirement and if solely implemented the following strategies should also be implemented:
 - if risk factors for transmission are present (refer page 11), implement appropriate management to minimise transmission e.g. physically separate from other patients or place in a single room where possible. VRE-positive patients with risk factors for transmission are known to heavily contaminate the environment and potentially increase transmission of VRE
 - any patients colonised or infected with VRE is to be directed to perform hand hygiene with an ABHR or soap and water prior to entering / leaving the area. On discharge, all surfaces contacted by the patient should be cleaned with a disinfectant (Appendix 1).

3.1 Acute Care Facilities

3.1.1 Inpatients – acute care wards / units

- The implementation of transmission-based contact precautions (Appendix 1) is required for all VRE-positive inpatients on acute care wards/units (refer to definitions).

3.1.2 Inpatients – subacute care wards / units

- The implementation of standard precautions is the minimum requirement. These areas have fewer patients who are at risk of VRE infection (refer to definitions).

3.1.3 Inpatient - mental health wards / units

- The implementation of standard precautions is the minimum requirement. These areas have fewer patients who are at risk of VRE infection.
- Routine screening as described in section 2.1.1 applies to inpatient mental health wards / units in acute HCFs and mental health hospitals. However, it is acknowledged that screening may not be possible due to valid consent issues or a person's mental capabilities and an individual risk assessment approach is to be considered.

3.2 Non-inpatient - Acute care

- The implementation of standard precautions is the minimum requirement. These areas include emergency, day surgery / procedure, day wards, endoscopy, medical imaging and hospital-in-the-home (refer to definitions).
- Surveillance screening is not required for admission to non-inpatient units.

3.3 Haemodialysis Units

Includes in-centre, satellite and privately operated haemodialysis units in WA.

- IP&C strategies specific to haemodialysis units are described in Appendix 2.
- Haemodialysis patients are a known higher-risk group for VRE colonisation and infection. An individual risk assessment is to be completed for each VRE-positive haemodialysis patient to identify risk factors for transmission (refer page 11).
- Routine screening is to be performed on all haemodialysis patients (refer section 2.1.2)
- The most recent screening result must be made available to the receiving facility when patient transfers occur between haemodialysis units.

3.4 Ambulatory Care

- Implementation of standard precautions is the minimal requirement. This refers to health care provided as an outpatient or community based services and includes dental health services and specialty clinics.
- Surveillance screening is not required for admission to ambulatory care.

3.5 Residential Care and Rehabilitation Facilities

- Guidance on the management of VRE-positive residents in these facilities is provided in Appendix 3.
- Residents are often at risk for acquiring VRE due to frequent hospital visits, antibiotic use and long-term indwelling medical devices such as urinary catheters.
- In these HCFs it is not optimal to place restrictions on their mobilisation, socialisation or room allocation, however there is also a need to ensure appropriate IP&C occurs.
- Residents colonised or infected with VRE who have risk factors for transmission (page 11), or in whom basic personal hygiene practices may be compromised by cognitive or functional impairment, are more likely to contaminate the environment. It is essential that these facilities engage with their IP&C personnel to ensure an individual risk assessment is performed and appropriate management of the VRE-positive resident occurs.
- There should be a special emphasis placed on hand hygiene for all HCWs, family and visitors involved in the care of the residents. If the resident's cognitive state is impaired, HCWs and family caring for them must be responsible for their hand hygiene, especially after contact with colonised / infected sites or devices.

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5. Appendices

Transmission-based Contact Precautions

1. *Bed Management*

- Single, non-carpeted rooms with ensuite facilities are recommended. If preferred room accommodation is not available, contact the IP&C service.
- A clinical hand basin inside, or in close proximity to, the room is required.
- If there are two or more VRE-positive patients and no single rooms are available, cohorts can be established in consultation with the IP&C service.

2. *Room Preparation*

- Remove all non-essential equipment.
- Ensure impermeable mattress and pillow covers are intact.
- Charts are to be left outside the patient room (ensure confidentiality is maintained).
- Supplies of personal protective equipment (PPE) are to be available outside the room or in the ante room, if present.
- Signage advising of required precautions is to be evident outside the room.

3. *Hand Hygiene*

- All staff, patients, residents and visitors are to be advised (via signage) of the importance of performing hand hygiene. ABHR is to be available for use.
- All HCWs are to perform hand hygiene in accordance with the '5 Moments of hand hygiene' and in accordance with the requirements of donning and doffing PPE.
- Gloves are not a substitute for hand hygiene and improper use of gloves has been associated with VRE transmission.
- HCWs are to use an ABHR or antiseptic hand wash for all hand hygiene.

4. *Personal Protective Equipment*

- Contact precautions require the HCW to wear a gown and gloves prior to entering a room if contact with the patient or environment is anticipated.
- Disposable, long-sleeved, fluid resistant gowns are preferred. All gowns are for single use only and are not to be left hanging in the patient's room for use on subsequent occasions.
- When gloves are worn, avoid touching and therefore contaminating environmental surfaces e.g. light switches, door handles.
- Prior to leaving the patient's room, PPE is to be removed and hand hygiene performed.
- As per standard precautions, masks and eyewear are required whenever there is potential for exposure to blood and / or body fluids.

5. *Patient Equipment*

- Disposable, single-use equipment is to be used, whenever possible.
- Dedicate non-critical items to the patient's room e.g. stethoscope, commode.

- Minimal stocks of disposable items e.g. dressings, tapes, syringes, are to be stored in the room. On patient discharge, these items are to be discarded.
- Equipment that is designated reusable and required for use on other patients is to be cleaned with detergent and disinfected prior to reuse. Items requiring further reprocessing e.g. sterilisation, are processed as per routine procedures.

6. Environmental Cleaning

Persistence of environmental reservoirs of pathogens is usually related to a failure to follow recommended cleaning procedures rather than specific cleaning or disinfectant agents. For effective environmental disinfection, physical cleaning and thorough application of the disinfectant that allows for adequate contact time with the surfaces is required.

Chlorine-based disinfectants are recommended in this document; however, HCFs may choose to use other disinfectants with proven efficacy against VRE that are approved by the Therapeutic Goods Association (TGA).

- Cleaning regimens are to ensure the room is cleaned on a daily basis using detergent and a chlorine-based disinfectant. Increased frequency of cleaning is strongly recommended if the patient has risk factors for transmission (refer page 11).
- Cleaning regimens are to ensure thorough cleaning of all vertical and horizontal surfaces and room furnishings with particular attention given to bathroom and toilet facilities and frequently touched surfaces such as door handles, bed rails, lockers, over-bed tables, call bells, IV poles, telephones, and TV remote controls.
- When VRE-positive patients are cohorted, it is recommended shared bathrooms and toilet facilities are cleaned twice daily, and when required if environmental contamination occurs e.g. due to diarrhoea/incontinence with detergent and chlorine-based disinfectant.
- Disposable single-use cleaning equipment should be used. If re-useable equipment is used it is to be dedicated to the patients room e.g. mop bucket and cleaned and disinfected after each use. If re-useable mop heads are used they are to be bagged and sent for laundering at the completion of each use.
- Either a two-step clean, using a neutral detergent followed by the use of a chlorine-based disinfectant, or a one-step clean using a 2-in-1 product that contains detergent and a chlorine-based disinfectant, can be used.
- Chlorine-based solutions are to be utilised at a dilution of 1000ppm of sodium hypochlorite.
- On patient discharge:
 - any unused / unopened disposable medical items in the patients rooms are to be discarded and unused linen sent for laundering
 - patient bed screens (and window curtains, if fitted) are to be sent for laundering / dry cleaning and if disposable screens discarded.
 - a clean that utilises a detergent **and** a chlorine-based solution is to be used
 - the room can be used immediately after cleaning, once surfaces are dry.

7. Use of Disinfectants

- As disinfectants are inactivated by organic material, any visible soiling should be removed with paper towels prior to using a disinfectant.

- Information on how to prepare and use disinfectants and relevant safety data sheets (SDS) are to be available to cleaning staff.

8. Patient Transfers

- Internal transfers:
 - restrict transfers of VRE-positive patients within the hospital to those considered essential for patient management
 - notify receiving departments of patient's VRE status prior to transfer
 - there is no requirement to schedule VRE-positive patients last on daily operative / procedure lists, however, adequate time must be allowed for thorough cleaning of the environment and equipment following the procedure in accordance with the HCFs procedures.
- External transfers to private or public HCFs:
 - the transferring facility is to notify the receiving HCF prior to the transfer of VRE-positive patients or unscreened VRE contacts to ensure appropriate bed management
 - all relevant medical and nursing documentation accompanying the patient must clearly state details of the patient's VRE history and include their risk assessment for VRE transmission e.g. diarrhoea.

9. Standard Precautions

- Standard precautions apply to the management of linen (any unused items left in a room are not to be returned to general use), crockery and cutlery, waste disposal, laboratory specimens and care of the deceased.

10. Patient Discharge

- All VRE-positive patients are to be provided with education (both verbal and written) concerning VRE including the risk of transmission of VRE, and the importance of notifying health care providers of their status. (Appendix 4 and Appendix 5).
- It is recommended that acute HCFs with VRE contacts who are discharged prior to clearance screening being performed notify the patient of their status and the need for screening should they be readmitted to a HCF within the next 12 months (Appendix 6 MRO Contact Advisory letter).

11. Duration of Contact Precautions

- Precautions are to continue for the length of stay unless cleared or advised by the HCFs IP&C service.

12. Visitors

- Visitors are to be instructed to perform hand hygiene prior to entering, and on leaving, the patient's room. No protective clothing is required to be worn by visitors unless they are assisting with patient care. Visitors are not to provide personal care to other patients.

Management of VRE-Positive Patients in Haemodialysis Units

- Surveillance screening outlined in Section 2.1.2 is required to be undertaken by all WA haemodialysis units.

REQUIREMENT	ACTIONS	
Patient Placement	Does the Patient have Risk Factors for Transmission (Page 11) ?	
	No	Yes
	<ul style="list-style-type: none"> ▪ Open dialysis area ▪ Place clean sheet over dialysis chair ▪ Hand basin in close proximity 	<ul style="list-style-type: none"> ▪ Use either single room with ensuite or physically separate from other chairs / bays ▪ Hand basin in close proximity
	If multiple VRE-positive patients - cohort in adjoining bays and consider allocating to one nurse.	
Patient Scheduling	Allow adequate time for environmental and equipment cleaning following VRE-positive patients.	
Hand Hygiene	If hands are visibly soiled - wash with an antiseptic hand wash and running water; otherwise use an ABHR for all hand hygiene.	
Toilet Facility (Shared Use)	<p>If ensuite unavailable or unable to dedicate a toilet for a VRE- positive patient:</p> <ul style="list-style-type: none"> ▪ instruct patient to close toilet lid after use and prior to flushing to minimise environmental contamination by aerosols ▪ the toilet is to be cleaned and disinfected prior to use by other patients. 	
Environmental Cleaning	<p>Following discharge of a VRE-positive patient from the unit:</p> <ul style="list-style-type: none"> ▪ ensure any reusable patient equipment is cleaned and disinfected prior to reuse on another patient ▪ ensure dialysis chair / bed and all patient associated surfaces are disinfectant cleaned prior to use by another patient. 	

Management of VRE-Positive Residents in Residential Care and Rehabilitation Facilities

1. VRE screening

- Surveillance screening of residents who are admitted to a WA residential care facility (RCF) from a HCF outside of WA is not required.
- Surveillance screening of patients who are admitted to a WA rehabilitation facility is to be performed as per Section 2.1.1.
- Surveillance cultures may be indicated if residents are epidemiologically implicated in an outbreak, and then only as directed by the IP&C service providers.
- Facilities should maintain a surveillance record of the names of residents that are found to be colonised and / or infected with VRE
- Routine screening for the presence of VRE in residents is not required.

2. Management of the VRE-positive resident

- If the VRE-positive resident has no risk factors for transmission the resident can be managed with standard precautions.
- If VRE-positive residents are accommodated with residents who do not have VRE, there should be increased environmental cleaning, particularly of toilet facilities and frequently touched surfaces.
- It is recommended that VRE-positive residents do not share a room with other residents who have:
 - open wounds or decubitus ulcers
 - urinary catheters, feeding tubes or other invasive devices
 - another MRO e.g. methicillin-resistant *Staphylococcus aureus*.
- VRE-positive residents who have risk factors for transmission e.g. diarrhoea, incontinence, should preferably be placed in a single room with ensuite facilities and have a risk-assessment performed to determine the extent of transmission-based contact precautions that are required to minimise transmission of VRE to other residents.
- Transmission-based contact precautions and cleaning requirements are described in Appendix 1.
- Residents with VRE who have risk factors for transmission, may attend community activities, e.g. meals in the dining room or rehabilitation sessions, providing they are faecally continent or faeces is contained and colonised / infected sites or invasive devices are securely covered e.g. chronic wound, enterostomy site, urinary catheter and there is no leakage of any secretions / excretions / body fluids. These residents should not attend the hydrotherapy pool or spa bath.
- Prior to leaving the resident's room, staff should ensure that residents have washed their hands with soap and water or applied ABHR.
- Facilities are to ensure they have an antimicrobial stewardship program in place that promotes prudent use of antibiotics.
- When a VRE-positive resident requires transfer to another HCF, the receiving HCF must be notified of the resident's VRE status.

Vancomycin-resistant enterococci (VRE) Fact Sheet

Information for patients, families and visitors

What are vancomycin-resistant enterococci?

Enterococci are bacteria (germs) that commonly live in a person's bowel without causing illness. Sometimes enterococci can get into other parts of the body and cause an infection, most often in people whose ability to fight infections is low, such as people with cancer, those receiving dialysis or are in an intensive care unit. Vancomycin is an antibiotic used to treat infections caused by enterococci. When enterococci become resistant (meaning the antibiotics are no longer effective) to vancomycin, they are called **Vancomycin-Resistant Enterococci (VRE)**. There are other antibiotics that can be used to treat VRE infections.

People who carry VRE are described as being colonised. They have no symptoms and experience no ill-effects. The VRE live harmlessly in the bowel or on the skin. However, as VRE can cause serious infections in very sick patients, it is important to prevent VRE from spreading to these patients within our hospitals.

VRE is a reportable condition in Western Australia (WA). This means that when a laboratory identifies VRE it must be reported to the Department of Health. The Department closely monitors the number of VRE cases occurring in WA.

How is VRE spread?

VRE is usually spread from person to person through direct contact with another person who is colonised or infected with VRE, for example by contaminated hands. It can also spread by contact with contaminated items such as patient equipment or environmental surfaces. It is not spread through the air.

How can the spread of VRE in hospitals be prevented?

It is important to stop VRE from spreading to other patients in the hospital. All hospitals have infection prevention and control policies in place to minimise this. Prevention depends on good hand hygiene practices amongst staff, visitors and patients and ensuring thorough cleaning of the hospital.

If a patient is known to have VRE and requires an overnight stay in hospital, they will often be placed in a single room, and staff may wear gloves and gowns to reduce the risk of staff picking up VRE and transferring it to other patients. When a patient is identified with VRE, hospital staff place an alert on the hospital's computer system. When a person with VRE is readmitted to hospital, this alerts the staff and ensures all appropriate precautions are taken.

Will my medical treatment be different because I have VRE?

No. Having VRE will not interfere with your medical treatment or care. Having VRE does not prevent you from being admitted to other healthcare facilities, such as a private hospital or a residential care facility.

Can I get rid of VRE?

There is no vaccination available to prevent you from acquiring VRE or treatment to eliminate VRE from your body. However, if more than 4 years has passed since your last positive specimen, your status may be reviewed and the alert possibly removed from the hospital's computer system.

What should I do if I require admission to hospital?

All WA public hospitals use and access the same electronic patient information system, so that if an alert for VRE is placed on you in one public hospital, all other public hospitals can see this information. Private hospitals have their own computer systems and information is not shared between private and public hospitals. If you are readmitted to the same private hospital, they will know you have had VRE in the past, however, if you are admitted to a different private hospital, to a public hospital or a hospital outside of WA you will need to let the staff know on arrival so special precautions can be put in place. This assists them in providing the appropriate care for you and ensure the correct antibiotics are prescribed if required.

What about my family and visitors?

It is quite safe for your family and friends to visit you, including pregnant women, children and babies. Visitors should always wash their hands before entering your room and again when they leave. You, your family or visitors should not assist other patients with personal care.

What happens when I go home?

At home, continue with normal hygiene practices, such as washing hands before eating or after going to the toilet and always make sure any wounds are covered. VRE can survive for long periods on uncleaned environmental surfaces e.g. toilets, table tops and chairs, so it is important to regularly clean your household.

Where can I find more information on VRE?

Ask to speak with the Infection Prevention and Control Nurse at your hospital or your GP.

MRO Advisory Letter Positive Patient



Government of **Western Australia**
Department of **Health**
<Insert Facility Name>

<insert facility logo>

< Patient Name>
<Address line 1>
<Address line 2>
<Date>

Dear <name>

You are receiving this letter because a laboratory test taken during your recent admission to <name> hospital showed that you are carrying a bacterium (or germs) called <MRO> that requires special management.

This bacterium is known to be resistant to a number of antibiotics (this means the antibiotics are no longer effective) and it is known to spread easily between patients within hospitals. When a bacterium becomes resistant to antibiotics we call this a multi-resistant organism or MRO. We have enclosed a fact sheet on < MRO> to provide you with more information.

Because it is necessary to take extra care to prevent the spread of these bacteria in hospital, information about your MRO has been stored on the hospital computer system which is confidential and securely protected. If you are readmitted to hospital, the staff see this information and make sure correct measures are taken to protect you and other patients in the hospital. This means you may be cared for in a single room and staff may wear gowns or aprons and gloves when caring for you. This helps prevent the spread of these MROs to others.

As the computer system used in WA hospitals is not always the same, if you are admitted to a different hospital, the staff may not be able to see this information. It is important that you tell the staff at any hospital you are admitted to that you have <MRO> and you should take this letter with you to show them.

Finally, we would like to reassure you that having this MRO should not be a problem for you or your family at home, or in the workplace, and you do not have to do anything differently. If you have any further concerns please contact < name or service> on <telephone> between <hours of access>

Thank you for taking the time to read this information.

Yours sincerely

<name>
<position>
<department>

MRO Advisory Letter Contact Patient



Government of **Western Australia**
 Department of **Health**
<Insert Facility Name>

<insert facility logo>

< Patient Name>
<Address line 1>
<Address line 2>
<Date>

Dear <name>

You are receiving this letter because our records show that during your recent admission to **<name>** hospital, you have been in contact (shared a room or bathroom) with another patient who was identified as carrying a bacterium or germ called **< MRO>** that requires special management. This does not mean you have this bacterium, however, on your next visit to hospital, you should be screened (have swabs taken) just to make sure.

This bacterium is known to be resistant to a number of antibiotics (this means the antibiotics are no longer effective) and it is known to spread easily between patients within hospitals. When a bacterium becomes resistant to antibiotics we call this a multi-resistant organism or MRO. We have enclosed a fact sheet on **<MRO>** to provide you with more information.

Because it is necessary to take extra care to prevent the spread of these bacteria in hospital, information that you have been in contact with a MRO has been stored on the hospital computer system which is confidential and securely protected. If you are readmitted to hospital, the staff see this information and make sure you are screened for this MRO.

As there is not a standardised computer system across all WA hospitals, if you are admitted to a different hospital, the staff may not be able to see this information. It is important that you tell the staff at any hospital that you have been in contact with **< MRO>** and you should take this letter with you to show them.

Finally, we would like to reassure you that having been in contact with <insert MRO> should not be a problem for you or your family at home, or in the workplace and you do not have to do anything differently. If you have any further concerns please contact **< name or service>** on **<telephone>** between **<hours of access>**

Thank you for taking the time to read this information.

Yours sincerely

<name>
<position>
<department>.



This document can be made available in alternative formats on request for a person with a disability.

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