Multidrug Resistant Organisms (MDROs) Policy

V2.0

Document reference code: IC/021/24

This is a joint policy between Cornwall Partnership NHS Foundation Trust and Royal Cornwall Hospitals NHS Trust.

Purpose: To provide staff with the necessary information and knowledge to effectively reduce the risk of MDRO's and to put in place systems to control and contain cases of MDRO's as and when they occur. To reduce the levels of AmpC beta-lactamase (AmpC)/ Extended Spectrum Beta Lactamase (ESBL) and Glycopeptide Resistant Enterococci (GRE).

Target audience: Trust staff and patients.

Document author and role: Graham Kaye, Senior Infection Prevention and Control (IPAC) Specialist Practitioner.

Document author contact details: 01872 254969.

Document definition: Policy.

Supporting committee and chairperson: Infection Prevention and Control Committee, Louise Dickinson.

Executive director responsible for the policy: Chief Nursing Officer.

Freedom of information: Can be released under the Freedom of Information Act 2000

CFT Document section: Safety and Risk: Infection Control

Audience:

☒ Cornwall Partnership NHS Foundation Trust.

☒ Royal Cornwall Hospitals NHS Trust.

Key words: Glycopeptides, AMP C, ESBL, GRE, MDRO Resistance, Enterococcus.

Approval process

Approved at: Infection Prevention and Control Committee.

Date approved: 28 August 2024.

Executive approval: Louise Dickinson, Director of Infection Prevention and Control.

Date approved by: 28 August 2024.

RCHT General manager confirming approval processes: Joanne Taylor, Deputy DIPC.

RCHT Governance lead confirming approval process: Joanne Taylor, Deputy DIPC.

Review date: 1 April 2027.

Expiry date: 1 October 2027.

Publication location:

☒ Internet and intranet ☐ Intranet only

RCHT Document Library folder and sub-folder: Clinical / Infection Prevention and Control.

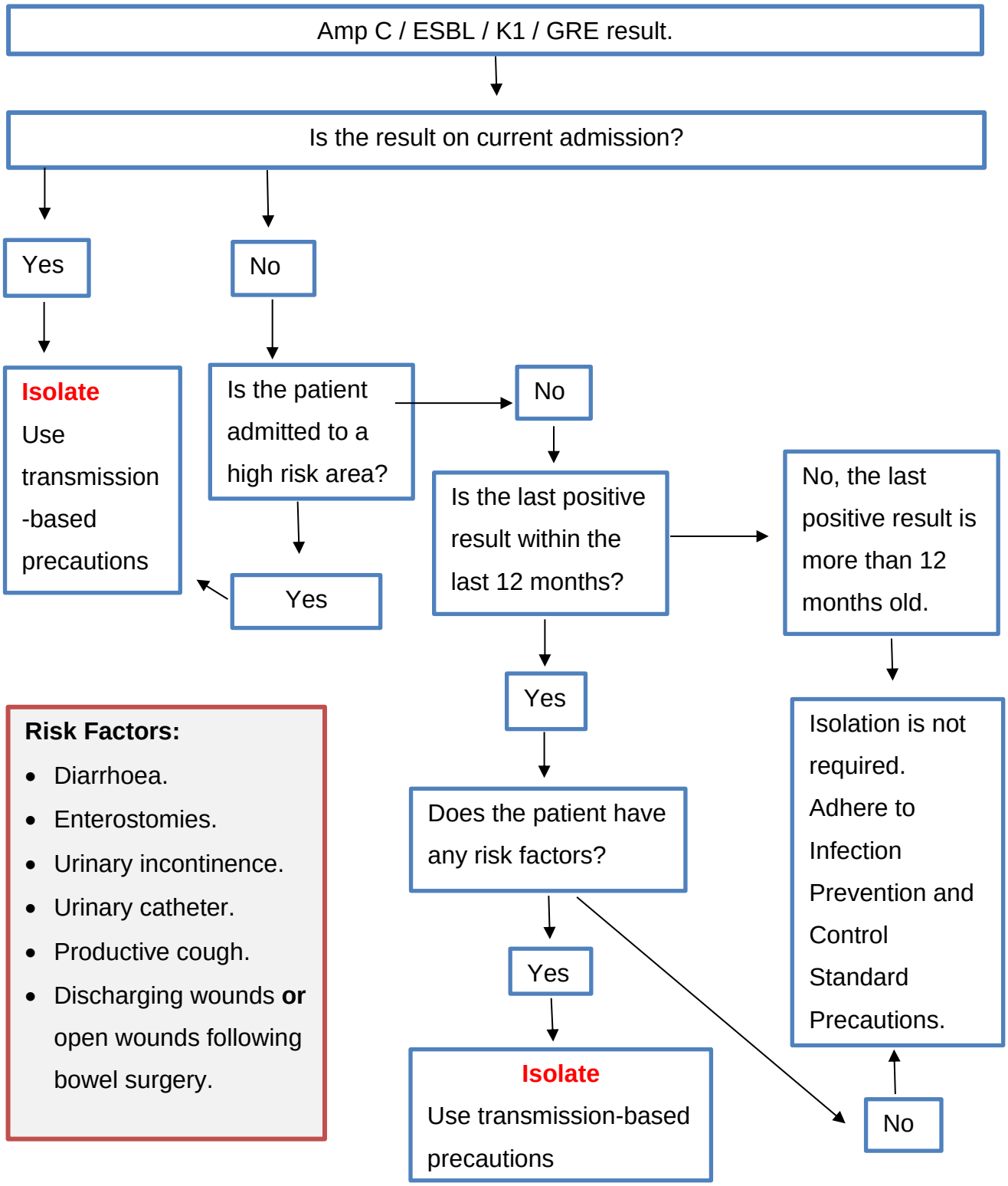
Version control

Version	Date	Author and/or reviewer	Section	Changes (key points)
V1.0	21/05/2021	Sarah Budden, IPAC Lead Nurse.	All.	Full review and merged RCHT and CFT policies.
V2.0	19/06/2024	Graham Kaye, Senior IPAC Specialist Practitioner.	All.	Full review. Reformatted to current joint template. Section 1 reworded to reflect practice. 5.1.2 Alerts process updated. 5.2 reworded and amended. 5.2.1 amended to reflect current process. Wording removed for more user-friendly table. 5.2.2 updated with correct advice. 5.2.3 cleaning advice updated. 5.2.5 upgraded from standard precautions to transmission based. Terminal clean procedure and portering staff guidance updated. 5.3 visitor guidance updated. 5.7 Increase in the number of cases of GRE removed as not applicable. Section 9 updated to reflect current Patient Safety Review processes.

This document replaces: Multidrug Resistant Organisms (MDROs) Policy V1.0.

Summary

This flow chart outlines the process for caring for patients colonised or infected with multidrug resistant organisms (MDROs) e.g.: AmpC/Extended Spectrum Beta-Lactamase/K1 Producing Organisms (ESBL) and suspected and confirmed cases of Glycopeptide Resistant Enterococci (GRE).



Contents

Data Protection Act 2018 (General Data Protection Regulation Legislation UK)

The Trusts have a duty under the Data Protection Act 2018 and General Data Protection Regulations 2016/679 to ensure that there is a valid legal basis to process personal and sensitive data. The legal basis for processing must be identified and documented before the processing begins. In many cases we may need consent; this must be explicit, informed, and documented. We cannot rely on opt out; it must be opted in.

Data Protection Act 2018 and General Data Protection Regulations 2016/679 is applicable to all staff; this includes those working as contractors and providers of services.

For more information about your obligations under the Data Protection Act 2018 and General Data Protection Regulations 2016/679, contact the Information Governance team.

- Cornwall Partnership NHS Foundation Trust: Email cpn-tr.infogov@nhs.net
- Royal Cornwall Hospitals NHS Trust: Email rch-tr.infogov@nhs.net

1. Introduction

1.1. The prevalence of multidrug-resistant organisms (MDROs) has increased continuously over the past few years.

AmpC beta-lactamases and extended-spectrum beta-lactamases (ESBL's) are enzymes produced by some bacteria that confer resistance to extended spectrum cephalosporins e.g. ceftazidime and cefotaxime. They can also be resistant to penicillin's and are often linked with resistance to a number of other antibiotics thus limiting the choice for treatment. ESBLs were first described in the 1980s and first reported in the UK in 2000 affecting hospital Klebsiella, a type of gram-negative bacteria.

The majority of patients with AmpC or ESBL will have no obvious clinical infection and are colonised in a site such as the gut or have asymptomatic bacteriuria. However symptomatic infection, including septicaemia can occur.

1.2. Enterococci are gram positive bacteria that are commonly found in the bowel of humans and animals. They rarely cause infection. They are occasionally responsible for urinary tract infections (UTIs), often related to the use of indwelling catheters, and more rarely cholangitis, endocarditis and gut-related sepsis. Two main types are associated with human diseases: Enterococcus faecalis and Enterococcus faecium. Enterococcus faecium is more common to cause bacteremic infections.

1.3. Glycopeptide resistant enterococci (GRE) are resistant to vancomycin, usually teicoplanin and often other antibiotics. During the mid-1980's enterococci resistant to vancomycin emerged and therefore often termed as Vancomycin Resistant Enterococci (VRE). GRE usually tend to cause colonisation rather than infection but when they cause serious infection, they are difficult to treat because of less therapeutic options.

1.4. This version supersedes any previous versions of this document.

2. Scope

This policy applies to all staff working in the Royal Cornwall Hospitals NHS Trust (RCHT) and the Cornwall Partnership NHS Foundation Trust (CFT).

3. Definitions and glossary

- Enterococci – gram positive bacteria normally residing in the human gut.
- Glycopeptides – these are antibiotics which inhibit cell wall synthesis. Current drugs in this class include vancomycin and teicoplanin.
- Resistant organism – one that will not be inhibited or killed by a normal dosage of an antimicrobial agent.

4. Ownership and responsibilities

4.1. Role of the Chief Executive

- Ensure that infection prevention and control is a core part of clinical governance and patient safety programmes.
- Promote compliance with infection prevention and control policies in order to ensure low levels of healthcare associated infections.

4.2. Role of Director of Infection Prevention and Control

- Oversee infection control policies and their implementation.
- Responsible for infection prevention and control team.
- Report directly to the Chief Executive and Trust Board.
- Challenge inappropriate hygiene practice and antibiotic prescribing.
- Assess impact of plans/policies on infection prevention and control.
- Member of clinical governance and patient safety structures.

4.3. Role of Infection Prevention and Control Team

- Provide advice and education on infection control special precautions for a patient who is found to have MDROs.
- To assess the risk of infection.
- Refer to microbiologist where appropriate.
- Promote good practice and challenge poor practice.
- Assist in the investigation of MDRO organism bacteraemia and outbreaks.
- Review and update MDRO policy.

4.4. Role of the Managers/Team and Locality Leaders/Matrons/Ward Leaders/Consultants

- Must establish a cleanliness culture across their units/areas and promote compliance with infection control guidelines.
- Encourage a culture of good hand hygiene practice and lead by example.
- Ensure compliance with this policy.
- Must ensure that resources are available for health care workers to undertake effective standard and isolation precautions.
- Provide training in the use of this policy as relevant to work situations.
- Representation from the area at the Infection Prevention Control Committee and the Infection Prevention and Control Steering Group where infection control concerns, improvement sand guidelines are discussed.

4.5. Role of the Antimicrobial Pharmacist

- Sourcing non-formulary treatments if required.
- Ensuring adequate stock levels of antimicrobials.

4.6. Role of the Infection Prevention and Control Committee

- To approve this policy.

- A group for discussing any concerns in incidence/prevalence of MDRO's.
- Reviewing related reports.

4.7. Role of Individual Staff

- Must be familiar with and adhere to this policy to reduce the risk of cross-infection.
- Promote good practice and challenge poor practice.
- Refer to the infection prevention and control team if unable to follow the policy guidelines.
- Keep their patient informed of their MDROs status and provide information as necessary.
- Contribute to and participate in root cause analysis of MDROs bacteraemia and outbreaks.

5. Standards and practice

5.1. Identification of a patient with MDROs.

5.1.1. MDROs are diagnosed from a clinical specimen sent to the Microbiology laboratory. It is most often found in blood, wound swabs, stool or urine samples.

A newly diagnosed patient will be "flagged" on PAS and on the patients electronic care record by the IPAC team. Health records will be informed by IPAC, and the medical notes amended.

5.1.2. The result and advice, based on policy, will be documented on the patient electronic care record.

5.1.3. The micro guide should be consulted for advice on antibiotic treatment. Further advice may be sought from the Consultant Microbiologists.

5.2. Key infection control principles for the management of patients with MDRO colonisation/infection.

It is important to control the emergence and spread of MDROs because:

- Of the limited therapeutic options.
- There is a growing high-risk in-patient population.
- Of the potential for transfer of resistance mechanisms to other organisms.

5.2.1. **Isolation of the patient.**

The following patients must be considered for high priority isolation.	
MDRO isolated on current admission.	**All patients.**
Known MDROs positive in any previous admissions.	Admitting to high-risk areas i.e. Intensive Care Unit, High Dependency Unit, Haematology, Oncology and Renal Unit.
Patients with a positive result within the last 12 months who require admission to a low-risk area will also require high priority isolation if they have:	Diarrhoea* / Enterostomies *Until 72 hours asymptomatic.
	Urinary catheter / Incontinence with MDRO. Colonization of urinary tract.
	Productive cough with known respiratory tract. MDRO colonisation.
	Discharging wounds or open wounds following bowel surgery.

When isolation is not possible patients should be placed away from any sinks and all attempts should be made to avoid any contact of MDRO positive patients with patients having risk factors this would include:

- Patients on broad spectrum antibiotics.
- Immunosuppressed patients.

- Patients with a central venous catheter.
- Patients requiring renal dialysis.
- Patients who have had recent transplant or implant surgery.
- Patients with urinary catheters or open wounds.

5.2.2. **Personal Protective Equipment (PPE) and Hand hygiene.**

Effective hand decontamination is the most important measure to prevent and control the spread of MDROs.

Standard infection control precautions (SICPs) may be insufficient to prevent cross transmission of specific infectious agents and additional precautions called “Transmission Based Precautions” (TBP) may be required when caring for patients with known / suspected infection or colonisation. Transmission Based Precautions are categorised by the route of transmission of infectious agents. Contact precautions are generally employed when dealing with MDROs.

Hand hygiene must be performed before putting on and after removal of PPE. PPE would include but is not limited to gloves and apron. The National infection prevention and control manual for England or IPAC should be consulted if advise is sought.

5.2.3. **Environmental cleaning.**

- During the care of a patient with MDROs, the clinical environment may become heavily contaminated and can persist for months if not properly cleaned and decontaminated.
- For organisms that are carried in the gut (e.g. GRE, ESBLs/Amp Cs) the patient should have dedicated toilet facilities.
- Toilets should be cleaned after every use with a sanitising wipe. The environment should be routinely cleaned in accordance with the National Cleaning Standards

5.2.3.1. **Enhanced cleaning:**

Phones, pagers, stethoscopes, blood pressure cuffs, keyboards and other high touch surfaces require enhanced cleaning and decontamination while caring for MDRO positive patients.

Clean the environment, fixtures and fittings with products in line with trust policy twice daily.

Clean equipment with appropriate product after patient use.

5.2.3.2. **Terminal cleaning:**

After discharge/transfer of MDRO positive patients, the patients bed space/isolation room must be terminally cleaned, including curtain change, to reduce environmental contamination.

5.2.4. **Disposal of linen and waste.**

- Appropriate personal protective equipment must be used, and hand decontamination must always be performed after disposal of waste and removal of gloves.
- Care must be taken not to shake linen or hold it close to uniform.
- All used linen must be placed in a hot water-soluble bag (refer to linen policy).
- All waste must be disposed of appropriately as clinical waste.

5.2.5. **Transfer of patients with MDROs.**

- If a patient with a MDRO requires investigations in another department e.g. X-ray, the department they are visiting should be informed so that the staff can take appropriate precautions. Application of Transmission

based precautions with particular attention to hand hygiene should be employed.

- Room fixtures and fittings to be terminally cleaned using in line with the trust cleaning policy. Equipment to be cleaned in line with trust policy and the manufactures instructions.
- Portering staff are required to wear the same PPE as clinical staff providing direct care. (See the national infection prevention and control manual).

5.3. Visitors and relatives.

When patients have visitors/relatives' gloves and aprons are not required unless they are helping with nursing care or visiting other patients in the hospital on the same day. Visitors must decontaminate their hand on leaving the ward.

5.4. Discharge of patient.

5.4.1. It is the responsibility of the medical staff caring for the patient to ensure that the receiving hospital/healthcare setting is aware of the MDROs diagnosis.

5.4.2. The ward staff must ensure that the receiving hospital/healthcare setting is aware of the precautions that have been in place on initial referral.

5.4.3. N.B. Studies have shown that rectal colonisation with GRE should not be a barrier to acceptance of a patient in a nursing home as long as nursing home staff understand basic infection prevention and control practices.

5.5. Screening and decolonisation.

5.5.1. Routine screening for MDROs is not normally performed unless specifically advised by IPAC team or microbiologist. There is no effective decolonisation. Once positive, MDROs can be carried in the gut for an indefinite period.

5.5.2. Regular Chlorhexidine body wash is effective to reduce the GRE skin colonisation and is recommended in high-risk areas i.e. Haematology, Oncology and Critical Care.

5.6. Discontinuation of Infection Control Special Precautions.

Carriage of MDROs can be prolonged and clearance is difficult to establish. Infection control special precautions must not be discontinued without the approval of the IPAC team.

5.7. Periods of increased incidence.

If two or more cases of any MDRO occur within one month, on the same ward or within the same time and space the IPAC team will:

- Visit the ward to inspect standards of cleanliness and, if necessary, undertake environmental sampling.
- Isolates will be sent for typing if available.
- Ensure patients who have extra-intestinal colonisation or infection with GRE are isolated.
- Remind ward staff of the importance of careful and regular hand decontamination.
- Request daily enhanced cleaning of the whole ward.

6. Related legislation, national and local guidance

Climo MW, Sepkowitz KA, Zuccotti G et al. (2009) The effect of daily bathing with chlorhexidine on the acquisition of methicillin-resistant Staphylococcus aureus, vancomycin-resistant Enterococcus, and healthcare-associated bloodstream infections: results of a quasi-experimental multicentre trial. Critical Care Medicine. Jun; 37(6):1858-65.

Clinical Microbiology 2011 Aug: 49(8): 2924-2932 doi: 10.1128/JCM.00091-11

PMCID: PMC3147753. Detection of AmpC Beta-Lactamase in Escherichia coli: Comparison of Three Phenotypic Confirmation Assays and Genetic Analysis. S.Peter-Getzlaff, S.Polsfuss, M.Poledica, M.Hombach, J.Giger, E.C.Bottger, R.Zbinden and G.V.Bloemberg.

Cookson BD, Macrae MB, Barrett SP et al. (2005). Guidelines for the control of glycopeptide-resistant enterococci in hospitals. Journal of Hospital Infection. 2006 Jan vol 62(1) 6-21. Epub Nov 28.

Lennie P. G. Derde Mirjam J. D. Dautzenberg Marc J. M. Bonten (2012) Chlorhexidine body washing to control Antimicrobial-resistant bacteria in intensive care units: a systematic review. Intensive Care Med 38:931–939.

Lin MY, Hayden MK. (2010) Methicillin-resistant Staphylococcus aureus and vancomycin-resistant enterococcus: recognition and prevention in intensive care units. Crit Care Med. Aug; 38 (8 Suppl):S335-44

Links to key external standards:

- Department of Health (2009) The Health and Social Care Act. DoH London.

- Department of Health (2004) National Glycopeptide-Resistant Enterococcal Bacteraemia Surveillance Working Group Report to the Department of Health. London: DH.

- Public Health England. Extended-spectrum beta-lactamases (ESBLs): guidance, data, analysis https://www.gov.uk/government/collections/extended-spectrum-beta-lactamases-esbls-guidance-data-analysis

- Public Health England. Enterococcus species and glycopeptide-resistant enterococci (GRE) https://www.gov.uk/guidance/enterococcus-species-and-glycopeptide-resistant-enterococci-greNHS England (2024) National infection prevention and control manual for England

7. Training requirements

Managers/Team and Locality Leaders/Matrons/Ward Leaders/Consultants to provide training in the use of this policy as relevant to work situations.

8. Implementation

- This policy will be included in the Trust's Document Library.
- This policy will be circulated to all Link Practitioners, Ward Leaders, Matrons and Clinical Directors, Area Directors and Team Leads via trust communications.

Each Care Group/locality is responsible for the full implementation of this policy and will ensure it is accessible to all staff.

9. Document Monitoring arrangements.

As a minimum, detail the arrangements for the following:

- monitoring arrangements for compliance and effectiveness
- responsibilities for conducting the monitoring or audit.
- methodology to be used for monitoring and audit (document review)
- frequency of monitoring and audit
- process for reviewing results and ensuring improvements in performance occur.

Information category	**Detail of process and methodology for monitoring compliance**
Element to be monitored	Compliance with Standards and Practice.
Lead	Director of Infection Prevention and Control (DIPC).

Information category	Detail of process and methodology for monitoring compliance
Tool	In the event of a case of MDRO Bacteraemia occurring, incident to be reported on the incident reporting system. An appropriate and proportionate patient safety response will follow.
Frequency	As each case occurs.
Reporting arrangements	Themes and learning to be presented at the Infection Prevention and Control Steering Group.
Acting on recommendations and lead(s)	Infection Prevention and Control Committee to monitor progress on actions.
Change in practice and lessons to be shared	Required changes to practice will be identified and actioned within a month. The ward manager/matron will take each change forward where appropriate. Lessons will be shared with all the relevant stakeholders.

10. Updating and review

This policy will be reviewed at least every 3 years by the Infection Prevention and Control Department, or more frequently if considered necessary.

11. Equality and diversity

This document complies with the Cornwall Partnership NHS Foundation Trust and Royal Cornwall Hospitals NHS Trust equality and diversity statements. The statements can be found in the RCHT Equality Diversity And Inclusion Policy and CFT Equality, Diversity and Inclusion Statement.

The initial equality impact assessment screening form is at appendix 1.

12. Appendix 1: Equality Impact assessment Form

Title of policy or document for assessment: Multidrug Resistant Organisms (MDROs) Policy V2.0.

Document library section: Clinical / Infection Prevention and Control.

Is this a new or existing document? Existing

Date of assessment: 20 June 2024

Person responsible for the assessment: Graham Kaye, Senior IPAC Specialist Practitioner.

What is the main purpose of the document?
To provide staff with the necessary information and knowledge to effectively reduce the risk of MDRO's introduction to the Trust, and to put in place systems to control and contain cases of MDRO's as and when they occur. To reduce the levels of Amp C/ ESBL and GRE.

Who is affected by the document?

☒ Staff ☒ Patients ☐ Visitors ☐ Carers ☐ Other ☐ All

The document aims to improve access, experience and outcomes for all groups protected by the Equality Act 2010.

Concerns

Are there concerns that the procedural document could have a differential impact on the following areas?

If a negative impact has been identified, please complete a full EIA by contacting the Equality, Diversity, and Inclusion Team. For RCHT please contact rcht.inclusion@nhs.net and for CFT please contact cft.inclusion@nhs.net

Concern area	Response	If yes, what existing evidence (either presumed or otherwise) do you have for this?
Age	☐ Yes ☒ No	
Disability	☐ Yes ☒ No	
Sex	☐ Yes ☒ No	
Gender reassignment	☐ Yes ☒ No	
Pregnancy and maternity	☐ Yes ☒ No	
Race	☐ Yes ☒ No	
Religion and belief	☐ Yes ☒ No	
Sexual orientation	☐ Yes ☒ No	
Marriage and civil partnership	☐ Yes ☒ No	
Groups at risk of stigma or social exclusion such as offenders or homeless people	☐ Yes ☒ No	
Human rights	☐ Yes ☒ No	

Are there any associated objectives of the document? If yes, what existing evidence (either presumed or otherwise) do you have for this?

No.

Signature of person completing the equality impact assessment:

Name: Graham Kaye, Senior IPAC Specialist Practitioner.

Date: 22 July 2024