Trust Policy	Worcestershire Acute Hospitals NHS Trust

Policy for the Management of Carbapenemase-Producing Enterobacterales (CPE)

Department / Service:	Infection Prevention and Control
Originator:	Lara Bailey/Eve Neale – Infection Prevention and Control
Accountable Director:	Sarah Shingler – Director of Infection Prevention and Control
Approved by:	
Date of approval:	1st February 2024
First Revision Due:	1st February 2027
Target Organisation(s)	Worcestershire Acute Hospitals NHS Trust
Target Departments	All healthcare settings accessed by patients
Target staff categories	All healthcare staff

Policy Overview:

This policy provides guidance reflecting the Framework of Actions to contain carbapenemase-producing Enterobacterales (CPE) (2022) which sets out actions to manage the care of patients who have either been a contact of someone who is known to be colonised or infected with a CPE, are colonised or have an infection with a CPE or are being admitted from areas where there is deemed a risk of CPE colonisation and therefore screening is indicated.

This policy also provides guidance on practices to ensure that early management of a suspected/confirmed case prevents ongoing transmission and ensure measures are implemented promptly to minimise risk of spread from confirmed positive cases.

A quick reference guide is also contained within this policy.

Latest Amendments to this policy:

Document updated to reflect guidance contained within the Framework of Actions (2022)
07/03/2024 See Version Control (15.5) for amendment

1. Introduction

This policy focuses on carbapenemase-producing Enterobacterales (CPE); these organisms spread rapidly in healthcare settings and lead to poor clinical outcomes because of limited therapeutic options. The increased incidence of CPE has significant cost and operational implications for healthcare providers.

This policy sets out a range of measures that if implemented well, will minimise the impact of CPE. These include:

- active patient admission screening of risk groups
- rapid detection of patients colonised or infected with CPE, with appropriate surveillance systems to enable ongoing monitoring.
- consistent implementation of infection prevention and control practices and contact precautions.
- minimisation of CPE reservoirs by effective environmental cleaning and decontamination
- antimicrobial stewardship programmes to minimise inappropriate use of broad-spectrum antibiotics, including carbapenems.
- optimised laboratory methods to detect carbapenemase-producing Gram-negative bacteria, including Enterobacterales.
- prompt recognition of outbreaks to enable effective management.
- organisational ownership to support the implementation of this framework.

2. Scope of this document

This policy is applicable to all staff employed by or within Worcestershire Acute Hospitals NHS Trust (WAHT) and all others undertaking work (clinical or non-clinical) whilst on Trust premises, such as volunteers and external contractors.

It sets out to provide practical advice for all healthcare staff and other staff who come into patient contact or work in patient settings. The purpose being to promote prompt identification, appropriate management and actions that minimise and control CPE.

3. Definitions

Carbapenemases	Enzymes (such as KPC, OXA-48-like, NDM and VIM) produced by some bacteria which cause destruction of the carbapenem antibiotics, resulting in resistance.
Carbapenems	A group of powerful antibiotics use to treat severe infections. They include: meropenem, ertapenem and imipenem.
Close Contact	A person living in the same house; sharing the same sleeping space (room or hospital bay); a sexual partner; utilising the same toileting or bathing facilities whilst in healthcare.
Colonisation	The presence of micro-organisms (such as bacteria) living harmlessly on the skin or within the bowel and causing no signs or symptoms of infection.
Decontamination	The processes required to remove infection risk; the elements within it are context dependent. For medical devices within the context of CPE, decontamination will be either cleaning plus disinfection or cleaning, disinfection, and sterilization. For the environment in the context of CPE, it would be cleaning and disinfection of items with staff or patient contact.
Enterobacterales	A group of bacteria that usually live harmlessly in the gut of humans (and animals). They include *Escherichia coli (E. coli), Klebsiella* spp., *Enterobacter* spp.
Frequently touched surfaces	Surfaces that are touched frequently throughout the day by various people; surfaces include but are not limited to – bedframes, lamps, bedrails, bedside tables, IV poles, BP cuffs, Computer keyboards, telephones.
High-Risk for Colonisation/Infection with CPE	Patients with/who: Have a history of an overnight stay in <u>any</u> hospital in the last 12 months including abroad. Excluding Worcester Acute Hospitals. Previously identified as CPE positive Have had multiple hospital admissions/treatments e.g., for dialysis, cancer chemotherapy in the last 12 months. A close contact of CPE Have been admitted into augmented care or high-risk units. Recent exposure to broad-spectrum antibiotic courses within their last or current hospital stay. Patients who have a current or recent admission to a CPE outbreak ward.
Infection	The presence of micro-organisms (such as bacteria) in the body causing adverse signs or symptoms.
Laboratory confirmed	Laboratory confirmation of CPE infection and/or

case	colonisation during this admission episode or confirmed at a transferring healthcare facility (UK only).

4. Responsibility and Duties

All staff must be aware of the following practices:

- Screening – patients and patient contacts where clinically indicated.
- The provision of single rooms with ensuite facilities (or designated commode/toilet if no ensuite) with designated facilities for personal hygiene
- Knowledge of actions linked to patient movement/transfer/discharge.
- Timely communications with patients, visitors/carers, and colleagues to ensure appropriate precautions and knowledge.

Staff must ensure that:

- Training/instruction has been received to ensure compliance with this policy.
- Their manager is informed if they are unable to follow this policy or if a problem with non-compliance with this policy is identified.
- Seek the advice of the Infection Prevention and Control Team (IPCT) if they are unable to follow this policy.

An overview of specific responsibilities is detailed below:

The Trust Board is responsible for minimizing the risk of infection to all patients, staff, visitors, and others using its sites or services by all necessary systems and processes.

The Chief Executive has ultimate responsibility:

- The implementation and monitoring of policies used in the Trust.
- Ensuring sufficient resources are made available to facilitate the prevention and control of healthcare associated infections; this responsibility may be delegated.

The Director of Nursing, (Director with responsibility for Infection Prevention and Control (DIPC)) will take the lead responsibility for:

- The development and implementation of this policy supported by the IPCT.
- Challenging knowledge and practice to enhance compliance across the Trust.
- Providing assurance to the board that systems and processes are in place to ensure compliance with agreed standards.
- Ensuring that cases are appropriately reviewed through Trust Infection Prevention and Control Committee (TIPCC)

The Infection Prevention and Control Team (IPCT) are responsible for supporting staff in the implementation of this policy. This will include:

- Informing wards when a new colonised or infected patient is identified and advising on the management of the patient when required.
- Assisting with risk assessment regarding isolation priorities and ongoing management of cases
- Investigating clusters of cases and managing outbreaks where they occur

- Advising on cleaning and decontamination requirements and undertaking environmental swabbing if indicated
- Promoting appropriate communication by provision of patient information to contacts or CPE positive patients. For CPE positive cases, communication to include the notification of positive result to GP. Include CPE status on the discharge summary if patient has been screened during admission.
- Ensuring that the policy is implemented and monitored throughout the Trust with areas of concern escalated.
- Ensuring the policy is updated to reflect any changes to national or local guidelines.
- Providing education and advice on the management of CPE patients within the organisation

Clinical Directors, Divisional Directors and Divisional Directors of Nursing are responsible for:

- Instigating action to ensure the successful implementation of the policy within their areas of control.
- Promoting awareness on CPEs
- Ensuring standard infection prevention and control practices are consistently implemented facilitating the provision of clean, safe care.

Divisional Matrons are responsible for:

- Day to day implementation of this policy; assistance to monitoring compliance.
- Ensuring all staff are aware of their roles and responsibilities linked to CPE.
- Ensuring staff have received sufficient training and/or are competent to implement the policy and up to date with mandatory IPC training.
- Ensuring standard infection prevention and control practices are consistently implemented facilitating the provision of clean, safe care.

Senior Clinical staff (Medical and Nursing) are responsible for:

- Provision of guidance to relevant staff to ensure the taking of an effective admission history and recognition of patients who meet the criteria for a suspected or laboratory confirmed case.
- Ensuring appropriate communication with colleagues to ensure on transfer/discharge to another healthcare setting they are aware of a confirmed case (note this may be a GP if discharged home)
- Day to day implementation of this policy
- Ensuring all staff are aware of their roles and responsibilities linked to CPE.
- Ensuring standard infection prevention and control practices are consistently implemented facilitating the provision of clean, safe care.
- Compliance with and promotion of antimicrobial stewardship activities and antibiotic prescribing guidelines including the review of treatment and stopping of antibiotics promptly when no longer required.

Bed Managers are responsible for:

- Ensuring that wherever possible requirements to isolate can be met with evidence of prioritisation linked to level of risk.

Antimicrobial Stewardship Lead/Antimicrobial Pharmacist/ Clinical Medical Microbiologists (CMMs) are responsible for:

- Providing specialist input in antimicrobial management of CPE infection
- Assisting in the development and monitoring of antimicrobial advice for patients with CPE infection/colonisation
- Ensuring Trust prescribing guidance is promoted and consistently adhered to promoting appropriate use of antimicrobial agents.
- Undertake reviews as clinically indicated.

Housekeeping Services are responsible for:

- Ensuring that cleans of the appropriate level (including HPV), as requested, are completed and assurance on standard is available for scrutiny.
- Reporting to the Head of Facilities any actual or potential compromise in the effectiveness of environmental cleaning
- Ensuring standard infection prevention and control practices are consistently implemented facilitating the provision of clean, safe care.

5. Identification and management of suspected and confirmed CPE patients and their contacts.

5.1 Screening

Active screening for CPE as it has been demonstrated to:

- Minimise transmission from CPE positive patients.
- Minimise the risk that colonised patients will develop clinical infections.
- Ensure appropriate surgical prophylaxis and prescribing of effective antimicrobial therapy (antimicrobial stewardship)
- Minimise environmental contamination and the development of potential reservoirs.

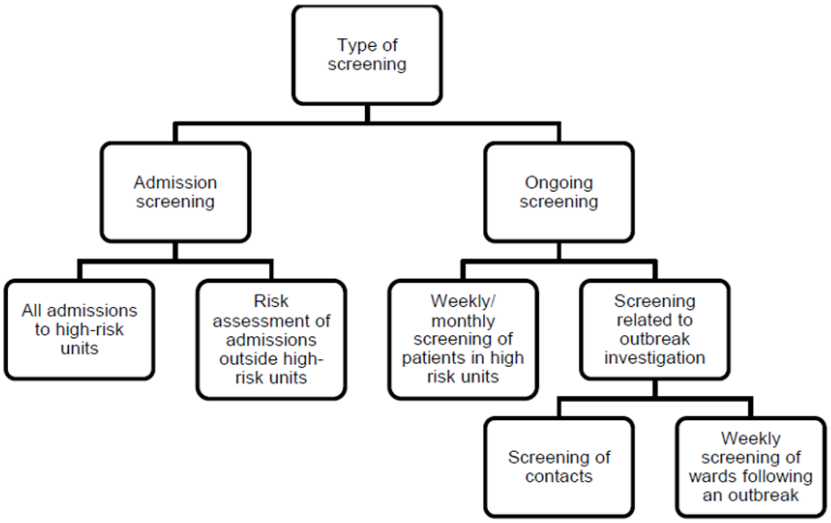

Figure 1. Algorithm for Admission and Ongoing Screening Strategies adopted by WAHT.
Rectal/stoma specimens (screens) which contain faecal material are considered the most sensitive for detecting CPE carriage.

Where rectal specimens cannot be taken as they are not feasible or acceptable, a faecal specimen may be taken and submitted to the microbiology laboratory.

Box 1: Faecal specimens

Faecal specimens should be placed within the blue stool pots and sent either requested on:

- EPR via ICE – clicking on “microbiology”; “swabs”; “MRSA and other screens”; option for faecal screen will then be available.
- Blue microbiology request form – stating “faecal CPE screen”.

In addition to rectal/stoma/faecal specimens, detection of CPE carriage by the microbiology laboratory can be optimised by obtaining wound specimens, specimens from invasive devices and urine samples (if catheterised).

The procedure for taking rectal/stoma specimens can be found in Appendix A.

Prior to screening for CPE, patients (and/or their carers) should be provided with information on the need for screening, and implications of a positive result.

5.1.1 By Speciality

Under certain circumstances, clinical management will be based on the advice of the Consultant Microbiologists and IPCT and is likely to be on a case-by-case basis.

High Risk Units/ Augmented Care Areas –

- Admission screens for all admissions to high-risk units
- Repeat screening may be required for individual patients who were previously not recognised as carrying CPE e.g., long stay patients.
    - Frequency of screening will be risk assessed by the IPCT in conjunction with the Consultant Microbiologists.

For all other specialities, please refer to Appendix B

5.1.2 By Clinical Area

If a newly identified CPE is attributed to a particular clinical area, then the IPCT may request screening of all the patients linked to that area to exclude an outbreak.

5.1.3 Staff Screening

Staff screening is not recommended.

5.2 Think RISK! Identification of suspected cases of CPE using a clinical risk assessment tool

If a patient has ever been previously positive for CPE, they must immediately be managed as a confirmed case of CPE. Acting promptly to isolate and manage the patient accordingly will reduce the risk of onward transmission.

Each patient should have a clinical risk assessment to determine those at higher risk of CPE colonisation on admission, readmission, or transfer from another healthcare facility.

The application of the risk assessment should be undertaken as part of the patient placement/assessment for infection risk, as detailed in the National Infection Prevention and Control Manual (NIPCM, 2022).

Patients meeting certain risk criteria (see Appendix C) should be screened on admission and managed as a suspected CPE case.

5.3 Management of Suspected CPE cases

If you have a suspected case of CPE, this step is required to prevent onward transmission within the hospital environment.

Refer to Action Card 1.

5.4 Management of Confirmed CPE cases

If you have a confirmed case of CPE, this step is required to prevent onward transmission within the hospital environment.

Once a patient is identified as CPE positive, there is no requirement to further screen the patient on their inpatient stay or repeated admissions.

Refer to Action Card 2.

- All newly confirmed CPE cases are investigated by the IPCT and attribution is determined.

- If the patient has an infection, they should be assessed for appropriate treatment in conjunction with the CMMs.

5.5 Management of CPE Contact cases

When individuals come into close contact with a CPE colonised or infected patient, they will require screening.

The definition of a CPE contact depends on the following:

- The setting of contact
- Clinical scenario
- Length of exposure
- Type of exposure

Examples include patients that have spent more than 8 hours in a clinical space with a known CPE case or shared the same toileting or bathing facilities or, outside of the hospital setting, an individual who lives with a known CPE case.

Refer also to Action Card 1.

5.6 Variations in Management by Speciality

Refer to Appendix B.

6. Environmental Cleaning and Decontamination

CPE can be eliminated from the environment by appropriate decontamination as set out in the NIPCM (2022)

Section 1.6 Safe Management of the Care Environment of the NIPCM details routine environmental decontamination.

6.1 Suspected CPE cases

Refer to Action Card 1.

6.2 Confirmed CPE cases.

Refer to Action Card 2.

Environmental screening of the environment and equipment may be required at the direction of the IPCT or CMMs.

7. Microbiology Testing

Testing should be undertaken according to the methods currently recommended by the UKHSA Standards Unit in the document 'UK Standards for Microbiology Investigations' v3.1 (2022).

8. Antimicrobial Stewardship, Prescribing and Treatment

Antimicrobial stewardship that aims to reduce the use of broad-spectrum antibiotics is critical in the prevention of antimicrobial resistance.

Treatment of a patient with an infection caused by CPE should be acted upon under the advice of the CMM.

There is insufficient evidence currently to recommend either skin or gut colonisation of patients infected or colonised with CPE and may increase the risk of inducing further antimicrobial resistance. Therefore, decolonisation of the patient is not advised.

9. Outbreak Management

When CPE outbreaks are detected:

- Alerting neighbouring trusts, commissioners, providers, and the local HPT is required and will follow the arrangements contained within the Policy for Outbreak Reporting and Control (WAHT-INF-044).

Appendix D includes considerations that will be made by WAHT in conjunction with the Outbreak Control Team (OCT) when managing an outbreak of CPE.

9.1.1 Outbreak Screening

Close contacts of newly identified CPE cases will require screening to detect possible transmission as further colonised patients may be identified.

Those patients requiring screening will be determined by the IPCT with close consideration of inpatients within high-risk units.

When further CPE positive patients are identified from screened contacts, and an outbreak is declared, the strategy for screening will be expanded to include all inpatients within the clinical area.

A further period of enhanced screening is then required to include:

- Admission screening for all patients admitted to the clinical area.
- Repeat screening twice weekly for two weeks.
- Repeat screening once weekly for two weeks.

Screening of patients already discharged from an outbreak ward to their own home is not generally required.

Dependent upon decisions made by the OCT, the IPCT will advise when screening in relation to the outbreak should cease. In general, screening continues until there have been no new cases of CPE identified for at least 3 months.

9.1.2 Control and Monitoring Phase

During this phase, multidisciplinary decision making (in conjunction with the members of the OCT) will determine ongoing actions for an outbreak.

10. Communications

Robust healthcare communications (with and between acute, non-acute and primary healthcare settings) are crucial in implementing a successful concerted effort to prevent and control spread.

Early communication and careful planning (as soon as CPE is first suspected or confirmed) is vital and should include:

- Ensuring patients, their relatives, and carers and/or the care facility to which the patient is to be discharged are notified prior to transfer/discharge by ward teams including an accurate explanation of risk in a non-acute/community setting.
    - Appendix C may be provided to patients (information leaflet)
- Ensuring discharge letters detail CPE colonisation and/or infection status, or the potential exposure to a CPE in a ward environment. Information should be received by GPs, receiving organisations and relevant healthcare professionals.
- Ensuring the local HPT is notified of a confirmed result as CPE is notifiable under the Health Protection (Notification) Regulations (2010).

10.1 Monitoring and Surveillance

Horizontal transfer of carbapenemases means that surveillance systems are required to monitor patients colonised or infected with different bacteria that convey the resistance mechanism (Ludden *et al.,* 2017; Martin *et al.,* 2017). Monitoring and surveillance of CPE is therefore important for rapid identification and control.

The IPCT and Microbiology Laboratory have electronic systems for surveillance of alert organisms.

The IPCT in conjunction with the CMMs monitors CPE cases and contacts.

All healthcare staff must notify the IPCT if they identify through admission assessment that a patient has risk factors for CPE colonisation.

10.1.1 Reporting of Surveillance Data

The Microbiology Laboratory will follow guidance contained within WAHT-INF-011

11. Implementation

11.1 Plan for implementation

Education concerning multi-resistant Gram-negative bacteria is included in Trust clinical mandatory updates.

Screening for CPE is included in Trust Admission Assessment documentation.

11.2 Dissemination

Dissemination of the document will be as per the Trust Policy for the Development, Approval and Management of Key Documents (WAHT-CG-827). Reference to relevant Infection Prevention and Control policies will also be made during induction, annual and other update sessions for staff. The policies will be available to view on the Trust Key Documents page.

Line managers are also responsible for ensuring that their staff are kept up to date with new documents.

11.3 Training and awareness

The principles relating to provision of clean safe care, antimicrobial stewardship and management of infections are incorporated into Trust Induction and mandatory clinical updates.

The subject of this policy is also included in other training provided by the IPCT e.g., Link Nurse Study Days and Antimicrobial Stewardship Updates

12. Monitoring and compliance

Page/ Section of Key Document	Key control:	Checks to be carried out to confirm compliance with the Policy:	How often the check will be carried out:	Responsible for carrying out the check:	Results of check reported to: *(Responsible for also ensuring actions are developed to address any areas of non-compliance)*	Frequency of reporting:
	WHAT?	**HOW?**	**WHEN?**	**WHO?**	**WHERE?**	**WHEN?**
	Maintenance of a clean Environment	PLACE audits Ward audits	Monthly Quarterly	Estates & Facilities IPCT	PEOG TIPCC	Monthly Bi monthly
	Cleanliness of medical devices	Ward audits	Quarterly	IPCT	TIPCC	Monthly

13. Policy Review

The policy will be reviewed within three years of the date of approval or sooner considering newly available national guidance.

14. References

Loveday *et al.* (2014) EPIC 3: National Evidence-Based Guidelines for Preventing Healthcare-Associated Infections in NHS Hospitals in England. *Journal of Hospital Infection* 86S1 (2014) S1–S70.

Ludden *et al.* (2017) Sharing of carbapenemases-encoding plasmids between Enterobacteriaceae in UK sewage uncovered by MinION sequencing. *Microbial Genomics*. 3: e000114-e.

Martin *et al.* (2017) Covert dissemination of carbapenemases-producing *Klebsiella pnuemoniae* (KPC) in a successfully controlled outbreak: long and short-read whole-genome sequencing demonstrate multiple genetic modes of transmission. *Journal of Antimicrobial Chemotherapy*. 72: 3025-3034.

Murray, P.R., Rosenthal, K.S., and Pfaller, M.A. (2016) Medical Microbiology. Eighth Ed.

NHS England (2022) National Infection Prevention and Control Manual (NIPCM) for England. [Online] Available at: https://www.england.nhs.uk/national-infection-prevention-and-control-manual-nipcm-for-england/chapter-1-standard-infection-control-precautions-sicps/#1-6 [Accessed 25.10.2023].

NMC (2018) Code of Conduct. [Online] Available at: https://www.nmc.org.uk/standards/code/read-the-code-online/ [Accessed 08.11.2023].

Petross, B. (2010) *Specimen Collection and Transportation of Microbiology Specimens.* [Online] Available at: https://www.adventisthealth.org/documents/rideout/lab_manuals/specimen-collection-and-transportation-of-microbiology-specimens.pdf [Accessed 08.11.2023].

Public Health England (PHE) (2020) Duty of Candour. [Online] Available at: https://www.gov.uk/government/publications/nhs-screening-programmes-duty-of-candour/duty-of-candour [Accessed 08.11.2023].

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UKHSA (2022b) UK Standards for Microbiology Investigations: Detection of bacteria with carbapenem-hydrolysing beta-lactamases (carbapenemases). [Online] Available at:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1080594/B_60i3.1.pdf [Accessed 25.10.2023]

15. Background

15.1 Equality requirements

There are no implications for equality following completion of the Equality Impact Assessment (EIA).

15.2 Financial risk assessment

No financial risks are identified following completion of the Financial Risk Assessment.

15.3 Consultation

Contribution List

This key document has been circulated to the following individuals for consultation.

Name	Designation
Dr E Yates	Consultant Microbiologist and Infection Control Doctor
Dr E Yiannakis*	Consultant Microbiologist and Infection Control Doctor
Dr M Ashcroft	Consultant Microbiologist
Dr H Morton	Consultant Microbiologist
Ms H Lancaster	Chief Operating Officer
Dr C Blanchard*	Chief Medical Officer
Dr J Berlet	Divisional Medical Director - SCSD
Dr J Trevelyan	Divisional Medical Director - Medicine
Dr D Raven	Divisional Medical Director – Urgent Care
Dr S Goodyear	Divisional Medical Director - Surgery
Dr B Kamalarajan	Divisional Medical Director – Women & Children's
Dr H Mistry	Pre-Op Assessment Clinical Lead
Dr C Chatt	Consultant in Communicable Disease Control
Ms K James	Lead Health Protection Practitioner (UKHSA)
Ms J Booth*	Deputy Director of Infection Prevention and Control
Ms E Fulloway	Infection Prevention and Control Nurse Manager
Ms K Howles*	Senior Infection Prevention and Control Nurse
Ms A Roxburgh-Powell	Senior Infection Prevention and Control Nurse
Ms J Jacob	Infection Prevention and Control Nurse
Ms R Pitts	Infection Prevention and Control Nurse
Ms S Paul	Infection Prevention and Control Nurse
Ms N Thomas	Infection Prevention and Control Nurse

Ms M Hancock	Infection Prevention and Control Nurse
Ms M Bodily*	Infection Prevention and Control Nurse

*indicates comments received

This key document has been circulated to the following committee's / groups for comments.

Committee
TIPCC

15.4 Approval Process

Approval for this policy will be via TIPCC following consultation with all members and others cited above.

15.5 Version Control

This section should contain a list of key amendments made to this document each time it is reviewed.

Date	Amendment	By:
01.11.2023	Re-write of existing policy and addition of action cards.	L Bailey
07.03.2024	Amendments made	J Booth

16. Appendices

16.1 Quick Guide

Admission to Acute Hospital

Patient previously identified as CPE positive (admitting ward to review)

Yes → **TREAT AS POSITIVE**

No

In the last 12 months has the patient:

- Received healthcare abroad (including holiday dialysis)?
- Received healthcare in another UK hospital?
- Had multiple hospital treatments e.g., dialysis dependent/chemotherapy.
- A close contact of a confirmed CPE (household or healthcare)?
- Been admitted to an augmented care/high-risk unit?

No ← No further action required.

Yes

- Advise the patient (and relatives if appropriate) of reasons for isolation and the requirement for samples.
- Isolate the patient (single room with ensuite) or designated toilet/commode.
- Ensure twice daily amber clean requested for environment & equipment.
- Apply standard and transmission-based precautions (SICPs/TBPs).
- Notify IPCT of patient's admission.
- Take rectal/faecal sample.

AND

- If present – take single swab from any wounds, invasive devices, and a catheter specimen of urine (CSU).

→ **Single room priority for patient with identified risk factors:**

- Inpatient overseas/holiday dialysis
- A close contact of CPE

Result

Negative → Patient to remain in single room until a further two rectal/faecal samples, each taken 48 hours apart, test negative.

If all 3 samples +/- wound/invasive device/CSU are negative, remove from isolation*.

No further action required.

Presumptive Positive

- Continue to ensure SICPs/TBPs remain in place.
- Save isolate and send to Reference Laboratory for confirmation.

Result

Negative ←

Confirmed Positive

- Isolate patient (with ensuite/designated toilet/commode)
- Ensure twice daily amber clean of environment & equipment.
- Advise the patient (and relatives if appropriate) of reasons for isolation and provide patient information leaflet.
- Continue SICPs and TBPs
- Notify IPCT of patient admission.
- Review clinical management including antimicrobials and any devices.
- Communicate patient's positive CPE status to patient's GP and other community care providers on discharge/transfer.
- Maintain robust communication with other secondary/tertiary care providers.
- Ensure red clean of single room on discharge/transfer.
- Seek advice from IPCT if there is a confirmed contact case linked/indication of an outbreak and subsequent screening.

NOTES:

A rectal swab (with visible faecal matter) should be considered preferential to a stool sample in most patient groups.

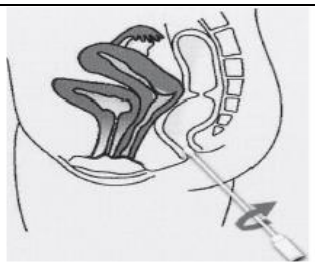
Stool samples should be obtained for babies, children, and adult patients that are immunocompromised e.g., haematology, oncology, intensive care unit.

*To remove from isolation if the patient has less than 3 negative screens. discuss with IPCT and conduct a local risk assessment.

16.2 Appendix A – Rectal/Stoma Swabbing Procedure

Essential Equipment:

- **Single use disposable apron and gloves**
- **Sterile bacterial swab**
- **Appropriate documentation/form**

	Action	Rationale
1.	Explain and discuss the procedure with the patient (for adults only).	To ensure the patient understands the procedure and gives valid consent (NMC 2018).
2.	Ensure a suitable location in which to carry out the procedure.	To maintain patient privacy and dignity (NMC 2018).
3.	Wash hands with soap & water or decontaminate physically clean hands with an alcohol-based hand rub. Put on apron and gloves.	To reduce the risk of cross-infection and specimen contamination (NHS England 2022).
4.	Remove swab from outer packaging	To ensure collection of material (Murray et al. 2016).
5.	Insert the swab (plain swab with charcoal medium) approximately 2.5 cm (for adults) beyond the anal sphincter/stoma and gently rotate. Withdraw the swab and ensure visible faecal material is evident on swab.	To avoid trauma and to ensure that a rectal, not an anal, sample is obtained. 
7.	Remove cap from plastic transport tube.	To avoid contamination of the swab (Petross 2010).
8.	Carefully place swab into plastic transport tube, ensuring it is fully immersed in the transport medium. Ensure cap is firmly secured.	To avoid contamination of the swab and to maintain viability of the sampled material during transportation (Ferguson 2005).
9.	Remove gloves and apron and wash/decontaminate hands.	To reduce risk of cross-infection (Loveday 2014).
10.	Ensure ICE request form completed (including relevant information such as exact site, nature of specimen and CPE screen required).	To maintain accurate records and provide accurate information for laboratory analysis (NMC 2018).
11.	Arrange prompt delivery to the microbiology laboratory.	To achieve optimal conditions for analysis (Petross 2010).
12.	Document the procedure in the patient record.	To ensure timely and accurate record keeping (NMC 2010).
13.	**Note:** The healthcare professional clinically responsible for the patient MUST review results and ensure results are acted on and	To ensure patient satisfaction and confidence in addition to duty of candour compliance, (PHE 2020).

	communicated to the patient.	

16.3 Appendix B – Variations in Screening and Management by Speciality

Speciality	Screening Requirement:	Management Requirement:	
	For patients identified as suspected CPE/CPE Risk/CPE Contact		*Confirmed CPE*
Day Case Surgery (admission <8hours)	No requirement for CPE screening	No requirement to isolate/segregate	Single room, procedure scheduled for last on the list
Elective Surgery (admission >8 hours)	Where possible, 3 x rectal/faecal samples each taken 48 hours apart +/- single CSU, wound, invasive device samples (if applicable) prior to surgery	Single room if unable to obtain samples prior to surgery. *Risk assess with IPCT if < 3 negative samples prior to surgery	Single room, procedure scheduled for last on the list
Out-Patient Setting	No requirement for CPE screening	Provide appointment for end of clinic. Single room where possible*	Provide appointment for end of clinic. Single room where possible*
Ambulatory Care Setting	No requirement for CPE screening	Provide appointment for end of clinic. Single room where possible*	Provide appointment for end of clinic. Single room where possible*
Non-emergency diagnostic test/procedure/consultation	No requirement for CPE screening	Procedure scheduled for last on list if unable to take place in patient's room.	Procedure scheduled for last on list if unable to take place in patient's room.
Renal Dialysis	Risk assess for CPE screening	Single room where possible*	Single room, procedures scheduled for last on the list
Oncology	3 x rectal/faecal samples each taken 48 hours apart +/- single CSU, wound, invasive device samples (if applicable)	Single room where possible*	Single room, procedures scheduled for last on the list
Paediatrics/Neonates	1 x **faecal sample**** +/- single CSU, wound, invasive device samples (if applicable)	Single room until negative results obtained	Single room, procedures scheduled for last on the list

*Risk assess with IPCT – taking into account factors that increase the risk of CPE transmission e.g. diarrhoea, incontinence, poor hygiene

**Repatriated Paediatrics (only) may require 3 faecal samples each taken 48 hours apart.

16.4 Appendix C – Think Risk! (Assessment Tool for CPE risk factors)

R – Recent exposure to antibiotics**	Consider patients that have received the following antibiotics in the previous month are at increased risk of CPE carriage: • Cephalosporins • Piperacillin and tazobactam • Fluoroquinolones • Carbapenems **** Screening not routinely required**
I – In the last 12 months	Screen if a patient: • previously been identified as CPE positive. • was admitted to any hospital in the UK or overseas**. EXCLUDE Worcester Acute Hospitals** • has had multiple hospital treatments for example haemodialysis or receiving cancer chemotherapy. **Exception of day case see appendix B**

S – Specialty	Patients admitted to the following specialties should be screened:
	• augmented care
	• high risk settings –
	  ○ immunosuppression
	  ○ transplant
	  ○ haematology and oncology
	  ○ organ support
	  ○ extensive care needs for example liver
	  ○ burns unit.
	• Long Term Care Facilities where higher levels of interventional care are provided for example long term ventilation.

K – Knowledge of local CPE transmission	Screen if patient has been in contact with a known case of CPE.

16.5 Appendix D – Outbreak Management Considerations

Confirm type of patients and rapidity of detection
Assess if high-risk setting or patient. Check for any delays in identification and isolation of cases. Identify contacts and monitor their distribution across the healthcare facilities.
Adopt appropriate screening strategy
Consider what screening strategy is appropriate (including frequency) to identify the exposed pool of contacts.
Optimise staff-patient ratios
Optimise staff-patient ratios to allow good adherence with infection prevention and control activities. Minimise transfer of staff from affected units to unaffected units.
Monitor adherence to IPCT guidelines and cleaning standards
Observe and highlight deficiencies in current IPC practice and audit implementation. Implement enhanced cleaning and disinfection approaches to mitigate the outbreak and ensure these are implemented rigorously and consistently.
Consider isolation and cohorting strategy
Consider what isolation strategy is needed and implement. Cohorting may be appropriate where there are insufficient single rooms for individual isolation (seek advice from CMMs) Cohorting should not be undertaken where patients have different carbapenem resistance mechanisms or different organisms.
Ensure appropriate use of shared patient equipment
Ensure single use patient equipment is being used. Where equipment must be re-used, ensure appropriate disinfection prior to use with next patient.
Consider environmental reservoirs
Consider environmental risk factors, shared equipment and reservoirs e.g., sinks/drains/inappropriate use of hand wash basins. Environmental microbiological sampling guided by microbiological advice on suitable sites and sampling methods. Review needs for enhanced frequency of cleaning and/or introduction of a disinfectant.
Assess current antibiotic pressures
Consider whether prescribing formulary changes are required to minimise patient or environmental exposure to broad-spectrum antibiotics.
Ensure involvement of staff with relevant expertise
Ensure MDT includes IPCT staff and staff experienced in outbreak management. Agree incident action plan.

Consider closing the unit/ward to admissions to minimise potential for transmission. Consider minimising patient transfers from the affected unit.
Implement communication plan
Implement internal and external communication plans including to patients, relatives, staff, and the media. Implement regular brief reminders to staff to promote strict adherence to the outbreak and incident plan.

17. Action Cards

17.1 Action Card 1 – Management of a Suspected CPE case

(including those identified at risk of CPE colonisation and CPE Contacts)

THINK RISK!
Admitted to any hospital in the UK or overseas. **Has had multiple hospital treatments e.g., haemodialysis or chemotherapy.** **Contact of a CPE positive patient.**
STANDARD INFECTION CONTROL PRECAUTIONS (SICPs)
As per the National Infection Prevention and Control Manual (NIPCM) (2022), SICPs should be always applied in all care settings for all patients.
TRANSMISSION BASED PRECAUTIONS (TBPs) - Contact

• Provision of a single room with ensuite facilities required for duration of inpatient stay or until 3 negative rectal/faecal screens each taken 48 hours apart have been obtained and a single set of swabs are negative for any wound, invasive device, and CSU.
  ○ Door to always remain closed.
• Where a single room with ensuite is unavailable, patient to be cohorted in a bay with the provision of a designated toileting facility/commode.
• Dedicated patient equipment to be provided where possible.
  ○ Where it is not possible, staff to ensure equipment is cleaned and disinfected prior to its use with another patient.

COMMUNICATION
• Inform IPCT   ○ IPCT will flag Patient Alert System (PAS) • Ensure patient information leaflet is provided and an explanation is given to the patient (and relatives if appropriate) of reasons for isolation and screening. • Clinical teams to be informed. • If patient needs to transfer to another department/ward, receiving area to be made aware on handover of the patients CPE risk/suspicion
SCREENING REQUIREMENTS
• 3 x rectal/faecal samples, each taken 48 hours apart. **In addition:** • 1 CSU (if applicable)

- 1 invasive device (if applicable)
- 1 screen per wound (if applicable)

VISITORS

- If providing direct patient care, to wear Personal Protective Equipment (PPE) (gloves/apron/gown)
  - No requirement for PPE if not providing direct care.
- All visitors to be advised to perform hand hygiene upon leaving the room.

ENVIRONMENTAL/EQUIPMENT CLEANING AND DECONTAMINATION

During admission:	**On discharge*:**
Twice daily AMBER clean & disinfection	AMBER clean & disinfection

COMMENTS

**Unless 3 negative screens have been obtained prior to discharge OR if risk assessment of patients that have transferred from abroad suggests an HPV clean on discharge would be required e.g. patient admitted to augmented care.*

Should all screening results return as negative then the patient may be removed from isolation with no further samples required.

If the patient requires removal from isolation prior to all screening results being available, a local risk assessment in conjunction with the IPCT or CMM may be undertaken (to include effectiveness of swabbing technique).

Should any screening results return as positive then the patient should remain isolated and be managed as a confirmed CPE case (see Action Card 2).

17.2 Action Card 2 – Management of a Confirmed CPE case

THINK RISK!
Previously identified as CPE positive
STANDARD INFECTION CONTROL PRECAUTIONS (SICPs)
As per the National Infection Prevention and Control Manual (NIPCM) (2022), SICPs should be always applied in all care settings for all patients.
TRANSMISSION BASED PRECAUTIONS (TBPs) - Contact

• Provision of a single room with ensuite facilities required for duration of inpatient stay and any subsequent readmissions.
  ○ Door to always remain closed.
• Where there are other multi-drug resistant Gram-negative organisms, a CPE positive case should be considered as highest priority for a single room.
• Where a single room with ensuite is unavailable, discussion with the IPCT must take place to risk assess cohorting with other CPE positive cases.
• Dedicated patient equipment to be provided where possible.
  ○ Where it is not possible, staff to ensure equipment is cleaned and disinfected prior to its use with another patient.

COMMUNICATION

• Inform IPCT
  ○ IPCT will flag Patient Alert System (PAS)
• If the CPE positive result is new:
  ○ Ensure patient information leaflet is provided and an explanation is given to the patient (and relatives if appropriate) of reasons for isolation.
• Clinical teams to be informed and medical notes updated.
• If patient needs to transfer to another department/ward, receiving area to be made aware on handover of the patients positive CPE status.

SCREENING REQUIREMENTS
Once a patient is identified as CPE positive, re-screening for CPE is not required. *
VISITORS
• If providing direct patient care, to wear Personal Protective Equipment (PPE) (gloves/apron/gown)   ○ No requirement for PPE if not providing direct care. • All visitors to be advised to perform hand hygiene upon leaving the room.
ENVIRONMENTAL/EQUIPMENT CLEANING AND DECONTAMINATION

During admission:	**On discharge*:**
Twice daily AMBER clean & disinfection	RED clean & disinfection

COMMENTS
**In extenuating circumstances, such as the wellbeing of the patient and distress at continued isolation, prior to de-isolation, a local risk assessment may be undertaken by the IPCT in conjunction with the CMMs to re-screen the patient, requiring 3 negative CPE screens taken a minimum of 48 hours apart.*

Supporting Document 1 - Equality Impact Assessment Tool

To be completed by the key document author and attached to key document when submitted to the appropriate committee for consideration and approval.

NHS Worcestershire Acute Hospitals NHS Trust

Herefordshire and Worcestershire Safe and effective health and care services

Herefordshire & Worcestershire STP - Equality Impact Assessment (EIA) Form

Please read EIA guidelines when completing this form

Section 1 - Name of Organisation (please tick)

Herefordshire & Worcestershire STP		Herefordshire Council		Herefordshire CCG	
Worcestershire Acute Hospitals NHS Trust	x	Worcestershire County Council		Worcestershire CCGs	
Worcestershire Health and Care NHS Trust		Wye Valley NHS Trust		Other (please state)	

Name of Lead for Activity	**Julie Booth**

Details of individuals completing this assessment

Name	Job title	e-mail contact
Lara Bailey	**Senior Infection Prevention and Control Nurse**	**larabailey@nhs.net**

Date assessment completed	**01.11.2023**

Section 2

Activity being assessed (e.g. policy/procedure, document, service redesign, policy, strategy etc.)	**Title:** CPE Management Policy			
What is the aim, purpose and/or intended outcomes of this Activity?	To maintain patient and staff safety			
Who will be affected by the development & implementation of this activity?	❑ Service User ❑ Patient ❑ Carers ❑ Visitors		❑ Staff ❑ Communities ❑ Other ❑ _____	
Is this:	❑ Review of an existing activity ❑ New activity ❑ Planning to withdraw or reduce a service, activity or presence?			
What information and evidence have you reviewed to help inform this assessment? (Please name sources, eg demographic information for patients / services / staff groups affected, complaints etc.	National Guidance			
Summary of engagement or consultation undertaken (e.g. who and how have you engaged with, or why do you believe this is not required)	N/A			
Summary of relevant findings	N/A			

Section 3

Please consider the potential impact of this activity (during development & implementation) on each of the equality groups outlined below. **Please tick one or more impact box below for each Equality Group and explain your rationale**. Please note it is possible for the potential impact to be both positive and negative within the same equality group and this should be recorded. Remember to consider the impact on e.g. staff, public, patients, carers etc. in these equality groups.

Equality Group	Potential positive impact	Potential neutral impact	Potential negative impact	Please explain your reasons for any potential positive, neutral or negative impact identified
Age		x		
Disability		x		
Gender Reassignment		x		
Marriage & Civil Partnerships		x		
Pregnancy & Maternity		x		
Race including Traveling Communities		x		
Religion & Belief		x		
Sex		x		
Sexual Orientation		x		
Other Vulnerable and Disadvantaged Groups (e.g.		x		

Equality Group	Potential positive impact	Potential neutral impact	Potential negative impact	Please explain your reasons for any potential positive, neutral or negative impact identified
carers; care leavers; homeless; Social/Economic deprivation, travelling communities etc.)				
Health Inequalities (any preventable, unfair & unjust differences in health status between groups, populations or individuals that arise from the unequal distribution of social, environmental & economic conditions within societies)		x		

Section 4

What actions will you take to mitigate any potential negative impacts?	Risk identified	Actions required to reduce / eliminate negative impact	Who will lead on the action?	Timeframe
		.		
How will you monitor				

these actions?	
When will you review this EIA? (e.g in a service redesign, this EIA should be revisited regularly throughout the design & implementation)	

Section 5 - Please read and agree to the following Equality Statement

1. Equality Statement

1.1. All public bodies have a statutory duty under the Equality Act 2010 to set out arrangements to assess and consult on how their policies and functions impact on the 9 protected characteristics: Age; Disability; Gender Reassignment; Marriage & Civil Partnership; Pregnancy & Maternity; Race; Religion & Belief; Sex; Sexual Orientation

1.2. Our Organisations will challenge discrimination, promote equality, respect human rights, and aims to design and implement services, policies and measures that meet the diverse needs of our service, and population, ensuring that none are placed at a disadvantage over others.

1.3. All staff are expected to deliver services and provide services and care in a manner which respects the individuality of service users, patients, carer's etc, and as such treat them and members of the workforce respectfully, paying due regard to the 9 protected characteristics.

Signature of person completing EIA	L Bailey
Date signed	01.11.2023
Comments:	
Signature of person the Leader Person for this activity	
Date signed	07.02.2024
Comments:	

Supporting Document 2 – Financial Impact Assessment

To be completed by the key document author and attached to key document when submitted to the appropriate committee for consideration and approval.

	Title of document:	Yes/No
1.	Does the implementation of this document require any additional Capital resources	No
2.	Does the implementation of this document require additional revenue	No
3.	Does the implementation of this document require additional manpower	No
4.	Does the implementation of this document release any manpower costs through a change in practice	No
5.	Are there additional staff training costs associated with implementing this document which cannot be delivered through current training programmes or allocated training times for staff	No
	Other comments:	No

If the response to any of the above is yes, please complete a business case and which is signed by your Finance Manager and Directorate Manager for consideration by the Accountable Director before progressing to the relevant committee for approval.