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Control of MRSA, VRE and other Antibiotic Resistant Organisms				Lead Nurse Infection Prevention		
Resistant Organisms				Director Sponsor:		
				Director of Infection Prevention and Control		
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	1	July 07	Lead Nurse Infection Prevention	Original Policy		
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	5.1	June 2013	Lead Nurse Infection Prevention	Attachment 14 added		
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	6	Nov 2015	Head of Nursing Infection Prevention	Review date		
Intended Recipients: All staff						
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**Consultation Group / Role Titles and Date:** Director of Infection Prevention & Control, Infection Prevention Team, Infection Prevention & Control Group (IPCG)



Name and date of Trust level committee where reviewed	IPCG October 2015 Trust Policy Group November 2015		
Name and date of final approval committee	TMC November 2015		
Date of Policy issue	November 2015		
<b>Review Date and Frequency</b> [standard review frequency is 3 yearly unless otherwise indicated]	3 yearly (November 2018)		
Training and Dissemination: Infection Prevention Mandatory Training and Induction.			
<b>To be read in conjunction with:</b> <u>IP01 Hand Hygiene Policy</u> , <u>IP08 Operational Policy</u> , <u>IP10 Isolation</u> , <u>IP12 Standard Precautions</u> , <u>IP13 Outbreak of Communicable Infection</u> <u>Policy</u> , <u>IP19 Blood and Body fluid spillage</u> , <u>HR22 Staff Dress Code</u> , <u>CP43 Visiting</u> , <u>MP05 Antimicrobial Policy</u> and most recent RWT antibiotic prescribing Guidelines.			
Initial Equality Impact Assessment (all policies) Completed Yes			
Full Equality Impact assessment (as required): Completed Yes			
If you require this document in an alternative format e.g., larger print			

please contact Central Governance Department on Ext 5114

Contact for Review	Head of Nursing Infection Prevention
Implementation plan / arrangements [Name implementation lead]	Vanessa Whatley
Monitoring arrangements and Committee	Infection Prevention and Control Group

Document summary / key issues covered:

Infections in patients caused by antibiotic resistant organisms, including MRSA, VRE, CPE and ESBL-producing organisms, are a significant concern in UK healthcare. Newly emerging infections, such as PVL associated staphylococcal infections and new resistance patterns in established pathogens, add to this problem. A local policy is essential to ensure that healthcare workers are aware of the measures required to control and prevent the spread of such organisms within their area of responsibility to prevent the spread within the Trust and wider community. This policy must be read in conjunction with the Trust policies IP01 Hand Hygiene, IP10 Isolation, IP13 Outbreak of Communicable Infection Policy, IP08 Operational Policy, IP12 Standard Precautions, IP19 Blood and Body fluid spillage, HR22 Staff Dress Code, CP43 Visiting, MP05 Antimicrobial Policy and most recent RWT antibiotic prescribing guidelines.

This policy sets out the training requirements, staff responsibilities, preventative

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strategies and management of patients in order to prevent and control the spread of antibiotic resistant organisms. Attachments provide specific protocols and guidelines for practice.

#### VALIDITY STATEMENT

This document is due for review on the latest date shown above. After this date, policy and process documents may become invalid. The electronic copy of this document is the only version that is maintained. Printed copies must not be relied upon to contain the latest updates and amendments.

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#### Attachments:

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	<u>Organisms</u>
Attachment 2	Identification of a Patient with an existing Antibiotic Resistant
	<u>Organism</u>
Attachment 3	MRSA and MSSA Screening and Compliance Monitoring Guidelines
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	<u>Organism</u>
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	Staphylococcus aureus (PVL-SA)
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	<u>Staphylococcus aureus and management of PVL-SA positive</u> healthcare workers
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	producing Enterbacteriaceae (CPE)
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#### Prevention and Control of MRSA, VRE and other Antibiotic Resistant Organisms

#### **1.0 Policy Statement**

Infections in patients caused by antibiotic resistant organisms, including MRSA, VRE, CPE and ESBL producing organisms, are a significant concern in UK healthcare. Newly emerging infections, such as PVL associated staphylococcal infections and new resistance patterns in established pathogens, add to this problem. A local policy is essential to ensure that healthcare workers are aware of the measures required to control and prevent the spread of such organisms within their area of responsibility to prevent the spread within the Trust and wider Community. This policy must be read in conjunction with the Trust policies IP01 Hand Hygiene, IP10 Isolation, IP13 Outbreak of Communicable Infection Policy, IP08 Operational Policy, IP12 Standard Precautions, IP19 Blood and Body fluid spillage, HR22 Staff Dress Code, CP43 Visiting, MP05 Antimicrobial Policy and most recent RWT antibiotic prescribing guidelines.

This policy sets out the training requirements, staff responsibilities, preventative strategies and management of patients in order to prevent and control the spread of antibiotic resistant organisms. Attachments provide specific protocols and guidelines for practice.

#### 2.0 Definitions

- 2.1 **Antibiotic Resistant Organism** a microorganism that is resistant to antimicrobial drugs usually used to treat infections of which the organism is the cause.
- 2.2 **Standard Precautions** the precautions taken to prevent spread of infection regardless of the detection of a pathogenic organism e.g. gloves, aprons, hand hygiene, safe sharps disposal, asepsis.
- 2.3 **Hand Hygiene** decontamination of the hands by hand washing, using soap and water, or hand disinfection, using alcohol hand rub.
- 2.4 **Colonisation** a long term relationship in which a micro-organism lives on (or in) a host, without any adverse reaction by the host to its presence.
- 2.5 **Infection** the outcome of an interaction between a host and a microorganism in which the host reacts in an observable way. The evidence is usually a clinical infection.
- 2.6 **GRE** Glycopeptide Resistant Enterococci
- 2.7 **VRE** Vancomycin Resistant Enterococci (more properly referred to as GRE)
- 2.8 MRSA Meticillin Resistant Staphylococcus aureus
- 2.9 **MSSA** Meticillin Sensitive Staphylococcus aureus
- 2.10 **ESBL** extended spectrum beta-lactamase producing organisms coliforms (e.g. *E. coli* and *Klebsiella* spp.) resistant to a range of antibiotics, including all penicillins and cephalosporins, by producing an extended-spectrum beta-lactamase enzyme.

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- 2.11 **Multi-resistant** *Acinetobacter Acinetobacter* spp. isolates which are resistant to any aminoglycoside (e.g. gentamicin) AND to any third generation cephalosporin (e.g. ceftazidime).
- 2.12 **PVL** Panton-Valentine Leukocidin (PVL) is a toxin produced by some strains of *Staph. aureus* (both MRSA and MSSA) which destroys white blood cells. Currently PVL is commonly associated with community strains of MRSA rather than hospital strains.
- 2.13 **CPE** carbapenemase-producing Enterobacteriaceae; that is strains of Enterobacteriaceae that produce an enzyme that destroys carbapenems. These are uncommon at present but are emerging. There are several enzymes produced by CPEs, including NDM, KPC, OXA-48 and VIM. CPEs may also be referred to as CPO (carbapenemase-producing organisms), CRO (carbapenem resistant organism, etc.)

#### 3.0 Accountabilities

3.1 Chief Nursing Officer

Infection Prevention is in the portfolio of the Chief Nursing Officer therefore they have lead executive director responsibility and will delegate local operational responsibility to Heads of Nursing/Midwifery, Matrons and Ward Managers.

3.2 The Director of Infection Prevention and Control

is directly accountable to the Chief Nursing Officer who works in close collaboration with the Head Nurse for Infection Prevention, incorporating national guidance into local policy, monitoring KPIs and compliance with the Infection Prevention Annual Programme of Work and Code of Practice for HCAI action plan, reporting directly to the Trust Board.

- 3.3 The Infection Prevention Team is responsible for:
  - 3.3.1 Updating the policy to reflect current guidance.
  - 3.3.2 Providing education to support the implementation of the policy.
  - 3.3.3 Alerting ward / departmental staff that a patient has an antibiotic resistant organism including an MRSA bacteraemia.
  - 3.3.4 Co-ordinating the response to outbreaks of antibiotic resistant organisms. <u>Attachment 1</u>
  - 3.3.5 Collating results of root cause analysis.
  - 3.3.6 Feeding back data to clinical teams (see IP 08 Operational Policy).
- 3.4 The Occupational Health and Wellbeing Team is responsible for:
  - 3.3.1 The assessment, screening and treatment of staff who may have, or be at risk of having, an antibiotic resistant organism or PVL associated strain of MRSA / MSSA (e.g. staff members with recurring boils / abscesses).
  - 3.3.2 The co-ordination of contact tracing of staff during the deployment of outbreak control measures
- 3.4 Matrons, Consultant Medical staff and General Practitioners are responsible for:

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- 3.4.1 Ensuring that Root Cause Analysis (RCA) is completed on cases of MRSA and MSSA bacteraemia and other incidents identified by the Infection Prevention Team and that the results of RCA are fed back to the local area, Infection Prevention Team and direct management team. <u>See OP10 Risk Management and Patient Safety Reporting Policy</u>
- 3.4.2 Ensuring that local area recommendations arising from RCA are implemented in clinical practice.
- 3.5 Senior Sisters/Charge Nurses and Department Managers are responsible for:
  - 3.5.1 Ensuring that every patient admitted to their area of responsibility has been screened, isolated and decolonised for MRSA in line with this policy.
  - 3.5.2 Ensuring patients in the community are screened in line with the current priorities as agreed at the Infection Prevention and Control Group (IPCG); this is available on the Trust Intranet site.
  - 3.5.3 Undertaking Root Cause Analysis in conjunction with the Matron /Consultant where relevant.
  - 3.5.4 Ensuring that staff members in their area are aware of this policy.
  - 3.5.5 Maintaining standards of practice in their area in accordance with this policy.
  - 3.5.6 Facilitating education on the content of this policy and related subjects e.g. Aseptic Non Touch Technique (ANTT)
  - 3.5.7 Reporting any breaches in this policy via the Trust's incident reporting system and, if necessary, directly to a member of the Infection Prevention Team.
  - 3.5.8 Alerting the Infection Prevention Team to any suspected outbreaks of antibiotic resistant organisms.
  - 3.5.9 Pre-operative areas are responsible for contacting positive patients following screening to arrange/prescribe suitable decolonisation treatment.
  - 3.5.10 Prompt referral of any staff that they are aware of who have recurrent infections / boils / abscesses / skin conditions to the Occupational Health and Wellbeing Team.
- 3.6 Medical Staff are responsible for:
  - 3.6.1 Ensuring competence on completing Root Cause Analysis.
  - 3.6.2 Undertaking Root Cause Analysis in conjunction with the Infection Prevention Team and the relevant clinical team when required.
  - 3.6.3 Prescribing antibiotics in line with the most recent version of the Trust's Antimicrobial Prescribing Policy and Guidelines.
- 3.7 Individual staff members are responsible for:
  - 3.7.1 Ensuring that their practice is optimal and in line with this policy.
  - 3.7.2 Reporting any breaches in this policy via the Trust incident reporting system and, where necessary, directly to the Infection Prevention Team.

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- 3.7.3 Seeking advice from a member of the Infection Prevention Team if any aspect of this policy be unclear to them.
- 3.7.4 Identifying returning patients who have previously had an antibiotic resistant organism and reporting it to a member of the Infection Prevention Team.
- 3.7.5 Alerting the Infection Prevention Team to any suspected outbreaks of antibiotic resistant organisms.

#### 4.0 Policy Detail

- 4.1 Prevention / early identification of antibiotic resistant organisms. The Wolverhampton Health economy employs a 'Seek and Destroy' strategy to MRSA.
  - 4.1.1 All patients with an antibiotic resistant organism (ARO) will have their front sheet on the Patient Administration System (PAS) marked with INF. This is further explained in <u>Attachment 2</u>.
  - 4.1.2 Screening for MRSA must take place in accordance with the guidelines provided in <u>Attachment 3</u>.
  - 4.1.3 2% Chlorhexidine gluconate in 70% alcohol (Chloraprep) will be the standard skin preparation for insertion of and access to all central venous catheters including tunnelled and non-tunnelled lines. To act properly this must be allowed to dry to 30 seconds. If the patient has a known allergy to Chlorhexidine a suitable alternative must be used; for example, iodine in alcohol.
  - 4.1.4 2% Chlorhexidine gluconate in 70% alcohol (Chloraprep) will be the standard skin preparation for insertion of all peripheral venous cannulae; this must be allowed to dry for 30 seconds after application. If the patient has a known allergy to Chlorhexidine a suitable alternative must be used; for example, a sterile 70% alcohol wipe.
  - 4.1.5 2% Chlorhexidine gluconate in 70% alcohol will be used to prepare the access point on a peripheral venous cannula and allowed to dry for 30 seconds prior to accessing the device for administering fluid or injections. If the patient has a known allergy to Chlorhexidine a suitable alternative must be used, for example a sterile 70% alcohol wipe.
    - Important note prior to the use of any Chlorhexidine containing products staff must ensure that the patient has no known allergy to Chlorhexidine.
- 4.2 Action on confirmed or suspected cases of an antibiotic resistant organism.
  - 4.2.1 Isolation of all patients with an antibiotic resistant organism where there is a risk of transmission must be considered in every case. If isolation is not possible the outcome of a risk assessment must be documented in the patient's notes. Guidelines on risk assessment for isolation of patients with an ARO are provided in <u>Attachment 4</u>. Risk assessment matrix is provided in <u>IP10 Isolation Policy</u>

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- 4.2.2 In their own home MRSA carriers are of low risk to healthy family, friends, children, visitors and staff providing that hand washing and basic hygiene measures are followed.
- 4.2.3 MRSA colonisation will not require a resident in a care home to be isolated. Residents identified as colonised with MRSA will be offered decolonisation treatment and rescreening. For prevention of spread of all AROs strict adherence to hand hygiene, standard precautions including invasive device insertion and care, chronic wound management and ANTT protocols must take place. The protocol for infection prevention actions for MRSA, VRE, *Acinetobacter baumanii*, ESBL producing organisms and other antibiotic resistant organisms as notified by the Infection Prevention Team is provided in <u>Attachment 5</u>.
- 4.2.4 Decolonisation of patients with MRSA must be recommended.
- 4.2.5 For MRSA screening and decolonisation protocols see <u>Attachment 6</u>.
- 4.2.6 For the procedure for application of MRSA decolonisation treatment see <u>Attachment 7</u>.
- 4.2.7 If a PVL associated *Staphylococcus aureus* is identified or suspected (see <u>Attachment 8</u> for risk factors) then the protocol for infection prevention provided in <u>Attachment 9</u> must be followed. This includes staff and investigation of hospital associated cases.
- 4.2.8 If CPE is identified or suspected then the protocol for infection prevention in <u>Attachment 10</u> must be followed.

Clusters of ARO presence in patients will be investigated and managed in accordance with <u>IP13 Outbreaks of Communicable Infection Policy</u>.

- 4.2.9 The procedure for discharge or transfer of patients with an ARO is detailed in <u>Attachment 11</u>.
- 4.2.10 Staff must advise visitors in accordance with the protocol in Attachment 12.
- 4.3 Investigation of antibiotic resistant organism infections and associated deaths.
  - 4.3.1 All death certificates citing the main cause of death (1a on death certificate) as an illness caused by an ARO must be reported to the Infection Prevention Team for consideration of being reported as a red incident. These cases will undergo root cause analysis and be reportable to NHS England via STEIS.
  - 4.3.2 All MRSA bacteraemia cases will be reported as red incidents and be reportable to NHS England via STEIS. They will all be investigated via a Root Cause Analysis (this includes contaminated blood cultures that have grown MRSA).
- 4.4 Staff colonisation / infection.
  - 4.4.1 Staff screening for antibiotic resistant organisms when required will be coordinated by the Occupational Health and Wellbeing Team in liaison with the Infection Prevention Team.

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- 4.4.2 Advice to staff members who are colonised or infected with an antibiotic resistant organism on treatment and remaining at work including any restrictions to working will be given by a member of the Occupational Health and Wellbeing Team.
- 4.4.3 Guidance on staff carriage of antibiotic resistant organisms is provided in <u>Attachment 13</u>. It must be noted that each case will have variable levels of risk according to the site of carriage, organism, workplace and risk of transmission and will be assessed and advised on individually.

#### 5.0 Financial Risk Assessment

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

#### 6.0 Equality Impact Assessment

6.1 A risk assessment has been completed. There are no known adverse effects to any group.

#### 7.0 Maintenance

7.1 The Infection Prevention and Control Group (IPCG) will be responsible for the agreement of this policy and recommending necessary changes and updates.

#### 8.0 Communication and Training

- 8.1 Education and Training in the prevention of spread of AROs, hand hygiene and antibiotic prescribing will be provided:
  - On induction to all new starters to the Trust.

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 Annually to all staff as part of the Trust mandatory training programme (<u>see</u> <u>Induction and Mandatory Training Policy OP 41</u>).

Procedure specific training aimed at staff groups operating this procedure (e.g. blood culture training, Aseptic Non-Touch Technique for IV line access) will be advertised by the Trust Education and Training Department.

- 8.2 Divisional Directors, Senior Sisters/Charge Nurses/Managers of clinical areas and Matrons will be informed of the launch and any revisions to this policy.
- 8.3 Compliance will be recorded as Level 1/Level 2 Infection Prevention training.

Criterion	Lead	Monitoring	Frequency	Committee /
MRSA Bacteraemia Cases (KPI)	Divisional Directors/Matrons	IPT	Monthly	IPCG
MSSA Bacteraemia cases (KPI)	Divisional Directors/Matrons	IPT	Monthly	IPCG
MRSA Policy compliance	Lead Nurse Infection Prevention	IPT	Monthly	IPCG
MRSA Screening compliance	Lead Nurse Infection Prevention	IPT	Quarterly	IPCG
Policy Audit	Lead Nurse Infection Prevention	IPT	2 yearly or more frequently as required	IPCG

#### 9.0 Audit Process

#### 10.0 References

Antimicrobial Guidelines - The Royal Wolverhampton Hospital NHS Trust; 2014 http://intranet.xrwh.nhs.uk/antimicrobial\_guidelines/index.html

Coia JE et al; 2006; Guidelines for the control and prevention of Meticillin-resistant *Staphylococcus aureus* (MRSA) in healthcare facilities by the Joint BSAC / HIS / ICNA Working Party on MRSA; *Journal of Hospital Infection*: Supplement 1; Volume 63.

Cookson BD et al; 2006; *Guidelines for the control of glycopeptide-resistant enterococci in hospitals* <u>http://www.his.org.uk/files/4113/7338/2928/GRE\_guidelines.pdf</u>

Cookson BD et al; 2006; *Working Party Guidance on the Control of Multi-Resistant Acinetobacter Outbreaks*; <u>https://www.gov.uk/government/publications/acinetobacter-</u>

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working-party-guidance-on-the-control-of-multi-resistant-acinetobacter-outbreaks/workingparty-guidance-on-the-control-of-multi-resistant-acinetobacter-outbreaks

Department of Health (2014) Implementation of modified admission MRSA screening guidance for NHS. Department of Health Expert Advisory Committee on Antimicrobial Resistance and Healthcare Associated Infection (ARHAI)

Gould K *et a*l; 2008; Guidelines for the prophylaxis and treatment of Meticillin-Resistant *Staphylococcus aureus* [MRSA] infections in the UK; *Journal of Antimicrobial Chemotherapy*; 63: 849-861

Public Health England (2013) Acute trust toolkit for the early detection, management and control of carbapenemase-producing Enterobacteriaceae. <u>http://intranet.xrwh.nhs.uk/pdf/Departments/Infection\_Prevention2/Acute\_Trust\_Toolkit\_Early\_Detection\_Mgmt\_Control\_CPE.pdf</u>

Public Health England (2015) Carbapenemase-producing Enterobacteriaceae: Non acute Toolkit

http://www.gov.uk/government/publications/carbapenemase-producingenterobacteriaceae-non-acute-and -community-tool Public Health England (2010) Carbapenem resistance and NDM-1: public health risks and prevention. http://gov.uk/carbapenem-resistance-and-ndm-1-public-health-risks-and-prevention

Public Health England (2013) Panton-Valentine Leukocidin (PVL): guidance data and analysis.

http://www.gov.uk/government/collections/panton-valentine-leukocidin-pvl-guidancedata-and-analysis

- IP01 Hand Hygiene Policy
- IP08 Operational Policy
- IP10 Isolation Policy for Infectious diseases
- IP12 Standard Precautions
- IP13 Outbreaks of Communicable Infection Policy
- IP19 Blood and Body fluid spillage Policy
- HR22 Staff Dress Code Policy
- CP43 Visiting Policy
- MP05 Antimicrobial Prescribing Policy
- RWT Antimicrobial prescribing Guidelines