



## ANTIMICROBIAL POLICY

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## DOCUMENT HISTORY

(Procedural document version numbering convention will follow the following format. Whole numbers for approved versions, e.g. 1.0, 2.0, 3.0 etc. With decimals being used to represent the current working draft version, e.g. 1.1, 1.2, 1.3, 1.4 etc. For example, when writing a procedural document for the first time – the initial draft will be version 0.1)

Date of Issue	Version No.	Date Approved	Director Responsible for Change	Nature of Change	Ratification / Approval
26 Jun 12	0.3		Consultant Medical Microbiologist		Ratified at Policy Management Group
21 Jul 15	2	21 Jul 15	Consultant Medical Microbiologist	Approved at Policy Management Group	21 Jul 15
Jan 2018	2.1		Consultant Medical Microbiologist	Update/separation of guidelines and policy	
26/01/2018	2.1		Consultant Medical Microbiologist	For ratification	Clinical Standards Group
13/02/2018	3.0	13 Feb 18	Consultant Medical Microbiologist	Approved at	Policy Management Sub-Committee

NB This policy relates to the Isle of Wight NHS Trust hereafter referred to as the Trust

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## 1 Executive Summary

Appropriate antimicrobial use is an issue of high importance, supported by national and global initiatives. The consequences of antimicrobial misuse impact on the success of other healthcare procedures.

This policy should be used in-conjunction with the Trust antibiotic guidelines to ensure appropriate use of antimicrobials, thereby optimising treatment of infection for the individual patient and minimising the risks of antibiotic use for both the individual and the wider population, including antibiotic resistant infections and *Clostridium difficile* infection.

## 2 Introduction

Antimicrobials are essential agents in the treatment of infections. They are valuable, but misuse, overuse or incorrect choices or combinations can lead to failure to treat the infection and increased risk of side effects including *Clostridium difficile* infection (CDI) at the individual patient level, as well as leading to the development of resistance in the wider bacterial population, impacting on the efficacy of antibiotic treatment in others.

Antibiotic resistant organisms are more difficult to treat, leading to use of agents with more side effects and limited efficacy; options become very limited and may even be untreatable. They prolong hospital admission and often cause increased morbidity and mortality.

Prudent use of antimicrobials is essential in the control of development of antimicrobial resistance and in the control of healthcare associated infections.

There is national and international drive to address the global problem of antimicrobial resistance which threatens the effective use of antimicrobials that we have accepted as part of routine healthcare interventions.

Education of prescribers, healthcare staff and the public is needed to support and underpin the message of the need to preserve the effectiveness of antimicrobials and the appropriate and effective treatment of infections with a view to preventing and containing the development of antimicrobial resistance.

Excellent infection control practices, improved cleanliness and surveillance of antimicrobial resistance are also a key component to managing infections and protecting patients.

Compliance with this policy and the associated antimicrobial clinical guidelines is an important part of the overall Trust strategy for prevention and control of Healthcare Associated Infection (HCAI).

## 3 Definitions

CDI *Clostridium difficile* infection  
HCAI Healthcare Associated Infection  
PHE Public Health England

CQC Care Quality Commission  
AMS Antimicrobial Stewardship  
AMSG Antimicrobial Stewardship Group  
OPAT Outpatient Parenteral Antibiotic Therapy  
OHPiT Out-Patient and Home Parenteral Infusion Therapy

## 4 Scope

This policy applies directly to all prescribers and to all healthcare professionals involved in the treatment and management of patients whose care includes the use of antimicrobials.

## 5 Purpose

This policy aims to ensure prudent, appropriate prescribing of antimicrobial agents to provide optimal treatment of infection or suspected infection, whilst reducing the impact of usage in minimising the development of resistant strains.

In line with the recommendations from the Public Health England (PHE) Start Smart then Focus Antimicrobial Stewardship Toolkit for English Hospitals, and NICE Guidelines NG15 Antimicrobial stewardship: systems and processes for effective antimicrobial medicine use, this is a required part of the infection prevention infrastructure.

To ensure compliance with criteria 3 and 9I of the Health and Social Care Act 2008 Code of Practice on the prevention and control of infections and related guidance revised July 2015. Criterion 3 states that providers should ensure appropriate antimicrobial use to optimise patient outcomes and to reduce the risk of adverse events and antimicrobial resistance. Criterion 9I also refers to antimicrobial prescribing and antimicrobial stewardship. Trusts need to demonstrate compliance with the recommendations in the Code of Practice to ensure registration with the Care Quality Commission (CQC).

To manage the use of antibiotics within the Trust and ensure use is prudent. Prudent use is defined as “The cost-effective use of antimicrobials which maximises their clinical therapeutic effect while minimising health care associated infections (HCAI), drug related toxicity and development of antimicrobial resistance.”

- To reduce inappropriate prescribing of antimicrobials and optimise their use and improve patient care, as well as reduce hospital costs and slow the spread of resistance.
- To reduce the risk of healthcare associated infection (HCAI) through:
  - Reducing selection pressure for resistant bacteria by avoiding unnecessary broad-spectrum antimicrobials and promoting targeted antimicrobial therapy where appropriate.
  - Reduce *C.difficile* infection (CDI) by restricting use of the highest risk agents including broad spectrum penicillin's, cephalosporin's, fluoroquinolones and clindamycin.

- Reduce the risk of cannula-related infection by promoting early switch to oral therapy.

## 6 Roles and Responsibilities

6.1 **Consultants and senior grades** have a key role overseeing antimicrobial prescribing of junior doctors, reviewing antimicrobial prescriptions on ward rounds, stopping unnecessary prescriptions and changing others where appropriate.

6.2. **All prescribers** of antimicrobials are responsible for following antimicrobial policies and guidelines, as part of their duty of care to patients and commitment to antimicrobial stewardship.

6.3. **Antimicrobial Pharmacists/Pharmacists** are responsible for antimicrobial prescribing compliance monitoring, intervening where appropriate, and for periodic reports on antimicrobial use within hospital.

6.4 **Nurses** have a key role in ensuring the minimum omitted and delayed doses of antimicrobials.

6.5 The **Consultant Medical Microbiologists** have overall responsibility for ensuring appropriate Antimicrobial Stewardship across the organisation and have a key role in education and training.

## 7 Policy detail/Course of Action

### 7.1 Trust Strategy for Antimicrobial Stewardship (AMS)

Those involved in the prescription, supply and administration of antimicrobials must follow the antimicrobial stewardship principles outlined below in sections 7.2 – 7.5, including use of the Trust antibiotic guidelines. The guidelines are available on the intranet and will be added to the “Microguide” app for use on PCs as well as mobile devices as each guideline is updated.

The Trust Antimicrobial Stewardship Group (AMSG) will ensure appropriate antimicrobial guidelines are in place and accessible as well as promoting AMS on weekly ward rounds of acute wards.

The AMSG will also:

- monitor the use of antibiotics against the guidelines and review any inappropriate antibiotic prescribing and institute corrective measures.
- ensure all antibiotic use and guidelines comply with Department of Health recommendations and national guidelines and codes of practice.
- improve awareness within the Trust of the Antibiotics Policy and any antibiotic related problems or issues.
- develop a structured training programme for all professionals involved in prescribing, administering and monitoring of antibiotics.

- co-ordinate and monitor all antibiotic audits in the Trust and to develop a programme of audit of antibiotics determined by local priorities
- review Trust policies and documents concerning antibiotics.
- follow up on any antibiotic use incidents reported to the group and institute preventative measures.

## 7.2 Stewardship principles - Start Smart – Then Focus

Antimicrobials do not merely treat infections but affect the microbial environment within and beyond the patient. They must be used appropriately and with care. Do not start antimicrobial therapy unless there is clear evidence of infection.

Antimicrobial resistance is a threat to the effective treatment of infections. To lower the risk of developing antibiotic resistance, antimicrobials which are likely to be bactericidal to the pathogen at the site of infection should be chosen. They should be used in adequate doses and for an adequate duration.

Inappropriate use of broad spectrum antimicrobials must be avoided because it promotes the overgrowth of *Clostridium difficile*. Always choose the narrowest spectrum antibiotic appropriate for the indication, using the Trust antibiotic guidelines for empirical treatment, and culture and sensitivity results where available.

Antibiotics must be prescribed for the shortest duration necessary. All antibiotic prescriptions must therefore be for a defined duration or have a documented plan for review.

For all infections document in the medical notes the specific diagnosis and the indicators for making the diagnosis (↑ WCC, ↑temp >38°C, evidence of inflammation, fluid collection, ↑CRP etc.).

Review all sensitivity results daily and always change to the sensitive antibiotic with the narrowest spectrum.

Antibiotic doses should not be missed unless unavoidable. Missed doses are everyone's responsibility and should be investigated and the treatment route, formulation or dose reviewed as necessary to ensure administration and compliance.

### 7.2.1. Role of the Prescriber:

#### Start Smart

- Prescribe the **first dose as a STAT dose** on JAC when given the prompt regarding the start time. This will ensure that treatment can be started promptly. Ensure the nurse is informed so that administration is actioned. The subsequent dose(s) can be scheduled to continue at the next suitable drug round, checking that the interval is appropriate.
- The prescriber must state **the indication** in the medical notes for each antibiotic. This should be as specific as is known at the time e.g. "sepsis?"

cause", and should be updated as more information is available. It is important that other medical staff and healthcare professionals are able to review the antibiotic and sort out any problems related to its use or treatment of the infection. Use the "prescribe by protocol function" on JAC wherever possible which will make the indication clear as well as ensuring compliance with the antibiotic guideline.

- The prescriber must clearly document a planned duration. This can be as a **stop date (on JAC)** - if a defined course is required, **or review date (in the medical notes)** - 48 hours is usually a reasonable initial duration while monitoring response and awaiting culture and sensitivity results. Most IV antibiotics should be reviewed in 48 -72 hours with a view to switching to oral therapy, unless prescribed for a condition requiring an extended IV course. Avoid putting the review date at weekends unless clinically indicated
- Patients and/or carers should be informed that they have been prescribed an antimicrobial and the indication should be explained to the patient where appropriate. Patients and their carers should also be given information about likely side effects, the duration and the risks of taking the antimicrobial. This is especially important at the point of discharge
- If a senior clinician has a good reason to prescribe a non-protected antibiotic outside the Trust Guidelines then this should be documented in the medical notes
- **Protected antibiotics:** Certain antibiotics are restricted in their use and availability in order to protect their efficacy. Antimicrobials not listed in the guidelines will not routinely be stocked on the ward by Pharmacy. Other agents should only be used on the advice of a consultant microbiologist (document the full advice including dose, duration, time and name of the microbiologist). Where this could cause delay detrimental to patient care, Pharmacy will supply up to 24hrs supply pending approval; out of routine hours Pharmacy may supply limited amount up to 72hrs. Protected antibiotics used outside the indications in the policy must be discussed with the Consultant Microbiologist (Contact ext. 4807 Mon – Fri 9am – 5pm; for urgent queries out of hours, contact via switchboard). State "**Discussed with microbiologist**", as well as the indication, in the medical notes. Record the **full advice**, including dose and duration and time and name of consultant microbiologist.

#### **Then Focus:**

- Review the clinical diagnosis and the continuing need for antibiotics at 48-72 hours and document a clear plan of action - the 'antimicrobial prescribing decision'
- The **five 'antimicrobial prescribing decision' options** are:
  1. **Stop** antibiotics if there is no evidence of infection
  2. **Switch** antibiotics from intravenous to oral

3. **Change** antibiotics – ideally to a narrower spectrum – or broader if required
  4. **Continue** and document next review date or stop date
  5. **Outpatient Parenteral Antibiotic Therapy (OPAT)** = OHPiT (Out-Patient and Home Parenteral Infusion Therapy) at the IOW NHS Trust.
- It is essential that the review and subsequent decision is clearly documented in the clinical notes with appropriate changes on JAC.
  - Antibiotics should be reviewed and stopped earlier than the documented date, if clinically indicated (no ongoing evidence of bacterial infection or deep focus i.e. endocarditis, bone/joint infection, *Staphylococcus aureus* bacteraemia where a specific longer duration is recommended). The old mantra of “completing the prescribed antibiotic course” is not evidence based for most infections and the antibiotics can be stopped when the symptoms have resolved.

### 7.2.2 Role of the Nurse:

- Ensure the doctor has made a clear documented plan including the indication and stop/review date for all antibiotic treatments.
- Identify and flag patients on (particularly IV) antibiotics and ensure prompt administration of prescribed treatments.
- Ensure supplies are ordered from pharmacy and will be available. Contact the ward pharmacist, or on-call pharmacist, if advice or medications are needed
- If a patient has **missed any antibiotic dose(s)** identify the reason, document and **escalate the problem**. Ask the doctor to review the patient and treatment, and **resolve the issue** e.g. update the clinical plan, alter the route if necessary, or counsel and encourage a patient refusing doses.
- If the review date is reached, ask the doctor to review the patient, prescription and treatment plan, and to revise and update it with a new review or stop date if appropriate **but, whilst awaiting review, continue to administer the antibiotic.**

### 7.2.3 The Role of the Pharmacist

- The pharmacist verifying a prescription for supply will need to assure that any antibiotic choice is appropriate. Before dispensing a protected or non-routine antibiotic they must first confirm the indication and, if it is outside the guideline, that the consultant microbiologist has been involved in the decision.

- On clinical review of antimicrobial prescriptions, in addition to routine dosage and pharmaceutical monitoring, the pharmacist must check the indication and review or stop date is clearly documented in the medical notes or JAC. It is useful to update the JAC pharmacy handover notes after reference to the notes or discussion with a doctor.
- Monitor response to treatment. In particular check sensitivity results to either a) ensure the antibiotic is effective or b) enable a narrower spectrum agent at the earliest opportunity and suggest IV – oral switch options.
- Take part in scheduled annual point prevalence and other audits as required by the Antimicrobial Stewardship Team to assess Policy compliance and status/progress on Stewardship measures.

### **7.3 Antibiotic Allergy**

Prescribers must check allergy status of the patient before prescribing an antibiotic. If a patient is allergic to an antibiotic (or any other drug), the nature of the reaction, the name of the drug causing the reaction and the date should be recorded on e-CareLogic and JAC. These sources should cross-update and match but sometimes are not consistent so if there is concern both should be checked. Where new information is obtained, ensure the allergy documentation is updated.

The patient/carer should be consulted to verify any inconclusive adverse reactions, and/or the GP summary (with consent).

Drug intolerance or sensitivity e.g. nausea and vomiting, may also be described and should be distinguished from an allergic reaction.

Pharmacists and nurses must check whether a patient has any allergies before dispensing or administering an antibiotic (or any other drug). An antibiotic (or any other drug) must not be dispensed nor administered to a patient if the patient is noted to be allergic to it: the prescriber should be contacted immediately to resolve the discrepancy and document the intended treatment plan.

## **8 Consultation**

All antibiotic guideline updates undergo consultation with the relevant clinical staff for that guideline.

## **9 Training**

This Antimicrobial Policy does have a mandatory training requirement (as part of the infection control mandatory training) which is detailed in the Trusts mandatory training matrix and is reviewed on a yearly basis. The following non-mandatory training is also undertaken:

Antimicrobial stewardship teaching sessions are delivered to various staff groups by the Microbiology Consultant and Antimicrobial pharmacist throughout the year including junior doctor induction.

Implementation and awareness are also undertaken on regular antimicrobial stewardship ward rounds.

## 10 Monitoring Compliance and Effectiveness

- The Antimicrobial Pharmacist and Consultant Microbiologist Antimicrobial Stewardship Lead will be responsible for monitoring. Audit of antimicrobial stewardship will be re-commenced in 2018 on a monthly basis covering acute ward areas. Annual audits of other areas will be performed including surgical prophylaxis and Emergency department.
- National CQUIN audits also currently include antimicrobial stewardship components and the national point prevalence study is also undertaken annually.
- Results will be reviewed at Antimicrobial Stewardship Group and presented at Infection Prevention and Control Committee and other departmental meetings as appropriate. Feed into the automated dashboard on the intranet for easy access to results is intended at the earliest opportunity this can be set up.
- Where poor antimicrobial prescribing is identified, the Antimicrobial Pharmacist and Consultant Microbiologist Antimicrobial Stewardship Lead will work with the relevant department staff and business unit team to improve this.

## 11 Links to other Organisational Documents

Antimicrobial guidelines IOW NHS Trust  
*Clostridium difficile* policy  
Antibiotic resistant bacteria policy  
Sepsis Recognition and Response Policy

## 12 References

Health and Social Care Act 2008 Code of Practice on the prevention and control of infections and related guidance revised July 2015

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/449049/Code\\_of\\_practice\\_280715\\_acc.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/449049/Code_of_practice_280715_acc.pdf)

Public Health England. Antimicrobial stewardship: start smart - then focus. Antimicrobial Stewardship Toolkit for English Hospitals. 2015. <https://www.gov.uk/government/publications/antimicrobial-stewardship-start-smart-then-focus>

NICE Guidelines NG15 Antimicrobial stewardship: systems and processes for effective antimicrobial medicine use

<http://www.nice.org.uk/guidance/ng15/resources/antimicrobial-stewardship-systems-and-processes-for-effective-antimicrobial-medicine-use-1837273110469>

### **13 Appendices**

Appendix A Financial and Resourcing Impact Assessment on Policy Implementation  
Appendix B Equality Impact Assessment (EIA) Screening Tool

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## Financial and Resourcing Impact Assessment on Policy Implementation

*NB this form must be completed where the introduction of this policy will have either a positive or negative impact on resources. Therefore this form should not be completed where the resources are already deployed and the introduction of this policy will have no further resourcing impact.*

<b>Document title</b>	<b>Antimicrobial Policy</b>
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Totals	WTE	Recurring £	Non-Recurring £
Manpower Costs	Nil new		
Training Staff	Nil new		
Equipment & Provision of resources	Nil new		

### Summary of Impact:

**Reduction of inappropriate antibiotic use, antibiotic resistant and C. difficile infections, improving quality of patient antibiotic treatment to improve morbidity, mortality and length of stay. Improve compliance with national standards and CQUIN measures.**

### Equality Impact Assessment

- |   |            |
|---|------------|
| <ul style="list-style-type: none"> <li>▪ Has this been appropriately carried out?</li> <li>▪ Are there any reported equality issues?</li> </ul> | YES/<br>NO |
|---|------------|

If "YES" please specify:

**Use additional sheets if necessary.**

Please include all associated costs where an impact on implementing this policy has been considered. A checklist is included for guidance but is not comprehensive so please ensure you have thought through the impact on staffing, training and equipment carefully and that ALL aspects are covered.

Manpower	WTE	Recurring £	Non-Recurring £
Operational running costs	Nil new		
	Nil new		
<b>Totals:</b>			

Staff Training Impact	Recurring £	Non-Recurring £
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<b>Totals:</b>		

<b>Equipment and Provision of Resources</b>	<b>Recurring £ *</b>	<b>Non-Recurring £ *</b>
Accommodation / facilities needed		
Building alterations (extensions/new)		
IT Hardware / software / licences		
Medical equipment		
Stationery / publicity		
Travel costs		
Utilities e.g. telephones		
Process change		
Rolling replacement of equipment		
Equipment maintenance		
Marketing – booklets/posters/handouts, etc.		
<b>Totals:</b>		

- Capital implications £5,000 with life expectancy of more than one year.

Funding /costs checked & agreed by finance:	
Signature & date of financial accountant:	
Funding / costs have been agreed and are in place:	
Signature of appropriate Executive or Associate Director:	

### Equality Impact Assessment (EIA) Screening Tool

Document Title:	Antimicrobial Policy
Purpose of document	Ensure appropriate antimicrobial use
Target Audience	<i>Those involved in prescribing and administering antimicrobials</i>
Person or Committee undertaken the Equality Impact Assessment	<i>E Macnaughton</i>

1. To be completed and attached to all procedural/policy documents created within individual services.
2. Does the document have, or have the potential to deliver differential outcomes or affect in an adverse way any of the groups listed below? No

If no confirm underneath in relevant section the data and/or research which provides evidence e.g. JSNA, Workforce Profile, Quality Improvement Framework, Commissioning Intentions, etc.

If yes please detail underneath in relevant section and provide priority rating and determine if full EIA is required.

		Positive Impact	Negative Impact	Reasons
<b>Gender</b>	Men	<i>Doesn't discriminate</i>		
	Women			
<b>Race</b>	Asian or Asian British People			
	Black or Black British People			
	Chinese people			
	People of Mixed Race			
	White people (including Irish people)			

	People with Physical Disabilities, Learning Disabilities or Mental Health Issues	<i>Doesn't discriminate</i>		
<b>Sexual Orientation</b>	Transgender			
	Lesbian, Gay men and bisexual			
<b>Age</b>	Children			
	Older People (60+)			
	Younger People (17 to 25 yrs.)			
<b>Faith Group</b>				
<b>Pregnancy &amp; Maternity</b>				
<b>Equal Opportunities and/or improved relations</b>				

Notes:

Faith groups cover a wide range of groupings, the most common of which are Buddhist, Christian, Hindus, Jews, Muslims and Sikhs. Consider faith categories individually and collectively when considering positive and negative impacts.

The categories used in the race section refer to those used in the 2001 Census. Consideration should be given to the specific communities within the broad categories such as Bangladeshi people and the needs of other communities that do not appear as separate categories in the Census, for example, Polish.

### 3. Level of Impact

If you have indicated that there is a negative impact, is that impact:			
		<b>YES</b>	<b>NO</b>
<b>Legal</b> (it is not discriminatory under anti-discriminatory law)			
<b>Intended</b>			

If the negative impact is possibly discriminatory and not intended and/or of high impact then please complete a thorough assessment after completing the rest of this form.

3.1 Could you minimise or remove any negative impact that is of low significance? Explain how below:
3.2 Could you improve the strategy, function or policy positive impact? Explain how below:
3.3 If there is no evidence that this strategy, function or policy promotes equality of opportunity or

improves relations – could it be adapted so it does? How? If not why not?	
Scheduled for Full Impact Assessment	Date:
Name of persons/group completing the full assessment.	E Macnaughton
Date Initial Screening completed	14.1.18

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