

## Control and Use of Antimicrobials

Issue Date	Review Date	Version
14 <sup>th</sup> June 2017	Extended to November 2018	4.1

### Purpose

Antibiotic Use and Control Policy, covering:

- Correct use of antimicrobials
- Governance arrangements for the use of antimicrobials
- Support and assistance at PHNT in the use of antimicrobials

### Who should read this document?

These guidelines are applicable to all staff, to include Ministry of Defence (MOD) personnel; contractors, those employed on a fixed term contract, honorary contract, agency or locum staff, and students affiliated to educational establishments and volunteers.

### Key Messages

Antimicrobials are an array of drugs that can be employed against an array of potentially serious infections. Correct use of antibiotics are cost and lifesaving and enhancing but incorrect use can at best lead to missed opportunities and at worst patient morbidities and mortalities. Incorrectly used antimicrobials themselves pose a risk to health.

### Core accountabilities

<b>Owner</b>	Dr Rosie Fok, Consultant Medical Microbiologist
<b>Review</b>	Antibiotic Steering Group 14 <sup>th</sup> June 2017
<b>Ratification</b>	Antibiotic Steering Group 14 <sup>th</sup> June 2017, agreed by Dr P Hughes Medical Director
<b>Dissemination</b>	Trust wide
<b>Compliance</b>	CQC Essential Standards of Quality & Care The Hygiene Code Patient Safety Alert Department Of Health August 2015 Antimicrobial Stewardship: "Start Smart then – Then Focus" Guidance for Antimicrobial Stewardship in Hospitals (England). Department of Health Updated March 2015

### Links to other policies and procedures

1. Full Trust antibiotic guidelines (hard copy format and electronic App)
2. Cardiothoracic Antibiotic Guidelines for Adult Patients
3. Dosing of Antibiotics in Obesity
4. Management of infection in the diabetic foot
5. Neutropenic Sepsis
6. Orthopaedic Antibiotic Guidelines
7. Prevention of Infection in Asplenic and Hyposplenic Individuals

Version History		
1	May 2014	New guideline
2	December 2015	Annual review
3	November 2016	Annual review
4	June 2017	Modifications regarding policy ownership and principles of prescribing. Changes to available guidance due to guideline retirement. Note ASG reporting to the Quality and Safety Group.
4.1	December 2017	Reformatted to Trust Policy template and definitions added (v4.1).

*The Trust is committed to creating a fully inclusive and accessible service. Making equality and diversity an integral part of the business will enable us to enhance the services we deliver and better meet the needs of patients and staff. We will treat people with dignity and respect, promote equality and diversity and eliminate all forms of discrimination, regardless of (but not limited to) age, disability, gender reassignment, race, religion or belief, sex, sexual orientation, marriage/civil partnership and pregnancy/maternity.*

**An electronic version of this document is available on Trust Documents on StaffNET. Larger text, Braille and Audio versions can be made available upon request.**

## Contents

<b>Section</b>	<b>Description</b>	<b>Page</b>
1	Introduction	4
2	Purpose, including legal or regulatory background	4
3	Definitions	4
4	Duties	5
5	Control and Use of antimicrobials	5
6	Overall Responsibility for the Document	7
7	Consultation and Ratification	7
8	Dissemination and Implementation	7
9	Monitoring Compliance and Effectiveness	8
10	References and Associated Documentation	8
Appendix 1	Dissemination Plan and Review Checklist	9
Appendix 2	Equality Impact Assessment	11

## 1 Introduction

1.1 Antimicrobial agents represent some of the most important and effective available drugs but we are entering an era of rapid antimicrobial resistance dissemination and minimal new drug development.

1.2 About 20% of the antimicrobial prescribing to humans takes place in hospitals<sup>1</sup> and up to 50% of this use is unnecessary. As with all drugs, antimicrobials may cause adverse reactions of varying severity. The use of antimicrobials deranges the normal bacterial flora, leads to the selection of resistant organisms and may precipitate antibiotic associated diarrhoea/*C. difficile* disease. Inappropriate use of antimicrobials affects not just the individual but the entire population and has the potential to drive up the rate and complexity of both hospital and community-associated infections.

1.3 To preserve the effectiveness of our antimicrobials, reduce adverse effects and minimise healthcare infections, antimicrobials should be used prudently.

## 2 Purpose

2.1 The purpose of this policy is to provide a framework to ensure that antimicrobials are used appropriately and prudently within Plymouth Hospitals NHS Trust (referred to as the Trust). This will be overseen by the Antibiotics Steering Group.

2.2 The framework is intended and designed to optimise effective treatment of infections, improve patient outcomes and minimise the risk of healthcare-associated infections.

2.3 The framework enables the Trust to comply with the requirements of the Health and Social Care Act 2015<sup>1</sup> and the requirements for registration with the Care Quality Commission

## 3 Definitions

**Antibiotics** - substances produced by a microorganism that inhibit or kill other microorganism, commonly used to refer to all antimicrobials, as done in this document

**Antimicrobials** - any substance (natural or synthetic) with antibacterial, antifungal, antiviral, antiprotozoal properties

**DDD** Defined Daily Doses - The assumed average maintenance dose per day for an antimicrobial used for its main indication in adults, as defined by the World Health Organisation

**ESBL** Extended-spectrum beta-lactamases - enzymes produced by certain bacteria, which cause one or more antibiotics not to work

**MDR** - multi drug resistant pathogens

**NICE** - National Institute for Health and Care Excellence

**PIMS** - Patient Information and Management System

**IV** – intravenous

## 4 Duties

4.1 The Antimicrobial Stewardship Team will facilitate continuous improvement in prudent prescribing and help implement the Antimicrobial Steering Group's annual programme, especially by conducting audit and surveillance and in the development of guidelines.

4.2 There will be a board level champion to promote prudent prescribing. In addition each Service Line with significant antimicrobial use will designate a senior lead (preferably Consultant and Senior Nurse) to assist the Antimicrobial Steering Group in their duties and form part of the group.

## 5 Control and Use of Antimicrobials

5.1 Prudent prescribing is defined by the Clinical Services Prescribing Subgroup<sup>3</sup> as: *'The use of antimicrobials in the most appropriate way for the treatment or prevention of human infectious diseases, having regard to the diagnosis (or presumed diagnosis), evidence of clinical effectiveness, likely benefits, safety, cost (in comparison with alternative choices), and propensity for the emergence of resistance. The most appropriate way implies that the choice, route, dose, frequency and duration of administration have been rigorously determined.'*

5.2 Prudent antimicrobial prescribing is dependent on antimicrobials being used by motivated prescribers, well educated in the use of antimicrobials and supported by the Trust with freely available prescribing resources and information. Senior support and leadership is vital to this endeavour.

5.3 The Overarching Principles of Prudent Prescribing of antimicrobials are:

- Antibiotics should only be used where there is evidence of an infection for which antimicrobials will be of benefit and be effective.
- In the face of severe or life threatening infection, broad spectrum empirical antimicrobial treatment as detailed in the PHNT Antimicrobial Treatment Guidelines must be started promptly, within 60 minutes.
- Advice on which samples and investigations should be submitted is detailed in the Antibiotic Treatment Guidelines and Pathology Handbook. Broad spectrum antimicrobials cause collateral clinical and ecological damage and are often not as effective as narrow spectrum agents. As soon as safe and practicable, broad spectrum antimicrobials should be deescalated to a narrower spectrum.
- When starting an antibiotic the reason for selection should be clearly documented in the clinical notes and on the drug chart
- The appropriateness of antimicrobial treatment, the suitability of the route and length of treatment course should be reviewed on a daily basis
- Where broad spectrum antibiotics are selected they should be deescalated to a narrower spectrum as soon as clinically appropriate usually based on microbiology culture results

- When selecting antimicrobials consider the likelihood that the infection is due to multi drug resistant pathogens (MDR) eg ESBL, use all available information systems to identify prior colonisation and modify treatment regimens to cover MDR infections where appropriate.
- Tests and investigations must be reviewed at the earliest opportunity. All specific Microbiological investigation results should be reviewed no less frequently than on daily basis.
- Intravenous administration of antibiotics is only required where the optimal treatment is only available via the IV route, where the patient is severely ill or unable to tolerate the oral route.
- A review date should be noted on the drug chart and in the patient notes as soon as the optimal treatment duration becomes clear.
- When selecting antimicrobials the likelihood that the patient is allergic to the drug must be considered before prescribing. In addition to the patient history, the notes and other available information systems should be used eg patient notes, PIMS etc. In line with NICE guidance on drug allergies<sup>4</sup>, patients with a history of allergy should be assessed and the allergy label removed where it is not correct. In general second line antibiotics used in those with a suspected allergy are less effective than a first line agent.

5.4 Elements required to control the use of antimicrobials and promote prudent prescribing include:

- **A formulary of antimicrobials.** This is a group of antimicrobials approved for use within the Trust. Treatment guidelines indicate that certain antimicrobials are subject to restrictions ie may only be prescribed by Consultants or according to pre agreed treatment protocols. The formulary is reviewed periodically by the Antibiotic Stewardship Team and new additions to the formulary must be approved by the Medicines Utilisation & Assurance Committee.
- **Trust guidelines on antimicrobial use.** These are accessible via the *Infection* folder in the Clinical Guidelines section of the Document Library available on StaffNET and cover common infections and conditions for which antimicrobials are indicated. Available documents are as noted in section 9 and an electronic App guideline is free to download and available on all Trust desktops and via the Trustnet home page

Guidelines are, where appropriate, evidence based or according to national approved guidelines where possible. Guidelines should be followed where appropriate, but where guidelines do not exist Senior or Microbiological advice may be required. Antibiotic Guidelines are reviewed no less frequently than biennially or as appropriate by the Antibiotics Steering Group.

- **A programme of education on the appropriate use of antimicrobials.** This will be agreed as part of the annual antimicrobial stewardship programme in cooperation with Microbiology, Pharmacy, and Learning and Development.

- **Surveillance and monitoring of antimicrobial use.** This should preferably be based on Defined Daily Doses (DDD) of antimicrobial drugs or a locally developed and verified alternative. This surveillance will be based on a combination of central and ward audit data and reviewed by the Antibiotic Steering Group on an annual basis. There will be regular ward rounds by a ward based team of Clinical Microbiologist and the Antibiotic Pharmacist.
- **A programme of audits.** These will be agreed annually by the Antimicrobial Steering Group against Trust guidelines or other appropriate standards, and will form part of the annual antimicrobial stewardship programme.

## 6 Overall Responsibility for the Document

The Antimicrobial Stewardship Team is responsible for developing, implementing and reviewing this policy.

## 7 Consultation and Ratification

The design and process of review and revision of this policy will comply with The Development and Management of Formal Documents.

The review period for this document is set as default of five years from the date it was last ratified, or earlier if developments within or external to the Trust indicate the need for a significant revision to the procedures described.

This document will be reviewed by the group and ratified by the Director.

Non-significant amendments to this document may be made, under delegated authority from the Director, by the nominated owner. These must be ratified by the Director.

Significant reviews and revisions to this document will include a consultation with named groups, or grades across the Trust. For non-significant amendments, informal consultation will be restricted to named groups, or grades who are directly affected by the proposed changes.

## 8 Dissemination and Implementation

Following approval and ratification, this policy will be published in the Trust's formal documents library and all staff will be notified through the Trust's normal notification process, currently the 'Vital Signs' electronic newsletter.

Document control arrangements will be in accordance with The Development and Management of Formal Documents.

The document owner will be responsible for agreeing the training requirements associated with the newly ratified document with the named Director and for working with the Trust's training function, if required, to arrange for the required training to be delivered.

## 9 Monitoring Compliance and Effectiveness

9.1 Trust standards for antimicrobial prescribing are outlined in section 5 of this policy and in the Trust Antibiotic Guidelines

9.2 The Antimicrobial Stewardship Group will monitor compliance with the Antimicrobial policy. This will include reports from the programme of antimicrobial ward rounds, continuous audit of antimicrobial prescribing, and other audits in the group's annual programme or performed on an ad hoc basis.

9.3 Governance continuity will be maintained through reporting to the Quality and Safety Group, Medicines Utilisation and Assurance Committee and the Infection Prevention and Control Sub-Committee.

## 10 References and Associated Documentation

1. Department of Health (2015). The Health and Social Care Act 2008: Code of Practice for the NHS on the prevention and control of healthcare associated infections and related guidance.
2. Specialist Advisory Committee on Antimicrobial Resistance (SACAR). Antimicrobial Framework. Journal of Antimicrobial Chemotherapy (2007) 60, Suppl. 1, i87–i90  
[http://jac.oxfordjournals.org/cgi/reprint/60/suppl\\_1/i87](http://jac.oxfordjournals.org/cgi/reprint/60/suppl_1/i87)
3. Antimicrobial Stewardship: “Start Smart then – Then Focus” Guidance for Antimicrobial Stewardship in Hospitals (England). Department of Health 2015
4. NICE GC 183 Drug allergy Published September 2014  
<https://www.nice.org.uk/guidance/CG183>

<b>Core information</b>			
<b>Document Title</b>	<b>Control and Use of Antimicrobials</b>		
<b>Date Finalised</b>	14 <sup>th</sup> June 2017		
<b>Previous Documents</b>			
<b>Previous document in use?</b>	Yes		
<b>Action to retrieve old copies</b>	Archived electronically by IPCT. Also held by the Trust Document Controller		
<b>Dissemination Plan</b>			
<b>Recipient(s)</b>	<b>When</b>	<b>How</b>	<b>Responsibility</b>
Trustwide			

<b>Review Checklist</b>		
<b>Title</b>	Is the title clear and unambiguous?	Yes
	Is it clear whether the document is a policy, procedure, protocol, framework, APN or SOP?	Yes
	Does the style & format comply?	Yes
<b>Rationale</b>	Are reasons for development of the document stated?	Yes
<b>Development Process</b>	Is the method described in brief?	Yes
	Are people involved in the development identified?	Yes
	Has a reasonable attempt has been made to ensure relevant expertise has been used?	Yes
	Is there evidence of consultation with stakeholders and users?	Yes
<b>Content</b>	Is the objective of the document clear?	Yes
	Is the target population clear and unambiguous?	Yes
	Are the intended outcomes described?	Yes
	Are the statements clear and unambiguous?	Yes
<b>Evidence Base</b>	Is the type of evidence to support the document identified explicitly?	Yes
	Are key references cited and in full?	Yes
	Are supporting documents referenced?	Yes
<b>Approval</b>	Does the document identify which committee/group will review it?	Yes
	If appropriate have the joint Human Resources/staff side committee (or equivalent) approved the document?	Yes
	Does the document identify which Executive Director will ratify it?	Yes
<b>Dissemination &amp; Implementation</b>	Is there an outline/plan to identify how this will be done?	Yes
	Does the plan include the necessary training/support to ensure compliance?	Yes
<b>Document</b>	Does the document identify where it will be held?	Yes

<b>Control</b>	Have archiving arrangements for superseded documents been addressed?	Yes
<b>Monitoring Compliance &amp; Effectiveness</b>	Are there measurable standards or KPIs to support the monitoring of compliance with and effectiveness of the document?	Yes
	Is there a plan to review or audit compliance with the document?	Yes
<b>Review Date</b>	Is the review date identified?	Yes
	Is the frequency of review identified? If so is it acceptable?	Yes
<b>Overall Responsibility</b>	Is it clear who will be responsible for co-ordinating the dissemination, implementation and review of the document?	Yes

<b>Core Information</b>	
<b>Manager</b>	Dr Rosie Fok
<b>Directorate</b>	Clinical Support Services
<b>Date</b>	14 <sup>th</sup> June 2017
<b>Title</b>	Control and Use of Antimicrobials
<b>What are the aims, objectives &amp; projected outcomes?</b>	These guidelines have taken into considerations the cultural/religious and gender needs of patients
<b>Scope of the assessment</b>	
<b>Collecting data</b>	
<b>Race</b>	
<b>Religion</b>	
<b>Disability</b>	
<b>Sex</b>	
<b>Gender Identity</b>	
<b>Sexual Orientation</b>	
<b>Age</b>	
<b>Socio-Economic</b>	
<b>Human Rights</b>	
<b>What are the overall trends/patterns in the above data?</b>	
<b>Specific issues and data gaps that may need to be addressed through consultation or further research</b>	

<b>Involving and consulting stakeholders</b>				
<b>Internal involvement and consultation</b>				
<b>External involvement and consultation</b>				
<b>Impact Assessment</b>				
<b>Overall assessment and analysis of the evidence</b>				
<b>Action Plan</b>				
<b>Action</b>	<b>Owner</b>	<b>Risks</b>	<b>Completion Date</b>	<b>Progress update</b>