Antimicrobial Stewardship Policy

Department / Service:	Pharmacy Department
Originator:	Sadiya Hussein, Lead Pharmacist Antimicrobial Stewardship
Accountable Director:	Dr J Walton/Dr J Berlet, Chief Medical Officers
Approved by:	Medicines Safety Committee
Date of approval:	8th May 2024
Ratified by:	TIPCC 23rd May 2024
First Revision Due: This is the most current document and should be used until a revised version is in place	8th May 2027
Target Organisation(s)	Worcestershire Acute Hospitals NHS Trust
Target Departments	All
Target staff categories	All staff, including locum/visiting staff, who prescribe, dispense, supply, administer or monitor antimicrobial therapy within Worcestershire Acute Hospitals NHS Trust

Policy Overview:

This policy describes the framework for utilisation of antimicrobial prescribing guidelines and the promotion of good antimicrobial stewardship to ensure safe and effective prescribing of all antimicrobials, resulting in a reduction of healthcare associated infections, improvement in patient outcomes and a slowing of emergence of antimicrobial resistance at Worcestershire Acute Hospitals NHS Trust (the Trust).

In addition, this policy provides a structure for compliance with the NICE guideline NG15 (1) (Antimicrobial stewardship: systems and processes for effective antimicrobial medicine use), Patient Safety Alert (NHS/PSA/Re/2015/007) (2), criterion 3 and 9 of the Health and Social Care Act 2008: Code of practice for health and adult social care on prevention and control of infections and related guidance 2015 (3).

Prudent antimicrobial prescribing is a key component of an Antimicrobial Stewardship (AMS) Programme.

Compliance with this policy is mandatory for all staff employed by and / or working within the Trust. It is the professional responsibility of all staff to update themselves on this policy on an annual basis.

Latest Amendments to this policy: June 2021
Significant re-write of previous version of policy (replaces Worcestershire Secondary Care adult prescribing policy). Removal of specific prescribing advice as this is now included in the MicroGuide App. Updated references. Includes role and responsibilities of the Trust Antimicrobial Stewardship Group and associated new roles such as Divisional AMS Leads.
V1.1.0 – Updated with clinical information and clarity post-feedback. H Morton
Latest Amendments to this policy: April 2024
V2- Updated when next revision is due S Hussain Section 4.4 Inclusion of role in implementing electronic prescribing Section 4.4 Inclusion of Antimicrobial Stewardship Group's role regarding Patient Group Directions

Antimicrobial Stewardship Policy

1 Introduction

Infection is an important cause of admission to hospital as well as a major complication of in-hospital stay. Appropriate and timely antimicrobial therapy is a vital component of the management of many infection problems. However, antimicrobials may cause adverse effects, and there is the added problem that injudicious use of antibiotics contributes to the development of antibiotic resistance. Over recent years, increases in numbers of cases of *Clostridioides difficile* infection (CDI) have also highlighted the importance of improved antibiotic prescribing policies in preventing this important disease. The UK government developed a 2013 – 2018 AMR strategy (6) which included three strategic aims, underpinned by a number of actions. These aims included improving knowledge and understanding of AMR, conservation and steward effectiveness of treatments and stimulation of new products.

The legislation underpinning this policy is the Health and Social Care Act 2008: Code of practice for health and adult social care on prevention and control of infections and related guidance 2015 (known as The Hygiene Code). This policy assists the Trust in complying with Criterion 3 – ''to ensure appropriate antimicrobial use to optimise patient outcomes and to reduce the risk of adverse events and antimicrobial resistance'' and Criterion 9 – "the healthcare provider will have and adhere to policies designed for the individual's care that will help prevent and control infection" (1).

In addition this policy provides a framework for compliance with the NICE guideline NG15 (2) (Antimicrobial stewardship: systems and processes for effective antimicrobial medicine use), and the Patient Safety Alert (NHS/PSA/Re/2015/007) Addressing antimicrobial resistance through implementation of an antimicrobial stewardship programme (3).

Recommendations from these documents require the Trust to establish Antimicrobial Stewardship (AMS) programmes to ensure prudent use of antimicrobials within the organisation. This includes an ongoing programme of audit, revision and update of practices relating to antimicrobial use such as:

- monitoring and evaluating antimicrobial prescribing and how this relates to local resistance patterns
- providing regular feedback to individual prescribers in all care settings about:
    - their antimicrobial prescribing, for example, by using professional regulatory numbers for prescribing as well as prescriber (cost centre) codes
    - patient safety incidents related to antimicrobial use, including hospital admissions for potentially avoidable life-threatening infections, infections with *Clostridioides difficile* or adverse drug reactions such as anaphylaxis
- providing education and training to health and social care practitioners about antimicrobial stewardship and antimicrobial resistance
- integrating audit into existing quality improvement programmes
- Ensuring that roles, responsibilities and accountabilities are clearly defined within an antimicrobial stewardship programme. (2)

2 Scope of this document

This policy applies to all staff, including student, locum and agency staff, who prescribe, dispense, supply or administer antimicrobials within Worcestershire Acute Hospitals NHS Trust.

The extent of the responsibility will vary with the grade of staff involved in prescribing, supplying/dispensing and administering antimicrobials, but should include as a minimum, a check of the patient's allergy status, the indication for antimicrobial therapy (as specified in the medical notes or on the drug chart) and the intended duration of therapy.

3 Definitions

AMR – Antimicrobial resistance. Resistance of a microorganism to an antimicrobial drug that was originally effective for treatment of infections caused by it and applies to antivirals, antifungals, antiparasitics and antibiotics. (1)

AMS - Antimicrobial Stewardship. The use of coordinated interventions to improve and measure the use of antimicrobials by promoting optimal selection, dose and duration of an antimicrobial that results in the best clinical outcome for the treatment or prevention of infection with minimal impact on subsequent resistance development. (1)

AMSP - Antimicrobial Stewardship Programme. Antimicrobial stewardship programmes are composed of the organisational structures and action plans required to implement Antimicrobial Stewardship.

Antimicrobial Prescriber - Those members of staff identified as having the authority to instigate antimicrobial treatment, as described in this policy.

ASG – **Antimicrobial Stewardship Group**. Consists of representatives from pharmacy, microbiology, infection prevention, divisional AMS leads and divisional governance teams

AWaRe group – Access, Watch, Reserve. Grouping of antibiotics onto risk groups depending on spectrum and antimicrobial resistance risk.

CDI – *Clostridioides difficile* infection

CDI period of increased incidence – more than one case of *C. difficile* on a ward in a 28-day period

CMO – Chief Medical Officer

CPE – Carbapenamase-producing Enterobacteriales

DIPC – Director of Infection Prevention and Control

ESBL – **extended spectrum beta lactamase**. An enzyme produced by some Gram-negative bacteria which confers resistance to multiple beta-lactam antibiotics e.g. cephalosporins; often accompanied by other resistance genes

EUCAST – European Committee on Antimicrobial Susceptibility Testing, committee of the European Society of Clinical Microbiology and Infectious Diseases

MicroGuide: Digital platform to host the Trust's antimicrobial prescribing guidelines in an accessible format for on-line and Smart electronic device access

MRSA - Meticillin resistant *Staphylococcus aureus*

MSC - Medicines Safety Committee

MSSA - Meticillin sensitive *Staphylococcus aureus*

OPAT – Outpatient Parenteral Antibiotic Therapy. A service that enables the safe delivery of parenteral or complex antimicrobial therapy to patients who otherwise do not require inpatient hospital care.

SSTF – Start Smart Then Focus (4). Public Health England Approach to effective antimicrobial prescribing practices.

TIPCC – Trust Infection Prevention and Control Committee

4 Responsibility and Duties

4.1 Corporate Responsibility

It is the Trust's responsibility to ensure staff who prescribe, dispense, supply, administer or monitor antimicrobial therapy receive appropriate education and training to enable safe and effective use of antimicrobials. The Trust must also support the review and audit of antimicrobial prescribing and administration and the necessary actions arising from these processes.

4.2 Medicines Safety Committee (MSC)

Reviews and approves this policy.

Reviews and approves antimicrobial prescribing guidelines.

Scrutinises the quarterly AMS performance report.

Considers AMS-related key performance standards on the Trust's Worcestershire Reporting Network (WREN) and in Divisional AMS performance reports. Obtains assurance that any necessary action plans are in place and delivered against.

Escalates any unresolved issues associated with this policy to the Clinical Governance Group (CGG).

4.3 Trust Infection Prevention and Control Committee (TIPCC)

Scrutinises reports on antimicrobial stewardship as part of assurance in relation to the Hygiene Code.

Considers AMS-related key performance standards in Divisional Infection Control performance reports.

Scrutinises CDI, MRSA and MSSA case review with regards to AMS related issues.

Challenges inappropriate practice and inappropriate antimicrobial prescribing decisions.

Obtains assurance that any necessary action plans are in place and delivered against.

Escalates any unresolved issues associated with this policy to the Clinical Governance Group (CGG) and Trust Management Executive (TME).

4.4 Antimicrobial Stewardship Group (ASG)

Prioritises the activities of the lead AMS pharmacist in their work towards encouraging optimal use of antimicrobials in the Trust.

Engages with the divisional teams to develop, implement and monitor the annual antimicrobial stewardship action plan.

Leads on the development, implementation and audit of new policies and protocols related to antimicrobial prescribing, with reference to local variations in antibiotic susceptibility.

Reviews the release of new antimicrobials and liaises with the Herefordshire and Worcestershire Area Prescribing Committee where formulary approval is sought.

Facilitates the review and audit of current practice.

Maintains the Antimicrobial Policy and monitors adherence to it.

Reviews resistance data and identifies ways of feeding this information back to Divisional teams and individual prescribers.

Reviews antimicrobial audit and consumption data, exploring the reasons for very high, increasing or very low volumes of antimicrobial prescribing, or use of antimicrobials not recommended, and facilitates feedback to the Medicines Safety Committee, divisions and prescribers.

Reviews incidents related to antimicrobial prescribing.

Advises, as required, the Medicines Safety Committee on issues relating to antimicrobial prescribing.

Facilitates education and awareness for all staff involved in the prescription, administration and monitoring of antimicrobials.

Involved in implementing electronic prescribing to help safe practice in antimicrobial prescriptions.

Review antibiotic Patient Group Directions (PGDs) to make sure they align to the current AMS guidance.

4.5 Divisional Governance Teams

Review AMS Key Standards and performance indicators on WREN dashboard and produce a divisional AMS performance report to be presented at ASG on a minimum quarterly basis or in a frequency determined by MSC/TIPCC.

Coordinate production of divisional action plans, if required, and ensure action plans are monitored and delivered against.

4.6 Chief Medical Officer (CMO)

The CMO is the Accountable Director for this policy and ensures the Trust has appropriate structures in place to enable effective Antimicrobial Stewardship

4.7 Director of Infection Prevention and Control (DIPC)

The role of the DIPC is set out within the Hygiene Code, and includes ensuring that evidence based policies and procedures in relation to the control of infection are developed and their implementation is monitored, and challenging inappropriate practices. They are a member of the ASG.

4.8 Clinical Director of Pharmacy/ Associate Director for Medicines Optimisation

Supports the Lead Pharmacist for AMS and direct other pharmacists to monitor and manage the antibiotic guidelines as appropriate.

Chairs ASG.

4.9 Lead Consultant Medical Microbiologist AMS

Ensures that national guidance on best practice in Antimicrobial Stewardship is reflected in the Trust's guidelines.

Leads on choice of antimicrobial agents for Trust empiric antimicrobial prescribing guidelines, taking into account NICE and other national professional body guidelines, current available evidence of best practice, local and national antimicrobial resistance patterns and EUCAST recommendations.

Facilitates relevant antimicrobial resistance surveillance within the Trust.

Confirms microbiology laboratory sensitivity testing meets EUCAST recommendations.

Ensures that laboratory testing and the order of organisms to antimicrobials is reported is in line with national and local treatment guidelines, the local formulary and aligns with the Trust's medicines optimisation and AMS priorities.

Supports the Trust Lead AMS Pharmacist in the management of the local antimicrobial medicines formulary.

Takes the lead role for developing an audit programme to assure the compliance with relevant guidelines.

Takes the lead role in developing an educational programme to ensure all prescribers, nursing and pharmacy staff have appropriate knowledge on antimicrobial therapy.

4.10 Consultant medical microbiologists

Provide expert advice about the use of antibiotics and treatment of individual patients, including promotion of adherence to guidelines and guidance on antimicrobial prescribing in areas of high complexity and/or where the evidence base is lacking.

Deliver training and educational events aimed at improving knowledge on antibiotic prescribing, particularly to medical staff at induction and in core curriculum training.

Challenge inappropriate prescribing encountered during ward rounds/clinical working.

4.11 Lead Pharmacist AMS

Promotes the appropriate use of antimicrobial agents to prescribers, nursing staff and pharmacy staff throughout the Trust.

Assists the lead Consultant Medical Microbiologist AMS in developing and takes a lead role in implementation of an AMS audit programme.

Coordinates the Trust's participation in regional and national audits of antimicrobial prescribing.

Produces quarterly report for MSC and TIPCC, including antimicrobial usage and use of high risk antibiotics.

Facilitates weekly antibiotic audits on wards affected by a CDI period of increased incidence.

Leads on the development and maintenance of systems to monitor antimicrobial usage.

Provides input into antibiotic stock control.

Manages introduction of new antimicrobials to the local medicines formulary.

Leads on the development and maintenance of electronic versions of antibiotic guidelines for publication of Trust antimicrobial prescribing guidelines.

Assists with the development and delivery of educational programmes on antibiotic prescribing to staff, who prescribe, dispense, supply, administer or monitor antimicrobial therapy within the Trust.

Recognises and addresses inappropriate antimicrobial prescribing where it is identified from review of inpatient or outpatient antibiotic prescriptions.

Advises prescribers and nursing staff on the monitoring requirements for antimicrobial agents that require therapeutic drug monitoring, the appropriate monitoring regimen and provide guidance on the interpretation of the results of monitoring and any necessary change to the antimicrobial treatment regimen.

4.12 Divisional AMS Leads

Supports divisional governance teams in the review of the divisional AMS performance data, together with the divisional lead pharmacist and to inform on appropriate action plans for the division, particularly with view on changing prescribing and review of antibiotic therapy.

Works with the Trust AMS team to understand reasons for any adverse trends.

Works with the Trust AMS team to identify appropriate actions to correct adverse prescribing trends. This may be through suggestion of workable initiatives, championing AMS at divisional level and appropriate clinical team meetings.

Acts as a liaison between the AMS group and their division. In effect, the role is intended as something of a translator by trying to explain AMS strategy to the divisions and feeding back concerns or misunderstandings divisions/specialities may be about what they are being asked to the AMS group and thus helping us to identify workable solutions and actions.

Promotes discussion of AMS-related issues at relevant divisional governance meetings or similar, as appropriate to ensure reports and appropriate actions are discussed and implemented.

4.13 Consultants

Ensure that their medical team's empiric antibiotic prescribing is in line with the Trust's antimicrobial prescribing guidelines or treatment is in line with reported sensitivities or discussed with medical microbiologist/Infectious Disease consultant.

Review all antimicrobial prescriptions on the consultant ward round and uses a Start Smart Then Focus approach for empiric antibiotic prescribing, ensuring that the outcome of the review is clearly documented in the patient's medical records.

Actively lead on and supports clinical audit and quality improvement projects relating to AMS within in their clinical speciality.

Input into the development and review of empiric antimicrobial prescribing guidelines relevant to their clinical speciality.

4.14 Prescribers (prescribing doctor/non-medical prescribers)

Familiarise themselves with current Trust policies/guidelines on antimicrobial prescribing, the recommendations of the Department of Health's 'Start Smart then Focus' initiative and the NICE guidance on Antimicrobial Stewardship, and adhere to these at all times.

Are competent with regards to Infection Control and antimicrobial prescribing, in line with the Antimicrobial Resistance and Healthcare Associated Infections (ARHAI) Antimicrobial Stewardship competencies, and seek additional training where necessary in order to meet these competencies.

Ensure appropriate microbiology samples are taken before antibiotics are given whenever possible. The assessing clinician should perform a focused risk assessment to determine feasibility of delaying antimicrobial administration to collect samples for culture versus the risk

of patient deterioration. In most cases, even in the septic patient, it should be possible to collect at least a blood culture before antimicrobial administration.

Assess the patient's allergy status before prescribing antimicrobial therapy. Where identified, challenges any history of beta-lactam allergy and clearly documents severity and reaction details.

Determines and documents infection severity for every antibiotic prescription.

Prescribe empiric antimicrobial treatment according to Trust antimicrobial prescribing guidelines.

Consider and review the results of prior microbiology tests before choosing an antibiotic, taking into account resistant isolates e.g. MRSA, ESBL and CPE, when deciding on which antibiotic to prescribe for an individual patient.

Seek advice from a Medical Microbiologist for complex patients, infections which fall outside of guidelines, in cases of resistant organisms and/or treatment failure as soon as is practicable.

Discuss the risks and likely benefits of antimicrobial agents with the patient, their relatives or carers at the time of prescribing, or as soon as practicable.

Ensure that every antibiotic prescription has a route, dose, an indication and a stop/review date documented on the drug chart at the time of prescribing, and to transcribe these details when an antibiotic prescription is rewritten.

Review each patient prescribed antimicrobials daily using SSTF approach. Clearly document the outcome of the review in the patient's medical record.

For patients receiving parenteral antimicrobial therapy, apply the Trust's IV to Oral Switch guidance and prescribe oral antimicrobials within 24 hours of it being clinically appropriate.

Ensure that therapeutic drug monitoring or other monitoring of antimicrobial therapy is carried out where indicated, and act on the results of such monitoring and seek advice where necessary.

4.15 Ward pharmacists

Promote best principles of antimicrobial prescribing practice within their clinical area of expertise.

Review patients on antimicrobial therapy in their clinical area daily to ensure that all antibiotic prescriptions have route, dose, an indication and a stop/review date documented on the drug chart and advices prescribers if issues identified.

Challenge antimicrobial prescriptions which do not comply with local or national guidelines or microbiology/ Infectious Disease specialist advice, in particular with respect to choice of antibiotic, infection severity and specification of duration.

Prompt prescribers to review antimicrobial therapy following SSTF principles and the local IV to oral switch guidance.

Pro-actively provide guidance to prescribers and nursing staff on the monitoring requirements for antimicrobial agents that require therapeutic drug monitoring, the appropriate monitoring regimen and provide guidance on the interpretation of the results of monitoring and any necessary change to the antimicrobial treatment regimen.

Discuss unauthorised antimicrobial use with the Lead Pharmacist AMS.

4.16 Nursing staff

Check the allergy status of every patient prior to administering antibiotics to that patient.

Challenge any antimicrobial prescription which do not follow the antibiotic guidelines or where documentation of indication, duration of treatment and review is not clear.

Administer antibiotics in a timely manner, especially in cases where a diagnosis of sepsis has been made. All antibiotics must be administered within one hour of the prescribed time in cases of “immediately life-threatening infection” (defined for the purposes of this policy as an “immediate threat to life due to deranged physiological parameters suggesting acute organ dysfunction”. It is impossible to detail every scenario this may apply to but should typically include patients with a systolic blood pressure of < 80 mmHg and/or National Early Warning Score 2 (NEWS2) values of ≥5, unless there are limitations on patient treatment escalation, e.g. due to patient co-morbidity or preference).

Administer antibiotics to patients for the prescribed duration of therapy as specified on the drug chart, and seek a review of antibiotic therapy when a review date has been reached

Identify patients on intravenous antimicrobials who are taking other medication orally to prescribers, in order that the need for intravenous therapy might be reviewed.

Ensure blood samples for antibiotic drug level monitoring are taken in a timely manner and considers results before administering the next dose of antimicrobials, according to local guidelines. Seek pharmacist advice, where necessary.

Explain the recommended duration of therapy and importance of completing the course for antimicrobial therapy supplied on discharge from an inpatient area.

5 Policy detail

All prescribers receive induction and training in prudent antimicrobial use and are familiar with the antimicrobial resistance and stewardship competencies. (1)

The Trust establishes a local Antimicrobial Stewardship Team – the Antimicrobial Stewardship Steering Group (ASG). The membership of ASG includes the Director of Pharmacy/Associate Director of Medicines Optimisation, the DIPC, the lead pharmacist AMS, medical microbiologist, a senior clinical representative from each division (AMS clinical lead) and nursing representatives at minimum.

AMS ward rounds are in place to review antimicrobial prescribing for high risk patients and/ or antimicrobials at ward level.

Antimicrobial consumption is monitored on a quarterly basis in line with national reporting requirements, including:

- Total antibiotic consumption
- Carbapenem use
- Antibiotic consumption by NHS England AWaRe group

5.1 Trust Antimicrobial Formulary and Prescribing Guidelines

The local antimicrobial formulary is in line with the Trust's priorities of medicines management and ASG.

The Trust antimicrobial prescribing guidelines and formulary are reviewed at least every two years or more frequently, as required by local and national surveillance data and national guidance change.

The Trust antimicrobial prescribing guidelines are available in an easily accessible electronic format on-line and via smart device App.

5.2 Laboratory testing

Microbiological diagnosis, susceptibility testing and reporting of results is available in a timely manner, preferably within 48 hours.

The susceptibility of organisms to empiric antimicrobials on microbiological culture and sensitivity reports is in line with national and local treatment guidelines.

The susceptibility of organisms to empiric antimicrobials on microbiological culture and sensitivity reports is in line with the local antimicrobial formulary.

5.3 Prescribing in Infection

All antimicrobial prescriptions follow the START SMART THEN FOCUS principle

START SMART:

- Do not start antimicrobials in the absence of clinical evidence of infection.
- If there is evidence or suspicion of bacterial infection, prompt effective antibiotic treatment must be initiated within one hour of diagnosis (or as soon as possible) in patients with life threatening infections. (Avoid the inappropriate use of broad-spectrum antibiotics).
- Allergy status must be assessed and recorded in the medical notes and the drug chart. If the patient gives a history of an allergy to an antimicrobial, the nature of that allergy must be recorded in the medical notes and the allergy section of the treatment sheet as this information is essential in deciding whether it is safe to prescribe a chemically similar compound.
- All antimicrobial prescribing must be in line with 'Trust Antimicrobial Prescribing Guidelines.' Where there is no local guideline, national guidance and/or microbiology opinion must be sought. If there is non-adherence to guidelines, the reason for this must be documented in the patient's notes.
- Choice of antimicrobials is guided by clinical signs and symptoms, history and recent laboratory results. Previous patient microbiology results must be reviewed as this may

influence initial choice of antimicrobial as indicated in the Trust Antimicrobial Prescribing Guidelines (e.g. patient with previous positive MRSA or ESBL result).

- In less severe infections, use antimicrobial agent(s) with an adequate spectrum to cover only the expected pathogens. Broad-spectrum antimicrobials are sometimes not as potent against certain pathogens as the appropriate narrower-spectrum antimicrobial.
- Obtain cultures first if clinically feasible, however administration of antibiotics in patients with sepsis must not be delayed whilst waiting for cultures to be taken. It should be possible to collect a blood culture before antimicrobial administration in the great majority of cases.
- Antimicrobial doses are adjusted according to the patient's clinical condition, taking into account factors affecting drug absorption, distribution and clearance
- Multiple daily dosing antimicrobials must be administered at appropriately spaced intervals to ensure optimal therapeutic effect. Recommended timings:
    - Three times daily dosing: at 06.00, 14.00, 22.00 hours
    - Four times daily dosing: 06.00, 12.00, 18.00, 22.00 hours
- Document on the treatment sheet and in the medical notes: clinical indication, severity grade of infection, duration or review date, route and dose. Also document in the notes the information that the patient has received on the likely benefits and adverse effects of the antimicrobials prescribed.
- Administration of antimicrobials by the intravenous route must only be for patients who are severely ill, unable to tolerate oral treatment, if indicated by the diagnosis (e.g. infective endocarditis), where oral therapy would not provide adequate coverage or tissue penetration, or where the antimicrobial can only be administered intravenously.
- Always consider prompt control of the likely source of infection – for example, by wound debridement, abscess drainage, removal of infected cannulas, etc.

THEN FOCUS:

The clinical team responsible for the patient must review all antimicrobial prescriptions and new microbiology results on every ward round and change to pathogen-directed narrow-spectrum treatment promptly where appropriate.

The clinical team responsible for the patient must review the clinical diagnosis and continuing need for antibiotics within 48 to 72 hours and make a clear plan of action – 'The antimicrobial prescribing decision'. The clinical review and subsequent decision must be clearly documented in the patient notes. Biomarkers such as CRP and procalcitonin should be employed as needed to support clinical judgement. The Trust's Antimicrobial Prescribing Guidelines suggest treatment durations and provide guidance on when safe to switch for IV to oral medication. In complex cases, specialist advice from a microbiologist or infectious diseases physician should be sought.

The five possible 'Antimicrobial Prescribing Decision' are:

Stop, Switch, Change, Continue and OPAT

- Stop antibiotics if there is no evidence of infection
- Switch antibiotics from intravenous to oral

- Change antibiotics – ideally to a narrower spectrum – or broader if required
- Continue and review again at 72 hours
- Outpatient Parenteral Antibiotic Therapy (OPAT).

5.4 Prescribing Antimicrobial Prophylaxis

Allergy status must be assessed and recorded in the medical notes and the drug chart. If the patient gives a history of an allergy to an antimicrobial, the nature of that allergy must be recorded in the medical notes and the allergy section of the treatment sheet as this information is essential in deciding whether it is safe to prescribe a chemically similar compound.

All antimicrobial prescribing must be in line with 'Trust Antimicrobial Prescribing Guidelines.' Most surgical procedures, for which antibiotics have been shown to be effective, only require a single dose of antibiotics pre-procedure for surgical prophylaxis. Where procedures require post-operative doses, this is outlined in the Trust Antimicrobial Prescribing Guidelines. Where there is no local guideline, national guidance and/or microbiology opinion must be sought. If there is non-adherence to guideline, the reason for this must be documented in the patient's notes. A repeat dose of antibiotic prophylaxis may be required if:

- Significant blood loss >1500 ml (Adults), or >25 mg/kg (children)
- Prolonged procedures (time interval will depend on antibiotic used, refer to Trust Antimicrobial Prescribing Guidelines)

All prophylactic antibiotics are prescribed on the inpatient drug chart and time of administration is clearly documented.

The pre-operative dose is given within 60 minutes prior to skin incision or tourniquet inflation to enable peak levels at the surgical site to be present at the start of the surgical procedure.

5.5 Plan for implementation

The policy will be developed by ASG and approved at MSC. ASG will be responsible for implementation of the policy details.

Divisional Directors and Clinical Leads and matrons/ departmental managers have a responsibility to ensure that copies of the Antimicrobial Policy are available to their staff.

5.6 Dissemination

Dissemination of policy updates is via communication to divisional AMS leads, governance teams and divisional directors as well as via Trust communication newsletter. The policy will be available via the Trust's Key Document pages on the intranet.

5.7 Training and awareness

All new doctors receive training on the antibiotic policy at induction. Training is repeated in the core curriculum training and is delivered by the Consultant Microbiologist, or a senior pharmacist.

Pharmacists receive training on induction and via completion of the baseline training booklet for pharmacists. Training is delivered by the lead pharmacist AMS.

All clinical staff receive AMS awareness training on induction. Training is delivered via the Infection Prevention Control Team.

Consultants are responsible for ensuring that all medical officers in their team are trained to be competent in all aspects in the prescribing of antimicrobials, as specified in this policy, nursing and departmental managers are responsible that any non-medical prescribers working for them are similarly competent.

6 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:
5	Organisations adherence to policy	Annual audit review using the organisational audit tool from NICE NG15	Once a year in quarter one of each financial year	Lead pharmacist AMS	Medicines Safety Committee	Once a year
5	Adherence to SSTF principles in antimicrobial prescribing	Weekly AMS ward audits (min of 10 per month) clinical teams KPIs: record of drug allergy status; documentation of indication; adherence to antimicrobial prescribing guidance; requests of appropriate antimicrobial sampling, timely review of initial therapy, review of microbiological results; IV to oral switch consideration	Every month	Consultants	Clinical Governance Teams will review results on WREN and ask speciality/divisional leads to create action plans, where required	As required by ASG, depending on performance, minimum each quarter

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5	Adherence to SSTF principles in antimicrobial prescribing	Antibiotic prescribing Point Prevalence Surveys KPIs: record of drug allergy status; documentation of indication; timely review of initial therapy; adherence to antimicrobial prescribing guidance	Once a quarter	Lead pharmacist AMS	Clinical Governance Teams will review results on WREN and ask speciality/divisional leads to create action plans, where required	As required by ASG, depending on performance, minimum each quarter
5	Antibiotic consumption	Calculation of defined daily doses of antibiotics used by Trust / division	Once a quarter	Lead pharmacist AMS	MSC IPCSG	First business meeting each quarter
5	Antimicrobial prescribing incidents	Review of incidents on Datix	Once a quarter	Medicines Safety Officer	MSC	Once each quarter
5	Antimicrobial drug level monitoring	Audit Standards:	Once a year during quarter 3 of financial year	Lead pharmacist AMS	MSC	Once a year

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:
		Dosing in line with prescribing guidance; monitoring in line with guidance – time of sampling; dose adjustment following monitoring result on line with guideline				

8. Policy Review

This policy will be reviewed every two years.

7 References

Reference	Code
1. The Health and Social Care Act 2008: Code of Practice on the prevention and control of infections and related guidance. Updated 24th July 2015. Available at https://www.gov.uk/government/publications/the-health-and-social-care-act-2008-code-of-practice-on-the-prevention-and-control-of-infections-and-related-guidance	
2. National Institute for Health and Care Excellence. Antimicrobial stewardship: systems and processes for effective antimicrobial medicine use. NICE guideline NG15. Published 18th August 2015. Available at http://www.nice.org.uk/guidance/ng15	NICE NG15
3. NHS England. Patient Safety Alert - Addressing antimicrobial resistance through implementation of an antimicrobial stewardship programme. Published 18th August 2015. Available at https://www.england.nhs.uk/2015/08/psa-amr/	NHS/PSA/Re/2015/007
4. Public Health England. Start smart then focus: antimicrobial stewardship toolkit for English hospitals. Published 17th November 2011. Available at https://www.gov.uk/government/publications/antimicrobial-stewardship-start-smart-then-focus	
5. HM Government. Tackling Resistance 2019–2024.The UK's five-year national action plan. Published 24th January 2019. Available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/784894/UK_AMR_5_year_national_action_plan.pdf	
6. UK Five Year Antimicrobial Resistance Strategy 2013 to 2018. Published 10 September 2013. Available at https://www.gov.uk/government/publications/uk-5-year-antimicrobial-resistance-strategy-2013-to-2018	

8 Background

8.1 Equality requirements

This policy has a neutral impact on all equality groups – see Supporting Document 1.

8.2 Financial risk assessment

The implementation of this document was found to have no financial impact – see Supporting Document 2.

8.3 Consultation

Contribution List

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

Designation
Director for Infection Prevention and Control
Director for Medicines Optimisation
Lead consultant AMS

This key document has been circulated to the chair(s) of the following committees / groups for comments:

Committee

8.4 Approval Process

This policy will be agreed by ASG and ratified by MSC.

8.5 Version Control

Key amendments to this guideline

Date	Amendment	Approved by:	Version number:
April 2021	New policy		1.0.0
April 2024	Updates in section 4.4	ASG	1.2.0

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 & Worcestershire STP - Equality Impact Assessment (EIA) Form

Section 1

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

Name of Lead for Activity	Astrid Gerrard

Details of individuals completing this assessment	**Name**	**Job title**	**e-mail contact**
	Astrid Gerrard	Lead pharmacist AMS	astrid.gerrard@nhs.net
Date assessment completed	29/03/2021		

Section 2

Activity being assessed (e.g. policy/procedure, document, service redesign, policy, strategy etc.)	Antimicrobial Stewardship Policy
What is the aim, purpose and/or intended outcomes of this Activity?	This policy describes the framework for utilisation of antimicrobial prescribing guidelines and the promotion of good antimicrobial stewardship to ensure safe and effective prescribing of all antimicrobials, resulting in a reduction of healthcare associated infections, improvement in patient outcomes and a slowing of emergence of antimicrobial resistance at Worcestershire Acute Hospitals NHS Trust (the Trust). It is in line with NICE guidance, the Health and Social Care Act 2008, Patient Safety Alert

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	(NHS/PSA/Re/2015/007) and government guidance on tackling antimicrobial resistance.			
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.	none			
Summary of engagement or consultation undertaken (e.g. who and how have you engaged with, or why do you believe this is not required)	No consultation undertaken as this policy applies to all staff and patients.			
Summary of relevant findings	none			

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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		No positive or negative impacts identified This policy applies to all staff members and patients equally
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. carers; care leavers; homeless; Social/Economic deprivation, travelling **Other Vulnerable and Disadvantaged Groups** (e.g. carers; care leavers; homeless; Social/Economic deprivation, travelling communities etc.)		x		
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		

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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
	Not applicable			
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	
Date signed	
Comments:	
Signature of person the Leader Person for this activity	

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Date signed	
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:	

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.