HSE Antimicrobial Resistance and Infection Prevention Control (AMRIC)

Role of the registered nurse and midwife as antimicrobial stewards

20th November 2024

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HSE AMRIC Presentation

Topics covered today
• Background • Overview of antibiotic resistant (AMR) microorganisms • Why is AMR and AMS important • Antimicrobial stewardship (AMS)
• Antimicrobial stewardship guidance • Role of the registered nurse/midwife in AMS
• 8 principles of AMS as applied to registered nurse/midwife • IV-oral switch
• Resources & initiatives • Recap on key messages • Q&A

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Antibiotic resistant (AMR) microorganisms

Occurs when an antimicrobial that was previously effective, is no longer effective to treat an infection or disease caused by a microorganism.

AMR is in the WHO top ten list of threats to human health in the coming decade

“Antimicrobial resistance is one of the greatest health challenges of our time, and we cannot leave it for our children to solve.”

Dr Tedros Adhanom Ghebreyesus WHO Director-General

(November 2020)

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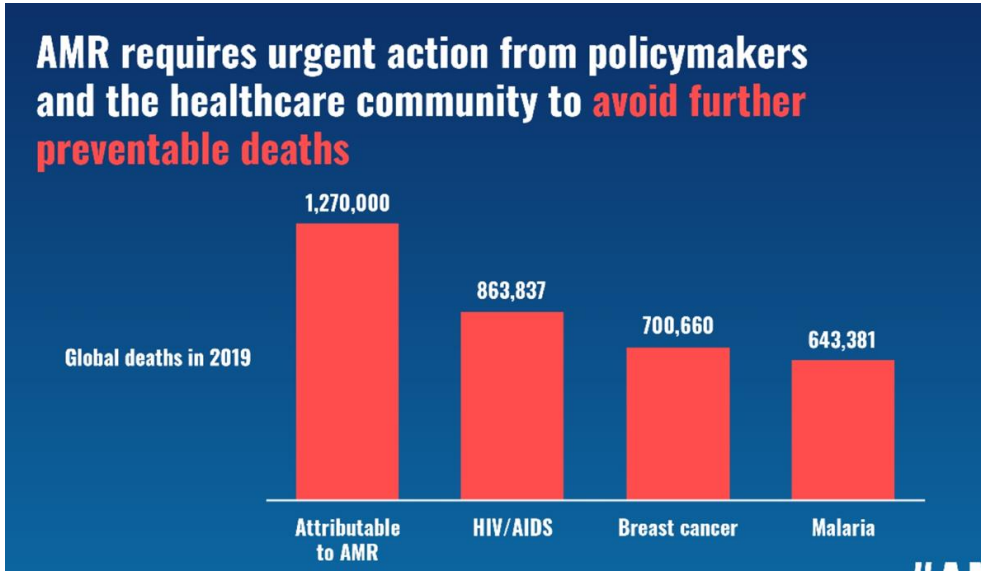
Antibiotic resistant (AMR) microorganisms

AMR is directly responsible for 1.3 million deaths

Contributes to 5 million deaths every year.

But this is just the start.

AMR also threatens our economic future, with an estimated global annual cost of up to US$3.4 trillion by 2030 and 28 million people pushed to poverty by 2050



Source: Global burden of bacterial antimicrobial resistance in 2019: a systematic review, The Lancet Jan 2022.

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Antibiotic resistant (AMR) microorganisms

Behind every number, there is real, human cost.

- Limited treatment options
- extended hospital stays
- constant medication
- prolonged loss of income
- medical debt
- Poverty
- family loss, grief…

The burden keeps adding up, and lives are seriously impacted, in some cases fatally.

Antimicrobial resistance is invisible, but its victims are not.

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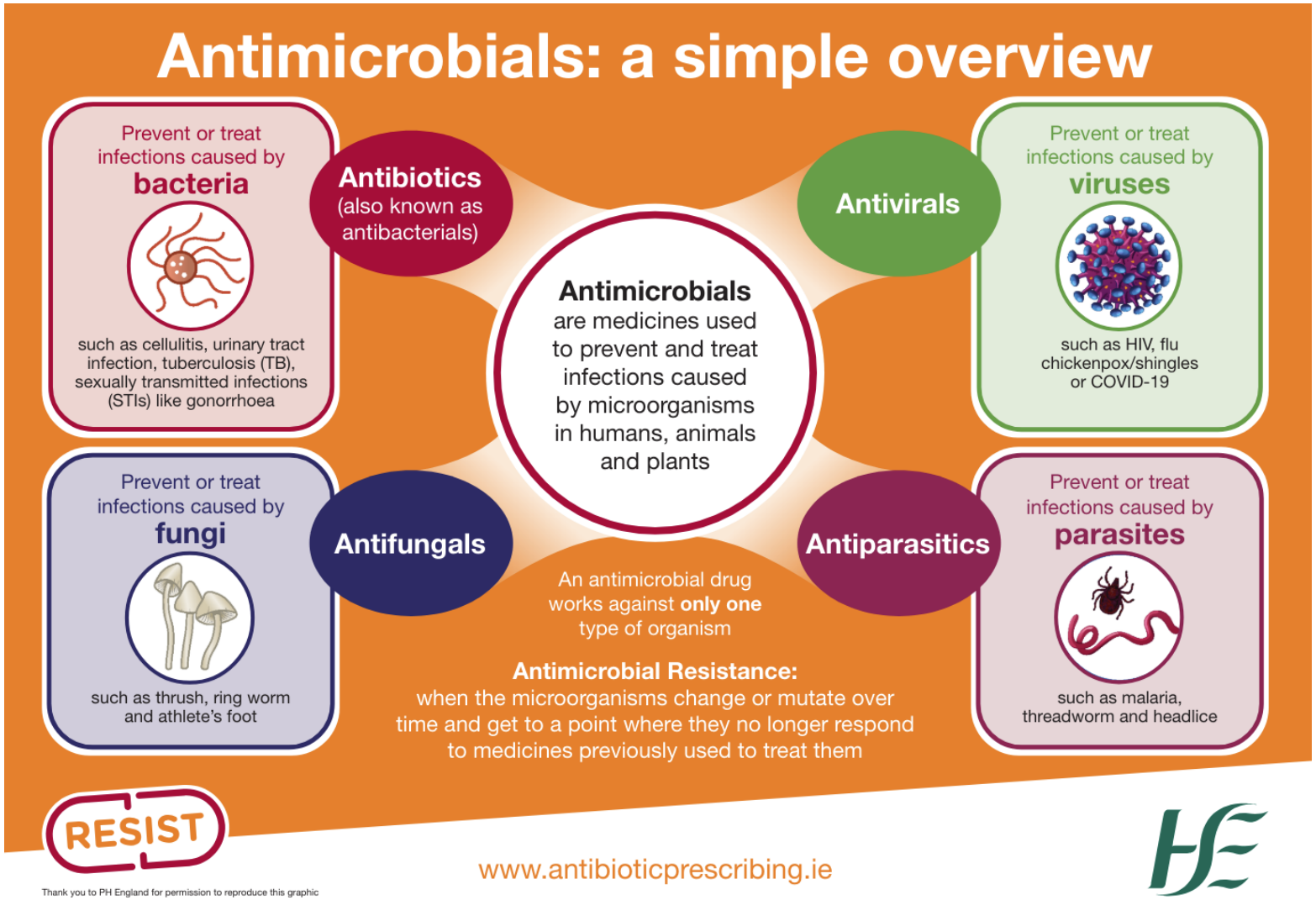
Why is AMR and why is it important?

- Antimicrobials are key to the practice of modern medicine and enable medical interventions and treatments such as chemotherapy and organ transplant.
- AMR --- common infections are more difficult to treat and microorganisms resistant to many antimicrobials, so called ‘superbugs’, are now common in many countries.
- Overuse and misuse of antibiotics is driving AMR



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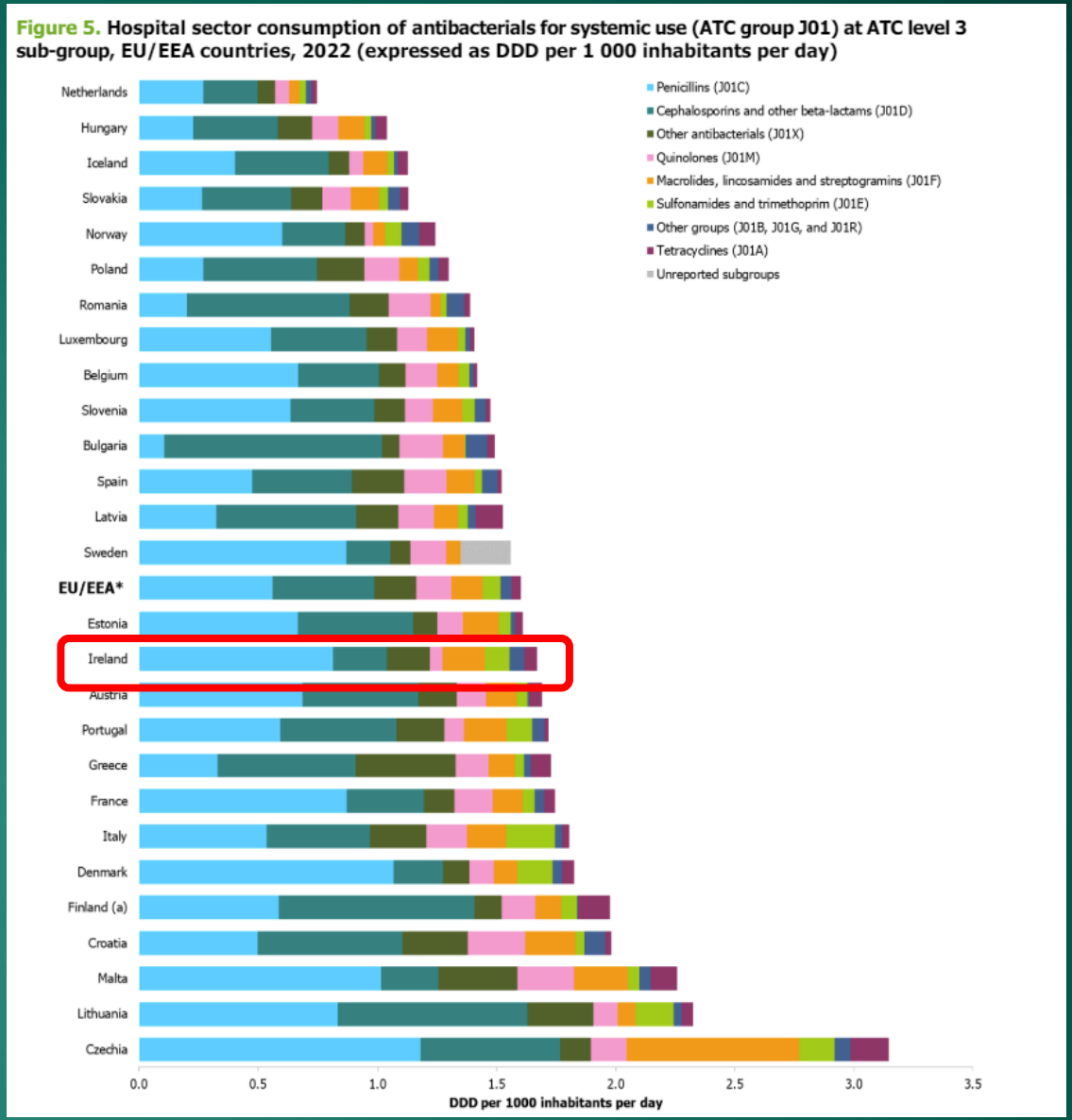
International comparison

- ECDC 2022 report: consumption of antibiotics in the hospital sector is above the EU/EEA mean[1]
- Results from 2023 ECDC PPS show increased prevalence of antimicrobial use [2]

	ECDC PPS 2011-2012	ECDC PPS 2016-2017	ECDC PPS 2022-2023
AU prevalence (% patients with AU)	34.4	39.7	40.8

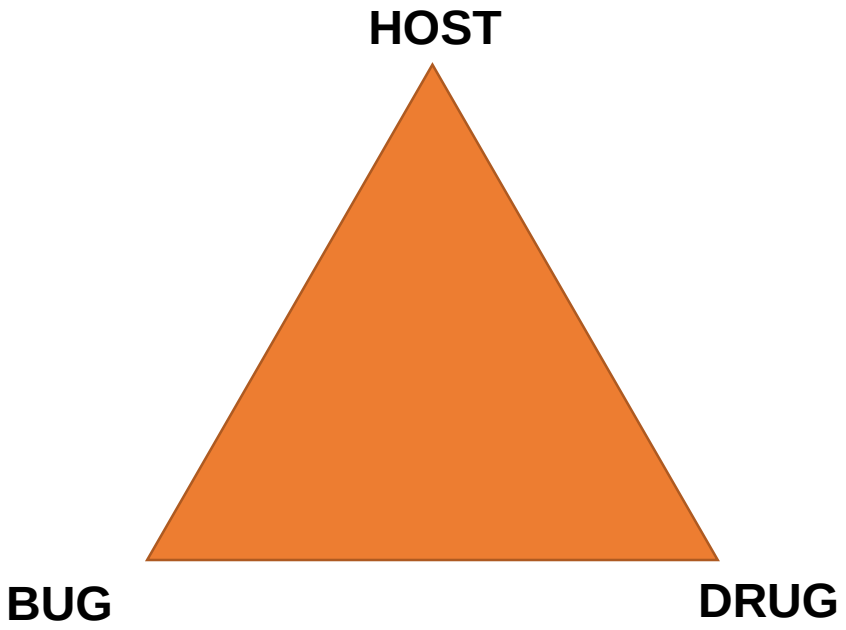


https://www.ecdc.europa.eu/en/publications-data/surveillance-antimicrobial-consumption-europe-2022

https://www.ecdc.europa.eu/en/publications-data/point-prevalence-survey-healthcare-associated-infections-and-antimicrobial-use-5

Antimicrobial Resistance

- Complex and unique problem
  - Antimicrobials are a unique therapeutic class
  - Individual patient vs. population
  - All clinicians prescribe antimicrobials
- Requires a collaborative and multidisciplinary approach



What is antimicrobial stewardship (AMS)

Antimicrobial stewardship is a set of coordinated measures designed to improve and measure the appropriate use of antimicrobials.

The key elements of antimicrobial stewardship are to ensure you:

- Prescribe the right antibiotic, antiviral, antifungal for the patient/client/resident
- Right dose, duration, and route for the condition you are treating
- Least amount of harm for the patient
- Do not prescribe for viral infections
- Only use antibiotics for suspected bacterial infections
- Promote vaccination
- Practice good infection control

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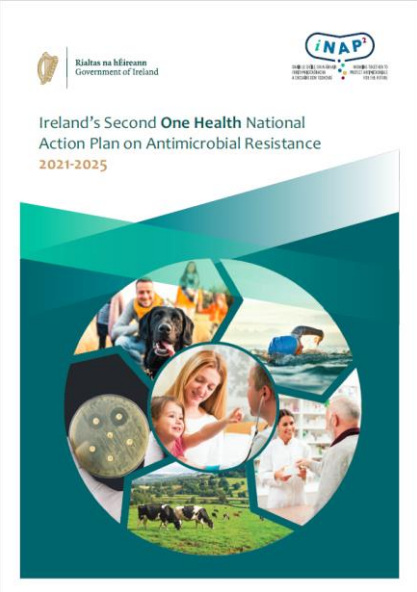
Purpose of AMS

- support delivery of the right antimicrobial, at the right time, dose, route and duration to meet patients' needs
- protect patients from avoidable harm related to inappropriate antimicrobial use
- ensure that antimicrobials remain effective for the future by limiting the emergence of antimicrobial resistance

- Key patient safety activity

Antimicrobial Stewardship

Plan of Action

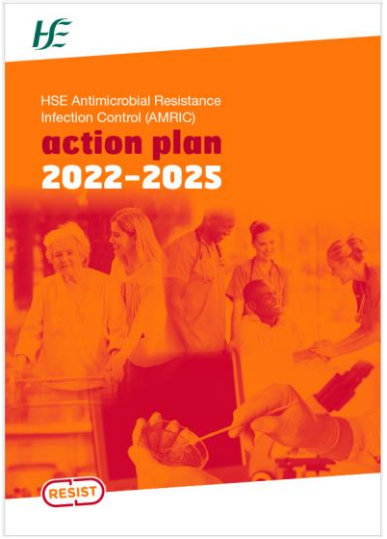


Ireland's Second National Action Plan on Antimicrobial Resistance (iNAP^2) 2021-2025

- Strategic Objective 1: Improve awareness and knowledge of antimicrobial resistance
- Strategic Objective 2: Enhance surveillance of antibiotic resistance and antibiotic use
- Strategic Objective 3:Reduce the spread of infection and disease
- Strategic Objective 4: Optimise the use of antibiotics in human and animal health
- Strategic Objective 5: Promote research and sustainable investment in new medicines, diagnostic tools, vaccines and other interventions

HSE AMRIC National Action Plan 2022-2025

- Reduce overall antibiotic use
- Acute hospital consumption of antibiotics
- Compliance with SAP duration



HSE-AMRIC

How do we minimise the ecological impact of AMR?

Antimicrobial Stewardship (AMS)

AMS can encompass any **action that promotes responsible use of antimicrobials**
Can also be described as a systematic approach to optimising antimicrobial therapy, through a variety
of structures and interventions.

Infection prevention & control (IPC)

IPC is a collection of practices, resources and specialist support that together help to prevent infections and minimise their impact when they do occur. Effective in reducing and controlling healthcare associated infections.

Surveillance

Surveillance is ongoing systematic collection, analysis and interpretation of health related data essential to planning, implementation and evaluation

Why is it important to engage nurses/midwives in AMS

First point of contact for patients/residents/clients

Nurses/Midwives are a trusted source of advice on a range of health-related issues

Nurses/Midwives play a critical role in AMS

- Administering antibiotics and monitoring for infection
- Obtaining samples for culture
- Educating patients and promoting healthy practice e.g. vaccination
- Monitoring antibiotic use
- Collaborating with the healthcare team

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Antimicrobial stewardship and shared decision-making

- AMS involves many health professionals each brings different knowledge, skills, abilities.

- Interprofessional collaboration in antimicrobial management is likely to enhance AMS processes, outcomes.

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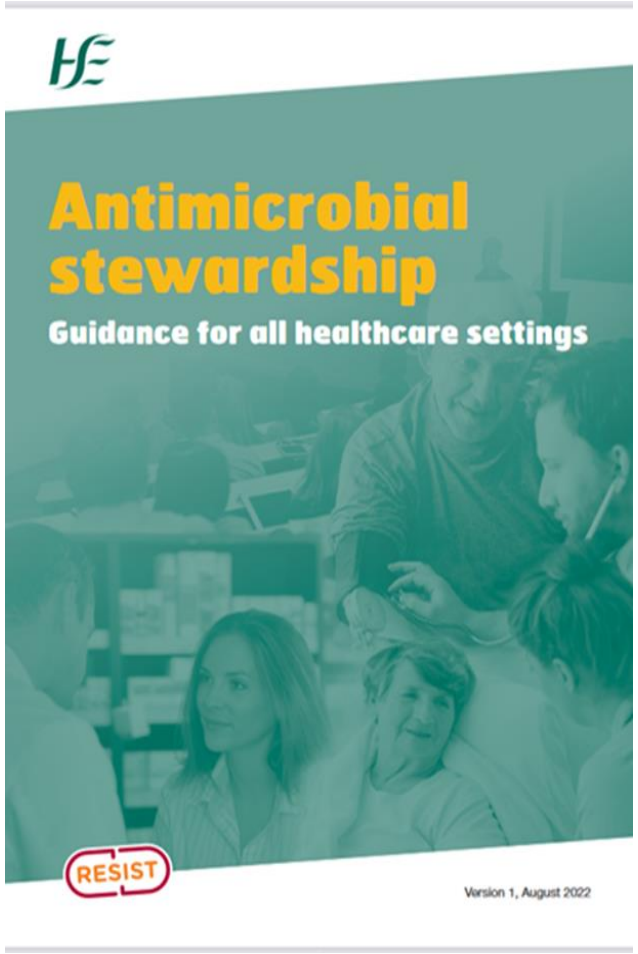
Edwards, R., Drumright, L. N., Kiernan, M. & Holmes, A. (2011) Covering more Territory to Fight Resistance: Considering Nurses' Role in Antimicrobial Stewardship. Journal of infection prevention, 12, 6-10, p.5.

Why is AMS important

- You are all doing some form of AMS every day
- The role of the nurse/midwife in good AMS is set out in the HSE AMRIC AMS Guidance for all healthcare settings
- All healthcare workers are antimicrobial stewards
- Need to maximise impact
- Need to curb, and hopefully reverse, the growing trend of antimicrobial resistance.



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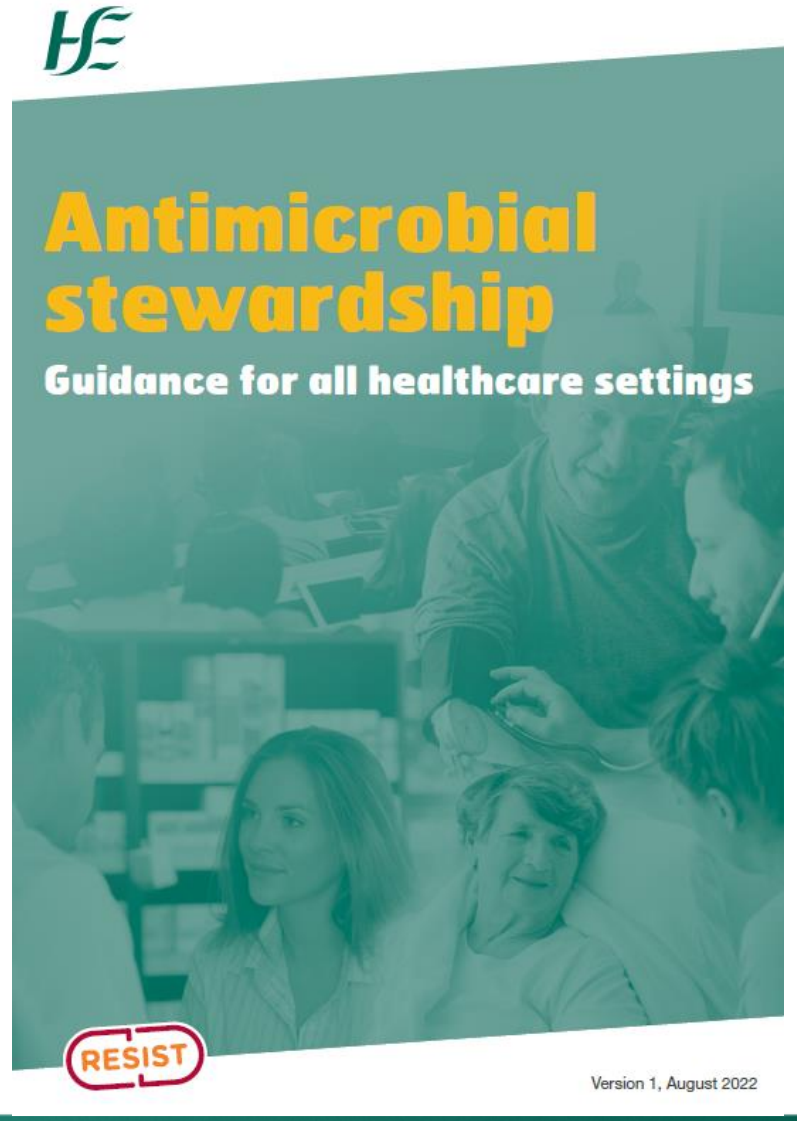
Role of the Nurse/midwife in AMS

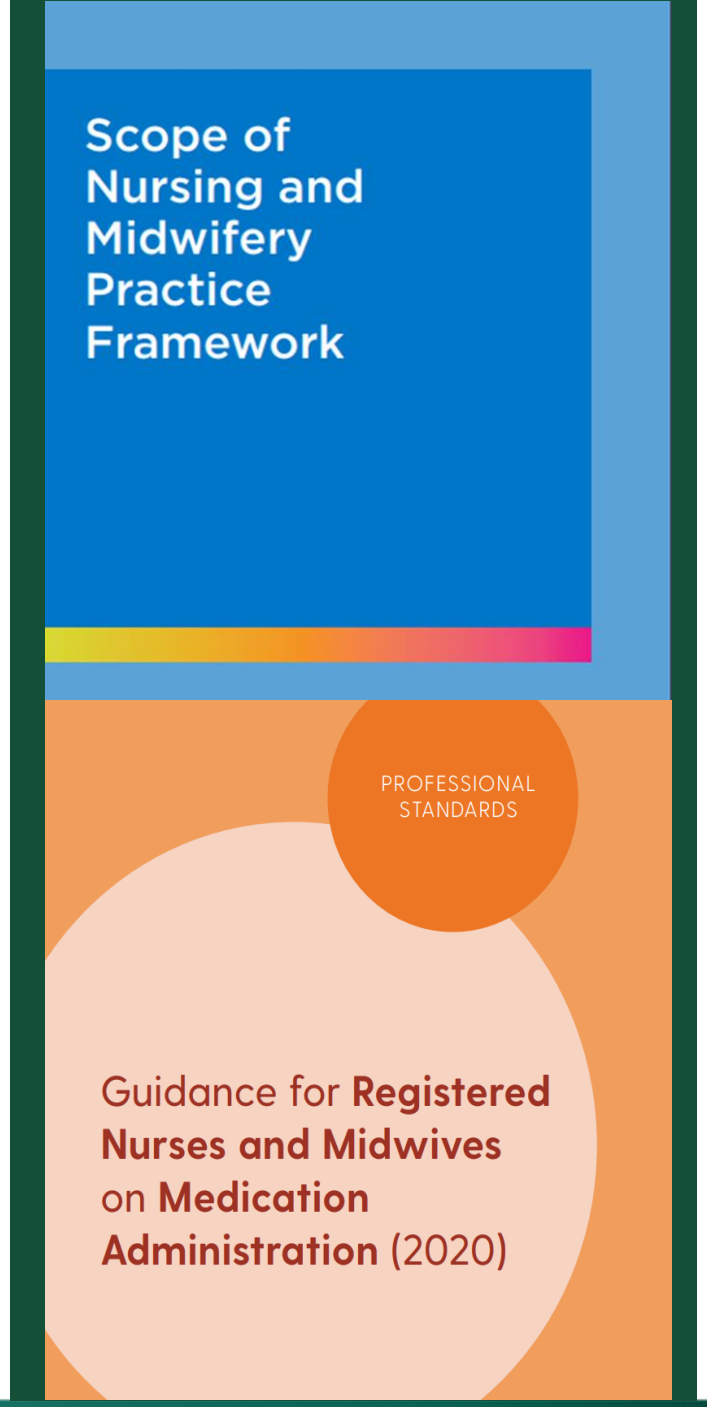
Principles of good AMS

1. Recognise clinical evidence of infection
2. Avoid unnecessary antimicrobial use
3. Choose an antimicrobial that will have the most benefit and cause the least harm
4. Optimise the dosing regimen and route
5. Minimise the duration
6. Assess response to treatment
7. Communicate effectively about antimicrobials
8. Prevent infection (including vaccination).



Role of the registered nurse/midwife

- Governed by professional code of conduct (NMBI)
- Provides *hands on care* to the patient by *administering medication, managing intravenous lines, observing and monitoring patients condition, monitoring and recording and communicating to the medical staff*
- The nurse/midwife is well placed in the service to aid in the prevention of transmission of HCAI/AMR and become role models
- Nursing/Midwifery workforce is the largest in the healthcare system and can contribute greatly in prevention of HCAI and AMR
- Scope of Practice



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Infection prevention and control and AMS

Prevention of Infection

- IPC programme should include or be associated with antimicrobial stewardship
- Vaccination against vaccine-preventable diseases
- Always use IPC standard precautions and transmission-based precautions during interactions as appropriate (inc PCRA)
- Review indwelling devices minimum daily and their removal as soon as possible

gov.ie/IPCclinicalguideline

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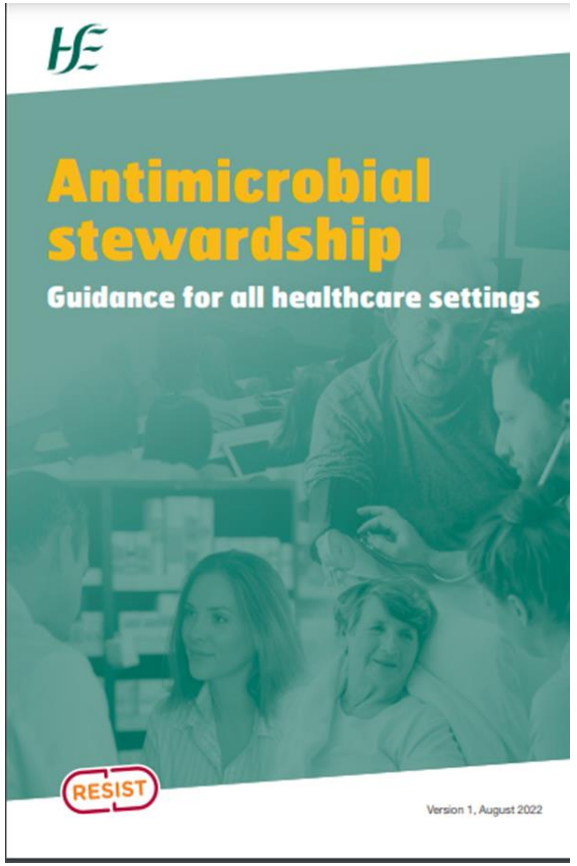
Antimicrobial stewardship guidance

www.hse.ie/eng/services/list/2/gp/antibiotic-prescribing/antibicrobial-stewardship-audit-tools/hse-amric-antimicrobial-stewardship-guidance-for-all-healthcare-settings-v1-published-august-2022.pdf



The central theme within this guidance:

- ***All*** **healthcare workers are antimicrobial stewards**

Nursing/Midwifery practice to support AMS

- Obtain allergy history from the patient to support optimal prescribing of antimicrobials
- Monitor adverse events of antimicrobial therapy
- Review daily condition of patients
- Actively take part in multidisciplinary team discussions regarding antibiotic treatment, indication and duration
- Timely & appropriate specimen collection
- Avoid unnecessary specimen collection
  - *Example: avoid urine collection from asymptomatic patients to prevent unnecessary treatment*
- Timely examination to support therapy adjustment and de-escalation

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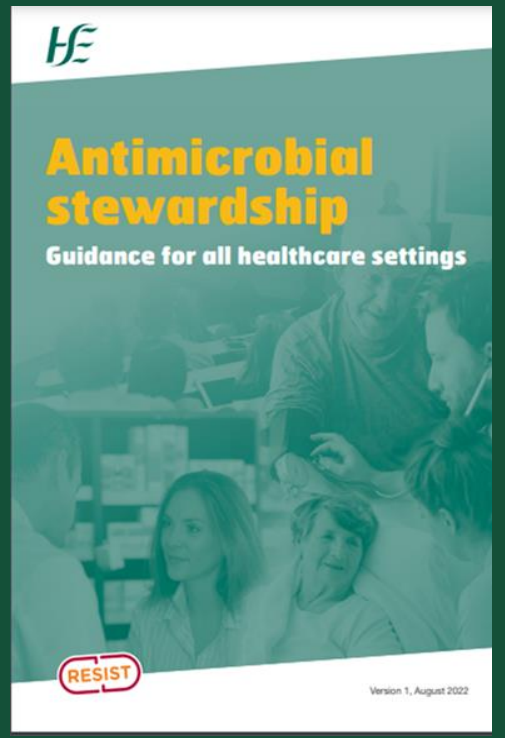
Recognise clinical evidence of infection

Colonisation: process by which micro-organisms are present in the host, with a certain level of multiplication, but without producing clinical disease.

Not all colonisation results in infection

Infection: involves the invasion of micro-organisms in the host's body tissues, with the generation of an inflammatory and immunological response, leading to clinical disease and resulting in signs and symptoms.



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Early identification of infection

Opportunities for nurses to contribute to early identification of infection (examples):

- Measurement of vital signs
- Physical examination
- Administration of medication: observation of indwelling devices
- Wound care: observation of characteristics of secretion or necrosis
- Bathing patients: observation of erythema, heat or macules and papules in the skin
- Assisting with toileting – observation of urinary or bowel changes which may be indicative of infection

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Early identification of infection

• Prescribe antimicrobials promptly for infections that are likely to benefit from antimicrobial treatment.

• Consider the balance of benefit and harm before prescribing an antimicrobial.

Avoid unnecessary antimicrobial use

• Consider if the infection may be self-limiting and not require the use of an antimicrobial.

• Direct service users to www.commonconditions.ie for self-care advice.

• Use source control to manage the infection, e.g. drainage of pus, removal of infected device.

• Do not prescribe antimicrobials solely based on a culture result on a microbiological sample.

Consider the evidence of infection or if the result reflects colonisation or contamination.

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Specimen collection

- Appropriate sampling is key to diagnosis and management of infection
- Samples should only be requested where there is a clinical need
- Take appropriate samples (only be taken by people competent to do so), using correct technique – if unsure how to take a sample, seek advice
- Samples should be taken before initiating antibiotic therapy – If not possible, DO NOT delay starting therapy
- Ensure good-quality specimens - to ensure optimal processing, analysis and interpretation of results. Direct therapy based on microbiological sample results.

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1. Recognise clinical evidence of infection

- Recognise signs and symptoms of infection
- Assessment and monitoring of patients
- Identify signs of deterioration/serious infection and initiate an appropriate response.

Think Sepsis
https://www2.hse.ie/conditions/sepsis/

2. Avoid unnecessary antimicrobial use

For self-care advice
www.commonconditions.ie

- Do not prescribe antimicrobial if not required.
- Consider if the infection may be **self-limiting** and not requiring the use of an antimicrobial.
- Promptly **remove invasive devices** (e.g. intravascular devices, indwelling urinary catheters, etc.) when no longer required to prevent infection and thus the need for antimicrobials.
- Provide **supportive measures** such as hydration, analgesia or source control (e.g. removal of infected device or wound care) to maximise the benefit of antimicrobials.
- Support the **appropriate use of dipstick urinalysis** to help prevent misdiagnosis and unnecessary antimicrobial prescribing.

3. Choose an antimicrobial that will have the most benefit and cause the least harm

Benefits	Harm
• Treat infection • Increase life expectancy • Support treatment of many cancers and surgical procedures	• Adverse effects • Disruption of normal 'good' bacteria of the body can predispose people to further infection e.g. thrush/ C. diff • Antimicrobial resistance

1 in 5 hospitalised patients on antibiotics suffer from harm related to the antibiotic

C diff: Antibiotic use is a major risk factor. All antibiotics can contribute to *C. difficile* infection

3. Choose an antimicrobial that will have the most benefit and cause the least harm

Microbiological sampling	• Obtain a relevant microbiological sample before starting an antimicrobial, when appropriate. • Take appropriate samples using correct technique. • Arrange timely transfer of microbiological samples to the laboratory. • Prescribe or advocate for prescribing based on microbiological sample results when appropriate
Use of guidelines	• Recognise when the antimicrobial agent, dose, and duration are not in line with local or national guidelines and highlight this to the prescriber.
Individual considerations	• Determine/verify factors such as interactions, allergies, mistaken accounts of allergy, renal/hepatic impairment, other conditions, age, recent antimicrobial use, or known infection or colonisation with antimicrobial-resistant organisms - These may influence the choice of antimicrobial and therapy is tailored accordingly.
Seek expert input	• Know when to consult colleagues or infection specialists. E.g. a very severe infection or if not responding to the chosen treatment, or if an infection caused by a resistant organism is suspected or confirmed.
Choose narrow spectrum agents	• in preference to broad-spectrum agents when the narrow spectrum antimicrobial is likely to be effective, as they cause less adverse effects and less AMR. • Promote review and timely de-escalation of broad-spectrum antimicrobials
Reserve antimicrobials	• Support adherence to the HSE policy on restricted antimicrobials and local policy.

4. Optimise the dosing regimen and route

Right dose and frequency

- Consult guidelines for recommended dose and frequency
- Incorrect dose or incorrect frequency of an antimicrobial can result in:
- Under dosing (can cause treatment failure and increased risk of AMR), or,
- Over dosing (unnecessary antimicrobial exposure and increased risk of adverse effects)
- Support therapeutic drug monitoring (e.g. gentamicin, amikacin, vancomycin) and promote review and action on subtherapeutic or supratherapeutic levels.

4. Optimise the dosing regimen and route

Right rate

- Ensure intravenous antimicrobials are prepared correctly and administered at the correct rate to minimise harm and infusion-related reactions, e.g. vancomycin, clarithromycin, intramuscular ceftriaxone

Right route

- Oral prescribing should be used wherever possible.
- Evaluating the route of administration and promote early IV-to-oral switch where possible.
- Consult local antimicrobial prescribing guidelines for clinical criteria and guidelines IV-oral switch

PPS 2024

In the 2024 the National Hospital Point Prevalence Survey on Antimicrobial Prescribing

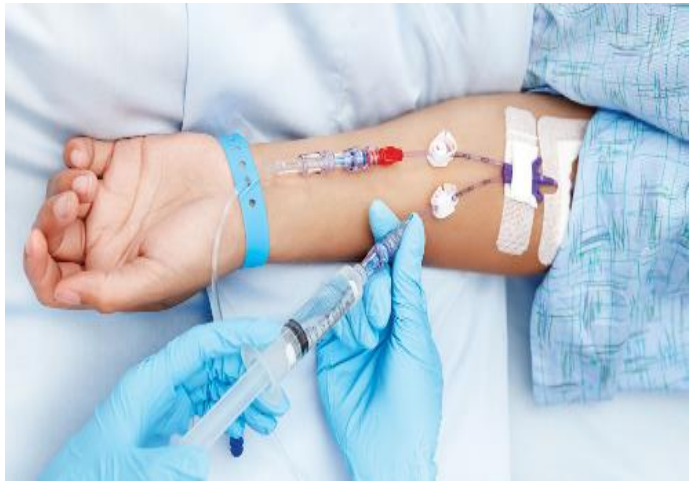
- 69% of antibiotics prescribed on the day were administered intravenously
- 18.7% (559) of these prescriptions suitable for an oral switch on the day.
- 513 patients could have switched to oral therapy

559

IV prescriptions administered suitable for oral switch

513

513 patients who could have experienced increased mobility and reduced risk of line infections



✓ Decreased risk of bloodstream and catheter-related infections

✓ Reduced total cost of therapy

✓ Reduced length of stay

✓ Improved patient mobility

✓ Reduced use of single use plastics used to administer IV antimicrobials

✓ Reduced nursing time administering IV antimicrobials

4. Optimise the dosing regimen and route

Right time

- Administer antimicrobials at the correct time and space doses evenly to ensure a consistent level of antimicrobial reaches the site of infection over the course of the day.
- The time between doses affects whether the invading organism is killed or not and also influences development of resistant strains
- Administer antimicrobials (of particular importance in sepsis/surgical prophylaxis) in a timely manner

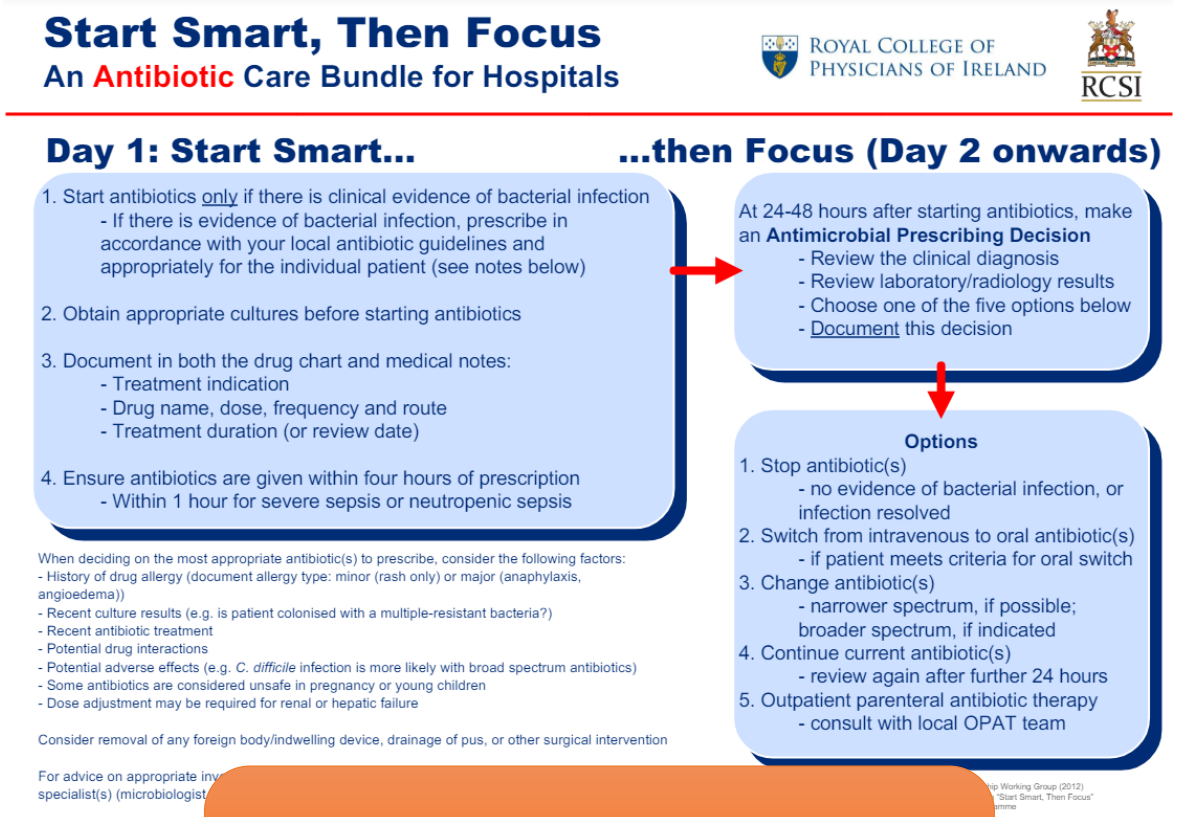
5. Minimise the duration

- Advocate for appropriate duration of antimicrobial therapy
  - prolonged courses are associated with increased harm
- Adhere to the use of stop/reviews dates if prescribing and promote documentation of stop/review dates for all antimicrobial prescriptions.
- Promote prescription durations in keeping with current best evidence e.g. SAP

6. Assess response to treatment

- It may take one or two days to see improvement in signs and symptoms.
- Monitor clinical condition and response to treatment.
- Monitor for toxicity to allow prompt adjustment of agent/dose.
- Consider microbiological sample results

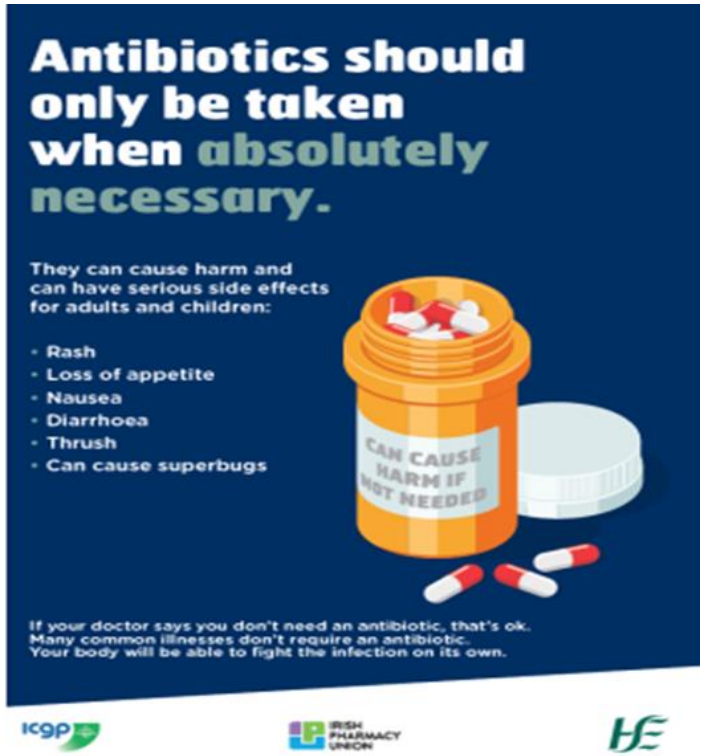
  Opportunity to optimise:
  - Change the antimicrobial agent (e.g. changing from a broad-spectrum agent to one with a narrower spectrum that targets the infecting organism)
  - Stop additional antimicrobials that will not improve outcomes (e.g. stopping dual anaerobic antibacterial therapy)
  - Stop antibiotic therapy if the diagnosis is a non-bacterial infection (e.g. a viral infection) or noninfective condition (e.g. cardiac failure rather than pneumonia).



Review antibiotics at 24-48 hours

7. Communicate effectively about antimicrobials

- A treatment has the best chance of success, and the least risk of harm, if patient understands and agrees to their treatment plan.
- Involve and discuss treatment with the patient / others associated with their care.
- Discuss all aspects of treatment, including recognising the signs and symptoms of (worsening) infection, site of infection, microbiological sample results, treatment rationale, any changes to treatment if required, and how and when to take the treatment course.
- Share consistent messages about antimicrobial use. www.hse.ie/antibiotics.
- Supporting patients understanding and expectation of role of antimicrobial in their infection
- Document clearly and handover IPC and antimicrobial therapy information at the discharge or transfer of care



8. Prevent infection

- The prevention of infection results in less risk of harm to the patient and also reduces the likelihood of inappropriate antimicrobial prescription.
- Arrange vaccination (e.g. influenza, pneumococcal, meningococcal, and COVID-19) for at risk
- Always use IPC standard precautions with all service users and transmission-based precautions during interactions when there is a suspected or confirmed case of infection.
- Review indwelling devices daily and their removal as soon as possible.

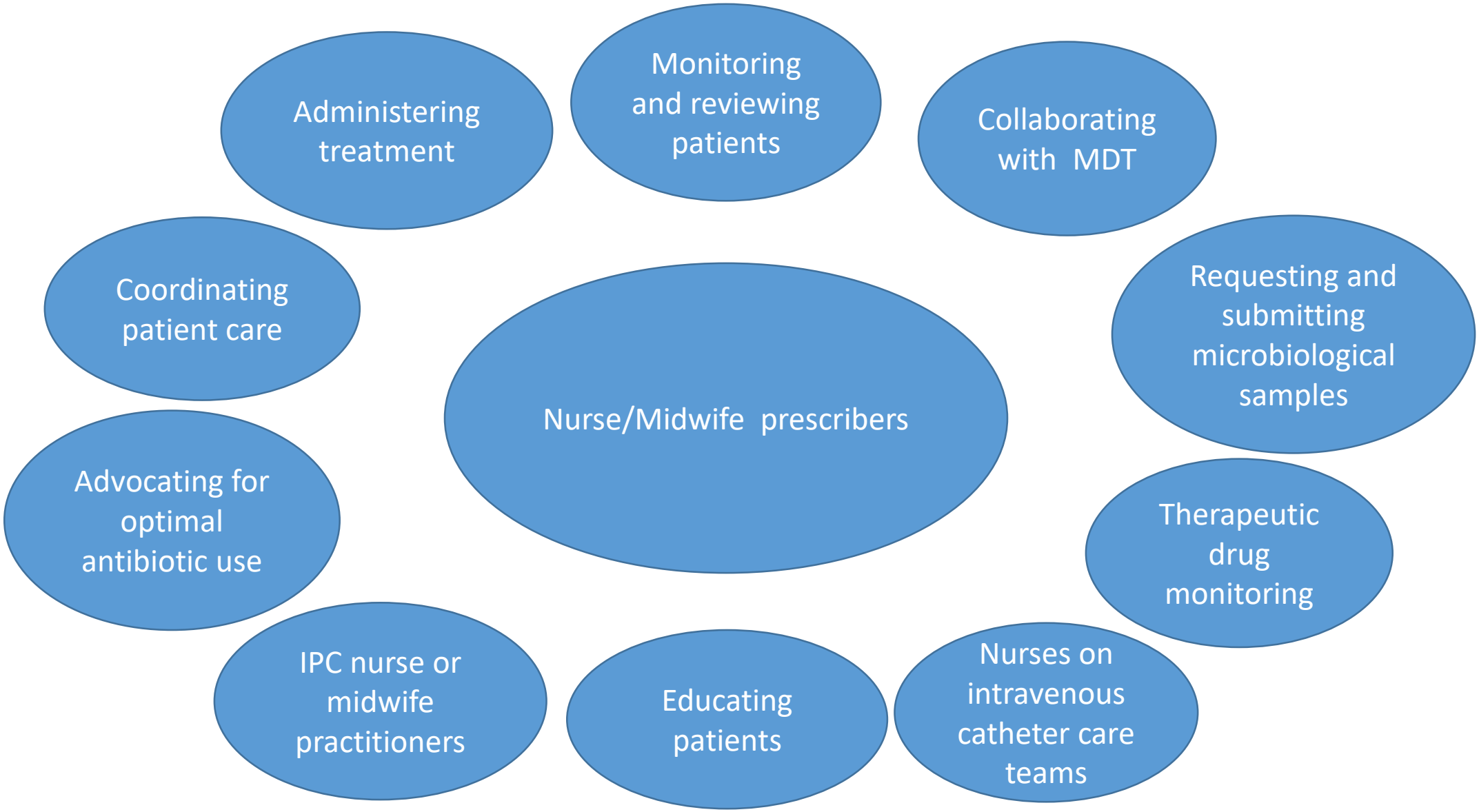
Prescribers can support AMS in the following ways.

- Adhere to good prescribing and AMS principles, The Start Smart, Then Focus antibiotic care bundle is example of how the principles have been adapted in the format of a national antimicrobial care bundle for hospitals.
- Utilise feedback on individual antimicrobial prescribing to improve prescribing practice
- Engage in regular education relating to AMS, such as local induction/update sessions, events to mark the annual European Antibiotic Awareness Day and postgraduate education.
- HSeLanD (www.hseland.ie) provides the following e-learning modules for those who prescribe, dispense, and administer antimicrobials:
- » Antimicrobial stewardship
- » Prevention and management of urinary tract infections
- » Clostridioides difficile infection: IPC and AMS principles, prevention and management.

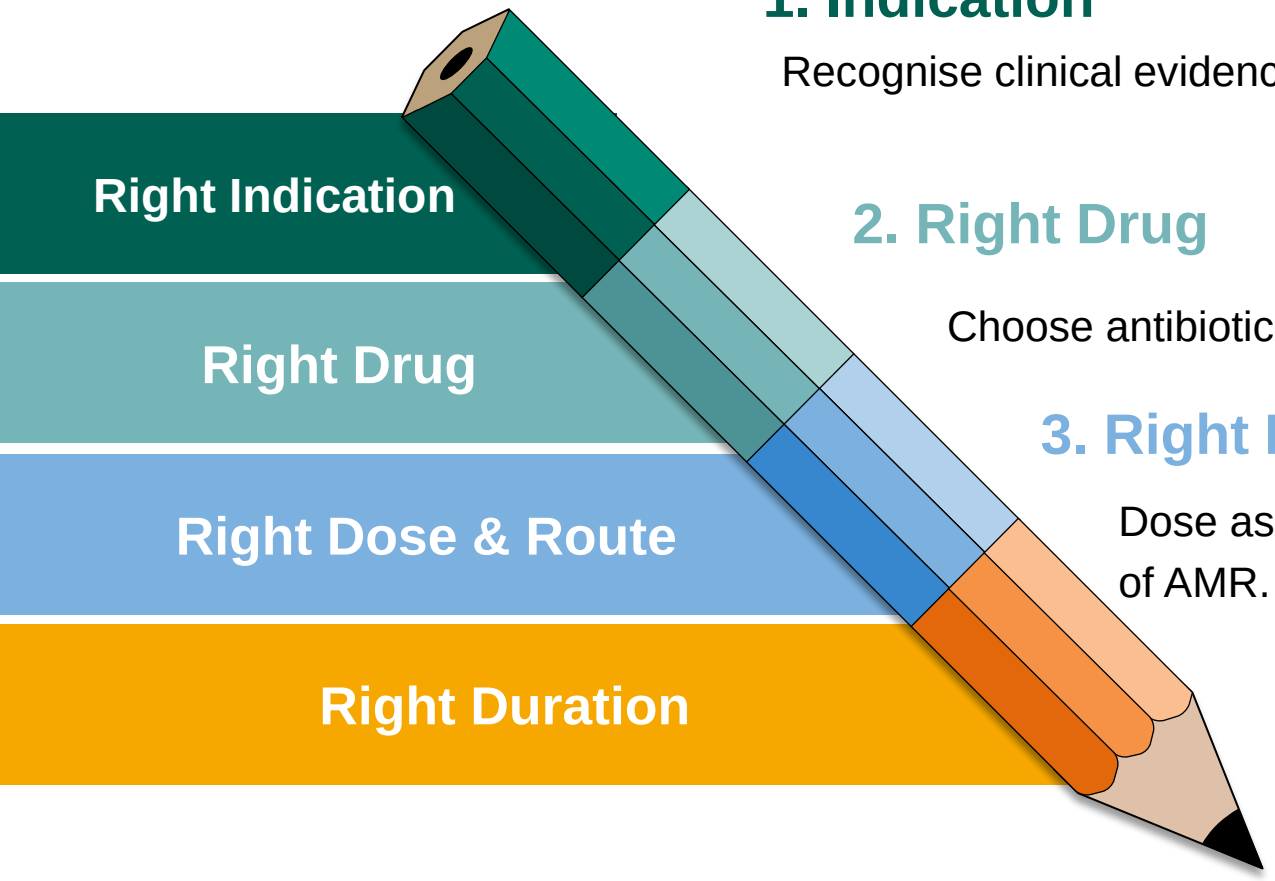
Prescribers can support AMS in the following ways.

- Participate in local or national quality improvement audits for antimicrobial prescribing (surgical antibiotic prophylaxis duration, review of urinary tract infection prophylaxis, and review of azithromycin prophylaxis. Tools to assist are available on www.antibioticprescribing.ie).
- Follow local and national policies when interacting with representatives from pharmaceutical
- Companies refer to Chapter 3 (section 3.4.4.3).
- Keep abreast of local and national antimicrobial prescribing guidelines, policies, and position
- statements that inform antimicrobial prescribing in their setting.

Nurse/midwife as Antimicrobial Stewards



The 4 ‘Rights’ of Antimicrobials



1. Indication

Recognise clinical evidence of infection – only use antibiotic when necessary

2. Right Drug

Choose antibiotic likely to be effective with least likelihood of harm

3. Right Dose & Route

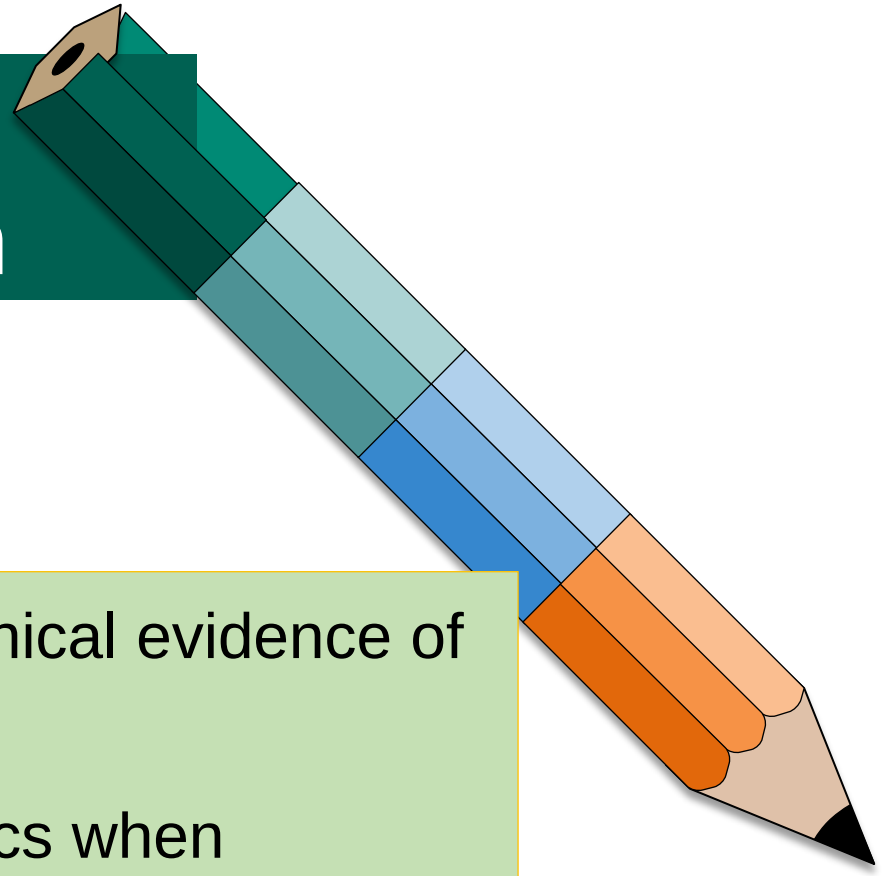
Dose as per guidelines. Under-dosing = ineffective and greater risk of AMR. Overdosing = Toxicity. Use ORAL route where possible

4. Right Duration

Use shortest effective course to limit harm and AMR. Assess response to treatment

4 Rights of Antibiotic Use

Right indication



Recognition of clinical evidence of infection

Only use antibiotics when necessary

Knowing when to consult a doctor

When Considering Infection:

Identify signs of deterioration/serious infection and initiate an appropriate response:

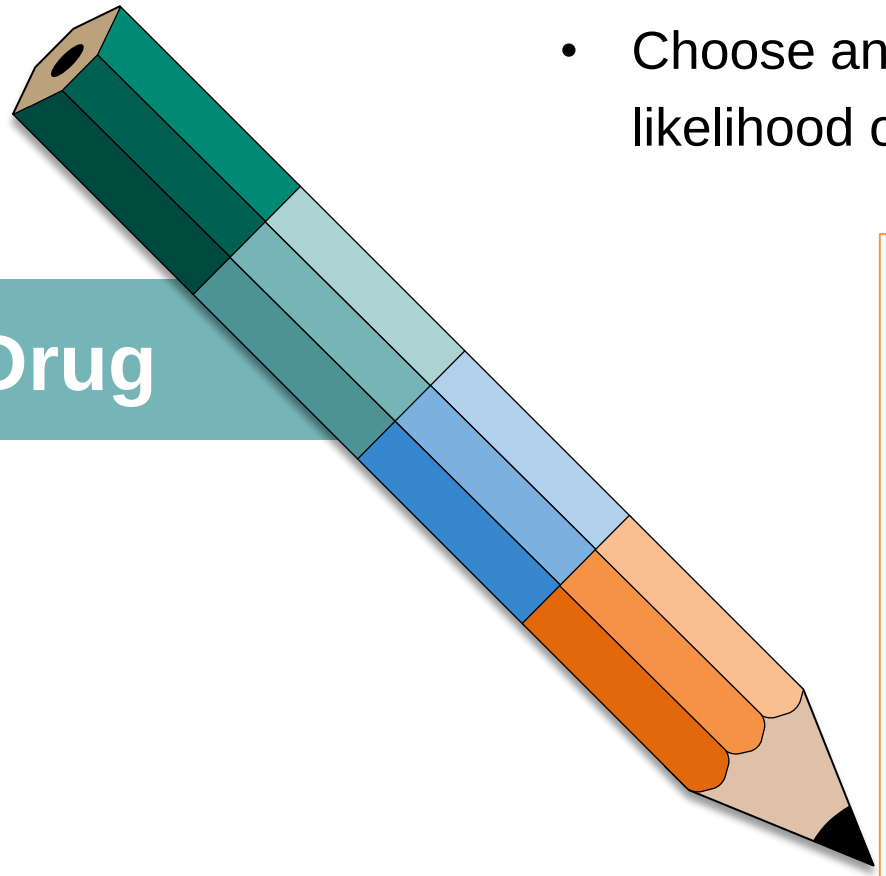
- Does patient have NEW symptoms?
- Are there any localised signs of infection?
- How ill are they compared to baseline?
- Look for alternative cause
- Is watching and waiting an option?

Self care information on:
https://www2.hse.ie/conditions/common-illnesses/
(Previously www.undertheweather.ie)

Think Sepsis
https://www2.hse.ie/conditions/sepsis/

The 4 ‘Rights’ of Antimicrobials

2. Right Drug



Right Drug

- Choose antibiotics likely to be effective with least likelihood of harm

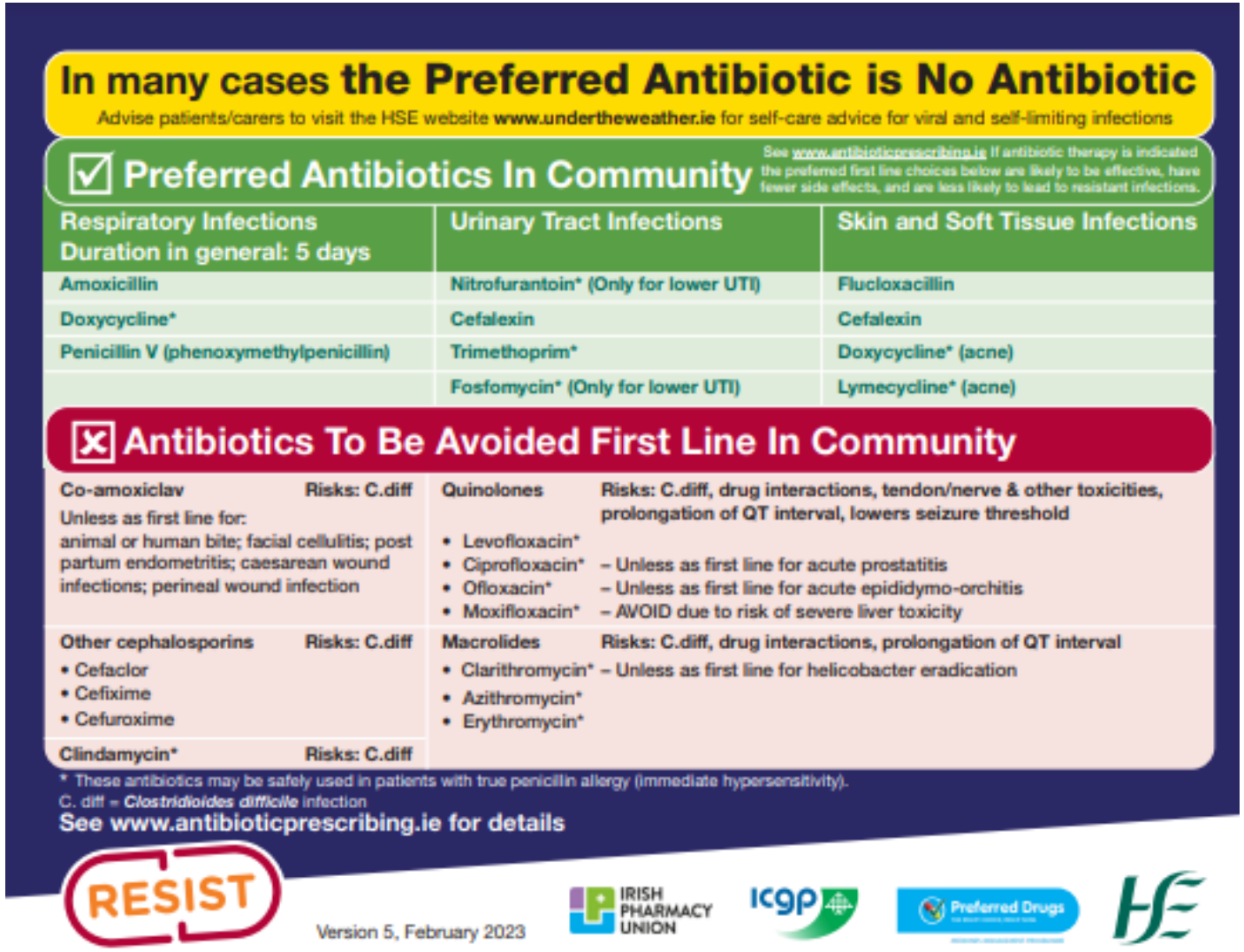
Penicillin Allergy

- Check and document allergy status of patient

- Document **nature** of allergy
- Be aware of difference between a **true allergy** (e.g. anaphylaxis, rash) versus a **side effect** (e.g. nausea, diarrhoea)

https://www.hse.ie/eng/services/list/2/gp/antibiotic-prescribing/drug-interactions/guidelines-for-antibiotic-allergy-with-special-reference-to-penicillin-and-beta-lactam-allergy.html

Right Drug - The 'Red/ Green' (Preferred) Antibiotic Initiative in Community Settings



In many cases the Preferred Antibiotic is No Antibiotic

Advise patients/carers to visit the HSE website **www.undertheweather.ie** for self-care advice for viral and self-limiting infections

☑ Preferred Antibiotics In Community

See www.antibioticprescribing.ie If antibiotic therapy is indicated the preferred first line choices below are likely to be effective, have fewer side effects, and are less likely to lead to resistant infections.

Respiratory Infections Duration in general: 5 days	Urinary Tract Infections	Skin and Soft Tissue Infections
Amoxicillin	Nitrofurantoin* (Only for lower UTI)	Flucloxacillin
Doxycycline*	Cefalexin	Cefalexin
Penicillin V (phenoxymethylpenicillin)	Trimethoprim*	Doxycycline* (acne)
	Fosfomycin* (Only for lower UTI)	Lymecycline* (acne)

☒ Antibiotics To Be Avoided First Line In Community

Co-amoxiclav — **Risks: C.diff**

Unless as first line for:
animal or human bite; facial cellulitis; post partum endometritis; caesarean wound infections; perineal wound infection

Other cephalosporins — **Risks: C.diff**

- Cefaclor
- Cefixime
- Cefuroxime

Clindamycin* — **Risks: C.diff**

Quinolones — **Risks: C.diff, drug interactions, tendon/nerve & other toxicities, prolongation of QT interval, lowers seizure threshold**

- Levofloxacin*
- Ciprofloxacin* – Unless as first line for acute prostatitis
- Ofloxacin* – Unless as first line for acute epididymo-orchitis
- Moxifloxacin* – AVOID due to risk of severe liver toxicity

Macrolides — **Risks: C.diff, drug interactions, prolongation of QT interval**

- Clarithromycin* – Unless as first line for helicobacter eradication
- Azithromycin*
- Erythromycin*

* These antibiotics may be safely used in patients with true penicillin allergy (immediate hypersensitivity).
C. diff = *Clostridioides difficile* infection
See www.antibioticprescribing.ie for details

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Version 5, February 2023

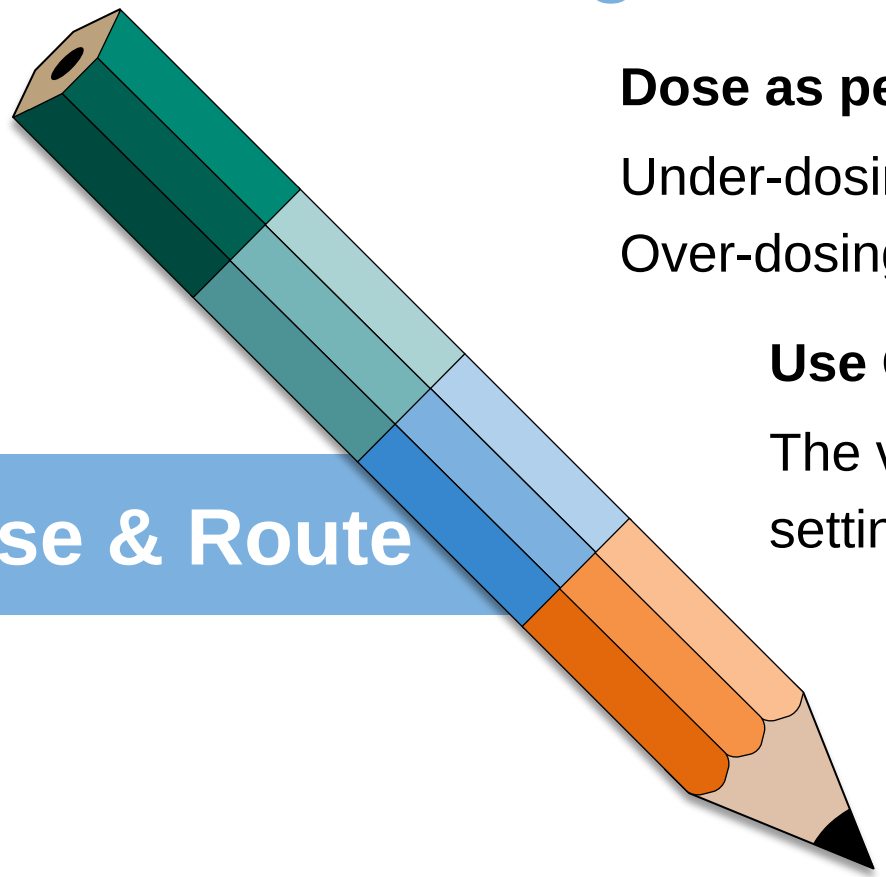
IRISH PHARMACY UNION · ICGP · Preferred Drugs · HSE

Green antibiotics = preferred first line choices. Likely to be effective, fewer side effects, less likely to lead to resistant infections

Red antibiotics = to be avoided first line in Primary care e.g. quinolones, macrolides. Higher risk of adverse events, increase risk of resistance

The 4 ‘Rights’ of Antimicrobials

3. Right Dose & Route



Right Dose & Route

Dose as per guidelines.

Under-dosing = ineffective and greater risk of AMR.

Over-dosing = risk of toxicity.

Use ORAL route where possible

The vast majority of antibiotics used in community settings should be administered orally.

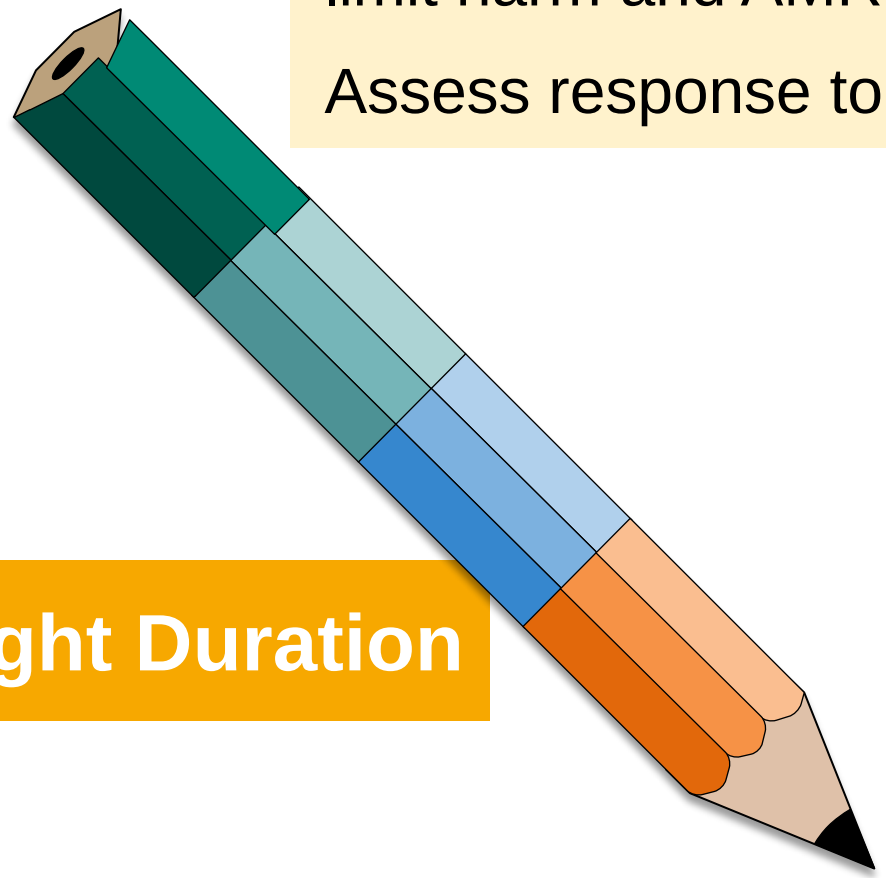
In scenarios where a patient may have swallowing difficulties or enteral tubes, liquid preparations or dispersible tablets may be available.

Check with your pharmacist.

The 4 ‘Rights’ of Antimicrobials

Use shortest effective course to limit harm and AMR.

Assess response to treatment



Right Duration

For Respiratory Tract Infections:

<u>5 Day</u> Course Recommended

- As effective as 7 Days
- Less Risk of AMR
- Less Risk of ADRs
- Improved Compliance

Antibiotic course duration: Shorter is smarter, where the evidence supports this

For Respiratory Tract Infections:

5 Day Course Equally as Effective as 7 Days

- Less risk of resistance
- Less risk of side effects
- Improved compliance

Indications Where Treatment Durations Have Changed

- Infective exacerbation of COPD: 5 Days
- Community Acquired Pneumonia: 5 Days
- Acute Sinusitis: 5 Days
- Pharyngitis/Sore Throat/Tonsillitis: 5 Days*
- Uncomplicated UTI in Adult Non-Pregnant Females: 3 Days

* Scarlet fever: treat for 10 days

UTI prophylaxis de-prescribing:
A low -hanging fruit for antimicrobial stewardship

Visual Abstract

Risks may outweigh benefits for urinary tract infection (UTI) prophylaxis in older adults

Antibiotic prophylaxis
was defined as at least 30 days of antibiotics after a positive urine culture for presumed prevention of UTI in adults over 66 years

1.7% of patients received antibiotic prophylaxis

Antibiotic prophylaxis recipients experienced more harm
compared to patients without antibiotic prophylaxis

- **1.3x** risk of hospital visit
- **1.6x** risk of *C. difficile* diarrhea
- **1.3x** risk of antibiotic resistance
- **1.6x** risk of side effects

Langford BJ, Brown KA, Diong C, Marchand-Austin A, Adomako K, Saedi A, Schwartz KL, Johnstone J, MacFadden DR, Matukas LM, Patel SN, Garber G, Daneman N. The Benefits and Harms of Antibiotic Prophylaxis for Urinary Tract Infection in Older Adults. Clinical Infectious Diseases. 2021

CIHR IRSC Canadian Institutes of Health Research / Instituts de recherche en santé du Canada | Public Health Ontario | Santé publique Ontario | IC/ES

National guidelines on de-prescribing UTI prophylaxis

www.antibioticprescribing.ie

Deprescribing UTI prophylaxis

Comments from Expert Advisory Group

Antibiotic prophylaxis may have been started to prevent recurrent UTIs in a patient under your care. This is mainly a scenario which affects women. There is no evidence of any additional benefit from such prophylaxis beyond 3-6 months. There is significant evidence of harm.

The patient should be advised upon initiation that antibiotic prophylaxis is prescribed for a fixed period of time, that there is a risk of side effects and that this is not intended to be a long-term medication.

Identifying patients for review

- All patients should be reviewed after 3-6 months of antibiotic prophylaxis for recurrent UTIs with a view to stopping them. Documenting and triggering a review date in the patient's record, and on the repeat prescription, is advised to avoid prolonged courses of antibiotics without review.
- Patients who have breakthrough infections with urine cultures confirming resistance to the prophylactic agent, should have their prophylaxis stopped (exposure to antibiotic without benefit) and a clinical review to discuss ongoing management and/or need for referral. A urine culture is recommended for any breakthrough UTI due to the high risk of resistance.
- An Antibiotic UTI Prophylaxis Audit Tool has been created to support GPs/healthcare professionals monitoring their patients on UTI prophylaxis.

UTI prophylaxis must be reviewed with a view to de-prescribing within 3-6 months

Introduction

- Reduction of harm in relation to antibiotic use and antimicrobial resistance is a key priority for the Irish health service.
- Aim: to promote best practice in assessment of UTI and reduce inappropriate antibiotic prescribing for UTI in older persons RCFs
- UK[1] and Australia[2] report reduction in antibiotic use without evidence of harm with similar initiatives

Led by HSE Community Antimicrobial Pharmacists and the HSE Quality and Patient Safety Office in collaboration with the national Antimicrobial Resistance and Infection Control Programme

HSE = Health Service Executive (Ireland's national health service)

- 1. Beech, E. 'To Dip Or Not To Dip – Improving the management of Urinary Tract Infection in older people' presented at the British Infection Association Annual Scientific Meeting , 23rd May 2019 London
- 2.. Lyn-li Lim and others, P01 The Australian experience of adapting and implementing 'To Dip or Not to Dip' in residential aged care facilities, *JAC-Antimicrobial Resistance*, Volume 5, Issue Supplement 3, August 2023,

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Avoiding Unnecessary Antibiotics

National Dipstick Position Statement for UTI in Adults

- Inappropriate use of urine dipstick tests can lead to unnecessary antibiotic prescribing for UTI which does not benefit the client and may cause considerable harm including adverse effects and antimicrobial resistance.
- The use of dipstick urinalysis in assessing for evidence of a UTI is not a useful guide to management and is **not recommended** for:

X All persons aged 65 years and over

X All persons with an indwelling catheter

X Assessing response to treatment for UTI

The diagnosis of UTI should be based on clinical signs and symptoms

ASB =
Asymptomatic bacteriuria =
(bacteria in urine without symptoms)
This is not a urinary tract infection

50-70%

Of people aged 65 and over resident in LTCFs are likely to have ASB

100%

Of people with urinary catheter > 30 days have ASB

What is the problem with dipstick urinalysis in >65s?

- Dipstick urinalysis is not a reliable or accurate tool to indicate if an older person is likely to have a UTI.
- In older people with no urinary symptoms, these bacteria in the urine usually do no harm.
- There is no evidence to indicate that antibiotics are useful for asymptomatic bacteriuria in older people.
- There is evidence that antibiotics can do harm.
- NB: Dipstick urinalysis may be indicated for other reasons – based on clinical need / judgement

Urine dipsticks are likely to be positive if there are bacteria in urine, whether they are causing an infection or not.

Giving antibiotics for asymptomatic bacteriuria means an older person is five times more likely to experience side-effects[3].

3 Krzyzaniak N et al. Antibiotics versus no treatment for asymptomatic bacteriuria in residents of aged care facilities: a systematic review and meta-analysis. British Journal of General Practice, September 2022.

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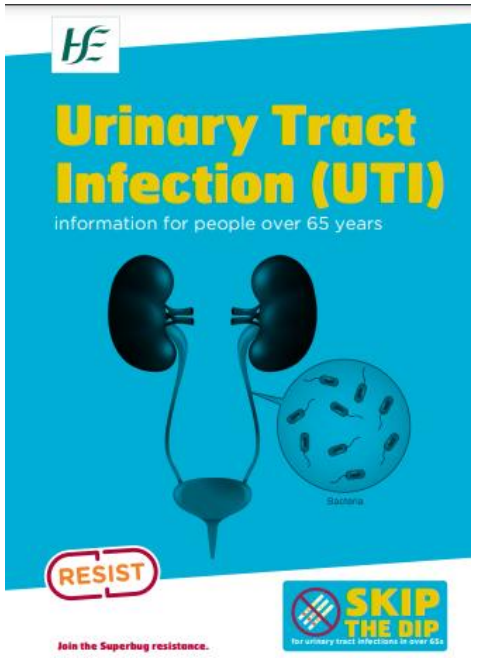
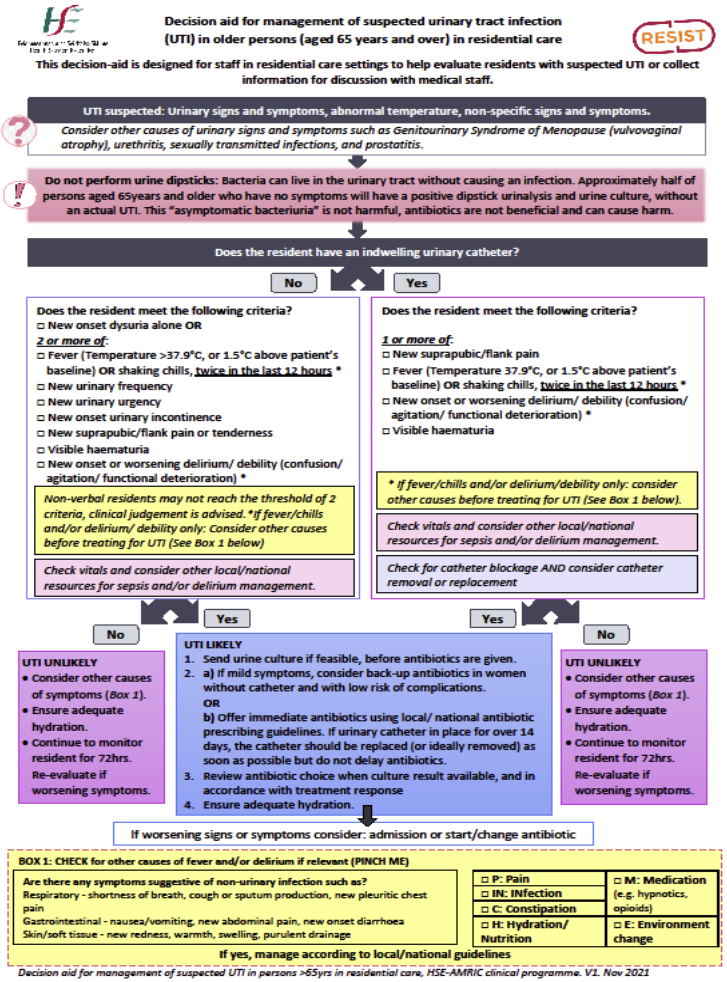
SKIP THE DIP for UTI in Over 65s Quality Improvement Initiative

Poster

RCF staff handbook



Resident / patient leaflet



Decision Aid for management of suspected UTI for Nursing Staff in RCFs

Webinar available to view on www.antibioticprescribing.ie

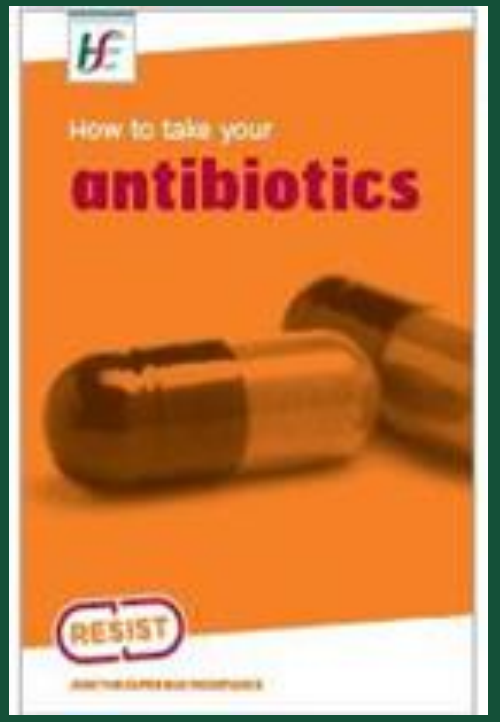
https://www.hse.ie/eng/services/list/2/gp/antibiotic-prescribing/prescribing-ltcf/prescribing-ltcf.html

Antimicrobial stewardship and shared decision-making

Importance of person-centred approaches to care

Patients/residents/clients must be considered an integral part of their own healthcare so that they can:

- Have a better patient experience
- Fully adhere to agreed treatment
- Have improved treatment outcomes



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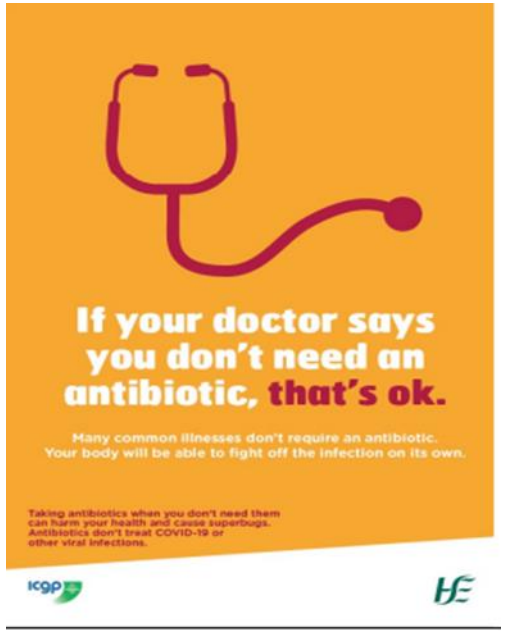
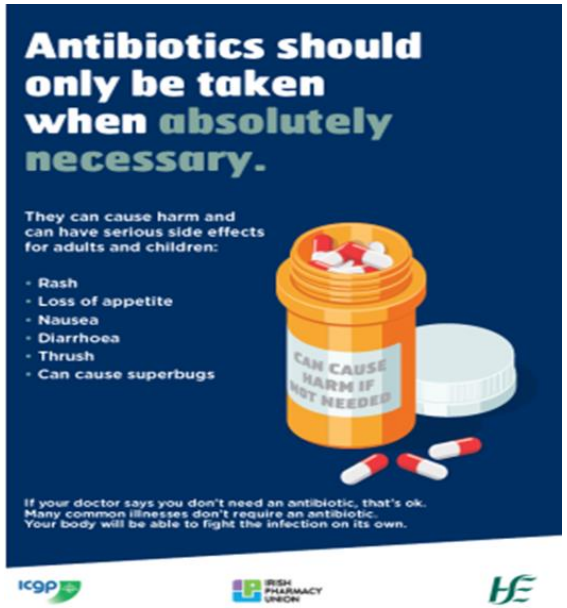
Key actions nurses/midwives can take to promote AMS

- Educating themselves and others about the appropriate use of antibiotics
- Be an advocate
- Implementing stewardship interventions and participating in antibiotic stewardship programmes (SAP- IV to PO switch)
- Reduce the prevalence of viral infections by keeping up to date with vaccinations
- Adhering to IPC practices
- Engagement from front line nursing staff is crucial to a successful antibiotic stewardship program





Resources

Antibiotic prescribing
www.antibioticprescribing.ie

National Clinical Guidelines No. 30 Infection prevention and control
www.gov.ie/IPCclinicalguideline

Elearning programme
www.hseland.ie

AMRIC Antimicrobial Stewardship in Practice

AMRIC Prevention of Peripheral and Central Venous Catheter Related Infections

AMRIC The Basics of Microbiology and Surveillance

AMRIC Antimicrobial resistance and multi drug resistant organisms

AMRIC Prevention & Management of Urinary Tract Infection

AMRIC Clostridioides difficile Infection: IPC and AMS Principles, Prevention and Management

AMRIC Surgical Antibiotic Prophylaxis

AMRIC Hand Hygiene
(To be completed every 2 years)

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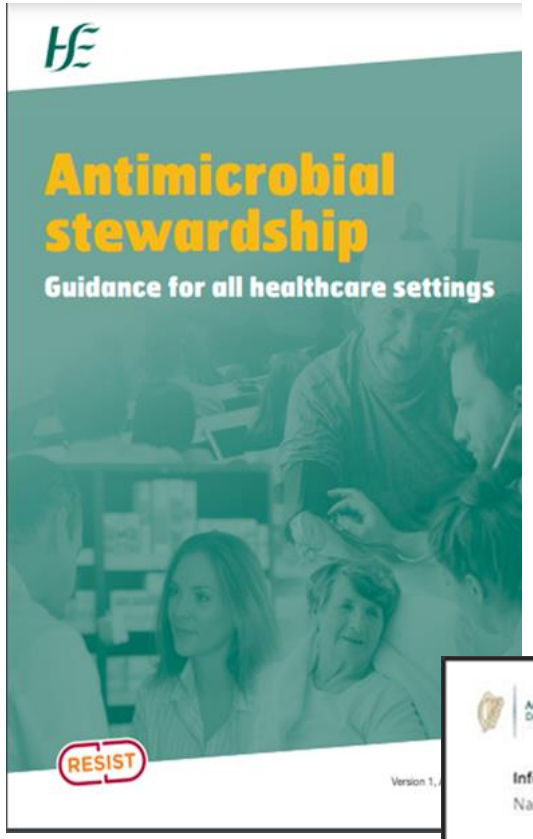
AMRIC Hub

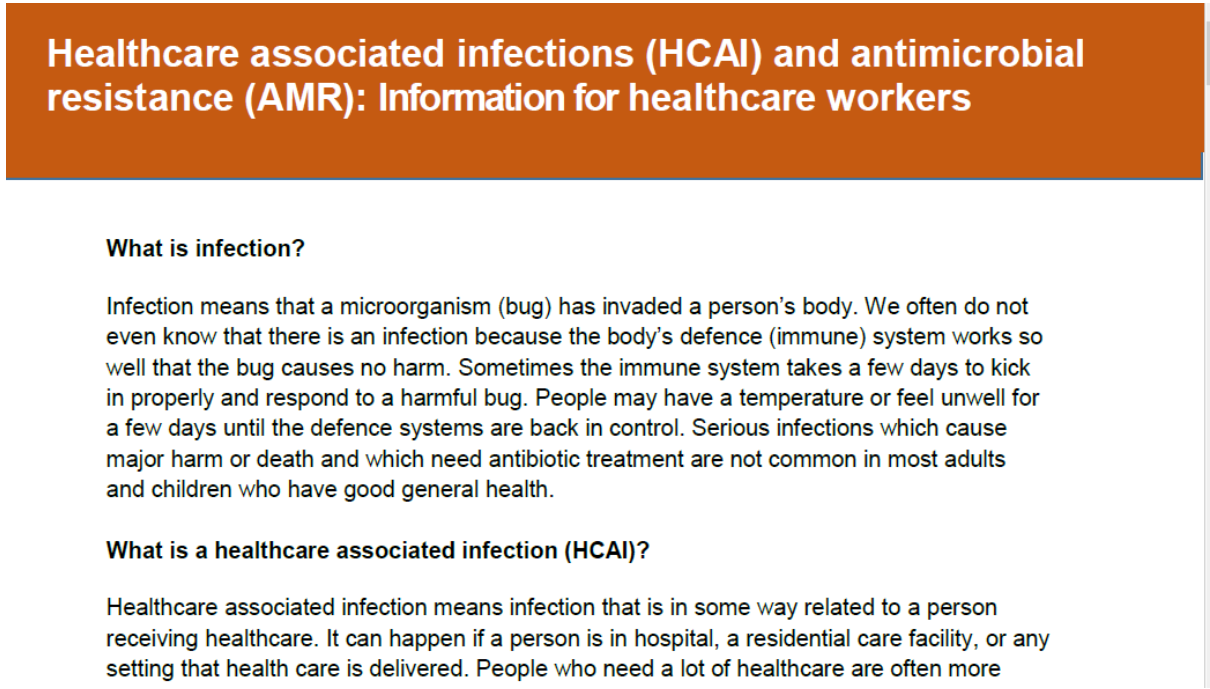
A core resource for learning information and resources Anti-Microbial Resistance and Infection Control.

View the hub →



Information leaflets for HCWs

Healthcare associated infections and antimicrobial resistance information for HCWs (available online)



Healthcare associated infections (HCAI) and antimicrobial resistance (AMR): Information for healthcare workers

What is infection?

Infection means that a microorganism (bug) has invaded a person's body. We often do not even know that there is an infection because the body's defence (immune) system works so well that the bug causes no harm. Sometimes the immune system takes a few days to kick in properly and respond to a harmful bug. People may have a temperature or feel unwell for a few days until the defence systems are back in control. Serious infections which cause major harm or death and which need antibiotic treatment are not common in most adults and children who have good general health.

What is a healthcare associated infection (HCAI)?

Healthcare associated infection means infection that is in some way related to a person receiving healthcare. It can happen if a person is in hospital, a residential care facility, or any setting that health care is delivered. People who need a lot of healthcare are often more

National Antimicrobial Prescribing Guidelines for Community Settings

www.antibioticprescribing.ie

Conditions and Treatments
View a list of conditions and treatment guidelines

Antimicrobial use in Residential Care Facilities including Nursing Homes

AMRIC Key Messages
Antimicrobial safety alerts and advice issued by AMRIC

What's New
Updates and new content

Infection Prevention and Control
Evidence based approach preventing patients and health workers from avoidable infections

Safe Prescribing
Prescribing safely. Renal impairment dosing. Drug interactions

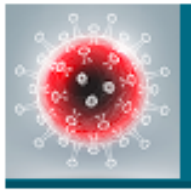
Paediatric Prescribing
Guidelines based on weight and height

Antimicrobial stewardship
Learn about AMS & access tools to improve antimicrobial use

Prescribing in Pregnancy
Prescribing Antimicrobials in Pregnancy, Postpartum infections and Lactation

Dental Prescribing
Guidelines on dental prescribing and treatments

Tips on Penicillin Allergy
Tips on verifying Penicillin Allergy



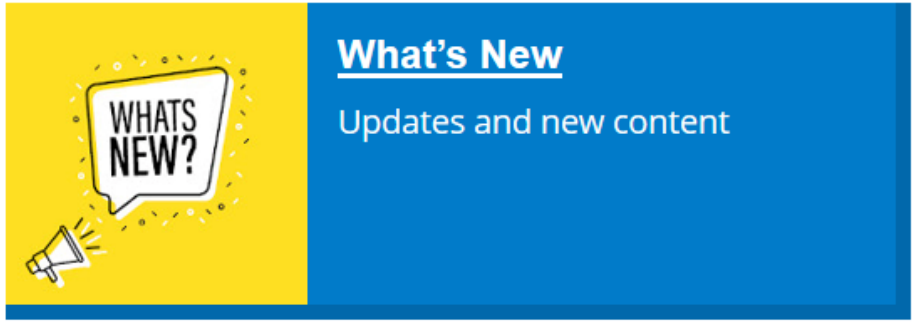
Covid-19 Acute Respiratory Infection
Prescribing guidance in suspected or proven infection

Multi-disciplinary involvement with >60 experts

- Antimicrobial treatment for infections in community settings

- Paediatric dosing tables
- Dosing in renal impairment
- Antimicrobial drug interactions
- Antimicrobials in Pregnancy / Lactation
- Dental infections
- Penicillin allergy
- AMS Resources/Audit tools

Updates to guidelines



Whats new on antibiotic prescribing

Recently updated content on the website

Acute Cough / Bronchitis - Sept 2024

- The antibiotic treatment table has been removed to reflect international best practice. Acute cough / bronchitis is caused mainly by viruses and is a self-limiting condition. In the majority of cases, antibiotics are not indicated.

Sinusitis - Sept 2024

- Addition of dosing table for intranasal steroids to be considered for people with symptoms of around 10 days or more. Note added regarding duration of treatment for severe / worsening infection.

Pharyngitis, Sore Throat and Tonsillitis - Sept 2024

- Note added that FeverPain tool has not been assessed in children under 3 years.
- Recommended dose of cefalexin for adults amended.

COPD - Sept 2024

- Updates to expert advisory comments and removal of levofloxacin from the empiric treatment table.

Community Acquired Pneumonia (CAP) - Sept 2024

- Addition of information with advice on treatment of aspiration pneumonia. Recommended dose of amoxicillin amended.

Pneumonia in Residential Care Facilities - Sept 2024

- Updates to guidance on aspiration pneumonia. Some antibiotic dose amendments.

Twitter / X: @AntibioticPresc

Email: antibiotics.prescribing@hse.ie

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World AMR Awareness Week
18 - 24 November 2024

The HSE locally will be marking the World Health Organisation's (WHO) Antimicrobial Awareness Week (18th to 24th November, 2024).

The WHO's Antimicrobial Awareness Week is a global campaign to raise awareness and understanding of Antimicrobial Resistance and promote best practices in every area where antimicrobials are used to reduce the emergence and spread of drug-resistant infections.

The theme for the World AMR Awareness Week (WAAW) 2024 is "Educate. Advocate. Act now."

HANDLE ANTIMICROBIALS WITH CARE

Antibiotics
Antivirals
Antifungals
Antiparasitics

EUROPEAN ANTIBIOTIC AWARENESS DAY
A EUROPEAN HEALTH INITIATIVE

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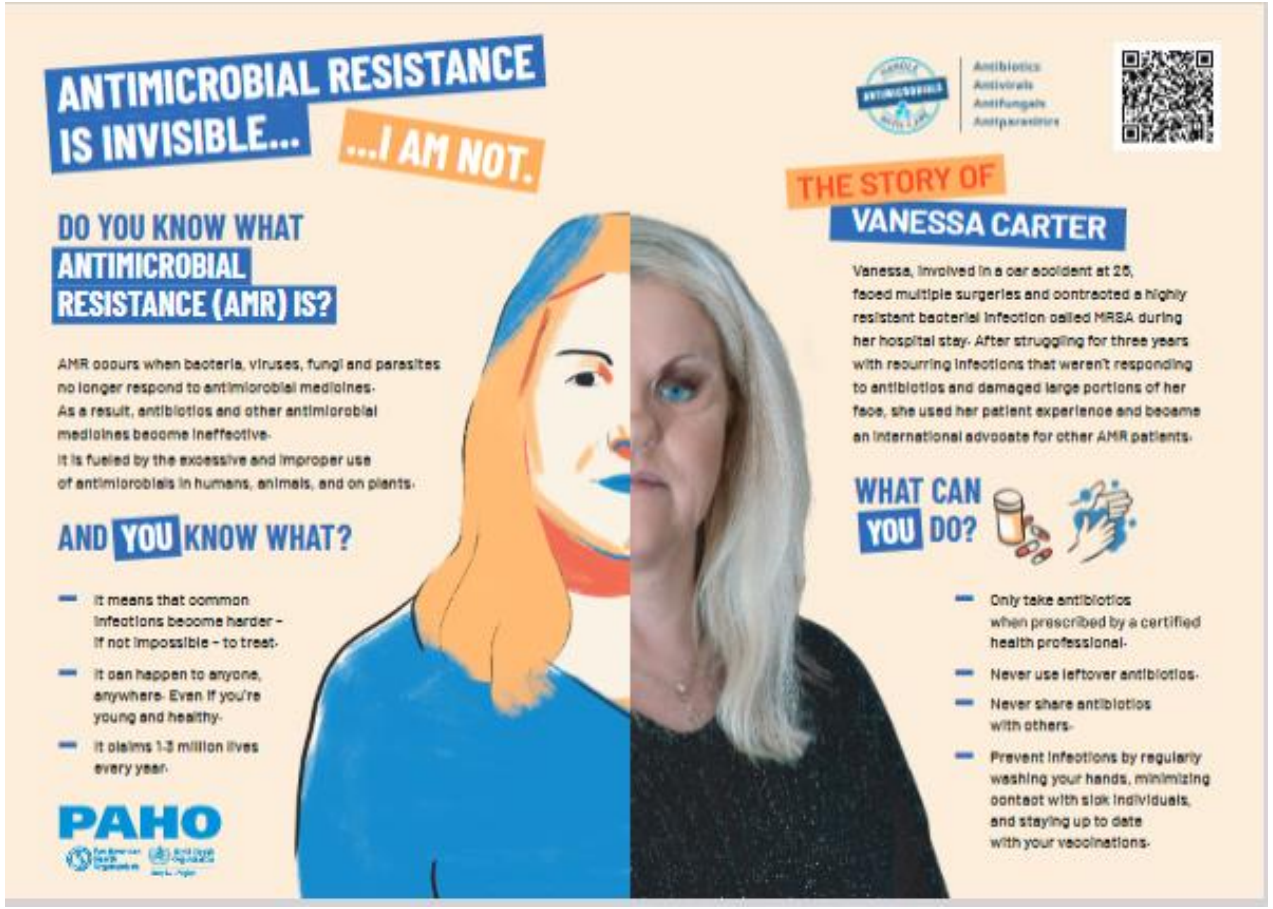
European Antibiotic Awareness Day (EAAD)

18 November 2024



#KeepAntibioticsWorking
#EAAD
www.hse.ie/infectioncontrol
www.antibioticprescribing.ie
www2.hse.ie/medicines/antibiotics/

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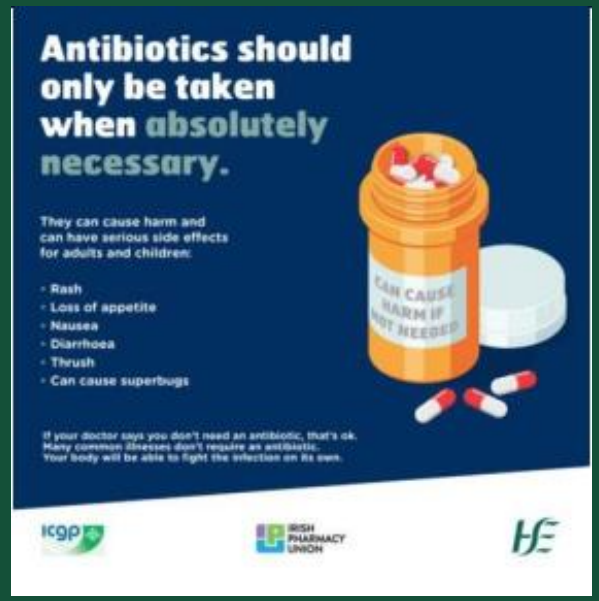
Promote social media campaigns to highlight awareness of EAAD

Point patients and service users to:
www.hse.ie/conditions/common-illnesses/
as it provides information on managing common illnesses without antibiotics.



#KeepAntibioticsWorking
#EAAD
www.hse.ie/infectioncontrol
www.antibioticprescribing.ie
www2.hse.ie/medicines/antibiotics/

<u>Useful resources:</u>

AMRIC Clinical Lead welcomes EAAD:
https://youtu.be/tz2JdrN4Z2E
How to take your antibiotics:
https://youtube.com/shorts/8YHy5FBYHes?feature=share
What can antibiotics treat:
https://youtube.com/shorts/L6ul6lullRw?feature=share

You can access the videos on the HSE YouTube account.

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thank you

"Change won't happen overnight; but with every person who hears our message on AMR, and with every antibiotic that is used responsibly, we can together move the dial.

Future generations depend on it, but this generation can be the ones to save modern medicine"

Prof Dame Sally Davies

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Further queries please contact: hcai.amrteam@hse.ie