

Antimicrobial Resistance

Nov 2021

Antibiotic awareness toolkit for healthcare professionals in England

World Antimicrobial Awareness Week (WAAW) and European Antibiotic Awareness Day (EAAD)

Resources toolkit for healthcare professionals in England

World Antimicrobial Awareness Week (WAAW) aims to increase awareness of global antimicrobial resistance (AMR) and to encourage best practices for using antimicrobials responsibly among the general public, health workers and policy makers, to avoid the further emergence and spread of drug-resistant infections

Main messages for HCPs on antimicrobial stewardship and COVID-19:

As the coronavirus (COVID-19) pandemic has highlighted, infection management of viral infection remains an important challenge for healthcare professionals and can have an adverse impact on the use of antibiotics. Now, more than ever we need to continue to work together to prevent serious infections – including COVID-19 – whilst reducing inappropriate antibiotic use



- follow current NICE guidelines to infer if pneumonia has a COVID-19, viral or bacterial cause
- treat coughs, fever and breathlessness related to COVID-19 in line with clinical guidance, not with antibiotics. Please consider the COVID-19 and Flu pathway for diagnosis, testing and clinical management
- explain to patients that antibiotics do not prevent or treat viral infections including COVID-19. Antibiotics can cause side-effects, including nausea and diarrhoea. Antibiotics use can also increase the risk of spreading infections that are caused by bacteria resistant to antibiotics

New War on Superbugs

GLOBAL

A failure to address the problem of antibiotic resistance could result in:



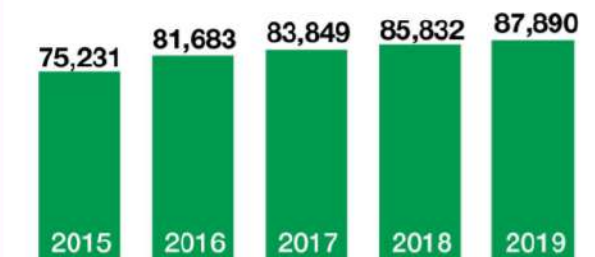
10m
deaths
by 2050

Costing
 **£66**
trillion

- Antibiotics are a vital tool for modern medicine. Not only for the treatment of infections such as pneumonia, meningitis and tuberculosis. We also need them to avoid infections during chemotherapy, caesarean sections and other surgery.

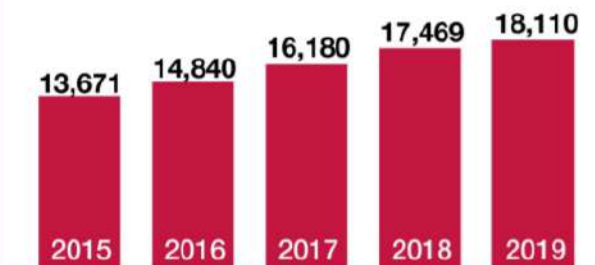
The burden of infection in numbers and the burden of antibiotic resistance

The burden of infection in numbers



an INCREASE of
16.9%

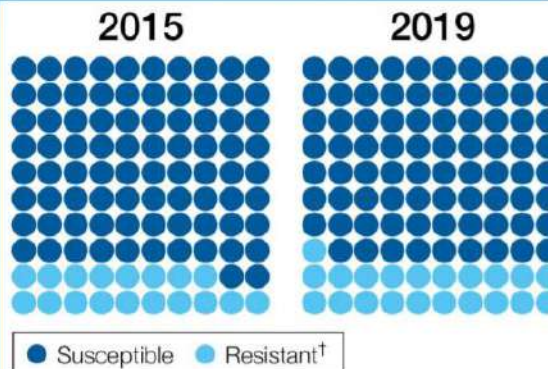
In key pathogen*
Bloodstream infection
(BSI) since 2015



an INCREASE of
32.5%

in resistant† key
pathogen BSI since
2015

The burden of antibiotic resistance



an INCREASE of

2.4%

in the proportion of
resistant key pathogen BSI
since 2015

This means that **21** out of
100 people with a key
pathogen BSI had a
resistant infection in 2019

The English Surveillance Programme for Antimicrobial Utilisation and Resistance (ESPAUR) report is due to be published on 17 November, detailing trends in prescribing and serious antibiotic prescribing in England in 2020.

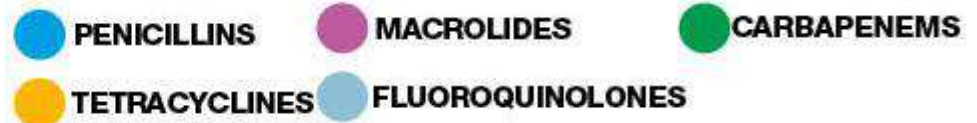
* key pathogens include: *E. coli*, *K. pneumoniae*, *K. oxytoca*, *Acinetobacter* spp., *Pseudomonas* spp., *Enterococcus* spp., *S. aureus* and *S. pneumoniae*.

† *E. coli*, *K. pneumoniae* and *K. oxytoca*: resistant to any of: carbapenems, third-generation cephalosporin, aminoglycosides or fluoroquinolones; *Acinetobacter* spp: resistant to aminoglycosides and fluoroquinolones, or carbapenems; *Pseudomonas* spp. resistant to three or more antimicrobial groups, or carbapenems; *Enterococcus* spp. resistant to glycopeptides; *S. aureus* resistant to methicillin; *S. pneumoniae* resistant to penicillin and macrolides, or penicillin.

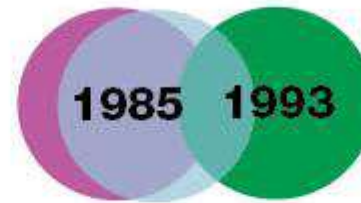
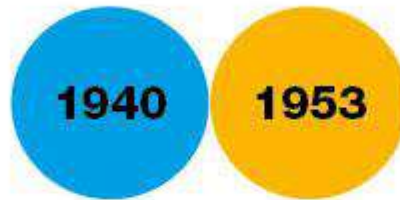
Few new antibiotics in the pipeline

Antibiotic discovery and resistance timeline

Antibiotic class



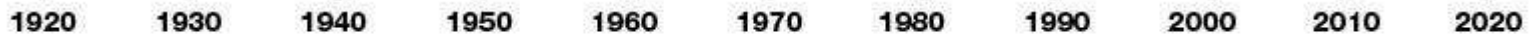
Date of resistance identified



Date of discovery



Year



The current economic model for developing new antibiotics is failing. Companies invest huge amounts of money to bring a new drug to market but cannot recover their costs or make a profit. The combination of low sales and low prices limits the amount of money companies can make. Without financial incentives, many large pharmaceutical companies have started to pull out of the field.

I'M AFRAID IT'S A
SUPERBUG





Without effective antibiotics modern medicine will become dangerous due to the risk of infection. Setting broken bones, major surgery and chemotherapy all depend on access to antibiotics that work

The UK's five-year national action plan



HM Government

Tackling antimicrobial resistance 2019–2024

The UK's five-year national action plan

Published 24 January 2019

- halve healthcare associated Gram-negative blood stream infections;
- reduce the number of specific drug-resistant infections in people by 10% by 2025;
- reduce UK antimicrobial use in humans by 15% by 2024;
- reduce UK antibiotic use in food-producing animals by 25% between 2016 and 2020 and define new objectives by 2021 for 2025; and
- be able to report on the percentage of prescriptions supported by a diagnostic test or decision support tool by 2024.

Total consumption of antibiotics and trends by prescriber setting

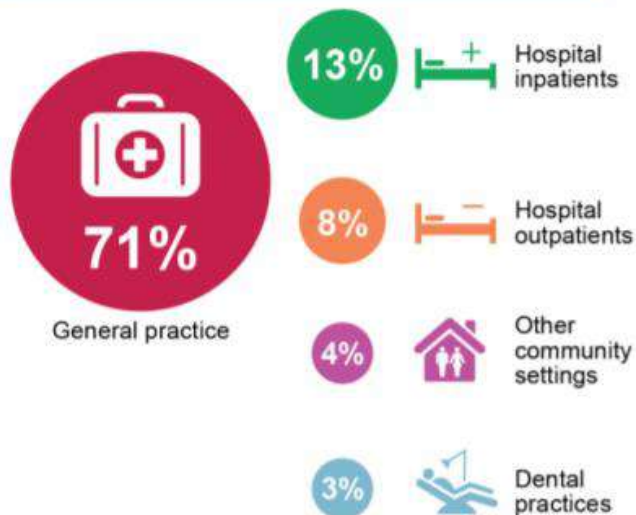
Total consumption of antibiotics continued to decline



(DDDs per 1,000 inhabitants per day)

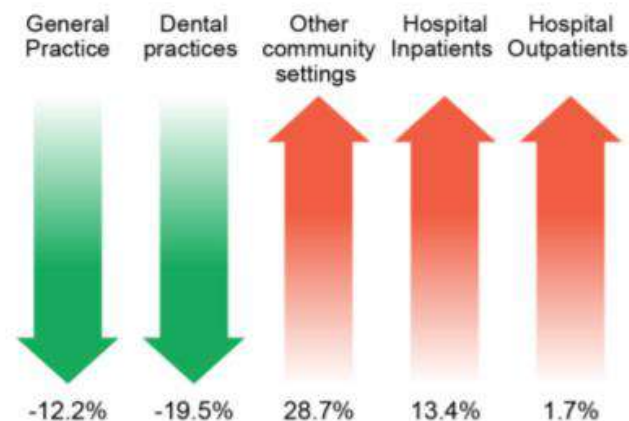
Total antibiotic consumption by prescriber setting as proportion of overall prescribing, England, 2019

Who is Prescribing?



Trends in total antibiotic consumption by prescriber setting, England, 2015-2019

% change



% change (DDDs per 1,000 inhabitants per day)

Preserve antibiotics we have; appropriate use

BSW CCG Management of Infection Guidance for Primary Care April 2021 update

Bath and North East Somerset,
Swindon and Wiltshire
Clinical Commissioning Group

Principles of Treatment

1. This guidance is based on the best available evidence but uses professional judgement and involves patients in management decisions.
2. This guidance should not be used in isolation; it should be supported with patient information about safety netting, delayed/back-up antibiotics, self-care, infection severity and usual duration, clinical staff education, and audits. Materials are available on the RCGP TARGET website.
3. Prescribe an antibiotic only when there is likely to be clear clinical benefit, giving alternative, non-antibiotic self-care advice, where appropriate.
4. Consider a "no", or back-up antibiotic strategy (previously called "delayed" strategy) for acute self-limiting upper respiratory tract infections,^{1A1} and mild UTI symptoms. A 'back-up' prescription strategy allows reduction in unnecessary use of antibiotics while providing a safety net for people who may need antibiotics. Usual patient advice is to use the prescription if their condition deteriorates within 3 days, or fails to improve after 3 to 7 days. See link for further information: <https://www.rcgp.org.uk/clinical-and-research/resources/toolkits/target-antibiotic-toolkit.aspx>
5. In severe infection, or immunocompromised, it is important to initiate antibiotics as soon as possible, particularly if sepsis is suspected. If patient is not at moderate to high risk for sepsis, give information about symptom monitoring, and how to access medical care if they are concerned.
6. Where an empirical therapy has failed or special circumstances exist, microbiological advice can be obtained from our local hospital microbiology departments:
GWH: 01793 604800
RUH: 01225 825428
SFT: 01722 429105
7. Use simple generic antibiotics if possible. Avoid broad spectrum antibiotics (eg. co-amoxiclav, quinolones and cephalosporins) when narrow spectrum antibiotics remain effective, as they increased risk of *Clostridium difficile*, MRSA and resistant UTIs.
8. Always check for antibiotic allergies. A dose and duration of treatment for adults is usually suggested, but may need modification for age, weight and renal function, or if immunocompromised. In severe or recurrent cases consider a larger dose or longer course.
9. Child doses are provided when appropriate or see the children's BNF.
10. Refer to BNF for further dosing and interaction information (e.g. interaction between macrolides and statins) and check for hypersensitivity.
11. Have a lower threshold for initiating antibiotics exists for patients who are immunocompromised or those with multiple morbidities; consider culture/specimens, and seek advice.

<https://prescribing.bswccg.nhs.uk/wpdm-package/wiltshire-swindon-banes-primary-care-antibiotic-guidance-jan-2019-nice-update>

Antimicrobial stewardship

All NICE products on antimicrobial stewardship. Includes any guidance, advice, NICE Pathways and quality standards.

Published products on this topic (92)

Guidance

We use the best available evidence to develop recommendations that guide decisions in health, public health and social care.

Published guidance on this topic (30)

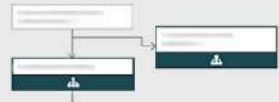
[New in the last 6 months \(3\)](#) | [Updated in the last 6 months \(1\)](#) | [In development \(5\)](#)

NICE advice

NICE Pathways

Interactive topic-based flowcharts that allow you to navigate our recommendations on any subject.

All NICE Pathways on this topic (21)



English surveillance programme for antimicrobial utilisation and resistance (ESPAUR) report 2019/20



Bath and North East Somerset,
Swindon and Wiltshire
Clinical Commissioning Group

Access



Behaviour

21%

Gave out resources on antibiotic use at least once in the previous week

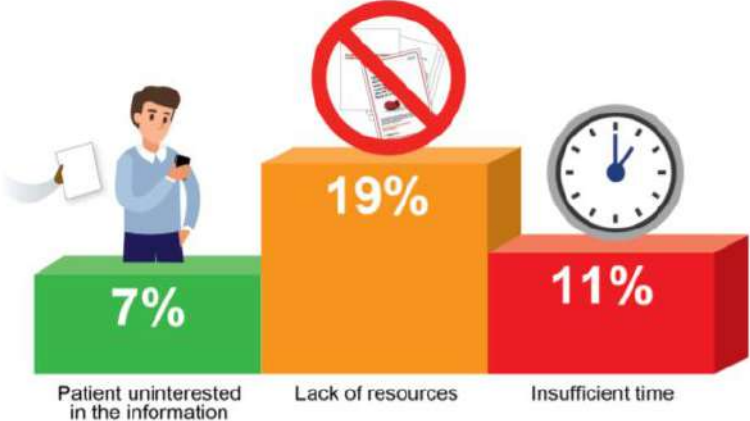
61%

Gave out advice on the prudent use of antibiotics at least once in the previous week



Barriers

The barriers to providing advice or resources on prudent antibiotic use or management of infections



TARGET Antibiotic Toolkit



What is TARGET?

TARGET stands for: Treat Antibiotics Responsibly, Guidance, Education, Tools. The toolkit helps influence prescribers' and patients' personal attitudes, social norms and perceived barriers to optimal antibiotic prescribing. It includes a range of resources that can each be used to support prescribers' and patients' responsible antibiotic use, helping to fulfil CPD and revalidation requirements.

Who is it for, and how can it be used?

The toolkit is designed to be used by the whole primary care team within the GP practice or out of hours setting. These resources can be used flexibly, either as standalone materials or as part of an integrated package. We do recommend that ALL resources are used if this is feasible. Using the TARGET Antibiotics Toolkit resources will enable primary care organisations to demonstrate compliance with the Health and Social Care Act 2008: Code of Practice on the prevention and control of infections and related guidance.

www.rcgp.org.uk/targetantibiotics

The patient perspective:

Resources for clinical and waiting areas

Posters and videos for use in clinical areas to raise awareness of the importance of prescribing antibiotics appropriately. The resources can make a difference to the patients' expectations on antibiotic prescribing.

Posters

Click on the image to download the resource:



The TARGET Toolkit



www.rcgp.org.uk/targetantibiotics

- Promoted by 99% of CCGs
- Over 112,000 visits in 2019/20
- Over 52,700 patient information leaflets were downloaded
- Over 13,500 audits were viewed
- On average, users spend over 9.5 minutes on the website

Patient leaflets:

RESPIRATORY TRACT INFECTION

A step-by-step guide on how to manage your infection

SELF-CARE STEPS

1. How to help make yourself better
2. Check how long your symptoms last
3. Look out for serious symptoms
4. Where to get help

1. HOW TO HELP MAKE YOURSELF BETTER

Whatever your infection, you can do the following to help:

- Take paracetamol** to reduce a fever, always follow the instructions
- Get plenty of rest** until you feel better
- Use tissues** when you sneeze to help stop infections spreading
- Ask your pharmacist** for advice on reducing your symptoms
- Drink enough fluids** to avoid feeling thirsty
- Wash your hands** to help stop infections spreading

For more information, visit the NHS website: www.nhs.uk

Most common infections get better without antibiotics. Find out how you can make better use of antibiotics by visiting: www.antibiotoguardian.com

2. CHECK HOW LONG YOUR SYMPTOMS LAST

If you are not starting to improve a little by the time given above, seek advice from your GP practice.

If you are feeling a lot worse, phone NHS 111, NHS Direct Wales or NHS 24 (see step 4).

Illness	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Eczema	✓	✓	✓	✓	✓	✓	✓
Sore throat	✓	✓	✓	✓	✓	✓	✓
Cold	✓	✓	✓	✓	✓	✓	✓
Cough	✓	✓	✓	✓	✓	✓	✓

3. LOOK OUT FOR SERIOUS SYMPTOMS

If you have an infection and develop any of the symptoms below, you should be seen urgently by a doctor. Ring your GP practice or call NHS 111, NHS Direct Wales or NHS 24.

- Severe headache
- Trouble breathing
- Chest pain
- Coughing blood
- Very cold skin
- Feeling confused
- Problems swallowing
- Feeling a lot worse

4. WHERE TO GET HELP

If you have an **EMERGENCY**, call 999 immediately.

Urinary tract infections (UTIs)

A leaflet for older adults and carers

What is a urinary infection?

A UTI happens when bacteria get into any part of the urinary tract system.

It can be caused by bacteria from the gut, which usually spread to the bladder.

It can also be caused by bacteria from the skin, which usually spread to the bladder.

It can also be caused by bacteria from the blood, which usually spread to the bladder.

What signs and symptoms should you look out for?

Consider these symptoms if you have a urinary infection:

- Pain or burning when passing urine
- High or low temperature
- Blood in urine
- Urgency (needing to urinate immediately)
- Pain in your lower tummy, above the pubic area
- Symptoms waking up at night when you sleep
- Passing urine more often than usual
- Cloudy urine, or white cloud in your urine
- Confusion, change in behaviour or unsteadiness or falls

What can you do to help make yourself better?

Take paracetamol to reduce a fever, always follow the instructions.

Get plenty of rest until you feel better.

Use tissues when you sneeze to help stop infections spreading.

Ask your pharmacist for advice on reducing your symptoms.

Drink enough fluids to avoid feeling thirsty.

Wash your hands to help stop infections spreading.

When should you get help?

Contact your GP practice or contact NHS 111 (England), NHS 111 (Wales) or NHS 24 (Scotland) if you have any of the following symptoms:

- Passing urine more often than usual
- Urgency (needing to pass urine immediately)
- Pain in your lower tummy, above the pubic area
- Symptoms waking up at night when you sleep
- Passing urine more often than usual
- Cloudy urine, or white cloud in your urine
- Confusion, change in behaviour or unsteadiness or falls

Always trust your pharmacist's, nurse's or doctor's advice about antibiotics

1. Antibiotics can be life saving for serious urinary infections.
2. But antibiotics are not always needed for urinary symptoms.
3. Antibiotics which are strong antibiotics include:
 - Trimethoprim and co-trimoxazole
 - Nitrofurantoin
 - Fosfomicin
 - Ciprofloxacin
 - Levofloxacin
 - Moxifloxacin
 - Vancomycin
 - Clindamycin
 - Penicillin
 - Carbapenem
 - Cephalosporin
 - Polymyxin
 - Colistin
 - Vancomycin
 - Linezolid
 - Bacitracin
 - Fosfomicin
 - Clindamycin
 - Penicillin
 - Carbapenem
 - Cephalosporin
 - Polymyxin
 - Colistin
 - Vancomycin
 - Linezolid
 - Bacitracin
4. Antibiotics which are weak antibiotics include:
 - Penicillin
 - Carbapenem
 - Cephalosporin
 - Polymyxin
 - Colistin
 - Vancomycin
 - Linezolid
 - Bacitracin
5. If you are taking antibiotics, you should know when your next appointment is.

TREATING YOUR INFECTION - URINARY TRACT INFECTION (UTI)

For women under 65 years with suspected lower urinary tract infections (UTIs) or lower recurrent UTIs (cystitis or urethritis)

Possible urinary signs & symptoms	The outcome	Recommended care	Types of urinary tract infection (UTI)
Key signs/symptoms: Dysuria: Burning pain when passing urine (wee) New nocturia: Needing to pass urine in the night Cloudy urine: Wee that is cloudy or has a strong smell Other common signs/symptoms: Frequency: Passing urine more often than usual Urgency: Feeling the need to pass urine immediately Haematuria: Blood in your urine Suprapubic pain: Pain in your lower tummy Recent sexual history: • Inflammation due to sexual activity can feel similar to the symptoms of a UTI. • Some sexually transmitted infections (STIs) can have symptoms similar to those of a UTI. Changes during menopause: • Some changes during the menopause can have symptoms similar to those of a UTI.	All women: <input type="checkbox"/> If none or only one of: dysuria, new nocturia, cloudy urine, AND/OR vaginal discharge <input type="checkbox"/> Antibiotics less likely to help. <input type="checkbox"/> Usually lasts 5 to 7 days. <input type="checkbox"/> You may need a urine test to check for a UTI. Non-pregnant women: <input type="checkbox"/> If 2 or more of: dysuria, new nocturia, cloudy urine, OR bacteria detected in urine; AND NO vaginal discharge <input type="checkbox"/> Antibiotics are more likely to help. <input type="checkbox"/> You should start to improve within 48 hours <input type="checkbox"/> Symptoms usually last 3 days. Pregnant women: Always request urine culture <input type="checkbox"/> If suspected UTI.	<input type="checkbox"/> Self-care and pain relief. • Symptoms may get better on their own. <input type="checkbox"/> Delayed or backup prescription with self-care and pain relief. Start antibiotics if symptoms. • Get worse. • Do not get a little better with self-care within 48 hours. <input type="checkbox"/> Immediate antibiotic prescription plus self-care. <input type="checkbox"/> If mild symptoms, delayed or back-up antibiotic prescription plus self-care. <input type="checkbox"/> Immediate antibiotic prescription.	UTIs are caused by bacteria getting into your urethra or bladder, usually from your gut. Infections may occur in different parts of the urinary tract. <ul style="list-style-type: none"> • Kidneys (make urine) Infection in the upper urinary tract • Pyelonephritis (pierce-to-night-its) Not covered in this leaflet and always needs antibiotics. • Bladder (stores urine) Infection in the lower urinary tract • Cystitis (sit-right-its) • Urethra (takes urine out of the body) Infection or inflammation in the urethra • Urethritis (your-thright-its)

Self-care to help yourself get better more quickly

- Drink enough fluids to stop you feeling thirsty. Aim to drink 6 to 8 glasses including water, decaffeinated and sugar-free drinks.
- Take paracetamol or ibuprofen at regular intervals for pain relief, if you have had no previous side effects.
- You could try taking cranberry capsules or cystitis sachets. These are effective for some women. There is currently no evidence to support their use.
- Consider the risk factors in the 'Options to help prevent a UTI' column to reduce future UTIs.

When should you get help?

Contact your GP practice or NHS 111

Phone for advice if you are not sure how urgent the symptoms are.

1. You have shivering, chills and muscle pain.
2. You feel confused, or are very drowsy.
3. You have not passed urine all day.
4. You are vomiting.
5. You see blood in your urine.
6. Your temperature is above 38°C or less than 36°C.
7. You have kidney pain in your back just under the ribs.
8. Your symptoms get worse.
9. Your symptoms are not starting to improve within 48 hours of taking antibiotics.

Options to help prevent a UTI

It may help you to consider these risk factors:

- Stop bacteria spreading from your bowel into your bladder. Wipe from front (vagina) to back (bottom) after using the toilet.
- Avoid urinating to pass urine. Pass urine as a soon as you need a wee.
- Go for a wee after having sex to flush out any bacteria that may be near the opening to the urethra.
- Wash the external vagina area with water before and after sex to wash away any bacteria that may be near the opening to the urethra.
- Drink enough fluids to make sure you are regularly throughout the day, especially during hot weather.

If you have a recurrent UTI, also consider the following:

- Cranberry products and D-mannose: Some women find these effective, but there is currently poor evidence to support this.
- Alter the menopause: You could consider topical hormonal treatment, for example, vaginal creams.

Antibiotic resistance

Antibiotics can be life saving. But antibiotics are not always needed for urinary symptoms.

Antibiotic resistance means that the antibiotics cannot kill that bacteria.

Antibiotic resistant bacteria can remain in your gut for at least a year after taking an antibiotic.

Common side effects to taking antibiotics include: thrush, nausea, vomiting and diarrhoea. Seek medical advice if you are worried.

Keep antibiotics working, only take them when advised by a health professional. This way they are more likely to work for a future UTI.

Produced by NHS.uk on behalf of NHS.uk, Bath and North East Somerset, Swindon and Wiltshire Clinical Commissioning Group, 2021. NHS.uk is a registered trademark of NHS.uk.



ANTIBIOTIC GUARDIAN

BECOME AN ANTIBIOTIC GUARDIAN
CHOOSE YOUR PLEDGE NOW!

www.antibioticguardian.com

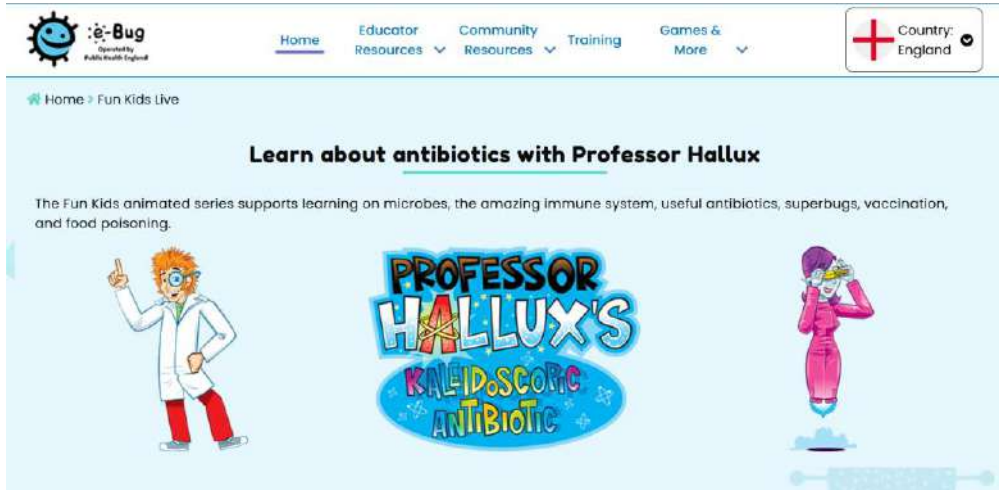


UK Health Security Agency What is Antibiotic Resistance
<https://www.youtube.com/watch?v=7PhmyNBWGik>

e-Bug



The e-Bug suite of educational resources have been re-designed and updated for 2021 and in the context of COVID-19. New for 2021 is the free e-Bug Health Educator Training, which aims to improve your ability to teach children and young people how to prevent the spread of infection and to use antibiotics responsibly.



WAAW Main actions for those with very limited time



World Antimicrobial Awareness Week (WAAW) and European Antibiotic Awareness Day (EAAD)

Resources toolkit for healthcare professionals in England

If you can only do 2 or 3 simple things to promote antibiotic awareness this WAAW, we suggest the following priority actions:

As an individual – Choose your [Antibiotic Guardian pledge](#) and encourage colleagues, family members and friends to do the same. You may wish to share your pledge on social media platforms include #AntibioticGuardian, #KeepAntibioticsWorking and #WAAW hashtag in your social media posts.

Share the WAAW digital resources for healthcare workers: A range of new [digital notes](#) have been created for colleagues to download and share during WAAW with theme of ‘Antibiotics in clinical practice’, ‘Prevention’, ‘Antimicrobial resistance and the environment and/or research’, ‘Diagnostics’, ‘Antimicrobials and untrue/spurious allergy’.



Right time,
Right place.
Not all infections
Need drug interventions.
#AntibioticGuardian
#KeepAntibioticsWorking

Thank You!
for reviewing culture and
Sensitivity results to narrow
your antibiotic choices.
#AntibioticGuardian
#KeepAntibioticsWorking

- **Please share the invite** with colleagues who clinicians are working on the UTI pathway, and it aligns to the 2019/20 AMR LUTI CQUIN scheme for acute Trusts and the anticipated 2022/23 AMR acute UTI all adults CQUIN for the first session,
- And, for the second session those clinicians working in primary care including WIC, UTC, OOH and primary care practices, as well as paediatricians. IPC and school nursing and PH in council may also be interested in the second session due to the high use of antibiotics for winter RTIs and prevention strategies which include flu vaccination uptake and in school IPC strategies, as well as parent education.

We are pleased to invite you to a 2 part webinar presented by Elizabeth Beech and Lydia Gomersall.

2-3pm

RightCare UTI: this focus in on primary care optimisation of LUTI in older adults to reduce empirical treatment failure leading to complicated UTI and bacteraemia and associated urgent care attendance including hospital admission and patient harm.

3-4pm

AMS dashboard – Children: this is a population health focus

MS team link invite to be send out via BSW prescribing email

Antimicrobial Stewardship resources

Health Education England HEE Antimicrobial Resistance and Infections elearning
[Antimicrobial Resistance and Infections - elearning for healthcare \(e-lfh.org.uk\)](https://www.e-lfh.org.uk/antimicrobial-resistance-and-infections)

Antimicrobial prescribing and stewardship competencies framework

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/253094/ARHA|pr_escrcompetencies_2_.pdf

Public Health England Fingertips AMR

https://fingertips.phe.org.uk/profile/amr-local-indicators/data#page/3/gid/1938132909/pat/15/par/E92000001/ati/118/are/RBD/iid/93555/age/1/sex/4/cid/4/page-options/ovw-do-0_car-do-0

UK 5-year action plan for antimicrobial resistance 2019 to 2024

<https://www.gov.uk/government/publications/uk-5-year-action-plan-for-antimicrobial-resistance-2019-to-2024>

Open Prescribing AMS Data

<https://openprescribing.net/ccg/92G/measures/?tags=antimicrobial>

RCGP TARGET Antibiotics Resources

<https://www.rcgp.org.uk/TARGETantibiotics>

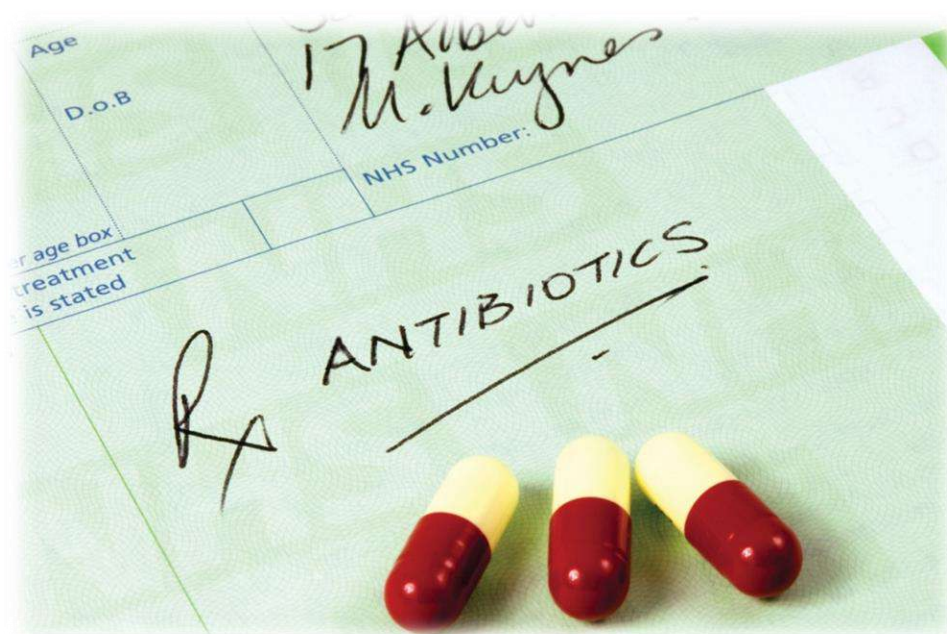
English Surveillance Programme for Antimicrobial Utilisation and Resistance ESPAUR report

[UK AMR 5 year national action plan.pdf \(publishing.service.gov.uk\)](https://www.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/253094/UK_AMR_5_year_national_action_plan.pdf)

E-Bug

[e-Bug | Beat the Bugs](https://www.e-bug.org.uk/)

Thank you



Marco Yeung

Medicine Optimisation Pharmacist
NHS Bath and North East Somerset, Swindon and
Wiltshire Clinical Commissioning Group
marco.yeung1@nhs.net