Antibiotic Awareness: Key messages

World Antibiotic Awareness Week
European Antibiotic Awareness Day
Antibiotic Guardian
About Public Health England

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Key messages

General

Antibiotics are essential medicines for treating bacterial infections in both humans and animals.

Antibiotics are losing their effectiveness at an increasing rate.

Bacteria can adapt and find ways to survive the effects of an antibiotic. They become ‘antibiotic resistant’ so that the antibiotic no longer works. The more you use an antibiotic, the more bacteria become resistant to it.

Antibiotics should be taken as prescribed, never saved for later or shared with others; it is important we use antibiotics in the right way, the right drug, at the right dose, at the right time for the right duration. Appropriate use of antibiotics will slow down the development of antibiotic resistance.

There are very few new antibiotics in the development pipeline, which is why it is important we use our existing antibiotics wisely and make sure these life-saving medicines continue to stay effective for us, our children and grandchildren.

The independent review of antimicrobial resistance, the AMR Review commissioned by the Government in 2014 and chaired by Lord Jim O’Neill, in its analysis of the global issue estimated that a failure to address the problem of antibiotic resistance could result in:

- an estimated 10 million deaths globally by 2050
- a cost of £66trillion ($100trillion) to the global economy

1 AMR Review. http://amr-review.org/Publications
Many antibiotics are prescribed and used for mild infections when they don’t need to be.

All colds and most coughs, sinusitis, otitis media (earache) and sore throats get better without antibiotics.

Community pharmacists are well placed to help provide advice on over the counter medicines to manage symptoms and help with self-care.

Keep Antibiotics Working raises awareness of antibiotic resistance amongst the general public and encourages greater trust in doctors’ advice when it comes to whether to take antibiotics or not.

Individuals (the public, healthcare professionals, educators and leaders) can take action by choosing a pledge and becoming an Antibiotic Guardian: www.antibioticguardian.com

Strategy

Antibiotic resistance is a complex global public health issue. An integrated cross-sector One Health approach (human, animal and environment) across national, European and international levels is required to combat the spread of antibiotic resistance.

The UK’s 2019-2024 national action plan for tackling AMR and NHS long term plan set targets to ensure progress to our 20-year vision on AMR, in which resistance is effectively contained and controlled. These are underpinned by actions such as reducing infections, strengthening stewardship, improve surveillance and boosting research.

Targets include to:

- halve healthcare associated Gram-negative blood stream infections by 2024
- 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
- be able to report on the percentage of prescriptions supported by a diagnostic test or decision support tool by 2024
The concerns around the impact of AMR led to AMR being added to the UK National Risk Register of Civil Emergencies in 2015.²

The UK supports the WHO Global Action Plan on AMR which aims to ensure, for as long as possible, continuity of successful treatment and prevention of infectious diseases with effective and safe medicines that are quality-assured, used in a responsible way, and accessible to all who need them.

The independent AMR review³ commissioned by the Government published its final recommendations in May 2016.

The review, which discusses the mounting problem of resistance and why action is required to combat it, provides an overview of solutions that could be implemented to curtail unnecessary use and increase the supply of new antimicrobials. It highlights the need for public awareness campaigns and the need to improve sanitation and hygiene, reduce pollution from agriculture and the environment, improve global surveillance, introduce rapid diagnostics and vaccines and the need to increase the number of specialists working in the area.

Keep Antibiotics Working highlights to the public that taking antibiotics when they are not need them puts them and their families at risk. To help keep antibiotics working people are urged to always take their doctor, pharmacist or nurse’s advice on antibiotics. Resources are available at no cost for healthcare professionals to use in local awareness campaigns and includes leaflets, posters and digital resources.

Reports and tools

PHE is responsible for coordinating the antimicrobial awareness activities in England and is working with Department of Health’s Expert Advisory Committee on Antimicrobial Resistance and Healthcare Associated Infections (ARHAI); the Veterinary Medicines Directorate (VMD) of the Department for Environment Food and Rural Affairs (Defra), NHS England and NHS Improvement, the devolved administrations and professional bodies/organisations towards the “One Health”⁴ initiative.

The AMR resource handbook identifies current national policy, guidance and supporting materials in relation to the infection prevention and control of healthcare associated

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³ http://amr-review.org/Publications
⁴ One Health is the collaborative effort of multiple disciplines — working locally, nationally, and globally — to attain optimal health for people, animals and the environment.
Infections (HCAI) and antimicrobial stewardship in order to aid in the reduction of antimicrobial resistance. It is designed to assist local health and social care professionals in quickly retrieving relevant information provided by Public Health England, the Department of Health and a wide variety of key stakeholders.

In 2014, the first report of the English Surveillance Programme for Antimicrobial Utilisation and Resistance (ESPAUR) led by PHE brought together for the first time, national and regional surveillance of antibiotic resistance and antibiotic use trends in humans; the ESPAUR report is published yearly during World Antibiotic Awareness Week.

National Institute for Health and Care Excellence (NICE) guidance (NG15) August 2015: Antimicrobial stewardship: systems and processes for effective antimicrobial medicine use https://www.nice.org.uk/guidance/ng15 provides good practice recommendations on systems and processes for effective use of antimicrobials. Since October 2017 NICE and PHE have also produced antibiotic prescribing guidelines which cover a range of topics.

The Royal College of General Practitioners hosts a web-based TARGET antibiotics toolkit which includes a patient information leaflet to assist primary care prescribers and
Antibiotic Awareness Key Messages

Aims to help influence prescribers’ and patients’ personal attitudes, social norms and perceived barriers to optimal antibiotic prescribing.

A dental antimicrobial stewardship toolkit has been developed by the Dental Subgroup of the English Surveillance Programme for Antimicrobial Utilisation and Resistance (ESPAUR) in collaboration with Faculty of General Dental Practice (FGDP) and British Dental Association (BDA).

An improvement hub for gram negative blood stream infections (GNBSI) is available to develop local collaborative actions to reduce GNBSI.

Antimicrobial Resistance Indicators: indicators on antimicrobial resistance, antibiotic prescribing, healthcare associated infections (HCAIs), infection prevention and control (IPC) and antimicrobial stewardship are now available as part of the PHE Fingertips portal. The data can be used for local benchmarking and developing local AMR plans.

The AMR local indicators on PHE Fingertips provide a range of trust level data sets on antimicrobial resistance, healthcare associated infections, antibiotic prescribing, infection prevention and antimicrobial stewardship that can be used.

The number of Antibiotic Guardians per 100,000 population for each CCG is also available via PHE Fingertips and by Local authority.

![Map of CCGs in England for Antibiotic Guardians per 100,000 population per calendar year by CCGs (Crude rate - per 100,000, 2016)](image-url)

![Antibiotic Guardians per 100,000 population per calendar year by CCGs](image-url)
A range of tools and resources are available for healthcare professionals to help contribute to achieving the national ambitions of halving HA-GNBSI and inappropriate antibiotic prescribing through the collaborative work of NHS England and NHS Improvement, Health Education England, NICE and Public Health England. The Royal Pharmaceutical Society AMR campaign and CPPE provide specific resources for pharmacists.

One Health

The second One Health Report published in 2019 brought together the most recently available UK data from 2013-2017, on antibiotic resistance in key bacteria that are common to animals and humans; it also included detail on the amount of antibiotics sold for animal health and welfare and antibiotics prescribed to humans.

The integrated ‘One Health’ approach strategy includes surveillance of antibiotic resistant infections, promoting responsible prescribing and use of antibiotics, and good infection control measures to prevent their spread in both humans and animals.

AMR resources and toolkits for veterinary medicine and livestock professionals have been collated and are available via http://antibioticguardian.com/Resources/veterinary-medicine-livestock/.

Antibiotic awareness campaigns

The theme of the WAAW campaign, Antibiotics: Handle with Care, reflects the overarching message that antibiotics are a precious resource and should be preserved. They should be used to treat bacterial infections, only when prescribed by a certified health professional. Antibiotics should never be shared and should be taken as directed and not saved for the future.

European Antibiotic Awareness Day (EAAD) was initiated by the European Centre for Disease Prevention and Control (ECDC) in 2008 and is held on 18 November every year aiming to raise awareness on how to use antibiotics in a responsible way that will help keep them effective for the future.

As part of UK activities for antimicrobial awareness, and in support of the UK 5-year national action plan for AMR, PHE developed the Antibiotic Guardian campaign in

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5 One Health is the collaborative effort of multiple disciplines — working locally, nationally, and globally — to attain optimal health for people, animals and the environment.
6 http://antibioticguardian.com
2014 as an ongoing resource to move from raising awareness to engagement and to stimulate behaviour change.

The Antibiotic Guardian campaign acts as a driver to increase engagement and provide an outcome measure. A pledge system will help people feel that they have taken concrete personal and collective action to help keep antibiotics active. This may in turn act as a catalyst for behaviour change that is measured through follow up.

The impact/evaluation study of the Antibiotic Guardian campaign demonstrated that the campaign increased commitment to tackling AMR in both healthcare professionals and members of the public, increased self-reported knowledge and changed self-reported behaviour particularly among people with prior AMR awareness. 7

A public facing media campaign on AMR called Keep Antibiotics Working (using TV, radio and social media) runs in Winter.

The messaging for the campaign aims to move patients to a better understanding that taking antibiotics when they don’t need them puts them and their family at serious risk and to trust their doctors and healthcare professionals advice regarding the best appropriate treatment for them.

Leaflets and posters, including the Target Treat your Infection Pad, will be distributed to healthcare settings including GP surgeries and pharmacists. Resources are available free for HCPs to order to use in local awareness campaigns e.g. during WAAW or at other times from the PHE campaign resource centre.

To ensure there is a co-ordinated public facing approach, there will be greater alignment between the look and feel of Keep Antibiotics Working and Antibiotic Guardian. The goal is to bring together the purpose and credibility of the Antibiotic Guardian Programme with the scale and recognition of the nationwide consumer campaign to establish Keep Antibiotics Working as PHE’s unifying brand to manage AMR for the public. Both campaigns share objectives which support the government ambition to reduce inappropriate prescribing in the UK by half by 2020.

A public facing video with a presenter highlighting the antibiotic resistance issue with a call to action to become antibiotic guardians through three key steps is available via the Antibiotic Guardian website:

7 Chaintarli et al Impact of a United Kingdom-wide campaign to tackle antimicrobial resistance on self-reported knowledge and behaviour changeBMC Public Health. 2016 May 12;16:393
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4866421/
Antibiotic Awareness Key Messages

• step 1: don’t ask for antibiotics, consider alternatives to antibiotics and to ask a pharmacist about over the counter remedies that can help in the first instance.
• step 2: take antibiotics exactly as prescribed, never save them for future use, never share them with others
• step 3: to spread the word and share the video

Health students are encouraged to learn more about and raise awareness of antimicrobial resistance with peers especially non-health students during World Antibiotics Awareness Week and become Antibiotic Guardian Champions. This includes the opportunity to earn a digital badge that can be added to their LinkedIn accounts on completion of a number of tasks including a short e-learning AMR module developed by Health Education England.

Materials for school children and their families are available via e-bug, Junior and Family Antibiotic Guardian, which educate on infection prevention and control as well as microbes, their spread and use of antibiotics with schools. Furthermore, students are invited to attend the national students’ AMR conference held during World Antibiotic Awareness Week each year in November.

Veterinary Medicines Directorate, Defra and a number of veterinary bodies are raising awareness of these campaigns through various activities to further promote responsible use of antibiotics by veterinarians, farmers and pet owners (animal keepers).

PHE has published a range of materials on its website for use and local adaption to help support EAAD activities and initiatives.8

8https://www.gov.uk/government/publications/european-antibiotic-awareness-day-key-messages-on-antibiotic-use
Additional messages

The table below is an excerpt of the TARGET Antibiotic Toolkit “Guide to treat your infection” and shows you how long these common illnesses normally last, what you can do to ease your symptoms and when you should go back to your GP or contact NHS Direct.

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http://www.rcgp.org.uk/TARGETantibiotics
### Antibiotic Guardian and Antibiotic Awareness Key Messages

**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)**

<table>
<thead>
<tr>
<th>Possible urinary signs &amp; symptoms</th>
<th>The outcome</th>
<th>Recommended care</th>
<th>Types of urinary tract infection (UTI)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Key signs/symptoms:</strong></td>
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<tr>
<td>Dysuria, Burning pain when passing urine (even one of)</td>
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<tr>
<td>New urinary Urgency: Feeling the need to pass urine immediately</td>
<td>Self-care and pain relief</td>
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<td>cloudy urine: Visible cloudy colour when passing urine</td>
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<td>Other urinary signs/symptoms:</td>
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<tr>
<td>Frequency: Passing urine more often than usual</td>
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<tr>
<td>Urgency: Feeling the need to pass urine immediately</td>
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<tr>
<td>Haematuria: Blood in your urine</td>
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<tr>
<td>Suprapubic pain: Pain in your lower tummy</td>
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<tr>
<td><strong>Other things to consider:</strong></td>
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<tr>
<td>Recent sexual activity</td>
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<tr>
<td>• Information due to sexual activity can fool</td>
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<tr>
<td>• Similar to the symptoms of UTI</td>
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<tr>
<td>• Sexually transmitted infections (STIs) can have symptoms similar to those of a UTI</td>
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<tr>
<td><strong>Changes during menstruation:</strong></td>
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<tr>
<td>• Some changes during the menopause can have symptoms similar to those of a UTI</td>
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</tbody>
</table>

#### Self-care to help yourself get better more quickly

- Drink enough fluids to stop you lasting thirsty, aim to drink 8-10 glasses including water, decaffeinated and sugar-free drinks.
- Take paracetamol or ibuprofen at regular intervals for pain relief. If you have had no previous attacks.
- You could try taking cranberry capsules with meals.

#### When should you get help?

- Call your GP practice or NHS 111 if you:

  - Have the following symptoms and be assessed urgently.
  - Phono for advice if you are not sure the symptoms are infectious:
    1. You have early signs and muscle pains.
    2. You feel confused, or are very drowsy.
    3. You have not passed urine all day.
    4. You are vomiting.
    5. You are at home, if you are able to get a bladder scan.
    6. Your symptoms are above 38°C, or less than 36°C.
    7. You have a lump in your back just under the ribs.
    8. Your symptoms get worse.

#### Options to help prevent a UTI

- **Drinking enough fluids to stop you lasting thirsty, aim to drink 8-10 glasses including water, decaffeinated and sugar-free drinks.**
- Take paracetamol or ibuprofen at regular intervals for pain relief.
- You could try taking cranberry capsules with meals.

#### Antibiotic resistance

- Antibiotics can be beneficial, but antibiotics are not always needed for urinary symptoms.
- Antibiotics taken too often, for the wrong reason, affect our gut bacteria making some resistant.
- 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 antibiotics.
- Common side effects to taking antibiotics include: rush, nausea, vomiting and diarrhoea. Seek medical advice if you are worried.
- Keep antibiotics working, only take them when advised by a healthcare professional. This way they are more likely to work for a future UTI.
Antimicrobial stewardship in secondary care

A Start Smart – then Focus approach is recommended for all antibiotic prescriptions in secondary care

ANTIMICROBIAL STEWARDSHIP
Treatment algorithm

Start Smart → Then Focus

DO NOT START ANTIBIOTICS IN THE ABSENCE OF CLINICAL EVIDENCE OF BACTERIAL INFECTION

1. Take thorough drug allergy history
2. Initiate prompt effective antibiotic treatment within one hour of diagnosis (or as soon as possible) in patients with severe sepsis or life-threatening infections
3. Comply with local antimicrobial prescribing guidance
4. Document clinical indication (and disease severity if appropriate), dose and route on drug chart and in clinical notes
5. Include review/stop date or duration
6. Obtain cultures prior to commencing therapy where possible (but do not delay therapy)

CLINICAL REVIEW & DECISION AT 48-72 HOURS

Clinical review, check microbiology and make a clear plan. Document this decision

1. STOP
2. IV to oral switch
3. Change antibiotic
4. Continue
5. OPAT

Document Decision & Next Review Date or Stop Date

DOCUMENT ALL DECISIONS

* In accordance with surviving sepsis patient safety alert
* According to weight/gage in children refer to local formulary or BNFC
* Use appropriate route in line with severity/bacterial factors
* Outpatient Parenteral Antibiotic Therapy
Everyone has a role in tackling antimicrobial resistance
Patients

Antibiotic resistance is a threat to your health.

Good hygiene is essential in reducing the risk of spread of infections and is especially important in households with individuals who have chronic illnesses.

Antibiotics do not work for ALL colds, or for most coughs, sore throats or earache. Your body can usually fight these infections on its own.

Taking antibiotics encourages harmful bacteria that live inside you to become resistant. That means that antibiotics may not work when you really need them. This puts you and your family at risk of a more severe or longer illness. Take your doctor, pharmacist or nurse’s advice when it comes to antibiotics.

Antibiotics are important medicines and should only be taken when prescribed by a health professional.

When antibiotics are prescribed by a health professional it is important that you always take them as directed, never save them for later and never share them with others.

Antibiotics can have side effects as they upset the natural balance of bacteria potentially resulting in diarrhoea and/or thrush. The use of inappropriate antibiotics may also allow other more harmful bacteria to increase. Antibiotics also cause other side effects such as rashes, stomach pains and reactions to sunlight.

Antibiotic resistant bacteria don’t just affect you, they can spread to other people (and animals) in close contact with you and are very difficult to treat.

How to look after yourself and your family

If you or a family member are feeling unwell, have a cold or flu and you haven’t been prescribed antibiotics, here are some effective self-care ways to help you feel better:

- ask your pharmacist to recommend medicines to help with symptoms or pain
- get plenty of rest
- make sure you or your child drink enough to avoid feeling thirsty.
- fever is a sign that the body is fighting infection and most fevers will get better on their own - use paracetamol if you or your child are feeling uncomfortable
- make sure to use a tissue for your nose and wash your hands frequently to avoid spreading your infection to family and friends
If you’re worried, speak to a doctor who will be able to advise you on the best treatment for your symptoms.

For more information on antibiotics visit: http://www.nhs.uk/nhsengland/arc/pages/aboutarc.aspx.

Become an Antibiotic Guardian and protect yourself, your family and friends against the spread of antibiotic resistance at antibioticguardian.com.

Animal keepers/pet owners

Animal keepers and pet owners: bacteria, including those carrying antibiotic resistance, can be transferred between animals and humans and vice versa, therefore it is important to practice good hygiene to minimise this.

Farmers and livestock keepers: Prevent diseases by implementing good herd or flock health and bio-security practices, good nutrition, hygiene and animal welfare. Follow the advice given by your vet and use any antibiotics prescribed by your vet in accordance with their labelling instructions. Complete the full course prescribed and observe any withdrawal period.

Your vet may not necessarily prescribe newer antibiotics available as older classes of these medicines may be just as effective in treating your animal(s) and may reduce the development of resistance.

Prescribers

Use antibiotics responsibly, when antibiotic treatment is needed, the antibiotic should be tailored for the patient, the likely site of infection and causative organism.

Patients receiving antibiotics should receive the right drug, at the right dose, at the right time and the right duration for the individual.

It is important that antimicrobial therapy is administered within one hour of recognition of severe sepsis or septic shock.

Unnecessary lengthy duration of antibiotic treatment and inappropriate use of broad-spectrum antibiotics should be avoided.

Primary care prescribers continue to be encouraged to only prescribe antibiotics when they are needed for bacterial infections, and not for self-limiting mild infections such as colds and most coughs, sinusitis, earache and sore throats.
Communication is key. Studies show that patients are less likely to ask their GP for antibiotics if advised what to expect in the course of an illness and given a self-care plan. Discussing information on the guide to infection leaflet can facilitate this.

Consider backup/delayed prescriptions when appropriate.

Promote good infection prevention and control measures to reduce cross infection; proactively reducing the number of infections can in turn reduce the frequency of antibiotic prescriptions and have a positive impact on reducing antibiotic resistance. Specific guidance for professionals is available in our ‘Start Smart then Focus’ guidance.

This aims to promote best practice on prescribing antibiotics in hospitals. GPs are also encouraged to focus on antimicrobial stewardship and are assisted through an antibiotic toolkit ‘TARGET’ (Treat Antibiotics Responsibly, Guidance, Education, Tools,) which is hosted on the Royal College of General Practitioners website at: http://www.rcgp.org.uk/targetantibiotics/ and includes a range of resources specific for general practice.

**Dental prescribers**

Clinical intervention should normally be used to manage dental infections rather than the prescription of antibiotics. Antibiotics on their own are ineffective in eradicating infection and pain and dental treatment is normally required to remove the cause.

Dental pain should be managed by definitive management of the cause and where appropriate the use of analgesics.

It is important to discuss with patients the diagnosis and options for management of dental pain.

A **dental antimicrobial stewardship toolkit** which provides a set of resources to help primary care practitioners promote the appropriate use of antibiotics in dental care was published in 2016 by the Dental Subgroup of the English Surveillance Programme for Antimicrobial Utilisation and Resistance (ESPAUR) in collaboration with Faculty of General Dental Practice (FGDP) and British Dental Association (BDA) and Dental Protection.
Antibiotic Awareness Key Messages

Veterinary prescribers

Wherever possible use antibiotics at an early stage, when clinical signs of bacterial disease are first diagnosed and become evident.

Use a narrow spectrum antibiotics wherever possible.

The product’s Summary of Product Characteristics (SPC) or product literature instructions and contra-indications must be clearly understood and taken into account, especially when deciding on the dosage and duration of treatment. Do follow the storage advice.

Emphasise to clients the need to follow the antibiotic product’s labelling instructions.

Perform antibiotic sensitivity testing on causal bacteria against the antibiotics of choice where possible and particularly prior to treatment with broad spectrum and/or antibiotics considered critically important.

If a treatment does not appear to work, perform further diagnostic tests and report the treatment failure using a yellow form (available from: www.vmd.defra.gov.uk), as a Suspected Lack of Efficacy to the VMD. This is a valuable tool for veterinarians to be part of an alert system to bring an emerging resistance problem to the attention of interested parties.

Veterinary Medicines Directorate, Defra and a number of veterinary bodies are raising awareness of these campaigns through various activities to further promote responsible use of antibiotics by veterinarians, farmers and pet owners (animal keepers).