



Say No to Infection Antimicrobial Resistance (AMR) Fact Sheet

Introduction

Antimicrobials are the key to modern medicine that treat millions of people worldwide. They are used in the treatment of minor and potentially life-threatening infections in humans and animals.

Antimicrobials are used in support of surgery and modern cancer therapies. Microorganisms (germs) that become resistant to antimicrobials mean that treatments are less effective, causing harm to humans and animals. Resistant organisms spread through people, animals, food, and the environment, creating a major public health threat.

Antimicrobial resistance (AMR) has been identified as one of the most pressing global challenges we face this century and if left unchecked, antibiotic resistance may make it too risky to carry out routine surgeries and other modern medical interventions. Certain populations, including women and children, suffer disproportionately from this crisis.

In 2021 there were 4.71 million deaths associated with bacterial AMR across 204 countries, and 1.14 million of those were directly attributed.

WHO's October 2025 update highlighted:

- **1 in 6 bacterial infections globally** are now resistant to standard antibiotics.
- Resistance rose in **40% of bacteria–drug combinations** between 2018–2023.
- Gram-negative pathogens (e.g., *E. coli*, *K. pneumoniae*) pose the greatest threat.

In 2019 the UK published its 20-year vision for AMR. This set out the ambitious goal of ensuring AMR will be controlled and contained by 2040. The UK's second 5-year national action plan (NAP) was released in 2024. This sets out the ambitions and actions for the next 5 years in support of the 20-year vision for antimicrobial resistance (AMR) and builds on the achievements and lessons of the first. The NAP has 9 strategic outcomes organised under 4 themes. Action will be taken across all sectors (human health, animal health, agriculture, and the environment). [Confronting antimicrobial resistance 2024 to 2029](#)

The new aims are outlined below:

- Reducing the need for, and unintentional exposure to antimicrobials
- Optimising the use of antimicrobials
- Investing in innovation, supply and access
- Being a good global partner

What is Antimicrobial Resistance (AMR)?

AMR occurs when the microorganisms (germs) which cause disease (including bacteria, viruses, fungi and parasites) are no longer affected by antimicrobial medicines such as antibiotics, antivirals, antifungals and antiparasitics that we use to kill them, prevent, and treat the disease.

While resistance can occur naturally, from a human healthcare perspective it is accelerated by:

- inappropriate use of antimicrobial drugs.

- poor infection prevention and control practices.
- a lack of new antimicrobial drugs being developed.

No new class of antibiotics has been discovered and made available since the 1980s. There are few replacement antibiotics or alternative products in development, and even fewer which target specific super resistant microorganisms. As resistance continues to increase, more people will suffer for longer as infections become more difficult to treat.

The emergence of Antibiotic Resistance and 'superbugs'

The overuse of antibiotics in recent years means they're becoming less effective and has led to the emergence of 'superbugs'. These are strains of bacteria that have developed resistance to many different types of antibiotics, including:

- MRSA (meticillin-resistant *Staphylococcus aureus*)
- Clostridioides *difficile* infection (*C.diff*)
- Bacteria that cause multi-drug resistant tuberculosis
- CPE (Carbapenemase-producing *enterobacterales*)

These types of infections can be serious and challenging to treat and are becoming an increasing cause of disability and death across the world.

The biggest worry is that new strains of bacteria may emerge that cannot be treated by any existing antibiotics.

Antimicrobial Stewardship

Antimicrobial stewardship is part of the fight against Antimicrobial Resistance.

The purpose of AMS is to ensure,

'The right antibiotic for the right patient, at the right time, with the right dose, and the right route, causing the least harm to the patient and future patients'.

Antimicrobial stewardship includes improving prescribing of antibiotics and raising public awareness of Antimicrobial Resistance.

Everyone has a role in antimicrobial stewardship. We should question when antibiotics are prescribed for residents and for ourselves.

Tackling Antimicrobial Resistance

- **Early prevention of infections** – when providing care for residents always use standard infection control precautions as outlined in the National IPC Manual [NHS England » National infection prevention and control manual \(NIPCM\) for England](#) .
- **Timely, accurate diagnosis** – ensure appropriate samples are taken e.g. wound swab, sputum specimen, MSU/CSU ETC. Dip sticking of urine is not undertaken to diagnose a urinary tract infection in residents with symptoms of a UTI.
- **Appropriate prescribing and use of antimicrobials only when there are clinical signs of an infection.**
- **Effective management of infections** – making sure that residents who require treatment receive this on time, complete the prescribed course and that the resident can take the treatment via the route prescribed.

Please refer to UTI flowchart available at <https://www.happyhealthylives.uk/document-library/>

Antibiotics

Antibiotics may be used to treat bacterial infections that:

- Are unlikely to clear up without antibiotics.
- Could infect others.
- Could take too long to clear without treatment.
- Carry a risk of more serious complications.
- People at a high risk of infection may also be given antibiotics as a precaution, known as antibiotic prophylaxis.

Antibiotics come as:

- Tablets, capsules, or a liquid that you drink – these can be used to treat most types of mild to moderate infections in the body.
- Creams, lotions, sprays and drops – these are often used to treat skin infections and eye or ear infections.
- Injections – these can be given as an injection or through a drip directly into the blood or muscle and are used for more serious infections.

Always take antibiotics as directed on the packet or the patient information leaflet that comes with the medicine, or as instructed by the GP or pharmacist.

Antibiotics do not work for everything e.g.:

- Many mild bacterial infections get better on their own without using antibiotics.
- Antibiotics do not work for viral infections such as colds and flu, and most coughs and sore throats.

Antibiotics are no longer routinely used to treat:

- Chest infections
- Ear infections in children
- Sore throats

Antibiotic resistance is a big problem – taking antibiotics when you do not need them can mean they will not work for you in the future.

Remember:

**Keeping antibiotics effective is everybody's
responsibility**

[For further information on Antibiotic Resistance click the link](https://www.england.nhs.uk/ourwork/prevention/antimicrobial-resistance-amr/)

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