September 2025

AMR Knowledge Questions: Narratives

The UK's current 5 year national action plan (NAP) for antimicrobial resistance 2024 to 2029 builds on earlier efforts to address antimicrobial resistance through four key themes:

1) Reducing the need for, and unintentional exposure to, antimicrobials
2) Optimising the use of antimicrobials,
3) Investing in innovation, supply and access
4) Being a good global partner.

To measure these efforts, the NAP sets out five human health targets to be achieved by 2029:

- prevent any increase in a specified set of drug-resistant infections in humans from the 2019 to 2020 financial year (FY) baseline.
- prevent any increase in Gram-negative bloodstream infections in humans from the 2019 to 2020 financial year baseline.
- increase UK public and healthcare professionals' knowledge on AMR by 10%, using 2018 and 2019 baselines, respectively.
- reduce total antibiotic use in human populations by 5% from the 2019 baseline.
- achieve 70% of total use of antibiotics from the Access category (new UK category) across the human healthcare system.

Changes in healthcare professionals' knowledge and the public's knowledge, and therefore progress towards the third target, are assessed using the following questions. The correct answers are explained with supporting narratives. We encourage that these are embedded into any education and training on infection prevention and control and antimicrobial stewardship.

The questions used to assess the health target on the public and healthcare professionals knowledge on AMR are:

1. "Antibiotic are effective against viruses"
2. "Antibiotics are effectives against cold and flu"
3. "Unnecessary use of antibiotics makes them become ineffective"
4. "Taking antibiotics has associated side effects or risks such as diarrhoea, colitis, allergies"
5. "Every person treated with antibiotics is at an increased risk of antibiotic resistant infection"
6. "Antibiotic resistant bacteria can spread from person to person"
7. "Healthy people can carry antibiotic resistant bacteria"

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1. **Antibiotics are effective against viruses (Correct answer = False)**

Antibiotics are important medicines that are used to treat infections caused by bacteria. Antibiotics don't work against infections caused by viruses, such as colds and flus. These common viral infections often get better without antibiotics. Ask your pharmacist about how you can treat your symptoms and pain using over the counter medicine.

2. **Antibiotics are effective against cold and flu (Correct answer = False)**

Most coughs, colds, sore throats and flu are caused by viruses. Antibiotics cannot help you recover from infections caused by viruses as it is only effective against bacterial infections. Mild infections with bacteria may also get better without antibiotics. Remember to wash your hands; this is the single best way to prevent the spread of respiratory tract infections.

References/resources for Question 1 and 2

- NHS – Why it's important to take your antibiotics correctly: https://www.nhs.uk/conditions/antibiotics/
- UKHSA – Keep Antibiotics Working Campaign: Keep Antibiotics Working | Campaigns | Campaign Resource Centre
- WAAW resources toolkit: World Antimicrobial Resistance Awareness Week (WAAW) and European Antibiotic Awareness Day (EAAD) - GOV.UK
- Antibiotics guardian Antibiotic Guardian – Pledge to be an Antibiotic Guardian
- Target toolkit: TARGET antibiotics toolkit hub | RCGP Learning
- **WHO** *World Antibiotic Awareness Week*. World AMR Awareness Week
- Confronting antimicrobial resistance 2024 to 2029 - GOV.UK
- NHS Inform: Antibiotics | NHS inform
- Gov.uk Antimicrobial resistance - Prepare
- E-bug Home

3. **Unnecessary use of antibiotics makes them become ineffective (Correct answer = True)**

Antibiotics are important medicines that are used to treat infections caused by bacteria. Bacteria can adapt and find ways to survive the effects of an antibiotic – becoming 'antibiotic resistant' – meaning that the antibiotic no longer kills the bacteria. Taking antibiotics when you don't need to will allow bacteria to develop a resistance to the antibiotic. The more you use an antibiotic, the more the bacteria become resistant to it.

WHO : Antimicrobial resistance

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4. **Taking antibiotics has associated side effects or risks such as diarrhoea, colitis, allergies (Correct answer = True)**

Antibiotics kill bacteria but as well as killing harmful bacteria they can also kill good bacteria that protects your body, for example in your gut. Killing the good bacteria makes you more likely to develop an infection and more likely that the infection you develop will be with drug-resistant bacteria.

Like most medicines, taking antibiotics can have side effects such as nausea, diarrhoea and colitis. Every additional day of antibiotic therapy is associated with a 4% increased risk of experiencing an adverse event [Curran 2022].

It is rare but some people may have an allergic reaction to antibiotics and this can be life-threatening. [Beier 2025].

5. **Every person treated with antibiotics is at an increased risk of antibiotic resistant infection – (Correct answer = TRUE)**

Exposure to an antibiotic is a recognised risk factor for carrying bacteria that have become resistant to that antibiotic [Costelloe 2010]. People exposed to antibiotics used to treat urinary tract or respiratory tract infections, for example, were more than twice as likely to carry resistant bacteria during the following two months. The risk of carrying resistant bacteria was higher for people exposed to longer treatment courses or for those who had more than one treatment course. [Why this matters is because infection with resistant bacteria can lead to antibiotic treatment failure with potential harmful consequences for patients such as prolonged illness, hospital admission and even death [Kadri 2021]. Antibiotics should be saved for when they are really needed, so that patients are less likely to experience treatment failure due to resistance.]

6. **Antibiotic resistant bacteria can spread from person to person (Correct answer = TRUE)**

Research convincingly shows that resistant bacteria such as MRSA (Methicillin Resistant Staphylococcus Aureus) can spread from person to person within households [Riccio 2021; Montoya Urrego 2022]. Spread (transmission) of resistant bacteria has also been demonstrated in hospital settings [Hilty 2012].

7. **Healthy people can carry antibiotic resistant bacteria (Correct answer = TRUE)**

Antibiotic resistant bacteria can live inside our bodies and on our skin without causing infection or symptoms – this is described as asymptomatic (without symptoms) carriage. This can be seen for example, in older people who are more prone to having bacteria within their bladder without experiencing symptoms of urinary tract infection (asymptomatic bacteriuria). Antibiotic treatment of asymptomatic bacteriuria is not routinely recommended in non-pregnant people and may even cause harm by causing side effects and promoting the development of resistant bacteria that could cause infection at a future date [Zalmanovici-Trestioreanu 2015].