



CURRENT THINKING ON... ANTIMICROBIAL STEWARDSHIP

Welcome to our CPD module series for community pharmacy technicians. Written in conjunction with the *Pharmacy Magazine* CPD series, it will mirror the magazine's programme throughout the year. The series has been designed for you to use as part of your continuing professional development. Reflection exercises have been included to help start you off in the CPD learning cycle.

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Antimicrobials – in particular antibiotics – are commonly prescribed medicines and, at any one time in secondary care, approximately 30 per cent of patients will be on antimicrobials. About 80 per cent of prescribed antibiotics are prescribed in primary care (i.e. general practice, out of hours and dental settings).

Evidence shows that antibiotic resistance is linked to antibiotic use. The clinical, public health and economic implications of antimicrobial resistance present a major threat to future healthcare. Prudent use of antibiotics through antimicrobial stewardship is essential for patient safety. This means

ensuring that patients get the right antibiotic, at the right dose and time and for the right duration, in order to contain and control resistance.

What is antimicrobial resistance?

The World Health Organization (WHO) defines antimicrobial resistance (AMR) as “the resistance of a microorganism to an antimicrobial drug that was originally effective for treatment of infections caused by it”. The organisms that can become resistant include bacteria, fungi, viruses and some parasites and they are able to withstand attack by antimicrobial medicines. This can lead to standard treatments

becoming ineffective and infections persisting, thereby increasing the risk of spreading.

The WHO recently highlighted the high proportion of antibiotic resistance in bacteria that cause common infections such as urinary tract infections, pneumonia and bloodstream infections in all regions of the world.

Why tackling antibiotic resistance is important

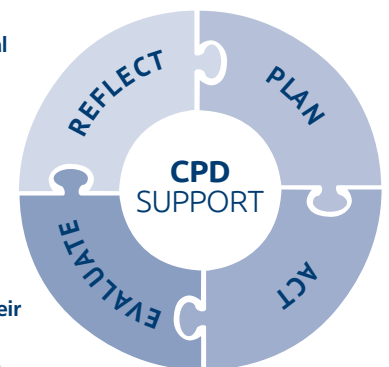
1. Patients who have infections caused by drug-resistant bacteria generally have an increased risk of worse clinical outcomes compared with those with bacteria that are not resistant. Increased healthcare resources are also required.

MODULE NUMBER: 68

AIM: To consider the role of community pharmacy teams in tackling antimicrobial resistance.

OBJECTIVES: After completing this module, pharmacy technicians will:

- Be aware of why antimicrobial resistance is a threat to patient safety as well as public and global health
- Be able to outline common self-limiting infections and their usual duration
- Understand the role of community pharmacy teams in tackling antimicrobial resistance.

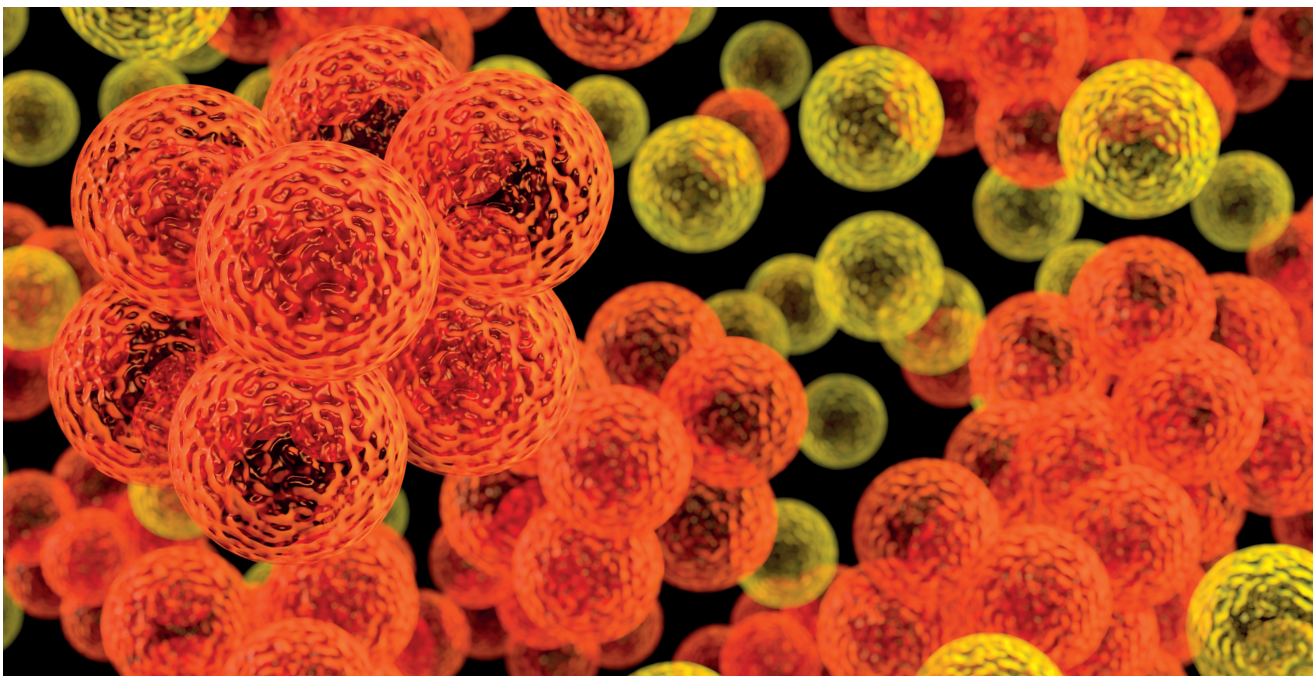


Antibiotics have significantly reduced deaths from common infections. For example, fewer than one in 100 young and otherwise healthy people now die from community-acquired pneumonia and skin infections. Before antibiotics were discovered, this figure was 10 in 100 people. If we lose our antibiotics, we risk going back

to the era of the 1930s, when infections we now regard as trivial were fatal. An infected cut could be life threatening and an illness like pneumonia would again become a mass killer. A recent review has highlighted the fact that if we don't tackle drug resistant infections now, they could kill an extra 10 million people across the world each year by 2050.

2. There is a lack of new classes of antibiotics, as no new ones have been discovered for the last 30 years. It is worth remembering that even if new classes of antibiotics are discovered to tackle current levels of resistance, simply replacing old antibiotics with new ones is not the only answer. New antibiotics could also become ineffective if we do not learn how to use them judiciously.

3. Antibiotic resistance is not just an issue of the future – it is already having a significant impact. It is estimated that 25,000 people die every year in Europe because of infections caused by microorganisms



resistant to antimicrobials, and in the USA this figure is 23,000 people annually.

4. Many medical treatments rely on us having effective antibiotics. Chemotherapy as a procedure destroys the body's white blood cells, which are required to tackle infection, should it occur. Without effective antibiotics, chemotherapy will become increasingly dangerous.

Similarly, transplant patients receive drugs that intentionally suppress their immune systems to ensure their bodies don't reject their new organs. This makes them more prone to bacterial infections that require treatment with antibiotics. Without effective antibiotics, transplants would become even more risky or impossible.

Complex surgeries such as bypass operations or joint replacements carry an increased risk of infection. Without effective antibiotics, procedures designed to help people and ease suffering could actually lead to many more deaths caused by bacterial infections that cannot be treated.

5. Antibiotic resistance is not just a public or global health issue – it also poses a real threat to every individual. A meta-analysis carried out in 2013 found that risk of resistance persists for at least 12 months in individuals after each intake of an antibiotic.

The role of pharmacy

Everyone has a role in tackling antimicrobial resistance, including the Government, professional bodies and organisations, pharmaceutical companies, the public and healthcare professionals working in both human and animal health.

It is important to establish the role of community pharmacists in tackling AMR because the majority of antimicrobial prescribing – 79 per cent in the UK – occurs in the community. Pharmacists and pharmacy teams therefore have an important role in educating the public with self care advice, and they have a key role in antimicrobial stewardship. One-third of the public believe that antibiotics will treat coughs and colds, and one in five people expect antibiotics when they visit their doctor. Pharmacy can make important contributions to public knowledge, awareness and managing their expectations.

Table 1: Duration of common infections

| Common self-limiting/viral infection | Usual duration |
|--------------------------------------|----------------|
| Middle-ear infection | Four days |
| Sore throat | Seven days |
| Common cold | 10 days |
| Sinusitis | 18 days |
| Cough or bronchitis | 21 days |

• Preventing infection
Hand hygiene is important in preventing transmission of infection in all health and social settings. Cleaning hands properly is the single most important thing everyone can do to help reduce the spread of infections, and it helps protect you, your patients, your family and those around you.

• Vaccination uptake
Flu vaccinations can help reduce complications and the severity of flu symptoms, thus reducing the need for antibiotics to be prescribed for flu symptoms. This also reduces the pressure on GP and A&E services. Vaccines can decrease the use of antibiotics directly by preventing primary infection and indirectly by preventing bacterial superinfection after a primary vaccine-preventable illness, such as flu. Pharmacy teams should therefore encourage at-risk patients to increase their uptake of all vaccinations.

• The first port of call
Community pharmacy teams are well placed to provide effective advice for patients with self-limiting infections, including self care advice for symptomatic relief. Helping to manage patient expectations by explaining the likely duration of these infections (see Table 1) and which symptoms require medical attention are also important contributions.

Self care advice includes:

- Getting plenty of rest
- Drinking enough fluids
- Taking paracetamol or ibuprofen for pain relief or to relieve a fever
- Protecting themselves and others against colds and flu (i.e. vaccination, hand washing to prevent spread of viruses, using paper tissues and carefully disposing of them)
- Avoiding smoking or being exposed to smoke-filled environments.

Red flags which indicate that referral to a GP is necessary include the following:

- Persistent raised temperature (39°C and above) for longer than three days
- Severe headache with vomiting or severe earache
- Coughing up blood or blood-stained mucus on more than one occasion
- Chest pain
- Difficulty breathing or swallowing

3. Have they had their flu vaccination? This is applicable if it's during the autumn/winter season (from September) and they are in an at-risk group.

- **Dispensing antibiotics**
When handing over dispensed antibiotics, the following key messages should be provided to the patient:
 - To take their medicine as prescribed (state dose, frequency and duration)
 - Not to share antibiotics with others or reuse them after the stated duration
 - Extra self care information for management of their particular infection
 - Advice on alcohol intake with the antibiotics. Contrary to popular belief, while it is sensible to avoid drinking alcohol when feeling unwell

questions or share concerns about their antibiotic prescriptions.

• Boosting antibiotic awareness
Posters, leaflets, quizzes and videos are available to help pharmacy teams provide regular education and promotion of antibiotic awareness within the pharmacy, especially during the winter months.

European Antibiotic Awareness Day (EAAD) is a Europe-wide initiative held each year on 18 November. In 2015, the WHO launched World Antibiotic Awareness Week to coincide with EAAD and extend awareness activities. Educational materials and resources for healthcare professionals and members of the public that can be used as part of a health promotion campaign in store are available from: gov.uk/government/collections/european-antibiotic-awareness-day-resources.

• Become an antibiotic guardian
The Antibiotic Guardian campaign calls on everyone in the UK to become antibiotic guardians by selecting a pledge about how we will make better use of antibiotics and help save this vital medicine from becoming obsolete. You can choose your pledge and encourage your customers to do the same at antibioticguardian.com. You can also join the conversation via Facebook or Twitter using the hashtag #AntibioticGuardian.

“It is estimated that 25,000 people die every year in Europe because of infections caused by microorganisms resistant to antimicrobials”

- Unusual skin rash
- Confusion, slurred speech, drowsiness.
- **Effective use of antibiotics**
On receipt of prescriptions for antibiotics, pharmacists or experienced pharmacy team members should aim to ask the patient three key questions:
 1. What has the antibiotic been prescribed for? This will help ensure appropriateness. Before reconstituting liquid antibiotics, it is also worth checking with the patient whether the course is to start immediately or if it is a delayed prescription, as some may not realise the short expiry once reconstituted.
 2. Are there any known allergies? This information is also available through Summary Care Records. Record allergies on the patient medication record system (PMR)

or taking medication, only metronidazole and tinidazole require complete abstinence from alcohol during the course and for 48 hours (metronidazole) and 72 hours (tinidazole) after completion

- Encourage patients to ask



reflective exercise

- Talk with your team about pledging to become an antibiotic guardian and discuss who in the team will take the lead on different aspects of antimicrobial resistance
- Look at Table 1. How similar or different is this information to your current understanding and how might it affect your decisions about when to refer someone to the GP? How would you explain the expected durations to a customer?
- What concrete actions will you take to educate your customers about antibiotic resistance and promote the Antibiotic Guardian campaign?

Go to www.tmmagazine.co.uk to answer the CPD questions. When you pass, you'll be able to download a certificate to showcase your learning. You can also add this to your online, personalised learning log.

Next month: We focus on chronic obstructive pulmonary disease (COPD).