

Antimicrobial stewardship

Overview

Effective antimicrobials are required for preventive and curative measures, protecting patients from potentially fatal diseases, and ensuring that complex procedures can be provided at low risk of infection. Antimicrobial resistance (AMR) is the loss of antimicrobial effectiveness, and although it evolves naturally, this process is accelerated by the inappropriate or incorrect use of antimicrobials. Direct consequences of infection with resistant microorganisms can be severe and affect all areas of health, such as prolonged illnesses and hospital stays, increased costs and mortality, and reduced protection for patients undergoing operations or procedures. AMR is an international problem with an increasing prevalence that has consequences for the whole of society. The UK Government has recognised AMR as a significant area of concern and have committed global action to address this as a priority. For information and resources on the UK's plans for AMR, see the Public Health England (PHE) collection: **Antimicrobial resistance** (www.gov.uk/government/collections/antimicrobial-resistance-amr-information-and-resources).

Antimicrobial stewardship (AMS) refers to an organisational or healthcare system-wide approach to promoting and monitoring judicious use of antimicrobials to preserve their future effectiveness. Addressing AMR through improving stewardship is a national medicines optimisation priority, led by NHS England and supported by PHE.

AMR can be managed by a combination of interventions that address:

- A political commitment to prioritise AMR;
- Monitoring antimicrobial use and resistance in microbes;
- Development of new drugs, treatments, and diagnostics;
- Individuals' behaviour relating to infection prevention and control, antimicrobial use, and AMR;
- Healthcare professionals' prescribing decisions.

Guidance for organisations (commissioners and providers)

Commissioners (clinical commissioning groups and local authorities) and providers (e.g. hospitals, GPs, out-of-hours services, dentists, and social enterprises) of health or social care services should establish an AMS programme, taking into account the resources needed to support AMS across all care settings. An AMS programme should take into consideration monitoring and evaluating antimicrobial prescribing, regular feedback to individual prescribers, education and training for health and social care staff, and integrating audits into existing quality improvement programmes.

Commissioners should work collaboratively to provide consistent information and advice to the public and health professionals that reduces inappropriate antimicrobial demand and use, and limits the spread of infection. Local authority public health teams should ensure that information and resources (such as posters, leaflets and digital resources) are made available through multiple routes to provide a coordinated system of information. Information should include simple and practical steps such as scrupulous personal and safe food hygiene practices. Organisations should involve lead health and social care staff in establishing processes for developing, reviewing, updating, and implementing local antimicrobial guidelines in line with national guidance and informed by local prescribing data and resistance patterns. Organisations should also consider establishing processes for reviewing national horizon scanning to plan for the availability of new antimicrobials and to use an existing local

decision-making group to consider the introduction of new antimicrobials locally.

Guidance for health and social care staff

Health and social care staff should assist with the implementation of local or national guidelines and recognise the significance of them for AMS.

Health professionals should be familiar with current AMS campaigns and programmes. For further information, see PHE and Health Education England's e-learning session **All Our Health: Antimicrobial Resistance** (portal.e-fff.org.uk/Component/Details/571263), PHE guidance **Health matters: antimicrobial resistance** (www.gov.uk/government/publications/health-matters-antimicrobial-resistance), and the PHE campaigns **Antibiotic Guardian** (antibioticguardian.com/) and **Keep Antibiotics Working** (campaignresources.phe.gov.uk/resources/campaigns/58-keep-antibiotics-working).

Health professionals should be aware of resources and services that can help individuals minimise infections such as travel vaccination clinics, screening programmes, sexual health services, immunisation programmes, and other local referral pathways or schemes. The benefits of good hygiene, vaccination, and other preventative measures to reduce the risk of acquiring infections should be discussed with individuals, and individuals referred to further information or services if necessary.

Those involved in providing care should be educated about the standard principles of infection prevention and control. They should be trained in hand decontamination, the use of personal protective equipment, and the safe use and disposal of sharps. For further information, see NICE guideline: **Healthcare-associated infections** (see *Useful resources*).

Guidance on antimicrobial prescribing

National antimicrobial prescribing and stewardship competencies have been developed to improve the quality of antimicrobial treatment and stewardship. For further information, see Antimicrobial Resistance and Healthcare Associated Infections and PHE guidance: **Antimicrobial prescribing and stewardship competencies** (see *Useful resources*).

National toolkits to support the implementation of AMS best practice include the Royal College of General Practitioners' **TARGET antibiotics toolkit** (www.rcgp.org.uk/TARGETantibiotics) for primary care, and PHE's **Start smart – then focus** (www.gov.uk/government/publications/antimicrobial-stewardship-start-smart-then-focus) for secondary care, and **Dental antimicrobial stewardship: toolkit** (www.gov.uk/guidance/dental-antimicrobial-stewardship-toolkit) for dentists.

Clinical syndrome-specific guidance and advice to help slow the development of AMR have been developed by NICE, in collaboration with PHE, and are available at www.nice.org.uk/.

Considerations for antimicrobial prescribing When deciding whether or not to prescribe an antimicrobial, undertake a clinical assessment and consider the risk of AMR for individual patients and the population as a whole. An immediate antimicrobial prescription for a patient who is likely to have a self-limiting condition is not recommended. Document in the patient's records (electronically wherever possible) the decisions related to antimicrobial use, including the plan as discussed with the patient, and their family and/or carers (if appropriate), and reason for prescribing/not prescribing an antimicrobial. In hospital, microbiological samples should be taken before initiating an antimicrobial for patients with suspected infection. In primary care, consider taking microbiological samples when prescribing an antimicrobial for patients with recurrent or persistent infections. The choice of antimicrobial should be reviewed when microbiological