

Antimicrobial stewardship

Learning outcomes for antimicrobial resistance teaching

Courses supporting student-led initiatives

Courses should provide the following.

Professionalism

- An appreciation of antimicrobials as a valuable resource.
- An understanding of legislative and regulatory requirements and guidelines to prevent antimicrobial resistance, including:
 - The legislative framework that regulates antimicrobial prescribing.
 - The prescribing ‘cascade’, intending to protect the food chain, avoiding residues, observing withdrawal periods following treatment.
 - Current relevant national action plans for antimicrobial resistance.
 - Assurance Schemes that promote good practice in antimicrobial prescribing practice.
- Support for challenge of any poor antimicrobial prescribing practices, in terms of client and practice behaviour and the impact of incorrect usage on antimicrobial resistance, including the support of reflective practice
- Training in communication to clients the importance of good prescribing in reducing antimicrobial resistance, describing alternative approaches.

Policies

- Awareness of antimicrobials stewardship policies, including those from Responsible Use of Medicines in Agriculture Alliance, Red Tractor, British Equine Veterinary Association, British Small Animal Veterinary Association, Pig Veterinary Society, British Cattle Veterinary Association, and policies of other relevant organisations such as the Irish National Action Plan and iNAP.
- Understanding of the principles and benefits of an annual antimicrobial usage and infection control audit.
- Training in and understanding of how to (i) formulate antimicrobial stewardship policies (or adapt existing policies) for use in practice, and (ii) utilise simple methods for monitoring antimicrobial use at practice level.

Underpinning knowledge for antimicrobial resistance

Underpinning knowledge should include the following.

- Mechanisms of action and pharmacokinetics of different antimicrobial groups.
- Biosecurity and infection control.
- Mechanisms of resistance.
- Assessment of resistance.
- The co-selection of antimicrobial resistance.
- The origin of transfer of resistance.
- Clinical relevance of resistance.
- 'One Health' and the impact of animal antimicrobial usage on antimicrobial resistance in humans, as well as animal and environmental health.
- Collection of appropriate samples and interpretation of microbiological diagnostic test results, including antimicrobial susceptibility tests
- Ability to distinguish situations in which antimicrobial treatment is warranted from those in which other approaches are appropriate
- Alternatives to antimicrobials, including good management and vaccination.
- Optimising treatment through establishing a clear diagnosis, including anti biogram, prior to prescription. Understanding the use of delayed prescriptions, de-escalation of treatment and other methods as appropriate.