

# BVA policy position on the responsible use of antimicrobials in food producing animals

## Executive summary

BVA recognises antimicrobial resistance (AMR) as an issue of critical importance to society as a whole and is committed to providing leadership on this issue. Antimicrobials are essential to both veterinary and human medicine to treat infectious diseases. Continued availability of all existing antimicrobial classes and the development of new ones for veterinary use are essential to maintain the health and welfare of animals and the protection of public health.

A reduction in the use of antimicrobials in animals under the care of veterinary surgeons can only be achieved through improvements to animal health and welfare via disease prevention strategies, including improved animal husbandry and management.

Our overall aim is responsible prescribing and responsible use across the profession, industry, and in the wider context of One Health, recognising synergies between animal health, public health and environmental specialists. To fulfil this aim, BVA makes the following recommendations:

**Recommendation 1:** Prescribing veterinary surgeons should always carefully consider the use of an antimicrobial, with special attention given to the risk of resistance to these products as part of the benefit/risk assessment.

**Recommendation 2:** Use of Highest Priority Critically Important Antibiotics (HP CIAs), as defined by the European Medicines Agency, must be restricted for use used as a last resort under veterinary direction, backed up by either sensitivity or diagnostic testing. Where the welfare of the individual animal, herd or flock, and wider context are considered, euthanasia is an alternative treatment option. Off label use must be reserved for exceptional circumstances, following appropriate sensitivity testing.

**Recommendation 3:** In the interests of animal welfare, critically important antibiotics should remain available for veterinary use. They provide key treatments against some animal diseases where there are currently few or no viable alternatives.

**Recommendation 4:** Detailed preventive medicine programmes should be documented and regularly reviewed for all farms and/or holdings.

**Recommendation 5:** Government should promote incentives to improving husbandry and biosecurity measures on farm, within a system of Government agricultural support. The involvement of veterinary surgeons will be essential to any such scheme.

**Recommendation 6:** Government and the private sector should prioritise the development of effective diagnostic tools. The development of rapid diagnostic tests that can be used on farm and in clinics should be explored as an outcome.

**Recommendation 7:** Each veterinary practice should develop a written policy or protocol covering the circumstances in which metaphylaxis is considered appropriate. Where antimicrobials are used for metaphylaxis that the clinical justification should be recorded on each occasion.

**Recommendation 8:** Any off-label use of antimicrobials should be carefully justified. Where the clinical judgement of the veterinary surgeon is satisfied, the veterinary surgeon should prescribe an antibiotic under the cascade in the interests of minimising the development of resistance.

**Recommendation 9:** Farm assurance schemes should incorporate responsible use of antimicrobials as a requirement of the scheme.

**Recommendation 10:** Veterinary surgeons should familiarise themselves with the targets for their sector and work with producers to achieve these targets.

**Recommendation 11:** Government should continue to work with vets and industry to review and set further rational targets through the RUMA Targets Task Force. This should recognise and build on the success to date of BVA specialist divisions, industry and Government in reducing antimicrobial usage.

**Recommendation 12:** Improved data capture, analysis, dissemination and benchmarking are required across all sectors to underpin future interventions. Efforts to provide usage data rather than sales data, should be incorporated within the new UK Government AMR strategy.

**Recommendation 13:** A greater focus on improving surveillance and the flow of information and communication between farmers, vets, labs and national bodies so that all parties can get a better understanding of disease incidence, medicines use and vaccine use, which will improve decision making to tackle AMR.

**Recommendation 14:** Farmers and stock keepers play a major role in ensuring the responsible use of medicines on farms. They should be empowered through education, facilitation and incentivised to work with their vets to achieve this.

**Recommendation 15:** Progress the One Health approach by bringing together stakeholders across human, animal and environmental health, recognising this is a shared problem that must be addressed together and not subject to a culture of blame.

## Introduction

BVA recognises antimicrobial resistance (AMR) as an issue of critical importance to society as a whole and is committed to providing leadership on this issue. Our overall aim is responsible prescribing and responsible use across the profession, industry, and in the wider context of One Health. A reduction in the use of antimicrobials in animals under the care of veterinary surgeons can only be achieved through improvements to animal health and welfare via disease prevention strategies, including improved animal husbandry and management.

Antimicrobial is a term referring to all agents that act against all types of microorganisms – bacteria, viruses, fungi and protozoa. Antibiotic, often used synonymously with antibacterial, refers to an antimicrobial used primarily in the treatment and prevention of bacterial infections.

Antimicrobials are essential to both veterinary and human medicine to treat infectious diseases. Continued availability of all existing antimicrobial classes and the development of new ones for veterinary use are essential to maintain the health and welfare of animals and the protection of public health.

The veterinary profession is concerned by the implications of the development of antibiotic and other antimicrobial resistance. Each use of an antibiotic and other antimicrobials increases the risk of selection for resistant bacteria and other organisms, so we must ensure the use of antimicrobials is responsible across human and animal health.

Antimicrobial resistance is a natural phenomenon which is an inherent risk associated with any use of antimicrobial medication both in animals and humans. Scientific evidence suggests that the clinical issues with antimicrobial resistance faced in human medicine are primarily the result of antimicrobial use in people, rather than the use in animals.<sup>1</sup> The inappropriate and irresponsible use of antibiotics in animals may lead to resistance and reduce availability for efficacious treatments for use in livestock. Further, the use of antibiotics in animals is a contributing factor to the wider pool of resistance which may have long term consequences.

In the UK antibiotics must be prescribed by a veterinary surgeon. Antibiotics are used to:

- treat sick animals to cure bacterial infections
- control disease spread in groups of animals in contact with other animals which are already showing signs of disease
- in exceptional cases, prevent disease from developing where a vet has diagnosed a high risk of bacterial infection in the herd/flock at risk

Veterinary surgeons have a professional duty through the RCVS Code of Conduct.<sup>2</sup> Prescribing of antimicrobials must only be carried out for animals under the care of the prescribing veterinarian as defined in the RCVS Code of Conduct. Prescription-only medicines (POM-V) may only be supplied when prescribed by a veterinary surgeon. A copy of the prescription should be retained by the prescriber for at least 5 years. All antimicrobials are classified as POM-V medicines.

The RCVS Code of Conduct places a specific professional duty regarding antimicrobials:

“The development and spread of antimicrobial resistance is a global public health problem that is affected by use of these medicinal products in both humans and animals. Veterinary surgeons must be seen to ensure that when using antimicrobials, they do so responsibly, and be accountable for the choices made in such use.”

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<sup>1</sup> Mather, A. E., et al. 2013 Distinguishable epidemics of multidrug-resistant Salmonella Typhimurium DT104 in different hosts Science 341.6153: 1514-1517

<sup>2</sup> Code of Professional Conduct for Veterinary Surgeons. <http://www.rcvs.org.uk/advice-and-guidance/code-of-professional-conduct-for-veterinary-surgeons/supporting-guidance/veterinary-medicines/>

The timespan of the UK Five Year Antimicrobial Resistance Strategy 2013-2018, has seen considerable success, reflected in October 2017 by the publication of the Veterinary Antimicrobial Resistance and Sales Surveillance (VARSS) 2016 report which marked several important milestones:

- The commitment to reduce antibiotic use in livestock and fish farmed for food to a multi-species average of 50 mg/kg by 2018 was achieved two years early. Antibiotic use in food-producing animal species decreased by 27% to 45 mg/kg.
- The lowest UK veterinary antibiotic total sales figure recorded (337 tonnes) since regular UK antibiotic sales reporting began in 1993.
- Reductions across sales of all highest-priority critically important antibiotics (HP-CIAs), including an 83% reduction in sales of colistin use for food producing animals, from an already very low level.

The VARSS 2017 report demonstrated further progress. Total sales of veterinary antibiotics, adjusted for animal populations, was 37 mg/kg in 2017. This result signals an additional 18% reduction from 2016 and a 40% reduction since the publication of the UK AMR strategy in 2013. Sales of HP-CIAs dropped a further 29% from levels in 2016, to 0.8% of total sales in 2017.

These substantial achievements should be recognised but momentum must be maintained as the threat of antimicrobial resistance continues.

A wide diversity exists both between and within the various production animal sectors. This policy position on the use of antibiotics in food producing animals seeks to provide a statement that applies across these sectors. However, BVA recognises the different features of each sector. Therefore, BVA supports the sector specific targets developed as part of the RUMA Targets Taskforce.

This policy position does not specifically refer to the use of antimicrobials in small animal or equine practice. The context of these sectors differs from that for food producing animals. However, many of the recommendations will be relevant across all sectors.

## **The use of antibiotics in food producing animals**

### **General principles**

BVA acknowledges the potential role of veterinary use of antimicrobials in the development of resistance in humans and animals. Antimicrobial medication should not be used as an alternative to good management, vaccination or site hygiene. Use of antimicrobial products should be guided by the seven principles of responsible use:

- Work with clients to avoid need for antimicrobials
- Avoid inappropriate use
- Choose the right drug for the right bug
- Monitor antimicrobial sensitivity

- Minimise use
- Record and justify deviations from protocols
- Report suspected treatment failure to the VMD

**Recommendation 1:** Prescribing veterinary surgeons should always carefully consider the use of an antimicrobial, with special attention given to the risk of resistance to these products as part of the benefit/risk assessment.

### Highest Priority Critically Important Antibiotics (HP CIAs)

Certain antibiotics are defined as critically important for treatment of human disease, and their veterinary use should therefore take human usage into account.

The European Medicines Agency's (EMA's) list of Highest Priority Critically Important Antibiotics (HP CIAs) has been identified because of degree of risk to human health should antimicrobial resistance develop after use in animals. At present, the list consists of fluoroquinolones, 3rd and 4th generation cephalosporins, and colistin.

The use of a HP CIA is not a substitute for good management practices. These are last resort drugs in human medicine for treatment of infections caused by certain multi-drug resistant bacteria. In order to minimise any potential risk associated with widespread use of HP-CIAs, use should be limited to treatment or treatment and metaphylaxis of diseases and should not be used for prophylaxis. Use of the product deviating from the instructions given in the Summary of Product Characteristics (SPC) may lead to treatment failures and increase the prevalence of resistant bacteria.

**Recommendation 2:** Use of Highest Priority Critically Important Antibiotics (HP CIAs), as defined by the European Medicines Agency, must be restricted for use used as a last resort under veterinary direction, backed up by either sensitivity or diagnostic testing. Where the welfare of the individual animal, herd or flock, and wider context are considered, euthanasia is an alternative treatment option. Off label use must be reserved for exceptional circumstances, following appropriate sensitivity testing.

**Recommendation 3:** In the interests of animal welfare, critically important antibiotics should remain available for veterinary use. They provide key treatments against some animal diseases where there are currently few or no viable alternatives.

### Prevention is better than cure

The principle that "prevention is better than cure" should be at the heart of veterinary involvement in the food production sector, particularly through improving husbandry and biosecurity measures. As animal health and welfare specialists and advocates the veterinary profession is well placed to advise and influence sustainable animal husbandry practices at whole system levels, safeguarding animal health and welfare and influencing sustainable future livestock and food. The best way to prevent infectious disease is to prevent it from entering the farm.

It is important for veterinary surgeons to work with livestock and poultry keepers as part of a herd or flock health plan to develop and review a preventative medicine programme. Documentation for all farms should be written in an accessible manner and actively maintained including all routine

medications (including medicines not requiring a vet to sign a prescription such as anticoccidials and anthelmintics), competitive exclusion and probiotic treatments and vaccines. Any prescribing of antimicrobial medication should be made considering its possible effects on other aspects of the programme (live bacterial vaccines, competitive exclusion, and monitoring of disease).

**Recommendation 4:** Detailed preventive medicine programmes should be documented and regularly reviewed for all farms and/or holdings.

**Recommendation 5:** Government should promote incentives to improving husbandry and biosecurity measures on farm, within a system of Government agricultural support. The involvement of veterinary surgeons will be essential to any such scheme.

### **Veterinary Prescribing**

The prescribing veterinary surgeon must be satisfied that treatment is justified, following either examination of the animals in question on a site visit or by post-mortem examination, or following a consultation, all of which should be documented.

In all uses of antimicrobials, the best available information should be used to determine treatment regimens and dosages aimed at providing optimal efficacy with minimal risk of collateral resistance development in either the target organisms, potentially zoonotic organisms, or organisms capable of transmitting resistance to pathogens.

In an outbreak of bacterial animal disease, the identity and sensitivity of the causal organism should, ideally be ascertained through appropriate clinical tests including culture and sensitivity testing, while avoiding contamination, before therapy is started. In disease outbreaks involving high mortality, or where there are signs of rapid spread of disease among in-contact animals, treatment may be started on the basis of clinical diagnosis. Even so, the sensitivity of the suspected causal bacterial organism should, where possible, be determined so that if treatment fails it can be changed in the light of results of sensitivity testing. Antimicrobial sensitivity trends should be monitored over time and such monitoring may be used to guide clinical judgement on antimicrobial usage.

When choosing a treatment, it may be helpful to test for the antimicrobial classes that the organism is resistant to. Administration routes can be an important factor in terms of selection pressure on antimicrobial resistance.

BVA supports the EU wide ban on the use of antibiotics for growth promotion, which has been in effect since 2006.

The administration of antibiotics in feed may be a practical and effective method of antibiotic administration. Feed or water that is medicated with antibiotics may only be used for animals for which the prescription was intended and only for a diagnosed disease. Medicated feed should also be disposed of properly, to limit contamination of antibiotics into the wider environment.

As part of responsible prescribing vets should articulate the withdrawal period to the responsible farmer when antibiotics are prescribed.

**Recommendation 6:** Government and the private sector should prioritise the development of effective diagnostic tools. The development of rapid diagnostic tests that can be used on farm and in clinics should be explored as an outcome.

## Metaphylaxis and Prophylaxis

Control treatment (sometimes referred to in veterinary medicine as Metaphylaxis) is the treatment of a group of animals after the diagnosis of infection and/or clinical disease in part of the group, with the aim of preventing the spread of infectious disease to animals in close contact and at considerable risk and which may already be (sub-clinically) infected or incubating the disease. Preventive treatment (sometimes referred to as Prophylaxis) is the treatment of an animal or a group of animals, before clinical signs of infectious disease, in order to prevent the occurrence of disease or infection.

The use of therapeutic antibacterial products for metaphylaxis should be practised with a clear justification with respect to the health and welfare of the treated animals. However, it is recognised that preventative medication may be appropriate in certain precisely defined circumstances. The presence of the bacteria causing disease in the group/herd/flock must be established before the product is used. A metaphylaxis label claim will always have to be combined with a treatment claim.

The prophylactic use of antimicrobials is never a substitute for good management. Prophylactic use of antibiotics is to be avoided wherever possible without compromising animal welfare. Where it is used it should be regarded as an interim measure whilst alternative strategies are implemented. Prophylactic use should be limited to single animals and not groups of animals. The drugs can be used only when fully justified by a veterinary surgeon in cases where there is a high risk of infection.

**Recommendation 7:** Each veterinary practice should develop a written policy or protocol covering the circumstances in which metaphylaxis is considered appropriate. Where antimicrobials are used for metaphylaxis that the clinical justification should be recorded on each occasion.

### Cascade/ Off-label use

Any off-label use of antimicrobials should be carefully justified, for instance as part of the written prescription. A number of the antimicrobial (sub)classes are not authorised in veterinary medicine. In the absence of established maximum residue limits for foodstuff of animal origin, use of these classes of antimicrobials in food-producing animals is prohibited and they may only be administered to individual companion animals exceptionally, in compliance with the prescribing “cascade”.

Off-label use is a particularly acute issue within minor-use-minor-species, where few antimicrobials are authorised. Where an antimicrobial is administered off-label to a different species but for the same indication as the authorised product, or for the same species but a different indication, where the dose rate and duration are the same or lower than that authorised, then it is necessary to apply the minimum statutory withdrawal periods, or the withdrawal period stated on the SPC, whichever is longer. The minimum statutory withdrawal periods are as follows:

- 7 days for eggs and milk
- 28 days for meat from poultry and mammals
- 500-degree days for meat from fish

For products imported under a Special Import Certificate (SIC), provided that the product is used strictly according to the terms of its EU authorisation, the withdrawal period applied in the UK should be the period stated on the EU product literature. For products imported under an SIC and used in a way different from that described on the SPC then the UK minimum statutory withdrawal periods will apply or the withdrawal period stated on the SPC, whichever is longer.

The VMD's guidance on the responsible use of antibiotics under the Cascade indicates "that it is justified to prescribe an antibiotic on the cascade, on a case-by-case basis, in the interests of minimising the development of resistance, particularly where culture and sensitivity indicate that a particular antibiotic active ingredient is effective against a bacterial pathogen and where knowledge of pharmacokinetics indicates that the selected product is likely to be safe and effective for the species and condition being treated (i.e. a narrow spectrum antibiotic over a broad spectrum antibiotic, in place of one that has a specific indication for that condition)."

**Recommendation 8:** Any off-label use of antimicrobials should be carefully justified. Where the clinical judgement of the veterinary surgeon is satisfied, the veterinary surgeon should prescribe an antibiotic under the cascade in the interests of minimising the development of resistance.

### Farm assurance

Farm assurance schemes look to promote high animal health and welfare through encouraging good husbandry and animal management processes. They allow producers to demonstrate that their food products, both animal and non-animal derived, have met specific, independently certified standards at each stage of the supply chain from 'farm to fork'. These standards may include responsible antimicrobial use. Consumers are encouraged to consider whether the farm assurance schemes support responsible use of antimicrobials, and what requirements are incorporated to help prevent the need for prescribing.

BVA welcomes farm assurance schemes which currently monitor antimicrobial usage, medication documentation, and withdrawal period compliance. Such schemes must not prevent the attending veterinarian from taking steps to alleviate suffering in the animals under their care or encourage under-dosing.

**Recommendation 9:** Farm assurance schemes should incorporate responsible use of antimicrobials as a requirement of the scheme.

### Reduction targets

BVA opposes the use of arbitrary, non-evidence-based target setting; such targets, to reduce antimicrobial use, risk restricting vets' ability to treat animal diseases, which could have serious public health and animal welfare implications. However, we support the use of evidence-based targets to reduce antimicrobial usage in animal agriculture, which are likely to form part of the solution to address AMR globally.

As such BVA supports the sector specific targets developed as part of the RUMA Targets Taskforce. BVA recognises the efforts of specialist divisions, which brought clinical expertise to the RUMA Targets Taskforce and worked in collaboration with industry and Government. In October 2017 the RUMA Targets Task Force published a report with sector specific targets, for each of the following sectors:<sup>3</sup>

- beef
- dairy

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<sup>3</sup> RUMA Targets Task Force Report 2017 <https://www.ruma.org.uk/wp-content/uploads/2017/10/RUMA-Targets-Task-Force-Report-2017-FINAL.pdf>

- eggs
- fish
- gamebirds
- pigs
- poultry meat
- sheep

**Recommendation 10:** Veterinary surgeons should familiarise themselves with the targets for their sector and work with producers to achieve these targets.

**Recommendation 11:** Government should continue to work with vets and industry to review and set further rational targets through the RUMA Targets Task Force. This should recognise and build on the success to date of BVA specialist divisions, industry and Government in reducing antimicrobial usage.

## Data

BVA encourages the collection and use of robust data, which will help inform strategies to reduce and optimise antimicrobial use and to allow farms to benchmark their antibiotic use with similar farm types across the country.

Livestock sectors have progressed in their work to provide antimicrobial usage data. Work within the poultry and pig sectors to capture antimicrobial usage data has been valuable. The poultry sector is leading the way with usage data already available. The Agriculture and Horticulture Development Board for pork launched its system for recording antimicrobial use– the electronic medicine book “eMB” for pigs in April 2016. The cattle sector is currently developing the tools that will support the collection of usage data.

**Recommendation 12:** Improved data capture, analysis, dissemination and benchmarking are required across all sectors to underpin future interventions. Efforts to provide usage data rather sales data, should be incorporated within the new UK Government AMR strategy.

**Recommendation 13:** A greater focus on improving surveillance and the flow of information and communication between farmers, vets, labs and national bodies so that all parties can get a better understanding of disease incidence, medicines use and vaccine use, which will improve decision making to tackle AMR.

## The Farmer’s Role

The use of animal medicines carries with it responsibilities. The use of therapeutic antimicrobials must be under the direction of veterinary surgeons. Farmers, however, have a very important role to play in ensuring that the directions of the veterinary surgeon are properly carried out and in developing and applying disease control measures which will minimise the need for antimicrobial use and will prevent the spread of bacteria that have already developed resistance. All farmers have a responsibility for the health and welfare of the animals on their farm. There are occasions where this is a joint responsibility with their veterinary surgeons in the provision of correct and appropriate antimicrobial treatment and care.

**Recommendation 14:** Farmers and stock keepers play a major role in ensuring the responsible use of medicines on farms. They should be empowered through education, facilitation and incentivised to work with their vets to achieve this.

### One Health approach

In 2013, BVA warmly welcomed the publication of the UK Five Year Antimicrobial Resistance Strategy. At the heart of the strategy was the 'One-Health' approach which spans people, animals, agriculture and the wider environment. This is illustrated by the prominence given to human and animal health within the document and the UK Chief Medical Officer and Chief Veterinary Officer providing a joint foreword. This is a success that must now be built upon.

The 'One Health' approach of medical, veterinary and environmental professionals collaborating is crucial given that it affects both animal and human medicine and the environment.

**Recommendation 15:** Progress the One Health approach by bringing together stakeholders across human, animal and environmental health, recognising this is a shared problem that must be addressed together and not subject to a culture of blame.

### Cross references

- [The UK's 5-Year Antimicrobial Resistance Strategy 2013-2018](#)
- [Tackling antimicrobial resistance 2019–2024 The UK's five-year national action plan](#)
- [Review on Antimicrobial Resistance \(The O'Neill Review\) Tackling Drug-Resistant Infections Globally: final report and recommendations](#)
- [Royal College of Veterinary Surgeons, Code of Conduct for Veterinary Surgeons](#)
- [Veterinary Medicines Directorate, Veterinary Medicines Regulations](#)
- [The Veterinary Medicines Directorate Position on Responsible antibiotic use under the cascade](#)
- [RUMA action plan for implementing the UK 5 year AMR strategy](#)
- [RUMA information note on antibiotics and the responsible use of antibiotics in farm animals](#)
- [RUMA Targets Task Force Report 2017](#)
- [The RUMA \(The Responsible Use of Medicines in Agriculture\) Alliance guidelines](#)

### Relevant BVA policy positions

- [BVA position on veterinary scanning surveillance \(animal health and disease monitoring\) – in full \(1.25 MB PDF\)](#)
- [BVA farm assurance schemes policy position \(156 KB PDF\)](#)
- [BVA position statement on anthelmintics and anthelmintic resistance in livestock \(137 KB PDF\)](#)
- [BVA position on the Responsible use of antimicrobials in veterinary practice \(39 KB PDF\).](#)

- [BVA Antimicrobial resistance: the British Veterinary Association's principles for setting sector-specific targets for the reduction of antibacterial use. \(108KB PDF\).](#)

#### **Relevant BVA Specialist Divisions positions**

- [The Best Practice Procedure for Prescribing Antimicrobials in Gamebirds \(1.03KB PDF\)](#)
- [British Veterinary Poultry Association Antimicrobials Guidelines \(122KB PDF\)](#)
- [Pig Veterinary Society Prescribing principles for antimicrobials \(175KB PDF\)](#)
- Goat Veterinary Society Statement: Antibiotic Use in UK Goat Sector, 2018
- [British Cattle Veterinary Association AMR Statement December 2016 \(139KB PDF\)](#)
- [Sheep Veterinary Society Antibiotics Policy](#)