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Friday, 22nd February, 2013

Ms Christine McDonald
Senate Finance and Public Administration Committees
PO Box 6100
Parliament House
Canberra ACT 2600
Australia

Email: fpa.sen@aph.gov.au

Re: Inquiry into the progress in the implementation of the recommendations of the 1999 Joint Expert Technical Advisory Committee on Antibiotic Resistance

Dear Ms McDonald,

The AVA appreciates the extension afforded to us for provision of our submission to this inquiry.

The Australian Veterinary Association (AVA) is the sole national association representing veterinarians in Australia. Founded in 1921, the AVA today represents 7500 members working in all areas of animal science, health and welfare. Clinical practitioners work with companion animals, horses, farm animals, including pigs, poultry, cattle and sheep, and wildlife. Government veterinarians work with animal health, public health and quarantine systems while other members of the veterinary profession work in universities or industry for pharmaceutical and other commercial enterprises. We have members who work in research and teaching in a range of scientific disciplines. Veterinary students are also members of the Association.

The AVA is pleased to present this submission to the committee for your consideration.

Yours faithfully,

Dr Ben Gardiner
National President
22 February, 2013

Inquiry into the progress in the implementation of the recommendations of the 1999 Joint Expert Technical Advisory Committee on Antibiotic Resistance

Submission to the

Standing Committee on Finance and Public Administration

by the

Australian Veterinary Association

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EXECUTIVE SUMMARY

The Australian Veterinary Association (AVA) has been actively involved in fighting the emergence of antimicrobial resistance for more than 30 years with the development of guidelines, codes of practice and policies on appropriate use of these drugs.

The benefit of this sustained focus on antimicrobial use is that Australian livestock today have low levels of antibiotic resistance in their bacterial fauna.

While the JETACAR investigated the hazards and risks of antimicrobial use in terrestrial livestock species (principally poultry, pigs and ruminants) the AVAôs interest in antimicrobial use extends to all non-human species.

Risk assessment and risk management are important but separate disciplines and should be responsive to changes in patterns of antimicrobial resistance, antimicrobial use and exposure pathways.

The appropriate use of antimicrobial agents must be underpinned by a diagnosis by a registered veterinarian, and be supported by specialised knowledge of the clinical situation, the microbiology of implicated infectious agents and the pharmacology of the antimicrobial agents selected for use.

The training and experience of veterinarians enable them to implement the principles of judicious antimicrobial use. Ensuring antimicrobial agents are prescription only drugs is the best way to deliver both treatment efficacy and the lowest likelihood of harm.

AVA noted that tylosin had not been rescheduled as recommended by JETACAR and took the initiative to develop a proposal for rescheduling.

There is a multitude of benefits associated with monitoring and surveillance for patterns of antimicrobial resistance and the AVA strongly urges the Australian Government to establish a comprehensive national surveillance system for monitoring antimicrobial resistance and monitoring of antimicrobial use.

AVA has actively developed, published and disseminated codes of practice on the prudent use of antimicrobials by the veterinary profession for more than 20 years. This is an area of continuous improvement and many codes are currently being refined within the various species Special Interest Groups (SIGs) within the AVA.

AVA has a major focus on continuing professional development, and recognises the potential significant impacts of antimicrobial resistance on animal and public health. Appropriate antimicrobial usage is a regular theme of continuing professional development for veterinarians working in all types of clinical practice.

It would be very valuable to have a central register of past and current research on antimicrobial resistance across human and animal species. This would allow significant gaps to be identified and could enhance opportunities for collaboration between the veterinary and human medical professions.

An assessment of the effectiveness and efficiency of the research being undertaken in the areas identified in Recommendation 18 would also be a valuable contribution to the fight against antimicrobial resistance.

The structure and function of the Expert Advisory Group on Antibiotic Resistance (EAGAR) should be reviewed and following this review, the advisory group should be re-established with a view to ongoing Government funding.

As the World Health Organisation has emphasised, antimicrobial resistance is already at crisis point and is not expected to improve. This underlines the increasing importance of coordinating management of antimicrobial resistance at the highest level of Government.

INTRODUCTION

The Australian Veterinary Association (AVA)

The Australian Veterinary Association (AVA) is the sole national association representing veterinarians in Australia. Founded in 1921, the AVA today represents 7500 members working in all areas of animal science, health and welfare. Clinical practitioners work with companion animals, horses, farm animals, including pigs, poultry, cattle and sheep, and wildlife. Government veterinarians work with animal health, public health and quarantine systems while other members of the veterinary profession work in universities or industry for pharmaceutical and other commercial enterprises. We have members who work in research and teaching in a range of scientific disciplines. Veterinary students are also members of the Association.

Special Interest Groups

There are 22 special interest groups within the AVA, each of which provides a forum for members with particular expertise or interest in specific aspects of veterinary science. Special interest groups with particular interest in antimicrobial resistance, infection control and the recommendations of JETACAR have contributed to this submission.

- Australian Pig Veterinarians ï veterinarians focusing on preventative medicine, and ensuring adequate and safe food is available, while maintaining the health and welfare of pigs.
- Commercial Poultry Veterinarians - veterinarians with an active professional interest in the health and welfare of commercial poultry.
- Australian Sheep Veterinarians ï veterinarians with a career interest in sheep meat and wool production
- Australian Cattle Veterinarians ï veterinarians with a career interest in extensive and intensive management of beef and dairy cattle
- Australian Veterinarians in Public Health - veterinarians with an interest in animal diseases that can be transferred to humans (zoonoses), as well as in food safety and animal disease epidemics which may cross infect humans.
- Australian Small Animal Veterinary Associationï companion animal veterinarians who care for those domestic animals living in close quarters with people

- Equine Veterinarians Australia - veterinarians who treat horses as part of their practice.
- Australian Veterinarians in Industry - veterinarians employed in industry by pharmaceutical and other companies who assist in producing and disseminating technical materials to the veterinary profession.

Fighting Resistance

The AVA has been actively involved in fighting emergence of antimicrobial resistance for more than 30 years with the development of guidelines, codes of practice and policies on appropriate use. It has included producing and updating numerous policies and guidelines on antimicrobial use.

A comprehensive review of the complex area of prescribing, authorising and dispensing has been consolidated into a single document that is relevant to all states and all species under veterinary care. A significant part of this document relates to appropriate use of antimicrobial agents.

The benefit of this sustained focus on antimicrobial use is that Australian livestock today have low levels of antibiotic resistance in their bacterial fauna.. There is, for example, negligible resistance to the fluoroquinolones in enteric isolates from Australian livestock.

A number of studies have been carried out demonstrating that despite regulatory controls on the use of antimicrobials in animals and Australia, antimicrobial resistance levels are significant in pigs, chickens and aquaculture (Obeng et al, 2011. 2012.2013; Akinbowale et al 2006; Ndi and Barton, 2012; Mazaheri et al, 2011; Smith et al, 2010).

Communication with the veterinary profession

While JETACAR was operating the AVA provided information about the establishment of the JETACAR, its deliberations, its report and its recommendations to its membership by way of the Australian Veterinary Journal (Anon 1998, 1999, 2000; Doyle 1999; Murray 2000, 2001) and continued to keep the profession informed about important implementation measures (Doyle 2004, Grimes 2005, Murray 2003). Furthermore, the AVA renewed the charge of its Therapeutics Advisory Committee to maintain antimicrobial use and antimicrobial resistance as agenda items, subjects that had been key themes of the Therapeutics Advisory Committee since its inception in 1989 (Anon 2002).

Beyond food producing animals

While the JETACAR investigated the hazards and risks of antimicrobial use in terrestrial livestock species (principally poultry, pigs and ruminants) the breadth of interest of AVA in antimicrobial use (and other animal health and welfare issues) extends to all non-human species.

For example, the AVA is actively involved monitoring and responding to the emergence of methicillin resistance in the staphylococcus spp of horses (Axon et al 2011, Gosbell 2011) and other companion animal species (Heller 2011) and the potential impacts on veterinarians (Gosbell 2011, Jordan *et al* 2011).

Many of the recommendations of JETACAR, if implemented, could also have enormous public health value, for example by monitoring sources of resistance from non-food

producing species of animals and assessing the pathways by which resistance might be transferred to humans.

Public awareness

As a member of the World Veterinary Association, the AVA actively participates in World Veterinary Day. Antimicrobial Resistance, the theme of World Veterinary Day on 28 April 2012, highlighted global concerns over the use of antimicrobials in food-producing animals and the important role veterinarians play in appropriate use of antibiotics to treat animal diseases.

Antibiotic Awareness Week (http://www.ava.com.au/newsarticle/it%E2%80%99s-antibiotic-awareness-week) is a global initiative encouraging health professionals and the wider community to learn more about antibiotic resistance and the importance of taking these lifesaving medicines appropriately.

In 2012, Antibiotic Awareness Week was supported by the AVA (http://www.nps.org.au/conditions-and-topics/topics/campaigns-events/antibiotic-resistance-fighter) and this collaboration with the human health sector will be strengthened in coming years.

Comments on the recommendations of the JETACAR report

The terms of reference of the Senate Inquiry are:

> Progress in the implementation of the recommendations of the 1999 Joint Expert Technical Advisory Committee on Antibiotic Resistance, including:
>
> (a) examination of steps taken, their timeliness and effectiveness;
>
> (b) where and why failures have occurred;
>
> (c) implications of antimicrobial resistance on public health and the environment;
>
> (d) implications for ensuring transparency, accountability and effectiveness in future management of antimicrobial resistance; and
>
> (e) any other related matter.

The Australian Veterinary Association is pleased to provide the following comments on the recommendations arising from the JETACAR report.

REGULATORY CONTROLS (Recommendations 1-9)

JETACAR Recommendation 1 Conservative approach to AGPs

AVA supports this recommendation and notes that it was the first recommendation to be implemented.

JETACAR Recommendation 2 Special reviews (avoparcin, virginiamycin, macrolides)

Avoparcin special review

The avoparcin special review was not completed as the registrant withdrew the registration of avoparcin before the review was finalised. Avoparcin has not been available in Australia since 2000. Resistance to avoparcin, a glycopeptide sharing a mode of action with vancomycin, amongst *Enterococcus* spp was not detected in the recent survey of resistance in isolates from retail meats (Barlow and Gobius 2008). However avoparcin resistance associated with the *van*A gene was found in Australian chicken isolates collected before the ban was implemented (Barton and Wilkins, 2001) but was not detected in subsequent years (Obeng et al, 2012; Mazaheri et al, 2011). Australia is in a unique position due to the ban on use of fluoroquinolones in food producing animals which has resulted in much lower levels of resistance in human enteric pathogens (Cheng et al, 2012).

Virginiamcyin special review

In November 2004 the APVMA released its decision on the review of virginiamycin. There were a number of restraints to the use of virginiamycin in cattle recommended by APVMA that AVA believed would lead to significant and potentially severe adverse effects on the health and welfare of cattle. The AVA worked closely with APVMA to develop a risk management plan that recognised the clinical expertise of veterinarians and allowed the continued use of individualised dosage regimens of virginiamycin in cattle. A code of practice was developed that guides prescribing veterinarians in the major decisions necessary to achieve appropriate use while minimising the likelihood of resistance selection. However it should be recognised that this use in ruminants caused considerable concern to EAGAR because of the risk of selection of resistance to quinupristin-dalfopristin, a related antimicrobial of critical importance in human medicine. This emphasises the importance of scheduling virginiamycin as a prescription-only drug and the need for veterinarians to ensure it is used in accordance with the guidelines developed.

The AVA also established an expert technical group - the Reference Advisory Group on Fermentative Acidosis of Ruminants (RAGFAR) - which was charged with the preparation of a detailed and critical review of the literature on management of fermentative acidosis in cattle and sheep.

The RAGFAR, a subcommittee of the AVAs Therapeutics Advisory Committee, prepared a detailed monograph entitled *Ruminal Acidosis – aetiopathogenesis, prevention and treatment. A review for veterinarians and nutritional professionals;* which was published

online in July, 2007.
(http://www.ava.com.au/sites/default/files/documents/Other/RAGFAR_doc.pdf).

This document highlights how forward planning and preventative management can frequently avoid the onset of fermentative acidosis. Whenever possible the use of non-antibiotic options is recommended prior to decisions to employ antimicrobial interventions.

Macrolide special review

While the APVMA commenced its review in December 2001 (http://www.apvma.gov.au/products/review/current/macrolide_antibiotics.php) and informed the Government that the macrolide review would be completed in June 2003 (http://www.health.gov.au/internet/main/publishing.nsf/content/health-pubhlth-publicat-document-jetacar-cnt.htm) this review has not yet been completed. One of the macrolides to be included in the review, tylosin, is used widely in livestock, including pigs, poultry and cattle.

This review should be completed as a matter of urgency.

As described below with respect to Recommendation 6, rescheduling of tylosin appeared to be dependent on the completion of the special review and, in the absence of completion of the review, tylosin has remained as one of very few important antibacterial agents available over-the-counter for use without professional intervention or veterinary prescription.

JETACAR Recommendation 3 Control of imported antibiotics, audit from import to end use

AVA supports the implementation of a practical system of audit and use and is keen to be involved in the development and implementation of a reliable and transparent scheme.

JETACAR Recommendation 4 Risk assessment of new applications and major extensions

The AVA is a strong advocate of risk assessment with its inherent features of objectivity, transparency, and scientific evidence base. AVA supports the application of the APVMA Part 10 Guidelines to the evaluation of new applications and major extensions of use.

Risk assessment should be undertaken by appropriately trained and experienced risk assessors and the function of risk assessment should be separate from risk management, but both processes should be transparent and consultative.

In addition, risk assessments should routinely be re-examined when information becomes available that may suggest that the risk has changed significantly - either a significant reduction in the likelihood of harm to humans and animals or a significant increase in the likelihood of harm to humans and animals.

JETACAR Recommendation 5 Resistance thresholds and surveillance

AVA is aware of no validation of the concept of resistance thresholds. As outlined in comments on Recommendation 4, evidence-based risk assessment and collection of data on antimicrobial resistance from surveillance programs are important components of hazard characterisation and exposure assessment.

There are regulatory complexities of having labels changed and new information on antimicrobial resistance may better be published and posted online and sent directly to practitioners with appropriate explanatory notes to ensure that the context of the information is clearly elucidated.

JETACAR Recommendation 6 Prescription only scheduling of antibiotics

The appropriate use of antimicrobial agents must be underpinned by a veterinary diagnosis supported by specialised knowledge of the clinical situation, the microbiology of implicated infectious agents and the pharmacology of the antimicrobial agents selected for use.

The training and experience of veterinarians enable them to implement the principles of judicious antimicrobial use. Ensuring antimicrobial agents are prescription only drugs, is the best way to deliver both treatment efficacy and the lowest likelihood of harm.

AVA noted that tylosin had not been rescheduled as recommended by JETACAR and took the initiative by developing a proposal for rescheduling.

Tylosin rescheduling

Tylosin is classified as a macrolide, a class of antibacterial agents considered of critical therapeutic importance in human and animal health. In 1999 the JETACAR recommended that ñthat all antibiotics for use in humans and animals (including fish) be classified as S4 (prescription only)ò. The JETACAR also recommended that a review of the macrolides be undertaken as a priority to ensure that continued use is ñnot likely to impair the efficacy of any other prescribed therapeutic antibiotic or antibiotics for animal or human infections through the development of resistant strains of organisms.òBoth recommendations were supported by the Australian Government. APVMA advised the Government that it would complete a review of the macrolides by June 2003. The tylosin review by APVMA has not been completed and tylosin remains in Schedule 5 for animal feed premixes containing 5 per cent or less of antibiotic substances for growth promotion, for the prevention of liver abscesses in cattle or for the prevention of ileitis in pigs.

The Australian Veterinary Association assessed the situation with respect to resistance to the macrolides amongst important pathogens of livestock and completed hazard identification. AVA examined the basis of decisions made by the National Drugs and Poisons Scheduling Committee (NDPSC) for the rescheduling of antibacterial agents in response to the JETACAR recommendations, including decisions concerning the macrolides erythromycin and spiramycin and the pleuromutilin, tiamulin.

Recommendations for rescheduling of these antibacterial agents were made by NDPSC on the basis of the possibility of resistance generation in animals being transferred to humans, co-selection of resistance to unrelated classes of antibiotics, the importance of the agents as therapeutic agents in some animal species, to protect their value in the treatment of mycoplasma and brachyspira in pigs, to protect the value of the macrolides in human health, and to protect the value of tylosin in animals. AVA contends that these reasons for rescheduling are equally relevant and applicable to the rescheduling of tylosin. In fact a review of the literature, which accompanied the submission for rescheduling, confirms that tylosin is a hazard and reveals widespread and increasing resistance to tylosin and the macrolides in a large number of pathogens of cattle, poultry and pigs. Furthermore, co-selection of resistance by tylosin has been repeatedly described and has been well known for more than 10 years (Boerlin et al, 2001, 2005; Chen et al, 2008; Ozawa et al, 2012; Tremblay et al, 2011).

AVA sought and gained the support of APVMA in a joint application for rescheduling by the Advisory Committee on Medicines Scheduling (ACMS) of all uses of tylosin to Schedule 4 as recommended by JETACAR and by the Australian Government.

It is anticipated that a recommendation on the rescheduling of tylosin will be made at the March meeting of ACMS and that the delegateôs interim decision will be made in May 2013

JETACAR Recommendation 7 National uniform control of use

AVA supports the national uniform control of use of prescription drugs.

A national scheme must ensure that veterinarians and agriculture and veterinary chemical users have timely access to the most effective and safe veterinary medications and chemicals to ensure that Australiaôs agricultural productivity, high animal welfare standards and international competitiveness are not compromised.

National Scheme for Assessment, Registration and Control of Use of Agricultural and Veterinary Chemicals

Following the release of the 2008 Productivity Commission Research Report on chemicals and plastics regulation, the Council of Australian Governments (COAG) directed that a proposal be prepared and submitted for a single national framework to improve the efficiency and effectiveness of the regulation of agricultural and veterinary (agvet) chemicals.

AVA submitted a response to the discussion paper in February 2010 (http://www.ava.com.au/sites/default/files/documents/Other/Reg_of_Agvet_chemicals_submission_100210.pdf).

JETACAR Recommendation 8 Label restraints

The AVA believes that while label restraint statements may have been necessary when use of veterinary chemicals was regulated on a State by State basis, under a national and uniform approach to use, the value of restraint statements may benefit from re-evaluation.

In any case, restraint statements are a risk management measure and they should be proportionate to the outcomes of risk assessment and should be amendable to change as the outcomes of risk assessment change.

JETACAR Recommendation 9 Human medical (microbial resistance safety data assessment and labelling)

AVA supports this recommendation, though suggests, as included in comments to Recommendation 5 above, that changing labels on a 5 yearly basis may not be as efficient as updating product information in a more freely accessible form as may be provided by an appropriate website.

MONITORING AND SURVEILLANCE (Recommendations 10-11)

JETACAR Recommendation 10 Resistance surveillance

Recent pilot surveillance studies of bacterial isolates from submissions to diagnostic laboratories (Stephens 2003), from the intestinal tract of dairy cattle (Jordan et al 2005), from animals at slaughter (DAFF 2007) or from raw poultry, pork and beef at retail outlets (Barlow and Gobius 2008) have found low levels of antimicrobial resistance and an absence of the resistances of greatest concern, i.e. fluoroquinolone and ceftiofur (3rd generation cephalosporin) resistance. However, as indicated above resistance levels to many antimicrobials (again excepting fluoroquinolones and ceftiofur) in isolates from pigs, chickens and aquaculture species are quite high.

This is a globally unique situation and consistent with widespread appropriate use of antibacterial agents in livestock (Jordan et al 2009). Nonetheless, ongoing monitoring and surveillance is appropriate and valuable (Anon 2003; Barton et al 2003; Geue 2003; Hundy and Roche. 2003; Jordan 2003). A strategy for a comprehensive integrated surveillance program has been developed (Webber 2003, 2006).

There is a multitude of benefits associated with monitoring and surveillance for antimicrobial resistance, and the AVA strongly urges the Australian Government to establish a comprehensive national surveillance system for monitoring antimicrobial resistance.

JETACAR Recommendation 11 Antibiotic use monitoring and audit

The AVA supports the implementation of a comprehensive and robust system for monitoring antimicrobial use. This goes hand-in-hand with surveillance of antimicrobial resistance as it is use of antimicrobials that drives the emergence of resistance.

INFECTION PREVENTION STRATEGIES AND HYGIENIC MEASURES
(Recommendations 12-14)

AVA is concerned about all animal species (including aquatic animals) and has devoted significant resources to education about infection prevention in veterinary practice, irrespective of the species of animals involved. The following document is one example of work precipitated by events facing equine practitioners, but which has value in all circumstances.

Guidelines for veterinary personal biosecurity (http://www.ava.com.au/biosecurity-guidelines) published in 2011 and updated in 2013 set out a comprehensive approach to protecting veterinary personnel from zoonotic infections.

Examples of other guidelines available internationally and directed at veterinarians are:

a) Canadian Committee on Antibiotic Resistance, 2008, Infection Prevention and Control Best Practices for Small Animal Veterinary Clinics.

b) NASPHV (US National Association of State Public Health Veterinarians) Veterinary Infection Control Committee, 2010, ôCompendium of veterinary standard precautions for zoonotic disease prevention in veterinary personnelõ, JAVMA, vol. 237, pp. 1403ï 1422.

These guidelines emphasise measures to reduce exposure to infectious agents and include a ñModel infection control plan for veterinary practicesò

JETACAR Recommendation 12 HACCP food products and on-farm

AVA is aware of and supports the multitude of food safety and HACCP initiatives developed and implemented by FSANZ and the livestock research and development organisations (such as MLA, ACMF, RIRDC).

JETACAR Recommendation 13 Alternatives to Antibiotic Growth Promoters (AGPs)

AVA supports the development of alternatives to the use of antibiotics for the improvement of animal performance or for the prevention or treatment of disease and although not directly involved in this area, the AVA provides a forum for presentation and dissemination of results of studies with such objectives.

The AVA Annual Conference and the Australian Veterinary Journal both regularly include information on research on alternatives, for example dietary manipulation, natural products probiotics and immunological stimulants (Huyghebaert et al, 2011; Pluske 2013). AVA believes that the evidence supporting alternatives should meet the same rigorous standards that apply to existing products.

Sub-therapeutic use of antimicrobials is a strong driver of the emergence of antimicrobial resistant bacteria and antimicrobial growth promotant use should cease as soon as practicable.

JETACAR Recommendation 14 Human medical (comprehensive and standardised national system for monitoring nosocomial infections)

AVA supports this recommendation and encourages Government support.

EDUCATION (Recommendations 15-17)

JETACAR Recommendation 15 Prudent use Codes of Practice

JETACAR Recommendation 16 Antibiotic use guidelines

In response to Recommendations 15 and 16, AVA has actively developed, published and disseminated prudent use codes of practice for more than 20 years.

Examples of AVA initiatives in this area include the following AVA policies:

- 2.2 Use of antimicrobial drugs in veterinary practice (http://www.ava.com.au/policy/22-use-antimicrobial-drugs-veterinary-practice)
- 2.4 Responsible use of veterinary medicines on farms (http://www.ava.com.au/policy/24-responsible-use-veterinary-medicines-farms)
- 2.5 Code of practice for the use of prescription animal remedies (Schedule 4 substances) in the pig industry (http://www.ava.com.au/policy/25-code-practice-use-prescription-animal-remedies-schedule-4-substances-pig-industry)
- 2.6 Code of practice for the use of prescription animal remedies (Schedule 4 substances) in the poultry industry (http://www.ava.com.au/policy/26-code-practice-use-prescription-animal-remedies-schedule-4-substances-poultry-industry)

The AVA Guidelines for Prescribing, Authorising and Dispensing Veterinary Medicines feature appendices that are directly applicable to the prudent use of antimicrobials in various species (http://www.ava.com.au/sites/default/files/documents/Other/Guidelines_for_prescribing_authorising_and_dispensing_veterinary_medicines.pdf):

- Appendix 1 Prudent use of antibiotics ï global basic principles
- Appendix 2 Use of veterinary medicines in the pig industry
- Appendix 3 Use of veterinary medicines in the poultry industry
- Appendix 4 Use of veterinary medicines in equine practice
- Appendix 5 Use of veterinary medicines in the sheep industry

- Appendix 6 Use of veterinary medicines in the cattle industry
- Appendix 7 Safe use of veterinary medicines on farms
- Appendix 15 AVA Code of practice for prescription and use of products which contain antimicrobial agents

JETACAR Recommendation 17 Continuing professional development

AVA has a major focus on continuing professional development, and recognises the potential significant impacts of antimicrobial resistance on animal and public health. Appropriate antimicrobial usage is a regular theme of continuing professional development for veterinarians working in all types of clinical practice.

Examples of continuing professional development include the following:

AVA Annual Conference

Infection control, antimicrobial use and the importance, impact and management of antimicrobial resistance are regular subjects of presentations and discussions at the AVA Annual Conference. For example, a presentation entitled ñAntibiotic prescribing habits of vets in Australiaò was delivered at the 2012 Conference by Dr Steven Holloway from the Australian Infectious Disease Advisory Panel (AIDAP). Dr Holloway summarised the information provided by 892 respondents to an online survey of antibiotic prescribing in companion animals. The results of the survey will guide the development of best practice guidelines.

National Summit on Antibiotic Resistance (Sydney, 30-31 May 2001)

On behalf of AVA Dr Kevin Doyle referred to significant advances by the AVA in a presentation entitled ñJETACAR - The Role of Professional Bodiesò. All relevant AVA specialist interest groups have an antibiotic program that includes discussion at their annual conference and antibiotic use information in their newsletters. For many years the AVA has instilled professionalism in prescribing. It strives for more strategic management, particularly through the appropriate use of chemicals under the auspices of on-farm quality assurance programs. To this end, the AVA produces codes of practice and guidelines for prescribing and dispensing antibiotics, and encourages the uptake of codes and guidelines developed by other organisations.

Antimicrobial Resistance Summit 2011 (http://www.asid.net.au/Antimicrobial-Resistance-Summit)

The Australasian Society for Infectious Diseases and the Australian Society for Antimicrobials conjointly convened the "Summit on Antimicrobial Resistance" which was held at the Law School at the University of Sydney on Monday and Tuesday, 7th and 8th February 2011. AVA members were active participants and the importance of inter-professional collaboration and cooperation was recognised and the veterinary and human medical professions consolidated their resolve to work closely on antimicrobial resistance.

Zoonoses Conference 2012 (http://www.asid.net.au/zoonoses)

The Australian Veterinary Association (AVA) collaborated with the Australasian Society for Infectious Diseases (ASID) and the Sydney Emerging Infections and Biosecurity Institute (SEIB), to hold a 2 day meeting (Friday-Saturday 27/28 July 2012) at the University of Sydney. The importance of antimicrobial resistance and mitigation measures were significant components of the agenda and discussion.

FURTHER RESEARCH (Recommendation 18)

JETACAR Recommendation 18 Research (alternatives, epidemiology, diagnosis etc.)

AVA is not a research funding agency but does support this recommendation and is aware that many funding agencies are investing in research on alternatives to antimicrobial growth promotants (AGPs), resistance epidemiology, clinical efficacy studies and rapid diagnostic tests.

It would be very valuable to have a central register of past and current research on antimicrobial resistance across human and animal species. This would allow significant gaps to be identified and could enhance opportunities for collaboration between the veterinary and human medical professions.

Knowledge of antimicrobial use and resistance is of fundamental importance and the level of available funding is well below what the subject demands. This may indicate that this area has not attracted the priority it deserves by governments and other funding agencies.

An assessment of the effectiveness and efficiency of the research being undertaken in the areas identified in Recommendation 18 would also be a valuable contribution to the fight against antimicrobial resistance.

COMMUNICATION (Recommendations 19-20)

JETACAR Recommendation 19 Communication & education strategy

AVA recognises the importance and value of an education strategy and is very willing to participate in a Government-funded program on infection, the role and benefits of prudent use and the risks of overuse of antibiotics.

While such programs may already have been developed and implemented in the human medical area, there are none associated with animal health.

JETACAR Recommendation 20 Communication coordination

AVA supports this recommendation and believes that coordination of communication strategies may also facilitate the close cooperation between the veterinary and medical professions.

COORDINATION OF THE RESISTANCE MANAGEMENT PROGRAM
(Recommendations 21-22)

JETACAR Recommendation 21 EAGAR structure and function

Through its members AVA was aware of the important contribution that EAGAR made to the assessment of new antimicrobial agents intended for use in animals. The structure and function of EAGAR should be reviewed and following the review the advisory group should be re-established with a view to long term ongoing Government funding.

As the World Health Organisation has emphasised, antimicrobial resistance is already at crisis point and is not expected to improve. This underlines the increasing importance of coordinating resistance management at the highest level of Government.

JETACAR Recommendation 22 EAGAR and human antibiotic resistance management

AVA supports this recommendation and supports the re-formation of EAGAR.

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