Australian Government
Department of Agriculture, Fisheries and Forestry

REF: EXEC2012-09022

Ms Christine McDonald
Secretary
Senate Standing Committee on Finance and Public Administration
PO Box 6100
Parliament House
CANBERRA ACT 2600

Dear Ms McDonald

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

Thank you for your letter of 5 December 2012 on behalf of the committee to Dr Conall O'Connell, the then Secretary of the Department of Agriculture, Fisheries and Forestry (DAFF), inviting the department to make a submission to this inquiry. The new Secretary of DAFF, Mr Andrew Metcalfe commenced his position on Tuesday 29 January 2013 and has asked me to reply on his behalf.

Please find attached the department's submission to the inquiry which seeks to address the inquiry's Terms of Reference. We note that a similar invitation was sent to a portfolio agency of DAFF, namely the Australian Pesticides and Veterinary Medicines Authority (APVMA), and that this agency will be preparing a separate submission.

I trust that the information in this DAFF submission will assist the committee with their inquiry. Relevant departmental officers will be available to attend on public hearing days.

Yours sincerely

Ms Rona Mellor
Deputy Secretary

14 February 2013

cc: Mr Andrew Metcalfe
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STANDING COMMITTEE ON FINANCE AND PUBLIC ADMINISTRATION REFERENCES COMMITTEE

INQUIRY INTO THE PROGRESS IN THE IMPLEMENTATION OF THE RECOMMENDATIONS OF THE 1999 JOINT EXPERT TECHNICAL ADVISORY COMMITTEE ON ANTIBIOTIC RESISTANCE (JETACAR)

SUBMISSION FROM
DEPARTMENT OF AGRICULTURE, FISHERIES AND FORESTRY

FEBRUARY 2013

INTRODUCTION

This submission is arranged so as to provide a summary of the Department of Agriculture, Fisheries and Forestry (DAFF) actions in responding to portfolio relevant recommendations of the Joint Expert Advisory Committee on Antibiotic Resistance (JETACAR) report. To the extent that these recommendations apply to the Australian Pesticides and Veterinary Medicines Authority (APVMA), it should be noted that this portfolio agency of DAFF is preparing a separate submission to this enquiry.

The final report of the JETACAR was released in September 1999[1]. A steering committee was subsequently established to develop a Commonwealth Government Response (the Commonwealth Response). This was published in August 2000[2]. To implement the response, the Expert Advisory Group on Antibiotic Resistance (EAGAR - successor to the Working Party on Antibiotics) and the Commonwealth Interdepartmental JETACAR Implementation Group (CIJIG)[3] were established. The process was facilitated and monitored by the Australian Health Ministers' Conference (AHMC) and the Primary Industries Standing Committee (PISC) JETACAR Taskforces. All these groups had DAFF representation.

Antibiotics are used in farm animals under regulatory controls to underpin animal health, animal production and animal welfare. The health and productivity of farm animals are improved by the responsible use of antimicrobial agents including antibiotics. The productivity of livestock industries in Australia is important in ensuring a plentiful and affordable food supply.

Many of the recommendations of the JETACAR Report involving DAFF have been and continue to be implemented. These include enhanced antibiotic assessment processes, adopting a conservative approach to antibiotic registration, progress in moving towards harmonised control of use legislation between the various jurisdictions, surveillance activities, proactive approaches to education and awareness of antimicrobial resistance (AMR) issues, and influencing research and development organisations to have a focus on AMR reducing activities. With the progressive implementation of JETACAR recommendations, the EAGAR and CIJIG ceased to meet, with a reliance placed on the regulatory settings and professional guidelines then in place.

While substantial progress has been made in implementing the JETACAR report recommendations of relevance to DAFF responsibilities, it is acknowledged that ongoing attention to the management of AMR risks is needed and that this will increasingly require a collaborative approach involving a range of stakeholders.

A new post JETACAR collaboration involving the formation by the Department of Health and Ageing (DoHA) of the Antimicrobial Resistance Standing Committee (AMRSC) established under the Australian Health Ministers Advisory Council (AHMAC) is providing DAFF with the opportunity to engage with relevant stakeholders. While this group is still in the early stages of its work, its formation is viewed as a key recent initiative in the Australian context. DAFF is also currently working directly with DoHA to develop a governance structure between the respective departments and portfolio agencies to oversee AMR work being undertaken by these bodies.

DAFF's broader approach to AMR within its current allocated budget is with strategies that are consistent with, and build upon global initiatives. Current international activities include active participation in the World Organisation for Animal Health (OIE), Codex Alimentarius Commission

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[1] http://www.health.gov.au/internet/main/Publishing.nsf/Content/2A8435C711929352CA256F180057901E/$File/jetacar.pdf.

[2] http://www.health.gov.au/internet/main/publishing.nsf/content/F57A4B816B1AA634CA256F1900041160/$File/CWealth%20Govt%20Response%20to%20JETACAR.pdf

[3] http://www.health.gov.au/internet/main/publishing.nsf/content/EA33D21F7C12F3D8CA256F1900052727/$File/cijig_progress.pdf.

(Codex) and the United Nations Food and Agriculture Organization (FAO) initiatives on AMR. The work of these international organisations includes raising awareness of AMR, development of standards and expertise/capacity building roles. DAFF also continues to maintain a watching brief on AMR activities generally through its scientific networks and the scientific literature.

DISCUSSION

Five key elements to assist in the management of AMR were proposed by the JETACAR report. These were:

- Regulatory controls (recommendations 1-9)
- Monitoring and surveillance (recommendations 10-11)
- Infection prevention strategies (recommendations 12-14)
- Education (recommendations 15-17)
- Research (recommendation 18)

In addition, the JETACAR made four other recommendations. Of these, recommendations 19 and 20 addressed communicating the issues to stakeholders and the public, while recommendations 21 and 22 referred to coordination and implementation of the various components of an AMR program.

Discussion from a DAFF perspective of these groupings of JETACAR recommendations follows.

1. **Regulatory Controls (recommendations 1-9)**

   a. <u>Recommendations 1-4</u>

   Recommendations 1-4 concerned adopting a conservative approach to antibiotic registration. Specifically, it was recommended: that the APVMA reviews antibiotic growth promoters; that regulatory control to importers of antibiotics be increased; and that the APVMA evaluates all new applications, major extensions of use and reviews of currently registered antibiotics for use in animals to include a safety risk analysis of AMR as required in new guidelines for registering veterinary chemicals.

   Australia has adopted a conservative risk-based approach to the use of antimicrobials in animals. Antimicrobials are required to undergo a rigorous assessment and registration process by the APVMA. They are then subject to strict conditions of use under state/territory legislation. Australia has a highly restrictive approach to the use of antibiotics of critical importance to human medicine in animal production. These include more stringent restrictions on the use of fluoroquinolones and third generation cephalosporins in animals than apply in most other developed countries.

   DAFF understands that the APVMA has met its obligations as agreed to in the Commonwealth Response to recommendations 1 and 4. With respect to recommendation 2, the APVMA has undertaken a review of virginiamycin and there is an ongoing review of macrolides. The review of avoparcin was discontinued as the registrants did not renew their registrations after 30 June 2000. Recommendation 3 on increasing regulatory control over the import of antibiotics overlaps with recommendation 11 and is discussed in Section 2 b of this submission.

   The EAGAR provided advice to the APVMA on AMR to fulfil the obligations as a provider of independent scientific advice. This included the assessment of the public health risk from the development of AMR in human pathogens associated with the use of antibiotics in animals. The EAGAR had representation from DAFF. Through this mechanism DAFF contributed to improving regulatory controls as agreed to in the

Commonwealth Response. With the wind down of the EAGAR and its activities, the APVMA currently has the capacity to seek independent expert advice on public health aspects of AMR externally.

b. Recommendation 5

This recommendation was in two parts and had qualified support from government.

The first part dealt with defining threshold (or trigger) rates of resistance for antibiotics registered for use in animals and circumstances where usage should be investigated and mitigation proceedings instigated where appropriate. The government noted that the focus of surveillance would be on bacteria and antibiotic resistance genes with the potential to contribute to human risk and that the outcome of the work would be advice to appropriate regulatory bodies to initiate a special review of the relevant antibiotic. The APVMA has in place the ability to initiate a review of an animal use antibiotic on public health grounds, including AMR aspects.

This second part concerned the inclusion of resistance prevalence data in animal product information and that it should be updated on a five yearly basis. The Commonwealth Response suggested that antibiotic resistance data associated with antibiotic use in animals be reported at least every five years to the APVMA and be reviewed by the EAGAR. Notwithstanding that threshold rates of resisatnce have not been established for animal use antibiotics, this recommendation has been addressed by the enhanced safety evaluation procedures adopted by APVMA for antimicrobials. These enhanced evaluation procedures could lead to changes in permitted uses of the antibiotic and associated labelled instructions for use and/or variation to product information.

c. Recommendation 6

This recommendation that all antibiotics for use in animals (including fish) be classified as Schedule 4 (prescription only) was accepted in the Commonwealth Response, which also indicated that some exceptions should be allowed.

At the time that the Commonwealth Response was provided, the National Drugs and Poisons Schedule Committee was undertaking a review of antibiotics as part of this recommendation. DAFF understands that this review has been completed.

The Commonwealth Response indicated that the intent of this recommendation could be better achieved through taking account of industry codes that include controls on in-feed/water use of antibiotics for animals (including fish) that are implemented through third party audited quality assurance programs incorporating veterinary authorisation. DAFF is aware that various industry programs have been developed which fulfil this role.

The responsibility for scheduling is now with the Therapeutic Goods Administration (TGA) Advisory Committees on Medicines and Chemicals Scheduling, which is a division of DoHA. The APVMA also has a role in this process. Further information on whether all antibiotics for use in animals have been classified as Schedule 4 and how industry programs are accounted for in the scheduling process should be directed to the TGA.

d. Recommendations 7-8 Harmonisation of state/territory control of use legislation

Recommendation 7

This recommendation concerned the harmonisation of laws between the different states/territories in Australia with respect to how they regulate the use of antibiotics in animals. The Commonwealth Response agreed to this recommendation.

Control of use principles for harmonisation were agreed by the Standing Committee on Agriculture and Resource Management (who supported the Agriculture and Resource Management Council of Australia and New Zealand at the time) in August 1999. The harmonisation process has been driven at the Commonwealth level by the APVMA and the Agricultural Productivity Division within DAFF.

There has been significant progress on this issue except in the area of 'off-label' prescribing rights where there are significant inconsistencies between states/territories in the extent and scope of off-label use, particularly in relation to food animals. Harmonisation of off-label prescribing rights is expected to take longer to implement than other recommendations due to the complexities of the issue. The work is this area is continuing as part of the implementation of the COAG agvet chemicals reform agenda.

Recommendation 8

Recommendation 8 concerned legislating to make it an offence to prescribe and/or use a veterinary chemical contrary to an APVMA label restraint, unless authorised to do so by an APVMA permit. Recommendation 8 relies on the implementation of recommendation 7. Further information on whether states/territories have such legislation in place can be obtained from the relevant jurisdiction.

The current Better Regulation of AgVet Chemicals reform is being undertaken by the Agricultural Productivity Division within DAFF[4] and is looking at improving the efficiency of the overall regulation of AgVet Chemicals.

e. Recommendation 9

This recommendation was not directed at DAFF responsibilities.

Questions on this recommendation should be directed to the TGA.

2. Monitoring and Surveillance (recommendations 10-11)

a. Recommendation 10

For recommendation 10, the Commonwealth Response was to undertake a feasibility study between DAFF and DoHA (in consultation with the EAGAR) to determine the most appropriate and cost effective option for national integration of animal and human surveillance data.

A *Strategy for Antimicrobial Resistance Surveillance in Australia* (the Strategy), encompassing humans, animals and animal-derived foods, was developed and

[4] http://www.daff.gov.au/agriculture-food/ag-vet-chemicals/better-regulation-of-ag-vet-chemicals

subsequently released in September 2003. DAFF was responsible for the animal component of the surveillance and monitoring system.

DAFF undertook a pilot surveillance program for antimicrobial resistance in bacteria of animal origin over 2003-2004. This report was published in 2007[5]. The report found that the overall prevalence of resistance to important antimicrobials among key indicator organisms found in the gut (caecum) of food producing animals was low.

DAFF in conjunction with DoHA, provided some funding for an analysis of AMR information on existing *Salmonella* isolates for humans, animals and food (1994-2003) from the National Enteric Pathogens Surveillance Scheme (NEPSS) and the Australian Salmonella Reference Centre.

DAFF also had some involvement in other surveillance programs through its representation on EAGAR and other committees. One important example is the 2009 Food Science Australia Pilot Survey for AMR Bacteria in Australian Food[6]. This survey was managed by DoHA on behalf of the Food Regulation Standing Committee (FRSC) which included representation from DAFF. This study also found that when compared to reports from other countries, Australia has a very low prevalence of bacteria isolated from food that are resistant to antibiotics, particularly those 'critically important' for human medicine.

During that time, DAFF also contributed significant funding and human resources to the AMR activities of Codex and the World Health Organization.

In response to the Strategy, the EAGAR also contracted consultant Dr Jonathan Webber BVSc PhD to look further into AMR surveillance in Australia. In 2006 the report to EAGAR was published: 'A Comprehensive Integrated Surveillance Program to Improve Australia's Response to Antimicrobial Resistance'[7]. The report made numerous recommendations. The report was published around the time the EAGAR activities were being finalised (see recommendation 22) and the response to this recommendation was continued by CIJIG.

The CIJIG continued to coordinate this process and undertook further activities toward implementing a comprehensive surveillance system. Renewed interest in AMR emerged in 2012 with the establishment of the AMR Standing Committee[8] managed out of the Australian Commission on Safety and Quality in Health Care. AHMAC endorsed the establishment of this new committee in April 2012 to support an integrative approach to the national strategy on antimicrobial resistance in Australia. DAFF is represented on this committee by Dr Mark Schipp (Australian Chief Veterinary Officer) with the role of providing advice on issues that relate to the use of antibiotics in animals and antimicrobial resistance in bacteria of animal origin. This committee is in the early stages of its work.

Currently DAFF is keeping a watching brief on AMR surveillance in bacteria of animal origin domestically and internationally. DAFF is aware that Meat and Livestock Australia is funding a project on AMR in red meat production in Australia. The expected completion date is March 2014. DAFF is also aware of a project being undertaken by researchers at the University of Adelaide titled 'Superbugs and Veterinary Drugs: Are

[5] http://www.daff.gov.au/_data/assets/pdf_file/0004/950431/AMR-pilot-survey-report.pdf
[6] http://www.health.gov.au/internet/main/publishing.nsf/Content/foodsecretariat-standing-priority-list
[7] http://www.agargroup.org/files/EAGAR%20Report%202006.pdf
[8] http://www.safetyandquality.gov.au/our-work/healthcare-associated-infection/antimicrobial-resistance-subcommittee

Multi-drug Resistant Zoonotic Pathogens Residing in Australian Animals'[9]. DAFF is also aware of some other researchers in universities and government institutions conducting other animal AMR monitoring and surveillance work.

b. Recommendation 11

Recommendation 11 related to antibiotic usage data collection and audit processes.

The TGA monitors antibiotics imported into Australia. The Commonwealth Response agreed to set up an interdepartmental working group to look at refining the existing systems for 'recording the use and distribution of antibiotics by importers'. This working group reported to the EAGAR. Questions regarding the implementation of options for end-use schemes for auditing and improving import data collection should be addressed to the TGA and APVMA.

For veterinary antimicrobial products specifically, the current arrangement is that the APVMA collects voluntarily supplied information from registrants on the quantity of these products sold in Australia. In March 2005, the APVMA released a report on antimicrobials sold for veterinary use in Australia from 1992-2002[10]. This report was presented initially to the CIJIG and subsequently to the EAGAR. The next report, due in the first half of 2013, covers the period from July 2005 to July 2010.

The APVMA additionally holds information on the importation of unregistered antimicrobial products by veterinarians, and other permit holders. Specifically, the APVMA provides "consent to import" for unregistered antibiotic products for veterinary use. Once such antibiotics are registered, this consent is no longer required. In the past 12 years the APVMA has consented to 34 imports by veterinarians, 7 to APVMA permit holders and 7 to organisations conducting research. The APVMA refused consent for 20 applications.

APVMA legislation does not contain any provisions that would provide for a system to track antibiotic products from importer to end user or provide for licensing of antibiotic importers. Such systems would need to be developed if these activities are required.

The APVMA prepares reports for DAFF based on antimicrobial sales data to assist DAFF with its annual submissions to the OIE (the OIE surveys its member countries on their implementation of OIE *Terrestrial Animal Health Code* Chapter 6.8 'Monitoring of the quantities and usage patterns of antimicrobial agents used in food producing animals'[11]).

DAFF though regulating the importation of biological products, which includes antibiotics, does not require the declaration of quantities imported for permit purposes.

DoHA requires all importers of antibiotic products (whether for human or veterinary use and whether or not registered by the APVMA) to obtain a Permit to Import from the Office of Chemical Safety, as all antibiotics are covered by Regulation 5A of the *Customs (Prohibited Imports) Regulations 1956*.

[9] http://www.adelaide.edu.au/news/news57421.html
[10] http://www.apvma.gov.au/publications/reports/docs/antimicrobials_1999-2002.pdf
[11] http://www.oie.int/index.php?id=169&L=0&htmfile=chapitre_1.6.8.htm

3. Infection prevention strategies (recommendations 12-14)

a. Recommendation 12

This recommendation looked to hazard analysis critical control points (HACCP)-based food safety procedures being implemented as a means of reducing the contamination of products with food borne organisms, including antibiotic resistant organisms, and that these programs also address on-farm infection control.

DAFF notes that the food safety standards in Chapter 3 of the *Australia New Zealand Food Standards Code* (the code) were developed to provide more effective and nationally uniform food safety legislation for Australia. There are three mandatory food safety standards that apply to all food businesses in Australia (except primary food production businesses-see below). Certain high-risk food sectors are also required to have a HACCP-based food safety program in place. These high-risk sectors are: food service in which potentially hazardous food is served to vulnerable populations; the harvesting, processing and distribution of raw oysters and other bivalves; and the production of manufactured and fermented meat.

The primary production and processing (PPP) standards in Chapter 4 of the code are underpinned by HACCP. These standards were developed to strengthen food safety with a through chain preventive approach from paddock to plate. PPP standards have been developed for seafood, poultry, meat, dairy, specific cheeses, eggs and egg products and seed sprouts, and are enforced by the states and territories.

All major supermarket chains in Australia require their suppliers to implement HACCP-based quality assurance systems as a prerequisite for doing business.

DAFF understands that Australia's current food safety framework is well equipped to meet this recommendation. Questions on particular HACCP food safety procedures should be directed to the relevant authorities and industry associations charged with implementing the particular standards in their jurisdiction or for their commodity.

b. Recommendation 13

This recommendation concerned developing research and development activities on non-antibiotic methods to increase productivity and prevent disease. The Commonwealth Response was to ensure that all animal Research and Development (R&D) funding organisations were made fully aware of the concern with which Government views the issue of AMR. This response was made in the context of acknowledging the independence of the animal industry in determining research priorities. This response overlaps with the response to recommendation 18 on research and development activities on AMR.

In October 2002 the EAGAR National workshop identified priorities for AMR research and interventions to limit the emergence and spread of AMR. The identified priorities were made known to a broad spectrum of research and development bodies through various means.

DAFF understands that the R&D organisations' response to this recommendation has been positive. DAFF is aware of research projects related to the agricultural use of antibiotics that have been completed by government research agencies, industry bodies and universities.

c. Recommendation 14

This recommendation concerned infection prevention strategies and hygienic measures associated with nosocomial infections. Questions on this recommendation should be directed to DoHA.

4. Education (recommendations 15-17)

These recommendations included that the peak medical and veterinary bodies develop and promulgate prudent use codes of practice for antibiotics, including through training institutions and associations. DAFF understands that these obligations under recommendations 15-17 have been and continue to be fulfilled.

DAFF has observed the state/territory veterinary practitioner registration boards develop codes of practice to be followed by practitioners. DAFF has also observed state/territory primary industries bodies develop their antibiotic use legislation and supporting educational materials to improve practices to mitigate AMR development risks.

The peak veterinary industry body, the Australian Veterinary Association (AVA), had representation (Dr Kevin Doyle) on several JETACAR committees. The AVA in 2005 published Guidelines for Prescribing, Authorising and Dispensing Veterinary Medicines[12]. This was in addition to its established policy on the use of antimicrobial drugs in veterinary practice[13] and the use of veterinary medicines on farm[14]. The AVA has also developed other more specific policy materials on antimicrobial prescribing. An example is the Code of Practice for the use of Prescription Animal Remedies (Schedule 4 Substances) in the Poultry Industry[15]. In addition, the AVA advises that it has continuing education programs that address these policies.

Peak animal industry bodies including Meat and Livestock Australia, Australian Dairy Farmers Federation, Australian Poultry Industry Association (now the Australian Chicken Meat Federation) and the Pork Council of Australia (now Australia Pork Limited) had representation on the PISC JETACAR Taskforce. Through this and other mechanisms they have been able to develop a coordinated and ongoing approach to implementing recommendations 15-17. Questions regarding the details of approaches taken by peak animal industry bodies should be directed to these organisations.

DAFF continues to be involved in, and has financially supported some domestic conferences which had a focus on educating the medical and veterinary professions on AMR matters. These include conferences hosted by the Australian Society for Antimicrobials, the Australasian Society for Infectious Disease (ASID), AVA, Sydney Emerging Infections and Biosecurity Institute, and CSIRO.

[12] http://www.ava.com.au/sites/default/files/documents/Other/Guidelines_for_prescribing_authorising_and_dispensing_veterinary_medicines.pdf

[13] http://www.ava.com.au/policy/22-use-antimicrobial-drugs-veterinary-practice

[14] http://www.ava.com.au/policy/24-responsible-use-veterinary-medicines-farms

[15] http://www.ava.com.au/policy/26-code-practice-use-prescription-animal-remedies-schedule-4-substances-poultry-industry

5. Research (recommendation 18)

This recommendation concerned relevant research agencies being asked to give priority to research into antibiotic resistance. The Commonwealth Response stated that the issue of animal industry research had been considered under recommendation 13.

6. Other (recommendations 19-22)

a. Recommendations 19-20 Communications

Recommendation 19 concerned the development of an ongoing education strategy by government departments, with stakeholders, on antimicrobial use. This was generally supported in the Commonwealth Response.

For recommendation 20 the Commonwealth Response was for DoHA and DAFF with EAGAR to assume joint responsibility for the development of a communications strategy on antibiotic usage and AMR prevalence data, including a website. A strategy was initially developed by CIJIG and EAGAR. An 'Implementing JETACAR' website was also created with the winding down of EAGAR.

DAFF currently has a part of its website dedicated to AMR focussing on food producing animals and food regulation and safety[16]. DAFF also has part of its website dedicated to the 'Codex Ad hoc Intergovernmental Task Force on Antimicrobial Resistance'[17]. The areas in DAFF responsible for these web pages have some informal linkages with FSANZ and DoHA to collaborate on developing its communications material.

The purpose of the recently formed AMRSC's is to develop a national strategy to minimise AMR risks. This strategy includes coordinating national activities such as education and stewardship programs plus community and consumer campaigns.

DAFF has recently been involved in the progression of AMR strategies through various international and domestic organisations such as the OIE and FAO.

b. Recommendations 21-22

These recommendations involved the coordination of the resistance management plan through the reconstitution of the NHMRC Working Party on Antibiotics (WPA) committee into EAGAR, and the creation of the CIJIG.

The EAGAR was responsible for providing independent scientific and policy advice on antibiotic resistance issues, and work closely with the CIJIG to develop and implement the national antibiotic resistance management program. As with its predecessor, the WPA, the EAGAR was to continue to provide advice to the regulatory bodies, APVMA and TGA, on matters relating to antibiotic resistance. The EAGAR was chaired by Associate Professor John Turnidge of the Adelaide Women's and Children's hospital. The EAGAR was supported by DoHA/NHMRC. The EAGAR reported through the CIJIG to the Ministers and NHMRC.

[16] http://www.daff.gov.au/agriculture-food/food/regulation-safety/antimicrobial-resistance
[17] http://www.daff.gov.au/agriculture-food/codex/committees/antimicrobial-resistance

The CIJIG was established in November 2000. Its primary responsibility was to oversee and coordinate the continuing Government's response to JETACAR, and in particular implementation of the JETACAR recommendations as described in the Government Response. The CIJIG was jointly chaired by DoHA and DAFF. The secretariat was provided through the Population Health Division of DoHA.

While these groups made progress in advancing these JETACAR recommendations before their disbandment following NHMRC restructuring during 2006 to 2008, the need for a resistance management plan or alternative risk management approaches remains an issue for further consideration. The work of the new DoHA committee, the AMRSC, is strongly focused on a National Strategy to minimise AMR and will play an important role in addressing these issues.