

## Chapter 2

### Overview of the implementation of JETACAR recommendations

2.1 This chapter outlines the work undertaken by JETACAR, the initial response to its recommendations and whether the recommendations still remain relevant today. The effectiveness of the implementation of the JETACAR recommendations relating to coordination and resourcing are included in this chapter. The remaining recommendations are covered in more detail in the following chapters.

#### **The JETACAR recommendations and initial response**

2.2 JETACAR was established by the Commonwealth to review the link between the use of antibiotics in food-producing animals and the emergence and selection of antibiotic resistant bacteria and their spread to humans.<sup>1</sup> JETACAR brought together human, veterinary and food interests.

2.3 The 1999 JETACAR report noted that the committee had considered the whole area of antibiotic resistance and its importance in human and veterinary medicine. The committee concluded that there was evidence for:

- the emergence of resistant bacteria in humans and animals following antibiotic use;
- the spread of resistant animal bacteria to humans;
- the transfer of antibiotic resistance genes from animal bacteria to human pathogens; and
- resistant strains of animal bacteria causing human disease.<sup>2</sup>

2.4 JETACAR reported that the ongoing emergence of antibiotic resistant bacteria is causing essential, life-saving antibiotics to be less effective. As a result, there are fewer alternative treatments and sometimes more toxic and costly antibiotics must be used instead.<sup>3</sup> The JETACAR report proposed that Australia adopt an antibiotic resistance management program that focussed simultaneously on both humans and animals. The proposed program was a coordinated multidisciplinary approach with five key elements, as follows:

- regulatory controls (recommendations 1–9);
- monitoring and surveillance (recommendations 10–11);

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1 Department of Health and Ageing and portfolio bodies joint submission, *Submission 32*, p. 2.

2 Joint Expert Advisory Committee on Antibiotic Resistance, *The use of antibiotics in food-producing animals: antibiotic-resistant bacteria in animals and humans*, p. xxiv.

3 Joint Expert Advisory Committee on Antibiotic Resistance, *The use of antibiotics in food-producing animals: antibiotic-resistant bacteria in animals and humans*, p. 1.

- infection prevention strategies and hygienic measures (recommendations 12–14);
- education (recommendations 15–17); and
- further research (recommendations 18).

2.5 The JETACAR report stated that 'all five elements of the program must be implemented together if there is to be any chance of reversing the trend to increasing antibiotic resistance'.<sup>4</sup>

2.6 JETACAR also made recommendations in relation to communication (recommendations 19–20) and coordination of resistance management (recommendations 11–22).

### ***The Government response to JETACAR and subsequent actions***

2.7 The Government responded to the JETACAR report in 2000 largely supporting the intent of the recommendations and acknowledged the threat from antibiotic resistant organisms to the health and economic prosperity of the Australian population.<sup>5</sup>

2.8 In responding to the JETACAR report, the Government accepted nine recommendations, did not express an opinion on one recommendation and offered qualifying words for the remaining recommendations, often agreeing with the intent and principles of those recommendations.<sup>6</sup> To implement its response, the Government stated that it would establish:

- an Expert Advisory Group on Antibiotics (EAGA), under the auspices of the NHMRC, to provide continuing advice on antibiotic resistance and related matters; and
- an Interdepartmental JETACAR Implementation Group to oversee and coordinate the continuing Government response to the JETACAR, to respond to the policy advice received from the EAGA, and to seek funding for implementation purposes.<sup>7</sup>

2.9 The expert advisory group was formed as the Expert Advisory Group on Antimicrobial Resistance (EAGAR). It was responsible for providing independent

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4 Joint Expert Advisory Committee on Antibiotic Resistance (JETACAR), *The use of antibiotics in food-producing animals: antibiotic-resistance bacteria in animals and humans*, October 1999, p. xxiv.

5 Department of Health and Ageing and portfolio bodies joint submission, *Submission 32, Attachment 1*, The Commonwealth Government Response to the Report of the Joint Expert Technical Advisory Committee on Antibiotic Resistance (JETACAR), August 2000, p. 1.

6 Professor Chris Baggoley, Chief Medical Officer, Department of Health and Ageing, *Committee Hansard*, 7 March 2013, p. 54.

7 Department of Health and Ageing and portfolio bodies joint submission, *Submission 32, Attachment 1*, The Commonwealth Government Response to the Report of the Joint Expert Technical Advisory Committee on Antibiotic Resistance (JETACAR), August 2000, p. 1.

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scientific and policy advice on AMR issues and worked closely with the CIJIG to develop and implement the national AMR management program. EAGAR also provided advice to the regulatory bodies, Australian Pesticides and Veterinary Medicines Authority (APVMA) and the TGA. EAGAR reported through the implementation group to ministers and the NHMRC.<sup>8</sup> EAGAR was disbanded in 2007.

2.10 The Commonwealth Interdepartmental JETACAR Implementation Group (CIJIG) was established in November 2000 to facilitate the planning, development, coordination and implementation of the antimicrobial risk management program as proposed by JETACAR. The CIJIG was also to incorporate advice from EAGAR. The CIJIG was jointly chaired by the Department of Health and Ageing (DoHA) and Department of Agriculture, Fisheries and Forestry (DAFF). In 2003, the CIJIG progress report provided information on actions taken in response to the JETACAR recommendations.<sup>9</sup> The CIJIG was disbanded in 2004.

2.11 The following table provides a summary of the significant elements relevant to AMR issues following the Government response to JETACAR to 2013:

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8 Department of Agriculture, Fisheries and Forestry, *Submission 12*, p. 10.

9 Department of Health and Ageing and portfolio bodies joint submission, *Submission 32, Attachment 2, CIJIG, Progress Report*.

**Table 2.1: Summary of significant elements relevant to addressing AMR**

<b>Date</b>	<b>Significant element</b>	<b>Role/Outputs/Comments</b>
2000 – 2002	Australian Health Ministers' Conference – JETACAR Taskforce	<ul style="list-style-type: none"> <li>oversaw activities arising from the JETACAR report</li> <li>provided conduit for human health related issues to Health Ministers</li> </ul>
2000 – 2004	CIJIG (Commonwealth Interdepartmental JETACAR Implementation Group)	<ul style="list-style-type: none"> <li>responsible for promoting implementation of JETACAR recommendations</li> <li>reported through the Australian Health Ministers' Conference JETACAR Taskforce</li> </ul>
Apr 2001	Australian Infection Control Association – National Surveillance of Healthcare Associated Infection in Australia	<ul style="list-style-type: none"> <li>report developed in response to JETACAR</li> <li>study of surveillance activities, policies and programs across Australia</li> </ul>
May 2001	National Summit on Antibiotic Resistance	<ul style="list-style-type: none"> <li>involved participants from human health, food and primary industries</li> <li>proposed priorities for national action</li> </ul>
2001	National consultation on antibiotic resistance surveillance	<ul style="list-style-type: none"> <li>part of the post-JETACAR Report consultation</li> <li>workshops and focus groups involved all states and territories seeking input to a antibiotic resistance surveillance plan</li> </ul>
2003	Strategy for Antimicrobial Resistance Surveillance in Australia	<ul style="list-style-type: none"> <li>published in Communicable Diseases Intelligence journal</li> <li>proposed a comprehensive strategy to address JETACAR recommendations relating to surveillance</li> </ul>
2001 – 2007	EAGAR (Expert Advisory Group on Antimicrobial Resistance)	<ul style="list-style-type: none"> <li>role of expert advisory group under the oversight of the NHMRC</li> <li>produced outlines of a comprehensive set of projects to address JETACAR recommendations</li> </ul>
Aug 2006	EAGAR Comprehensive Integrated Surveillance Program to Improve Australia's Response to Antimicrobial Resistance	<ul style="list-style-type: none"> <li>contained the outlines for nine projects that would address surveillance of antimicrobial resistance and antibiotic use</li> </ul>
2010 – 2012	NHMRC AMRAC (Anti Microbial Resistance Advisory Committee)	<ul style="list-style-type: none"> <li>established by NHMRC in 2010</li> <li>AMRAC's term expired on 30 June 2012</li> </ul>
Feb 2011	Antimicrobial Resistance Summit – A call to urgent action	<ul style="list-style-type: none"> <li>jointly convened by the ASID and the ASA</li> <li>a proposed plan of action was published in the Australian Medical Association journal</li> </ul>
2012 – ongoing	AMRSC (Antimicrobial Resistance Standing Committee)	<ul style="list-style-type: none"> <li>established in the review of committee structures under the COAG Standing Council on Health</li> </ul>

Source: Department of Health and Ageing and portfolio bodies joint submission, Submission 32, Attachment 3.

2.12 AMRSC was established in mid 2012 to advise the Australian Health Protection Principal Committee (AHPPC) on matters relating to AMR; provide expert advice and assistance on issues relating to AMR; and recommend national priorities relating to AMR for action. AMRSC has both government members (including DoHA, DAFF and APVMA) and non-government members (including the ASA and NPS MedicineWise). AMRSC is to develop a national strategy to minimise AMR.<sup>10</sup> A study, *The Surveillance and Reporting of Antimicrobial Resistance and Antibiotic Usage in Australia: A National Study*, was commissioned to provide an evidence base for AMRSC's work plan.<sup>11</sup> AMRSC was funded through the Australian Commission on Safety and Quality in Health Care (ACSQHC) until 30 June 2013.

2.13 In addition, in February 2013, DoHA and DAFF agreed to establish strengthened governance arrangements for the oversight and coordination of Australia's efforts to prevent and contain AMR. The Australian Antimicrobial Resistance Prevention and Containment Steering Group (AMRPC Steering Group) will consist of the Secretaries of each department, as well as the Commonwealth Chief Medical Officer and the Commonwealth Chief Veterinary Officer. It will provide governance to oversee the development and implementation of a coherent national framework for current and future work related to AMR.<sup>12</sup>

### **Implementation of JETACAR recommendations**

2.14 DoHA noted that AMR is an important global public health priority and argued that significant progress had been made in responding to the challenge of AMR since the JETACAR recommendations were made. Professor Chris Baggoley, Chief Medical Officer, DoHA, stated that AMR continued to be a priority of the department and its portfolio agencies.<sup>13</sup> Professor Baggoley added:

Certainly it is fair to say that not all recommendations have been enacted. But it is important to understand also that the government in its response to JETACAR accepted unequivocally nine, I think, of the 22 recommendations, and for the remainder it either reserved or did not express an opinion on one, and offered qualifying words for the others, either agreeing with the intent, the concept, the principles, the development, or 'agreed but'.<sup>14</sup>

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10 Department of Health and Ageing and portfolio bodies joint submission, *Submission 32*, pp 21–23.

11 Senate Community Affairs Legislation Committee, Supplementary Estimates 2012–13, *Answer to question on notice No. E12-218*, Department of Health and Ageing.

12 Department of Health and Ageing and portfolio bodies joint submission, *Submission 32*, p. 1; AMRPC Steering Committee, Terms of Reference, tabled by the Department of Health and Ageing at hearing 7 March 2013.

13 Professor Chris Baggoley, Chief Medical Officer, Department of Health and Ageing, *Committee Hansard*, 7 March 2013, p. 49.

14 Professor Chris Baggoley, Chief Medical Officer, Department of Health and Ageing, *Committee Hansard*, 7 March 2013, p. 54.

2.15 In addition, DoHA noted that 'in some instances priorities for action may no longer directly align with the JETACAR recommendations'.<sup>15</sup>

2.16 DAFF also argued that substantial progress had been made in implementing the JETACAR recommendations:

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 (AMR) resistance issues and influencing research and development organisations to have a focus on AMR reducing activities.<sup>16</sup>

2.17 DAFF noted 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.<sup>17</sup>

2.18 Submitters agreed that some progress has been made in implementing a range of JETACAR recommendations. Goat Veterinary Consultancies, for example, stated that the 'Australian Government response to the JETACAR review was very thorough and many actions were promised. Most, but not all, have been completed in the intervening years'.<sup>18</sup> The ASA provided details of the initiatives undertaken through the CIJIG and EAGAR including the review of all antimicrobials in the human, veterinary and agricultural sectors by the National Drugs and Poisons Scheduling Committee. As a result, all but one class of antimicrobials remained or were converted to prescription only by medical practitioner or veterinarian.<sup>19</sup>

2.19 The ASID also noted that the ACSQHC was addressing improvements to infection control programs and that they are now mandated in all healthcare facilities through accreditation standards. State-based healthcare associated infection surveillance programs have also been developed across the country and are collecting a substantial volume of data. ASCQHC has also funded the National Hand Hygiene Initiative for healthcare facilities and infection control indicators are published on the MyHospitals website. ASID went on to comment that:

Similarly, the ACQSHC has adopted antibiotic stewardship as a major part of their hospital infection program and the presence of an effective stewardship program is now a mandatory part of achieving satisfactory

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15 Department of Health and Ageing and portfolio bodies joint submission, *Submission 32*, p. 2.

16 Department of Agriculture, Fisheries and Forestry, *Submission 12*, p. 2.

17 Department of Agriculture, Fisheries and Forestry, *Submission 12*, p. 2.

18 Goat Veterinary Consultancies, *Submission 33*, pp 1–2.

19 Australian Society for Antimicrobials, *Submission 5*, p. 3.

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accreditation. The efficacy of this initiative in reducing antimicrobial usage and consequently resistance is as yet unknown.<sup>20</sup>

2.20 Evidence was also provided that, following JETACAR, there was improved engagement across relevant groups and experts, such as the medical and animal agricultural communities, through bodies such as EAGAR. Professor Rood, Past President, Australian Society for Microbiology, commented that EAGAR was a very representative body.<sup>21</sup> The Cattle Council of Australia and Sheepmeat Council of Australia also noted improved collaboration:

The result of improved understanding of antibiotics resistance issues, behaviours and communication since the JETACAR report have led to the medical and animal agriculture communities having a better understanding of each other's position and a respect not previously experienced. A recent 'debate' in the Medical Journal of Australia, presented a 'yes' and 'no' case for the significance of use of antibiotics in animal agriculture to resistance in human infections. The two positions, one written by a human infectious diseases expert and the other written by a veterinary pharmacologist, when directed to the effectiveness of control exerted in Australian agriculture, were not far apart.<sup>22</sup>

### ***Concerns about the implementation of JETACAR***

2.21 While some significant outcomes were achieved following the JETACAR report, submitters and witnesses also pointed to considerable flaws in the implementation of the recommendations. In particular, it was argued that key recommendations have not been actioned. Professor Peter Collignon, infectious disease physician and a member of JETACAR, stated that while there had been many very good recommendations 'a lot of them have been done only partially or not at all'.<sup>23</sup> As a consequence, Professor Collignon commented that 'what we have now more than 10 years later is much better data showing how this problem is getting worse'.<sup>24</sup>

2.22 Professor Cooper stated that he was of the view that 'it is clear that most of the recommendations have been minimally implemented or been given voluntary status'.<sup>25</sup> The ASA provided the committee with a list of recommendations which it considered had been only partially addressed or not at all. These included:

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- 20 Australasian Society for Infectious Diseases, *Submission 18*, p. 3; see also Australian Society for Antimicrobials, *Submission 5*, p. 3.
  - 21 Professor Julian Rood, Past President, Australian Society for Microbiology, *Committee Hansard*, 7 March 2013, p. 46.
  - 22 Cattle Council of Australia and Sheepmeat Council of Australia, *Submission 16*, p. 4.
  - 23 Professor Peter Collignon, *Committee Hansard*, 7 March 2013, pp 31–32; see also The Royal Australian College of Physicians, *submission 37*, p. 2; Consumers Health Forum of Australia, *Submission 10*, p. 1.
  - 24 Professor Peter Collignon, *Submission 34*, p. 3.
  - 25 Professor Matthew Cooper, *Committee Hansard*, 7 March 2013, p. 27.

- an initiative to have formal resistance risk assessment as part of the registration of new antimicrobials and extension of their indication, similar to the process introduced by the APVMA, was commenced by the Therapeutic Goods Administration, but never completed;
- a review of streptogramin (virginiamycin) use in the food animal sector was completed and recommendations were made for restricted use. The proposals were then the subject of appeal by the sponsor. The Administrative Appeals Tribunal heard the appeal, and set aside the decision. The agent remains on the market under its pre-JETACAR license;
- attempts were made to harmonise veterinary prescribing legislation across states by the Primary Industries Standing Committee, but met with only partial success. The recommendation to make it an offence to prescribe and/or use a veterinary chemical product contrary to a label constraint was not implemented;
- the proposal for comprehensive antimicrobial resistance and usage surveillance across all sectors was developed by EAGAR but this was never released;
- there was no implementation of coordinated policies to minimise the use of antibiotics in humans and animals, and no licensing and monitoring process for antimicrobial importers;
- the requirement for the TGA to provide resistance rate data in the human product label was not followed up, largely due to the lack of comprehensive national resistance surveillance; and
- an attempt to establish a targeted antimicrobial resistance management research agenda by the NHMRC was unsuccessful.<sup>26</sup>

### *Reasons for the failure to implement the JETACAR recommendations*

2.23 The committee considered whether the lack of progress could be a result of the JETACAR recommendations being flawed or no longer relevant. However, this appears not to be the case with many witnesses and submitters noting the continuing relevance of the JETACAR recommendations.<sup>27</sup> For example, Professor Grayson submitted that:

The report was a national and international milestone in terms of its vision. ...Unfortunately barely any of the 22 JETACAR recommendations have been implemented during the past 13 years, yet they remain just as relevant to finding a solution in 2013 as they were in 1999.<sup>28</sup>

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26 Australian Society for Antimicrobials, *Submission 5*, pp 3–4.

27 Professor Peter Collignon, *Submission 34*, p. 3; Ms Kerrie Tucker, Research Fellow, The Australia Institute, *Committee Hansard*, 7 March 2013, p. 3.

28 Professor M Lindsay Grayson, *Submission 19*, pp 1–2.

2.24 Professor Grayson went on to state that, in fact, the report was 'too far ahead of its time and as a consequence it did not result in policy change:

The JETACAR report was too far ahead of its time. It really did not resonate with people. It had a lot of foresight in identifying what was going to become a problem, but it did not translate into genuine awareness in the community and among policy makers as to the fact that an ounce of prevention was worth a lot of cure. I think that underappreciation was one thing.<sup>29</sup>

2.25 The ASA stated that JETACAR was a 'blueprint for tackling antibiotic resistance which is still relevant and even more cogent today'. The ASA noted that its recommendations were in line with those of the World Health Organisation and programs of other developed countries in Europe and North America.<sup>30</sup> Indeed, the committee was informed that Canada was initially inspired by the JETACAR report to conduct its own review. The NSW Government Department of Primary Industries stated that, as a result, Canada now has a well-integrated system, that includes quality surveillance:

A comparison of implementation of JETACAR with the equivalent program in Canada is worth noting. The Canadian Integrated Program for Antimicrobial Resistance Surveillance (CIPARS) evolved from a review by the Canadian Government similar in nature to JETACAR. The Canadian review was in fact subsequent to and inspired by JETACAR. In contrast to the JETACAR implementation, the Canadian response was well funded, well resourced, and well managed by an identifiable team of professionals having a strong overarching (truly integrated) understanding of antimicrobial resistance and antimicrobial use in animals, food and man. As a result, the Canadians have produced good quality surveillance that has provided critically important intelligence used to improve both human and animal health.<sup>31</sup>

#### Lack of a coordinated response

2.26 Witnesses were critical of the lack of commitment to AMR issues by governments.<sup>32</sup> Professor Grayson stated:

The reality is that both state and federal governments of all persuasions have not taken the issues of emerging resistance seriously enough or have not understood the fact that it really is here, it is present and it is happening now.<sup>33</sup>

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29 Professor M Lindsay Grayson, *Committee Hansard*, 7 March 2013, p. 12.

30 Australian Society for Antimicrobials, *Submission 5*, p. 3.

31 Department of Primary Industries (NSW), *Submission 28*, p. 2.

32 Friends of the Earth Australia, *Submission 3*, p. 16; see also Professor M Lindsay Grayson, *Submission 19*, p. 4; Ms Kerrie Tucker, Research Fellow, The Australia Institute, *Committee Hansard*, 7 March 2013, pp 1, 4.

33 Professor M Lindsay Grayson, *Committee Hansard*, 7 March 2013, p. 8.

2.27 Submitters noted that JETACAR concluded that coordination across government, human medicine, veterinary medicine and the animal food production sectors was required to address AMR and made recommendations accordingly. The JETACAR report also encouraged the appropriate resourcing of the actions to implement the recommendations.<sup>34</sup>

2.28 In its response, the Government supported the general concepts and intent of recommendations relating to coordination and resourcing while taking a slightly different path to implementation. The Government created EAGAR with a balance of expertise reflecting human and veterinary usage of antibiotics.<sup>35</sup> The CIJIG was also created. However, as noted above, the CIJIG was disbanded in 2004 and EAGAR was disbanded in 2007. Other bodies created included the Expert Panel on Health Advice under the NHMRC. This operated from 2008 to mid 2009.<sup>36</sup> In 2010, the NHMRC established the Anti Microbial Resistance Advisory Committee (AMRAC) to provide advice to the Chief Executive Officer of NHMRC on issues relating to antimicrobial resistance. AMRAC's term expired on 30 June 2012.<sup>37</sup>

2.29 Evidence provided to the committee suggests that initially there was a coordinated response to the JETACAR recommendations. The Australia Institute noted that, following JETACAR, the EAGAR and CIJIG had been established. However, both those bodies were disbanded by 2007 and submitters argued that, as a result, no coordinated approach existed to address AMR.<sup>38</sup>

2.30 Professor Cooper also commented on the fragmented approach to the implementation of the JETACAR recommendations and stated 'unfortunately responsibilities for prioritisation and implementation of the 22 JETACAR recommendations concerned dozens of departments and governmental agencies. This meant that no one agency, or minister was responsible or accountable.'<sup>39</sup>

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34 See Recommendations 21 and 22. Joint Expert Advisory Committee on Antibiotic Resistance, *The use of antibiotics in food-producing animals: antibiotics-resistant bacteria in animals and humans*, 1999, pp xxxiii–xxxv.

35 The terms of reference required EAGAR to provide expert advice to Commonwealth, state and territory governments on a range of matters including measures to reduce the risks of antibiotic resistance, surveillance of AMR, monitoring of antibiotic use and education strategies. EAGAR provided advice to regulatory bodies, AVPMA and TGA, on matters relating to AMR when requested. EAGAR was to be provided with an operating budget for three years by the Government and secretariat support by the Office of the National Health and Medical Research Council (NHMRC).

36 Department of Health and Ageing and portfolio bodies joint submission, *Submission 32*, pp 20–21 and *Attachment 3*.

37 Department of Health and Ageing and portfolio bodies joint submission, *Submission 32*, p. 21.

38 Ms Kerrie Tucker, Research Fellow, The Australia Institute, *Committee Hansard*, 7 March 2013, pp 1, 4.

39 Professor Matthew Cooper, *Submission 23*, p. 1.

2.31 Specifically in relation to EAGAR, Professor Rood, Australian Society for Microbiology, noted that as EAGAR had been established under the NHMRC, its focus shifted over time:

...where it went wrong...is where EAGAR was located within the NHMRC. It was a problem. Gradually, as EAGAR developed its brief it became more regulatory in nature and more risk assessment-type in nature. I will stand corrected on this by others who are more knowledgeable than me: I think that probably did not sit well within the framework of the National Health and Medical Research Council at the time. There was a lack of will—I am not sure where that good will came from—to really push this to the next level. That is the point where I think it fell over.<sup>40</sup>

2.32 A more critical view of the lack of implementation of a coordinated approach was provided by Professor Mary Barton. Professor Barton stated that DoHA was 'totally unresponsive and disinterested for all the time EAGAR was active'. In relation to CIJIG, Professor Barton commented that it 'rarely met and did nothing' and concluded that 'any actions arising from JETACAR were carried largely by EAGAR with cooperation from APVMA, the then [National Drugs and Poisons Schedule Committee] and TGA'.<sup>41</sup>

2.33 In response to the lack of coordination in addressing AMR, other organisations have sought tackle AMR issues. For example, the ASA and ASID convened the Antimicrobial Resistance Summit in February 2011. The aim of the Summit was to update the work generated in the first JETACAR report, and with discussion and consensus, to help determine future strategies for control. The ASA commented that the meeting was organised as a result of concern that 'the important recommendations of JETACAR had failed to be implemented and by the recognition of increasing antimicrobial use and spread of antimicrobial resistance worldwide and in Australia, affecting the medical, veterinary and agricultural sectors'. In addition, it was recognised that 'unlike other countries, Australia had no overall coordinated approach to this major problem, and that the response to this threat was disparate, under resourced and therefore likely to be ineffective'.<sup>42</sup>

2.34 The Summit made recommendations in five main areas including surveillance, education and stewardship. The Summit concluded that:

The threat to multiresistant bacteria is a critical public health issue that requires a coordinated, multifaceted response.<sup>43</sup>

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40 Professor Julian Rood, Past President, Australian Society for Microbiology, *Committee Hansard*, 7 March 2013, p. 46.

41 Professor Mary Barton, *Submission 7*, p. 6.

42 Australasian Society for Infectious Diseases, *Submission 18*, p. 2.

43 Gottlieb, T and Nimmo GR, 'Antibiotic resistance is an emerging threat to public health: an urgent call to action at the Antimicrobial Resistance Summit 2011', *MJA*, Vol 194, No. 6, 21 March 2011, p. 283.

2.35 The Australia Institute also commented that Australia performed poorly in relation to the factors identified by the WHO as contributing to AMR. The factors include:

...inadequate national commitment to a comprehensive and coordinated response; ill-defined accountability and insufficient engagement of communities; weak or absent surveillance and monitoring systems; potentially inappropriate and irrational use of medicines, including in animal husbandry; a need for improvement in infection prevention and control practices, as well as insufficient research and development on new products.<sup>44</sup>

#### *National management body*

2.36 The Summit proposed the establishment of national AMR management body comprising a wide range of stakeholders. The role of the body would include implementing a comprehensive approach to monitoring, research and upgrading of the current regulatory system applying to antibiotics.<sup>45</sup>

2.37 The PHAA argued that an Australian Centre for Disease Control should be established along similar lines to the Canadian centre, suggesting that it:

- be adequately resourced to examine and define the underlying epidemiology of antibiotic resistant organisms
- be adequately resourced to examine and define best-practice control and prevention interventions in hospitals and other healthcare settings and the community.<sup>46</sup>

2.38 The ASA favoured a body similar to the Swedish Strategic Programme against Antibiotic Resistance (STRAMA). This body advises the Swedish Institute for Infectious Diseases Control in:

- matters regarding antibiotic use and containment of antibiotic resistance; and
- facilitating an interdisciplinary and locally approved working model, ensuring involvement by concerned authorities, counties, municipalities and non-profit organizations.

2.39 The ASA concluded that 'any such authority should extend beyond an advisory role to governments, and instead would formally co-ordinate and fund the multiple strategies required to control antibiotic resistance in both the health and non-human sectors and help develop public policy and enable information sharing'.<sup>47</sup>

2.40 A key aspect of any national system would be to ensure that it is implemented through a whole of government response with the states and territories, because of the shared responsibilities for health. Professor Grayson commented that the national

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44 The Australia Institute, *Submission 13, Attachment 1*, p. 3.

45 Australian Society for Antimicrobials, *Submission 5*, p. 11.

46 Public Health Association of Australia, *Submission 14*, p. 5.

47 Australian Society for Antimicrobials, *Submission 5*, p. 11.

system for hand hygiene that had been rolled out through the ACSQHC may be a good example to follow. Professor Grayson noted that there is now 'a greater sense of collaboration between the jurisdictions and federal bodies'.<sup>48</sup>

#### *Response to concerns*

2.41 DoHA provided additional information on the disbanding of EAGAR and CIJIG and recent initiatives in providing a more coordinated approach to addressing AMR in Australia.

2.42 DoHA indicated that EAGAR and CIJIG had been wound up 'as they had essentially done their job and as a result of other emerging health protection priorities'. The work of the original committees was not handed on and DoHA stated that it had been able to use ongoing expert committees such as the Communicable Disease Network Australia and the Public Health Laboratory Network for advice on AMR related matters when required.<sup>49</sup>

2.43 In relation to animal health, AVPMA considers AMR when evaluating applications for the registration of new antibiotics and major extensions of use for existing antibiotics. APVMA also collects voluntarily supplied information from registrants on the quantity of veterinary antimicrobial products sold in Australia.<sup>50</sup>

2.44 Two bodies have recently been established: the AMRSC in April 2012; and, AMRPC Steering Group in February 2013 (see paragraphs 2.12 –2.13 above). DAFF stated that 'while this group is still in the early stages of its work, its formation is viewed as a key initiative in the Australian context'.<sup>51</sup> In relation to the Steering Group, Professor Baggoley commented:

This initiative will allow us to connect all the dots from a national policy perspective and address the full spectrum of AMR issues that impact on human and animal health and agriculture.<sup>52</sup>

2.45 The Royal Australasian College of Physicians and the ASA supported the establishment of AMRSC.<sup>53</sup> The ASA stated that it 'finally provides a great opportunity to bring together the many segments of this mosaic and to co-ordinate a plan for action and a co-ordinated national response' to AMR.<sup>54</sup> The ASA concluded:

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48 Professor M Lindsay Grayson, *Committee Hansard*, 7 March 2013, p. 12.

49 Senate Community Affairs Legislation Committee, Budget Estimates 2012–13, *Answer to question on notice No. E12-277, Department of Health and Ageing*.

50 Senate Community Affairs Legislation Committee, Budget Estimates 2012–13, *Answer to question on notice No. E12-277, Department of Health and Ageing*.

51 Department of Agriculture, Fisheries and Forestry, *Submission 12*, p. 2.

52 Professor Chris Baggoley, Chief Medical Officer, Department of Health and Ageing, *Committee Hansard*, 7 March 2012, p. 50.

53 Royal Australasian College of Physicians, *Submission 37*, p. 1.

54 Australian Society for Antimicrobials, *Submission 5*, p. 2.

The establishment of the AMRSC must provide the impetus and guidance for a co-ordinated approach to address antimicrobial resistance in humans and animals. The establishment of the AMRSC is an early, but very positive step. We need it to continue to fulfil its promise by being provided with sufficient ongoing funding and authority.<sup>55</sup>

2.46 ASID commented that the establishment of AMRSC has begun to address AMR. However, a substantial increase in resources is urgently required to coordinate and implement the coordinated approach envisaged by the Antimicrobial Resistance Summit.<sup>56</sup>

2.47 Professor Grayson commented that the Steering Group is 'an incredibly welcome development'. However, he went on to comment that in the past, similar committees have been formed but no real action has been undertaken and that we need to be sure that they are there to make sure things get done, not to just talk about doing them.<sup>57</sup>

## Conclusions

2.48 The evidence provided to the committee points to continued growth in the prevalence of AMR in human medicine. Of deep concern are the trends in the growth of resistant infections in not only hospital settings, but also in the community. There is also ample evidence that multiresistance is emerging as a significant problem and that resistance is now been found to 'last-line' antibiotics. The Australian community could face the prospect of returning to a pre-antibiotic era where minor, common infections lead to significant adverse health outcomes. In addition, governments face increased healthcare costs with patients needing longer hospitalisation and more expensive medications and hospitals needing to implement more expensive patient management programs and infection control programs.

2.49 The committee considers that the recommendations put forward by JETACAR remain highly relevant. Although there have been some important changes and additions to the AMR landscape since JETACAR, in many cases these changes only increase the importance and urgency of the pursuing the core themes of the JETACAR recommendations.

2.50 Unfortunately, it appears that the preventative measures recommended by JETACAR were not sufficiently implemented. The committee notes the comments made by Professor Grayson in this regard:

I think a number of things have changed since the JETACAR report. In many ways the cat is now out of the bag. The JETACAR report was excellent and, as I have put in my submission, was really a milestone, but

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55 Australian Society for Antimicrobials, *Submission 5*, p. 10.

56 Australasian Society for Infectious Diseases, *Submission 18*, p. 5.

57 Professor M Lindsay Grayson, *Committee Hansard*, 7 March 2013, p. 12.

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many of the things that it was predicting were going to happen in terms of emergence of resistance are now happening.<sup>58</sup>

2.51 The evidence received during the inquiry pointed to a promising initial response to the recommendations, in particular the establishment of the JETACAR-related bodies EAGER and CIJIG. However, both these bodies had been disbanded by 2007 with the result that the JETACAR recommendations were only implemented in part. The committee notes DoHA's comments that these bodies had 'essentially done their job'. However, the committee is not convinced that this is a sufficient explanation. The committee addresses specific issues in implementing the JETACAR recommendations in the following chapters.

2.52 The committee acknowledges that AMR matters, following the disbanding of the JETACAR related bodies, continued to be addressed by DoHA with advice from bodies such as Communicable Disease Network Australia and the Public Health Laboratory Network and that APVMA continued its work in relation to animal health. However, given that AMR was recognised by the WHO as a significant health issue in the late 1990s as well as the far-sighted and ground breaking work of JETACAR, the committee considers that the apparent lack of commitment to a response to AMR in Australia to date is of significant concern.

2.53 The committee acknowledges the establishment of the AMRSC in mid 2012 and the AMRPC Steering Group in February 2013. It was explained to the committee that AMRSC 'provides the science and the clinical expertise understanding policy and governance, and the [Steering Group] really looks to policy and governance understanding science and clinical'.<sup>59</sup>

2.54 First, in relation to AMRSC, its purpose is to develop a national strategy to minimise AMR. The national strategy is to encompass most of the matters identified in evidence to the committee as being critically important for a comprehensive and coordinated response to AMR. However, the committee notes that the AMRSC's work focusses on human health and does not encompass animal health. The reporting pathway for AMRSC is essentially health focussed, that is it will report to the AHPPC which is a committee of the Health Ministers Advisory Council. The Advisory Council reports to the Council of Australian Governments (COAG) Standing Council on Health. From the evidence received, it is clear that addressing only part of antibiotic use is not a sufficiently comprehensive approach to AMR prevention and containment.

2.55 Initially, funding for AMRSC was provided until 30 June 2013. DoHA has indicated AMRSC will continue its role including providing advice to AHPPC and advice to the Steering Group to inform the development of the national AMR strategy.

2.56 In relation to the AMRPC Steering Group, the committee notes that its role is to oversee the development and implementation of a coherent national framework for

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58 Professor M Lindsay Grayson, *Committee Hansard*, 7 March 2013, p. 8.

59 Professor Chris Baggoley, Chief Medical Officer, Department of Health and Ageing, *Committee Hansard*, 7 March 2013, p. 56.

current and future work related to AMR. The terms of reference are extensive and wide ranging. The membership consists of the secretaries of DoHA and DAFF and the Chief Medical Officer and the Chief Veterinary Officer, thus bring together human and animal health. It is to meet at least four times per year.

2.57 The Budget 2013–14 Portfolio Budget Statement for the Department of Health and Ageing states that:

The Australian Government will develop a *National Antimicrobial Resistance (AMR) Prevention and Containment Strategy* for Australia, to provide national and international leadership on this significant global health priority. The Strategy will also coordinate Australia's efforts across human and animal health to reduce, monitor and respond to AMR. The Government will expand surveillance of AMR and antibiotic usage; implement infection prevention and control activities to reduce the spread of infection in general and of resistant infections in particular; and implement antimicrobial stewardship programs to provide a systematic approach to optimising the use of antibiotics in primary health care, residential aged care facilities and hospitals.<sup>60</sup>

2.58 The Steering Group will oversee the development of the National Antimicrobial Resistance Prevention and Containment Strategy. The committee welcomes the focus being given to the development of a Strategy, but is concerned that there appears to be no publicly available information on the time table for finalisation of the Strategy.

2.59 The committee believes that the risk is not simply ongoing increases in AMR. Rather, it is that the focus of establishing an AMR strategy will be diverted through yet another set of committees. The evidence provided by DoHA on 27 significant elements relevant to addressing antimicrobial resistance issues between 1998 and 2013 is a case in point.<sup>61</sup> The committee notes that the list of significant elements, only contained tasks, roles and outputs and lacked information on outcomes and evaluation of the almost 15 years of actions. In particular, the committee notes that in 2003 the *Strategy for Antimicrobial Resistance Surveillance in Australia* was developed by EAGAR but it appears that it has not been fully implemented.

2.60 The committee considers that an urgent, comprehensive and robust national strategy that is specifically focused on timelines and outcomes, is needed to address AMR. The committee therefore believes that an independent, national body should be established to deliver the national AMR resistance strategy. Such a body should seek to draw and coordinate officials and experts from State and Commonwealth Governments. In this way human, animal and animal-derived AMR issues can be addressed in a consistent manner and programs effectively coordinated and delivered. Such a body should have the authority and capacity to collect and analyse data on

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60 Department of Health and Ageing, *Portfolio Budget Statement, Agency Resources and Planned Performance 2013–14*, p. 23.

61 Department of Health and Ageing and portfolio bodies joint submission, *Submission 32, Attachment 3*.

AMR and be suitably resourced. In addition, an independent body with clear accountability and reporting requirements will encourage a continued focus on tackling AMR issues.

### **Recommendation 1**

**2.61 The committee recommends that the Commonwealth establish an independent body or national centre, to develop a strategy, report publicly on resistance data and measures taken to combat antimicrobial resistance and to manage the response to antimicrobial resistance in Australia.**

### **Recommendation 2**

**2.62 The committee recommends that the independent body be resourced to implement a rigorous monitoring and reporting regime of antibiotic use in humans and animals and of multiple drug resistant infections in humans and animals.**

