

# Editorial

## Containing antibiotic resistance:

### Australia's contribution to the global strategy

Antibiotics are undoubtedly one of the great legacies of the last 70 years of medical research. The effectiveness of many life-saving antibiotics is, however, being undermined by the emergence of antibiotic resistance, and concern over this has translated into action by Governments in many countries. In 1986 Sweden banned the use of growth promotants in animals, and in 1995 and 1996 Denmark and Germany respectively banned the use of the growth promoter avoparcin. World-wide debate has continued. Two major World Health Organization (WHO) meetings (in Berlin in 1997 and Geneva in 1998) made recommendations on the use of antibiotics in food-producing animals. In 1998 the UK House of Lords and House of Commons both released reports addressing antibiotic resistance issues, and in June 2000 the UK released its antimicrobial strategy.<sup>1</sup> The UK Health Minister has also just announced compulsory surveillance of hospital-acquired infections that pose a serious threat to the health of patients (eg methicillin-resistant *Staphylococcus aureus*); the system is expected to be in place by April 2001.<sup>2</sup> In the recently published *Overcoming Antibiotic Resistance*, the WHO calls for a global strategy to contain resistance and to build alliances involving all health care providers.<sup>3</sup> Comments on a draft WHO Global Strategy for Containment of Antimicrobial Resistance are also being sought by November 2000.<sup>4</sup> There has also been activity in

the US; calls for comments on the Centers for Disease Control (CDC) and Prevention's *Draft Public Health Action Plan* closed in August of this year.<sup>5</sup>

In keeping with the global trends, Australia's Commonwealth Government has also taken action to address the growing problem of antibiotic resistance. In December 1997 the Minister for Health and Family Services and the Minister for Primary Industries and Energy established the Joint Expert Technical Advisory Committee on Antibiotic Resistance (JETACAR) to examine antibiotic resistance issues. The JETACAR report<sup>6</sup> was released in October 1999. It contained 22 recommendations for a resistance management program involving, within both animal and human arenas, five key elements: regulatory controls, monitoring and surveillance, infection prevention and hygiene measures, education, and research. On 12 October 2000 the Commonwealth Government released its response to the JETACAR report.<sup>7</sup>

Generally, the Government Response supports the antibiotic resistance management program proposed by the JETACAR and suggests mechanisms by which to refine, further develop or implement the recommendations in consultation with key stakeholders. The Government proposes the establishment, under the auspices of the National Health

ISSN 0725-3141  
Volume 24  
Number 10  
October 2000

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and Medical Research Council (NHMRC), of an Expert Advisory Group on Antibiotics (EAGA) to provide continuing advice on antibiotic resistance and related matters. It also proposes an interdepartmental implementation group to oversee and coordinate the continuing Government response to the JETACAR, respond to the policy advice received from the EAGA and to seek funding for implementation purposes. Establishment of these two groups is under way. Other progress includes the commencement of the review of virginiamycin use by the National Registration Authority (NRA) and the issue of the redrafted Special Data Requirements for submissions to the Working Party on Antibiotics (Part 10) by the NRA.<sup>8</sup> A scoping study has also been started by the National Centre for Disease Control to examine existing surveillance of nosocomial infections (hospital-acquired infections, or HAIs) in Australia.

The antibiotic resistance management program proposed by JETACAR has many of the components contained in the WHO strategy. The focus on reducing human consumption of antibiotics in developed countries, improving prescriber education and consumer information, reducing use of in-feed antibiotics for food-producing animals and reducing the incidence of antibiotic resistant HAIs (and HAIs generally) are all consistent with the WHO Action Plan.

The world market for antibiotics in 1997 was US\$17bn.<sup>9</sup> Each year Australia imports about 700 tonnes of antibiotics; one third of this is destined for human use and the remaining two thirds for use in animals.<sup>1</sup> Australia is one of the world's highest users per head of population of oral antibiotics. Strategies to encourage prescribers of antibiotics to reduce antibiotic use have been initiated in Australia in the past. However, the issue of over prescribing and inappropriate use is still generating considerable concern in relation to both human and animal consumption of antibiotics. The use of antibiotics in animals for growth promotion or prophylactic use has been a topic of considerable debate in Australia over recent years, as it has globally. The JETACAR concluded that there was evidence for resistant strains of animal bacteria to cause human disease.<sup>6</sup> This could have important implications for Australia's position in world trade, particularly our clean and green image as a food producer. Should primary producers continue to use in-feed antibiotics to keep animal bacterial loads low and/or to prevent outbreaks of disease? Or can improved animal husbandry methods and better infection control replace these practices?

The Government response to JETACAR has tried to approach this problem in a balanced way, recognising that

caution and careful consideration of the time frames for implementing change are crucial to our economy as well as to our human health system. Further concerns stem from the knowledge that research on, and development of, new antimicrobials is expensive and can take up to 20 years. As there are no novel antibiotics due for release in the near future, it is vital to implement strategies now to conserve the integrity of those already available. The active development of new vaccines, the continuing implementation of hazard control programs and more significant infection control in the health care setting, together with targeted education, must all play a part in reducing our dependence on antibiotics.

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