

The Senate Standing Committee on Finance and Public Administration
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Joint Expert Technical Advisory Committee on Antibiotic Resistance (JETACAR) report submission.

Submission

The terms of reference of the Senate Inquiry are documented as:

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.

My comments are below under the terms of reference as above.

a) The steps taken to progress the JETACAR review recommendations such as:

- The Australian government response to the JETACAR review was very thorough and many actions were promised. See

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

Most, but not all, have been completed in the intervening years.

- The risk based approach to veterinary medicine & agricultural chemicals registration by the APVMA is supported.
- The Australian Veterinary Association (AVA) policies on continuing professional education including antibiotic use in animals e.g. <http://www.ava.com.au/policy/24-responsible-use-veterinary-medicines-farms> is also supported. While not all veterinarians are members of the AVA, Veterinary Surgeons Boards now require continuing professional development (CPD) recording via the collection of CPD points.

b) Areas where improvements are needed are:

- Harmonisation of control of use has not quite yet been achieved e.g. the definition of food animal and inclusion of fish as a food species. The harmonization between states is reasonably good for veterinary medicines, but much less so for agricultural chemicals. These differences can also affect the confidence in the whole agvet chemical regulatory system.
- The communication campaign needs to be expanded to include plant industries and also fermenting manufacturing. The ethanol production industries (and other fermentation industries) have been known to use antibiotics. Plant industries also use antibiotics - see this USA white paper http://www.animalagriculture.org/Solutions/Symposia/2012_antibiotics/Antimicrobial Use Resistance White Paper final.pdf
" Antimicrobial use is not limited to animal agriculture and human medicine. Antimicrobials are also used in plant agriculture. Streptomycin has been utilized in plant disease management since the early 1950s. Other antibiotics used in plant agriculture include oxytetracycline and kasugamycin. While estimates from a U.S. Geological Survey and from the National Agricultural Statistics Service show that plant use of antibiotics is less than 0.5 percent of 22.6 million kilograms of annual U.S. production of antibiotics, antibiotic use in plant agriculture contributes to the antimicrobial resistance equation. "
- Due to the global movement of people as well as agricultural and animal products, Australia's actions to reduce antimicrobial resistance cannot occur in isolation. Australia needs to help developing countries with high use levels of antibiotics for livestock to improve their systems. This needs to be combined with increased testing levels for antibiotic residues in produce from countries considered high risk. AQIS does undertake a risk based testing approach. However, in the 29 page "Tests to be applied to risk category foods "
(<http://www.daff.gov.au/aqis/import/food/notices/2009/2012/ifn-0912>) the vast majority of tests were bacterial with some for BSE, aflatoxins, HCN and some trace minerals. None are for antibiotics residues.

The tests results are published every 6 months (see <http://www.daff.gov.au/aqis/import/food/inspection-data>) but antibiotics are combined with chemicals and only a handful are tested for, with the vast majority of chemical tests being for pesticides. An example from the most recent report, is from China (which had the most tests done) but as Table 12 shows only 8 were for nitrofurans and no tests were done for most common antibiotics.

Table 12: Summary of compliance for chemical testing: China

Chemicals	No. of tests applied	No. of compliant / non-compliant results	Compliance rate (%)
Pesticides	360	354 / 6	98.3
Nitrofurans	8	8 / 0	100
Ethylene Chlorohydrin	42	42 / 0	100
Malachite Green	2	2 / 0	100
Fluoroquinolones	10	10 / 0	100
Chloramphenicol	0	0 / 0	N/A
Streptomycin	0	0 / 0	N/A
Sulphonamides	0	0 / 0	N/A
Tetracycline	0	0 / 0	N/A
Total	422	416 / 6	98.6

c) **Implications of antimicrobial resistance on public health and the environment**

No comment

d) **Implications for ensuring transparency, accountability and effectiveness in future management of antimicrobial resistance;**

Currently there are grey areas where accountability is uncertain and these are:

- Bee antibiotic use and honey residues are areas which are grey and not transparent. Plant Health Australia is responsible for bee health policy due to the importance of bees to plant fertilisation, but the APVMA have bees using veterinary medicines.
- In the USA white paper mentioned above, it was mentioned that plant health uses 5% of antibiotics, but there is uncertainty about if antibiotics for plant use is a veterinary medicine or an agricultural chemical.
- Ethanol production industry overseas (and possible other fermentation industries) also use antibiotics and such use is not regulated either by APVMA as they do not register antibiotics used in manufacturing. In Australia, the responsibility for regulating the use of antibiotics in fermentation is uncertain as is the presence of antibiotic residue in fermentation by-products that are used for livestock feed. Currently

there are no national standards for livestock feeds, although they have been in committee for a couple of years.

- Without this national stockfeed standard being finalized, there can be importations of livestock feeds that contain antibiotic residues and AQIS cannot take any action to keep these stock-feeds out, unless there is also some plant or animal disease risk material.

e) **any other related matter.**

- I support a central register of work on antimicrobial resistance across human and animal species. This also supports the “One Health” approach to animal and human health, which is a growing global trend and a logical development. This register would allow significant gaps to be identified and could enhance opportunities for collaboration. Due to the very serious nature of global antibiotic resistance, every effort should be made to also educate the third world in appropriate antibiotic resistance prevention.

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