

Letters

ANTIMICROBIALS

Use of antibiotics in animals and people

WHAT a depressing editorial from J. W. Scannell and A. Bruce (*VR*, August 15, 2015, pp 168-170), in which they forecast the scenario the profession may face with regard to antibiotic use in the future, following the establishment of the O'Neill Review (Review on Antimicrobial Resistance 2015) and the various overlapping policy initiatives from around the world, including the veterinary medicines and medicated feed legislation,

which is currently being developed in Europe. Is this really what the political and medical establishment will expect from us? I agree that the uncertainty will limit new antimicrobial development for veterinary use, but do we deserve further restrictions?

Fig 2 in their editorial demonstrates that the UK was one of the lower users of antibiotics in livestock (51 mg/population correction unit [PCU]/year) in 2011, in relation to the quantity of meat produced, just above Denmark (43 mg/PCU/year), which was one of the countries used as an example in the article. The new guidelines in the Netherlands were also highlighted, which have resulted in a drop in antimicrobial consumption by 50 per

cent. The main reason for the dramatic fall was due to the Dutch banning in-feed medication. Even so, the graph shows that Dutch consumption of antimicrobials in 2011 was twice as high (114 mg/PCU/year) as in the UK, in relation to meat production. The Dutch guidelines reflect much of the good work and guidelines that have been published and proposed by the Responsible Use of Medicines in Agriculture Alliance and the BVA over the years, which possibly have stood us in good stead and encouraged the veterinary profession to use antibiotics more carefully and responsibly. Countries with much higher consumption in the EU, like Italy (370 mg/PCU/year), where vets do not

dispense but prescribe, should possibly reassess and reduce their antimicrobial use.

In a debate at the BVA Congress in 2014, Sally Davies, the UK Chief Medical Officer, acknowledged that the biggest driver of resistance in people was the use of antimicrobials in human medicine (VR, November 29, 2014, pp 522-523). With an estimated 590 tonnes of antimicrobials being administered directly to patients in public and private medicine (HM Government 2015), this may be considered an understatement. Dame Sally argued that the current lack of evidence for any major contribution by use in animals to human resistance should not be used to say that it was not a problem: 'Lack of evidence doesn't mean it doesn't happen, it just means that no one has invested in looking before.'

However, more information is emerging that the contribution to human resistance from animal resistance by the indirect contamination of food is surprisingly small. Wu and others (2013) compared animal, food and human isolates of *Escherichia coli*, mainly from urinary tract infections, carrying extended-spectrum β lactamase (ESBL) genes from the UK, the Netherlands and Germany and showed by genetic means (multilocus sequence typing [MLST]) that they were not the same (0/127 human ESBLs). In Sweden (SVARM 2015), ESBLs from food and animals were compared with human isolates of *E. coli* carrying ESBLs in clinical blood infections, also by MLST. In a larger sample, only 1/379 ESBLs in human blood infections was identical to an ESBL found in food/animals. This suggests that only 0.26 per cent of clinical cases can be potentially attributed to food or animals so presumably 99.74 per cent are due to human use of antibiotics.

Before we make sweeping changes to the legislation under what might be called the 'perception principle', wouldn't it be advisable to invest in and establish the facts on a scientific/technical basis, so that future controls, restrictions and legislation are made on a sensible basis and not on who can be made to jump through the highest hoop? It might also be a good idea for the legislators to go for a veto or opt-out clause of any further EU legislation if the conditions are unreasonable or potentially harmful to our meat-producing industries.

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References

HM GOVERNMENT (2015) UK One Health Report – Joint report on human and animal antibiotic use, sales and resistance, 2013. www.gov.uk/government/uploads/system/uploads/attachment_data/file/447319/One_Health_Report_July2015.pdf. Accessed September 15, 2015

REVIEW ON ANTIMICROBIAL RESISTANCE

(2015) Review on antimicrobial resistance. <http://amr-review.org>. Accessed September 15, 2015

SVARM 2014 (2015) Consumption of antibiotics and occurrence of antibiotic resistance in Sweden, p 48. www.folkhalsomyndigheten.se/pagefiles/20281/Swedres-Svarm-2014-14027.pdf. Accessed September 15, 2015

WU, G-H., DAY, M. J., MAFURA, M. T., NUNEZ-GARCIA, J., FENNER, J. E., SHARMA, M. & OTHERS (2013) Comparative analysis of ESBL-positive *Escherichia coli* isolates from the UK, the Netherlands and Germany. *PLoS ONE* 8, e75392

doi: **10.1136/vr.h4955**

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Veterinary Record 2015 177: 292-293
doi: 10.1136/vr.h4955

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