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MEDIA RELEASE

REDUCED ANTIBIOTICS USE IN ANIMALS MAY PROTECT HUMANS

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REDUCING the large volume of antibiotics used in food-producing animals is of critical importance to addressing antibiotic resistance in humans in Australia, according to the authors of a Perspective published today in the *Medical Journal of Australia*.

Professor Allen Cheng, Professor of Infectious Diseases Epidemiology at Monash University and Director of the Infection Prevention and Healthcare Epidemiology Unit at Alfred Health, and Dr Freya Langham from Alfred Health, found that a “large volume of antibiotics is used in food-producing animals in Australia”.

Using data from the Australian Pesticides and Veterinary Medicines Authority, Pharmaceutical Benefits Scheme, and the National Antimicrobial Utilisation Surveillance Program, Cheng and Langham found that across all antimicrobials of importance to human health, “an average of 182 tonnes were sold for use each year in animals between 2005 and 2010, and 121 tonnes per year were used in humans”.

“In humans (both in community and hospital settings), penicillins made up the majority of antibiotic use, representing 52.9% of all use,” they wrote. “Macrolides and tetracyclines were used in much greater volumes in animals compared with humans.

“This use is predominantly in food animals for therapeutic purposes (88.2% of mean animal macrolide use); however, during this period, macrolides were the only antibiotic class used in food animals for growth promotion purposes, accounting for 11.5% of mean animal macrolide use.”

Cheng and Langham wrote that antimicrobial use in animals was most important for bacteria associated with food, particularly *Salmonella* and *Campylobacter* and, to a lesser degree, other enteric bacteria such as *Escherichia coli*.

“In contrast, resistance in bacteria that are restricted to humans, such as *Streptococcus pneumoniae* and *Neisseria gonorrhoea*, is likely to relate only to human antibiotic use.”

Cheng and Langham suggested that the large volume of antibiotics used in food-producing animals could be reduced by reducing the use of antibiotics for purposes other than infections, and developing preventive strategies such as vaccination and improved design of production facilities.

“There is a need to have systems that monitor the amount of antibiotics that are used in animals, and to what degree this is appropriate,” they concluded.

“Moreover, the available evidence suggests that a significant proportion of antibiotic use in humans is inappropriate, and this needs to be addressed in both hospital and community settings.” Hospital surveys cited by the authors estimated that “38% of patients are receiving at least one antimicrobial at any single point in time, and 23% of these antibiotics were inappropriate”.

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