

Antibiotic resistance gene transmitted between pets at a UK animal hospital

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A gene that enables bacteria to be highly resistant to linezolid, an antibiotic that is used as a last resort for treating infections in humans, has been found in bacterial samples from cats and a dog at a small-animal hospital in the UK for the first time. The new research is being presented at this year's European Congress of Clinical Microbiology & Infectious Diseases (ECCMID) in Amsterdam, Netherlands (13-16 April).

Linezolid is licensed for the treatment of certain bacterial infections in humans including streptococci and methicillin-resistant staphylococci (MRSA), but it is not used in [animals](#) in the UK. However, samples from [companion animals](#) in a small-animal hospital in the UK indicated that pets could carry bacteria which are resistant to linezolid.

The new research suggests that there is potential for the gene (optrA) that plays a key role in [bacterial resistance](#) to linezolid to spread between different bacterial populations in animals and humans.

"We believe this is the first report of optrA-positive enterococci isolated from companion animals in the UK", says Dr. Katie Hopkins from Public Health England who led the research. "This is concerning as transmission of this organism to owners carries the potential for spread to other bacteria, including *Staphylococcus aureus*. This may lead to difficult-to-treat infections. In order to minimise transmission of resistant bacteria between companion animals and people veterinary surgeries need to ensure adequate cleaning takes place and pet owners

should wash their hands after handling pets."

"Whilst linezolid is not licensed for veterinary use in the UK, *optrA* also is involved in resistance to florfenicol, which is used in animals.

However, standard protocols for the management of colonised or infected animals should prevent transmission to veterinary staff, and therapeutic options (eg, ampicillin or glycopeptides) are available should an infection occur."

Linezolid resistance is still rare in enterococci (

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