

“...quinupristin–dalfopristin, [is] our last line of defence if *Staphylococcus aureus* or *Enterococcus* infections develop resistance to vancomycin.”¹ I note that vancomycin-resistant *Enterococcus* has been recognized for over 2 decades;² strains of *S. aureus* with intermediate-level resistance to vancomycin were described in 1997, and high-level vancomycin resistant *S. aureus* was described (outside the laboratory) in 2002.³ The role that agricultural use of avoparcin played in the genesis of vancomycin-resistant *Enterococcus* in humans is controversial, but recognition of the potential links between avoparcin and vancomycin-resistant *Enterococcus* likely contributed to European decisions to remove this antibiotic from feeds, as mentioned in the article.⁴ Fortunately, however, quinupristin–dalfopristin is not the only agent with activity against multiresistant gram positive microbes. Daptomycin and linezolid are available in Canada, and other agents, such as ceftaroline, have been approved in the United States and await approval in Canada.

The editorial did not mention multi-drug resistant gram negative pathogens, including *Acinetobacter* species, *Pseudomonas aeruginosa*, and the Enterobacteraceae, including recently described strains with a novel plasmid-borne carbapenemase, some of which have actually reached a point of being effectively pan resistant to available

antimicrobials.⁵ Such microbes are environmentally abundant in agricultural runoff, surface waters and sewage. Particularly given the tendency of resistance determinants to cluster at the microbial level, the environmental contamination associated with agricultural antibiotic use provides a source of selective pressure that gives a competitive advantage to resistant microbes.

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I have just read the *CMAJ* editorial by Barbara Sibbald in which she concludes that the agricultural industry is

primarily responsible for the superbug phenomenon.¹ Not being an expert on this issue, I will avoid generalizations on responsibility; however, I encourage *CMAJ* readers to look up reviews on the subject as well as presentations given at a 2011 forum on this issue.²

I would like to correct Sibbald's statement that only the province of Quebec has taken a legal stand on antimicrobial use in the agricultural industry. In Newfoundland and Labrador, selling directly to a consumer an antibiotic for animal use that is for injection or for oral, intramammary or intrauterine administration is illegal without a prescription from a veterinarian. The sole exemption is if the antibiotic is used in conformity with the federal Feeds Act.³

I presume that the intent of the editorial was to generate debate; I'm sure it will.

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