

Antibiotic stewardship and pharma's social conscience

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In January 2016, 85 pharmaceutical, diagnostics and biotechnology companies signed the “Declaration by the Pharmaceutical, Biotechnology and Diagnostics Industries on Combating Antimicrobial Resistance” at the World Economic Forum.¹ Academia and global institutions have long recognized antimicrobial resistance as a serious threat to global public health. Indeed, the threat has never been more serious, with identification last year, from pigs in China, of *Escherichia coli* with transferable plasmid-mediated resistance to colistin.²

The declaration's signatories have committed to furthering action on drug resistance in three broad areas, aligning with strategic objectives of the World Health Organization's 2015 action plan to tackle antimicrobial resistance.³ They have promised to encourage better and more appropriate use of new and existing antibiotics, including promoting judicious use of antibiotics in livestock; committed to extending collaborative efforts to research new antibiotics, diagnostics and vaccines; and said they will help to ensure affordable global access to new antibiotics. Pharma's embracing of social responsibility is nice, but there is a hint at industry “self-regulation,” a rather dubious enterprise. Is pharma a reliable co-steward of antimicrobials?

CMAJ highlighted the problem created by poor regulation of antimicrobial use in agriculture in North America in 2012. We called on Canada to move toward banning off-label antimicrobial use in livestock farming.⁴ Progress has been painfully slow. Data on antimicrobial use in Canada and on patterns of resistance to available drugs have been patchy and inadequate for years, something the Canadian Antimicrobial Resistance Surveillance System (CARSS) aims to correct. Their inaugural report, issued in March 2015, collated drug resistance and usage information from across Canada.⁵

The CARRS report compared Canadian data with those from a pan-European report. Canada's rate of outpatient antimicrobial use in humans in 2013 was lower than that in 18 of 28 European countries. However, our performance when comparing veterinary data from 2012 disappoints: we ranked worse than 21 of 27 European countries on antimicrobial sales for use in animals — 42 times worse than Norway (Europe's best performer). The report estimated that use in animals could be even higher owing to Canadian law allowing for easy — and unrecorded — importation of antibiotics by farmers, usually for use as growth promoters in feed. The federal government has repeatedly — and as recently as last year — been called upon to close this loophole, but definitive action has not yet been taken.⁶

The use of antimicrobials for growth promotion in animals has been illegal in the European Union since 2006, where antimicrobials used in the veterinary sector must be prescribed and feed testing helps to enforce clear limits for residues of veterinary medicines in ordinary feed. Our lack of a similar policy for the same period would seem to explain why Canada lags.

South of us, the US Food and Drug Administration (FDA) has chosen a collaborative approach, seeking the voluntary cooperation of pharmaceutical sponsors of animal antimicrobials to revise the approved conditions for use of their medically important antimicrobial products, remove production use claims from labels and bring the remaining therapeutic uses under veterinary oversight.⁷ In August 2015, the FDA reported that all of the affected drug sponsors have committed in writing to making the changes, hopefully to be in place by the end of 2016.

The recent public support of antibiotic stewardship by pharmaceutical companies, and their written commitments to the FDA, which, if honoured, may influence use of antimicrobials in livestock farming in Canada, is encouraging. But multinational companies adhere to the laws of business, which generally prioritize the maximization of profits for shareholders over upholding the public good. And given that selling antibiotics does not tend to generate profits unless they are used in huge quantity and continuously — one of the reasons that no new class of antibiotic has been developed in the last 25 years and new funding models for research and development are being explored through collaborations — we would be naïve to rely solely on industry self-regulation to fix the agriculture problem. Antibiotics are growth-promoters; they can increase production and boost farmers' profits. Demand will remain. The costs of antimicrobial resistance, however, are borne by the entire global community. It is past time for Canada to step in decisively to close that gaping legal loophole.

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