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IN PROGRESS

How has the prescription-only regulation affected antibiotic use and resistance Canada's cow-calf herds?

Project Title:		Project Code:	ANH.10.19
Antimicrobial use and resistance in cow-calf herds: Will anything change after the switch to prescription only sales of medically important antimicrobials?		Completed:	*In Progress. Results expected in August 2023.*

Researchers:

Cheryl Waldner, Western College of Veterinary Medicine
Sheryl Gow, Nathan Erickson, John Campbell (Western College of Veterinary Medicine)

Background:

Since December 2018, Canada's cattle producers have required a valid veterinary-client-patient relationship and a veterinary prescription before they can obtain antibiotics for their cattle. Since then, many veterinarians have encountered cattle producers who previously purchased their over-the-counter antibiotics from farm supply stores. The ensuing conversations may have resulted in changes to which antibiotics are being purchased and used in cow-calf operations.

Objectives:

To describe

a) Antibiotic use and reasons for use in Canadian cow-calf herds to monitor impacts of the 2018 changes in regulations,

b) changes in access to and cost of antibiotics for treating sick animals and producer awareness of antibiotic stewardship and the importance of antibiotic resistance,

c) frequency of antibiotic use within cow-calf herds and examine factors associated with variation in frequency among and within herds using individual animal treatment records,

d) antibiotic resistance in fecal indicator organisms from cows and calves from spring and fall for comparison to national antibiotic resistance surveillance data collected at feedlots, packing plants, retail locations and in other livestock commodities, and

e) cow-calf veterinarians' prescribing practices, experiences and information needs following the December 2018 changes in prescribing regulations.

What they will do:

They will survey veterinarians participating in the Canadian Cow-Calf Surveillance Network about changes in veterinary prescribing practices, veterinary and producer attitudes and information needs, on-farm herd- and animal-level antibiotic use practices, and antibiotic resistance in cows and calves in spring and fall.

Antibiotic use data will be collected from 100 producers, and fecal samples for antibiotic resistance will be collected from 10 cows and 10 calves from 20 herds. Samples will be stored at -80 for future genomic testing.

Implications:

Individual animal antibiotic use and resistance hasn't been studied in Canada since 2002. Given increased regulatory, consumer and foodservice interest in antibiotic use practices, this research also presents an opportunity to determine identify how to best communicate best practices regarding antibiotic use and general animal health and production practices to minimize the risk of antibiotic resistance.

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