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Canadian Integrated Program for Antimicrobial Resistance Surveillance
Programme intégré Canadien de surveillance de la résistance aux antimicrobiens

Canadian Integrated Program for Antimicrobial Resistance Surveillance (CIPARS)

FARM-SWINE PROGRAM

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Data Collection & Analysis

- Sentinel herds (n=100) in the five major pork producing provinces
- Allocation of herds per province was proportional to the number of Grower/Finisher Units in each province. Provincial funding provided 10 additional herds in Alberta and Saskatchewan (Fig. 1)
- Purposively selected swine veterinarians enrolled client producers using specific inclusion / exclusion criteria

Sample and Data Collection

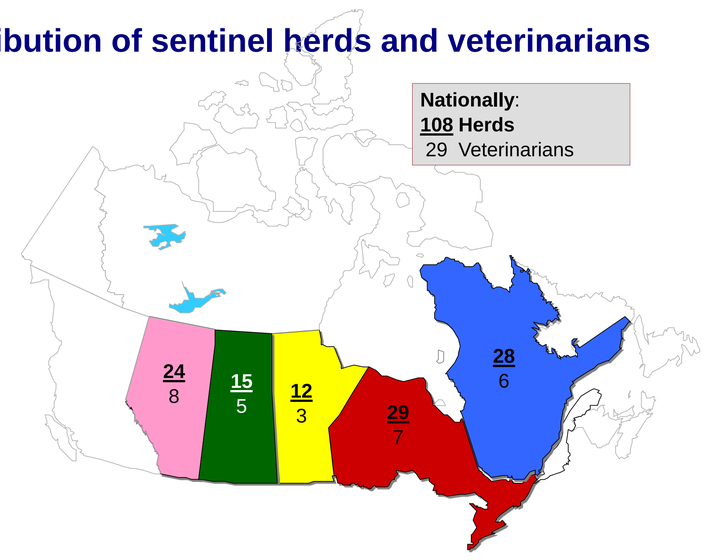
- Data on herd demographics, management and pig health collected by questionnaire annually
- Pig health and antimicrobial use data collected by questionnaire at each close-to-market sampling visit

Data Analysis

- CIPARS reports antimicrobial susceptibility results in accordance with the categorization of importance to human health as determined by the Veterinary Drugs Directorate, Health Canada (VDD): I = Very high importance… IV = Low importance

http://www.hc-sc.gc.ca/dhp-mps/consultation/vet/consultations/amr_ram_hum-med_e.html

FIGURE 1: Distribution of sentinel herds and veterinarians



2007 Antimicrobial Use Results

FIGURE 2: Number of herds reporting use of no antimicrobials, a single antimicrobial class, or multiple antimicrobial classes, by route of administration (n = 100); Farm Surveillance, CIPARS 2007

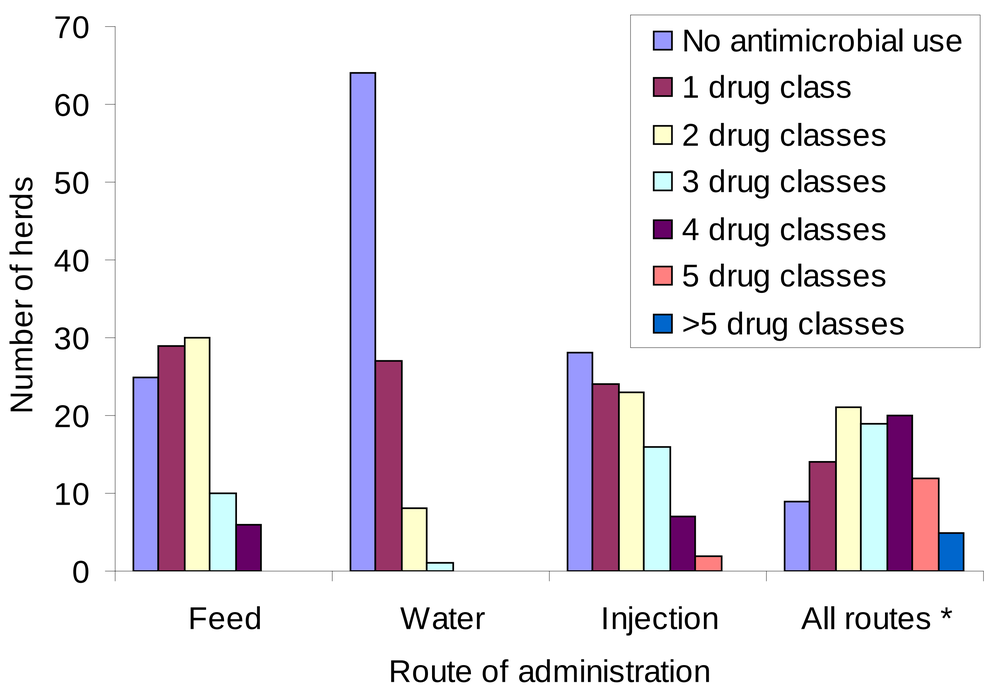


FIGURE 3: Number of herds reporting use of antimicrobials, VDD category of importance to human medicine and by route of administration

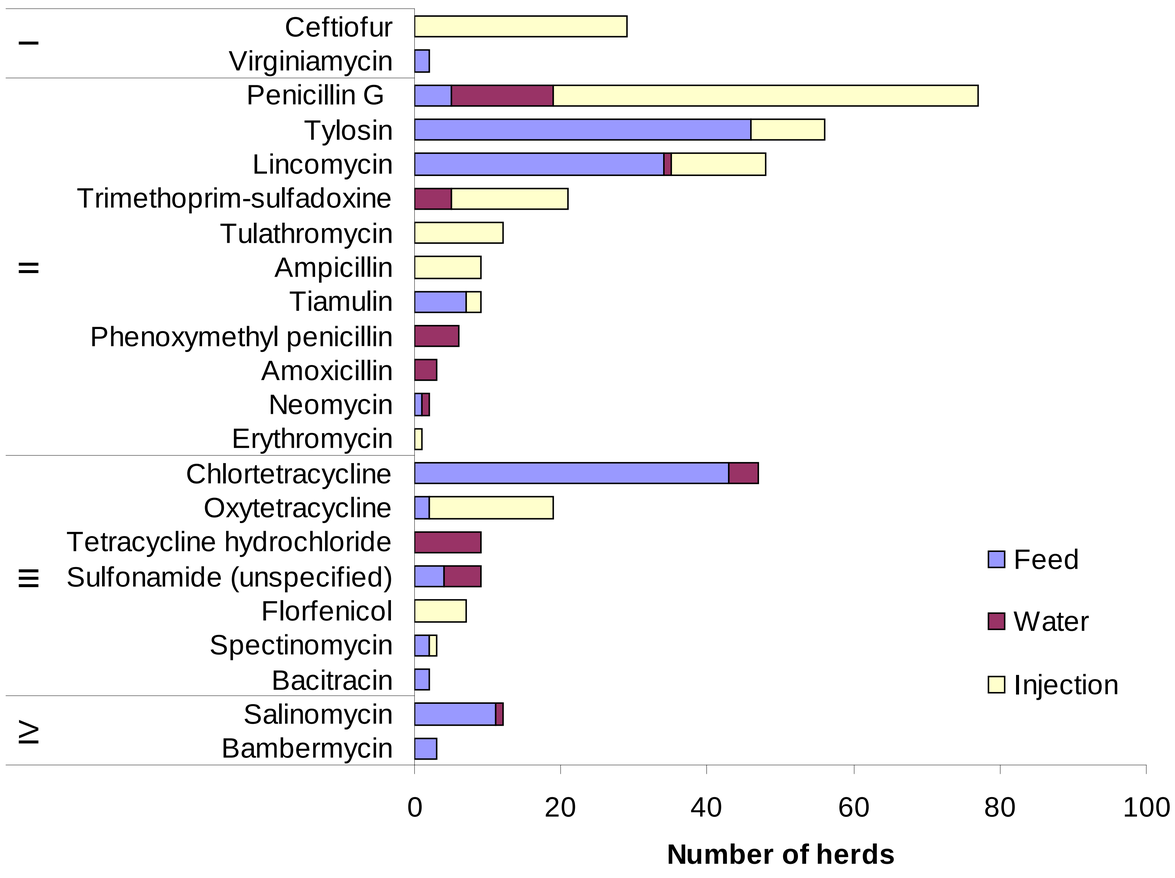


FIGURE 4: Number of herds reporting use of each antimicrobial drug class by weight category of pig exposed (only antimicrobial classes used in 5 or more herds presented).

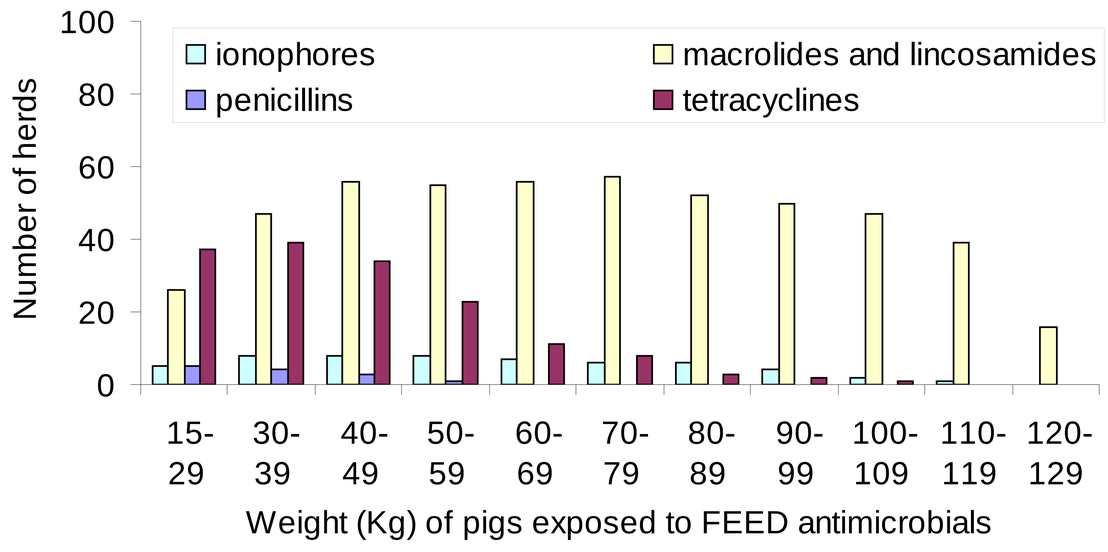
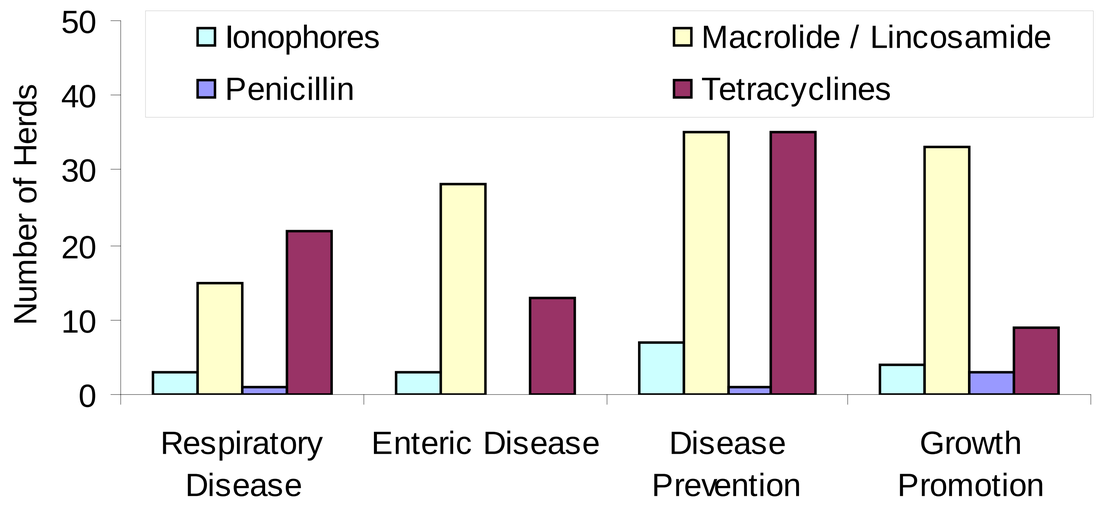


FIGURE 5: Number of herds reporting use of specific antimicrobial classes through feed, by reason for use



Conclusions

- Across all three routes of administration, the majority of herds reported using 2-4 classes of antimicrobial (Figure 2);
- Sentinel herds most commonly reported using antimicrobials in the macrolide and lincosamide class (74% 74/100), followed by the penicillin class (71%, 71/100);
- Antimicrobials in the macrolide class were the most common drugs administered through feed (Figure 3);
- Antimicrobials in the penicillin class were the most common drugs administered through injection, followed by an extended-spectrum cephalosporin. With the exception of injectable ceftiofur use (31%, 29/94), the use of VDD Category I antimicrobials was uncommon in sentinel herds (Figure 3);
- Exposure to macrolides often persisted until pigs were close-to-market and were most commonly used to prevent disease or promote growth (Figure 4 and 5).

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...pour préserver l'efficacité des antimicrobiens pour l'homme et l'animal

...working towards the preservation of effective antimicrobials in humans and animals