

MIS-PP-12

TITLE

COMPARISON OF PROPOSED NATIONAL DEFINED COURSE DOSES TO PREVIOUSLY ESTABLISHED EUROPEAN COURSE DOSES FOR QUANTIFYING ANTIBIOTIC USE IN PIGS

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CONTENT

BACKGROUND & OBJECTIVES

The European Surveillance of Veterinary Antimicrobial Consumption (ESVAC) project has previously proposed a standardized method for quantifying antibiotic use using defined daily doses (DDDvet) and defined course doses (DCDvet). The aim of this study was to develop national DCD for Sweden (DCDse) and to assess potential effects of the two measures on comparability of antibiotic use between Swedish pig farms.

MATERIAL & METHODS

DCDse were defined for all products containing antibiotics approved for use in pigs in Sweden during 2016 and 2017, including those sold with special license. The highest authorized daily dose and the longest treatment period according to the national Summary of Products Characteristics for each active substance (AS) were used to assign DCDse. DCDse were then compared to DCDvet for each AS and formulation.

RESULTS

Sixty-nine products were included in this study of which 35 were products for parenteral use, 30 for oral use and four for topical use. Differences in dosing between DCDse and DCDvet ranged from -57% (valnemulin for oral use) to +178% (amoxicillin for parenteral use). DCDse for formulations for parenteral use were in general greater than DCDvet. DCDse for substances for oral use varied more, ranging from -57% to +117%.

DISCUSSION & CONCLUSION

The proposed national DCDse for antibiotic products used for pigs in Sweden differed in many instances considerably to the DCDvet established by ESVAC. This was expected, as DCDvet is based on averages, while DCDse was based on maximum doses. Given the wide variation in differences between the measures, antibiotic usage for pigs could be overestimated in herds with certain usage profiles if DCDvet is used for quantification and comparison between herds nationally. We therefore suggest the use of nationally defined units for monitoring antibiotic use at a national level whereas DCDvet should be used for international comparison.