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TITLE

CORRELATION OF NATIONAL AND INTERNATIONAL DEFINED DAILY AND COURSE DOSES FOR ANTIMICROBIAL DRUG USAGE IN PIGS

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CONTENT

Background and Objectives
Defined Daily Doses (DDD) and Defined Course Doses (DCD) have been established in both human and veterinary medicine in order to standardize the measurement of treatments in a population. In 2016 the European Medicines Agency published average defined daily dose (DDDvet) and defined course dose (DCDvet) values for antimicrobial agents used in livestock production. Similarly, national defined doses (DDDch and DCDch) for the pig sector in Switzerland have recently been determined. The aim of this study was to compare the outcome of calculating antimicrobial consumption of Swiss pig farms based on either DDDvet/DCDvet or DDDch/DCDch.

Material & Methods
Data from 227 Swiss pig farms regarding the antimicrobial usage was collected in 2015. The numbers of treatment days and treatments per farm and per animal were calculated by using DDDvet/DCDvet and DDDch/DCDch respectively. Correlations between calculated numbers of DDDvet/DCDvet and DDDch/DCDch on farm level were investigated by a linear regression model. In addition, differences concerning antimicrobial usage were investigated between different production types of a farm (piglet producer, finishing farm or farrow to finishing farm).

Results
Using linear regressions, correlations between calculated treatment days as well as treatments based on either Swiss or European values were observed. The number of treatment days or treatments per farm and per animal was higher for piglet producers and farrow to finishing farms compared to finisher farms regardless of Swiss or European values for DDD or DCD were used for the calculation (each $P<0.00001$).

Discussion & Conclusion
As a consequence of the shown correlation, using either Swiss or European values gives similar results when determining antimicrobial usage on farm level. Both Swiss and European values show comparable results regarding to the antimicrobial usage between different production types.