



ISTITUTO ZOOPROFILATTICO SPERIMENTALE
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Antimicrobial consumption analysis in food-producing animals in the "Vast Area" 3 of the Marche Region: the 2015-2017 trend



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INTRODUCTION

The serious threat of antimicrobial resistance (AMR) requires a "One Health" approach, as indicated in the 2011 EU action plan¹ and subsequent additions in the 2017² one. Antimicrobial use is one of the main causes, which contribute to the increase of AMR. For this reason, among the key objectives of the new action plan, there is a need for an integrated surveillance system to get a complete overview of the epidemiological situation of the AMR in the EU and to better identify improvement actions.



AIM

The aim of this work is to document trends in antimicrobial consumption through drug-epidemiology parameters across all the livestock sectors of the AV3 of the Marche Region from 2015 to 2017. In this way, it was possible to highlight the most concerned production sector and the most used drug classes.

MATERIALS AND METHODS

The veterinary prescriptions provided by the AV3 Veterinarian Services for the three-year period 2015-2017 have been computerized. The antimicrobial usage patterns were derived from the *Defined Daily Doses* model, in accordance with the EMA-ESVAC reporting³. The different antimicrobial consumption data were obtained

starting from the prescribed DDDs, quantified both on the basis of the total number of animals, stratified by animal species (*DDD 1000 animals / day*), and on the number of farms for each productive sector (*DDD 100 farms / day*). The number of days of treatment for each species was also calculated.

The analysis, in addition to the individual classes of drugs, has produced an overview on the total antimicrobials and the critically important antimicrobials (CIAs) consumption.



RESULTS

Over the three years taken into account there has been a decrease in the consumption of CIAs (-28.58%), mainly due to the EMA recommendation⁴ on the use of medicines containing colistin. Because of this provision, there has been an increase in pig sector in the use of pleuromutilins and zinc oxide as substitutes of colistin. Indeed, pleuromutilins represent the third most used drug class, preceded by penicillins and tetracyclines (figure 1), registering the highest consumption increase of +152.22%. Total antibiotic consumption increased by 43.20% (figure 2), mainly attributable to the pig sector, which showed an enhancement of 91.19% of prescribed DDDs and reaching 30 days of treatment per head. All the other farmed species (figure 3), with the exception of the cattle, which registered a slight increase in the consumption of total antibiotics (+2.65%) and CIAs (+7.65%), showed a decrease in overall antimicrobial prescriptions from 2015 to 2017.

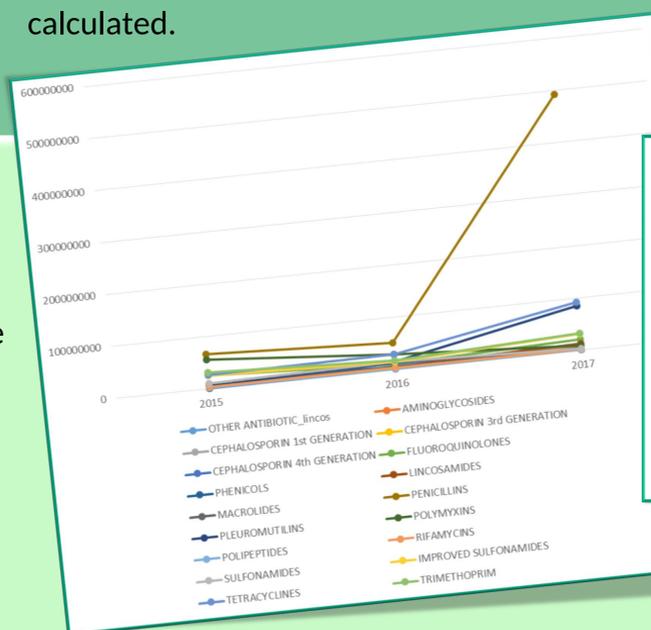


Figure 1. Prescribed DDDs. Antibiotic consumption in the AV3 in 2015-2017

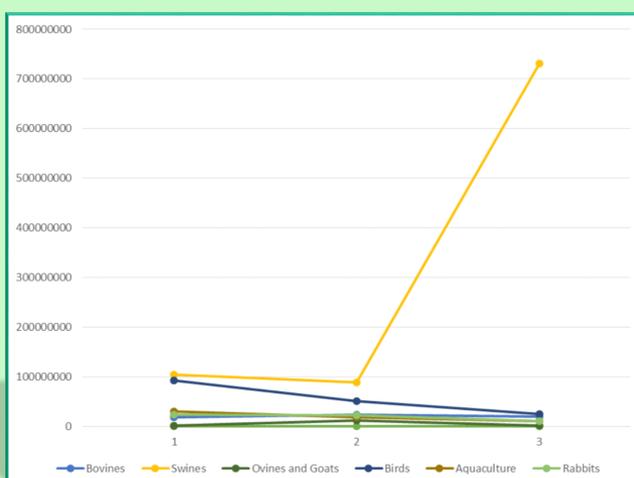


Figure 3. Prescribed DDDs. Antibiotic consumption per animal species in the AV3 in 2015-2017



Figure 2. Prescribed DDDs. Total antibiotic (tot) and CIAs consumption in the AV3 in 2015-2017

WEB REFERENCES

1) Communication from the Commission to the European Parliament and the Council. Action plan against the rising threats from Antimicrobial Resistance, available at:

<https://eurlex.europa.eu/legalcontent/EN/TXT/PDF/?uri=CELEX:52011DC0748&from=EN>

2) Communication from the Commission to the Council and the European Parliament. A European One Health Action Plan against Antimicrobial Resistance (AMR), available at:

<https://eur-ex.europa.eu/legalcontent/EN/TXT/PDF/?uri=CELEX:52017DC0339&from=EN>

3) Defined Daily Doses for Animals (DDVet) and Defined Course Doses for Animals (DCDVet). pdf, available at:

http://www.ema.europa.eu/docs/en_GB/document_library/Other/2016/04/WC500205410

4) Updated advice on the use of colistin products in animals within the European Union: development of resistance and possible impact on human and animal health, available at:

http://www.ema.europa.eu/docs/en_GB/document_library/Scientific_guideline/2016/07/WC500211080.pdf