

# Report on consumption of veterinary antibiotics in Ireland during 2017

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## INTRODUCTION

This report presents the data collected by the Health Products Regulatory Authority (HPRA) during 2017, on the consumption of veterinary antibiotics that are marketed in Ireland. This survey was conducted in conjunction with the European Surveillance of Veterinary Antimicrobial Consumption (ESVAC) project, a European Commission initiative coordinated by the European Medicines Agency (EMA) and with the assistance of the companies involved. The data are based on the voluntary declarations by marketing authorisation holders on the supply of their products.

The consumption data provided in this report should be interpreted with caution; annual consumption figures have been observed to fluctuate and a certain amount of variation is regarded as normal. It should be noted that changes in animal demographics are not taken into account, and that would also influence the uptake of antibiotics in a given year.

The availability of the annual data serves to benchmark progress in the delivery of the National Action Plan on Antimicrobial Resistance 2017-2020<sup>1</sup>.

### 1.1 Methodology

Companies marketing veterinary antibiotics in Ireland were requested to submit annual returns for quantities of individual presentations of product supplied in the State during 2017. The data to be provided were described in a format prescribed by the ESVAC protocol ([www.ema.europa.eu](http://www.ema.europa.eu)). Over 500 veterinary antibiotic medicines are currently authorised in Ireland (including both medicines authorised nationally by the HPRA as well as those authorised centrally by the EU Commission). These cover 50 individual antibiotic substances contained in over 900 product presentations. The data are based on self-declarations by applicant companies and have not been subject to independent verification or audit. It should be noted that certain other veterinary antibiotics (such as those authorised under special licence by the Department of Agriculture, Food and the Marine) and human antibiotics (which might be prescribed or used by veterinary practitioners where there is not a suitable veterinary alternative authorised) were not included in this analysis. However, the contribution from these sources to the overall figure is likely to be very small.

The data were collated by the HPRA and reviewed for discrepancies before being entered into the ESVAC database for validation. The methodology for collection is harmonised in each of the European Member States. The analysis of the data in respect of individual substances of the same antibiotic classes have been grouped together and classified under the appropriate class headings. In this report the headings are as follows: penicillins, amphenicols, tetracyclines,

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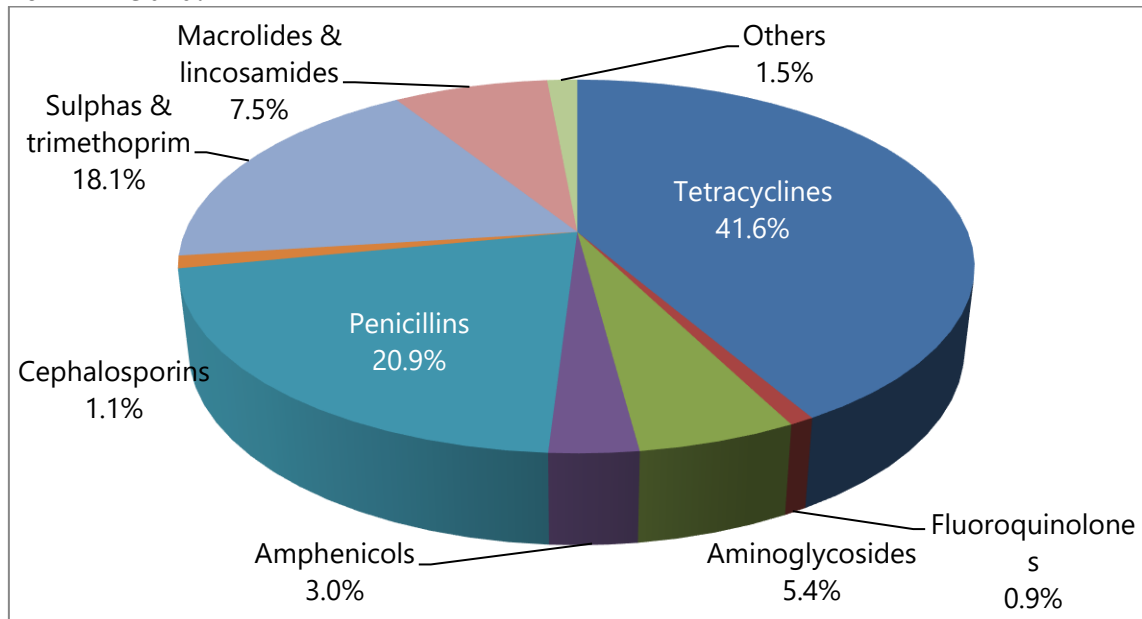
<sup>1</sup> National Action Plan on Antimicrobial Resistance 2017-2020, Available on [https://health.gov.ie/wp-content/uploads/2017/10/iNAP\\_web-1.pdf](https://health.gov.ie/wp-content/uploads/2017/10/iNAP_web-1.pdf)

fluoroquinolones, aminoglycosides, macrolides, lincosamides, sulphonamides & trimethoprim (TMP), cephalosporins and other classes.

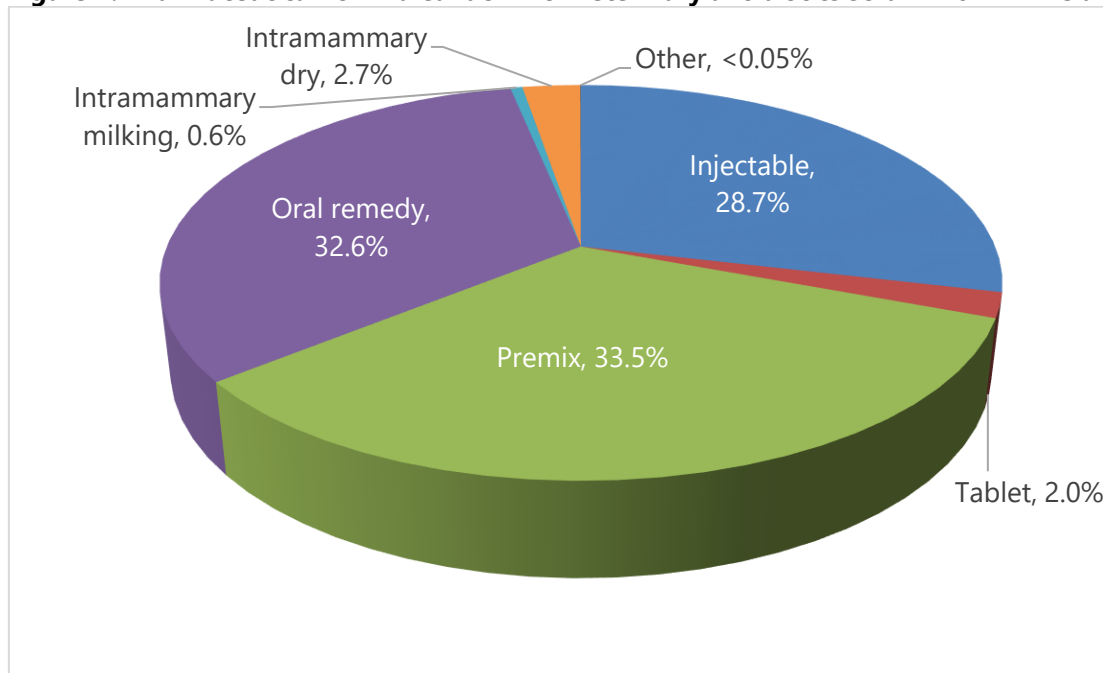
## 1.2 Results

The total tonnage of veterinary antibiotics sold in Ireland in 2017 was 99.7 tonnes. These results are broken down by antibiotic classes supplied into the market in Figure 1 and by pharmaceutical form in Figure 2 below:

**Figure 1. Distribution of sales (based on tonnes sold) of veterinary antibiotics supplied in 2017 in Ireland.**



**Figure 2. Pharmaceutical form breakdown of veterinary antibiotics sold in 2017 in Ireland.**



### 1.3 Discussion

The sales of veterinary antibiotics in 2017 was consistent with previous years (Table 1). Fluctuations in the sales are observed each year and can be due to a number of factors, such as:

- Seasonal disease prevalence;
- The precise timing of end of year transactions for individual antibiotics;
- Quantities of product held in the supply chain (e.g. stored in veterinary practices, at feed mills or on farms);
- Changes in the size of the national herd;
- Export of veterinary medicines for use outside the State; or
- Changes in the class of antibiotic being prescribed. Some [newer] antibiotic classes are more potent [on a unit weight basis] than others and the dosage for these may be much lower than for other [older] antibiotic classes.

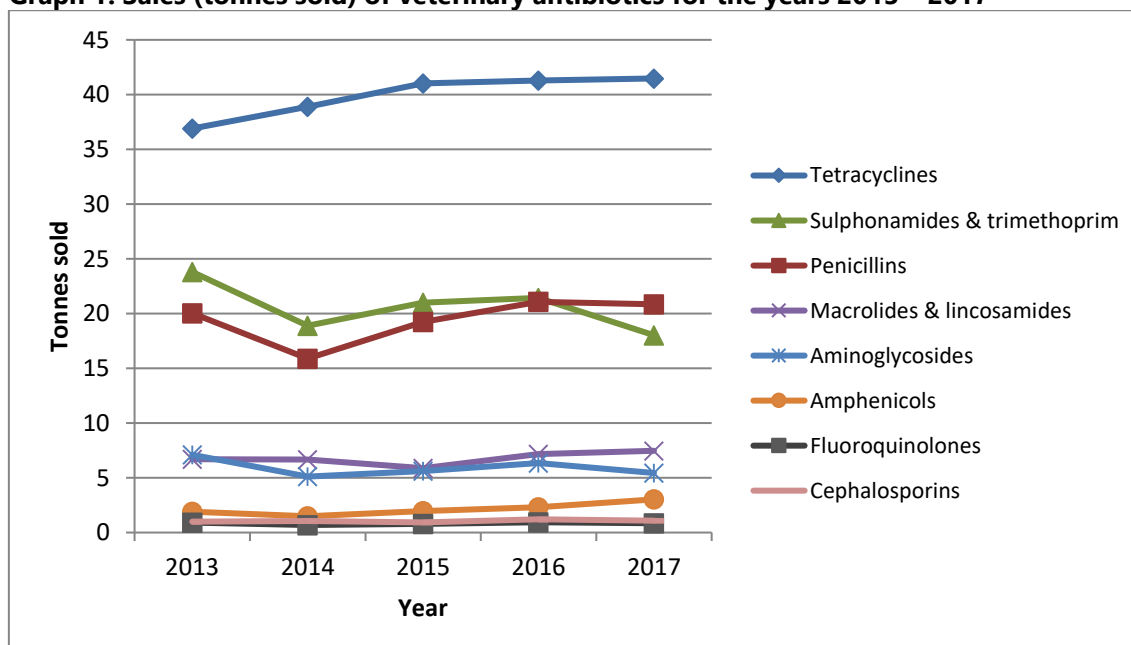
**Table 1. Sales (tonnes sold) of veterinary antibiotics for the years 2013 - 2017**

|             | 2013 | 2014 | 2015 | 2016  | 2017 |
|-------------|------|------|------|-------|------|
| Tonnes sold | 99.1 | 89.4 | 96.9 | 103.4 | 99.7 |

Of the over 500 veterinary antibiotic medicines authorised in Ireland, almost 200 reported no sales for the year 2017. This may be due to individual company marketing plans, logistical reasons or for strategic reasons (such as supporting the marketing authorisation of the products concerned in international markets). The proportion of pharmaceutical forms (i.e. presentations of product) supplied to the market remained consistent with previous years with only minor changes observed (Figure 2).

The overall antibiotic sales for the different classes remains similar to previous years, with a decrease in the sales of sulphonamides and trimethoprim the only noteworthy change (Graph 1). As in previous years, tetracyclines account for the greatest proportion of sales (41.6%), followed by penicillins (20.9%) (Figure 1).

**Graph 1. Sales (tonnes sold) of veterinary antibiotics for the years 2013 – 2017**



Sales of the critically important antibiotics, 3<sup>rd</sup> and 4<sup>th</sup> generation cephalosporins, fluoroquinolones, macrolides and polymixins (colistin) are collected. Due to the low number of products authorised on the market in Ireland, sales of polymixins cannot be separately identified in this report for reasons of commercial confidentiality. For the same reason, sales of macrolides are combined with those of lincosamides in this report. As much smaller quantities of these antibiotics are required to treat animals, they make up a much smaller percentage of the overall tonnage used. While sales of fluoroquinolones have remained relatively unchanged over the years, an increasing trend in the sales of 3<sup>rd</sup> & 4<sup>th</sup> generation cephalosporins and macrolides has been observed (Table 2).

**Table 2. Sales (tonnes sold) of 3<sup>rd</sup> & 4<sup>th</sup> generation cephalosporins, fluoroquinolones and macrolides & lincosamides for the years 2013 - 2017**

|   | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|------|------|------|------|------|
| 3 <sup>rd</sup> & 4 <sup>th</sup> gen. cephalosporins | 0.17 | 0.24 | 0.22 | 0.25 | 0.30 |
| Fluoroquinolones                                      | 0.89 | 0.69 | 0.79 | 0.94 | 0.85 |
| Macrolides & lincosamides                             | 6.7  | 6.7  | 5.9  | 7.2  | 7.5  |

In conjunction with the ESVAC project, the possibility to stratify the sales data of veterinary antibiotics by animal species in the future is being investigated. This is made more complex by the fact that many products are indicated for use in two or more species, rather than in a single species. In the absence of prescription data, the allocation of consumption to individual species will have to be estimated.

## 2 CONCLUSION

The overall sales of veterinary antibiotics in Ireland appear relatively unchanged in 2017. However, an increasing trend in the sales of the critically important antimicrobials, 3<sup>rd</sup> & 4<sup>th</sup> generation cephalosporins and macrolides has been noted.

As stated in the National Action Plan on Antimicrobial Resistance 2017-2020 improvements in the availability of antibiotic consumption data are needed so that progress in reducing the overall quantities of antibiotics can be demonstrated. The HPRA understands that the Department of Agriculture, Food and the Marine are investigating how best to capture consumption data at an individual species level for the future. In the interim, the HPRA hopes that this report will help raise awareness of antimicrobial resistance, which continues to be a significant threat to animal and human health.

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