



## IRISH MEDICINES BOARD REPORT ON CONSUMPTION OF VETERINARY ANTIBIOTICS IN IRELAND DURING 2011

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### **Introduction**

In response to the European Commission's initiative known as the European Surveillance of Veterinary Antimicrobial Consumption (ESVAC), the IMB has completed its third annual survey on the usage of veterinary antibiotics. The 2011 report follows those previously published by the IMB in respect of the years 2009 and 2010.

As noted in the previous reports, the consumption data provided in this report should be interpreted with caution; experience from other countries shows that it can take a number of years of collecting such information to establish true baseline values and to be able to analyse trends in the data. The information provided is based on voluntary declarations by marketing authorisation holders. It is expected that the long-awaited modification to the Veterinary Directive governing the authorisation, usage and monitoring of veterinary medicines in the Community will provide useful additional tools to help strengthen the data collection system in the future.

### **Methodology**

During 2011 companies marketing veterinary antibiotics in Ireland were requested to submit annual returns for quantities of dose forms sold, at package level. The data to be provided were described in the ESVAC protocol ([www.ema.europa.eu](http://www.ema.europa.eu)). Data were collected from a total of 51 individual antibiotics contained in 634 product presentations which have been authorised for use in Ireland (including both medicines authorised nationally by the IMB as well as those authorised centrally by the European Commission). The sales data were self-declared by the companies responsible for marketing the products. It should be noted that certain other antibiotics which might be legitimately prescribed by veterinary practitioners (e.g. human antibiotic formulations where there is no suitable veterinary alternative licensed, as well as antibiotics authorised under special import licence by the Department of Agriculture, Food and the Marine) were not captured in this analysis.

The data were inputted into an IMB database and were also transmitted to the European Medicines Agency (EMA) for input into an ESVAC database. The data were validated by the EMA using the ESVAC data program in order to harmonise the information in respect of veterinary antibiotics with those in other European countries. In conformity with the ESVAC protocol, 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, fluoroquinolones, aminoglycosides, macrolides, lincosamides, sulphonamides & trimethoprim (TMP), cephalosporins and other antibiotic classes.

### **Results**

The total tonnage of veterinary antibiotics used in Ireland was 88.4 tonnes in 2011. This figure compares favourably with 93.2 tonnes in 2010 and 91.1 tonnes in 2009. These results are broken down by chemical classes used in Figure 1 and by dose form in Figure 2 below:

Figure 1. Proportional sales (based on tonnes sold) of the various classes of veterinary antibiotics supplied in 2011 in Ireland

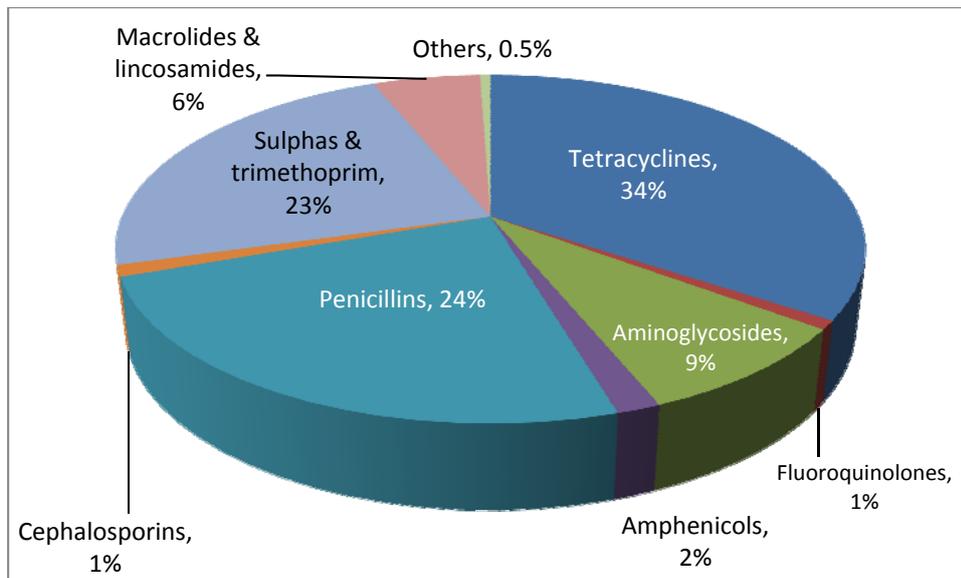
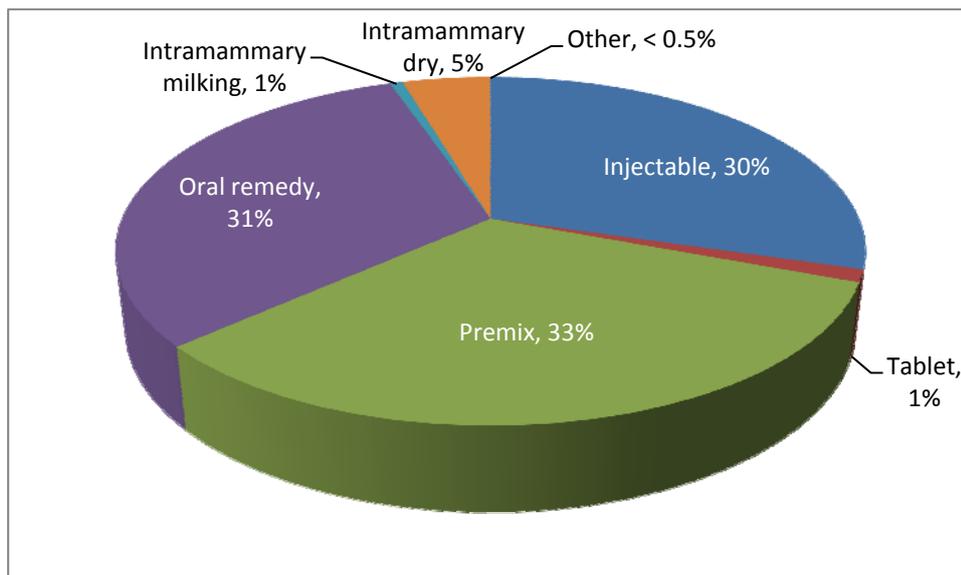


Figure 2. Dose form breakdown of veterinary antibiotics sold in 2011 in Ireland



### Discussion

There has been a reduction of nearly 5 tonnes in the reported usage of veterinary antibiotics for 2011 compared to 2010. During this time, the numbers of animals farmed in Ireland is expected to have increased slightly, in line with government expansion plans.

The sales data for 2011 are relatively consistent with those reported for previous years. It appears that the usage of premixes has reduced from 40% in 2009, to 33% in 2011. However, the use of other oral forms of antibiotics has increased from 28% to 31% during this period. Injectable antibiotic formulations have also seen an increased usage, up from 26% in 2009 to 30% in 2011. Use

of intramammary formulations and other pharmaceutical forms has remained relatively consistent at approximately 5% and less than 0.5% respectively.

Tetracyclines, penicillins, aminoglycosides and trimethoprim/sulphonamide drugs account for 90% of the reported use of veterinary antibiotics during 2011. This is similar to their usage in previous years (2010:88%, 2009:94%). The reported use of cephalosporins, fluoroquinolones, macrolides and other antibiotic classes amounts to approximately 10% of the total for 2011, being similar to that for 2010 (12%).

The Irish pattern of use for 2011 follows a largely similar pattern to the EU average as reported in the 2010 ESVAC report; from the 19 participating countries (including Ireland) approximately 90% of the sales were for products used for herd treatment, i.e. premixes (49%), oral powders and solutions (42%), and 9% sold as injectable preparations. However, the distribution of sales of the antibiotic classes varies considerably between countries, being attributed to differences in:

- The relative proportion of the various animal species in different countries,
- Animal production systems,
- The mix of different products on national markets,
- Prices in different countries,
- The general situation with regard to infectious diseases,
- Veterinarians' prescribing behaviour.

The sales of tetracyclines, penicillins and sulphonamides in the 19 countries surveyed in 2010 were 39%, 23% and 11%. The sales of those antibiotics defined as the most critically important by the World Health Organisation, i.e. the 3<sup>rd</sup> and 4<sup>th</sup> generation cephalosporins, fluoroquinolones and macrolides accounted for approx 8.1% of the total.

## **Conclusion**

International efforts to ensure the responsible use of antibiotics in the European Community are continuing. The availability of data that can be used to make informed, evidenced-based decisions is critical to the elaboration of appropriate national strategies to help fight antibiotic resistance, whether in humans or animals. This report serves to provide such data in respect of veterinary antibiotic sales in Ireland during 2011.

As was the case in previous years, the 2011 data show that medicated premix and other oral dosage forms continue to make up the bulk of veterinary usage of antibiotics (being approximately 65% of total consumption for 2011). The older classes of antibiotics account for 90% of all veterinary usage, with the newer, more potent substances, being used more judiciously. All veterinary antibiotics are subject to prescription control in Ireland; this is a key control point in ensuring their responsible use.

International comparisons with other European countries is difficult currently given the species, animal population, as well as differences in prescribing and dispensing practices and other confounding factors. Many authorised veterinary antibiotics have indications for more than one species, and this adds a further complexity to any analyses. The ESVAC programme foresees refinements in the collection of data in the future, with the goal of being able to collect the data by animal species, production category and age class. However, these tools might not become available until the European legislation has been adapted. In the interim, the IMB will continue to work with its partners within the European Medicines network to improve the situation.

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