Report on consumption of veterinary antibiotics in Ireland during 2016

INTRODUCTION

This report presents the data collected by the Health Products Regulatory Authority (HPRA) during 2016, 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.

As advised in previous reports on this subject, the consumption data provided in this report should be interpreted with caution; annual consumption figures vary within certain limits and such variation is regarded as normal. It should also be noted that the data are based on the voluntary declarations by marketing authorisation holders of the supply of their products.

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 2016. The data to be provided were described in a format prescribed by the ESVAC protocol (www.ema.europa.eu). Data were collected from a total of 51 individual antibiotic substances contained in over 900 product presentations which have been authorised for use in Ireland (including both medicines authorised nationally by the HPRA as well as those authorised centrally by the EU Commission). 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 no 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 database includes data from other countries within the European Union, as well as some neighbouring countries. The methodology for collection is a harmonised approach that is followed 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, fluoroquinolones, aminoglycosides, macrolides, lincosamides, sulphonamides & trimethoprim (TMP), cephalosporins and other classes.
1.2 Results

The total tonnage of veterinary antibiotics used in Ireland was 103.4 tonnes in 2016. 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 2016 in Ireland.**

- Tetracyclines: 39.9%
- Fluoroquinolones: 0.9%
- Aminoglycosides: 6.1%
- Amphenicols: 2.2%
- Penicillins: 20.4%
- Cephalosporins: 1.2%
- Sulphas & trimethoprim: 20.7%
- Macrolides & lincosamides: 6.9%
- Others: 1.6%

**Figure 2. Pharmaceutical form breakdown of veterinary antibiotics sold in 2016 in Ireland.**

- Injectable: 27.0%
- Oral remedy: 33.3%
- Premix: 33.3%
- Tablet: 1.6%
- Intramammary dry: 4.2%
- Intramammary milking: 0.6%
- Other: <0.05%
1.3 Discussion

The data collected indicates that sales of veterinary antibiotics increased by approximately 6.5 tonnes in 2016 (Table 1). From the table below it can be seen that the overall tonnage fluctuates from year to year.

Table 1. Sales (tonnes sold) of veterinary antibiotics for the years 2012 - 2016

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<tr>
<td>Tonnes sold</td>
<td>97.4</td>
<td>99.1</td>
<td>89.4</td>
<td>96.9</td>
<td>103.4</td>
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An investigation of sales on a class basis, highlights that tetracyclines comprise a substantial portion of overall tonnage, representing 39.9% of the total (Figure 1). The sales of sulphonamides & trimethoprim, penicillins and aminoglycosides remained consistent with the general trend observed in the previous years. The overall proportion of sales based on tonnes sold remained relatively unchanged (Graph 1).

Graph 1. Sales (tonnes sold) of veterinary antibiotics for the years 2012 – 2016

In particular, the sales of the critically important antibiotics, 3rd & 4th generation cephalosporins, fluoroquinolones and macrolides remained broadly in line with the ranges observed previously (Table 2).

Table 2. Sales (tonnes sold) of 3rd & 4th generation cephalosporins, fluoroquinolones and macrolides & lincosamides for the years 2012 - 2016

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<tr>
<td>3rd &amp; 4th gen. cephalosporins</td>
<td>0.21</td>
<td>0.17</td>
<td>0.24</td>
<td>0.22</td>
<td>0.25</td>
</tr>
<tr>
<td>Fluoroquinolones</td>
<td>1.00</td>
<td>0.89</td>
<td>0.69</td>
<td>0.79</td>
<td>0.94</td>
</tr>
<tr>
<td>Macrolides &amp; lincosamides</td>
<td>7</td>
<td>6.7</td>
<td>6.7</td>
<td>5.9</td>
<td>7.2</td>
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The proportion of pharmaceutical forms (i.e. presentations of product) supplied to the market was similar compared with previous years (Figure 2). Premixes and oral remedies (oral pastes, powders, solutions and boluses) accounted for 33.3% and 33.3% of sales, respectively. The next major group consisted of injectable products accounting for 27.0% of sales.

The range of veterinary antibiotic products in Ireland continues to expand with an additional 21 products authorised. This was offset by a small number of products being withdrawn. However, it should be noted that not all authorised products are marketed. These authorisations may support the marketing of the products in international markets or may be held by the companies concerned for strategic or commercial purposes.

2 CONCLUSION

A 6.7% increase in the overall sales of veterinary antibiotics was recorded for the year 2016. It is not known if this marks a true indication of increased use, or may be explained by other factors. As noted in previous reports, fluctuations in annual sales within a range of plus or minus 5% may occur, due to a variety of factors such as seasonal disease prevalence, changes in the size of the national herd or product held in the supply chain between years.