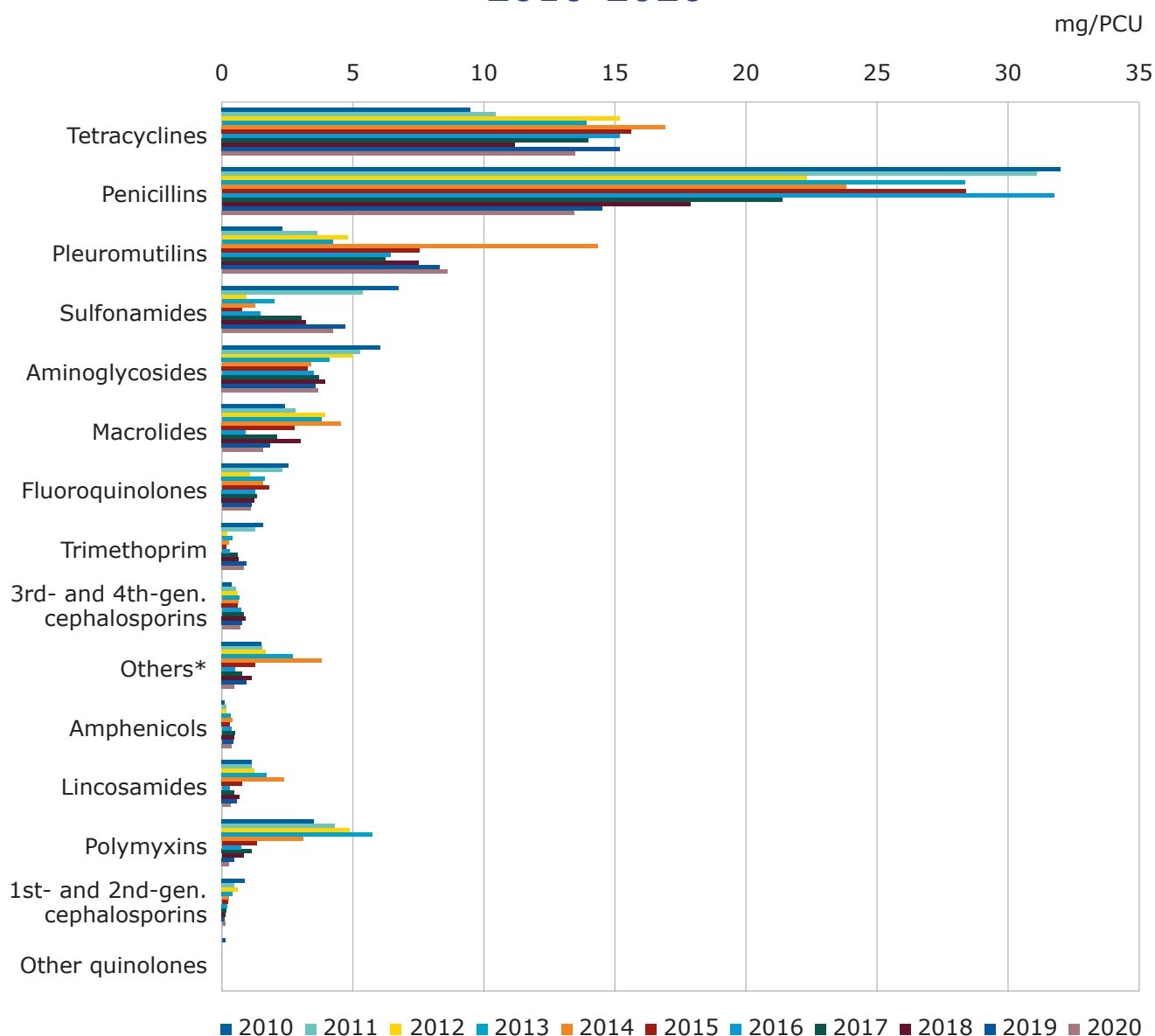




SALES TRENDS (MG/PCU) OF ANTIMICROBIAL VMPs FOR FOOD-PRODUCING ANIMALS

2010-2020



Since 2011, no sales of other quinolones have been reported.

* The class 'Others' includes sales of bacitracin, novobiocin, rifaximin and spectinomycin (classified as 'Other antibacterials' in the ATCvet system).

Annual sales of veterinary antimicrobial agents (in mg/PCU) in Estonia fluctuated from 2011 to 2020, peaking at 76.8 mg/PCU in 2014 before decreasing by 35.8% to 49.2 mg/PCU in 2020. Notable changes in the total population of some food-producing animal species contributed to the decrease of sales expressed as mg/PCU in 2015 and 2016. From 2018 (52.9 mg/PCU) to 2019 (53.5 mg/PCU), sales increased by

1.2%, before decreasing by 8% in 2020 (49.2 mg/PCU). Overall annual antimicrobial sales in Estonia fell by 30.1% from 2011 (70.5 mg/PCU) to 2020.

In 2020, the highest-selling antimicrobial classes in Estonia were tetracyclines, penicillins and pleuromutilins, accounting for 27.4%, 27.3% and 17.5% of sales, respectively.

Sales of tetracyclines accounted for 14.8% (10.45 mg/PCU) of total annual sales in 2011 but for more than a quarter of total sales in 2019 (15.18 mg/PCU) and 2020 (13.50 mg/PCU). Annual sales of penicillins have fluctuated during the period of analysis, decreasing in recent years and falling by 56.8% from 2011 (31.11 mg/PCU) to 2020 (13.45 mg/PCU). Nonetheless, penicillins accounted for more than a quarter of total annual sales in 2020.

Sales of pleuromutilins have fluctuated considerably over the years, from 3.63 mg/PCU in 2011 to a maximum of 14.36 mg/PCU in 2014, when they accounted for 18.7% of total annual sales. The increase in sales of pleuromutilins in 2014 is related to extensive outbreaks of swine dysentery and higher morbidity of unknown aetiology on many large pig farms in Estonia during that year.

Sales of 3rd- and 4th-generation cephalosporins have also fluctuated over the years. They accounted for 0.8% (0.55 mg/PCU) of total sales in 2011 and 1.4% in 2020 (0.7 mg/PCU). Aggregated sales for the 25 countries were 0.16 mg/PCU.

In 2011, fluoroquinolones accounted for 3.3% of total sales, while in 2020, the figure was 2.2%. Overall, sales of fluoroquinolones fell by 53% between 2011 (2.32 mg/PCU) and 2020 (1.10 mg/PCU), although fluctuations in sales were also observed. From 2019 (1.13 mg/PCU) to 2020, sales decreased by 2.6% and aggregated sales for the 25 countries were 2.21 mg/PCU.

Sales of polymyxins have fluctuated since 2011 (4.31 mg/PCU), peaking in 2013 (5.75 mg/PCU), but decreasing overall by 93.8% by 2020 (0.27 mg/PCU). In Estonia, 90% of the colistin consumed was used in pig production and vaccination against *E. coli* strains contributed to the expected downward trend in colistin consumption. In 2020, sales of polymyxins accounted for 0.5% of total annual sales. Aggregated sales for the 25 countries were 2.58 mg/PCU.

Sales of macrolides fluctuated during the period of analysis, with a peak in 2014 (4.55 mg/PCU) and a trough in 2016 (0.91 mg/PCU). Compared with 2018 (3.02 mg/PCU), sales dropped in 2019 (1.84 mg/PCU) and 2020 (1.56 mg/PCU). Overall, sales of macrolides have decreased by 44.5% since 2011 (2.81 mg/PCU) and accounted for 3.2% of annual antimicrobial sales in 2020.

As Estonia is a small country, changes in the treatment strategy on one or two major farms or outbreaks such as that described above may significantly influence sales patterns. PCU data in Estonia have remained at much the same level in recent years, and strong recommendations for veterinarians to monitor the need for antimicrobials have been made to help reduce use of antimicrobials in mg/PCU.

