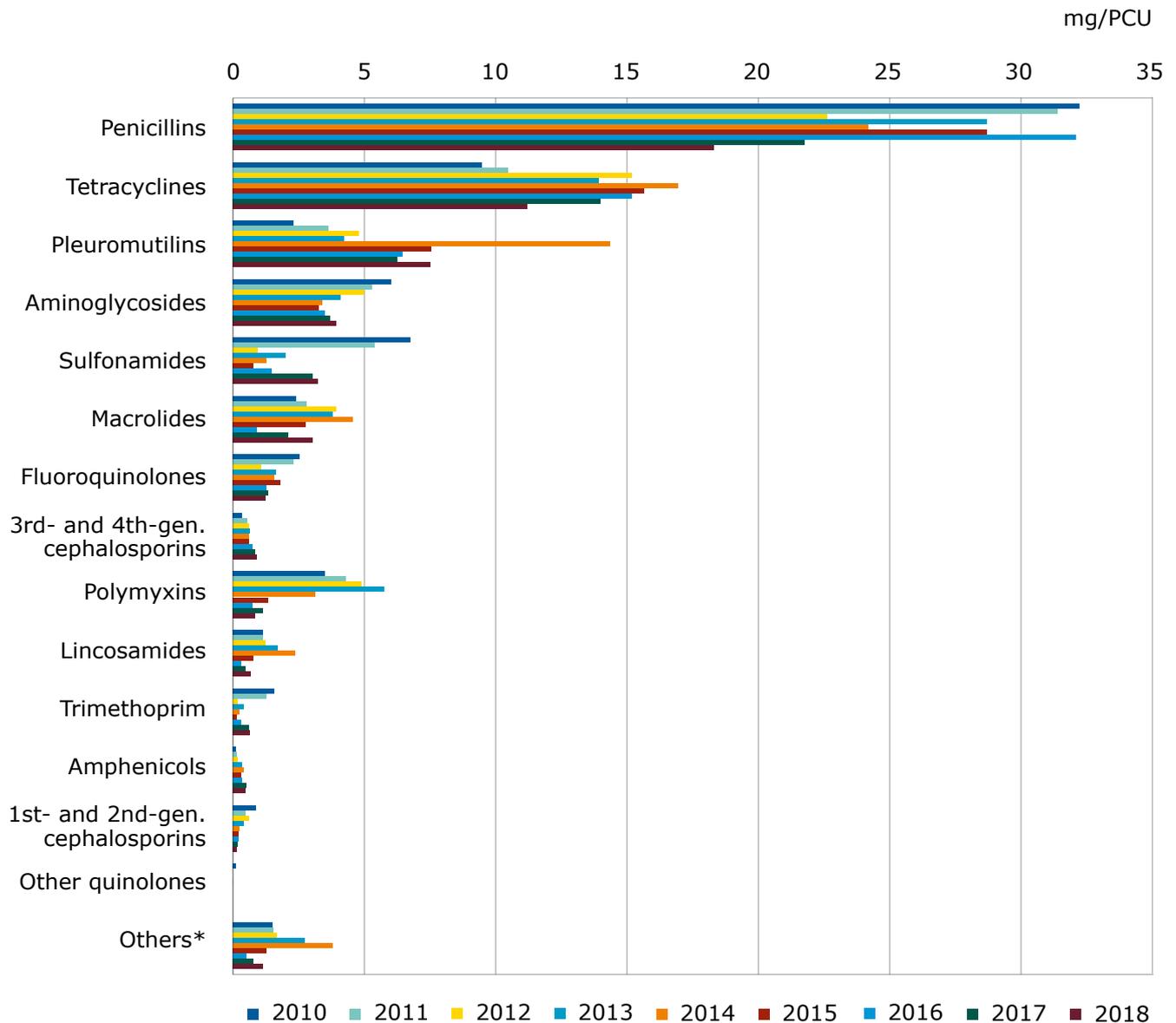


# ESTONIA



## CHANGES IN SALES (MG/PCU) ACROSS YEARS



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

\* Other antibacterials (classified as such in the ATCvet system).

The sales of veterinary antimicrobial agents (mg/PCU) in Estonia fluctuated slightly from 2010 to 2018, with an increase of 9% from 2010 to 2014 and a decrease of 31% from 2014 to 2018. The main reason for the decrease in 2015 and 2016 is that there were notable changes in the total population of some food-producing animal species. Cumulatively, from 2011 (70.7 mg/PCU) to 2018 (53.3 mg/PCU), overall sales dropped by 25%. From 2017 (56.7 mg/PCU) to 2018, sales decreased slightly by 6%.

In 2018, the most-sold classes in Estonia were penicillins, tetracyclines and pleuromutilins. The proportion accounted for by penicillins in 2010 and 2018 was 45% and 34%, respectively. An increase in the proportion, from 13% to 21%, was observed for tetracyclines. From 2011 to 2018, pleuromutilins increased by 107%, accounting for 14% of the total sales in 2018. Of note is that in 2014, the sales of pleuromutilins (mg/PCU) increased almost six-fold compared to 2010. The observed increase in sales of pleuromutilins in 2014 compared to previous years is explained by extensive outbreaks of swine dysentery and higher morbidity of unknown aetiology in many large pig farms in Estonia during that year.

In 2010 and 2018, 3rd- and 4th-generation cephalosporins accounted for 0.5% and 2%, respectively, of total sales. From 2011 (0.55 mg/PCU) to 2018 (0.91 mg/PCU), overall sales of 3rd- and 4th-generation cephalosporins increased by 67% and from 2017 (0.83 mg/PCU) to 2018 increased by 11%, while the aggregated sales for 25 countries were 0.18 mg/PCU.

In 2010, fluoroquinolones accounted for 3.6% of the total sales, while in 2018, this figure was 1.7%. Sales of fluoroquinolones decreased between 2011 (2.32 mg/PCU) and 2018 (1.24 mg/PCU) by 47%, although fluctuations in sales were also observed. From 2017 (1.34 mg/PCU) to 2018 sales decreased by 7% and the aggregated sales for 25 countries were 2.42 mg/PCU.

For other quinolones, no sales were reported since 2011.

Sales of polymyxins fluctuated significantly from 2011 (4.31 mg/PCU) to 2018 (0.83 mg/PCU), with a total decrease of 81%. They rose by 64% from 2010 to 2013, then fell considerably from 2013 to 2018. In 2018, the sales of polymyxins account for 2% of the total annual sales. The aggregated sales for 25 countries were 3.31 mg/PCU.

The sales of macrolides increased by 7% in 2018 compared to 2011 and 42% compared to 2017. In 2018, the sales of macrolides account for 6% of the total annual sales.

The fall in sales of sulfonamides combined with trimethoprim may be related to the increase in sales of tetracyclines, which are all authorised products, during this period. Sulfonamides and trimethoprim combination products for oral use are not authorised, so special permission is required for their use.

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.

