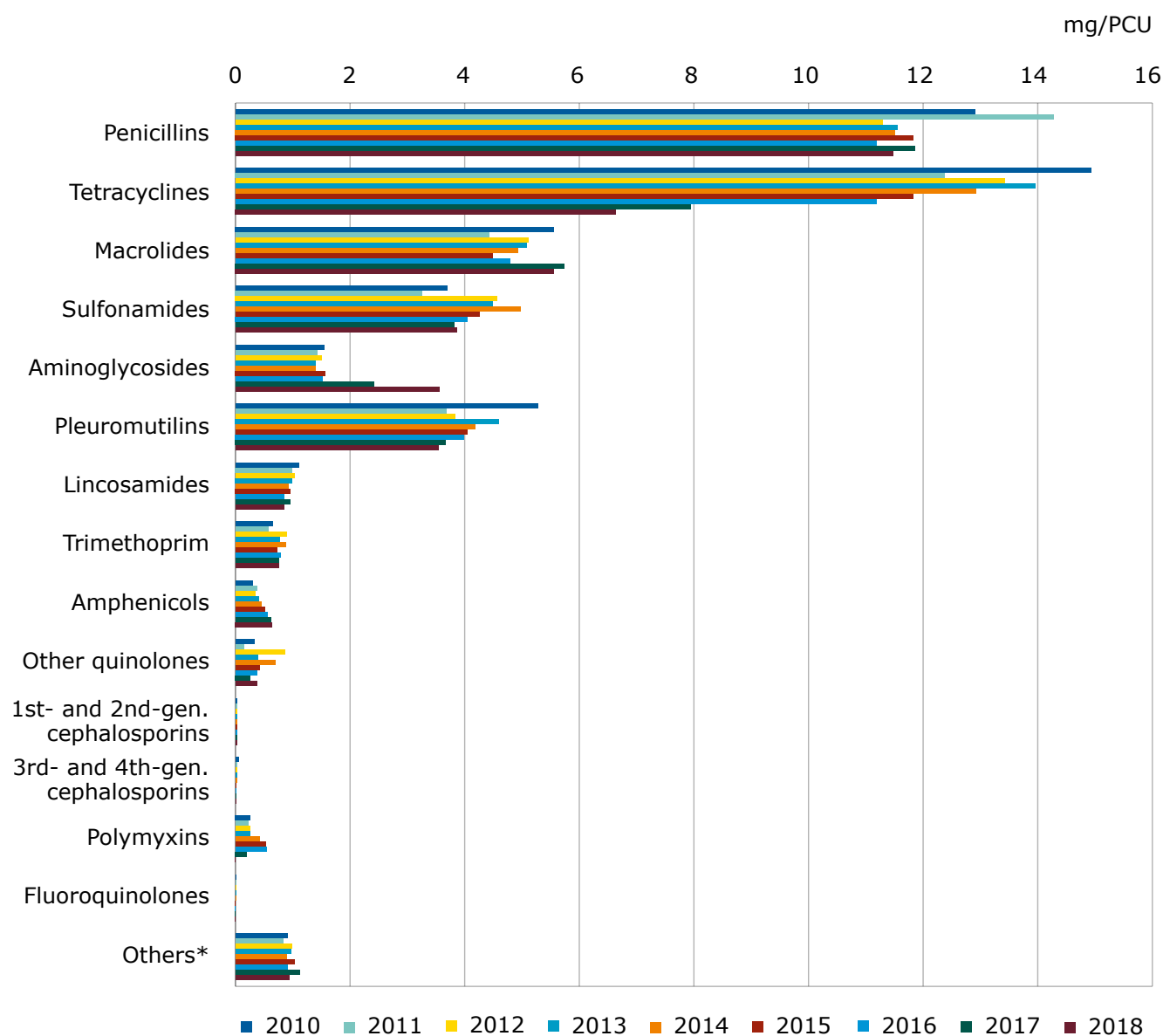


# DENMARK



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



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

From 2011 (42.6 mg/PCU) to 2018 (38.2 mg/PCU), the overall sales of veterinary antimicrobial agents fell by 10% and from 2017 (39.4 mg/PCU) to 2018 by 3%.

In 2018, the most-sold classes of antimicrobial VMPs in Denmark were penicillins (30%), tetracyclines (17%) and macrolides (15%). Beta-lactamase-sensitive penicillins accounted for 56% of the sales of all penicillins. The updated 'Yellow card' initiative for pigs introduced in 2016, means that the average daily dose (ADD) for tetracycline is multiplied by a factor of 1.5. As a result, the proportion of tetracycline of total sales was reduced from 28% in 2015 to 17% in 2018.

In 2010 and 2011, 3rd- and 4th-generation cephalosporins accounted for 0.1 % of total sales; in 2018, this figure was 0.02 %. From 2011 (0.026 mg/PCU) to 2018 (0.0058 mg/PCU), total sales of 3rd- and 4th-generations fell by 78 %, mainly due to a voluntary initiative by the pig industry in 2010 to cease the use of 3rd- and 4th-generation cephalosporins. In comparison with 2017 (0.0069 mg/PCU), sales dropped by 16 %. The aggregated sales for 25 countries were 0.18 mg/PCU.

Sales of fluoroquinolones for food-producing animals are generally low in Denmark, accounting for just 0.01 % of total sales in 2018. From 2011 (0.01 mg/PCU) to 2018 (0.002 mg/PCU), total sales of fluoroquinolones fell by approximately 62 %. The reason for these rather low figures is a strict regulation on the prescription of fluoroquinolones in food-producing animals, in force since 2002. The aggregated sales for 25 countries were 2.42 mg/PCU.

For other quinolones, in 2018 sales were 0.38 mg/PCU, accounting for 1 % of total sales in this year. From 2011 (0.15 mg/PCU) to 2018 (0.38 mg/PCU), sales increased by 156 %, and from 2017 (0.26 mg/PCU) to 2018, by 45 %. The aggregated sales for the 25 countries were 0.27 mg/PCU.

Sales of polymyxins for food-producing animals are very low in Denmark, accounting for just 0.01 % of total sales in 2018. From 2011 (0.22 mg/PCU) to 2018 (0.002 mg/PCU), total sales of polymyxins decreased by approximately 99 %. Sales of polymyxins increased from 2014 to 2016, due to increasing use of polymyxins (colistin) in pigs. From 2016 (0.54 mg/PCU) to 2018 (0.002 mg/PCU), sales dropped sharply by almost 100 %. The average daily dose (ADD) for polymyxins is multiplied by a factor of 10. The aggregated sales for 25 countries were 3.31 mg/PCU.

Sales of macrolides accounted for 15 % of total sales in 2018. From 2011 (4.42 mg/PCU) to 2018 (5.56 mg/PCU), sales of macrolides increased by 26 %. Approximately 93 % of the macrolides (mostly tylosin) are used in pigs. Macrolides are used as a substitute for tetracycline, and this class of antimicrobials has been assigned a factor of 1.

The political target for reducing antimicrobial consumption in pigs set in 2015 aimed for a 15 % reduction by the end of 2018 compared to 2014. The goal was not reached before April 2019.

