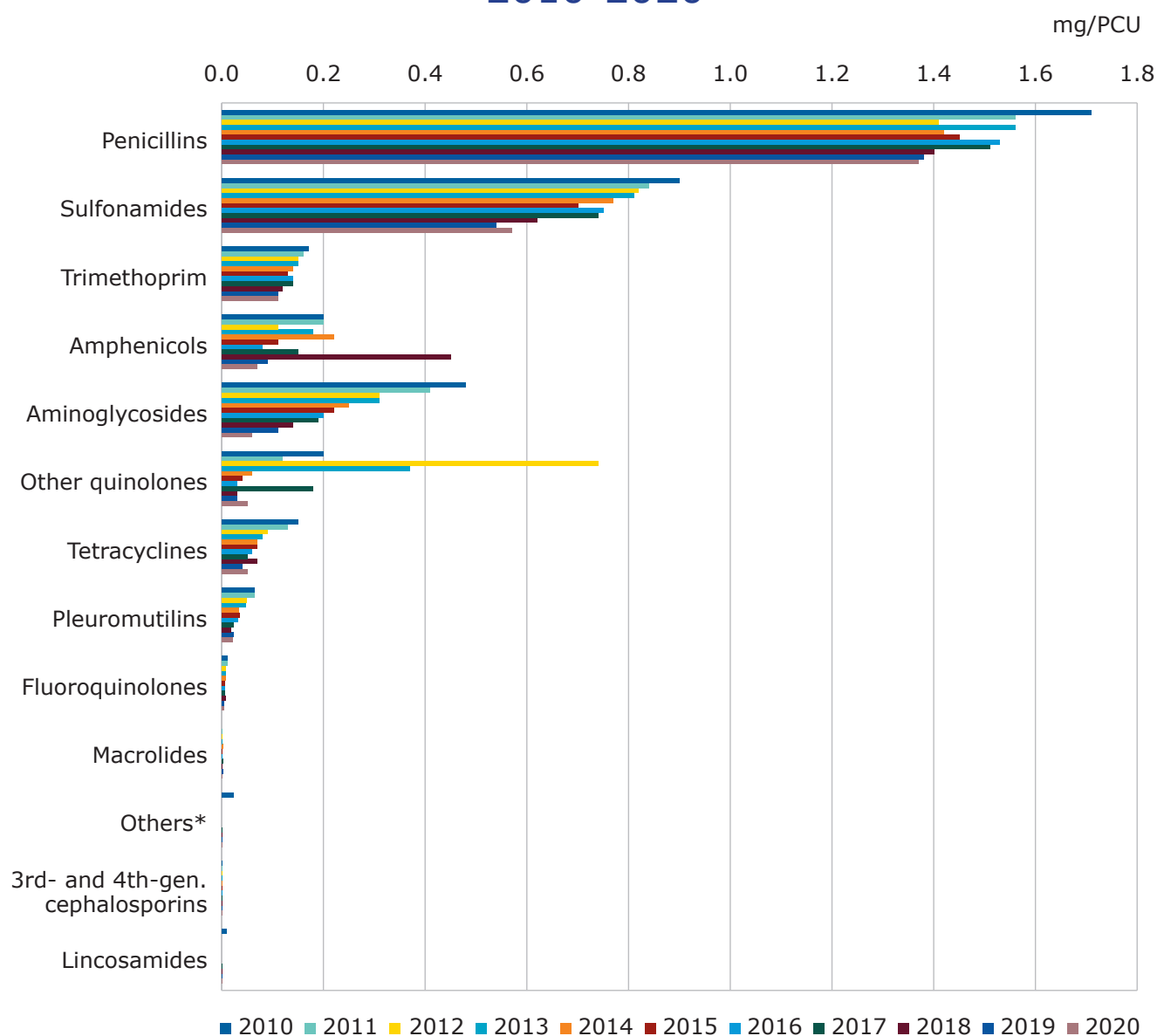


## SALES TRENDS (MG/PCU) OF ANTIMICROBIAL VMPs FOR FOOD-PRODUCING ANIMALS

2010-2020



No sales of 1st- and 2nd-generation cephalosporins or polymyxins in any of the years. In the period 2010–2020, minor quantities of macrolides (<0.003 mg/PCU) and of 3rd- and 4th-generation cephalosporins (<0.0007 mg/PCU) were sold annually; for the years 2010 and 2017–2020, minor quantities of lincosamides (<0.0002 mg/PCU) were sold annually; and in the period 2017–2020 minor quantities of other antibacterials (<0.004 mg/PCU) were sold annually.

\* The class 'Others' includes sales of spectinomycin (classified as Other antibacterials in the ATCvet system).

From 2010 to 2020, total sales of antimicrobials for food-producing animals, including horses and farmed fish, fell from 3.9 mg/PCU to 2.3 mg/PCU (41%). A decrease was noted for most antimicrobial classes, including the highest-selling classes, i.e. penicillins, sulfonamides, aminoglycosides and trimethoprim. For amphenicols, which are used almost exclusively in farmed fish, sales have fluctuated but an overall decline was observed during the period 2010-2020. This is also the case for other quinolones that are only used in farmed fish. The overall reduction in sales from 2010 to 2020 is mainly accounted for by lower sales of VMPs containing penicillins, aminoglycosides and sulfonamides (combined with trimethoprim) used for terrestrial food-producing animals.

Of the AMEG Category B antimicrobials — i.e. 3rd- and 4th-generation cephalosporins, polymyxins and quinolones (fluroquinolones and other quinolones) — only quinolones are marketed in Norway for food-producing animals, including farmed fish. From 2010 to 2020, the proportion of sales of quinolones for food-producing animals was very low, albeit fluctuating; a decrease of 73% in the sales of this antimicrobial class was observed during this period.

Two 3rd-generation products have been approved via EU community procedures, but these are not marketed in Norway. Applications for special permits to use such VMPs marketed in other EEA countries for food-producing animals are not normally approved. An approval would only be given for specific animals if sensitivity testing precluded all other options. The same applies to polymyxins.

In 1996, the Norwegian husbandry organisations (NHO) agreed on a target of a 25% reduction in the consumption of antimicrobial VMPs by terrestrial food-producing animals over five years, with 1995 as the reference year. In parallel, NHO initiated a responsible-use campaign, among other initiatives, by implementing the therapeutic guidelines it had published in connection with the campaign. More comprehensive therapeutic guidelines were published by the Norwegian Medicines Authority in the late 1990s and these guidelines have been revised regularly. From 1995 to 1999, a reduction of approximately 40% in the sale of antimicrobials for terrestrial food-producing animals was achieved. Since then, sales of antimicrobial agents for use in terrestrial food-producing animals have been relatively stable, showing only minor fluctuations (see NORM/NORM-VET reports). It should be noted that since 1981, sales of antimicrobials for use in farmed fish measured in quantity of active substance have declined by 99%, while during the same period the production of farmed fish has increased more than a hundredfold.

In the National Strategy against Antibiotic Resistance (2015–2020) a target was set to reduce the usage of antimicrobials in terrestrial food-producing animals by 10% by 2020, with 2013 as the reference year. From 2013 to 2020, estimated sales of antibacterial VMPs for cattle, pigs, poultry, sheep and goat declined by 23% when measured in kg and 18% when measured in mg/PCU (NORM/NORM-VET)<sup>1</sup>.

The annual reports (NORM/NORM-VET) on antimicrobial consumption and antimicrobial resistance in the animal and human sectors in Norway are available in English on the Norwegian Veterinary Institute website<sup>1</sup>.

<sup>1</sup> <http://www.vetinst.no/overvaking/antibiotikaresistens-norm-vet>

