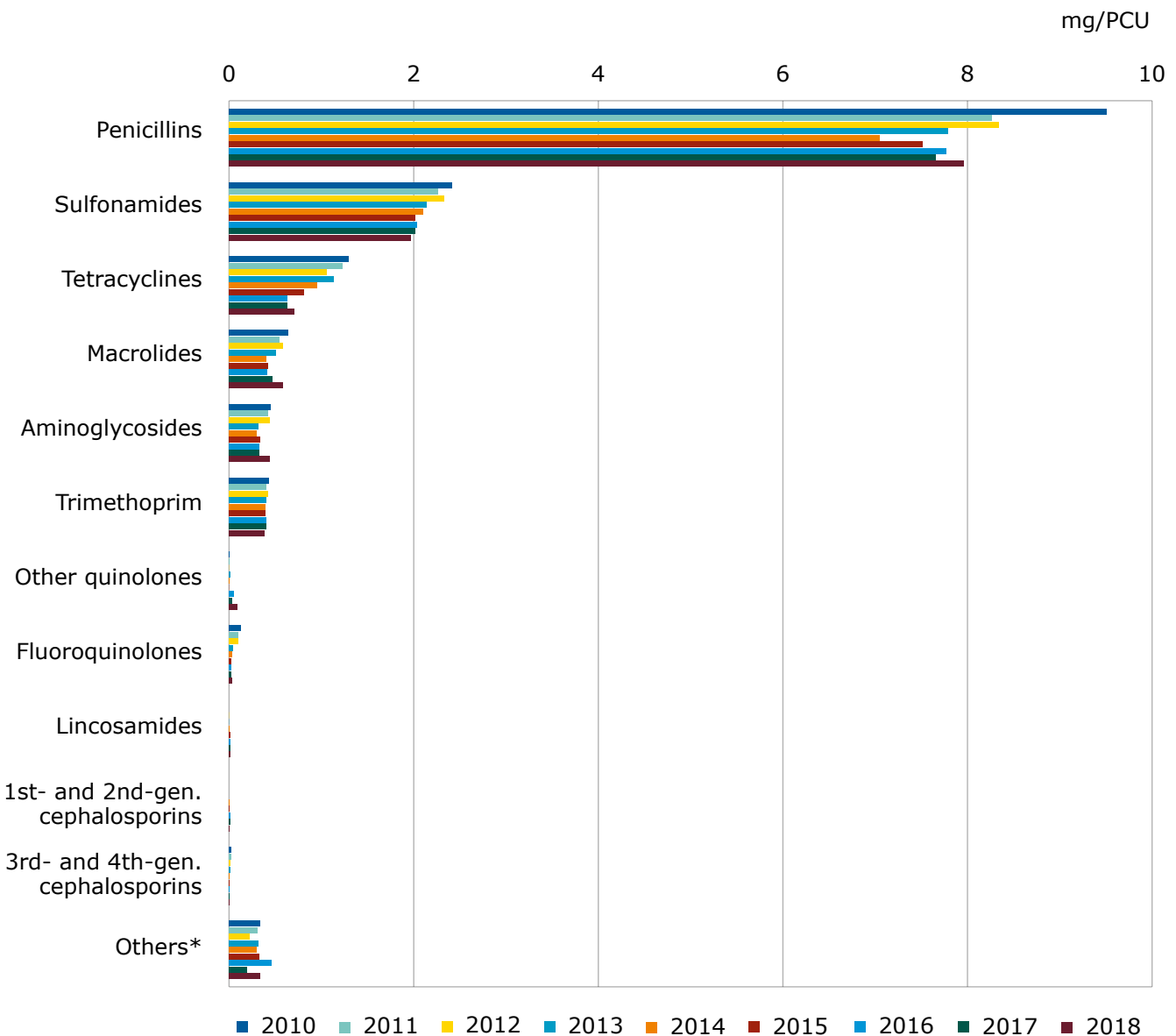


SWEDEN



CHANGES IN SALES (MG/PCU) ACROSS YEARS



For reasons of commercial confidentiality, sales of amphenicols, pleuromutilins and polymyxins are aggregated as 'Others';

No sales of other quinolones in 2012 because sales for fish were not available;

No sales of other antibacterials in any of the years.

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

In Sweden, sales (in mg/PCU) were relatively stable across the years. From 2010 (15.2 mg/PCU) to 2018 (12.5 mg/PCU), total sales of antimicrobials for food-producing animals fell by 18%. When interpreting the data, it is important to note that data for 2010-2015 may be slight underestimates as products sold on special licence were not fully captured in 2011 and there was underreporting from some pharmacies during 2010-2015.

Decreases were noted for most classes. In 2018, most-sold classes were penicillins (64%) and sulfonamides (16%). Beta-lactamase-sensitive penicillins (e.g. benzylpenicillin) represented 96% of the total sales of penicillins. Sales of tetracyclines accounted only for 6% of total sales in 2018. Sales of products formulated for medication of groups of animals via feed or water were 11% of the total sales in 2018, compared with 13% in 2010.

The sales of 3rd- and 4th-generation cephalosporins, fluoroquinolones and polymyxins were very low in comparison with aggregated sales for 25 countries from 2011 to 2018 (50-100 times lower). Since 2010, Swedish sales of products in these classes have decreased by 89%, 77% and 61%, respectively. Other quinolones are only used in finfish, and sales vary across years. Sales were higher in 2018, a year with unusually high water temperatures. More information on prescription of antimicrobials for fish is given in the Swedres-Svarm 2019 report¹.

The notable decreases in sales of 3rd- and 4th-generation cephalosporins and fluoroquinolones can probably be explained by increased adherence to the guidance for prudent use of antibiotics in the treatment of animals and by a regulation limiting veterinarians' rights to prescribe this type of antimicrobial, which came into force on 1 January 2013.

In Sweden, polymyxins (colistin) are only authorised for use in pigs, with weaning diarrhoea as the sole indication. Between 2010 and 2015, sales were relatively stable. During 2016, recent findings of transferrable resistance to colistin were communicated to stakeholders and sales started to decline. In 2018, a decrease of 61% in comparison to 2010 was observed.

In 2020, the Swedish government updated the strategy on antimicrobial resistance. An inter-sectorial coordinating mechanism, mainly including national authorities, was initiated in 2012. In 2018, the group included representatives from 25 authorities and organisations working with the public health, animal, food and environmental sectors. In 2017, an updated joint action plan based on the government's objectives was adopted by the collaborative group. Among the activities of relevance for ESVAC is development of better systems for collection of data on use of antimicrobials in different species.

The downward trends reflect a long-term strategy, where the core element is to reduce the need for antimicrobials through, for example, biosecurity, disease-control programmes, and optimised management and husbandry. When antimicrobials are needed, guidance for veterinarians on their prudent use is available and should be followed. Authorities, academia, professional advisors, veterinarians and farmers all collaborate with the aim of continuous improvement of animal health and the prudent use of antimicrobials.

More information on Swedish work against antimicrobials in a 'One Health' perspective can be found in a brochure published by the Swedish inter-sectorial coordinating mechanism in 2020², and on prudent use of antimicrobials in the report from the EU Commission's fact-finding mission in October 2017³.

¹ <https://www.sva.se/en/our-topics/antibiotics/svarm-resistance-monitoring/swedres-svarm-reports/>

² <https://www.sva.se/media/cvrbeqcy/swedish-work-against-amr.pdf>

³ https://ec.europa.eu/food/audits-analysis/audit_reports/details.cfm?rep_id=3957&rep_inspection_ref=xxx

