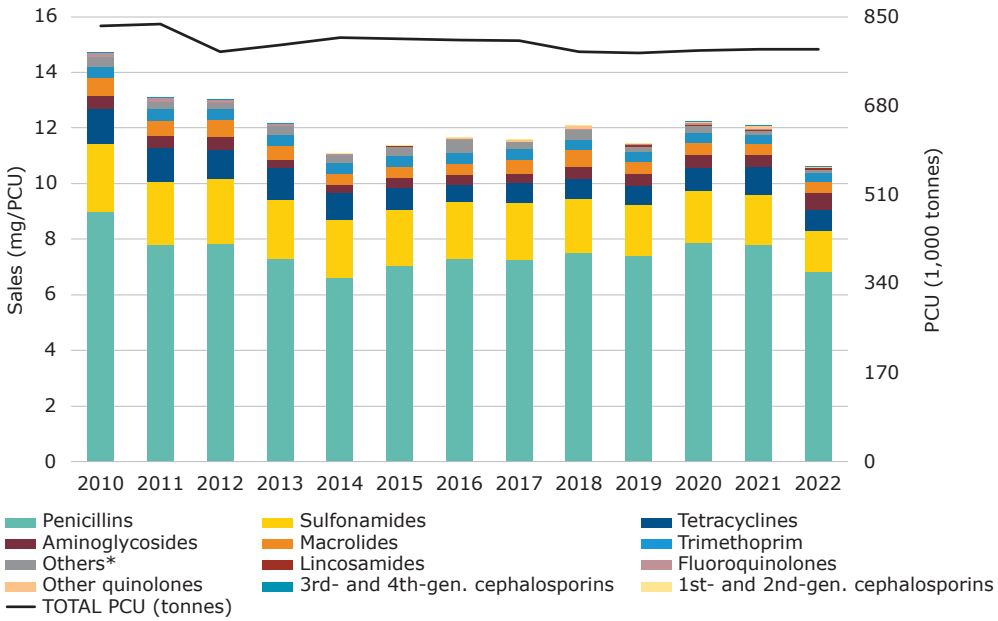
SWEDEN

Sales trends (mg/PCU) of antibiotic VMPs for food-producing animals

Sales trends by antibiotic class (mg/PCU) from 2010 to 2022[1,2,3]

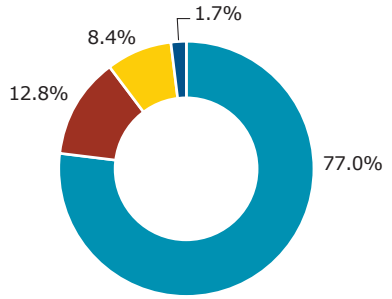


[1] Sales data sorted from highest to lowest in 2022.
[2] No sales of other quinolones in 2012 (data on sales of antimicrobials for fish were not available) and 2015. No sales of other antibacterials in any of the years.
[3] There was no reporting of sales for use in farmed fish in 2012 for Sweden.
* For reasons of commercial confidentiality, sales of amphenicols, pleuromutilins and polymyxins are aggregated as 'Others'.

Since 2011:

- 19.1% overall annual sales (from 13.1 mg/PCU to 10.6 mg/PCU in 2022)
- 86.5% 3rd- and 4th-generation cephalosporin sales
- 85.7% fluoroquinolone sales
- 7-fold other quinolone sales
- 94.9% polymyxin sales
- PCU decreased by 5.7% between 2011 and 2022

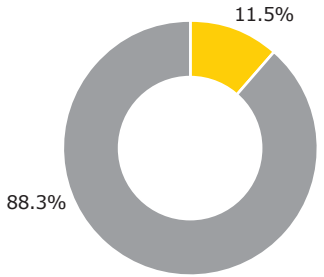
Proportion of sales (mg/PCU) by product form in 2022[1,2]



Sales of oral powders, oral solutions and premixes accounted for 10.2% of total sales in 2022.

[1] Sales of oral powders are not included in the figure and represent 0.01% of total sales.
[2] No sales of bolus products in 2022.
* Other forms include intramammary, intrauterine and oral paste products.

Proportion of sales (mg/PCU) by AMEG categories in 2022[1]



The majority of antibiotic VMP sales in 2022 belonged to the AMEG category D (Prudence), accounting for 88.3% of total sales.

[1] Sales of antibiotic classes belonging to the AMEG category B (Restrict) are not represented in the figure and account for 0.3% of total sales.

2022 sales data

In 2022, overall sales decreased by 12.4% compared to 2021 (from 12.1 mg/PCU to 10.6 mg/PCU). The three highest selling antibiotics classes were penicillins, sulfonamides and tetracyclines, which accounted for 64.4%, 14.1% and 7.0% of total sales, respectively.

Country information

A lack of completeness of data for 2017–2021 has been detected, and the cause was identified and corrected. Data for 2017–2021 have therefore been updated and reanalysed in this report. The problem mainly affected 2020 and 2021, for which the corrected figures were 10.3% and 10.6% higher than previously published, respectively (expressed as mg/PCU). The difference between 2021 and 2022 was larger than expected. A thorough search for errors was undertaken but none was identified. For more information, see Swedres-Svarm 20221. The updated sales in 2017 also include products for fish containing florfenicol and oxytetracycline, resulting in complete reporting for fish.

In Sweden, sales (in mg/PCU) have been low and relatively stable throughout the period 2010–2022. The highest selling antibiotic classes were penicillins, sulfonamides and tetracyclines. Beta-lactamase-sensitive penicillins (e.g. benzylpenicillin) accounted for 95% of total sales of penicillins for food-producing animals. Sales of VMPs formulated for medication of groups of animals via feed or water accounted for 10.2% of total sales in 2022, compared with 12.2% in 2011 (13.3% in 2010).

Sales of 3rd- and 4th-generation cephalosporins, fluoroquinolones and polymyxins were very low in comparison with aggregated sales for the 25 countries that provided data from 2011 to 2022 (50–100 times lower). Other quinolones are only used in finfish, and sales vary between years as water temperatures strongly influence morbidity. More information on prescriptions of antimicrobials for fish is provided in the Swedres-Svarm 2022 report[1].

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 these types of antimicrobials, which came into force on 1 January 2013.

In Sweden, polymyxins (colistin) have only been authorised for use in pigs, with weaning diarrhoea as the sole indication. In October 2020, the only product on the market was deregistered but thereafter there have been some sales of products on special licence. Sales were relatively stable between 2010 and 2015. During 2016, findings of transferable resistance to colistin were communicated to stakeholders and sales started to decline. In 2022, a decrease of 94.9% in comparison to 2011 was observed (95.9% when compared to 2010).

In 2020, the Swedish government updated the strategy on antimicrobial resistance. An inter-sectoral coordinating mechanism was initiated in 2012. In 2022, the group included representatives from 26 authorities and organisations working with the public health, animal, food and environmental sectors[2]. Joint action plans based on the government's objectives are regularly updated and adopted by the group.

The downward trends in sales reflect a long-term strategy in which the core element is a reduction in 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 ensuring a continuous improvement of animal health and the prudent use of antimicrobials.

More information on Sweden's work against antimicrobial resistance within a One Health perspective can be found in a brochure published by the Swedish intersectoral coordinating mechanism[3].

Information on Swedish efforts to ensure prudent use of antimicrobials is available in the report from the European Commission's fact-finding mission in October 2017[4].

[1] https://www.sva.se/en/our-topics/antibiotics/svarm-resistance-monitoring/swedres-svarm-reports/
[2] https://www.folkhalsomyndigheten.se/the-public-health-agency-of-sweden/communicable-disease-control/antibiotics-and-antimicrobial-resistance/intersect-collab-mechanism-against-amr/
[3] https://www.folkhalsomyndigheten.se/publikationer-och-material/publikationsarkiv/s/swedish-work-against-antibiotic-resistance--a-one-health-approach/
[4] https://ec.europa.eu/food/audits-analysis/audit-report/details/3957