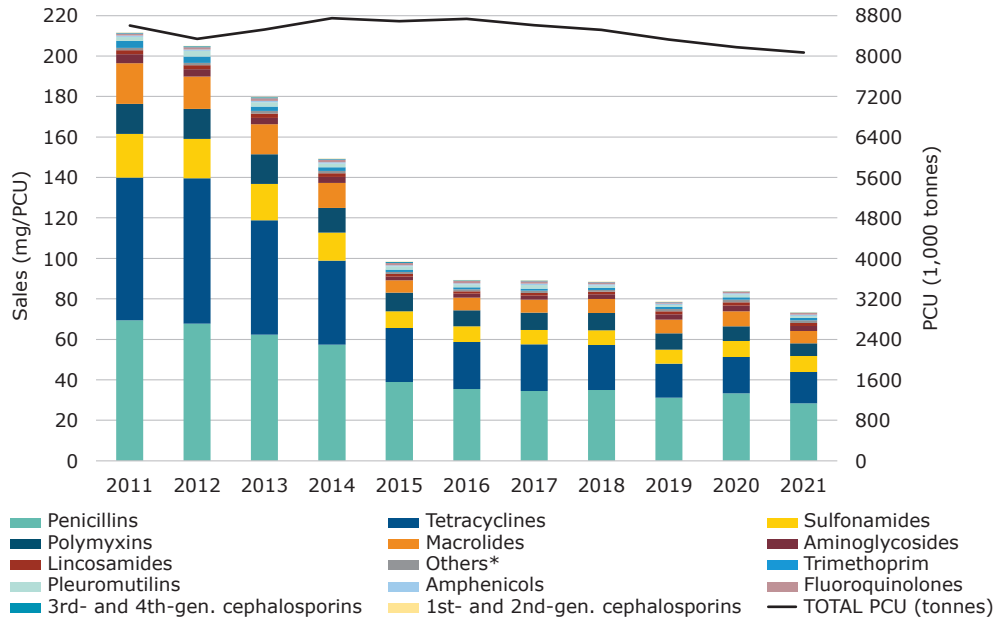




GERMANY

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

Sales trends by antibiotic class (mg/PCU) from 2011 to 2021^{1,2}



¹ Sales data sorted from highest to lowest in 2021.

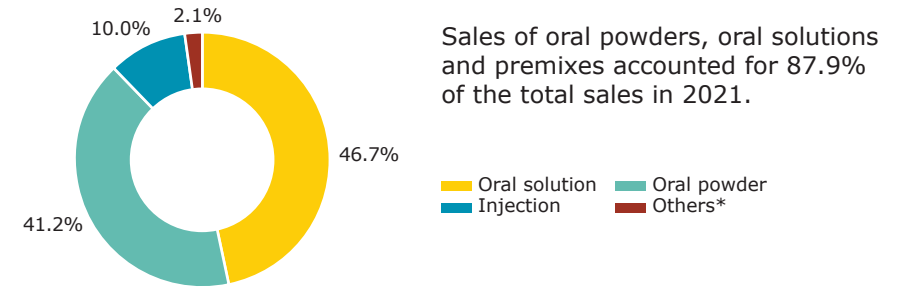
² No sales of other quinolones in any of the years.

* The class 'Others' includes sales of imidazole derivatives (metronidazole), nitrofurans derivatives (furazolidone) and other antibacterials (bacitracin and spectinomycin). Of note is that some of the sales could be for non-food-producing animals.

Since 2011:

- ⬇️ 65.4% overall annual sales (from 211.5 mg/PCU to 73.2 mg/PCU in 2021)
- ⬇️ 63.5% 3rd- and 4th-generation cephalosporin sales (from 0.40 mg/PCU to 0.15 mg/PCU in 2021)
- ⬇️ 26.9% quinolone sales (from 0.91 mg/PCU to 0.67 mg/PCU in 2021)
- 100% of all quinolone sales for this period were of fluoroquinolones
- ⬇️ 57.3% polymyxins sales (from 14.8 mg/PCU to 6.3 mg/PCU in 2021)
- ⬇️ The PCU decreased by 6.1% between 2011 and 2021

Proportion of sales (mg/PCU) by product form in 2021¹

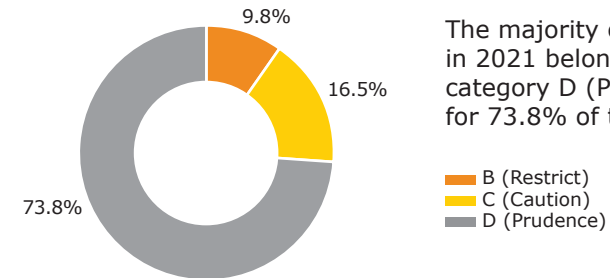


Sales of oral powders, oral solutions and premixes accounted for 87.9% of the total sales in 2021.

¹ Sales of premixes are not represented in the figure and represent 0.02% of total sales.

* Other forms include intramammary, intrauterine, bolus and oral paste products.

Proportion of sales (mg/PCU) by AMEG categories in 2021



The majority of antibiotic VMP sales in 2021 belonged to the AMEG category D (Prudence), accounting for 73.8% of the total sales.

2021 sales data

In 2021, overall sales decreased by 12.6% in comparison to 2020 (from 83.8 mg/PCU to 73.2 mg/PCU). The three highest selling antibiotic classes were penicillins, tetracyclines and sulfonamides, which accounted for 38.8%, 21.1% and 10.7% of total sales, respectively.



Country information

The antimicrobial minimisation concept introduced by the 16th Act to Amend the Medicinal Products Act came into force in the second half of 2014. Farms of certain categories and sizes that keep cattle, pigs, chickens or turkeys for fattening purposes must report, among others, the numbers of treated animals and treatment days for every antimicrobial product administered. Treatment frequencies are calculated per half-year period. If the individual treatment frequency of a farm exceeds the median treatment frequency of all farms of a certain production category, the farm must evaluate its antimicrobial usage in collaboration with a veterinarian. If the individual treatment frequency also exceeds the third quartile, a written action plan has to be provided for assessment by the competent authority. A direct numerical relationship between the antimicrobial minimisation concept and the decreases in sales of veterinary antimicrobial agents cannot be demonstrated, but the concept was shown to be effective by an evaluation study published in 2019¹.

A fact-finding mission was carried out in Germany between 19 and 26 April 2016 in order to gather information on the prudent use of antimicrobials in animals². On 1 March 2018, the 2nd Amendment of the Veterinary Pharmacies Prescription Regulation came into force. It is aimed at addressing the issue of antimicrobial resistance through optimisation of therapy. In this context, susceptibility testing was, among others, made obligatory for the use of 3rd- and 4th-generation cephalosporins and fluoroquinolones.

¹ https://www.bmel.de/SharedDocs/Downloads/EN/_Animals/Report-16thAMGAmendment.pdf;jsessionid=96E37C79E89933F7A1077517F7DD9EA6.live851?__blob=publicationFile&v=4

² https://ec.europa.eu/food/audits-analysis/audit_reports/details.cfm?rep_id=3676&rep_inspection_ref=xxx