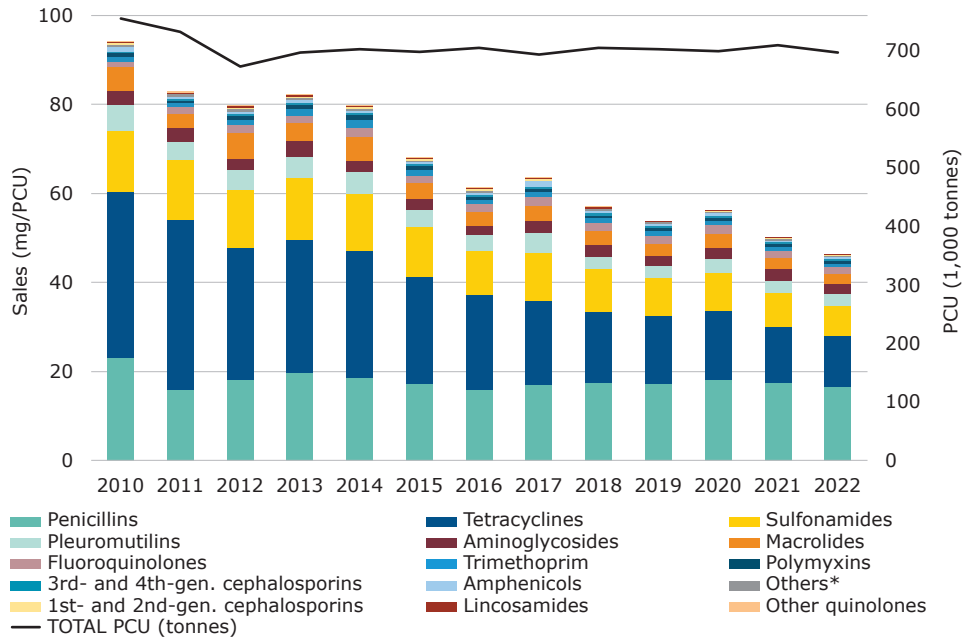


Sales trends (mg/PCU) of antibiotic VMPs for food-producing animals

Sales trends by antibiotic class (mg/PCU) from 2010 to 2022^{1,2}



¹ Sales data sorted from highest to lowest in 2022.

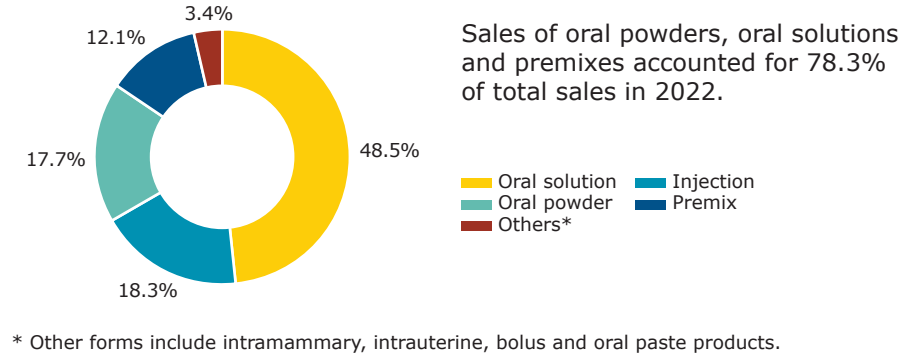
² No sales of other quinolones since 2019.

* The class 'Others' includes sales of bacitracin, novobiocin, rifaximin and spectinomycin (classified as other antibacterials in the ATCvet system).

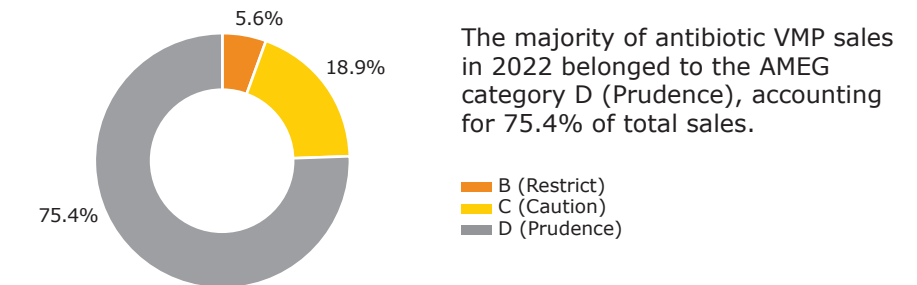
Since 2011:

- ⬇️ 44.2% overall annual sales (from 83.0 mg/PCU to 46.4 mg/PCU in 2022)
- ⬆️ 62.2% 3rd- and 4th-generation cephalosporin sales (from 0.28 mg/PCU to 0.46 mg/PCU in 2022)
- ⬆️ 7.7% fluoroquinolone sales (from 1.5 mg/PCU to 1.6 mg/PCU in 2022)
- ⬇️ 100% other quinolone sales (from 0.22 mg/PCU to 0 mg/PCU since 2019)
- ⬆️ 2.1% polymyxin sales (from 0.58 mg/PCU to 0.59 mg/PCU in 2022)
- ⬇️ PCU decreased by 4.8% between 2011 and 2022

Proportion of sales (mg/PCU) by product form in 2022



Proportion of sales (mg/PCU) by AMEG categories in 2022¹



¹ Novobiocin is not included in the AMEG categorisation and accounted for 0.07% of overall sales.

2022 sales data

In 2022, overall sales decreased by 7.3% in comparison to 2021 (from 50.0 mg/PCU to 46.4 mg/PCU). The three highest selling antibiotic classes were penicillins, tetracyclines and sulfonamides, which accounted for 36.1%, 24.3% and 14.7% of total sales, respectively.

Country information

Over the past 4 years (2019–2022), there has been a 13.8% decrease in the overall sales of antimicrobials, coinciding with the implementation of the second Czech national action plan against antimicrobial resistance (CZ NAP 2019–2022). This decrease can be considered an indication of continuous improvement in the animal sector as well as of a decline in antimicrobial sales, which is in line with the objectives of the Farm to Fork strategy. The Working Group on Antimicrobials (WGAM) at the Ministry of Agriculture performed in-depth analysis accompanied by consultations with various stakeholders and further tailored steps were proposed to the subsequent CZ NAP.

The long-term decrease in overall sales can be explained by a 49% reduction in oral medication (i.e. premixes, oral powders and solutions) from 2011 to 2021. Consumption of medicated premixes (herd or flock medication) dropped significantly, 65%, from representing 19.6% of overall sales in 2011 to approximately 12.1% in 2022. Over the same period, targeted and individualised treatment using injectable VMPs increased, with sales of injectable VMPs accounting for 12.6% of overall sales in 2011 and 18.3% in 2022.

Sales of 3rd- and 4th-generation cephalosporins and fluoroquinolones fluctuated from 2011 to 2022 but have decreased by 13% each during the implementation of the CZ NAP 2019-2022. Sales of polymyxins, which have been consistently low in Czechia, decreased by 6.2% in this time frame. These results demonstrate the effectiveness of the second NAP in reducing the consumption of antibiotics that fall under the AMEG category B. Additionally, since the implementation of the NAP 2019-2022, there has been a significant decline (35%) in the use of antimicrobials during the drying-off period, reflecting the intensified efforts of farmers and veterinarians in the dairy sector.

Throughout the period 2011–2022, the following factors have contributed towards the declining trend of overall sales of antimicrobials in Czechia: new technologies, improvement in biosecurity, increased animal welfare and care, as well as training targeting different stakeholders. The following measures were implemented for the major individual sectors:

- Pigs: herding (repeated in the period 2011–2022) of specific pathogen-free (SPF) swine populations and improvements in care (e.g. improvement / control colostrum intake for suckling piglets and measures targeted at weaning piglets).
- Dairy sector: in-house microbiological tests (with improvements to testing sets during the above-mentioned period and an increase in the number of farms involved), higher use of narrow-spectrum penicillins and decreased use of dry-cow intramammary VMPs.
- Poultry sector: tailored care of parent flocks and 1-day-old chicks to prevent disease in the poultry sector, improved biosecurity on an increasing number of farms and increased vaccination against certain diseases.

Furthermore, monitoring of susceptibility and resistance of target veterinary pathogens (since 2015) initialised by the WGAM and access to datasets with minimum inhibitory concentrations (MICs) have helped and motivated veterinarians and farmers to make better antimicrobial choices.

Both physical and, since 2020, virtual and hybrid forms of training / courses have been held primarily for veterinarians and farmers, but also for other stakeholders, to increase awareness of measures targeting activities that could help decrease the need for antimicrobials' use. These activities have contributed to the decrease in the overall use of antimicrobials, as well as to the decrease of AMEG B within this period (also linked to the 2nd CZ NAP, 2019–2022).