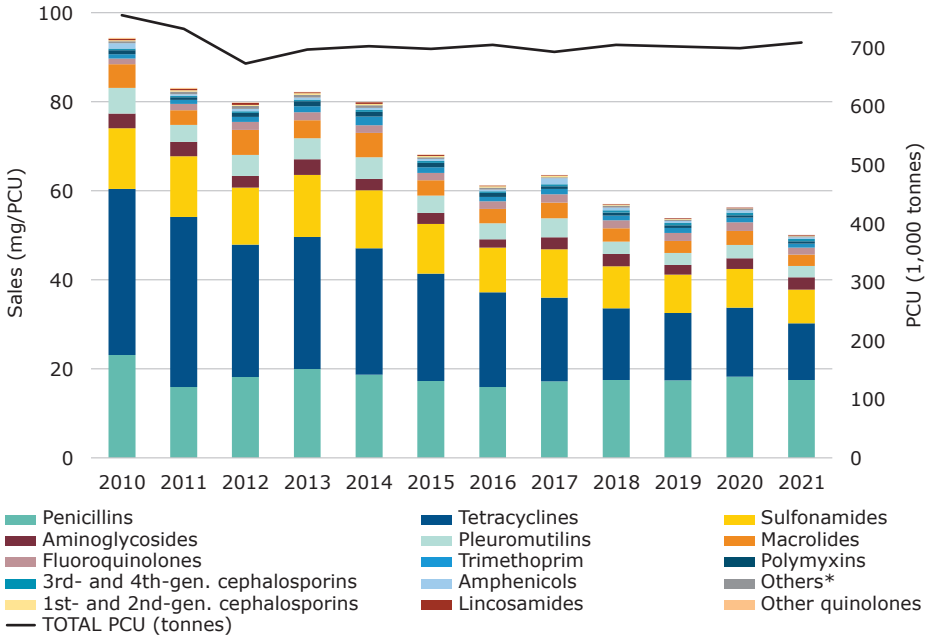
CZECHIA

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

Sales trends by antibiotic class (mg/PCU) from 2010 to 2021[1,2]

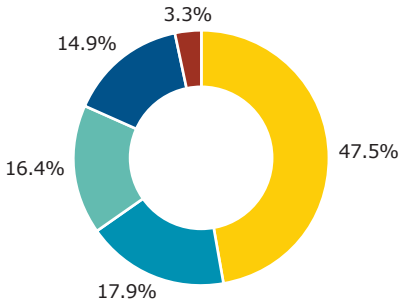


[1] Sales data sorted from highest to lowest in 2021.
[2] No sales of other quinolones since 2019.
* The class 'Others' includes sales of bacitracin, novobiocin, rifaximin and spectinomycin (classified as other antibacterials in the ATCvet system).

Since 2011:

- 39.8% overall annual sales (from 83.0 mg/PCU to 50.0 mg/PCU in 2021)
- 71.6% 3rd- and 4th-generation cephalosporin sales (from 0.28 mg/PCU to 0.49 mg/PCU in 2021)
- 12.2% fluoroquinolone sales (from 1.5 mg/PCU to 1.6 mg/PCU in 2021)
- 100% other quinolone sales (from 0.22 mg/PCU to 0 mg/PCU in 2019–2021)
- 5.8% polymyxin sales (from 0.58 mg/PCU to 0.54 mg/PCU in 2021)
- The PCU decreased by 3.2% between 2011 and 2021

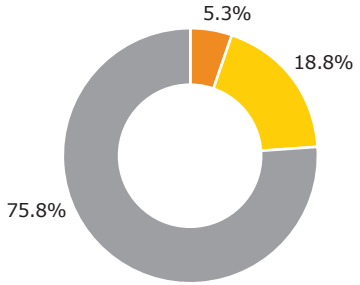
Proportion of sales (mg/PCU) by product form in 2021



Sales of oral powders, oral solutions and premixes accounted for 78.8% of the total sales in 2021.

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

Proportion of sales (mg/PCU) by AMEG categories in 2021[1]



The majority of antibiotic VMP sales in 2021 belonged to the AMEG category D (Prudence), accounting for 75.8% of the total sales.

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

2021 sales data

In 2021, overall sales decreased by 11.0% in comparison to 2020 (from 56.2 mg/PCU to 50.0 mg/PCU). The three highest selling antibiotic classes were penicillins, tetracyclines and sulfonamides, which accounted for 34.9%, 25.5% and 15.1% of total sales, respectively.

Country information

Over the past three years (2019–2021), there has been a 7% 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 has started in-depth analysis accompanied by consultations with various stakeholders in order to begin detailed development of further tailored steps in the planning of the subsequent CZ NAP for future years.

The long-term decrease in overall sales can be explained by a 44% reduction in the use of oral medication (i.e. premixes, oral powders and solutions) throughout the period 2011 to 2021. Consumption of medicated premixes (herd or flock medication) dropped from representing 20% of overall sales in 2011 to approximately 15% in 2021. Over the same period of time, targeted and individualised treatment using injectable VMPs increased, with sales of injectable VMPs accounting for 13% of overall sales in 2011 and 18% in 2021.

In comparison to the previous year, overall sales in 2021 decreased by 11%. Despite general unfavourable trends for 3rd- and 4th-generation cephalosporins and fluoroquinolones throughout the period 2011–2021, sales of these antibiotic classes decreased by 9% and 16% respectively, between 2020 and 2021. Sales of polymyxins, which have been consistently low in Czechia, further decreased another 9% since 2020. The significant decrease in the use of antimicrobials during the drying-off period in dairy cattle (29% between 2020 and 2021) reflects the long-term efforts of farmers and veterinarians in the dairy sector.

Throughout the period 2011–2021, 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 trainings targeting different stakeholders. The following measures were implemented for the major individual sectors:

- Pigs: herding (repeated in the period 2011–2021) 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 one-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, training/courses have been held especially for veterinarians and farmers, but also for other stakeholders, in order to increase awareness of measures targeting activities that could be of help in decreasing the need for the use of antimicrobials, and which have contributed to the decrease in the overall use of antimicrobials (linked to the 2nd CZ NAP, 2019–2022).