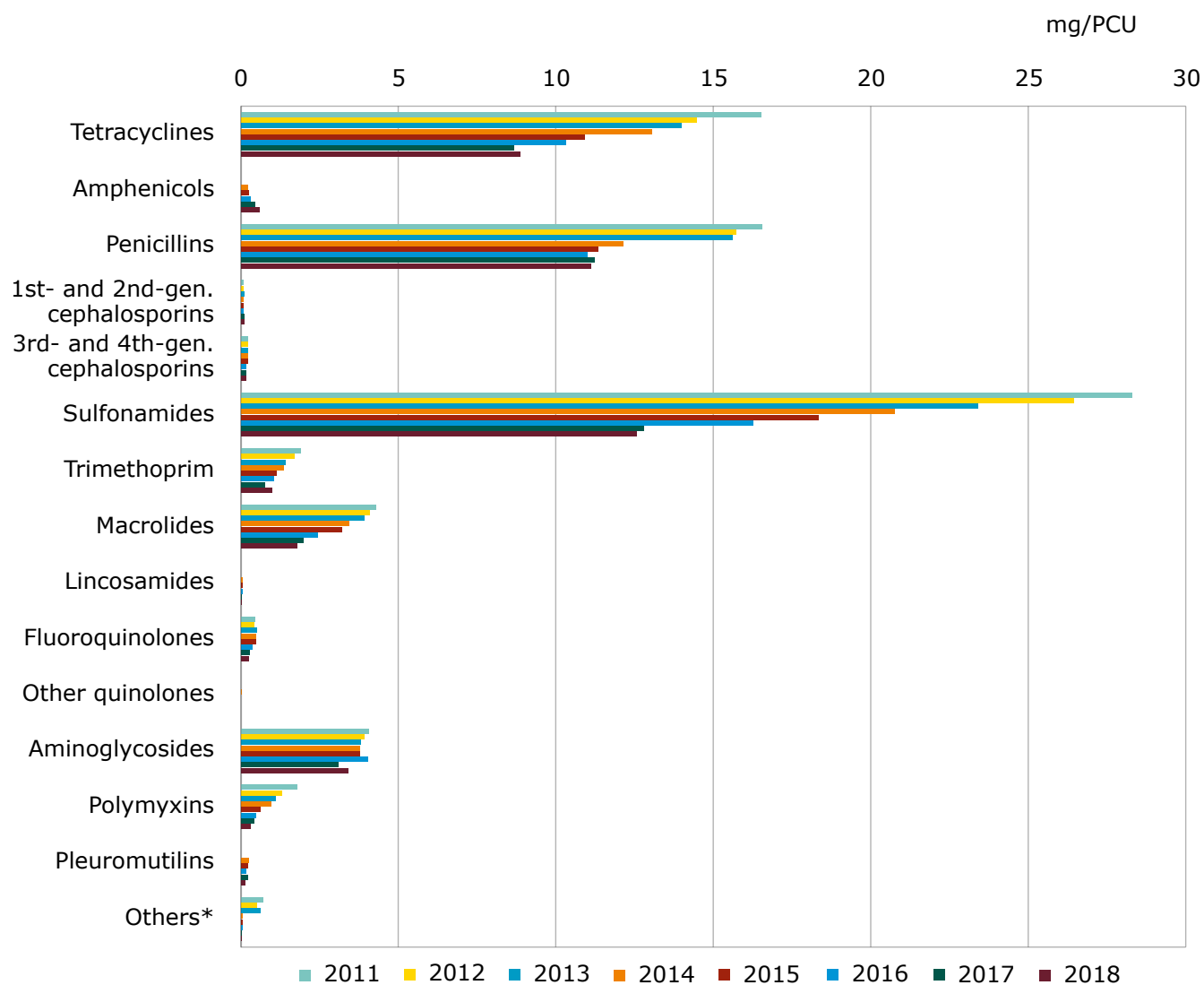


SWITZERLAND



CHANGES IN SALES (MG/PCU) ACROSS YEARS



From 2011 to 2013, for reasons of confidentiality, amphenicols, other quinolones and pleuromutilins are grouped with 'Others' and lincosamides are grouped with macrolides.

Data for 2011–2013 have not been submitted to the ESVAC database but have been retrieved from Annex 9 in previous ESVAC reports.

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

From 2011 (74.8 mg/PCU) to 2018 (40.2 mg/PCU), total sales in mg/PCU fell by 46%. Sales of almost every antimicrobial classes decreased since 2011. In comparison to 2014, when Switzerland adhered to the ESVAC protocol requirement, a decrease was observed in the top three sellers: sulfonamides (39%), penicillins (8%) and tetracyclines (32%). Between 2014 and 2018 an increase in sales was observed for amphenicols (180%) and 1st- and 2nd-generation cephalosporins (18%), while sales of these antimicrobial classes were relatively low (<0.6 mg/PCU) in all of the years. From 2017 (40.1 mg/PCU) to 2018, there was almost no variation in sales (in mg/PCU), with an increase of 0.3%.

In 2018 the most-sold classes were sulfonamides (31%), penicillins (28%), tetracyclines (22%), while 3rd- and 4th-generation cephalosporins, fluoroquinolones and polymyxins accounted for 0.4%, 1% and 1%, respectively. Beta-lactamase-sensitive penicillins represented 55% of the sales of penicillins.

Sales of 3rd- and 4th-generation cephalosporins decreased by 33% from 0.23 mg/PCU in 2011 to 0.15 mg/PCU in 2018. The aggregated sales for 25 countries were 0.18 mg/PCU. From 2017 (0.17 mg/PCU) to 2018, sales decreased by 9%. The strongest decrease (-0.04 mg/PCU) was registered between 2015 and 2016. This might be attributed to a change in the Swiss legislation, forbidding stock delivery of products containing highest priority critically important antimicrobials. Since 1 April 2016, such products may only be applied by the treating veterinarian but not delivered in stock to the animal owner.

The restriction also applies to fluoroquinolones, with sales decreasing in absolute numbers from 0.45 mg/PCU in 2011 to 0.23 mg/PCU in 2018 and relatively by 50%. The same effect as described for 3rd- and 4th-generation cephalosporins is seen, with the biggest decrease (-0.12 mg/PCU) taking place between 2015 and 2016. From 2017 (0.26 mg/PCU) to 2018, sales decreased by 12%.

The same restriction applies to products containing macrolides, very often contained in premixes, leading to a strong reduction of 58% (4.29 mg/PCU in 2011 to 1.79 mg/PCU in 2018) in sales of this class.

Polymyxins, exclusively sold and used as colistin in food-producing animals, achieved the highest reduction in critical antimicrobials with a decrease in absolute numbers from 1.78 mg/PCU in 2011 to 0.29 mg/PCU in 2018 and relatively by 84%. From 2017 (0.41 mg/PCU) to 2018, sales decreased by 30%. Under current Swiss legislation, colistin is not subject to the same restrictions as 3rd- and 4th-generation cephalosporins and fluoroquinolones and can still be stock-delivered to (mainly pig) farmers. The strong reduction in colistin sales therefore might be linked to the aforementioned measures, increased awareness among farmers about antibiotic use and its effects and also to the introduction and extensive use of vaccines against both porcine circovirus and Lawsonia infections, thereby reducing the occurrence of diarrhoea and hence the need to treat for bacterial secondary infections.

Total PCU shows a decreasing trend in the years under investigation, but the decrease in sales is mainly linked to a reduction of use, mainly in pigs and calves treated as a group. As expected, two of the three top sellers (tetracyclines and sulfonamides) are mainly used in the form of premixes, very often in combination with a macrolide. A decrease in individual treatments with critical antibiotics is also observed. In the context of the national strategy of antimicrobial resistance (StAR), with the development of guidelines on the prudent use of antimicrobials in cattle/calves, pigs and companion animals, vaccination campaigns and strengthened continuing education, management measures are being promoted and restrictions introduced in 2016 continuously monitored. These measures have strongly contributed to decreased sales of premixes and hence, the overall decrease in sales.

Of note is that sales of antimicrobials for veterinary use reported by Switzerland are considered to be slightly overestimated, as data also contain trade in Liechtenstein, although no animal data characterising Liechtenstein are covered in the denominator currently used for analysis. Consumption of antimicrobials for veterinary use in Liechtenstein is considered to be very low.

