

Antimicrobial consumption in the EU/EEA – Summary of Annual Epidemiological Report 2020

Latest data and current situation

Reporting on data retrieved from The European Surveillance System (TESSy) on 10 September 2021

Key facts

- For 2020, twenty-nine countries (27 European Union (EU) Member States and two European Economic Area (EEA) countries - Iceland and Norway) reported data on antimicrobial consumption. Twenty-five countries reported data for both community and hospital consumption; two countries (Germany and Iceland) reported only community consumption, and two countries (Cyprus and Czechia) reported total consumption for both sectors combined.
- Antimicrobial consumption is expressed as the number of defined daily doses (DDD) per 1 000 inhabitants per day. The Anatomical Therapeutic Chemical (ATC) DDD Index 2021 was used for the analysis of both 2020 data and historical data.
- In 2020, the mean total (community and hospital sector combined) consumption of antibacterials for systemic use (ATC group J01) in the EU/EEA was 16.4 DDD per 1 000 inhabitants per day (country range: 8.5–28.9). During the period 2011–2020, a statistically significant decrease was observed for the EU/EEA overall, as well as for eight individual countries. A statistically significant increasing trend was observed for two countries.
- The EU/EEA mean total (community and hospital sector combined) consumption of antivirals for systemic use (ATC group J05) was 2.56 DDD per 1 000 inhabitants per day (country range: 0.59–11.19), with no statistically significant trends in the five-year period between 2016–2020.

Community (primary care sector)

- In the community, the EU/EEA mean consumption of antibacterials for systemic use (ATC group J01) was 15.0 DDD per 1 000 inhabitants per day (country range: 7.1–26.4). During the period 2011–2020, a statistically significant decrease was observed for the EU/EEA overall, as well as for 11 individual countries. A statistically significant increasing trend was observed for one country.
- Between 2011 and 2020, there were statistically significant decreases in the EU/EEA mean for consumption of certain subgroups of antibacterials in the community. This applied to tetracyclines (J01A), cephalosporins and other beta-lactam antibacterials (J01D), macrolides, lincosamides, streptogramins (J01F) and quinolones (J01M). No significant EU/EEA trends were detected for penicillins (ATC group J01C), sulfonamides or trimethoprim (ATC group J01E).
- The average ratio of consumption of broad-spectrum penicillins, cephalosporins, macrolides (except erythromycin) and fluoroquinolones to the consumption of narrow-spectrum penicillins, cephalosporins and

macrolides (i.e. erythromycin) in the community was 3.5 (country range: 0.1–19.1). During the period 2011–2020, a statistically significant increasing trend was observed for the EU/EEA overall and for nine individual countries. Statistically significant decreasing trends were observed for eight countries.

- The EU/EEA mean consumption of antimycotics and antifungals for systemic use (ATC groups J02 and D01B) in the community was 0.9 DDD per 1 000 inhabitants per day (country range: 0.3–3.0).

Hospital sector

- In the hospital sector, the EU/EEA mean consumption of antibacterials for systemic use (ATC group J01) was 1.6 DDD per 1 000 inhabitants per day (country range: 0.8–2.2). During the period 2011–2020, no statistically significant trend was observed at EU/EEA level. Statistically significant decreasing trends were observed for five countries, and a statistically significant increasing trend were observed for two countries.
- In the EU/EEA hospital sector, there were statistically significant decreases in the mean 10-year trends for consumption of quinolones (ATC group J01M), and a statistically significant increase for other beta-lactam antibacterials (ATC group J01D) and sulfonamides and trimethoprim (ATC group J01E). No significant EU/EEA trends were detected for consumption of tetracyclines (ATC group J01A), penicillins (ATC group J01C) or macrolides, lincosamides and streptogramins (ATC group J01F).
- Of the total consumption of antibacterials for systemic use in the hospital sector, the average proportion of glycopeptides, third- and fourth-generation cephalosporins, monobactams, carbapenems, fluoroquinolones, polymyxins, piperacillin and enzyme inhibitors, linezolid, tedizolid and daptomycin consumed was 38.6% (country range: 19.5–62.6%). During the period 2011–2020, statistically significant increasing trends were observed for the EU/EEA overall and for six countries, while one country showed a statistically significant decreasing trend.
- The EU/EEA mean consumption of antimycotics and antifungals for systemic use (ATC groups J02 and D01B) in the hospital sector was 0.13 DDD per 1 000 inhabitants per day (country range: 0.04–0.26).

Change in the consumption of antibacterials for systemic use (ATC group J01) between 2019 and 2020

- Between 2019 and 2020, an overall decrease of the EU/EEA population-weighted mean total (community and hospital sectors combined) consumption of antibacterials for systemic use (ATC group J01) from 19.9 DDD per 1000 inhabitants per day in 2019 to 16.4 DDD per 1000 inhabitants per day in 2020. This represented a 17.6% decrease.
- In the community, the EU/EEA population-weighted mean decreased from 18.3 DDD per 1000 inhabitants per day in 2019 to 15.0 DDD per 1000 inhabitants per day in 2020, a 18.3% decrease.
- In the hospital sector, the EU/EEA population-weighted mean decreased from 1.64 DDD per 1000 inhabitants per day in 2019 to 1.57 DDD per 1000 inhabitants per day in 2020, a 4.5% decrease.
- At country level, a majority of the countries reported a substantial decrease between 2019 and 2020 for both the community and the hospital sector, although the decreases were generally larger in the community than in the hospital sector. Seven countries (Estonia, Greece, Hungary, Italy, Latvia, Malta, Portugal) reported a decrease in the community, but an increase in the hospital sector. Only one country (Bulgaria) reported an increase in both the community and the hospital sector.