

SURVEILLANCE & MONITORING

Antimicrobial consumption in the EU/EEA (ESAC-Net data)

Annual Epidemiological Report for 2025

Key findings

Improved but insufficient progress towards the 2030 EU antimicrobial consumption targets

Progress towards the 2030 European Union (EU) antimicrobial consumption (AMC) targets improved in 2025 compared with previous years. There was a substantial reduction in overall consumption of antibacterials for systemic use (ATC J01) between 2024 and 2025, and a continued increase in the percentage of World Health Organization Access Watch Reserve (WHO AWaRe) Access group antimicrobials. Despite this positive development, EU-level consumption is still not on track to achieve its targets by 2030. Key indicator results were as follows:

- The EU population-weighted mean consumption of antibacterials for systemic use (ATC J01) was 18.9 DDD per 1 000 inhabitants per day (DID) in 2025, representing a reduction of 1.0 DID (-5%) compared with the 2019 baseline. To achieve the EU-level target of 15.9 DID by 2030, a further reduction of 3.0 DID is required over the remaining five-year period (2026–2030).
- The EU population-weighted mean percentage of antimicrobial consumption for the WHO AWaRe Access group was 62.5% in 2025. This represents an increase of 1.4 percentage points compared with the 2019 baseline value of 61.1% but remains 2.5 percentage points below the 2030 target of at least 65%.

The post-COVID-19 pandemic increase in community antibacterial consumption has subsided across EU/EEA countries

Following substantial fluctuations during and immediately after the COVID-19 pandemic, community consumption of antibacterials for systemic use returned to approximately pre-pandemic levels across the EU/EEA in 2025. With community consumption accounting for over 90% of total consumption, this sector-specific reduction also substantially impacts overall levels of AMC in the EU/EEA. Key indicator results were as follows:

- The EU/EEA population-weighted mean community consumption of antibacterials for systemic use (ATC J01) was 17.3 DID (country range: 8.6–28.4) in 2025. The EU/EEA-level time series for 2021 to 2025 included exceptionally low consumption levels in 2021, followed by increases in consumption during the subsequent three years. Between 2024 and 2025, consumption decreased substantially, by 1.5 DID (8%). This decline was driven almost entirely by reductions in the use of penicillins (J01C; 54% of the overall reduction); macrolides, lincosamides and streptogramins (J01F; 30%); and cephalosporins and other beta-lactams (J01D; 13%). No statistically significant linear trend was detected between 2021 and 2025.

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- In 2025, the EU/EEA population-weighted mean ratio for the ECDC/EFSA/EMA secondary AMC indicator for the community was 4.4 (country range: 0.1–35.4). The EU/EEA-level time series for 2021 to 2025 included an exceptionally high ratio in 2023, followed by decreases in the following two years. No statistically significant linear trend was detected between 2021 and 2025.
- A moderate positive correlation was observed between national secondary indicator ratios and overall consumption of antibacterials for systemic use in 2025 (Spearman's $\rho = 0.43$; $p = 0.026$), indicating that countries with higher relative use of broad-spectrum antimicrobials generally also had higher consumption overall.

Last-resort antimicrobial consumption on the rise in EU/EEA hospitals

The relative consumption of WHO AWaRe Reserve antibiotics continued to increase in EU/EEA hospitals in 2025, suggesting an increasing reliance on agents that should be reserved for the treatment of confirmed or suspected infections caused by multidrug-resistant organisms. This may partly reflect the growing burden of antimicrobial resistance across the EU/EEA. Continued antimicrobial stewardship is essential to preserve these agents and ensure their appropriate use. Key indicator results were as follows:

- The EU/EEA population-weighted mean hospital consumption of antibacterials for systemic use (ATC J01) was 1.65 DID in 2025 (country range: 0.7–3.0). The EU/EEA-level time series for 2021 to 2025 for ATC J01 showed no statistically significant linear trend.
- The EU/EEA population-weighted mean percentage for the revised ECDC/EFSA/EMA secondary hospital indicator was 40.2% in 2025 (country range: 16.0–71.5%). No statically significant linear trend was detected at the EU/EEA-level between 2021 and 2025.
- At the EU/EEA level, the percentage of hospital consumption of antimicrobials in the WHO AWaRe Reserve group increased from 4.6% in 2021 to 6.0% in 2025 (country range in 2025: 0.5–16.0%), with a statistically significant increasing linear trend detected during this period.
- Countries with higher national percentages for the revised ECDC/EFSA/EMA secondary hospital indicator generally also reported higher relative consumption of WHO AWaRe Reserve antimicrobials, with a strong positive correlation observed between the two indicators in 2025 (Spearman's $\rho = 0.66$; $p < 0.001$). The relationship between these two indicators and overall hospital antimicrobial consumption was less clear, showing only a weak positive association for the revised secondary indicator (Spearman's $\rho = 0.40$; $p = 0.036$) and no significant association for the percentage of WHO AWaRe Reserve group antimicrobials (Spearman's $\rho = 0.11$; $p = 0.593$).

Public health implications

Ensuring prudent use of antimicrobials is fundamental for an effective response to the emergence and spread of antimicrobial resistance. The latest AMC data from ESAC-Net, presented in this report and through the ECDC AMC dashboard, highlight the need for continued efforts to reduce unnecessary and inappropriate antimicrobial use across the EU/EEA. In particular, the following actions can be considered:

- Sustain and intensify actions to identify and overcome any barriers that hinder progress towards both EU-level and national 2030 AMC targets. Although progress improved in 2025 compared with previous years, EU-level consumption is still not on track to achieve its targets by 2030, and many countries are still far from their recommended country-specific targets.
- Introduce measures to prevent infections and reduce transmission, together with targeted antimicrobial stewardship initiatives and adequate diagnostic capacity. These actions can support appropriate antimicrobial use and minimise unnecessary exposure to antimicrobials. ESAC-Net data show continuing and substantial variation in AMC across countries, indicating that there is considerable opportunity to optimise antimicrobial use in the EU/EEA.
- Strengthen antimicrobial stewardship efforts in hospitals to address the increasing consumption of WHO AWaRe Reserve group antimicrobials. Such initiatives should aim to ensure that broad-spectrum and last-resort agents are used appropriately and reserved for the patients who are most likely to benefit from them.

Introduction

Antimicrobial resistance (AMR) is considered one of the main threats to public health in the European Union and European Economic Area (EU/EEA) [1-2], with over 35 000 deaths attributable to infections with antibiotic-resistant bacteria estimated in 2020 [3]. Ensuring prudent and appropriate antimicrobial use is key to an effective response to AMR, as antimicrobial use exerts ecological pressure on bacteria and contributes to the emergence and selection of resistant bacteria. Surveillance of antimicrobial consumption (AMC) plays a critical role in guiding and evaluating interventions in this area, as emphasised at both EU [2,4] and global levels [5-6].

This annual epidemiological report is based on AMC data reported to the European Centre for Disease Prevention and Control by the European Surveillance of Antimicrobial Consumption Network (ESAC-Net) for the period 2019 to 2025. ESAC-Net, coordinated by ECDC, collects and analyses EU- and EU/EEA-level AMC data to monitor temporal trends and geographical variation in AMC to inform public health policies and antimicrobial stewardship interventions.

The report focuses on the consumption of antibacterials for systemic use (ATC J01) and within selected World Health Organization Access, Watch and Reserve (WHO AWaRe) categories [7]. The scope of the report is to monitor the progress towards the 2030 EU targets for AMC between 2019 and 2025 [2], and to present results for selected indicators for the community and hospital sectors between 2021 and 2025. The public ECDC AMC dashboard provides additional data, including longer time series, detailed national-level results, and additional antimicrobial groups, indicators and metrics [8].

Methods

The data included in this report were retrieved from ECDC's EpiPulse Cases system on 30 September 2026. EpiPulse Cases is a system for the collection, storage, analysis and dissemination of data on communicable diseases and special health issues; it allows for the correction and supplementation of historical data. The latest report therefore supersedes previous reports and reflects the most recent available data at the time of data extraction.

To ensure data standardisation and comparability, ESAC-Net uses the World Health Organization (WHO) anatomical therapeutic chemical (ATC)/defined daily dose (DDD) index to categorise and measure AMC [9-10].

The main ESAC-Net indicators are based on the number of DDD per 1 000 inhabitants per day (DID), which provides a rough estimate of the size of the population treated daily with antimicrobials. DDD is a technical unit for measurement of AMC, which does not necessarily reflect the recommended dose for treatment. To calculate population-based rates of AMC, the Eurostat population data for each respective country and year was used [11], unless the country provided ECDC with an alternative denominator [12]. In accordance with the WHO definition [13], the annual number of days per year is fixed to 365 and does not take leap years into account.

AMC reported through ESAC-Net refers to the volume of antimicrobials distributed, sold or dispensed within a country, and does not reflect the actual use (e.g. ingestion, inhalation or injection) of antimicrobials. AMC data reported for 2025 were mainly based on sales of antimicrobials, or a combination of sales and reimbursement data. As shown in Table 1, data sources for the community sector and the hospital sector varied between countries. If long-term care facility data were included, they were mainly reported as community sector data or as a mix of community and hospital sector data.

A more comprehensive description of the methods used to produce this report is provided in the latest ESAC-Net reporting protocol [12] and the Methods section of the 2024 ESAC-Net Annual Epidemiological Report [14].

Table 1. ESAC-Net antimicrobial consumption data sources and inclusion of data from long-term care facilities, EU/EEA countries, 2025

Country	Data source		LTCF data inclusion (sector)
	Community sector	Hospital sector	
Austria	R	S	Yes (C+H)
Belgium	S+R	R	Yes (C)
Bulgaria	S	S	Yes (C+H)
Croatia	R	R	Yes (C)
Cyprus	R	S+R	Yes (C+H)
Czechia	S+R	S+R	Yes (C+H)
Denmark	S	S	Yes (C+H)
Estonia	S	S	Yes (C+H)
Finland[a]	S	S	Yes (C+H)
France[b]	S	S	Yes (C+H)
Germany	R	Other	Yes (C)
Greece	S+R	S	Yes (C+H)
Hungary	S	S	Yes (C)
Iceland	S	S	Yes (C)
Ireland	S	S	Not included
Italy	S+R	R	Yes (C+H)
Latvia	S	S	Yes (C)
Liechtenstein[c]	ND	S+R	Not included
Lithuania	S	S	Yes (H)
Luxembourg	R	S	Yes (C)
Malta	S+R	S+R	Yes (C)
Netherlands	S	S	Yes (C)
Norway	S+R	S	Yes (C)
Poland	S	S	Yes (C)
Portugal[d]	R	S+R	Yes (C)
Romania	S	S+R	Not included
Slovakia	S	S	Yes (C)
Slovenia	S+R	S+R	Yes (C)
Spain	S+R	S+R	Yes (C)
Sweden[e]	ND	ND	ND

C: community sector data; EU/EEA: European Union/European Economic Area; LTCF: long-term care facility; H: hospital sector data; ND: no data reported; R: reimbursement data (financial claims from legitimate beneficiaries, from prescribers or from dispensing pharmacies, including information from national drug registers); S: sales data (sales or distribution reports from wholesalers, pharmacies or market research companies).

[a] Finland included antimicrobial consumption in remote primary care centres and nursing homes in hospital sector data.

[b] France reported antimicrobial consumption data from nursing homes partly with community sector data and partly with hospital sector data; LTCF data is included in hospital sector data.

[c] Liechtenstein's hospital sector data originate from the only hospital in the country, a small primary care hospital responsible for about 35–40% of the hospital treatment of residents. Most residents of Liechtenstein receive hospital care in neighbouring Swiss and Austrian hospitals.

[d] Portugal's hospital sector data only refers to antimicrobials consumed in public hospitals on the mainland.

[e] For Sweden, no data were reported to ECDC for the period 2023–2025 due to national reporting restrictions.

2030 European Union targets for antimicrobial consumption

Target framework

In 2023, the Council of the European Union adopted the Council Recommendation on stepping up EU actions to combat antimicrobial resistance in a One Health approach (2023/C 220/01), which invites EU Member States to take appropriate national measures to reduce human AMC. Progress is measured against two concrete AMC targets to be achieved by 2030, using 2019 as the baseline year [2].

The targets address AMC in total care (i.e. in the community and hospital sectors combined) and are based on two indicators: total consumption of antibacterials for systemic use (ATC J01) and the percentage of consumed antimicrobials in the WHO AWaRe Access group [7].

The Council Recommendation also includes recommended targets for individual Member States to support achieving the overall EU targets [2]. An overview of the EU-level and country-specific targets is provided in Table 2.

Table 2. Overview of European Union antimicrobial consumption targets and recommended national targets

Target indicator and metrics	Description	EU-level targets	Recommended national reduction targets
Total consumption of antibacterials for systemic use in the total care sector (community and hospital sectors combined): Measured as defined daily doses per 1 000 inhabitants per day (DID) of all antibacterials for systemic use (ATC J01), according to the latest WHO ATC/DDD index [9].	Monitors the volume of antibacterial consumption by providing an estimate of the population treated with antimicrobials each day.	A 20% reduction in the EU population-weighted mean between 2019 and 2030, leading to a maximum consumption of 15.9 DID in 2030.	Reduction targets of 3%, 9%, 18% or 27%, assigned according to national consumption levels at baseline (2019). See Table 3 for details.
WHO AWaRe Access group consumption in the total care sector (community and hospital sectors combined): Measured as the percentage of DID in the WHO AWaRe Access group out of all antibacterials for systemic use (ATC J01) and non-J01 AWaRe antimicrobials (A07AA01, A07AA04-06, A07AA08-13, J04AB02-04 and P01AB01-08), as listed in the 2025 WHO AWaRe classification [7].	Monitors the relative consumption (%) of antibacterials that are effective against a wide range of commonly encountered susceptible pathogens and have a lower potential for promoting antimicrobial resistance compared with antimicrobials in the Watch and Reserve groups.	All EU countries should achieve at least 65% consumption from the WHO AWaRe Access group by 2030. The EU population-weighted mean percentage is monitored as the EU target.	National consumption ≥65% from the WHO AWaRe Access group by 2030.

ATC: anatomical classification system; EU: European Union; DDD: defined daily doses; DID: DDD per 1 000 inhabitants per day; WHO AWaRe: World Health Organization Access Watch Reserve classification system.

Progress towards the 2030 antimicrobial consumption targets in 2025

At the EU level, progress towards the 2030 EU AMC targets improved in 2025 compared with 2024, with reduced overall consumption of antibacterials for systemic use (ATC J01) and a continued increase in the percentage of consumed antimicrobials that were in the WHO AWaRe Access group. Despite this positive development, the EU is still not on track to achieve its targets by 2030 (Figure 1) and many Member States are still far from their recommended country-specific targets (Table 3, Table 4).

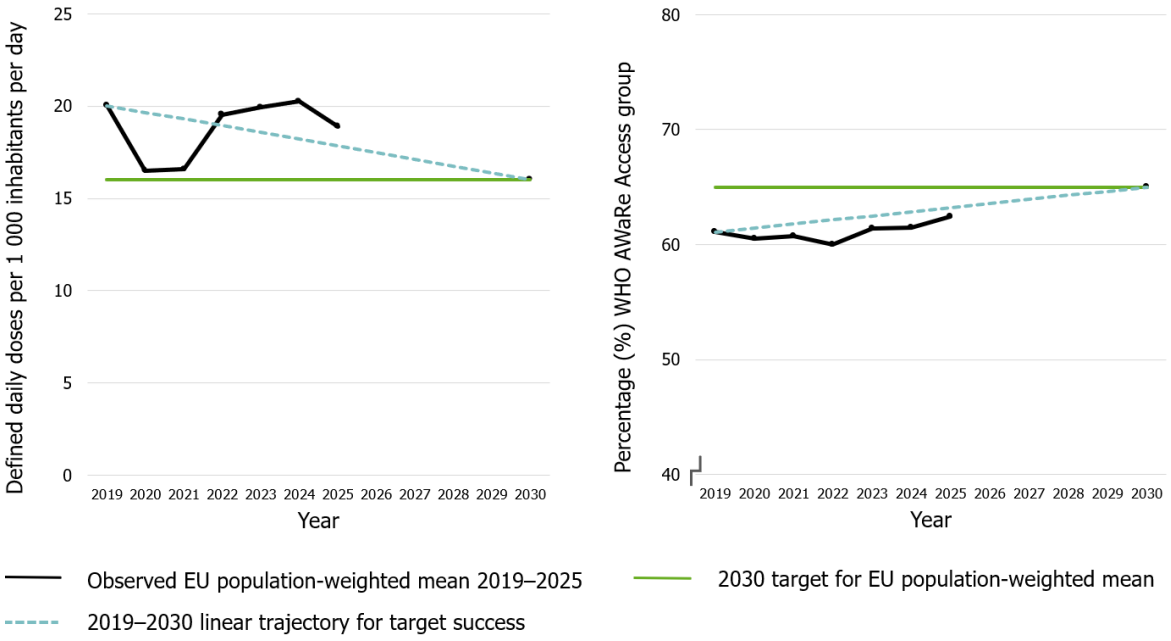
The 2019 to 2025 time series for total consumption of antibacterials for systemic use showed substantial fluctuations for the years during and immediately after the COVID-19 pandemic. This unusual pattern, observed at the EU level and for most of the individual countries, was largely driven by marked but temporary shifts in community consumption. As the linear trend models that are routinely applied fit the data poorly, trend analyses were not performed for this indicator. More detailed information on changes in and patterns of community consumption of antibacterials for systemic use during and directly after the COVID-19 pandemic is available in previous publications [14-16] and in this report's section on community AMC.

EU-level targets

In 2025, the EU population-weighted mean consumption of antibacterials for systemic use (ATC J01) was 18.9 DDD per 1 000 inhabitants per day (DID), representing a reduction of 1.0 DID (-5%) compared with the 2019 baseline. To achieve the EU-level target of 15.9 DID by 2030, a further reduction of 3.0 DID is required over the remaining five-year period (2026–2030; Figure 1, Table 3).

The EU population-weighted mean proportion of antimicrobials in the WHO AWaRe Access group was 62.5% in 2025. This represents an increase of 1.4 percentage points compared with the 2019 baseline value of 61.1%, but remains 2.5 percentage points below the 2030 target of at least 65%. Although the 2025 value was higher compared with 2019, no statistically significant linear trend was detected at the EU level between 2019 and 2025 (Figure 1, Table 4).

Figure 1. Progress towards the 2030 European Union targets for antimicrobial consumption: total consumption of antibacterials for systemic use (ATC J01) measured as DDD per 1 000 inhabitants per day (left) and percentage WHO AWaRe Access group consumption (right)



ATC: anatomical classification system; EU: European Union; WHO AWaRe: World Health Organization Access, Watch, Reserve classification system.
The indicators presented here are described in Table 2. Total consumption refers to the community and hospital sectors combined. EU population-weighted mean refers to the population-weighted mean consumption, based on data from the 27 EU Member States. Imputations for missing national data have been included as described in the footnotes of Table 3 and Table 4.

Recommended national-level targets

For the recommended national reduction targets for total consumption of antibacterials for systemic use (ATC J01), two EU countries (Austria and Finland) out of the 26 countries providing data for 2025 were already below their recommended country-specific 2030 targets. For the other 24 countries, the remaining distance to their respective national target values varied substantially and ranged from 0.1 DID in the Netherlands to 8.8 DID in Malta. Seventeen (71%) of these countries reported some progress towards their respective 2030 targets, with lower consumption in 2025 compared with the baseline year of 2019 or the earliest year with data available (Table 3).

For the percentage of WHO AWaRe Access group antimicrobials consumed, nine EU countries (Belgium, Denmark, Finland, France, Germany, Ireland, Latvia, the Netherlands and Slovenia) had already achieved the EU 2030 target of ≥65% by 2025. Within this group, eight countries have consistently met this target since 2019, while Germany achieved it for the first time in 2025. Among the remaining 17 EU countries reporting data for 2025, the distance to the 2030 target ranged from 0.3 percentage points in Estonia to 24.9 percentage points in Slovakia. Seven of these countries reported some progress towards the target, with a higher percentage of WHO AWaRe Access group antimicrobials consumed in 2025 than in 2019 (Table 4).

A moderate negative correlation was observed between these two national-level target indicators in 2025 (Spearman's ρ: −0.47; p: 0.017), indicating that countries with higher total consumption of antibacterials for systemic use (ATC J01) generally had lower proportions of consumption in the WHO AWaRe Access group.

Table 3. Total consumption of antibacterials for systemic use (ATC J01): DDD per 1 000 inhabitants per day, EU/EEA countries, 2019–2025 and progress towards 2030 AMC targets, EU countries, 2025

Country	2019	2020	2021	2022	2023	2024	2025	Monitoring of EU targets[a]					
								Progress in 2025			2030 targets		
								Distance to target (DID)	Change since 2019		2030 target value (DID)	2019–2030 reduction	
									%	DID		%	DID
European Union													
Austria	11.6	8.8	8.8	10.5	11.3	11.8	10.7	None	-8	-0.9	11.2	-3	-0.4
Belgium	21.4	16.7	17.4	20.5	20.7	21.1	19.0	1.5	-11	-2.3	17.5	-18	-3.9
Bulgaria	21.7	24.0	25.9	27.1	26.3	23.4	21.4	4.4	-2	-0.4	17.0	-18	-4.7
Croatia	18.8	15.7	18.2	20.2	21.2	22.0	20.5	3.4	+9	1.7	17.1	-9	-1.7
Cyprus	29.6	28.5	24.5	32.6	ND	22.4	22.2	0.2	-25	-7.4	22.0	-27	-7.6
Czechia[b]	16.9	13.4	13.7	17.1	18.3	18.4	16.8	1.4	-1	-0.2	15.4	-9	-1.5
Denmark	15.3	14.3	14.4	15.2	16.2	16.0	15.1	1.2	-1	-0.2	13.9	-9	-1.4
Estonia	11.8	10.5	10.1	12.4	12.7	12.9	12.6	1.2	+7	0.8	11.4	-3	-0.4
Finland	14.7	11.9	11.3	12.5	12.9	13.6	12.7	None	-13	-2.0	13.4	-9	-1.3
France	25.1	20.3	21.5	24.3	24.1	26.5	22.8	4.5	-9	-2.3	18.3	-27	-6.8
Germany	ND	ND	ND	ND	13.4	13.8	12.8	1.3	NA	NA	11.5	-9	-0.9
Greece[b]	34.4	28.4	23.8	32.9	28.6	30.0	31.1	6.2	-10	-3.3	24.9	-27	-9.5
Hungary	14.5	11.3	12.0	14.5	14.2	13.8	14.6	1.5	+<0.1	0.0	13.1	-9	-1.4
Ireland	22.6	18.4	17.6	22.7	22.4	23.0	22.0	5.4	-3	-0.7	16.6	-27	-6.0
Italy	21.7	18.4	17.5	21.9	23.1	22.4	21.2	3.4	-2	-0.5	17.8	-18	-3.9
Latvia	13.9	11.9	11.6	14.9	14.8	15.4	15.8	3.2	+14	1.9	12.6	-9	-1.3
Lithuania	16.3	14.2	14.1	18.5	18.7	19.5	19.0	4.3	+17	2.7	14.7	-9	-1.6
Luxembourg[b]	21.1	16.1	15.9	19.1	20.2	21.6	19.7	2.4	-7	-1.4	17.3	-18	-3.8
Malta	20.7	16.5	15.8	24.0	22.9	23.9	25.8	8.8	+25	5.1	17.0	-18	-3.7
Netherlands	9.5	8.5	8.3	9.1	9.6	9.8	9.3	0.1	-1	-0.1	9.2	-3	-0.3
Poland	23.6	18.5	20.6	24.1	23.2	22.7	22.0	4.8	-7	-1.6	17.2	-27	-6.4
Portugal	19.3	14.8	14.7	17.8	18.6	19.4	18.3	0.7	-5	-1.0	17.6	-9	-1.7
Romania	25.8	25.2	25.7	27.6	27.4	25.2	24.2	5.4	-6	-1.6	18.8	-27	-7.0
Slovakia	19.3	14.4	16.0	20.8	20.1	20.4	18.8	1.2	-3	-0.6	17.6	-9	-1.7
Slovenia	13.0	10.2	10.2	12.4	13.4	14.4	12.8	1.0	-2	-0.2	11.8	-9	-1.2
Spain	24.9	19.7	20.0	23.2	24.1	24.2	22.8	4.6	-8	-2.1	18.2	-27	-6.7
Sweden[b]	11.8	10.3	10.1	11.2	ND	ND	ND	NA	NA	NA	11.4	-3	-0.4
EU[c]	**19.9**	**16.4**	**16.5**	**19.4**	**20.0**	**20.3**	**18.9**	**3.0**	**-5**	**-1.0**	**15.9**	**-20**	**-4.0**
European Economic Area													
Iceland	19.3	16.5	16.8	18.6	18.5	19.8	18.7	NA					
Liechtenstein	ND	ND	ND	ND	ND	ND	ND	NA					
Norway	14.9	13.9	14.0	15.3	15.5	16.1	15.3	NA					
EU/EEA[c]	**19.8**	**16.4**	**16.4**	**19.3**	**19.9**	**20.2**	**18.8**	**NA**					

ATC: anatomical classification system; DDD: defined daily doses; DID: DDD per 1 000 inhabitants per day; EU/EEA: European Union/European Economic Area; NA: not applicable; ND: no data available for total consumption.
'Total consumption' refers to the community and hospital sectors combined. The indicators presented here are described in Table 2. In the 'Distance to target (DID)' column, the orange to green colour scale represents the distance from the 2030 target, measured as DID (orange: furthest from the target; yellow: closer; green: target met (data at or below target value)).
[a] EU target refers to the 2030 EU targets, with 2019 as the baseline year [2]. These targets are only relevant to EU Member States, not EEA countries (Iceland, Liechtenstein and Norway).
[b] Czechia, Greece and Luxembourg changed their data collection process during the monitoring period. Externally provided aggregated data was provided by Sweden for 2022. This could have affected data comparability across years.
[c] 'EU' refers to the population-weighted mean consumption for the 27 EU countries. 'EU/EEA' refers to the population-weighted mean consumption for the 27 EU Member States and two EEA countries (Iceland and Norway). The following imputations for missing national data were included in the EU and EU/EEA population-weighted mean calculations: Cyprus – mean of 2022 and 2024 values was used as 2023 data; Germany: reported community consumption data were combined with imputed hospital consumption data based on the overall EU hospital-to-community consumption ratio for 2019–2022; Sweden: 2022 value was used for 2023–2025. No data were imputed for Liechtenstein.

Table 4. Percentage of WHO AWaRe Access group consumption, EU/EEA countries, 2019–2025 and progress towards 2030 AMC target, EU countries, 2025

Country	2019	2020	2021	2022	2023	2024	2025	Trend 2019–2025[b]	Monitoring of EU target[a]		
									Progress in 2025		2030 target (≥65%)
									Distance to target (% points)	Change since 2019 (% points)	2019-2030 increase (% points)
European Union											
Austria	59.4	60.9	60.5	60.5	62.6	64.2	63.7	↑	1.3	+4.3	+5.6
Belgium	67.8	67.2	68.3	69.4	68.8	65.9	67.8	–	None	-0.1	NA
Bulgaria	45.1	40.5	38.3	40.7	42.0	40.7	41.6	–	23.4	-3.5	+19.9
Croatia	63.0	61.7	60.3	60.1	60.7	61.3	61.3	–	3.7	-1.7	+2.0
Cyprus	48.9	44.3	48.3	55.4	ND	43.2	43.2	NA	21.8	-5.7	+16.1
Czechia[c]	61.3	62.5	61.9	59.8	61.1	59.4	64.1	NA	0.9	+2.8	+3.7
Denmark	78.4	79.0	79.3	80.1	80.1	77.5	76.7	–	None	-1.7	NA
Estonia	61.3	61.1	63.7	64.0	64.2	64.2	64.7	↑	0.3	+3.3	+3.7
Finland	73.2	70.3	70.4	72.3	74.0	75.7	72.9	–	None	-0.3	NA
France	72.0	70.5	72.4	71.4	72.8	74.8	76.2	↑	None	+4.2	NA
Germany	ND	ND	ND	ND	60.4	62.7	65.7	NA	None	NA	+4.6
Greece[c]	46.8	48.6	51.9	42.6	42.0	43.0	43.0	NA	22.0	-3.7	+18.2
Hungary	50.5	51.0	49.2	49.1	50.3	51.2	49.3	–	15.7	-1.2	+14.5
Ireland	70.3	70.8	73.7	74.0	75.1	74.8	74.1	↑	None	+3.8	NA
Italy	48.9	47.2	47.8	47.2	50.8	51.3	51.4	↑	13.6	+2.5	+16.1
Latvia	68.6	69.4	71.2	70.8	71.6	67.7	68.6	—	None	-<0.1	NA
Lithuania	68.3	67.6	70.5	70.7	66.6	64.6	64.4	–	0.6	-3.9	NA
Luxembourg[c]	59.5	60.2	60.6	60.8	61.7	60.5	63.3	NA	1.7	+3.8	+5.5
Malta	49.9	54.7	58.0	55.0	56.0	55.1	58.3	–	6.7	+8.3	+15.1
Netherlands	71.2	70.1	70.2	71.0	71.8	71.5	70.7	–	None	-0.5	NA
Poland	60.4	62.9	60.9	56.7	60.4	56.5	57.1	–	7.9	-3.3	+4.6
Portugal	61.4	61.9	61.8	61.2	62.6	61.5	61.9	–	3.1	+0.5	+3.6
Romania	52.8	49.9	49.0	50.3	51.2	49.0	48.5	–	16.5	-4.3	+12.2
Slovakia	42.4	43.6	40.2	37.7	41.7	38.6	40.1	–	24.9	-2.3	+22.6
Slovenia	73.1	70.3	69.6	72.2	73.3	70.2	69.8	–	None	-3.2	NA
Spain	63.0	61.9	62.3	61.2	61.8	61.0	61.6	–	3.4	-1.4	+2.0
Sweden[c]	71.0	68.0	67.6	69.0	ND	ND	ND	NA	NA	NA	NA
EU[d]	**61.1**	**60.5**	**60.8**	**60.0**	**61.4**	**61.5**	**62.5**	–	**2.5**	**+1.4**	**+3.9**
European Economic Area											
Iceland	70.3	70.8	73.7	74.0	75.1	74.8	74.1	↑	NA		
Liechtenstein								NA	NA		
Norway	64.1	58.8	58.8	62.0	61.4	60.9	59.5	–	NA		
EU/EEA[d]	**61.0**	**60.4**	**60.6**	**59.9**	**61.3**	**61.4**	**62.3**	–	NA		

ATC: anatomical classification system; EU/EEA: European Union/European Economic Area; NA: not applicable; ND: no data available for total consumption; WHO AWaRe: World Health Organization Access, Watch, Reserve classification system.
'Total consumption' refers to the community and hospital sectors combined. The indicators presented here are described in Table 2. In the 'Remaining distance to target (percentage points)' column, the orange to green colour scale represents the distance from the 2030 target, measured as DID (orange: furthest from the target; yellow: closer; green: target met (data at or above target value)).
[a] 'EU target' refers to the 2030 EU target, with 2019 as the baseline year [2]. These targets are only relevant to EU Member States, not EEA countries (Iceland, Liechtenstein and Norway).
[b] In the 'Trend 2019–2025' column, the symbols ↑ and ↓ indicate statistically significant increasing or decreasing linear trends, and – indicates absence of a statistically significant linear trend. NA indicates that trend analyses were not performed because of missing data, changes in the type of data or a change in data processing.
[c] Czechia, Greece and Luxembourg changed their data collection process during the monitoring period. Sweden provided externally aggregated data for 2022. This could have affected data comparability across years.
[d] 'EU' refers to the population-weighted mean consumption for 26 EU Member States and excludes Germany due to incomplete time series. 'EU/EEA' refers to the population-weighted mean consumption for 26 EU Member States and two EEA countries (Iceland and Norway). The following imputations for missing national data were included in the EU and EU/EEA population-weighted mean calculations: Cyprus – mean of 2022 and 2024 values was used as 2023 data; and Sweden – 2022 value was used for 2023–2025. No data were imputed for Germany or Liechtenstein.

Community sector antimicrobial consumption

An overview of selected indicators for monitoring EU/EEA-level AMC in the community sector is presented in Table 5. Additional data on community-sector consumption – including longer time series, detailed country results and additional antimicrobial groups, indicators and metrics – can be found in the public ECDC AMC dashboard [8].

Table 5. Overview of selected EU/EEA-level indicators for the community sector

Indicator and metrics	Description
Consumption of antibacterials for systemic use (ATC J01): Measured as defined daily doses per 1 000 inhabitants per day (DID) of all antibacterials for systemic use (ATC J01), according to the latest WHO ATC/DDD index [9].	Monitors the volume of antimicrobial consumption by providing an approximate estimate of the population treated with antimicrobials each day.
ECDC/EFSA/EMA secondary AMC indicator for the community sector: Measured as the ratio of DID for ATC groups J01CR, J01DC, J01DD, J01FA (excluding J01FA01) and J01MA to ATC groups J01CA, J01CE, J01CF, J01DB and J01FA01 [17].	Monitors the relative consumption (ratio) of broad-spectrum to narrow-spectrum antimicrobials relevant to primary care, as suggested in the ECDC, EFSA and EMA Joint Scientific Opinion[a] [17].

ATC: anatomical classification system; DDD: defined daily doses; DID: DDD per 1 000 inhabitants per day; EFSA: European Food Safety Authority; EMA: European Medicines Agency; EU/EEA: European Union/European Economic Area.
[a] The Joint Scientific Opinion provides countries with a list of harmonised outcome indicators to support assessment of progress towards reducing the use of antimicrobials and AMR in both humans and food-producing animals [17].

Consumption of antibacterials for systemics use (ATC J01)

In 2025, EU/EEA-level community sector consumption of antibacterials for systemic use (ATC J01) accounted for 92% of the total consumption of this ATC group. The EU/EEA population-weighted mean consumption was 17.3 DID, with national consumption ranging from 8.6 DID in the Netherlands to 28.4 DID in Greece (Table 6).

At the EU/EEA level, the most commonly consumed ATC J01 subgroup was penicillins (J01C; 47%); followed by macrolides, lincosamides and streptogramins (J01F; 17%); cephalosporins and other beta-lactams (J01D; 11%); tetracyclines (J01A; 10%); quinolones (J01M; 6%); other antibacterials (J01X; 5%); sulfonamides and trimethoprim (J01E; 3%); and 'minor groups combined' (J01B, J01G and J01R; 0.4%) (Figure 2).

The EU/EEA-level time series for 2021 to 2025 included exceptionally low consumption levels in 2021, followed by increases in consumption during the subsequent three years. Between 2024 and 2025, consumption decreased substantially, by 1.5 DID (8%). This decline was driven almost entirely by reductions in the use of penicillins (J01C; 54% of the overall reduction); macrolides, lincosamides and streptogramins (J01F; 30%); and cephalosporins and other beta-lactams (J01D 13%). Although the EU/EEA-level 2025 value remained higher than what was reported for 2021, it was lower than what was reported for 2019 (18.3 DID).

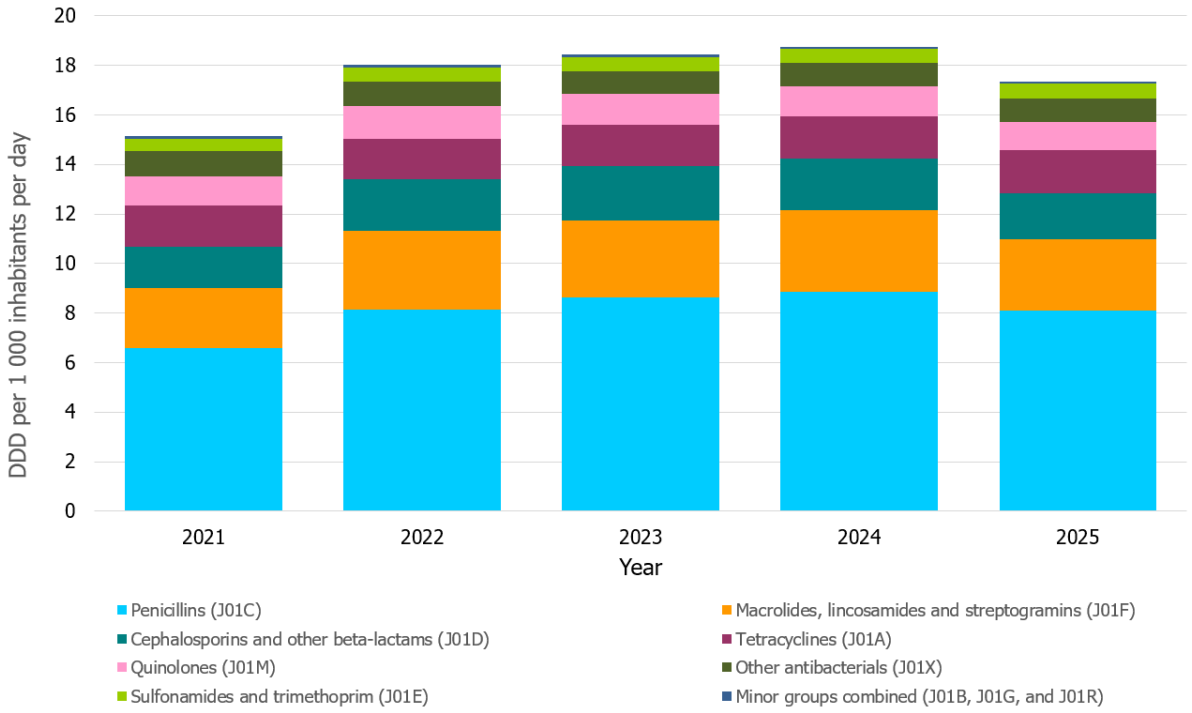
Relative consumption of broad-spectrum to narrow-spectrum antimicrobials

In 2025, the EU/EEA population-weighted mean ratio for the ECDC/EFSA/EMA secondary AMC indicator for the community was 4.4, with national ratios ranging from 0.1 in Norway to 35.4 in Hungary in 2025 (Table 6).

The EU/EEA-level time series for 2021 to 2025 included an exceptionally high ratio in 2023, followed by decreases during the following two years. However, the 2025 value remained higher than what was reported for 2021, and no statistically significant linear trend was detected between 2021 and 2025 (Figure 2, Table 6).

A moderate positive correlation was observed between national secondary indicator ratios and overall consumption of antibacterials for systemic use in 2025 (Spearman's $\rho = 0.43$; $p = 0.026$), indicating that countries with higher relative use of broad-spectrum antimicrobials generally also had higher consumption overall.

Figure 2. Community consumption of antibacterials for systemic use (ATC J01) by subgroup (ATC level 3), expressed as DDD per 1 000 inhabitants per day, EU/EEA population-weighted mean, 2021–2025



ATC: anatomical classification system; DDD: defined daily doses; EU/EEA: European Union/European Economic Area.
'EU/EEA mean' refers to the population-weighted mean consumption, based on data from the 27 EU/EEA countries reporting community sector data for all years within the period 2021 to 2025 (Table 6).

Table 6. Community sector consumption – Antibacterials for systemic use (ATC J01) expressed as DDD per 1 000 inhabitants per day (left) and ratio of the ECDC/EFSA/EMA secondary AMC indicator for the community sector (right), EU/EEA countries, 2021–2025

Country	Antibacterials for systemic use (ATC J01) (DDD per 1000 inhabitants per day)						ECDC/EFSA/EMA secondary indicator for the community sector (ratio)					
	2021	2022	2023	2024	2025	Trend 2021–2025[a]	2021	2022	2023	2024	2025	Trend 2021–2025[a]
Austria	7.2	8.8	9.5	9.9	8.8	–	3.7	3.9	4.1	3.8	4.5	–
Belgium	16.0	19.0	19.1	19.6	17.6	–	1.9	1.7	1.7	1.7	1.7	–
Bulgaria	23.7	25.5	24.6	21.4	19.5	–	5.6	5.8	8.7	9.8	9.4	↑
Croatia	16.2	18.2	19.1	19.8	18.4	–	6.4	5.3	6.2	5.7	6.0	–
Cyprus	ND	ND	ND	20.9	20.2	NA	ND	ND	ND	31.7	31.7	NA
Czechia[b]	10.9	13.9	15.1	16.4	14.6	NA	5.0	4.3	4.1	4.0	3.6	NA
Denmark	12.6	13.3	14.3	14.1	13.2	–	0.3	0.3	0.3	0.3	0.3	–
Estonia	8.7	10.8	11.2	11.3	11.1	–	3.3	3.3	3.1	3.1	3.2	–
Finland	9.4	10.5	11.1	11.8	10.9	–	0.3	0.3	0.3	0.3	0.3	–
France	19.9	22.6	22.3	24.7	21.1	–	1.0	1.0	0.9	0.8	0.9	–
Germany	8.1	10.0	11.7	12.1	11.0	–	1.6	1.5	1.8	1.5	1.5	–
Greece[b]	22.0	31.2	26.8	27.9	28.4	NA	4.3	6.6	6.8	6.8	6.9	NA
Hungary	10.9	13.5	13.1	12.7	13.2	–	20.7	24.7	97.9	49.1	35.4	–
Iceland	15.7	17.5	17.4	18.6	17.5	–	0.5	0.4	0.4	0.5	0.5	–
Ireland	16.1	21.1	20.7	21.1	20.2	–	0.9	0.9	0.8	0.8	0.7	↓
Italy	16.0	20.0	21.2	20.4	19.3	–	8.3	9.4	9.5	9.3	9.6	–
Latvia	10.2	13.4	13.2	13.7	14.1	–	2.6	2.5	2.7	3.6	3.9	↑
Liechtenstein	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	NA
Lithuania	12.1	16.2	16.3	17.2	16.7	–	1.6	1.5	2.4	1.9	1.9	–
Luxembourg	14.6	17.6	18.7	20.1	18.2	–	3.1	3.0	2.6	2.7	2.7	–
Malta	14.1	21.7	20.9	21.7	22.8	–	18.5	24.5	20.8	23.0	22.0	–
Netherlands	7.6	8.3	8.8	9.0	8.6	–	1.5	1.4	1.4	1.4	1.5	–
Norway	12.8	14.0	14.2	14.8	14.1	–	0.1	0.1	0.1	0.1	0.1	–
Poland	19.2	22.7	21.8	21.3	20.6	–	3.5	3.1	2.9	3.4	3.9	–
Portugal	13.4	16.3	17.1	17.9	16.7	–	5.8	5.6	5.4	5.4	5.9	–
Romania	24.3	26.2	25.8	23.5	22.5	–	5.3	4.3	5.1	7.5	8.7	–
Slovakia	14.5	19.7	19.0	19.3	17.6	–	12.5	14.1	12.9	15.0	16.1	–
Slovenia	8.7	11.0	11.9	12.8	11.3	–	2.3	1.6	1.5	1.7	2.0	–
Spain	18.5	21.7	22.5	22.7	21.3	–	2.5	2.4	2.2	2.2	2.2	↓
Sweden	8.7	9.6	ND	ND	ND	NA	0.2	ND	ND	ND	ND	NA
EU/EEA[c]	**15.2**	**18.0**	**18.4**	**18.8**	**17.3**	–	**3.8**	**3.9**	**5.6**	**4.6**	**4.4**	–

ATC: anatomical classification system; DDD: defined daily doses; EFSA: European Food Authority; EMA: European Medicines Agency; EU/EEA: European Union/European Economic Area; NA: not applicable; ND: no data available for community consumption.

The indicators presented here are described in Table 5. In the '2025' columns, values are colour-coded according to their relative magnitude. Yellow indicates a lower value and orange indicates a higher value, as compared with the other countries reporting data for that indicator.

[a] In the 'Trend 2021–2025' columns, the symbols ↑ and ↓ indicate statistically significant increasing or decreasing linear trends, and – indicates the absence of a statistically significant linear trend. NA indicates that trend analyses were not performed because of missing data, changes in the type of data or a change in data processing.

[b] Czechia and Greece changed their data collection process during the period. This could affect data comparability across years.

[c] 'EU/EEA mean' refers to the population-weighted mean consumption, based on data from the 27 EU/EEA countries reporting data for all years within the period 2021 to 2025.

Hospital sector consumption

An overview of selected indicators for monitoring EU/EEA-level AMC in the hospital sector is presented in Table 7. Additional data on hospital-sector consumption – including longer time series, detailed country results and additional antimicrobial groups, indicators and metrics – can be found in the public ECDC AMC dashboard [13].

Table 7. Overview of selected EU/EEA-level indicators for the hospital sector

Indicator and metrics	Description
Consumption of antibacterials for systemic use (ATC J01): Measured as defined daily doses per 1 000 inhabitants per day (DID) of all antibacterials for systemic use (ATC J01), according to the latest WHO ATC/DDD index [9].	Monitors the volume of antimicrobial consumption by providing an approximate estimate of the population treated with antimicrobials each day.
ECDC/EFSA/EMA secondary AMC indicator for the hospital sector (revised in 2025)[a][17]: Measured as the percentage of DID for ATC groups J01XA, J01DD, J01DE, J01DF, J01DH, J01DI04, J01MA, J01XB, J01CR05, J01XX08, J01XX11 and J01XX09 out of the total DID for all antibacterials for systemic use (ATC J01) in the hospital sector.	Monitors the relative consumption (percentage) of broad-spectrum and last-resort antibacterials out of the total hospital consumption of antibacterials for systemic use (ATC J01).
WHO AWaRe Reserve group consumption: Measured as the percentage of DID for WHO AWaRe Reserve group antibacterials out of the DID for all antibacterials for systemic use (ATC J01) and the additional non-J01 AWaRe antimicrobials (A07AA01, A07AA04-06, A07AA08-13, J04AB02-04 and P01AB01-08), as listed in the 2025 WHO AWaRe index [7].	Monitors the relative consumption (percentage) of antimicrobials that should be reserved for treatment of confirmed or suspected infections due to multi-drug-resistant organisms.

AMC: antimicrobial consumption; ATC: anatomical classification system; DDD: defined daily doses; DID: DDD per 1 000 inhabitants per day; EFSA: European Food Safety Authority; EMA: European Medicines Agency; EU/EEA: European Union/European Economic Area; WHO AWaRe: World Health Organization Access, Watch, Reserve classification system.
[a] This indicator is based on the ECDC/EFSA/EMA secondary AMC indicator for the hospital sector, originally published in the Joint Scientific Opinion that provides countries with a list of harmonised outcome indicators to support assessment of progress towards reducing the use of antimicrobials and AMR in both humans and food-producing animals [17]. In 2025, ESAC-Net revised this indicator to also include the more recently approved J01DI04 (cefiderocol) in the indicator's numerator.

Consumption of antibacterials for systemics use (ATC J01)

In 2025, EU/EEA-level hospital sector consumption of antibacterials for systemic use (ATC J01) accounted for 8.5% of the total consumption of this ATC group. The EU/EEA population-weighted mean consumption was 1.65 DDD per 1 000 inhabitants per day (DID) in 2025, with national values ranging from 0.7 DID in the Netherlands to 3.0 DID in Malta (Table 8).

At the EU/EEA level, the most commonly consumed antimicrobial subgroup in 2025 was penicillins (J01C; 33%); followed by cephalosporins and other beta-lactams (J01D; 29%); other antibacterials (J01X; 12%); macrolides, lincosamides and streptogramins (J01F; 8%); quinolones (J01M; 8%); sulfonamides and trimethoprim (J01E; 4%); tetracyclines (J01A; 3%); and 'minor groups combined' (J01B, J01G, and J01R; 2%) (Figure 3).

The EU/EEA-level time series for 2021 to 2025 for ATC J01 showed no statistically significant linear trend. At the subgroup level, statistically significant increasing EU/EEA-level trends were observed for tetracyclines (J01A), cephalosporins and other beta-lactams (J01D), and other antibacterials (J01X), while a statistically significant decreasing linear trend was observed for 'minor groups combined' (J01B, J01G and J01R).

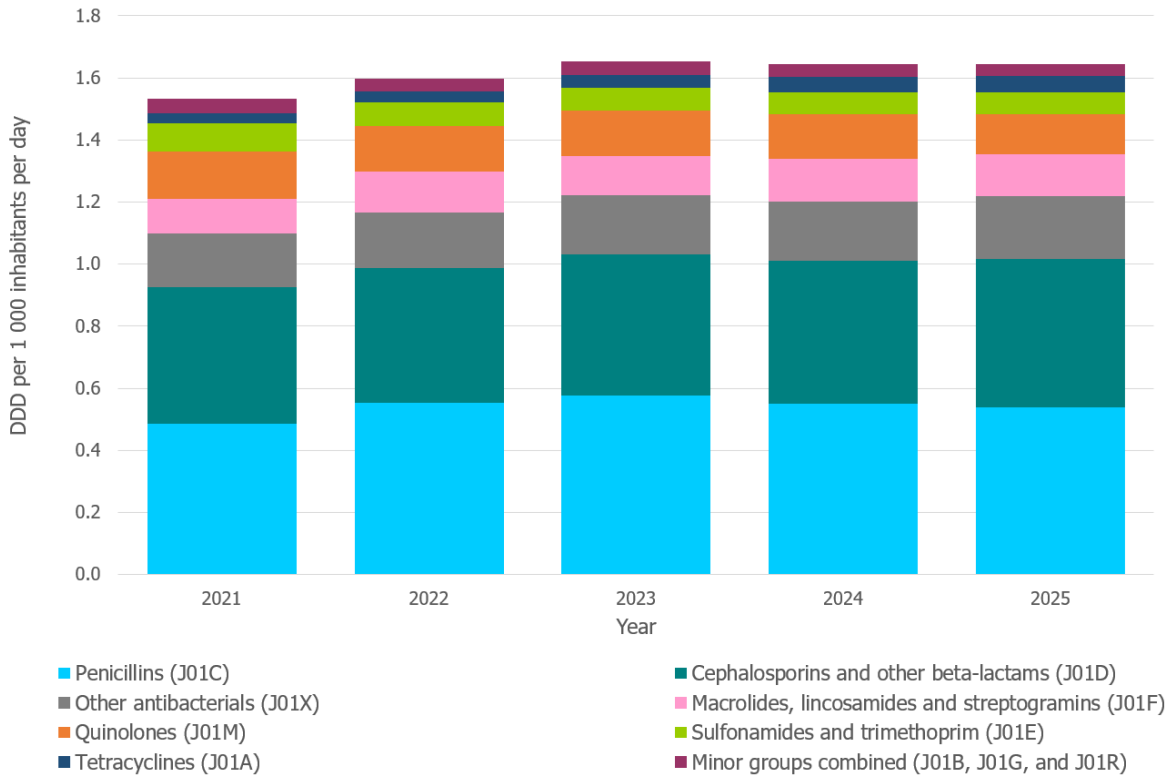
Relative consumption of broad-spectrum and last-resort antimicrobials

In 2025, the EU/EEA population-weighted mean percentage for the revised ECDC/EFSA/EMA secondary hospital indicator was 40.2%, with national percentages ranging from 16.0% in Finland and Lithuania to 71.5% in Greece. No statically significant linear trend was detected at the EU/EEA level between 2021 and 2025 (Table 8).

At the EU/EEA level, the percentage of hospital consumption of antimicrobials that were in the WHO AWaRe Reserve group increased from 4.6% in 2021 to 6.0% in 2025, with a statistically significant increasing linear trend detected during this period. At the national level, the percentage ranged from 0.5% in Finland and Liechtenstein to 16.0% in Spain (Table 8).

Countries with higher national percentages for the secondary indicator generally also reported higher relative consumption of WHO AWaRe Reserve antimicrobials, with a strong positive correlation observed between the two indicators in 2025 (Spearman's ρ = 0.66; p < 0.001). The relationship between these two indicators and overall hospital antimicrobial consumption was less clear, showing only a weak positive association for the revised secondary indicator (Spearman's ρ = 0.40; p = 0.036) and no significant association for the percentage of WHO AWaRe Reserve group antimicrobials (Spearman's ρ = 0.11; p = 0.593).

Figure 3. Hospital consumption of antibacterials for systemic use (ATC J01) by subgroup (ATC level 3), expressed as DDD per 1 000 inhabitants per day, EU/EEA population-weighted mean, 2021–2025



ATC: anatomical classification system; DDD: defined daily doses; EU/EEA: European Union/European Economic Area. 'EU/EEA mean' refers to the population-weighted mean consumption, based on data from the 26 EU/EEA countries reporting hospital sector data for all years within the period 2021 to 2025 (Table 8).

Table 8. Hospital sector consumption – Antibacterials for systemic use (ATC J01) expressed as DDD per 1 000 inhabitants per day (left), percentage of the ECDC/EFSA/EMA secondary AMC indicator for the hospital sector (middle), and percentage of WHO AWaRe Reserve group antibacterials consumed (right), EU/EEA countries, 2021–2025

Country	Antibacterials for systemic use (ATC J01) (DDD per 1000 inhabitants per day)						ECDC/EFSA/EMA secondary indicator (revised in 2025) (%)						WHO AWaRe Reserve group (%)					
	2021	2022	2023	2024	2025	Trend 2021–2025 [a]	2021	2022	2023	2024	2025	Trend 2021–2025[a]	2021	2022	2023	2024	2025	Trend 2021–2025[a]
Austria	1.6	1.7	1.8	1.9	1.9	↑	36.5	35.4	35.3	34.8	33.2	↓	6.0	5.6	5.6	5.5	5.8	–
Belgium	1.4	1.5	1.5	1.5	1.4	–	31.3	30.5	30.4	30.0	30.2	–	1.0	1.0	0.9	0.9	1.0	–
Bulgaria	2.2	1.6	1.7	2.0	1.9	–	71.1	67.6	65.1	63.9	65.0	–	0.7	0.8	1.0	1.1	1.7	↑
Croatia	1.9	2.0	2.1	2.2	2.1	–	39.5	39.0	39.6	40.7	43.3	–	3.4	3.7	3.4	3.9	4.6	–
Cyprus	ND	ND	ND	1.5	2.0	NA	ND	ND	ND	59.7	54.1	NA	ND	ND	ND	3.9	7.9	NA
Czechia[b]	2.9	3.1	3.2	2.0	2.2	NA	18.1	16.0	14.3	22.2	27.1	NA	1.3	1.1	1.3	2.3	8.1	NA
Denmark	1.8	1.8	1.9	1.9	1.9	–	24.3	22.7	22.7	22.2	22.6	–	0.7	0.8	0.7	0.8	0.7	–
Estonia	1.4	1.6	1.5	1.6	1.5	–	24.8	23.2	23.7	24.3	24.4	–	1.3	1.3	1.2	1.2	1.3	–
Finland	1.8	2.0	1.8	1.8	1.8	–	19.6	18.7	19.3	18.4	16.0	–	0.6	0.6	0.7	0.7	0.5	–
France	1.7	1.7	1.7	1.8	1.7	–	33.5	36.5	32.3	32.6	32.2	–	3.6	4.1	5.3	5.5	6.1	↑
Germany	ND	ND	1.7	1.8	1.8	–	ND	ND	39.7	39.0	39.2	–	ND	ND	ND	3.2	3.2	–
Greece	1.8	1.7	1.8	2.1	2.7	–	61.9	59.9	58.7	63.1	71.5	–	15.5	15.1	15.9	11.8	13.0	–
Hungary	1.1	1.0	1.1	1.1	1.3	–	42.4	39.8	42.2	41.9	37.8	–	1.1	1.0	1.0	1.1	1.3	–
Iceland	1.0	1.1	1.2	1.2	1.2	↑	21.4	29.3	30.4	29.4	31.1	–	0.8	0.8	2.3	0.7	0.7	–
Ireland	1.5	1.6	1.8	1.9	1.8	–	31.1	30.3	31.0	32.7	32.0	–	3.4	3.3	3.7	3.8	3.9	↑
Italy	1.5	1.8	1.9	1.9	1.9	–	44.4	46.2	45.2	43.7	42.8	–	5.4	7.1	6.8	6.0	6.0	–
Latvia	1.5	1.5	1.6	1.7	1.7	↑	41.9	40.6	42.0	38.1	39.2	–	1.1	0.7	1.5	0.7	0.9	–
Liechtenstein[b]	ND	ND	ND	ND	0.9	NA	ND	ND	ND	ND	28.9	NA	0.0	0.0	0.0	0.0	0.5	NA
Lithuania	2.0	2.3	2.4	2.3	2.3	–	22.0	17.6	18.4	19.9	16.0	–	1.0	1.0	1.3	1.7	1.2	–
Luxembourg[b]	1.3	1.4	1.5	1.5	1.5	NA	37.5	35.1	35.9	35.9	36.4	NA	2.8	3.2	3.2	3.1	3.5	NA
Malta	1.7	2.3	2.0	2.1	3.0	–	41.2	39.2	42.4	37.6	30.1	–	1.2	1.0	0.9	1.3	0.7	–
Netherlands	0.7	0.7	0.8	0.8	0.7	–	28.7	27.4	26.8	27.6	27.5	–	0.5	0.5	0.7	0.6	0.6	–
Norway	1.1	1.2	1.3	1.3	1.2	–	21.7	21.9	20.9	20.3	20.6	–	0.6	0.6	0.8	0.8	0.7	–
Poland	1.4	1.3	1.4	1.4	1.5	–	44.1	37.9	39.8	39.6	39.9	–	1.6	1.9	2.1	2.3	2.4	↑
Portugal	1.3	1.5	1.5	1.6	1.6	↑	44.2	42.7	43.9	43.7	44.5	–	5.1	4.8	5.0	4.3	4.7	–
Romania	1.4	1.4	1.5	1.7	1.7	↑	64.8	61.5	60.1	58.7	58.3	↓	3.4	3.4	3.3	3.4	3.7	–
Slovakia	1.4	1.1	1.1	1.1	1.1	–	38.6	33.7	36.7	35.1	35.6	–	2.9	2.2	4.6	2.0	1.9	–
Slovenia	1.4	1.5	1.5	1.5	1.5	–	32.3	31.4	30.3	30.0	29.0	↓	2.1	1.8	1.6	1.5	1.4	↓
Spain	1.5	1.5	1.6	1.5	1.5	–	50.5	50.7	51.8	52.2	53.8	↑	11.5	12.2	13.1	14.4	16.0	↑
Sweden	1.4	ND	ND	ND	ND	NA	30.5	ND	ND	ND	ND	NA	1.0	ND	ND	ND	ND	NA
EU/EEA[c]	**1.5**	**1.6**	**1.7**	**1.6**	**1.6**	–	**41.2**	**40.7**	**39.9**	**40.0**	**40.2**	–	**4.6**	**5.0**	**5.4**	**5.4**	**6.0**	↑

ATC: anatomical classification system; DDD: defined daily doses; EFSA: European Food Authority; EMA: European Medicines Agency; EU/EEA: European Union/European Economic Area; NA: not applicable; ND: no data available for community consumption.

The indicators presented here are described in Table 7. In the '2025' columns, values are colour-coded according to their relative magnitude. Yellow indicates a lower value and orange indicates a higher value, as compared to the other countries reporting data for that indicator.

[a] In the 'Trend 2021–2025' columns, the symbols ↑ and ↓ indicate a statistically significant increasing or decreasing linear trends, and – indicates the absence of a statistically significant linear trend. NA indicates that trend analyses were not performed because of missing data, changes in the type of data or a change in data processing.

[b] Czechia and Luxembourg changed their data collection processes during the period. This could affect data comparability across years. Liechtenstein's data originate from the only hospital in the country, a small primary care hospital responsible for about 35–40% of the hospital treatment of residents. Most residents of Liechtenstein receive hospital care in neighbouring Swiss and Austrian hospitals.

[c] 'EU/EEA mean' refers to the population-weighted mean consumption, based on data from the 26 EU/EEA countries reporting hospital sector data for all years within the period 2021 to 2025.

Discussion

Ensuring prudent use of antimicrobials is fundamental for an effective response to the emergence and spread of AMR [1-2,5]. The latest AMC data from ESAC-Net, presented in this report and through the public ECDC AMC dashboard [8], highlight the need for continued efforts to reduce unnecessary and inappropriate antimicrobial use across the EU/EEA.

Diverging antimicrobial consumption patterns underscore the need for context-specific interventions

Progress towards the 2030 European Union antimicrobial consumption targets has improved but remains insufficient

Progress towards the 2030 EU AMC targets improved in 2025 compared with previous years, with a substantial reduction in overall consumption of antibacterials for systemic use and a continued increase in the percentage of WHO AWaRe Access group antimicrobials consumed. Despite this positive development, EU-level consumption is still not on track to achieve its targets by 2030, and many countries are still far from their recommended country-specific targets. Sustained and intensified efforts to overcome barriers that hinder progress towards both EU- and national-level 2030 targets are needed in the remaining five years.

ESAC-Net data continuously show substantial variation in AMC across countries, both overall and in the relative consumption of WHO AWaRe Access antimicrobials, indicating a considerable need to optimise antimicrobial use. Although all EU countries will have to contribute to the achievement of the 2030 EU AMC targets, the countries with the highest AMC will require greater efforts over the next five years. Countries with higher total consumption of antibacterials for systemic use generally also reported lower percentages of WHO AWaRe Access consumption. This suggests that factors driving high consumption overall may also influence the choice of first-line antimicrobials. National interventions should therefore be context-specific and adapted to local conditions and challenges.

Volume-based AMC targets, such as those included in the Council Recommendation [2] and adopted nationally by many EU/EEA countries [18], can help set strategic priorities, support planning and guide resource allocation at the policy level. However, such targets may be less actionable in clinical practice. To translate the overarching AMC goals into practice, complementary and more specific targets can be set for particular patient groups, clinical indications or antimicrobial stewardship processes. These can be combined with local targets and well-functioning audit and feedback mechanisms to support measurable improvements in antimicrobial use in clinical settings.

The post-COVID-19 pandemic increase in community antibacterial consumption has subsided across EU/EEA countries

Community consumption of antibacterials for systemic use returned to approximately pre-COVID-19 pandemic levels across the EU/EEA in 2025, following substantial fluctuations during and immediately after the pandemic. With community consumption accounting for over 90% of total consumption in the EU/EEA, this sector-specific reduction also substantially impacts overall levels of AMC in the region.

While the initial decrease in AMC noted in 2020 and 2021 might have been influenced by disrupted access to primary care services and reduced transmission of respiratory pathogens due to the widespread implementation of non-pharmaceutical pandemic control measures [19-21], the subsequent increase in AMC from 2022 to 2024 coincided with a period of atypical and intensified circulation of respiratory pathogens following the relaxation of these measures [22-24]. Even if the decline in AMC observed in 2025 is sustained, it remains essential to continue efforts to promote prudent and appropriate antimicrobial use in primary care.

The marked variation in community AMC observed between 2021 and 2025 was largely driven by fluctuations in the consumption of penicillins and other beta-lactam antibacterials (ATC J01C and J01D), as well as macrolides, lincosamides and streptogramins (ATC J01F). Although ESAC-Net data do not provide information on treatment indications, these antimicrobial groups are commonly prescribed for respiratory tract infections (RTIs) in primary care, including for conditions that are unlikely to substantially benefit from antimicrobial treatment [25-26]. Therefore, measures to reduce the incidence and transmission of RTIs in the community could reduce the demand for antimicrobial treatment, thereby contributing to reducing inappropriate community AMC overall. In addition, ensuring that the public, patients and healthcare professionals are aware and informed about best practice is essential to promote and sustain prudent antimicrobial use, including addressing treatment expectations, normative pressures and adherence to prescribing guidelines [4].

Last-resort antimicrobial consumption is on the rise in EU/EEA hospitals

Hospital consumption of antimicrobials within the WHO AWaRe Reserve group continued to increase in 2025, suggesting an increasing reliance on agents that should be reserved for the treatment of confirmed or suspected infections caused by multidrug-resistant organisms. This trend may partly reflect the increasing burden of carbapenem-resistant and other multidrug-resistant organisms across the EU/EEA [27-28]. At the same time, persistent challenges in the development and availability of new treatment options for serious bacterial infections underscore the importance of antimicrobial stewardship to ensure that broad-spectrum and last-resort agents are used appropriately and preserved for patients most likely to benefit from them.

The increasing spread of carbapenem-resistant Enterobacterales (CRE) in several EU/EEA countries is particularly concerning, given the limited treatment options available for these infections. The latest ECDC CRE risk assessment highlights the importance of ensuring timely access to recommended antimicrobials, including newly approved agents, while monitoring and auditing their use and conducting surveillance for emerging resistance [28]. Promoting the use of carbapenem-sparing treatment alternatives where clinically appropriate may also mitigate the further spread of CRE in EU/EEA hospitals. Overall, adequate diagnostic capacity, evidence-based treatment guidelines and timely review and de-escalation of therapy are needed to support appropriate prescribing and minimise unnecessary exposure to broad-spectrum and last-resort agents. Together with strong infection prevention and control programmes, these measures can help limit the emergence and spread of resistance, preserve the effectiveness of existing antimicrobials and safeguard access to effective treatment for patients who are more vulnerable to severe infections [27-29].

Sustained investments to ensure appropriate antimicrobial use remain key in the EU/EEA

Antimicrobial consumption surveillance capacity is increasing in the EU/EEA, but issues with data availability and comparability remain

Surveillance of AMC plays a critical role in guiding and evaluating interventions in this area, as emphasised at both EU [2,4] and global levels [5,6]. The Council Recommendation calls on Member States to close existing surveillance gaps and ensure completeness of human AMC data across all healthcare levels, including the community sector, hospital sector and long-term care facilities [2]. Strengthening national digital public health infrastructure and expanding the use of electronic health record systems could improve access to detailed and context-specific data, thereby facilitating the identification of inappropriate antimicrobial use and helping to prioritise areas for intervention.

Since EU/EEA-level coordination of AMC surveillance began over 25 years ago, national surveillance capacity has progressively improved. However, EU/EEA-wide data comparability remains a challenge; in particular, whether or not data from long-term care facilities is included and which sector it is attributed to (community sector or hospital sector) varies substantially. In addition, differences in pharmaceutical distribution systems can affect AMC data; for example, when specific antimicrobial agents are excluded from reimbursement schemes; are distributed, imported or exported outside systems covered by the surveillance system; or are subject to stockpiling. Several EU/EEA countries are currently revising their AMC surveillance systems, including modifying data collection processes and legal frameworks. While this will eventually lead to strengthened AMC surveillance in the region, it will temporarily challenge data availability, as well as comparability of trends.

Considerable opportunity to optimise antimicrobial use in the EU/EEA

Strengthening antimicrobial stewardship programmes is one of the most cost-effective ways to promote appropriate antimicrobial use, reduce unnecessary AMC and limit the harmful effects of AMR. Such efforts can also generate substantial health and economic benefits across the EU/EEA [30-31].

While the importance of optimising antimicrobial use through surveillance and stewardship activities is recognised in all national action plans on AMR in the EU, the level of implementation and funding mechanisms for these activities varies [32]. This underlines the need for sustainable implementation arrangements within national action plans, supported by robust operational, monitoring and evaluation frameworks. The 'EU Guidelines for the prudent use of antimicrobials in human health' emphasises that although the ultimate responsibility for the policies and structures necessary to ensure the prudent use of antimicrobials lies with the national, regional and local governments, it is also essential to facilitate effective collaboration with other stakeholders, including regulators and those responsible for delivering healthcare, professional education and community engagement [4]. These initiatives need to be scaled up in the context of increasing AMR in the region [27-28] and persistent challenges ensuring access to appropriate antimicrobials [33], underscoring the need for strong policy support and adequate funding mechanisms.

Guidance documents

The following documents can offer important guidance on activities, roles and responsibilities related to AMC and antimicrobial stewardship:

- The EU's 'EU Guidelines for the prudent use of antimicrobials in human health' [4];
- The European Commission's 'European One Health Action Plan against Antimicrobial Resistance' [1] and the EU's 'Council Recommendation on stepping up EU actions to combat antimicrobial resistance in a One Health approach' [2];
- ECDC's 'Proposal for EU guidance on the establishment and implementation of infection prevention and control programmes in healthcare' [29].

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