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The Healthcare Associated Infection, Antimicrobial Resistance and Prescribing (HARP) Programme



**Report on Antimicrobial Prescribing Improvement Goals
for Primary Care & Secondary Care in Wales
WHC/2024/038 - Period ending 31st March 2024**

Executive Summary – Wales

Primary Care (PC) Antimicrobial Improvement Goals

Goal 11a: A 10% reduction in total antimicrobial usage by 2029/30

- Position at end of 2023/24 for Primary Care in Wales: An overall 4.3% reduction in consumption against the target (baseline 2019/20) as measured in DDDs/1000 STAR-PU.

Goal 12: 70% of total antibiotic use from the Access category

- Position at end of 2023/24 for Primary Care in Wales: 68.2% antimicrobial usage from Access Category as measured in DDDs.

Secondary Care (SC) Antimicrobial Improvement Goals

Goal 11b: A 5% reduction in total antimicrobial usage by 2029/30

- Position at end of 2023/24 for Secondary Care in Wales (acute hospital inpatient usage only): An overall 0.9% increase in consumption against the target (baseline 2019/20) as measured in DDDs/1000 Occupied Bed Days (OBD).

Goal 12: 70% of total antibiotic use from the Access category

- Position at end of 2023/24 for Secondary Care in Wales: 63.9% antimicrobial usage from Access Category as measured in DDDs.

Introduction

As part of the UK 20-year vision to confront antimicrobial resistance (AMR) [UK 20-year vision for antimicrobial resistance](#), Wales and the other UK nations committed to developing a series of five-year national action plans to prioritise actions and direct resources in areas of highest risk. The UK's second five-year national action plan setting out ambitions and actions for the next five years (2024-2029) was published in May 2024. [UK 5-year action plan for antimicrobial resistance 2024 to 2029 - GOV.UK](#)

Welsh Government published a new Welsh Health Circular WHC/2024/038 [WHC/2024/038](#) which sets out the improvement goals for 2024/25 for Wales. The new improvement goals are set against the baseline year 2019/2020.

Public Health Wales has been directed by Welsh Government to provide updates and a final position against the improvement goals. This report, issued by the HARP team Public Health Wales, should be regarded as the current position against the WHC/2024/038 improvement goals.

Antimicrobial Usage Improvement Goals 2024/25:

- **Improvement Goal 11a for Primary Care in Wales:**
A reduction in total antimicrobial use in primary care consistent with a trajectory required to achieve a minimum 10% reduction against the 2019/20 baseline by 2029/30.
The measure is Defined Daily Doses and will be reported as DDDs/1000 STAR PU.
- **Improvement Goal 12 for Primary Care in Wales:**
Achieve a minimum of 70% of total antibiotic use from the Access category of antibiotics by 2029/30.
The measure is Defined Daily Doses and will be reported as % total antibiotic use.
- **Improvement Goal 11b for Secondary Care in Wales:**
A reduction in total antimicrobial use in secondary care consistent with a trajectory required to achieve a minimum 5% reduction against the 2019/20 baseline by 2029/30.
The measure is Defined Daily Doses and will be reported as DDDs/1000 occupied bed days.
- **Improvement Goal 12 for Secondary Care in Wales:**
Achieve a minimum of 70% of total antibiotic use from the Access category of antibiotics by 2029/30.
The measure is Defined Daily Doses and will be reported as % total antibiotic use.

Method

Primary Care data

Pharmacy Data: Antimicrobial prescribing data is provided by the Primary Care Services (PCS). The data is collected from dispensed prescriptions submitted to PCS by dispensing contractors at the end of each month; and is assigned to Health Boards based on where the item was prescribed.

Data Presentation: The data presented in this report has been measured using the WHO ATC/DDD system and incorporates the updated WHO DDDs for 2024. The standard measure for the volume total antimicrobial usage is Defined Daily Doses https://www.whocc.no/atc_ddd_index.

Data is reported as DDDs/1000 STAR-PU collated at Wales and Health Board level. Specific Therapeutic Group Age-sex weightings Related Prescribing Units (STAR-PU) are an adjusted measure of population. The current 2013 weighting by age group and gender are shown in the table.

Table 1: STAR-PU 2013 weighting

Age Band	Male	Female
0-4	0.8	0.8
5-14	0.3	0.4
15-24	0.3	0.6
25-34	0.2	0.6
35-44	0.3	0.6
45-54	0.3	0.6
55-64	0.4	0.7
65-74	0.7	1.0
75+	1.0	1.3

Numerator divided by the denominator

Represented as number of antibacterial items per STAR PU

Total Antibacterials: The reporting of total antibacterial is in line with the UK NAP, and the following antibacterials are excluded from the data set: TB drugs including rifampicin; anti-parasitic drugs including spiramycin and tinidazole; neomycin due to toxicity; drugs whose main use is not for the treatment of bacterial infection i.e. demeclocycline for SIADH, and rifaximin for prevention of hepatic encephalopathy.

AWaRe categories: Antimicrobials were assigned AWARe categories (Access, Watch, Other and Reserve) based on the 2024 AWARe categories. **Access group antimicrobials:** amoxicillin, ampicillin, benzathine benzylpenicillin, benzylpenicillin, cefadroxil, cefalexin, cefazolin, cefradine, co-trimoxazole, doxycycline, flucloxacillin, fosfomicin (oral), gentamicin, metronidazole, nitrofurantoin, pivmecillinam phenoxymethylpenicillin, procaine benzylpenicillin, tetracycline, tinidazole and trimethoprim.

Data Interpretation: Several factors should be considered when interpreting the data presented in this report: Antimicrobial prescribing services are changing in Wales; previously most prescribing was carried out 'in hours' in general practice.

- In 2021, a change was made to the community pharmacy contract, resulting in an increase in independent prescribers in community pharmacy.
- The roll out of the Common Ailments Service has meant that common infections such as uncomplicated UTI and sore throat can be managed in community pharmacy. [The future of community pharmacy in Wales](#).
- **Primary Care** comprises all prescribing by GP in hours (GPIH), GP out of hours (GPOOH), Independent Prescribers and the Common Ailments Service (Sore Throat and UTI schemes) dispensed in the community.

Primary care antimicrobial improvement goals

Goal 11a: Total antimicrobial usage data Primary Care

Table 2: Total antimicrobial usage – annual achievements Primary Care

Financial Year	TARGET - DDD/1000 STAR-PU	ACTUAL - DDD/1000 STAR-PU	Target Reduction	Cumulative Difference
2019/20 (Baseline)		10,745.5	0.0	0.0
2020/21	10,638.1	9,153.6	-1.0	-14.8
2021/22	10,530.6	9,782.9	-2.0	-9.0
2022/23	10,423.1	10,699.7	-3.0	-0.4
2023/24	10,315.7	10,283.7	-4.0	-4.3
2024/25	10,208.2		-5.0	
2025/26	10,100.8		-6.0	
2026/27	9,993.3		-7.0	
2027/28	9,885.9		-8.0	
2028/29	9,778.4		-9.0	
2029/30	9,671.0		-10.0	

Table 2 shows:

- The 1% year-on-year reduction required by Primary Care (PC) in Wales to achieve the minimum 10% reduction rate (TARGET - DDDs/1000 STAR-PU) by 2029/30.
- The reduction achieved by PC for the financial years 2020/21 to 2023/24 (ACTUAL - DDDs/1000 STAR-PU): shown as the cumulative difference between the 2019/20 baseline year and the following financial years.
- The 2019/20 baseline rate for PC in Wales was 10,745.5 DDDs/1000 STAR-PU, and the rate achieved at the end of the 2023/24 financial year 10,283.7 DDDs/1000 STAR-PU.
- In 2023/24, PC in Wales surpassed the 4% reduction target for the financial year, achieving a 4.3% reduction against the baseline.

Antimicrobial usage trajectory for Wales Primary Care – Annual

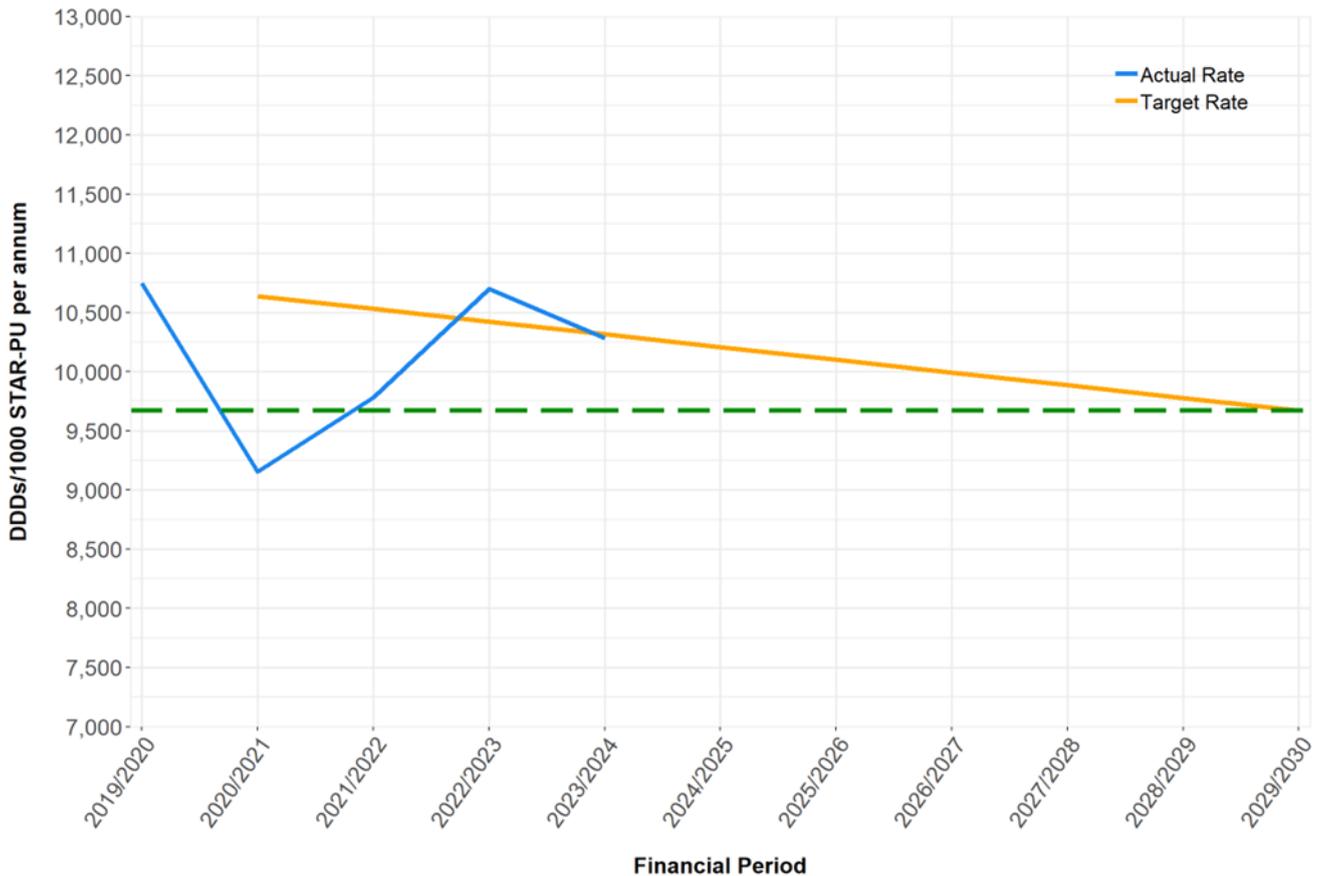


Figure 1: Antimicrobial trajectory and usage for the period ending March 2024

Figure 1 shows:

- The annual trajectory required by PC in Wales to achieve the minimum 10% reduction in total antimicrobial volume by 2029/30 (trajectory target rate - orange line): A 1% year-on-year reduction.
- The actual reduction rate achieved by PC for the financial years 2019/20 to 2023/24 (actual rate - blue line).
- The 2029/30 target rate (target rate – broken green line).
- In 2020/21, there was a notable decrease in antimicrobial usage associated with the COVID pandemic.
- In 2022/23 there was a marked increase in antimicrobial usage associated with a group A streptococcus outbreak and increases in respiratory tract infections.
- At the end of the financial year 2023/24, usage in PC in Wales was below the target rate of 10,315.7 DDDs/1000 STAR-PU at 10,283.7 DDDs/1000 STAR-PU.

Antimicrobial usage trajectory for Wales Primary Care – Quarterly

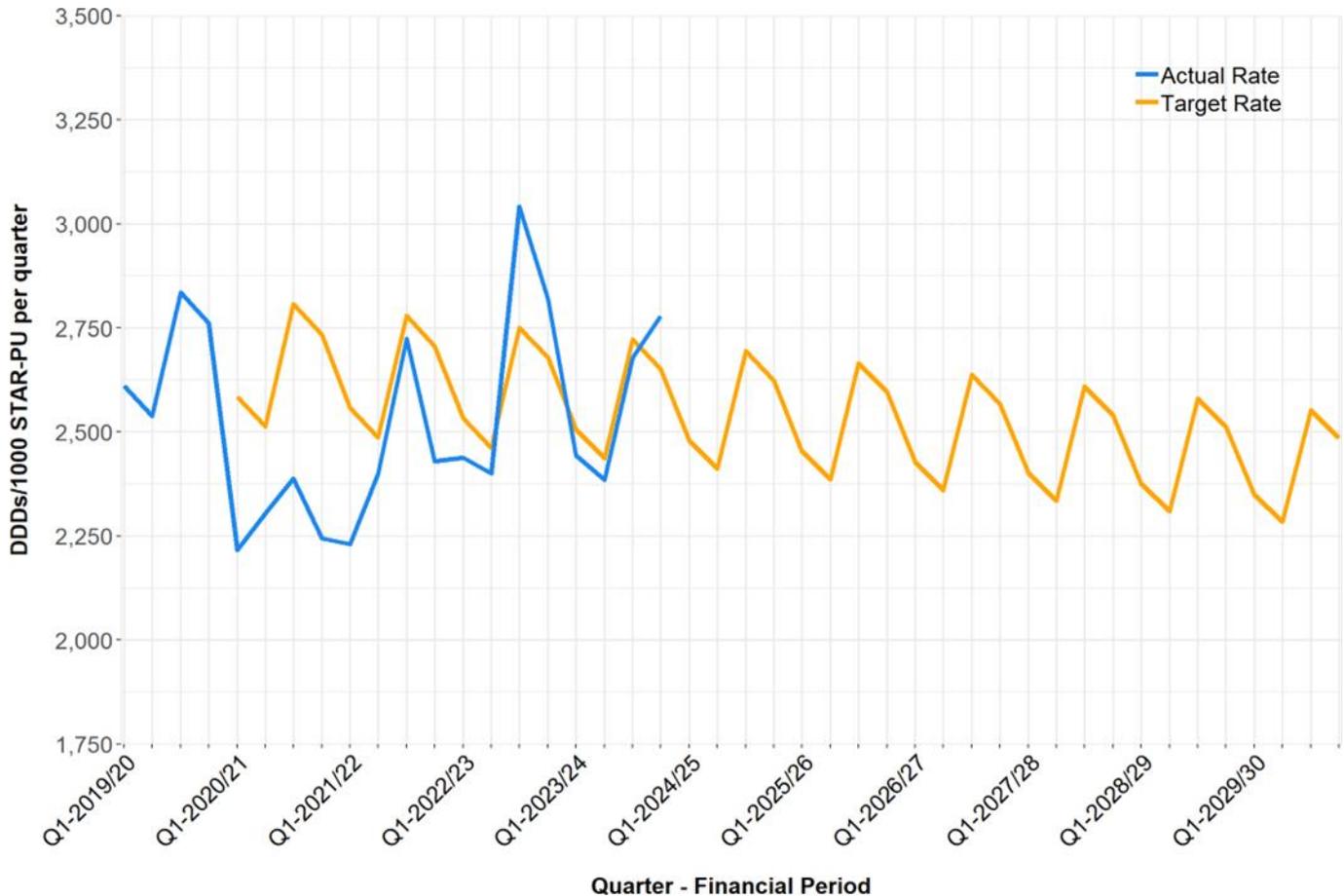


Figure 2: Antimicrobial trajectory and usage by quarter for the period ending March 2024

Figure 2 shows:

- The quarterly trajectory required by PC in Wales to achieve the minimum 10% reduction in total antimicrobial volume by 2029/30 (trajectory target rate - orange line).
- The actual reduction rate achieved by PC for the financial years 2019/20 to 2023/24 by quarter (actual rate - blue line).
- The quarterly trajectory graph shows the annual winter peaks in antimicrobial usage, with usage rates in the winter quarters generally around 20% higher than the summer quarter.
- In the quarter Q3-2022/23 (Oct-Dec), the rate of antimicrobial usage increased by nearly 40%, compared to the previous quarter due to a group A streptococcus outbreak.
- The latest data shows PC in Wales above the trajectory line for the last winter quarter.

Goal 12: 70% of total use from the Access category



Key: ABUHB – Aneurin Bevan University Health Board, BCUHB – Betsi Cadwaladr University Health Board, CAVUHB – Cardiff and Vale University Health Board, CTMUHB – Cwm Taf University Health Board, HDUHB – Hywel Dda University Health Board, PTHB – Powys Teaching Health Board, SBUHB – Swansea Bay University Health Board

Figure 3: Antimicrobial usage by AWARe categories 2023/24 (Primary Care) % DDDs

Figure 3 shows:

- The proportion of Access antimicrobial usage for PC by Health Board for the 12-month target period ending 31 March 2024 (Access – green bars); measured in Defined Daily Doses (DDD).
- The proportion of Watch antimicrobial usage for PC by Health Board for the 12-month target period ending 31 March 2024 (Watch – yellow bars); measured in DDDs.
- The proportion of Other antimicrobial usage for PC by Health Board for the 12-month target period ending 31 March 2024 (Other – grey bars); measured in DDDs.
- The proportion of Reserve antimicrobial usage for PC by Health Board for the 12-month target period ending 31 March 2024 (Reserve – red bars); measured in DDDs.
- The broken blue line shows the 70% access antimicrobial target.
- At the end of the financial year 2023/24, the proportion of total usage from the Access group category was 68.2% in PC in Wales as measured in DDDs.

Method

Secondary Care data

Pharmacy Data: Pharmacy systems are primarily designed to support stock control and distribution and are configured differently across the Acute Hospitals in Wales. To increase comparability, the antimicrobial usage data presented in this WHC Improvement Goal report only includes “issue types” associated with in-patient usage and discharge scripts, but also includes all returns. The data includes all ward, admissions unit, and theatre usage, but excludes accident and emergency, and clinics. The Secondary Care data set comprises all acute hospitals in Wales excluding Velindre hospital.

The data presented in this report has been measured using the WHO ATC/DDD system and incorporates the updated WHO DDDs for 2024. The standard measure for the volume total antimicrobial usage is Defined Daily Doses https://www.whooc.no/atc_ddd_index. Data is reported as DDDs/1000 Occupied Bed Days, collated at Wales and Health Board level.

Total Antibacterials: The reporting of total antibacterial is in line with the UK NAP, and the following antibacterials are excluded from the data set: TB drugs including rifampicin; anti-parasitic drugs including spiramycin and tinidazole; neomycin due to toxicity; drugs whose main use is not for the treatment of bacterial infection i.e. demeclocycline for SIADH, and rifaximin for prevention of hepatic encephalopathy.

AWaRe categories: Antimicrobials were assigned AWARe categories (Access, Watch, Other and Reserve) based on the new UK 2024 AWARe categories. **Access group antimicrobials:** amoxicillin, ampicillin, benzathine benzylpenicillin, benzylpenicillin, cefadroxil, cefalexin, cefazolin, cefradine, co-trimoxazole, doxycycline, flucloxacillin, fosfomycin (oral), gentamicin, metronidazole, nitrofurantoin, phenoxymethylpenicillin, procaine benzylpenicillin, pivmecillinam, tetracycline, tinidazole and trimethoprim.

Secondary care antimicrobial improvement goals

Goal 11b: Total antimicrobial usage data Secondary Care

Table 3: Total antimicrobial usage – annual achievements Secondary Care

Financial Year	TARGET - DDD/1000 Bed Days	ACTUAL - DDD/1000 Bed Days	Target Reduction	Cumulative Difference
2019/20 (Baseline)		3,982.9	0.0	0.0
2020/21	3,963.0	4,094.2	-0.5	2.8
2021/22	3,943.1	3,970.5	-1.0	-0.3
2022/23	3,923.2	3,930.4	-1.5	-1.3
2023/24	3,903.2	4,018.8	-2.0	0.9
2024/25	3,883.3		-2.5	
2025/26	3,863.4		-3.0	
2026/27	3,843.5		-3.5	
2027/28	3,823.6		-4.0	
2028/29	3,803.7		-4.5	
2029/30	3,783.8		-5.0	

Table 3 shows:

- A 0.5% year-on-year reduction required by Secondary Care (SC) in Wales to achieve the minimum 5% reduction rate (TARGET - DDDs/1000 occupied bed days (OBD)) by 2029/30.
- The reduction achieved by SC for the financial years 2020/21 to 2023/24 (ACTUAL - DDDs/1000 OBD): shown as the cumulative difference between the 2019/20 baseline year and the following financial years.
- The 2019/20 baseline rate for SC in Wales was 3,982.9 DDDs/1000 OBD, and the rate at the end of the 2023/24 financial year 4,018.8 DDDs/1000 OBD.
- In 2023/24, SC in Wales failed to meet the 2% reduction target for the financial year. Antimicrobial usage increased across the year resulting in a cumulative 0.9% increase against the baseline.

Antimicrobial usage trajectory for Secondary Care – Annual

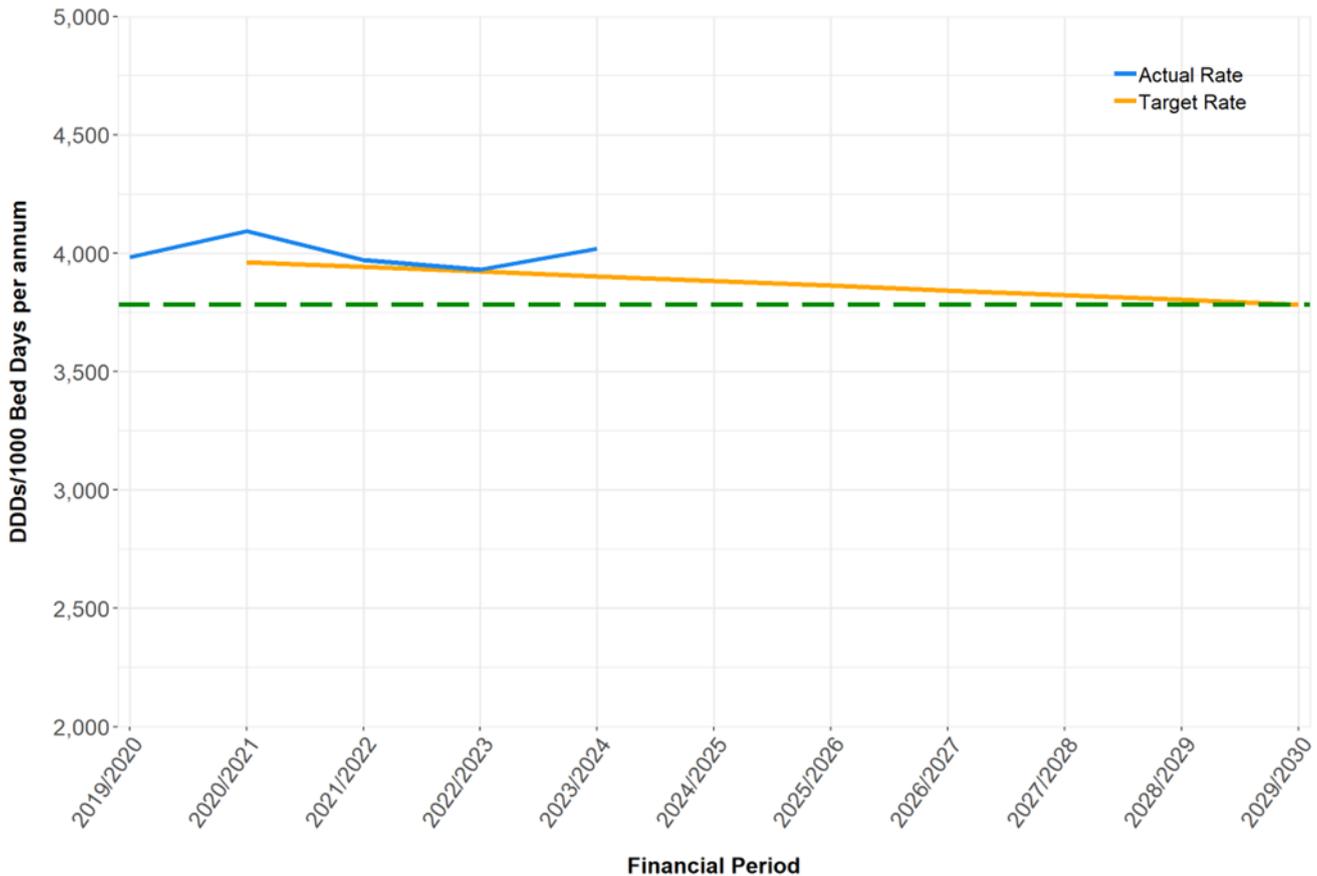
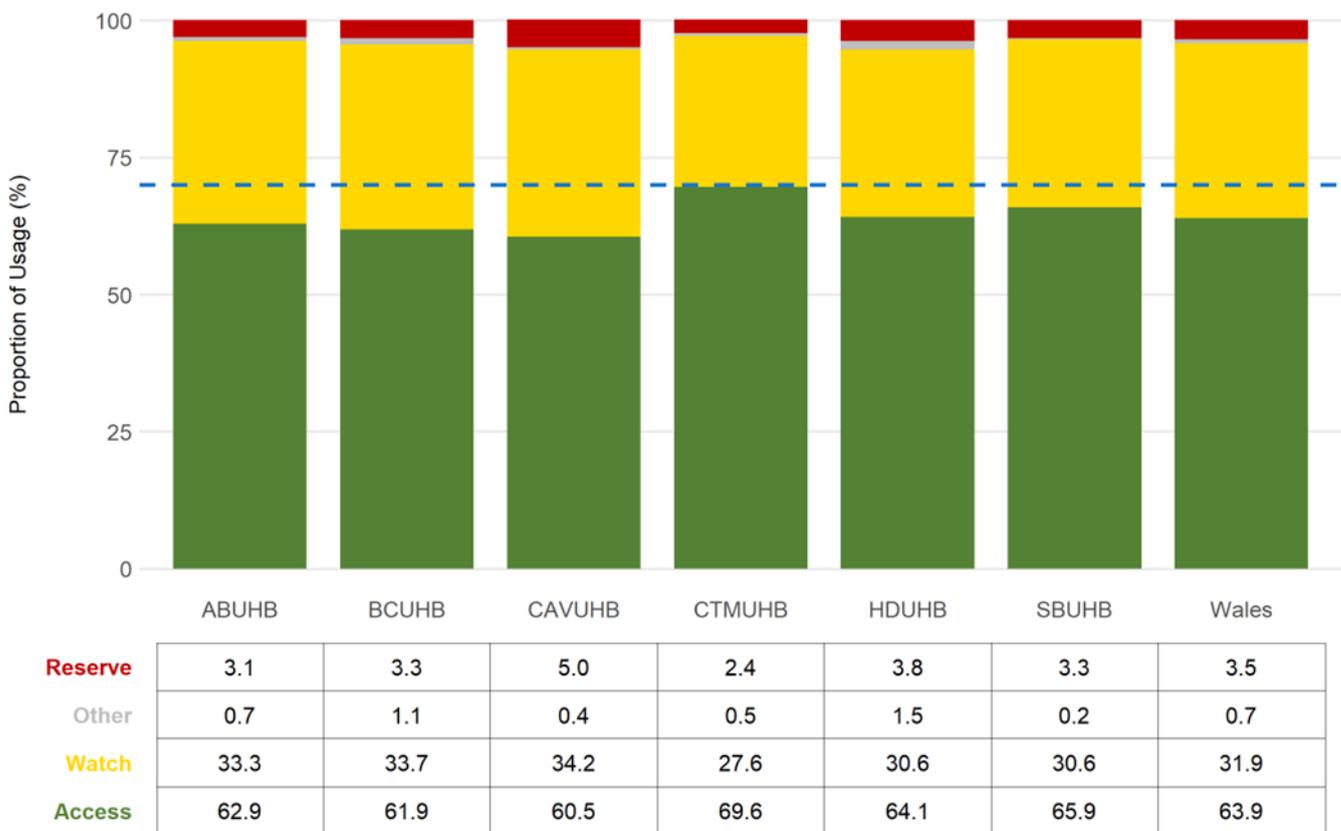


Figure 4: Antimicrobial trajectory and usage for the period ending March 2024

Figure 4 shows:

- The annual trajectory required by SC in Wales to achieve the minimum 5% reduction in total antimicrobial volume by 2029/30 (trajectory target rate - orange line): A 0.5% year-on-year reduction.
- The actual reduction rate achieved by SC for the financial years 2019/20 to 2023/24 (actual rate - blue line).
- The 2029/30 target rate (target rate – broken green line).
- In 2020/21, there was an increase in antimicrobial usage associated with the COVID pandemic.
- At the end of the financial year 2023/24, usage in SC in Wales was above the target rate of 3,903.2 DDDs/1000 OBD at 4,018.8 DDDs/1000 OBDs.
- **Note:** Movement of antimicrobial stock, particularly returns to pharmacy, impacts upon the secondary care data, and can make any trends in quarterly data difficult to interpret. To avoid confusion or misinterpretation, secondary care data is presented as annual rates only.

Goal 12: 70% of total use from the Access category



Key: ABUHB – Aneurin Bevan University Health Board, BCUHB – Betsi Cadwaladr University Health Board, CAVUHB – Cardiff and Vale University Health Board, CTMUHB – Cwm Taf University Health Board, HDUHB – Hywel Dda University Health Board, SBUHB – Swansea Bay University Health Board

Figure 5: Antimicrobial usage by AWaRe categories 2023/24 (Secondary Care) % DDDs

Figure 5 shows:

- The proportion of Access antimicrobial usage for SC by Health Board for the 12-month target period ending 31 March 2024 (Access – green bars); measured in Defined Daily Doses (DDD).
- The proportion of Watch antimicrobial usage for SC by Health Board for the 12-month target period ending 31 March 2024 (Watch – yellow bars); measured DDDs.
- The proportion of Other antimicrobial usage for SC by Health Board for the 12-month target period ending 31 March 2024 (Other – grey bars); measured in DDDs.
- The proportion of Reserve antimicrobial usage for SC by Health Board for the 12-month target period ending 31 March 2024 (Reserve – red bars); measured in DDDs.
- The broken blue line shows the 70% access antimicrobial target.
- At the end of the financial year 2023/24, the proportion of total usage from the Access group category was 63.9% in SC in Wales as measured in DDDs.