LAMPIRAN 1

Executive Summary of National Surveillance on Antimicrobial Consumption (NSAC) Report 2023

The National Surveillance on Antimicrobial Consumption (NSAC) Report 2023 indicates a significant surge in antimicrobial consumption (AMC) in Malaysia, with Defined Daily Dose (DID) values escalating from 11.17 in 2022 to 24.49 in 2023 (Figure 1).

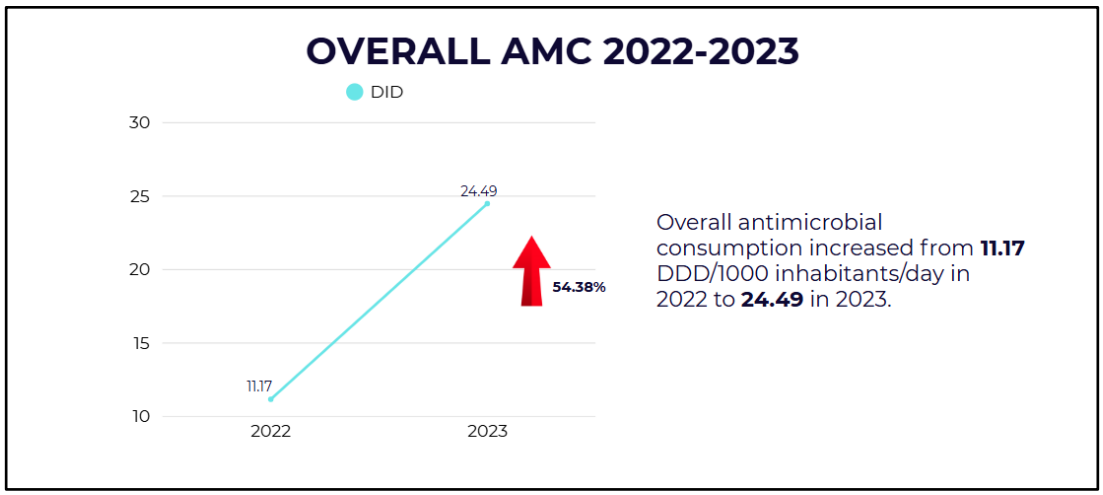

Figure 1: Overall Antimicrobial Consumption 2022-2023

This significant surge is alarming due to the established link between high antimicrobial use and rising resistance rates globally. A critical shift in prescribing patterns was identified through the AWaRe (Access, Watch, and Reserve) classification analysis, showing a concerning decline in the use of Access antibiotics from 72.8% in 2022 to 46.6% in 2023 (Figure 2). Concurrently, the use of Watch antibiotics, which have a higher potential for resistance, increased to 53.2%. This trend falls short of the United Nations (UN) high-level meeting goal, which declares at least 70% of human antibiotic use globally should come from the "Access" group, highlighting improved appropriateness of antibiotic use.

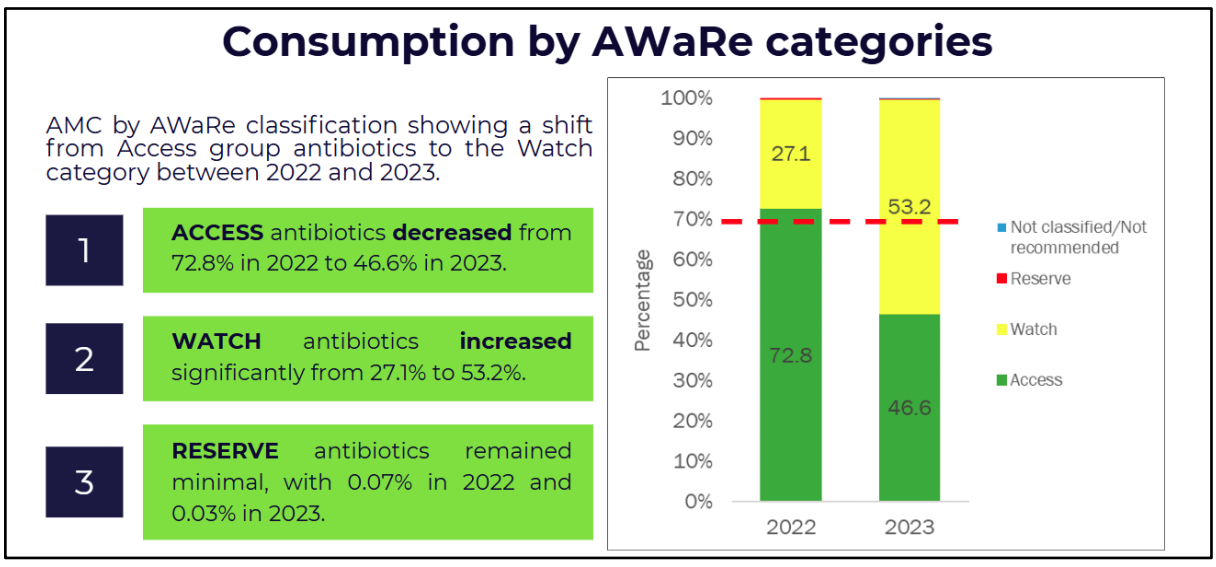

Figure 2: National Antimicrobial Consumption by AWaRe categories 2022-2023

Figure 3 illustrates that Malaysia has not attained the objective of 70% antibiotic consumption from the Access group in 2023, positioning it among the countries in the Western Pacific Region (WPRO) that have fallen short of this target.

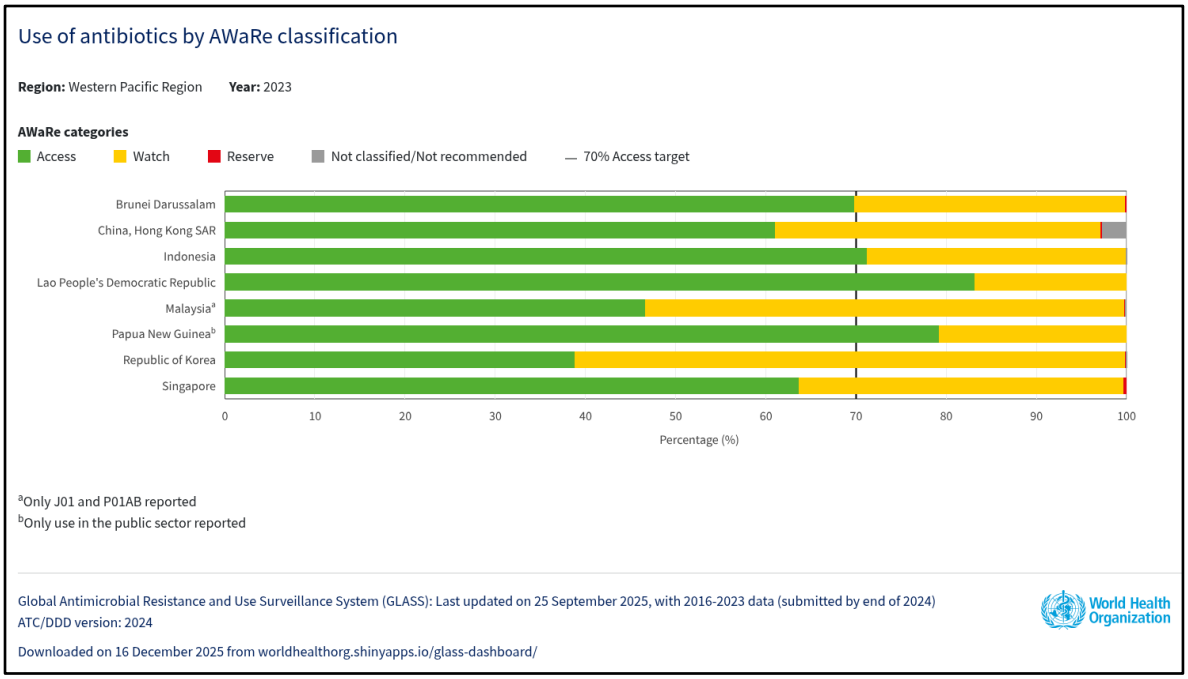

Figure 3: Antimicrobial Consumption 2023 across Western Pacific Region (WPRO)

Analysis of antimicrobial consumption data year 2023 (Figure 4) revealed the majority of consumption was predominantly driven by the community setting in comparison to hospital setting. Antimicrobial consumption was largely concentrated in the private sector which accounts for a substantial 60% from the 73% community share of the total consumption. The significant consumption in private clinics suggests the potential gaps in prescribing oversight, guideline adherence and surveillance coverage which warrants the critical need for targeted antimicrobial stewardship programs and enhanced surveillance within the private primary care system to effectively manage and reduce overall antimicrobial usage.

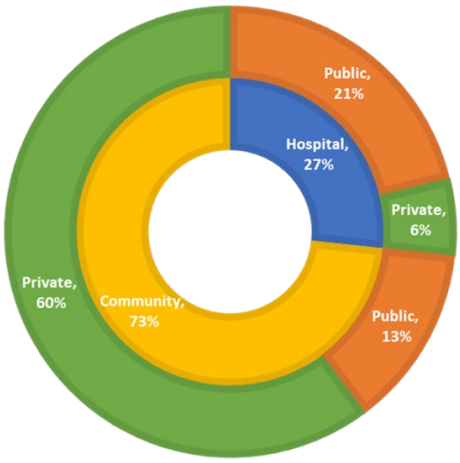

Figure 4: Overall Antimicrobial Consumption 2023 by sector and healthcare setting

The high usage of azithromycin is a significant finding, as it emerged as the top oral antibacterial agent by consumption in the DU75 analysis for 2023, accounting for 32% of all oral antibiotic consumption that constitutes 75% of national antimicrobial consumption (Figure 5). Azithromycin is classified as a Watch antibiotic, and this surge contributes directly to the worrying shift toward the Watch category. Further analysis of the total antimicrobial consumption indicates a high consumption of azithromycin, a macrolide, with a substantial contribution originating from the private sector, specifically private clinics. The literature indicates that macrolide overuse contributes to resistance in pathogens like *Streptococcus pneumoniae* and *Mycoplasma pneumoniae*, which are common causes of respiratory tract infections.

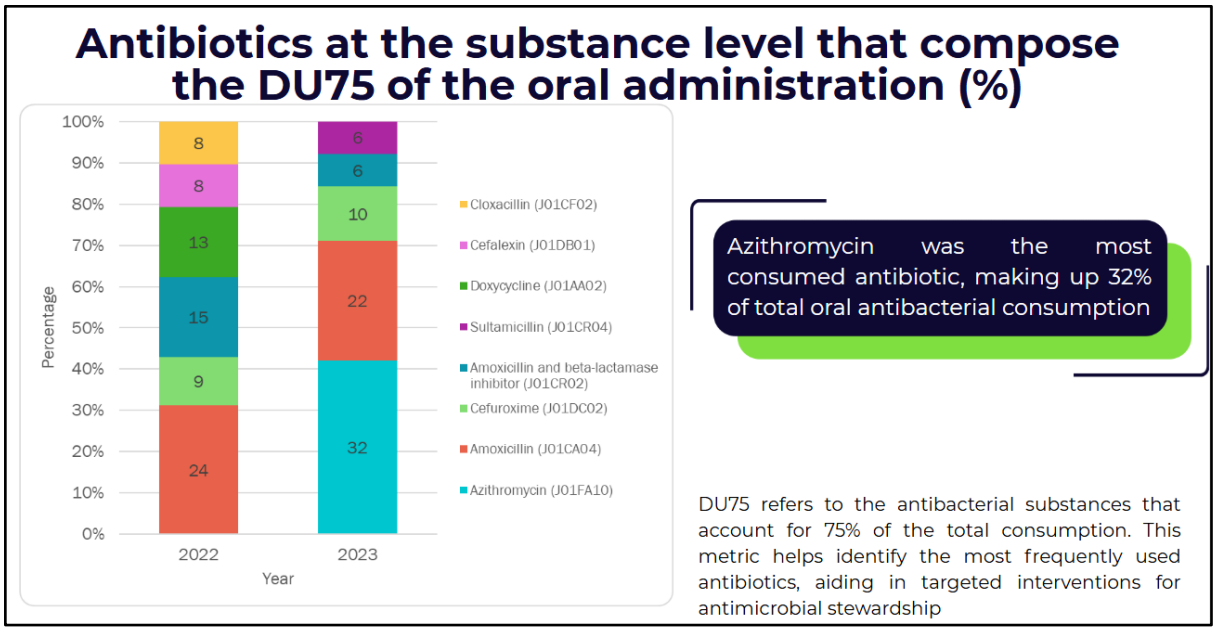

Figure 5: Drug Utilisation 75% (DU75) or most consumed oral antibiotics

In conclusion, there is an urgent need to strengthen Antimicrobial Stewardship (AMS) programs especially in private clinics. National initiatives demonstrate that AMS-driven, sustained reductions in antibiotic use can effectively reduce resistance rates. Moreover, systematic reviews conducted in Asia consistently confirm the effectiveness of stewardship interventions, such as prescriber audits and feedback (e.g. Point Prevalence Survey) are effective in reducing inappropriate antibiotic prescribing. To further combat AMR in private clinics, several other initiatives should be considered, including awareness and education for both doctors and patients, incorporating Point-of-Care Testing (POCT) and implementing delayed prescribing as consultation strategies, support systems such as Clinical Decision Support Systems and academic detailing, and incentives including exploring options like pay-for-performance schemes.

References

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