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Analysis of outpatient antibiotic consumption at Vila Central Hospital over four years

Agnes Mathias¹, Amsaline Lui², Nicola Foxlee³

¹Ministry of Health, Port Vila, Vanuatu. ²Vila Central Hospital, Port Vila, Vanuatu.

³Australian National University, Canberra, Australia

Abstract

Background: Throughout the Coronavirus pandemic, antimicrobial resistance (AMR) has remained a persistent presence continuing to challenge global public health. Imprudent antibiotic use is a key driver. The WHO Global Action Plan on AMR recommends the provision of antimicrobial stewardship programmes (ASPs) to guide the optimization of antimicrobial medicines. Surveillance and analysis of antibiotic consumption is an important component of ASPs. Our study aim was to examine outpatient antibiotic consumption at Vila Central Hospital (VCH) between 2018 and 2019.

Methods: Data on antibiotics dispensed to outpatients during the study period were obtained from the hospital pharmacy database. We used the WHO's Anatomical Therapeutic Classification/ defined daily dose (DDDs) index, and the changing annual population of the hospital's catchment area to calculate monthly consumption. The results were expressed as DDDs per 1000 inhabitants per day (DIDs).

Results: Ten antibiotics listed on the Vanuatu Essential Medicines List were analysed. This included antibiotics classified as either Access or Watch. Annual DIDs ranged from 47.08 (2018) to 50.5 (2021) with mean monthly DIDs between 3.92 (2018) and 4.2 (2021). The penicillins were the most frequently prescribed antibiotics accounting for approximately 70% of the total annually. AWaRe Watch antibiotics made up slightly less than 7% each year.

Discussion: The findings of our study indicated a small increase in DIDs over the study period, though this was not statistically significant. To our knowledge this is one of the first studies on outpatient antibiotic consumption to be conducted in Vanuatu and the Region. Whilst our results cannot be generalised to other health settings in Vanuatu, they do provide a baseline for future work. We recommend regular monitoring and analysis of antibiotic consumption be performed in all health settings in Vanuatu. Sharing and reporting results will inform local and national ASPs and policy decisions.