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Implementing antimicrobial stewardship in a Philippine tertiary care hospital: A five-year analysis of repeated point prevalence surveys for monitoring and quality improvement

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BACKGROUND & OBJECTIVES

The Makati Medical Center is a tertiary training hospital with a 600-bed capacity. It has participated bi-annually in the Global-Point Prevalence Survey (PPS) facilitated by the Department of Health since 2017.This study aims to evaluate the impact of a multidisciplinary, multifaceted antimicrobial stewardship (AMS) programme on hospital prescribing patterns.

METHODS

The Global-PPS included all inpatients receiving an antimicrobial on the day of PPS. Data collected included details on the antimicrobials, indications, and a set of quality indicators. From the results of the 1st Global-PPS in 2017, targets for quality improvement were identified, and an institution-wide AMS programme was implemented, including auto-stop, documentation/prescription policies, audit and feedback, education, and antimicrobial restriction/monitoring. Repeated Global-PPS measurements were done over a period of 5 years to monitor the impact of interventions. The AMS team also evaluated the antibiotic use (Monthly Defined Daily Doses; DDD) of 14 intravenous antibiotics in adult wards (March 2018 to February 2022) to assess continuous and effective implementation of the AMS program.

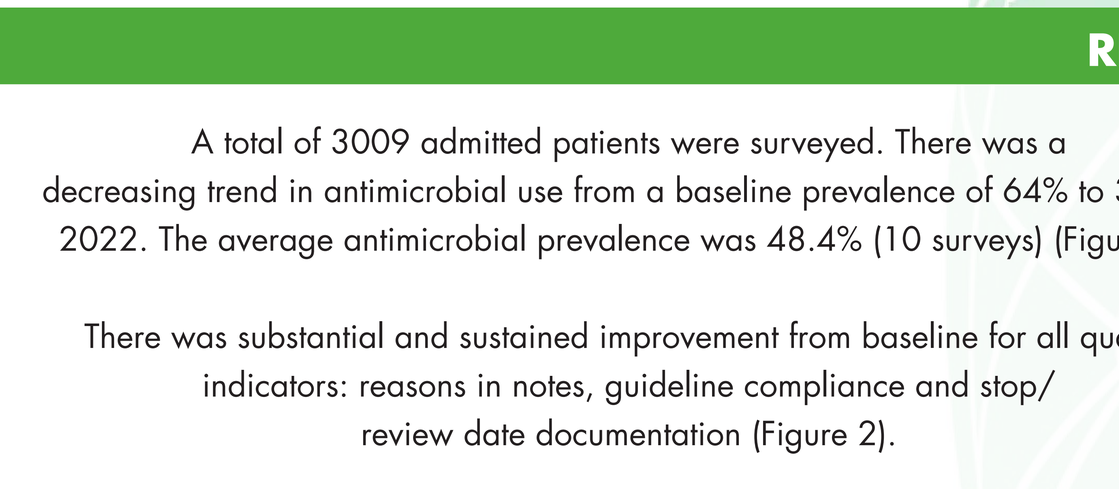
RESULTS

A total of 3009 admitted patients were surveyed. There was a decreasing trend in antimicrobial use from a baseline prevalence of 64% to 38% in 2022. The average antimicrobial prevalence was 48.4% (10 surveys) (Figure 1).

There was substantial and sustained improvement from baseline for all quality indicators: reasons in notes, guideline compliance and stop/ review date documentation (Figure 2).

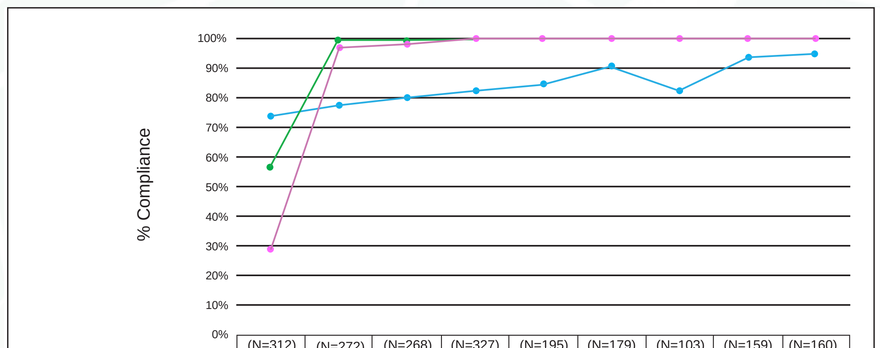
Based on the **monthly DDD's** (Mar 2018 to Feb 2022), consumption of commonly used antibiotics for respiratory infections, especially ceftriaxone, increased during the COVID-pandemic. However, both antimicrobial prevalence and DDD of most common antibiotics stabilized as AMS activities resumed in 2021 (Figure 3).

Figure 1. Prevalence of Antimicrobial Use in Adult Patients



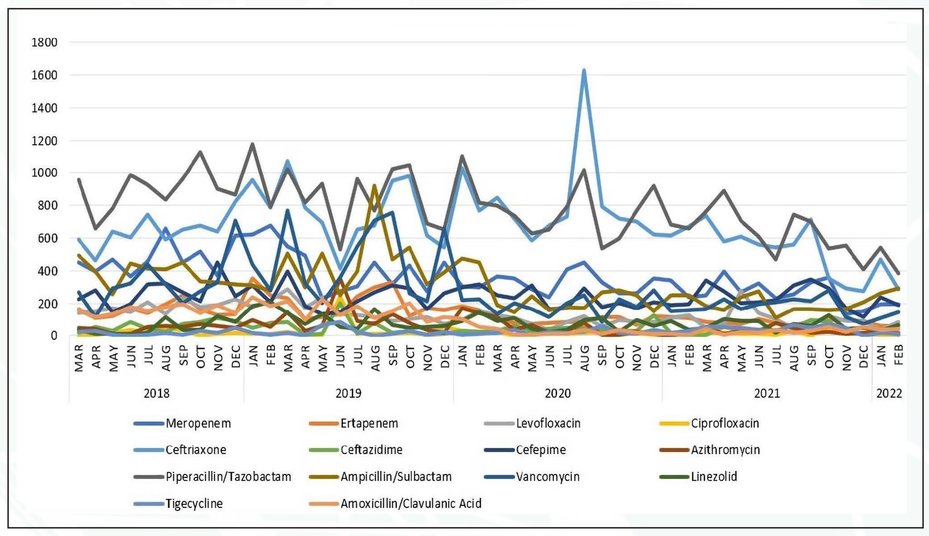
	Sep-17	Feb-18	Sep-18	Mar-19	Oct-19	Oct-2020 (Pandemic)	May-2021 (Pandemic)	Dec-2021 (Pandemic)	Jun-22	Dec-22
Admitted Adult Patients	300	340	383	341	451	254	184	190	251	265
Prevalence of Patients on Active Antimicrobials	64%	51%	43%	52%	46%	46%	61%	40%	43%	38%

Figure 2. Antibiotic Quality Indicators (Adults and Children)



	(N=312) 2017	(N=272) 2018	(N=268) Mar-19	(N=327) Oct-19	(N=195) Oct-20	(N=179) May-21	(N=103) Dec-21	(N=159) Jun-22	(N=160) Dec-22
Reason in Notes	57%	100%	99%	100%	100%	100%	100%	100%	100%
Guidelines Compliance	74%	78%	80%	82%	85%	91%	83%	94%	95%
Stop/Review Date Documented	29%	97%	98%	100%	100%	100%	100%	100%	100%

Figure 3. Monthly Defined Daily Doses of IV Antibiotics in Adult Patients (Mar 2018 – Feb 2022)



CONCLUSIONS

An institutional-led, multidisciplinary, multi-strategic approach and strict policy implementation committed to AMR prevention resulted in overall improved compliance to prescribing guidelines and documentation policies despite the brief disruption during the start of the COVID-pandemic. The Global-PPS provided a better understanding of the antimicrobial use practices in our institution and was effectively used as a tool for quality improvement, even amidst the challenges posed by the COVID-pandemic.

Disclosures: bioMérieux is the sole industrial partner of the Global-PPS. The company has no role in study design, data collection, data analysis, data interpretation, or writing the report. Data are strictly confidential and stored anonymously at the coordinating centre of the University of Antwerp.