

Global point prevalence survey of antimicrobial consumption and resistance (Global-PPS): monitoring effectiveness of an EMR-assisted pre-authorisation requirement for non-guideline compliant surgical antimicrobial prophylaxis prescriptions at a tertiary hospital in the Philippines

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INTRODUCTION

Surgical antimicrobial prophylaxis (SAP) is critical in preventing surgical site infections, but inappropriate antibiotic use remains prevalent. To address this, our institution implemented an electronic medical records (EMR)-assisted pre-authorisation for non-guideline compliant SAP prescriptions in 2022. We examined SAP prescription guideline compliance rates before and during full implementation of this intervention using the Global Point Prevalence Survey (GPPS) data.

METHODOLOGY

Point prevalence surveys were conducted from May 2021 to December 2024 using the standardized GPPS methodology. Data on antibiotic choice, duration, documentation quality, and guideline compliance were collected and analysed. The University of Antwerp's web-based GPPS platform (www.global-pps.com) was used for data entry and validation. SAP prescription data were compared before (2021) and during full implementation (2022–2024) of the EMR-assisted pre-authorisation requirement for non-guideline compliant SAP prescriptions.

RESULTS

Quality indicator rates improved following the EMR-assisted pre-authorisation. Documentation of reason in notes were 87% and 88% for 2021 and increased to consistently 100% from 2022 to 2024; stop review/date documented rates were 39.1% and 61.1% for 2021 while rates ranged from 69.8% to 100% in 2022 to 2024; and lastly, guideline compliance were 25% and 37.5% in 2021 while rates were 68.3% to 96% from 2022 to 2024.

In 2021, Watch antibiotics were predominantly used (64.5%), while Access antibiotics accounted for only 35.5%. By 2022–2024, this pattern reversed, with Access antibiotics becoming the most used classification at 55.4%, and Watch antibiotics decreasing to 44.6%. No Reserve drugs were used for SAP from 2021 to 2024.

SAP duration showed overall improvement with the intervention with extended use (>1 day) dropping from 70.3–76% in 2021 to 0–32.6% in our 2022–2024 data.

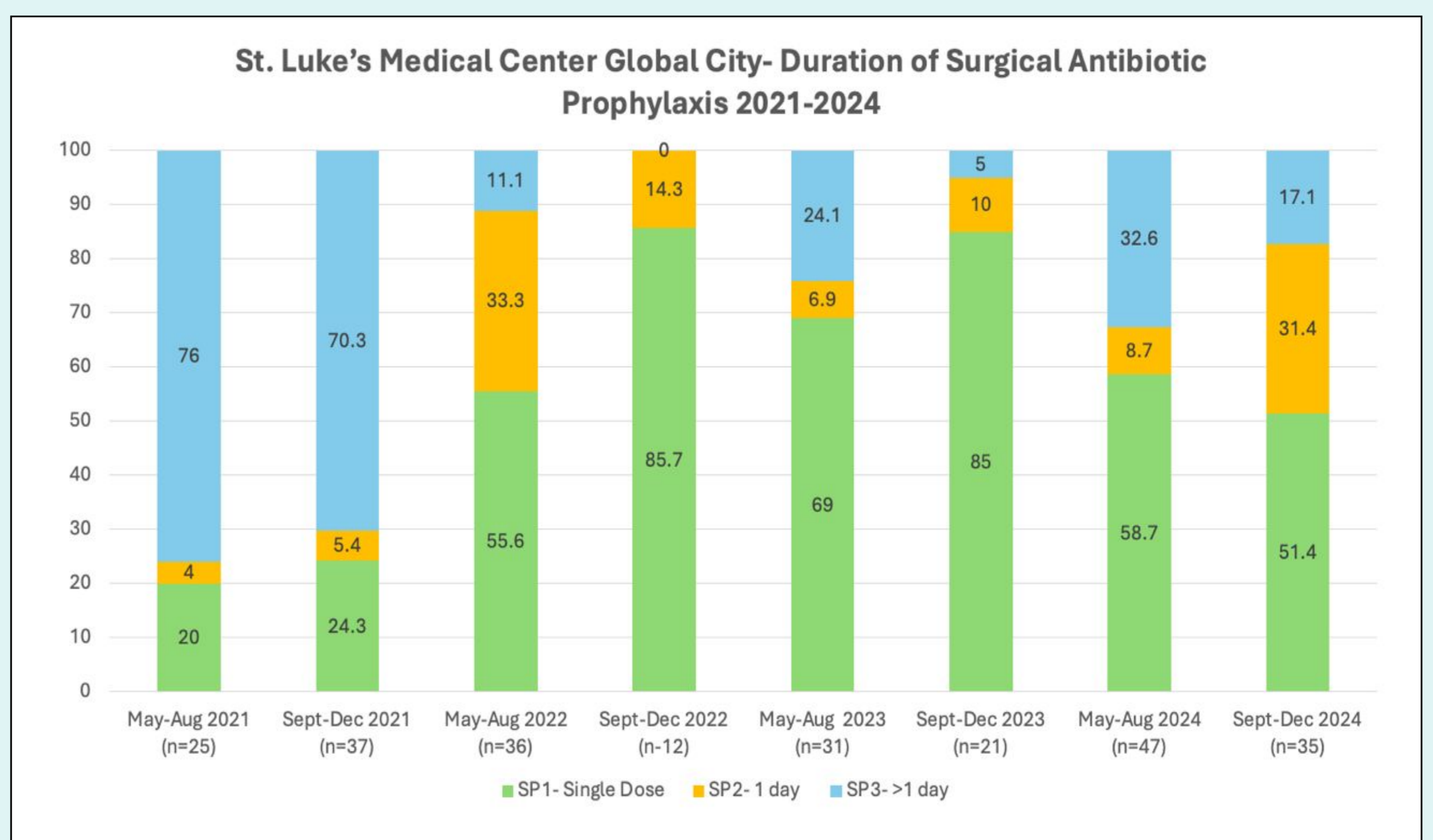


Figure 1. Duration of surgical antibiotic prophylaxis in all patients (2021–2024)

Table 1. Surgical prophylaxis quality indicators: documentation and guideline compliance (2021–2024)

QUALITY INDICATORS	2021 May-Aug		2021 Sep - Dec		2022 May-Aug		2022 Sep - Dec		2023 May-Aug		2023 Sep - Dec		2024 May-Aug		2024 Sep - Dec	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Reason in notes (n, % of prescriptions)	20	87%	32	88.9%	35	100%	12	100%	26	96.3%	18	100%	43	100%	29	100%
Stop review/date documented (n, % of prescriptions)	9	39%	22	61.1%	27	77%	12	100%	19	70.4%	18	100%	30	69.8%	26	89.7%
Guideline compliance (n, % of patients)	5	25%	12	37.5%	24	82.8%	9	75%	24	96%	17	94.4%	28	68.3%	25	92.6%

CONCLUSION

EMR-assisted pre-authorisation significantly improved SAP guideline compliance, antibiotic selection, and documentation. The intervention reduced prolonged prophylaxis and increased adherence to single-dose SAP, demonstrating a scalable systems-based approach to strengthening surgical antimicrobial prophylaxis.

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. The Philippines Point Prevalence Survey is also funded and supported by the Department of Health- Pharmaceutical Division.