# Results of the antimicrobial use point prevalence survey in private and public hospitals in the Philippines from 2019-2021

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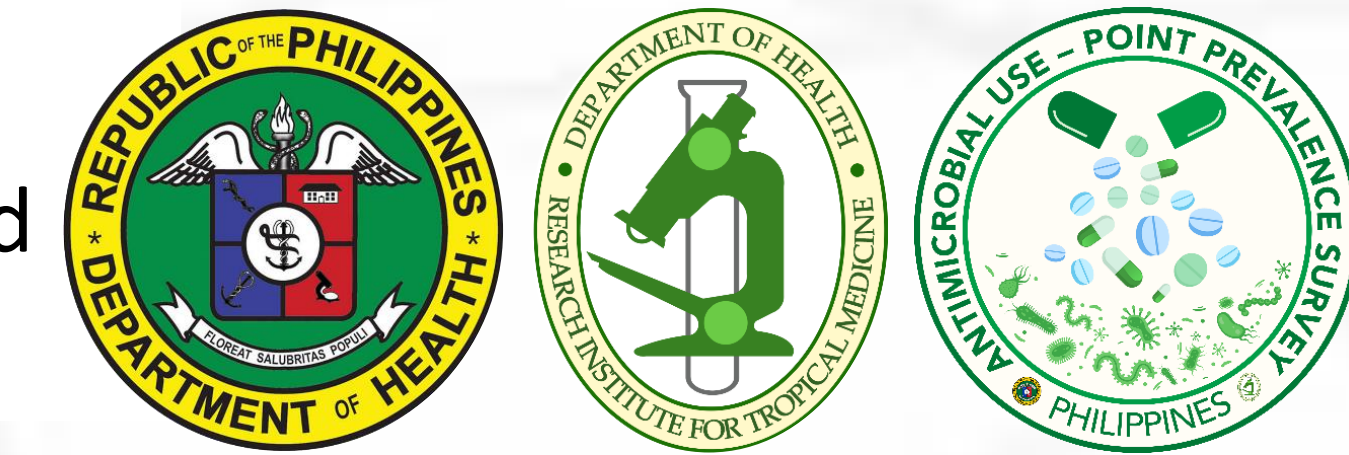
BACKGROUND & OBJECTIVES

Antimicrobial resistance is fueled by inappropriate use of antibiotics. We describe the antimicrobial prescribing pattern in private and public hospitals in the Philippines during a 3-year period (2019-2021).

METHODS

Private and public hospitals (31 hospitals in 2019, 34 hospitals in 2020, and 51 hospitals in 2021) conducted a point prevalence survey once, twice or three times a year using the standardized Global-PPS methodology and application for online data entry, validation and reporting (www.global-pps.com). All admitted inpatients at 8 AM on the day of the survey were included. Data were collected on the prescribed antimicrobials, the indications for treatment and a set of quality indicators.

RESULTS

The overall prevalence of antimicrobial use was 55.8%, 57.5% and 57.6% in 2019, 2020 and 2021, respectively. The prevalence of antimicrobial use in private and public hospitals was similar (Table 1).

During the three-year period, pneumonia remained the most common infection treated with antimicrobials, followed by skin and soft tissue infection (Table 2).

Other common diagnoses included intra-abdominal infection, sepsis, lower urinary tract infection and infection of the central nervous system.

Overall, up to 69.1% (12554/18176) of therapeutic antibiotic prescriptions was for Watch antibiotics (65.6% in 2019 – 71.5% in 2021), 87.5% of which were prescribed empirically. The most common antibiotics used for pneumonia, including COVID-19 pneumonia, were piperacillin-tazobactam, ceftriaxone and azithromycin (Table 3).

Table 1: Antimicrobial prevalence in public and private hospitals

	Public		Private		All hospitals	
	n admitted patients	antimicrobial prevalence (%)	n admitted patients	antimicrobial prevalence (%)	n admitted patients	antimicrobial prevalence (%)
2019	5842	57.9	3938	52.8	9780	55.8
2020	3723	58.7	1953	55.2	5676	57.5
2021	9274	56.8	5458	59	14732	57.6
Average		**57.8**		**55.7**		**57.0**

Table 2: Top 5 diagnoses for therapeutic antimicrobial treatment

2019			2020			2021		
Diagnosis	n patients	%	Diagnosis	n patients	%	Diagnosis	n patients	%
Pneumonia	1655	46.3	Pneumonia*	913	41.1	Pneumonia*	3429	43.0
Skin and soft tissue infections	312	8.7	Skin and soft tissue infections	231	9.8	Skin and soft tissue infections	435	6.7
Gastro-intestinal infections	187	5.2	Sepsis	173	7.3	Sepsis	272	4.2
Intra-abdominal infections	162	4.5	Intra-abdominal infections	147	6.2	Lower urinary tract infection	266	4.1
Lower urinary tract infection	161	4.5	Lower urinary tract infection	100	4.2	Central nervous system infections	238	3.7

* Includes COVID-19

Table 3: Most used antibiotics for pneumonia/COVID-19

Antibiotic (J01)	WHO AWaRe class	2019 (2531 prescriptions)	2020 (1486 prescriptions)	2021 (4748 prescriptions)
Ceftriaxone	Watch	14.3%	14.0%	16.1%
Piperacillin-tazobactam	Watch	13.1%	16.0%	15.4%
Azithromycin	Watch	12.1%	16.8%	15.1%
Meropenem	Watch	6.4%	10.4%	9.3%
Levofloxacin	Watch	4.5%	5.9%	5.5%
Ceftazidime	Watch	4.0%	4.6%	5.0%
Cefuroxime	Watch	8.6%	2.2%	2.7%
Amikacin	Access	4.0%	4.4%	4.2%
Ampicillin	Access	5.9%	2.1%	3.3%
Cefepime	Watch	2.8%	3.0%	2.6%

CONCLUSION

The prevalence of antimicrobial use in the study hospitals was high, both in private and public hospitals. In addition, a high use of broad-spectrum Watch antibiotics could be observed, most of which were prescribed empirically. Ceftriaxone and azithromycin were the recommended antibiotics for COVID-19 pneumonia during the study period. Piperacillin-tazobactam, a non-restricted antibiotic, was recommended for patients developing progression of the disease or with prior antibiotic use in the outpatient setting. There is a need to strengthen antimicrobial and diagnostic stewardship in hospitals to decrease empiric use of Watch antibiotics.

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