



# The outpatient Global-PPS identifies key action points for antimalarial antimicrobial stewardship among healthcare facilities in Lagos, Nigeria



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## BACKGROUND & OBJECTIVES

Though inappropriate antimalarial prescribing and poor adherence to malaria treatment guidelines are known contributors to global antimalarial resistance, data on actual prescribing practices are still lacking We aimed to measure outpatient antimalarial prescribing in healthcare facilities (HCF) in Lagos, Nigeria.

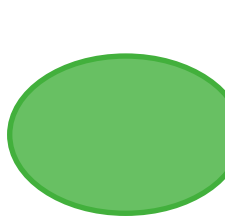
## METHODS

The outpatient module of the Global-PPS was conducted among five primary healthcare centres (PHC), three general hospitals (GH) and one tertiary care hospital (TCH) in Lagos from 2023 to 2024 using repeated surveys. Data collected included details on the antimicrobial agents, reasons and indications for treatment and several quality indicators. A web-based application was used for data entry and validation ([www.global-pps.com](http://www.global-pps.com)).

## RESULTS



### Antimalarial information



### Patient characteristics

7738 patients



4540 female (58.7%)



2530 child (32.7%)

The overall prevalence of antimalarial prescribing was 15.8%, with significantly higher rates observed in PHCs (42.8%) and among children (22%) (Figure 1). A total of 1,416 antimalarials were prescribed, the majority being artemisinin-based combination therapies (ACTs), which accounted for 74.1% (N = 1,049) (Figure 2). Among patients prescribed at least one antimalarial, 45.7% were also prescribed antibiotics. Quality indicators showed that most antimalarials prescribed included a documented reason and duration, and malaria testing was high among patients in PHCs (Table 1). However, inappropriate prescribing was noted at the GH and TCH where patients received antimalarials despite negative malaria test results or the absence of any malaria test.

Table 1: Quality indicators for antimalarial prescribing

	PHC	GH	TCH	Total
Number of antimalarials prescribed	N = 944	N = 432	N = 40	N =1416
Reason in notes	886 (93.9%)	379 (87.7%)	36 (90%)	1301 (91.9%)
Oral route	675 (71.5%)	414 (95.8%)	37 (92.5%)	1126 (79.5%)
Duration written	925 (98.0%)	366 (84.7%)	36 (90%)	1327 (93.7%)
Patients prescribed at least one antimalarial	N= 767	N =418	N =39	N =1224
Malaria test	661 (86.2%)	58 (13.9%)	6 (15.4%)	725 (59.2%)
Malaria microscopy	473 (61.7%)	38 (9.1%)	4 (10.3%)	515 (42.1%)
Malaria antigen test	188 (24.5%)	20 (4.8%)	2 (5.1%)	210 (17.2%)
Patients prescribed an antimalarial without malaria test	106 (13.8%)	360 (86.1%)	33 (84.6%)	499 (40.8%)
Patients prescribed an antimalarial with a negative malaria test	98 (12.8%)	33 (7.8%)	4 (10.3%)	135 (11.0%)
Patients prescribed at least one antimalarial and antibiotic	440 (57.4%)	111 (26.6%)	8 (20.5%)	559 (45.7%)

PHC = Primary healthcare centre    GH = General Hospital    TCH = Tertiary care hospital

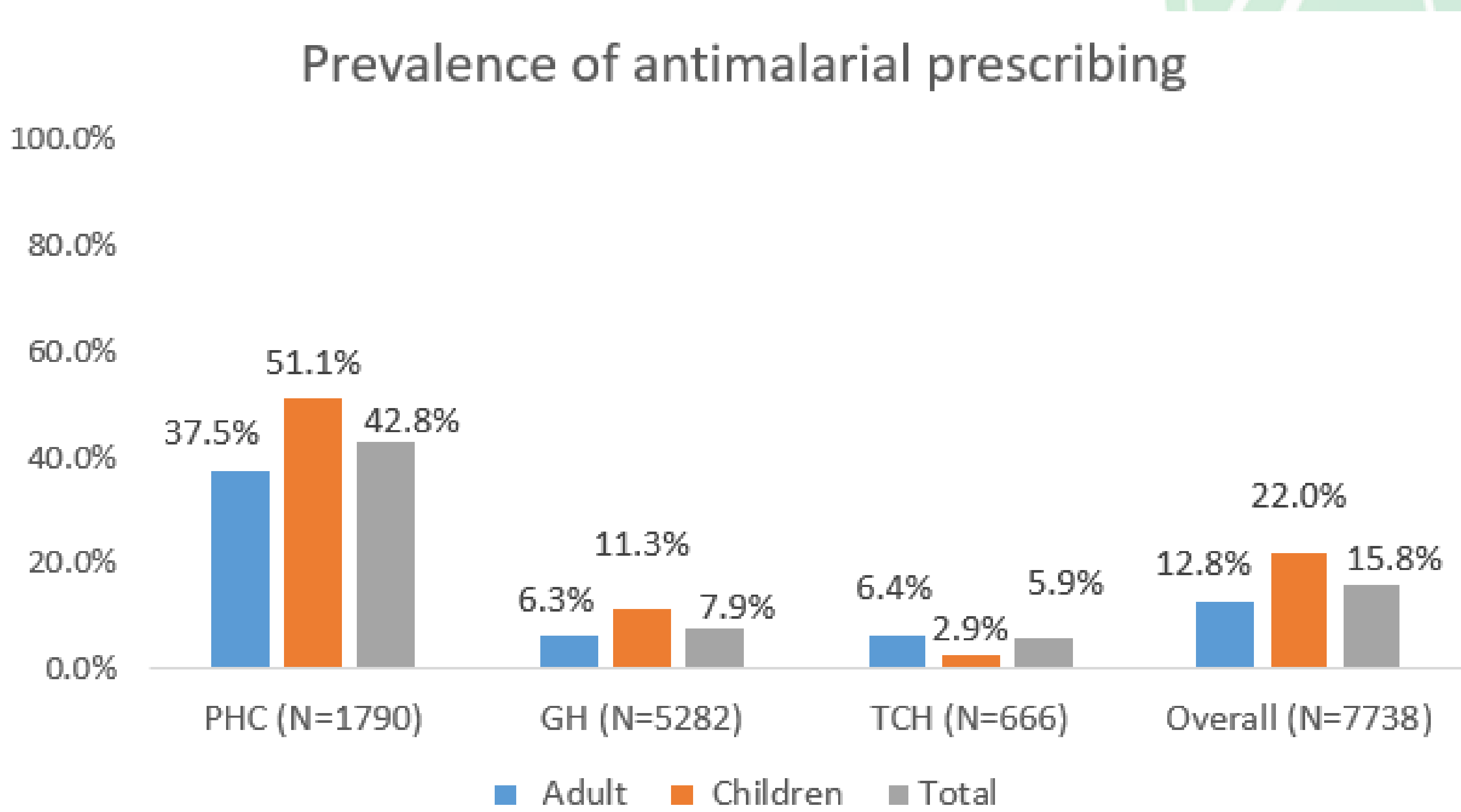


Figure 1: Prevalence of antimalarial prescribing among outpatients by healthcare facility.

GH = General hospital    PHC = Primary healthcare centre    TCH = Tertiary care hospital

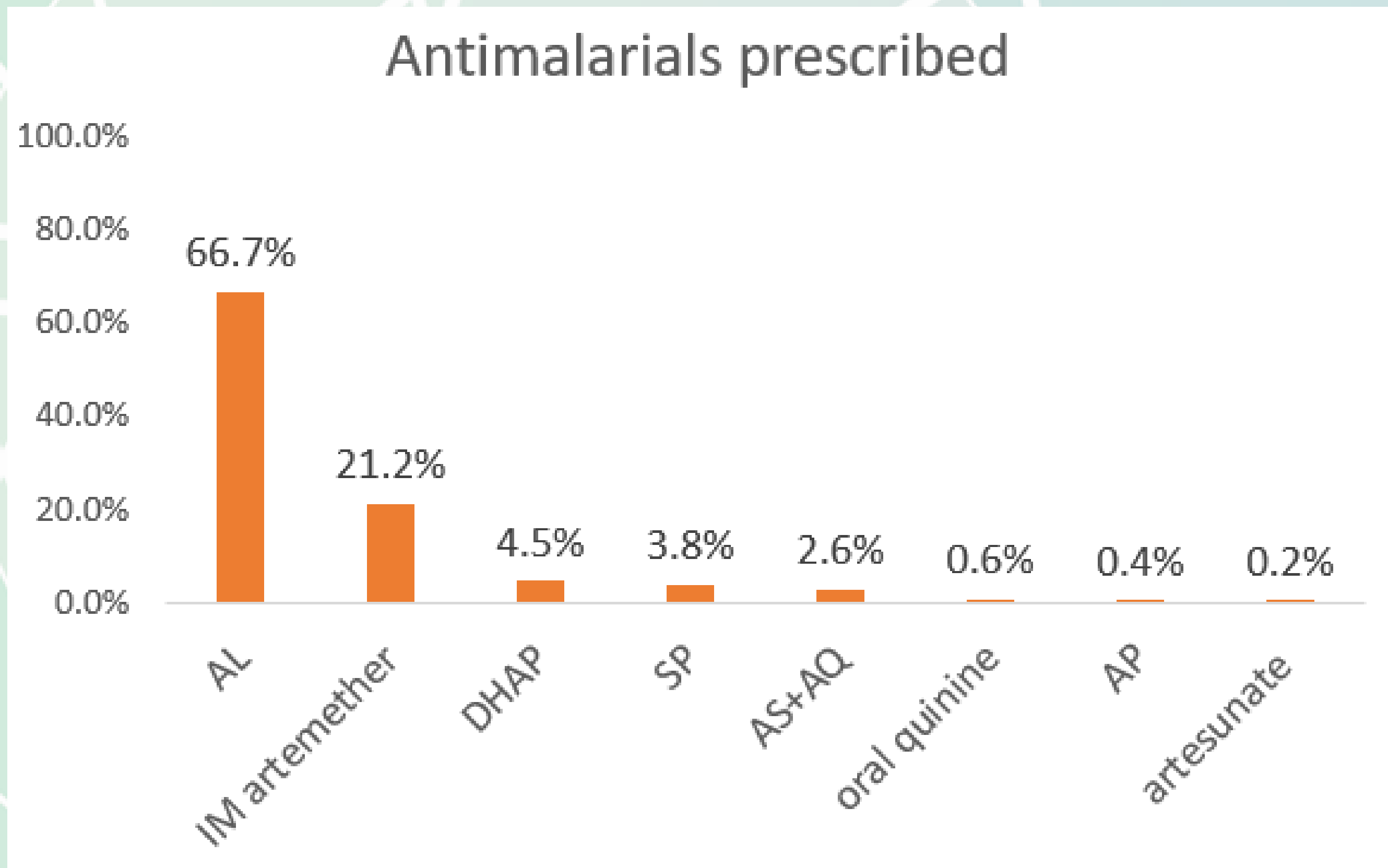


Figure 2: Frequency of antimalarial prescribed among outpatients.

AL = Artemether-lumefantrine    DHAP = dihydroartemisinin-piperazine  
SP = sulfadoxine-pyrimethamine    AS+AQ = artesunate-amodiaquine  
AP = artemolane + piperazine

## CONCLUSION

A high rate of antimalarial prescribing was observed in PHCs, particularly among children, with frequent use of parenteral artemether. While malaria testing rates were relatively high in PHCs, inappropriate prescribing persisted—patients at the GH and TCH often received antimalarials despite negative or absent malaria test results. To address these gaps, a quality improvement project has been launched in Lagos to strengthen antimicrobial stewardship, promote appropriate use of antimalarials and antibiotics, and ultimately improve patient outcomes.