





Data driven outpatient antimicrobial stewardship in Lagos

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Introduction



- In Africa, most antimicrobial stewardship efforts have focused on the inpatient setting
- Most antibiotics are prescribed in the outpatient setting and many are inappropriate
- Limited data on antimicrobial prescribing in the outpatient setting
- Behavioural change is essential to improve prescribing practices.



Point Prevalence Survey (PPS) is a key tool to inform and influence change



Outpatient Antimicrobial stewardship project in Africa

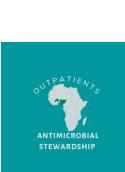




Burkina Faso, Nigeria and Togo



- Five primary healthcare centres
- Two general hospitals
- One teaching hospital





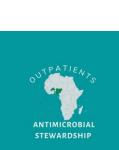




 Actions performed by healthcare professionals (HCPs) when delivering healthcare to patients.

- Examples
 - Inppropriate antimicrobial prescribing
 - Documentation of reason for antibiotic prescribing in notes











Use of global PPS to change behaviour





Measure antimicrobial prescribing patterns



Identify targets for quality improvement of antimicrobial prescribing



Design tailor made AMS interventions to promote prudent use of antimicrobials



Assess the effectiveness of AMS interventions through repeated PPS





Measure antimicrobial prescribing patterns







Baseline measures



 Prevalence of antimicrobial prescribing was highest in the primary healthcare centres followed by the General hospitals and the lowest was in the teaching hospital.

High use of watch antibiotics









- High prevalence of antimicrobial prescribing
 - Reduce prevalence by 30%



Increase use of Access to >= 60% appropriate antibiotic use



- Unknown indications for antimicrobial prescribing (22.7%)
 - Increase documentation of reason for prescribing antimicrobials by 30%







Design tailor made AMS interventions to promote prudent use of antimicrobials



Set up multidisciplinary AMS team with team lead

Antibiotic guidelines

Education and training of healthcare professionals and AMS teams

Documentation of reason in notes









Behavioural Change through Data Feedback



- Healthcare facility-specific feedback reports shared with
 - prescribers and other healthcare professionals
 - AMS teams
 - healthcare facility management.
- Interactive workshops held to discuss findings.
- Identification of key drivers of inappropriate use.













Assess the effectiveness of AMS interventions through repeated PPS







Impact of AMS interventions



Assess the effectiveness of AMS interventions through repeated PPS

Behaviour change









 Significant reduction in the prevalence of antimicrobial prescribing from baseline to 18 months

 Increase in the proportion of antibiotic prescribed from the Access group from baseline to 18 months











Resistance to changing antimicrobial prescribing in the first year



Documentation of reason in notes variable in different healthcare facilities



 High staff turnover – healthcare professsionals moved from one PHC to another and some travelled out of the country



Inadequate manpower







Lessons learned





Data is a powerful enabler of behaviour change.



Feedback is most effective when it is done at the each facility and timely.



• Leadership buy-in is very essential.



Building a culture of accountability takes time — and data







Posters at ICAN 2025



The outpatient Global-PPS identifies key action points for antimicrobial stewardship among healthcare facilities in Nigeria, Burkina Faso and Togo

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Most antimicrobial stewardship programmes In Africa have focused on Ingetlents. We elmed to measure outpetient entimicrobial prescribing practices among different types of healthcare facilities in Burkins Faso, Nigeria. and Togo.

The Global-PPS outpatient module was conducted in primary healthcare centres. (PHC), general and tertiery care hospitals. Basic patient details were gethered for all individuals attending the outpatient setting (denominator). Detailed information covered entimicrobial prescribing and quality indicators (numerator). A web-based application was used for date-entry, validation and feedback reporting (www.global-pps.com).









with significantly elevated rates observed in PHCs and among children across all three countries (Figure 1). Malarie was the most frequently reported indication for antimicrobial use, regardless of country (Table 1). However, instances of inappropriate prescribing were identified, including the use of antibiotics for upper replicatory tract infections (URTIs) and unknown indications. The five most commonly prescribed antimicrobial agents are presented in Figure 2.

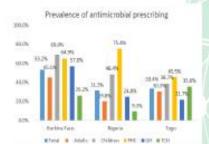


Figure 1: Antimicrobial Prevalence (%) by country, age group and type of healthcare facility Stellarani fragilia, FrC - Filmay matikara Carda, TCH - Tarliay Cara Hospital

Top 5 most prescribed antimicrobial a taligname

Figure 2: Top five most prescribed antimicrobials among outpatients by country Terrorise of active color provides

Table 1: Five most common diagnosis to be prescribed an antimicrobial by country

Diagnosis	N (N)	Diagnosis	N (%)	Diagnosis	N (%) 27 (20.0%) 22 (16.8%) 11 (8.4%) 11 (8.4%) 9 (6.9%)	N (%)
Malaria	127 (28.9%)	Malaria	98 (42.2%)	Materia	27 (20.0%)	
Other	125 (26.5%)	URTI:	28 (12.1%)	DIN	27 (20.6%) 22 (16.6%) 11 (8.6%) 11 (8.6%)	22 (16.8%)
Unknown -	71 (16.2%)	Sepals	20 (8.6%)	557	11(5.4%)	
Proph ENT	26 (5.9%)	Unknown	19 (9.2%)	Unknown	11(8.6%)	
Pneumonia	21 (4.0%)	GI.	13 (5.6%)	- G(9 (6.9%)	

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Antimicrobial prescribing rates were high in PHCs, particularly among children, with majoris identified as the most common indication. across all countries, inappropriate prescribing was observed, including the use of antibiotics for upper respiratory tract infections. (URTs) and cases with unknown indications. Ongoing quality improvement initiatives in the three countries are focused on strengthening antimicrobial stewardship and promoting better patient outcomes.



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

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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).

Antimalarial information

Patient characteristics



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 antimialarial prescribing

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

in healthcare facilities (HCF) in Lagos, Nigeria.

aimed to measure outpatient 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 = Terti:	ary care hospital				



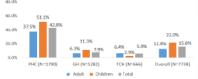


Figure 1: Prevalence of antimalarial prescribing among outpatients by GH = General hospital PHC = Primary healthcare centre TCH = Tertiary care hospital

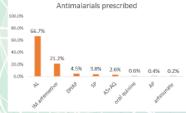


Figure 2: Frequency of antimalarial prescribed among outpatients AL = Artemether-lumefantrine DHAP = dihydroartemisinin-piperar

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.







References



• The WHO AWaRe (Access, Watch, Reserve) antibiotic book. Geneva: World Health Organization; 2022. Licence: CC BY-NC-SA 3.0 IGO.

• Fleming-Dutra KE, Hersh AL, Shapiro DJ, Bartoces M, Enns EA, File TM, Jr., et al. Prevalence of inappropriate antibiotic prescriptions among US ambulatory care visits, 2010–2011. JAMA. 2016;315(17):1864–73. https://doi.org/10.1001/jama.2016.4151



