Data driven outpatient antimicrobial stewardship in Lagos

Dr Philip Oshun

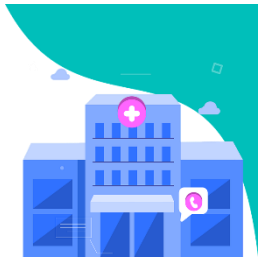
University of Lagos, Nigeria

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

Behaviours

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

- Examples
  - Inppropriate antimicrobial prescribing
  - Documentation of reason for antibiotic prescribing in notes
  - Poor compliance with antibiotic treatment guidelines

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

Identify targets for quality improvement of antimicrobial prescribing

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

- High use of watch antibiotics
  - 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%

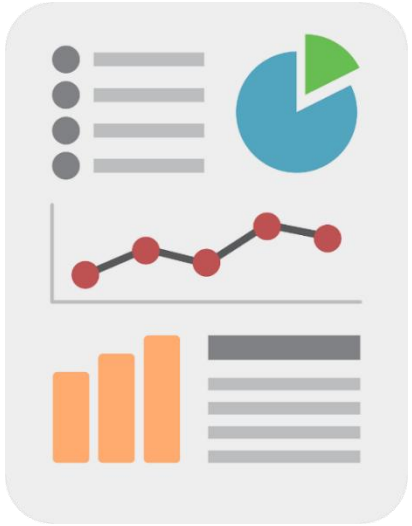
Design tailor made AMS interventions to promote prudent use of antimicrobials

- 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.
- Commitment to action plans and targets for improvement developed at each site.



Assess the effectiveness of AMS interventions through repeated PPS

Impact of AMS interventions

- Assess the effectiveness of AMS interventions through repeated PPS
- Behaviour change

Results

- 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

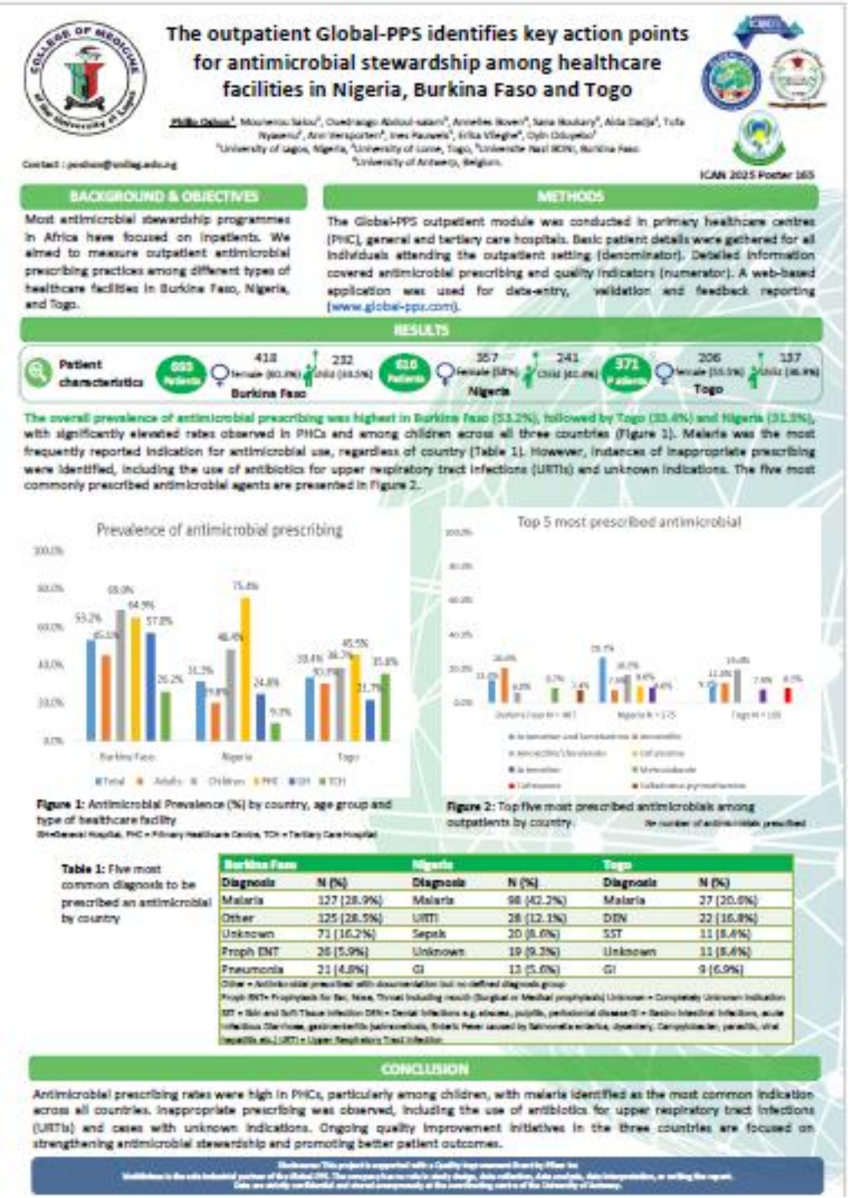
Challenges encountered

- 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

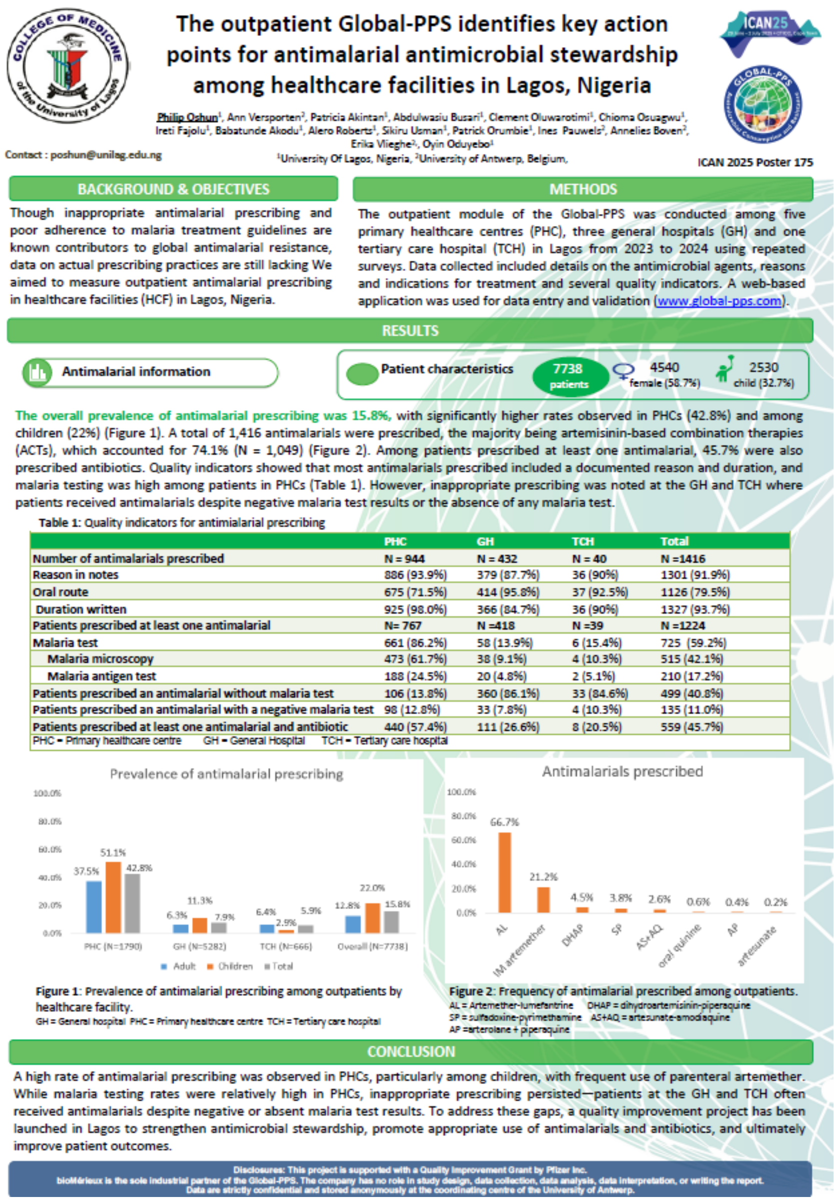
Lessons learned

- 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



Burkina Faso		Nigeria		Togo	
Diagnosis	N (%)	Diagnosis	N (%)	Diagnosis	N (%)
Malaria	127 (28.9%)	Malaria	98 (42.2%)	Malaria	27 (20.0%)
Other	125 (28.5%)	URTI	28 (12.1%)	DEN	22 (16.3%)
Unknown	71 (16.2%)	Sepsis	20 (8.6%)	SST	11 (8.4%)
Proph ENT	26 (5.9%)	Unknown	19 (8.2%)	Unknown	11 (8.4%)
Pneumonia	21 (4.8%)	GI	13 (5.6%)	GI	9 (6.9%)



	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%)

OUTPATIENTS
ANTIMICROBIAL STEWARDSHIP

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