The Nigerian Global-PPS experience

Nigeria Point Prevalent Survey And Implications On ASP Implementation.

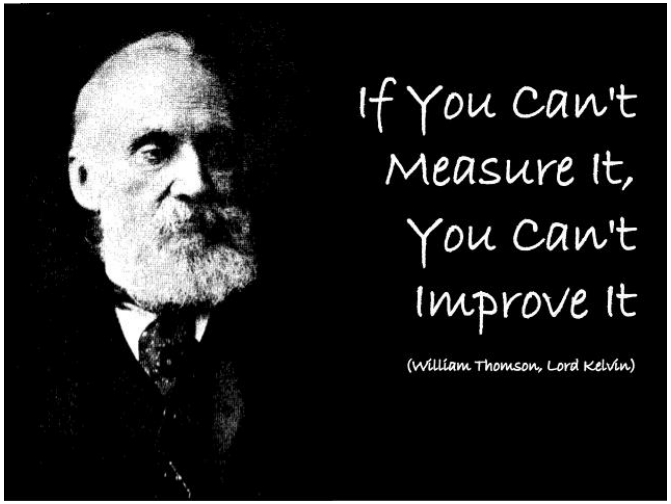
- Prof. O. O. Oduyebo
- Coordinator, National working group on antimicrobial stewardship in Nigeria
- 4th ASLM Scientific Symposium, Nigeria 2018

GLOBAL-PPS Antimicrobial Consumption and Resistance

Supporting healthcare professionals in the fight against resistance

BIOMÉRIEUX
PIONEERING DIAGNOSTICS

What is Surveillance



World Health Organization:

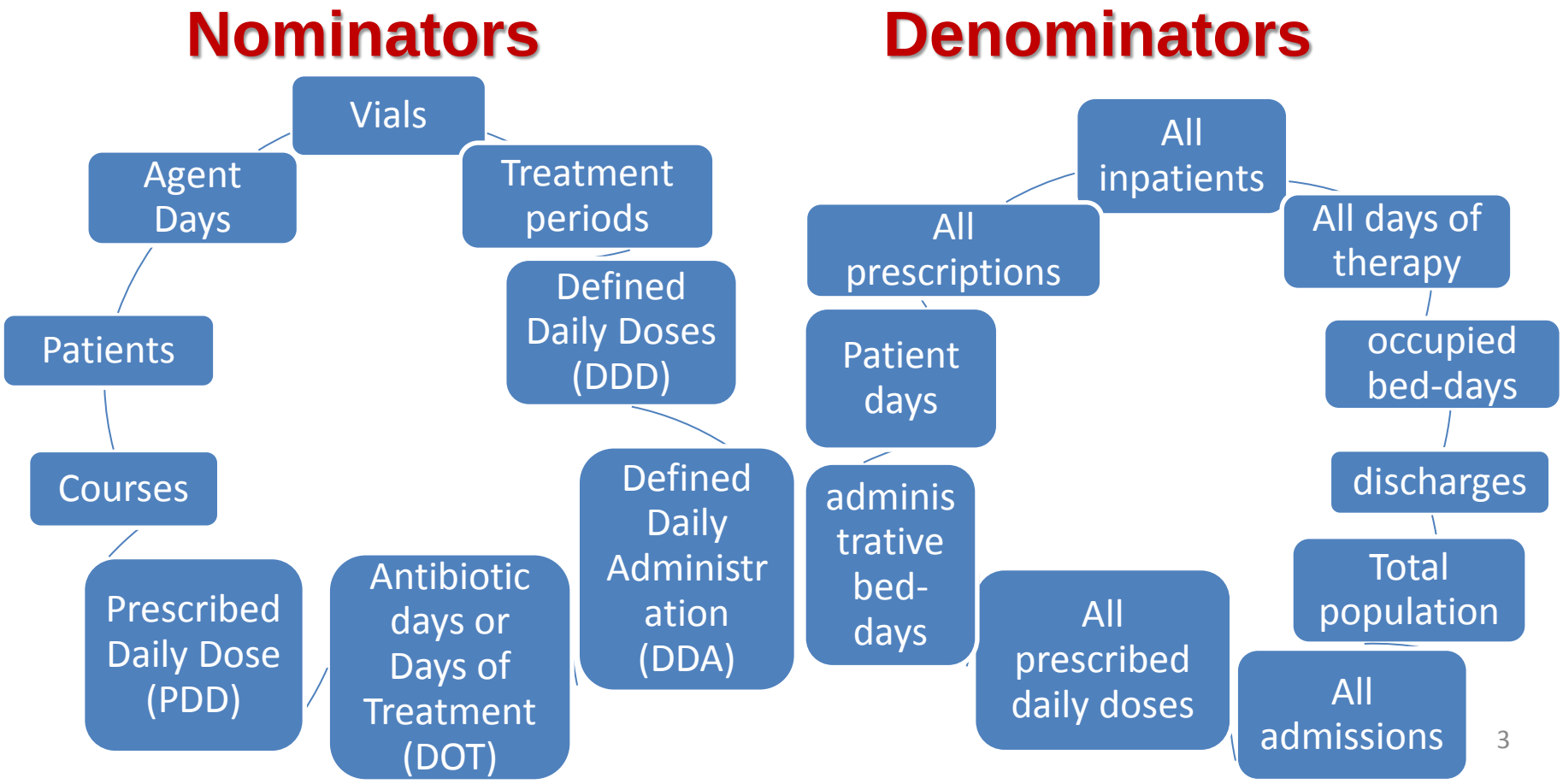
Systematic ongoing collection, collation, and analysis of data and the timely dissemination of information to those who need to know so that action can be taken.

U.S. Centers for Disease Control and Prevention:

The ongoing systematic collection, analysis, and interpretation of health data, essential to the planning, implementation, and evaluation of public health practice, closely integrated with the timely dissemination of these data to those who need to know.

Antibiotic prescribing in hospitals - What does the literature offer ?

Wide range of methods, with different numerators and denominators, which makes comparison difficult



An innovative worldwide accessible web-based Global-PPS TOOL

- Standardized approach
  - Compare and report data on antibiotic prescribing and resistance amongst adults, children and neonates in a uniform way
  - Uniformly compare and analyze trends over time.
- Collect consistent, valid and comparable antimicrobial prescribing data
- Above all: a simple method
  - Feasible, achievable surveillance

Aims Global-PPS and impact on AMR

- **Evaluate the situation in your hospital : determine variation in drug, dose and indications of antimicrobial prescribing in hospitalized adults, children and neonates locally and regionally across countries & continents.**
- **Identify targets to improve quality of antimicrobial prescribing → improve healthcare quality and promote prudent antimicrobial use.**
- **Assess effectiveness of interventions through repeated PPS.**
- **Increase public health capacity**
  - **Combat antimicrobial resistance.**

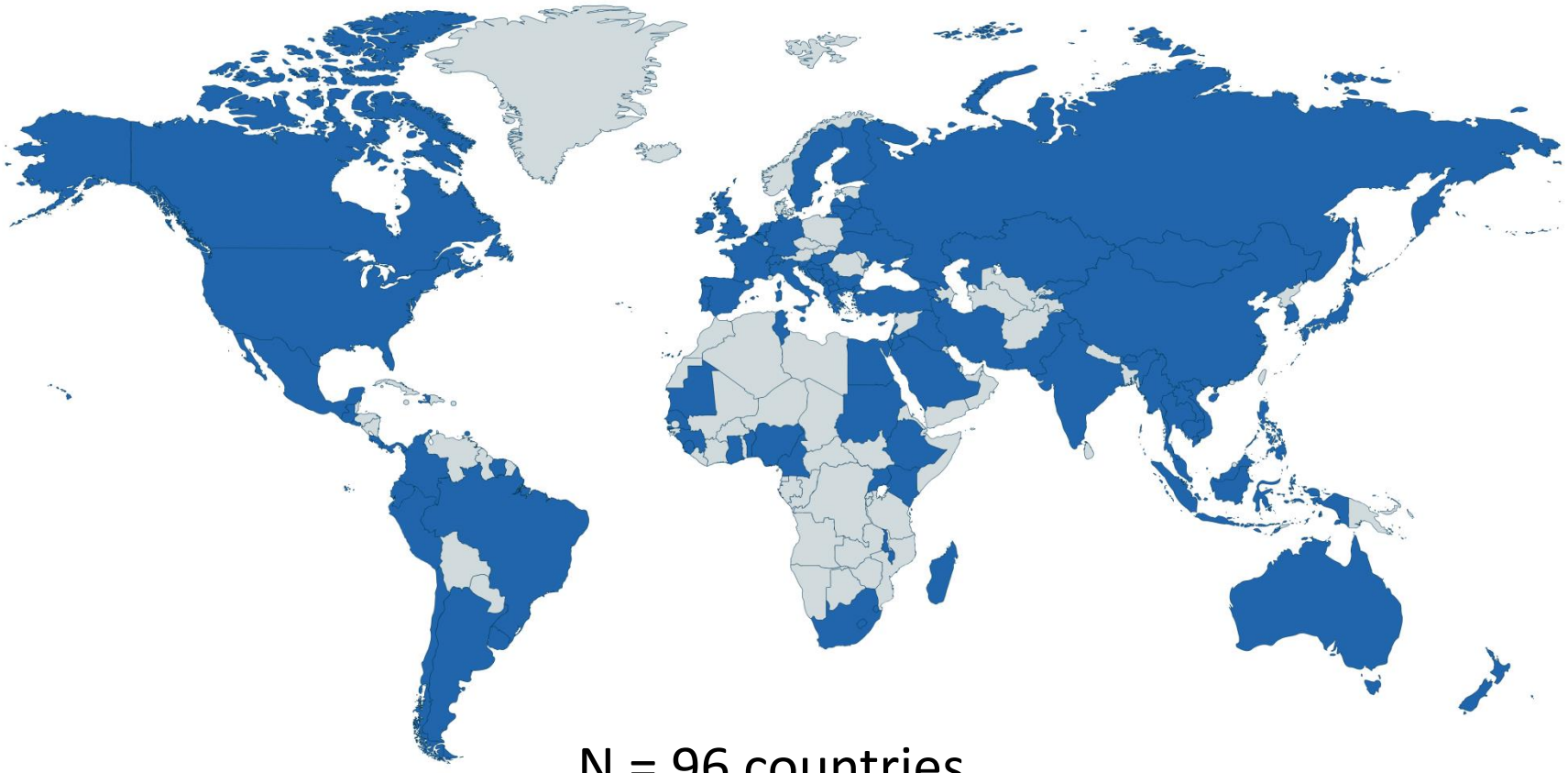
What we freely offer:

- Protocol, different languages
- **Data collection templates** : ward and patient form (paper)
- **Web-based data-entry** and verification through the Global-PPS programm, including validation (**quality assurance**) and reporting (**real-time feedback with benchmarking national and worldwide**) (http://www.global-pps.com/documents/)

- One-point feedback report
- Longitudinal feedback report
- Raw data in excel

- **Full support to the hospitals** : all materials, PPT slides on the method used (EN, FR), FAQ list, IT manual, posters, leaflets to promote the study, help desk !

Degree of participation or enrollment as of today



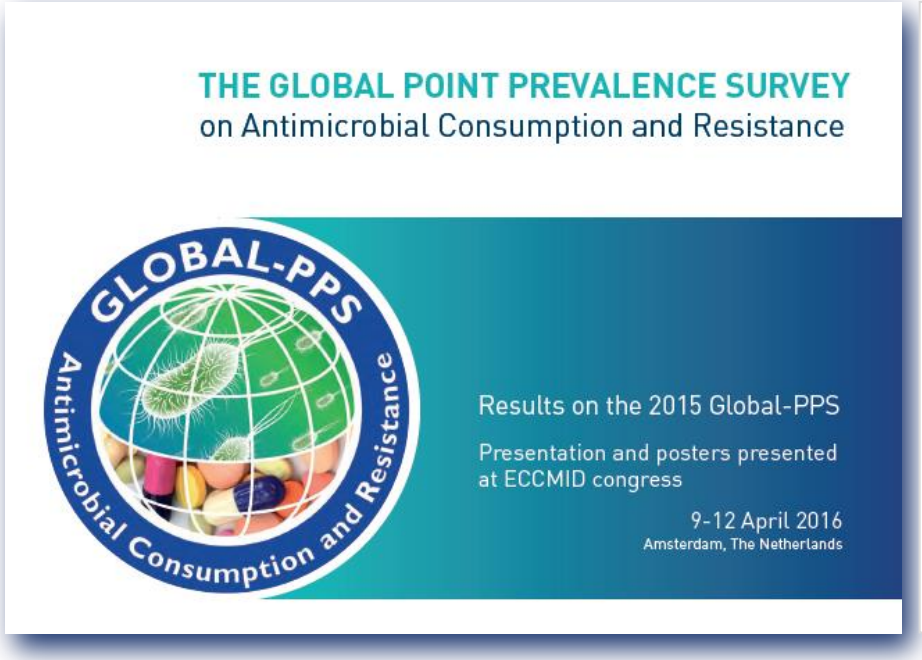
N = 96 countries

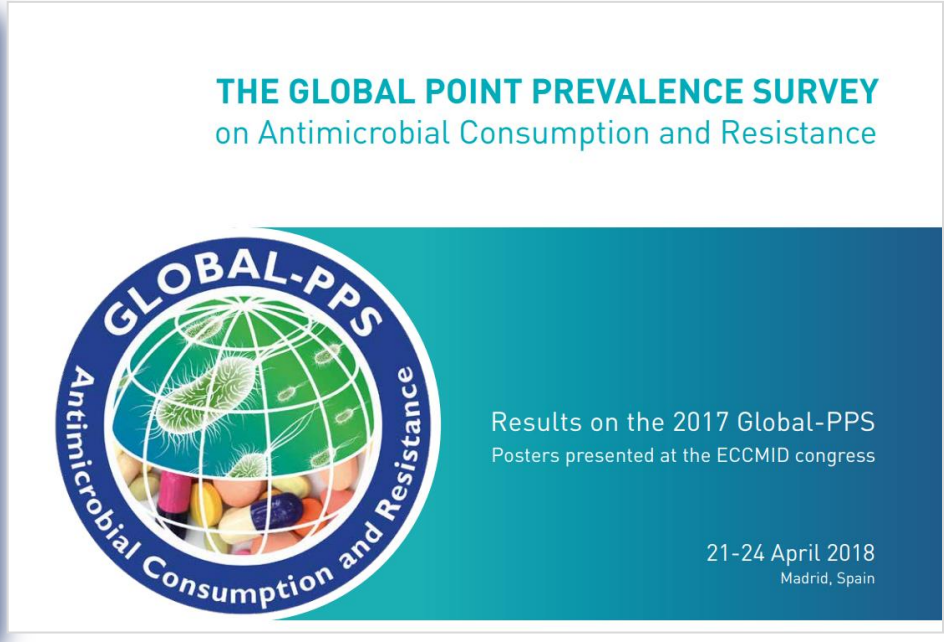
N ≈ 1000 hospitals

N ≈ 220,000 admitted patients

Global PPS 2015 and 2017

- **Final results presented during ECCMID 2016 and ECCMID 2018**
- **Brochure including each 22 communications**





- **Global and local publications and communications on-going**

www.global-pps.com

Contact global-PPS@uantwerpen.be

What global PPS means to Nigeria

- Tool for a realistic and sustainable AMS
- Entry point and monitoring tool for AMS in Nigeria
- As decided by the Nigerian working group on AMS
  - Came into being in August 2018
  - Another meeting in November 2018
  - Published a communique
  - AMS still young in Nigeria

How it all began

LAGOS UNIVERSITY
TEACHING HOSPITAL

LUTH story till 2015 Global PPS

Plan of our hospital antimicrobial stewardship committee in 2012

- To set up our antimicrobial stewardship program
- Subcommittee to develop a proposal to obtain baseline information for our stewardship program.
- Some saw a need for funding of the project, and this was recognized as a barrier.
- Situation till the advent of the global point prevalence survey of antimicrobial consumption and resistance (GLOBAL -PPS) in 2015.
- LUTH participated in the survey and were able to obtain data we considered enough to start the hospital stewardship program

LUTH story after PPS 2015, 2017, 2018

- Identified issues
  - Very high rates of antimicrobial prescribing
  - Under-utilisation of the clinical microbiology Labs
  - No information on MDROs
  - No antibiotic guidelines
  - Negative prescribing habits

- ** Hospital antibiotic policy written based on PPS data

- Develop the first African AMS MOOC in collaboration with BSAC & ICAN

LUTH ANTIMICROBIAL STEWARDSHIP COMMITTEE APPRECIATES G-PPS

NIGERIAN story after PPS

- Similar issues identified in all participating hospitals
  - Very high rates of antimicrobial prescribing
  - Under-utilisation of the Clinical Microbiology Labs
  - No information on MDROs
  - No antibiotic guidelines
  - Negative prescribing habits

- 2 publications
- 9 conference presentations
- ****Awareness has been created in the country about global –PPS making AMS feasible

EDUCATION AND AWARENESS MADE SOME DIFFERENCE IN OUR HOSPITAL

Table 1: Overview of the quantity and quality of antimicrobial prescribing in two Nigerian hospital

	Tertiary care hospital Lagos **Intervention in 2016**		Tertiary care hospital Abuja **No Intervention**	
	2015	2017	2015	2017
Antibiotic prevalence adult wards	80.6%	67.0%	58.7%	61.2%
Antibiotic prevalence in pediatric wards	89.7%	59.2%	50.9%	68.3%
Surgical prophylaxis ≥24h	93.0%	100%	90%	100%
Targeted prescribing	8%	1%	22%	3%
Guidelines missing-medical adult wards	96.7%	100%	21.9%	50.0%
Guidelines missing-surgical adult wards	97.9%	99.2%	6.0%	27.3%
Guidelines missing-medical pediatric wards	100%	100%	21.2%	70.0%
Reason for prescribing written in notes	42.2%	42.0%	54.3%	52.1%
Stop review date documented	16.2%	16.7%	38.3%	36.3%

Following dissemination of G-PPS data

- Interventions planned separately for each department because of the large hospital size (761 beds)
- Started with Paediatrics department

PAEDIATRICS DEPARTMENT

- Disseminated data at clinical meeting
  - wrote their antibiotic guidelines
    - Took one year to write
  - Chose an antibiotic team
  - Chose a strategy
    - Prospective audit with intervention and feedback
- Challenge: manpower (seen as extra work)
  - Feasibility of prospective audit with intervention and feedback with Medical students assisting confirmed

Prospective audit with intervention and feedback in LUTH Paediatrics

- Every prescription is audited with a checklist
- Checklist is based on hospital antibiotic policy and dept antibiotic guideline
- Checklist completed by
  - Med students
  - Clinical pharmacologists from the university college
    - decide appropriateness based on checklist
  - Consultants in the ID unit/Stewardship team
    - do the feedback to prescribers
- M & E by Hospital stewardship committee

AMS IN NIGERIA TODAY

- Participating global PPS
  - 4 hospitals in 2015
  - 10 hospitals in 2017
  - 13 hospitals have registered in 2018
- 3 hospitals have started formal stewardship program
- Hospitals doing PPS came together to form the National working group for AMS in Nigeria
  - Communique
  - Working on a plan of action

Why do Global –PPS in LMIC

- AMS strategies may be cumbersome for resource poor countries especially those without good laboratories – hence no AMS
- It is a good tool for beginners of AMS
- It allows you to identify prescribing problems and identify solutions tailored for your peculiar issues
- It also makes AMS monitoring possible


Imagine a world where
ANTIBIOTICS
stops working
Join us
from bec
Thursday, 1
New
cs

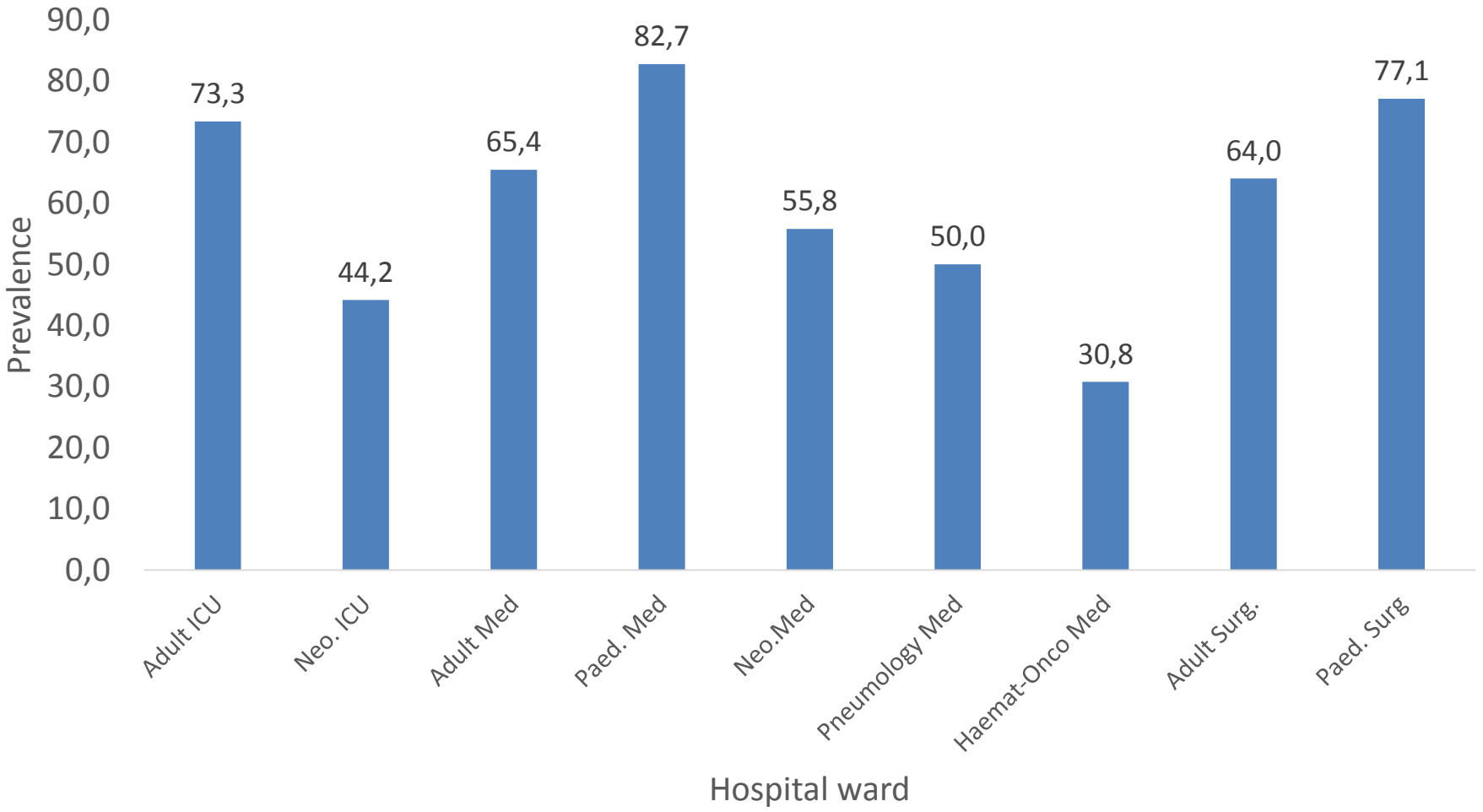
PPS DATA SO FAR IN NIGERIA

8 hospitals

Antibiotic prescribing rates in Nigerian Hospitals

Hospital	No of eligible patients	Antibiotic Prescribing rates (%)
LUTH	258	65.5
NHA	144	63.2
ABUTH	346	71.7
FETHA	220	78.2
BUTH	53	52.8
SSH	79	79.7
UITH	213	61.0
UCH	451	59.6

Prevalence of Antibiotic Use by Ward in Nigeria



Quality indicators & antibiotic prescribing pattern in Nigerian Hospita

Quality Indicators	Frequency (n=2180)	Proportion (%)
Stop/Review Date		
Yes	740	33.9
Reason in note		
Yes	1599	73.4
Guideline compliance		
Yes	131	6.0
Treatment based on Biomarker data		
Yes	10	0.4
Treatment		
Targeted	69	3.2
Route of administration		
Parenteral	1396	64.0

Table 3: Pattern of Microbiology Laboratory use versus Antibiotic prescribing in Nigerian Hospitals

	Treatment		Bio-marker Use
Hospital	Targeted	No of MDROs	Yes
LUTH	2 (0.7%)	2	0 (0)
NHA	3 (1.8%)	2	0 (0)
ABUTH	7 (1.6%)	2	0 (0)
FETHA	21 (5.5%)	3	0 (0)
BUTH	14 (25.0%)	9	0 (0)
SSH	0 (0%)	0	0 (0)
UITH	5 (2.0%)	4	0 (0)
UCH	17 (3.8%)	11	10 (2.2)

Results

- Antimicrobials were prescribed for
  - –community acquired infections (57%)
  - –surgical prophylaxis (30.6%),
  - –hospital acquired infections (11.4%)
  - –medical prophylaxis (9.7%)

Results

- **Most commonly prescribed antibiotic and (the most commonly used in the class) were**
  - Cephalosporins (ceftriaxone 57%)
  - Nitro-imidazoles (metronidazole 99,4%)
  - Quinolones (ciprofloxacin 67%)
  - Penicillin+combination (amoxicillin +combination 73%)

Guidelines by working group for AMS in Nigerian hospitals

- Entry point for stewardship is global PPS
- Disseminate PPS data
- Meet with stakeholders
- Establish AMS committee
- Write out antibiotic policy based on global PPS findings
- Global PPS for M & E
- Education

AMS Guidelines for Nigeria ……..

- Write antibiotic guidelines
- Decide on the AMS strategy for hospital based on prescribing rates and quality indicators
- Strengthen our laboratories so we can evaluate outcome measures
  - Antibiogram

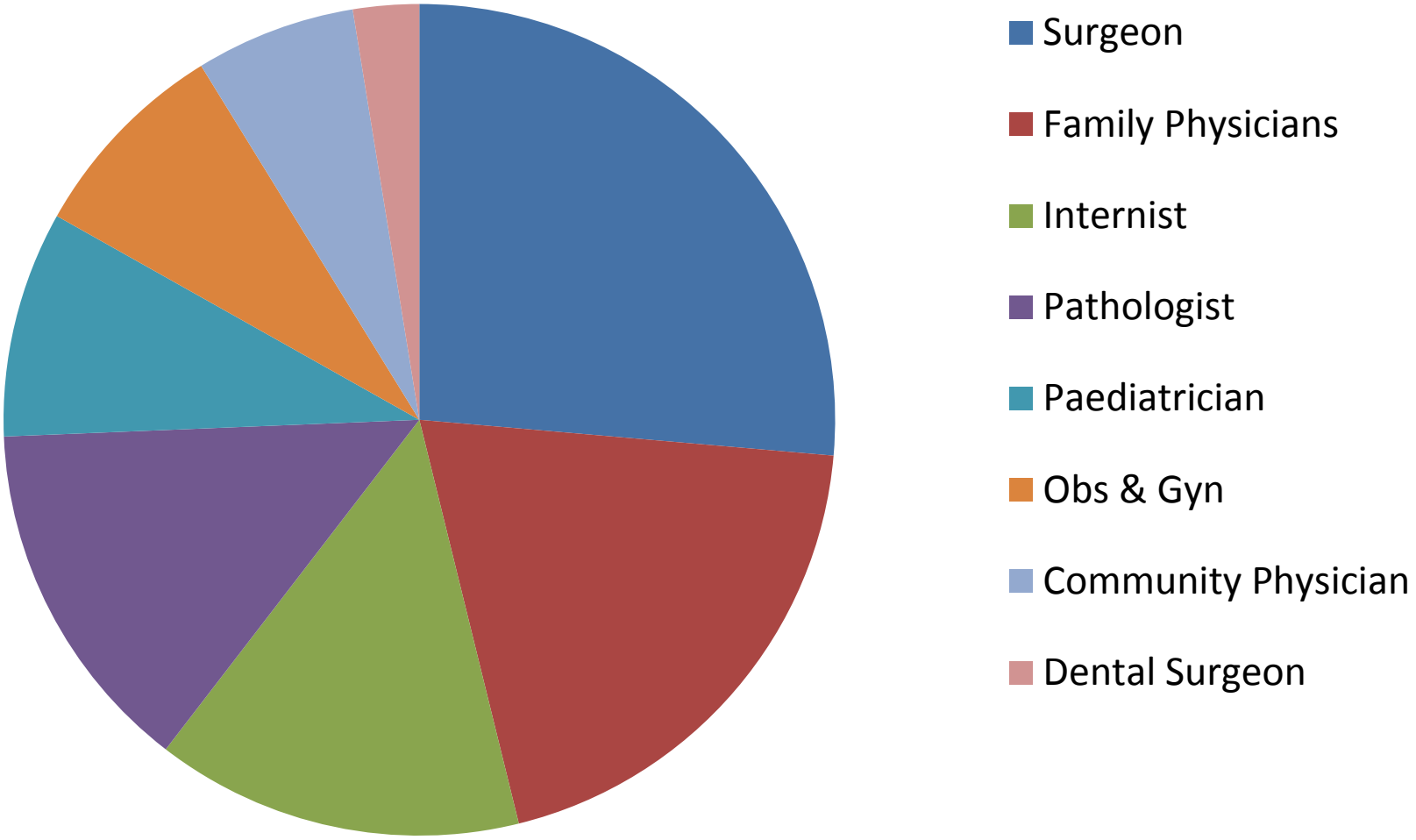
Antibiotic policy statement for Nigerian Hospitals

- List and categorise antimicrobials -
  - general use, reserved, restricted
- All antimicrobial prescriptions must have duration or date of review
- Indication for antimicrobial therapy must be written in patients' case notes
- Every prescription must be backed by (indicators)
  - microbiology investigations, a biomarker (CRP, procalcitonin)
- Parenteral antimicrobial therapy only where patient cannot take orally or where there are acceptable indications for the IV route
- Choose a stewardship strategy(s)
- Monitor and evaluate compliance

ANTIBIOTIC RESISTANCE SURVEILLANCE IN NIGERIA

- Feasible?
- Will findings be representative?
- Needful for guidelines for empiric therapy
- Antibiotic guidelines must be based on antibiogram
- **Why very low targeted therapy (3.2%)**?
  - Questionnaire administered to prescribers

Specialty


Surgeon
Family Physicians
Internist
Pathologist
Paediatrician
Obs & Gyn
Community Physician
Dental Surgeon

Reasons for low or non-use of laboratory for diagnosis of infections

Reason	Number of respondents	%
Clinical diagnosis is sufficient	23	39.66
Patients cannot afford the cost	12	20.7
Results are always delayed so irrelevant to patient management	10	17.2
Already know potent antibiotics and no need for test	9	15.5
No access to medical microbiology laboratory	8	13.8
No pathologist to ensure quality of test	7	12.1
I don't need lab to manage patients with infections	5	8.6
Others	19	32.8

Way forward

- We can do AMS, with Global PPS as tool
- For diagnosis of infections, Clinical Microbiology Laboratories are under-utilised
  - **Need to strengthen our laboratories to improve use**