The Global Point Prevalence Survey of Antimicrobial Consumption and Resistance (Global-PPS) Results of antimicrobial prescribing in Guinea

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Disclosures

"bioMérieux is the sole private sponsor of the GLOBAL Point Prevalence Survey. The Global-PPS is also funded by a personal Methusalem grant to Herman Goossens of the Flemish government. The funder has no role in study design, data collection, data analysis, data interpretation, or writing the report.
Data are strictly confidential and stored anonymous at the coordinating centre of the University of Antwerp."

Introduction

- Guinea: Western African country.

- One of the countries highly affected by 2014-2016 Ebola outbreak

- Infection control remains an important issue
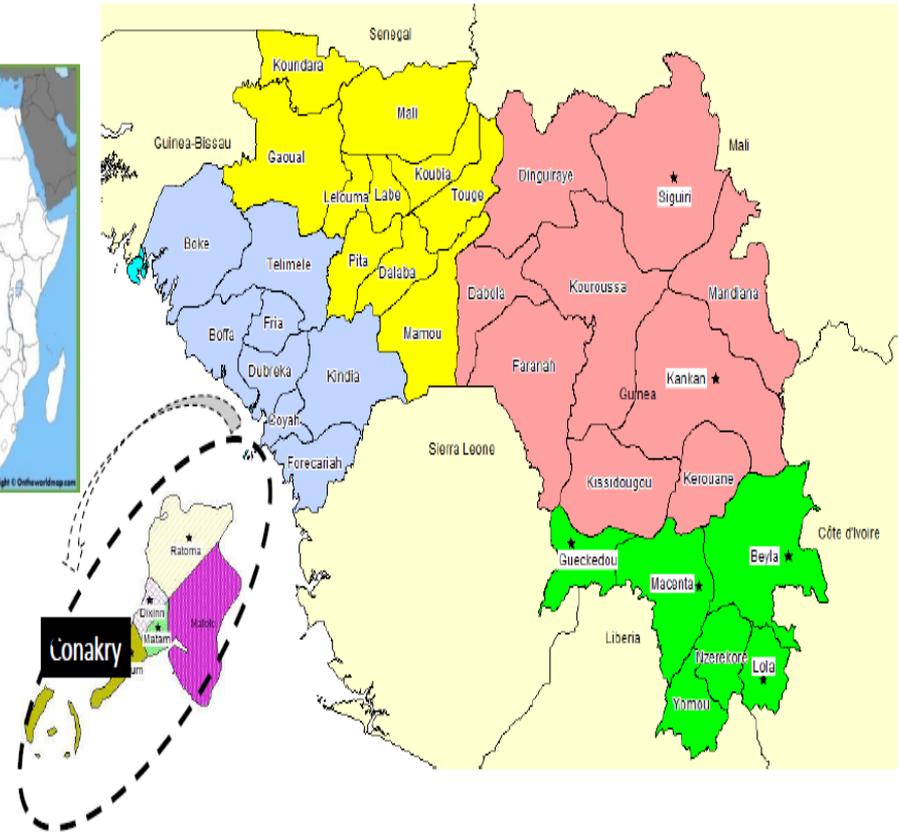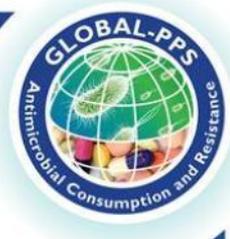
Introduction

Guinea's health system, based on primary health care, has significantly improved the availability and accessibility of essential health benefits in recent years. However, the recent analysis of the health sector situation has shown deficiencies and inadequacies of great concern

Introduction

- Several studies have been carried out as part of the improvement of the antimicrobial prescription

- In 2009: Assessment of the prescription of antibiotics among low respiratory tract infections at Conakry University Hospital

- Since 2015: Participates to the Surveillance of Antimicrobial Prescription Evaluation (2015 Global PPS): 2 tertiary hospitals

- In 2017 : thirteen (13) hospitals participated in the Global PPS

- **Objective: to extensively evaluate prescription of antimicrobial drug use and resistance**

Methods

- A cross-sectional point prevalence survey (PPS) was conducted between October and November 2017, including all adult and pediatric medical and surgical departments

- Inclusion criteria:
    - Idem to all settings- patients treated by anti-microbial drugs (curative or preventive)
   - Present at 8:00 am on the day of the survey

Methods (2)

- Data extracted from the patient's medical and nursing records.

- The missing data were supplemented by information obtained directly from the professionals in charge of the patients.

Survey conduct

- Collaboration with Conakry University : survey agreeement
- Identification of residents interested in the Infection control field
  - Trained on IPC during ebola oubreak
- Study clearence by University ethics committee
- Dedicated training on Global-PPS procedures
- Data collection: Sept-Dec 2017
- Data cleaning and local validation by the team before reporting to Antwerp

Results/Discussion
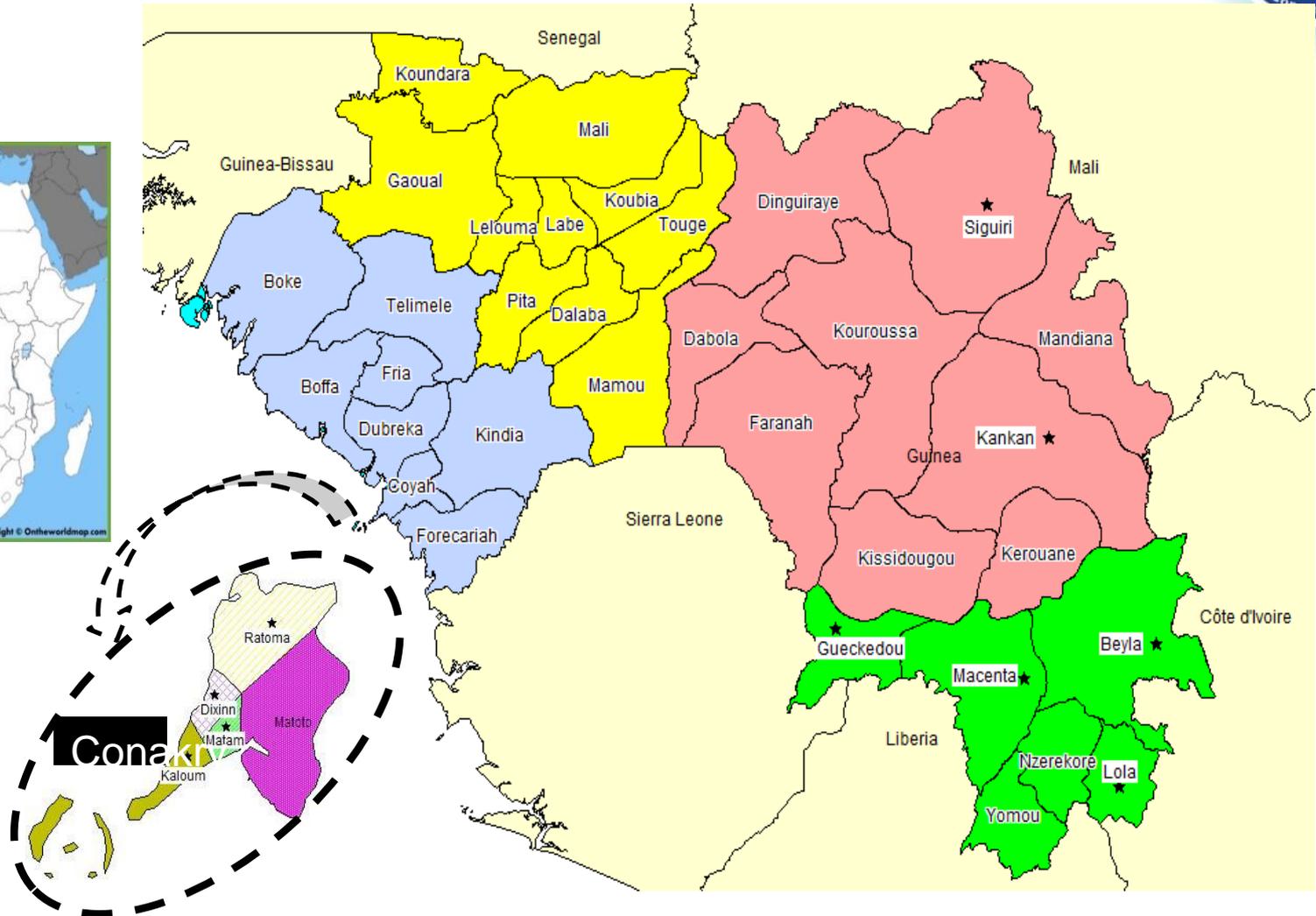
Map of Guinea: Distribution of the 13 hospital that participated in the Global PPS survey 2017

Distribution by type of indication

Indications	N	%
Community acquired infection (CAI)	760	55.2
Healthcare-Associated Infection (HAI)	62	4.5
Medical prophylaxis (MP)	77	5.6
Surgical prophylaxis (SP)	449	32.6
Completely unknown indication (UNK)	30	2.2
Total	1 378	100.0

Overall antimicrobial prevalence by region and type of child or neonatal ward (2017)

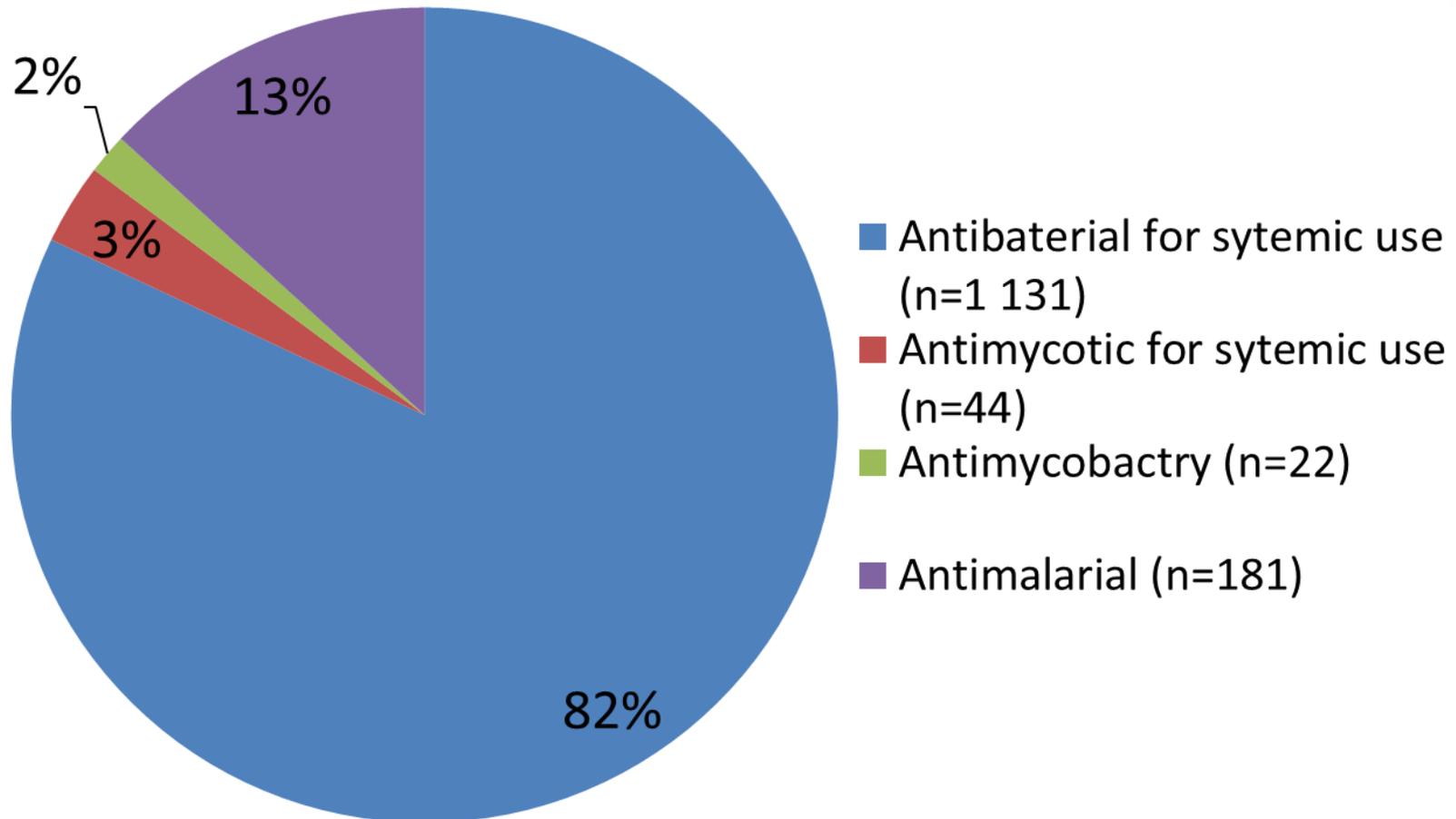|	Total	PMW	HO−PMW	T−PMW	PSW	PICU	NMW	NICU
North America	31.2	38.2	78.0	51.1	33.3	43.4	0.9	20.9
South America	33.2	33.7	34.8	50.0	27.3	50.9	9.8	30.6
Africa	60.7	72.5	67.4	100.0	56.2	80.4	30.8	58.3
North Europe	38.7	43.7	76.9	100.0	58.6	41.2	10.7	38.5
West Europe	25.7	29.2	79.4	50.0	31.9	33.3	4.8	18.4
South Europe	43.6	43.2	59.5	90.0	49.8	65.3	26.5	35.3
East Europe	29.9	26.8	60.0	0.0	27.6	22.2	21.7	66.7
West & Central Asia	38.9	32.4	38.4	0.0	32.7	50.3	27.2	55.3
East & South Asia	53.5	58.9	70.6	100.0	68.9	78.4	24.1	50.4
Australia & New Zealand	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Our hospital	49.0	69.2	0.0	0.0	0.0	0.0	26.1	0.0
GUINEA	68.3	80.2	0.0	0.0	33.3	0.0	37.8	0.0

Total = Overall antimicrobial prevalence in wards admitting children and neonates; PMW = Paediatric Medical Ward;
HO−PMW = Haematology−Oncology PMW; T−PMW = Transplant (BMT/solid) PMW; PSW = Paediatric Surgical Ward;
PICU = Paediatric Intensive Care Unit; NMW = Neonatal Medical Ward; NICU = Neonatal Intensive Care Unit.

Distribution according to diagnosis

Diagnosis	N	%
Skin and Soft Tissu (SST)	68	12.6
Malaria	154	28.6
Pneumonia	52	9.7
Infection of Central nerveous system (CNS)	37	6.9
Gastro-intestinal infections (GI)	94	17.5
TB	17	3.2
Lower urinary tract infection(cys)	8	1.5
Intra-abdominal sepsis (IA)	10	1.9
Cardiovascular system infections (cvs)	4	0.7
Ear; nose and throat infections (ENT)	3	0.6

(n=1378)

Pie chart legend:
- Antibaterial for sytemic use (n=1 131) — 82%
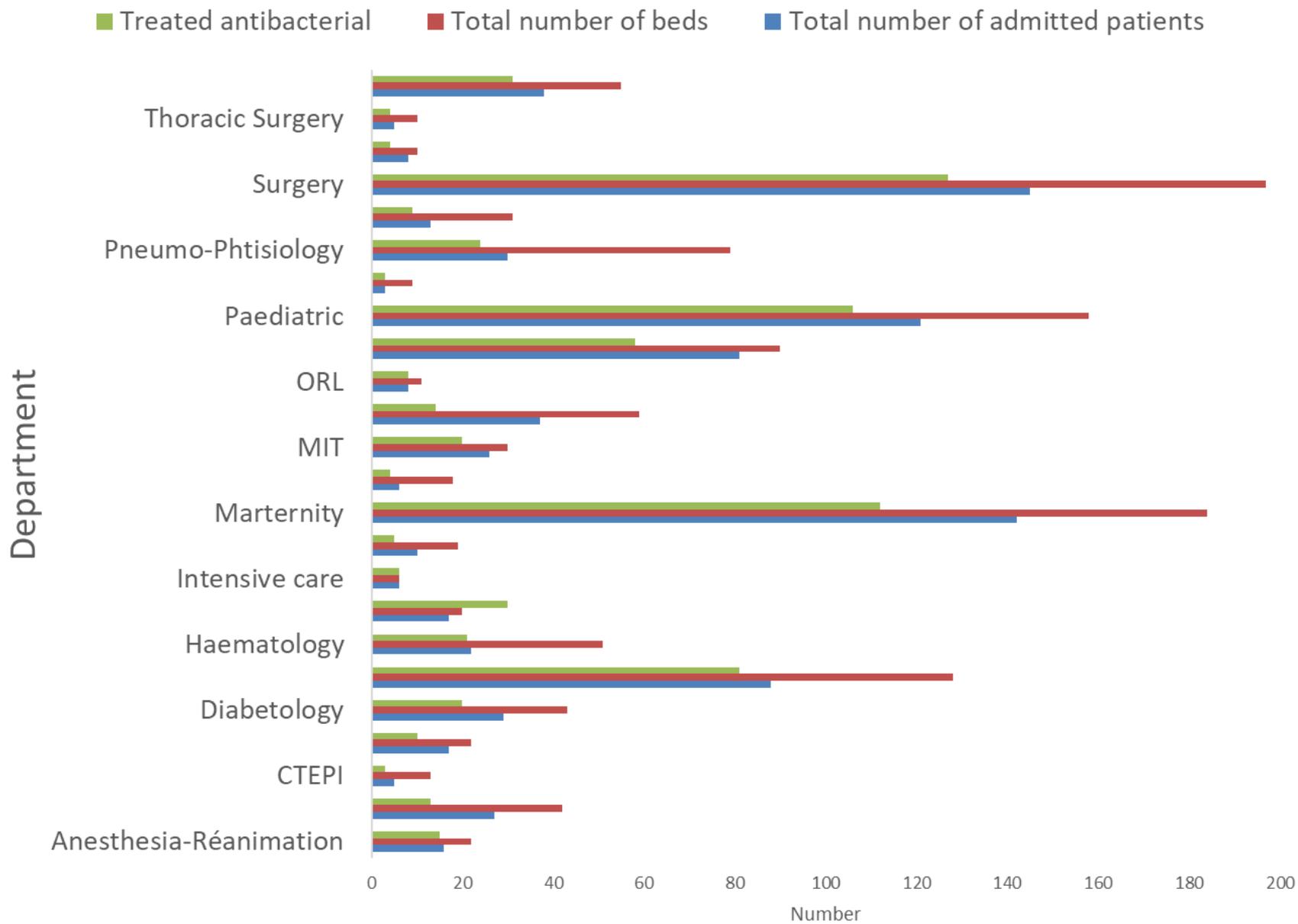- Antimycotic for sytemic use (n=44) — 3%
- Antimycobactry (n=22) — 2%
- Antimalarial (n=181) — 13%

Overall proportional antimicrobial use

Antimicrobial prescriptions by Department type

| Department Type	n	Percent
Adult Medical Ward	347	25.1
Adult surgical ward	737	53.5
Adult ICU	26	1.9
Neonatal departments	20	1.5
Paediatric Medical Ward	240	17.4
Paediatric SW	8	0.6
Total	1378	100.0

Distribution of participating services according to capacity and number of patients under antibacterials in Guinea 2017
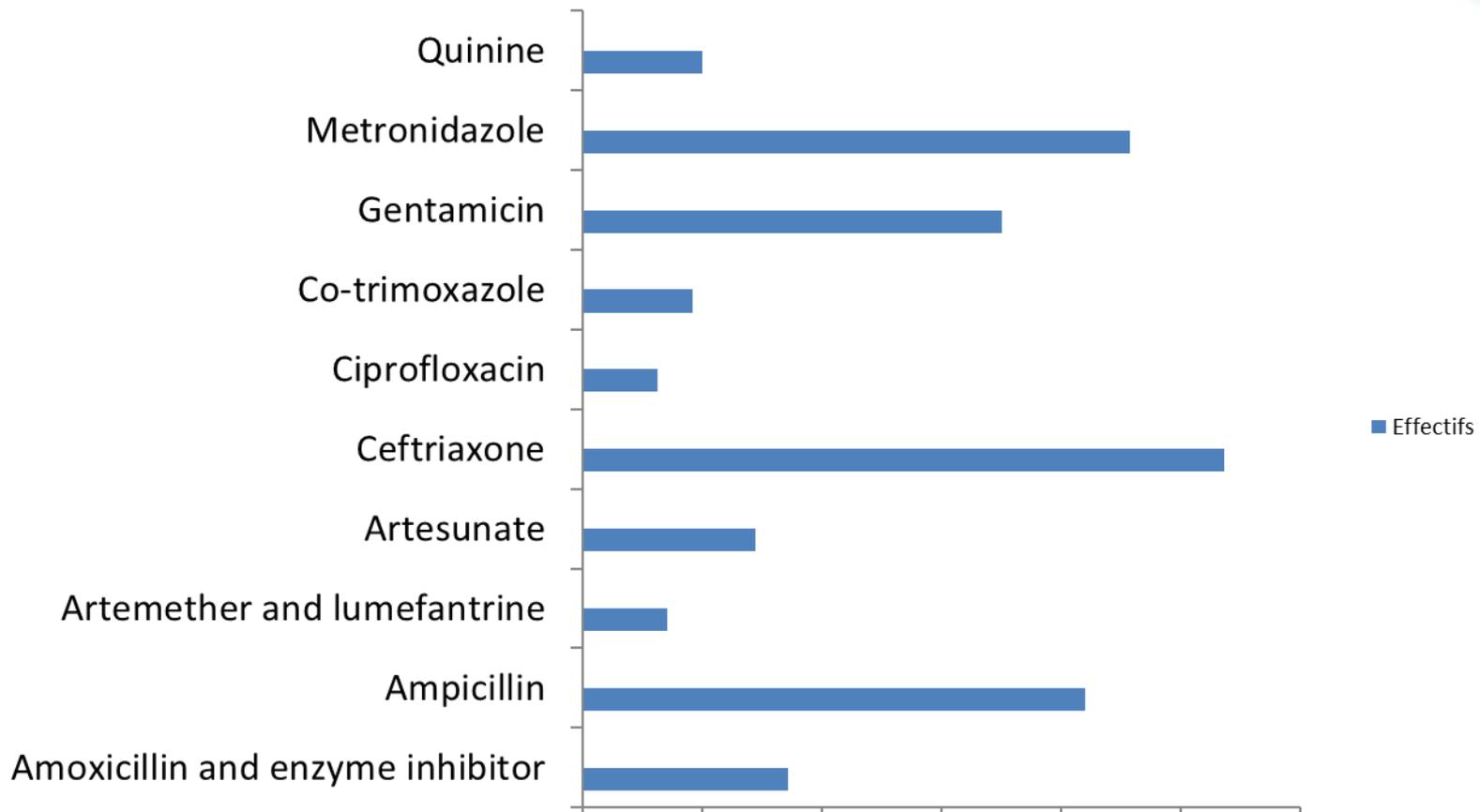
The main antimicobacterials prescribed

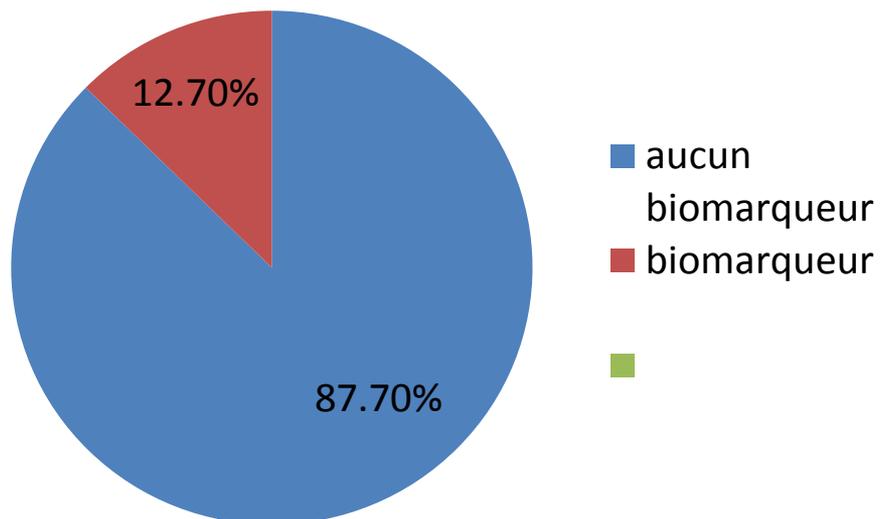# Antimicrobial quality indicators for Guinea
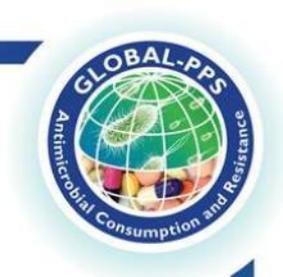
	ICU (n=25 antimicrobials)	Medicine (n=712 antimicrobials)	Surgery (n=640 antimicrobials)	Total (n=1377 antimicrobials)
Reason documented in notes	96.0 %	91.3 %	86.4 %	89.1 %
Stop review date documented	None	none	none	none

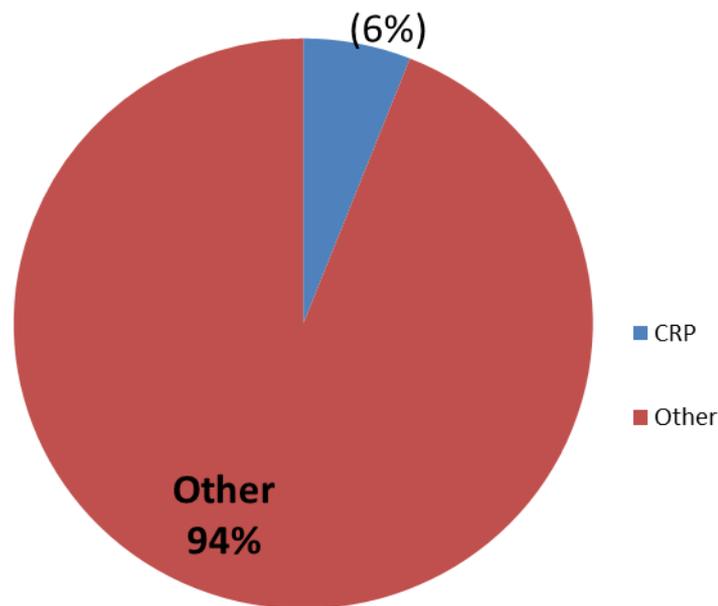|	ICU (n=20 antibiotics, ATC J01)	Medicine (n=477 antibiotics)	Surgery (n=612 antibiotics)	Total (n=1109 antibiotics)
No antibiotic guidelines available	45.0 % (n=9)	76.1 % (n=363)	49.2 % (n=301)	60.7 % (n=673)
Compliant to local antibiotic guidelines	100% (n=11)	99.1 % (n=109)	98.4 % (n=305)	98.6 % (n=425)

Antimicrobial quality indicators for Guinea

N=1378

N=161

Treatment based on biomarker data

Type of biomarker

Legend (left pie): aucun biomarqueur, biomarqueur — 87.70%, 12.70%

Legend (right pie): CRP, Other — (6%), Other 94%

Conclusion

- This study showed excessive use of antimicrobials in hospitals in Guinea.

- The broad-spectrum antibacterial ceftriaxone is commonly used, also for surgical prophylaxis.

- An emergency action plan needs to be developed to define a set of workable targets of appropriate antibiotic use.

- We could herewith focus on cutting down anti-bacterial broad-spectrum use for all indications as well as prolonged surgical prophylaxis.

Knowledge transfer/utilisation

Communications to different meetings/seminars:

- WHO meeting (One Health) in Guinea: communication of the survey results to national authorities

- 7e journées medicales Rhône-Alpes Guinée

- First Congres AARAM Bamako 26-28 fev. 2018

- National Action Plan in preparation

To do (Challenge)

- Short term:
- ✓ Conference scheduled on Tuesday 17 July at the University of Conakry (interns, doctors, veterinarians, environmental)
- ✓ A debate on national television (July)

- Middle term
- ✓ National Days of Antibiotic Therapy (Inviting Physicians from Deep Guinea): Need for Financial Assistance
- ✓ Set up a hospital hygiene and infection prevention unit in the infectious diseases department: help needs
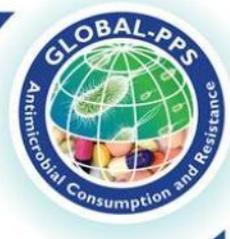
thanks

- organizers of ICAN 2018

- University of Antwerp

- Biomerieux

- Guinean team

Merci de votre attention
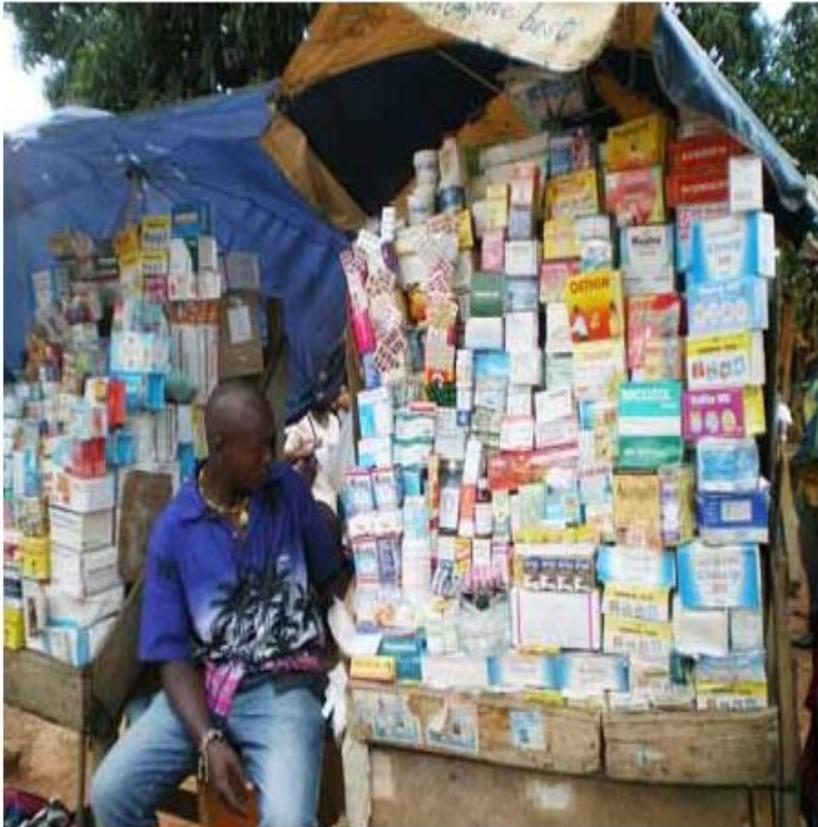
Vente illicite des médicaments à Conakry

National Hospital Donka, CHU Conakry