

Om sumukhayanamaha

Kenyan Point Prevalence Survey of Antimicrobial Consumption and Resistance



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Dr. Revathi, Kenya on the WHO essential diagnostics list and what it means for Africa

News and Opinions

2017

2016

2015

2014

2008–2013

Policy briefs

2018-09-18 In May of 2018, the WHO released the first-ever list of essential diagnostics to improve diagnosis and treatment outcomes to the delight of many champions of antimicrobial resistance across the globe. In Africa, the release of this list was particularly exciting to one doctor in Nairobi, Kenya, who has long been an advocate for the development of such a list.



[Professor Gunturu Revathi](#), Aga Khan University Hospital, Nairobi, Kenya, holding a lecture at an [EPN](#) meeting.

ReAct Africa, reached out to Professor Gunturu Revathi, Associate Professor of Clinical Microbiology at the Aga Khan University in



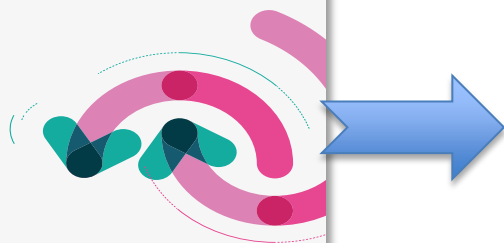




AMR is a Complex problem



National Action Plans- Coherent with whole of Society engagement.



GLOBAL ACTION PLAN ON ANTIMICROBIAL RESISTANCE



REPUBLIC OF KENYA

NATIONAL ACTION PLAN ON PREVENTION AND CONTAINMENT OF ANTIMICROBIAL RESISTANCE

MINISTRY OF HEALTH

MINISTRY OF
AGRICULTURE,
LIVESTOCK AND
FISHERIES AND BLUE
ECONOMY

Table 4. Susceptibilities of Gram negative organisms: 2012 to 2014.

Organism	Source	Year	Number	Amox	Amox/Clav	TMP/SMX	Cipro	Cefurox	Cefotax	Gent	Amikacin	Mero	Ntfn
<i>E. coli</i>	Urine	2012	1047	20%	66%	24%	68%	78%	83%	84%	100%	100%	86%
<i>E. coli</i>	Urine	2013	903	21%	68%	25%	66%	76%	81%	84%	100%	100%	86%
<i>E. coli</i>	Urine	2014	962	22%	68%	23%	66%	74%	79%	85%	100%	100%	86%
<i>K. pneumoniae</i>	Urine	2012	135		56%	39%	84%	69%	72%	79%	99%	99%	
<i>K. pneumoniae</i>	Urine	2013	125		52%	45%	77%	58%	62%	69%	99%	98%	
<i>K. pneumoniae</i>	Urine	2014	105		53%	45%	76%	62%	65%	74%	100%	99%	
<i>P. mirabilis</i>	Urine	All	81	35%	83%	33%	93%	95%	99%	89%	100%	99%	
<i>E. coli</i>	Blood	2012	48	10%	50%	15%	33%	42%	46%	79%	98%	100%	
<i>E. coli</i>	Blood	2013	44	2%	39%	11%	48%	46%	52%	64%	100%	100%	
<i>E. coli</i>	Blood	2014	47	15%	43%	19%	43%	53%	55%	64%	100%	100%	
<i>K. pneumoniae</i>	Blood	2012	31		36%	23%	61%	29%	36%	42%	100%	97%	
<i>K. pneumoniae</i>	Blood	2013	25		32%	32%	64%	32%	36%	48%	88%	92%	
<i>K. pneumoniae</i>	Blood	2014	27		26%	11%	52%	11%	15%	22%	85%	70%	

doi:10.1371/journal.pone.0147659.t004

Maina D, Omuse G, Revathi G, Adam RD (2016) Spectrum of Microbial Diseases and Resistance Patterns at a Private Teaching Hospital in Kenya: Implications for Clinical Practice. PLoS ONE 11(1): e0147659. doi:10.1371/journal.pone.0147659



**Majority of antibiotic prescriptions in hospitals
and clinics**

have no indications

At times they have wrong indications

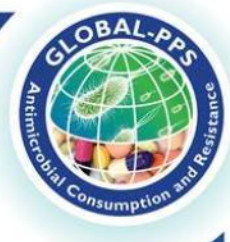
Antibiotics have many adverse effects

leads to the development and spread of AMR

**AMR leads to increased hospital costs
and worse patient outcomes**

**Practice change is essential to cut down on the
development and spread of antibiotic resistance
(AMR)**

Global PPS team



■ Lead Investigators

- Pr Herman Goossens, Belgium
- Ann Versporten, Belgium, Global PPS coordinator
- Pr Dilip Nathwani, UK
- Dr Peter Zarb, Malta



Laboratory of Medical Microbiology
Vaccine & Infectious Disease Institute
University of Antwerp



The British Society for
Antimicrobial Chemotherapy



■ Sponsor

bioMérieux is the sole sponsor of the GLOBAL Point Prevalence Survey.

“The funder has no role in study design, data collection, data analysis, data interpretation, or writing the report. Data are strictly confidential and stored anonymously at the coordinating center of the University of Antwerp.”

Surveillance



- **Measurement**
 - Resistance,
 - Antibiotic use,
 - Infections...
- **Objectives**
 - Assess simultaneously antibiotic use and antimicrobial resistance (AMR) impact
 - Define empiric treatments
 - Analyze epidemiology trends (resistance and antimicrobial use)
 - Evaluate interventions and allocate resources efficiently: set targets for improvement and measure the impact of interventions
- **To be done at hospital, local, regional, national, global levels**

Kenyan PPS study

The Study objective is to assess current patterns of antibiotic prescribing in a set of private and public hospitals in Kenya. We hope to identify some problems and methods of quality improvements and inform standard practices across Kenya.



A second and important objective

**Are there differences in prescription practices if microbiology and diagnostic support is available?
How much is utilization / contribution of lab results to escalate or de-escalate an antibiotic?**

**To meet these objectives,
we chose some hospitals with modern microbiology
labs capacity and some with out such capacity
5 private and 5 public facilities are chosen
This method is hoped to give good case mix and
representation across Kenya**

**We call our study
Enhanced PPS
due to the
additional objective**



The following centers are identified for running a pilot of PPS

The Aga Khan University Hospital - Nairobi

Gertrude Children Hospital - Nairobi

Nairobi West Hospital Nairobi

The Aga Khan hospital – Kisumu

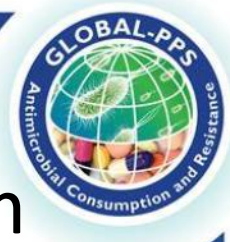
Bomu Hospital – Mombasa

Mama Lucy Hospital Nairobi

Machakos County referral Hospital- Machakos

Kisii County referral Hospital -Kisii

**Jaramogi Oginga Odinga Teaching and Referral
hospital**



AMR is a multidisciplinary complex problem
Therefore, Kenyan study proposes to employ

Auditors consisting of
Multidisciplinary teams of

Nurses

Pharmacists

Lab technologists

and

Clinicians including all specialties

Standard PPS methods will be used
Additional audits for utilization of lab reports will be done
this part of the study will use a case control design
Impact of lab results on change of antibiotic will be assessed
in centers having lab support

**Study will use Mixed Methodology Approach
(both Qualitative and Quantitative methods)
Descriptive statistics will be used to analyze
results**

**Differences in antibiotic use and indications
between the selected areas will be compared
using the Chi-square test or Fisher's exact tests.**



Thank you for your attention!