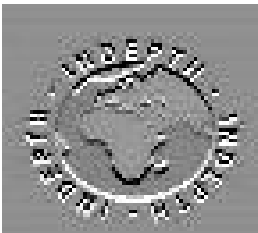

ANTIBIOTIC USE AND RESISTANCE AT INDEPTH CENTERS - ARIN

Maputo- 24th October 2011

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OUTLINE

- Background on Antibiotic Resistance (AR)
- Scenario in developing countries
- Proposal to Constitute a Consortium to Study AR
 - **Objectives**
 - **What has been done**
- Next steps



BACKGROUND

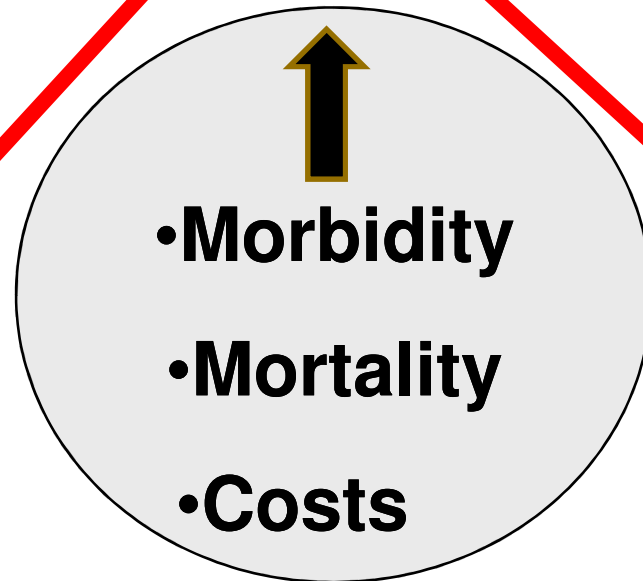
- Antibiotic resistance is recognised as one of the greatest public health threats of the 21st century
 - **Common bacterial infections** such as blood stream infection, wound infections, STIs, bacterial pneumonia, neonatal infections, meningitis...
 - Infections caused by resistant microorganisms often **fail to respond to conventional treatment, resulting in prolonged illness and greater risk of death.**
 - **Gram-negative bacterial infections resistant to most available antibiotics** are spreading globally as illustrated by recent NDM-1 outbreak.
 - **Resistant gonorrhoea emerging** as a big problem in many parts of the world.
 - **A high percentage of hospital-acquired infections** are caused by highly resistant bacteria such as methicillin-resistant *Staphylococcus aureus* (MRSA).
- Inappropriate and irrational use of antimicrobial medicines provides favorable conditions for resistant microorganisms to emerge, spread and persist.



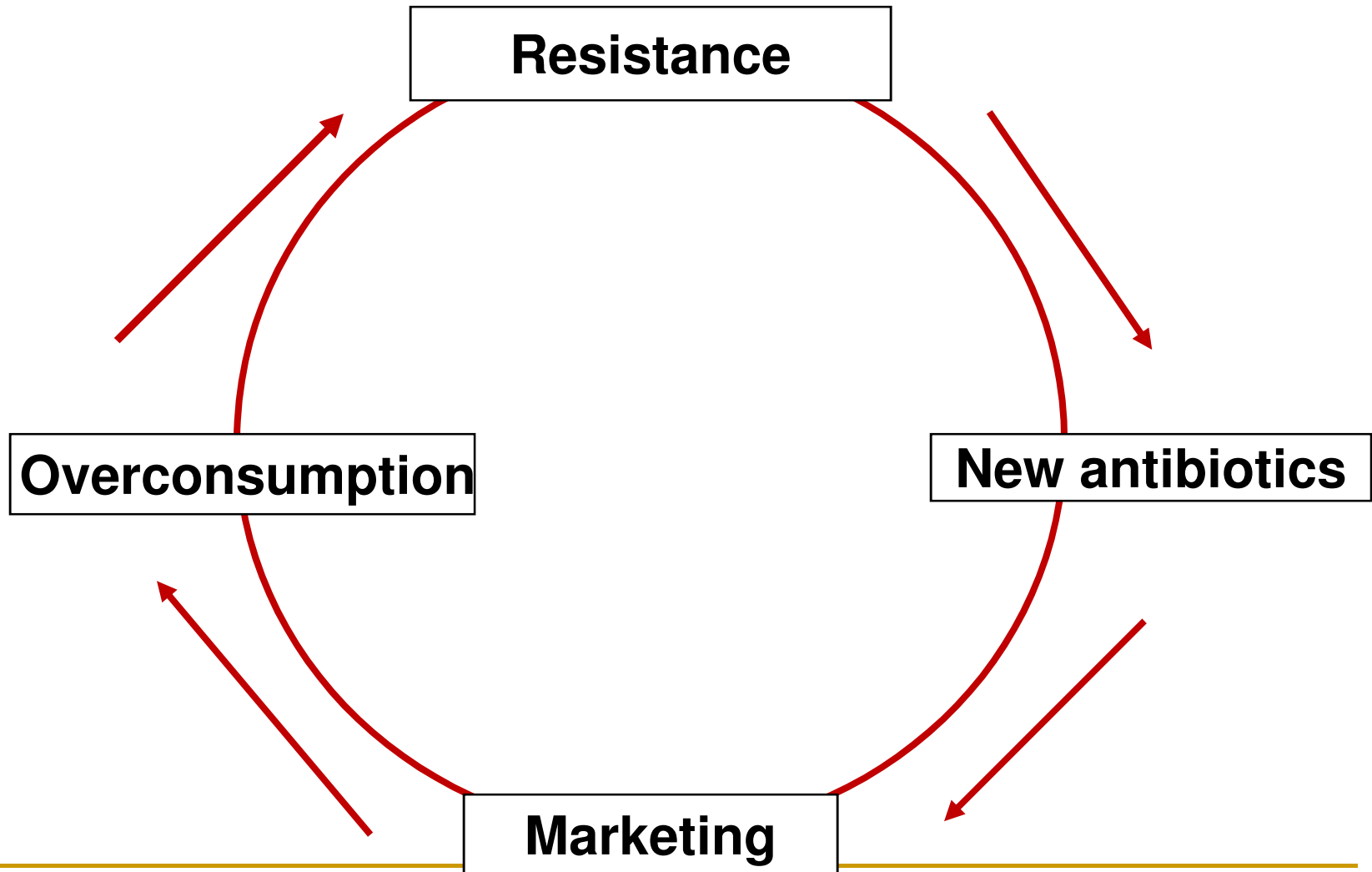
The Current Paradox:

**Antibiotic
Resistance**

**Drug
Development**



Relationship between market and AR



Slide 5

MSoftware1 , 25/10/2010

Scenario in Africa and Asia

- Antibiotic resistance is particularly important in developing countries
- **There are similarities and differences in developing countries**



Similarities: (Africa and Asia)

- ❑ High serious infectious disease burden
- ❑ Erratic access to effective antibiotics
- ❑ No local guidelines for antibiotic use (or not followed)
- ❑ Weak antibiotics policies



BUT SOME DIFFERENCES....





Asia

AFRICA



Uganda



Mozambique



Contrast: Africa vs. Asia

Characteristics	Africa	Asia
Availability of antibiotic in rural settings	Less	Wide
Financial incentives for prescribing drugs by the health care providers/ pharmacy owners	Less	Greater
Prescription and consumption of antibiotics	Less	Greater
Public demand for poly-pharmacy	Less	Greater
No. of antimicrobial-producing pharmaceuticals	Fewer	Significantly higher in Asia (Southeast Asia)



Increase AB use in sub-Saharan Africa?!

- The IMCI strategy and malaria RDT introduction,
 - used in most health facilities may increase antibiotics consumption, specially in malaria endemic area?!?!



BARRIER?



- *The major barrier in recognition of antibiotic resistance as a serious global public health threat sub-Saharan Africa and Southeast Asia continents is...*
 - the lack of comprehensive burden data that illustrates not only the true **prevalence of resistant infections** and their **impact on health outcomes**, but also the **associated economic costs**



Potential Opportunities

- INDEPTH Health Demographic Surveillance System (HDSS)
 - morbidity surveillance linked to demographic surveillance
 - Utilising the unique opportunities for longitudinal population based studies offered by INDEPTH
- Availability of Microbiology Facilities in many HDSS centers
 - **These facilities are great opportunities to address the issues of Antibiotic resistance**



The future!

- **A multicentre consortium of INDEPTH HDSS centres to assess the consequences of AR**
- **Contributing to a global surveillance system**
- **Developing and evaluating interventions**



CONSORTIUM TO STUDY **ANTIBIOCTIC USE
AND **R**ESISTANCE AT **I**NDEPTH HDSS
CENTERS (**ARIN**)**



Rationale for coming together

- Generate accurate and cross site comparable data
- Pooling of data facilitates extrapolation
- Networking and sharing information/results
- Need to create visibility



*Countries with Demographic Surveillance System (DSS)
Field Sites participating in the INDEPTH Network*



What has been done?

- First Exploratory workshop, in Pune, India. October, 2009 in partnership with ReAct – Action on Antibiotic Resistance



2nd Workshop in Cox's Bazar, Bangladesh

- ❑ Second workshop, Cox's Bazar, Bangladesh, May, 2010
- ❑ Third Workshop in Maputo, October 2010
 - Working group created
 - LOI developed
 - Draft proposal
 - Potential fund: WT, B&MGF



Actions during one year

(Oct 2010-Oct 2011)

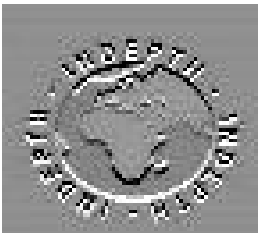


INDEPTH Network

LOI developed

OVERALL GOAL

Define the level and quality of use of antimicrobial agents, its impact and the development of resistance to better inform national and international public health policies



SPECIFIC OBJECTIVES

- To establish a network of sentinel sites for the surveillance of antibiotic use and resistance in communities and hospitals.
- To strengthen essential laboratory capacities for antibiotic susceptibility testing at the sentinel sites.
- To assess the antibiotic use and resistance in the communities



SPECIFIC OBJECTIVES

- To link antibiotic use and resistance data from the community to resistance rates in hospitals ascertained through routine passive surveillance.
- To improve our understanding on the mechanisms of antibiotic resistance and spread.
- To define the impact of inappropriate use of antibiotics on morbidity, mortality and associated economic cost



SPECIFIC OBJECTIVES

- To assess the quality of antibiotics commonly available and used in these countries.
- To establish a platform for future assessment of the burden (mortality and morbidity) caused by AR and interventions.
- Provide data to underpin dialogue with policy makers and Ministries of Health to improve public health policies.

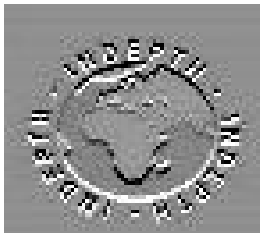
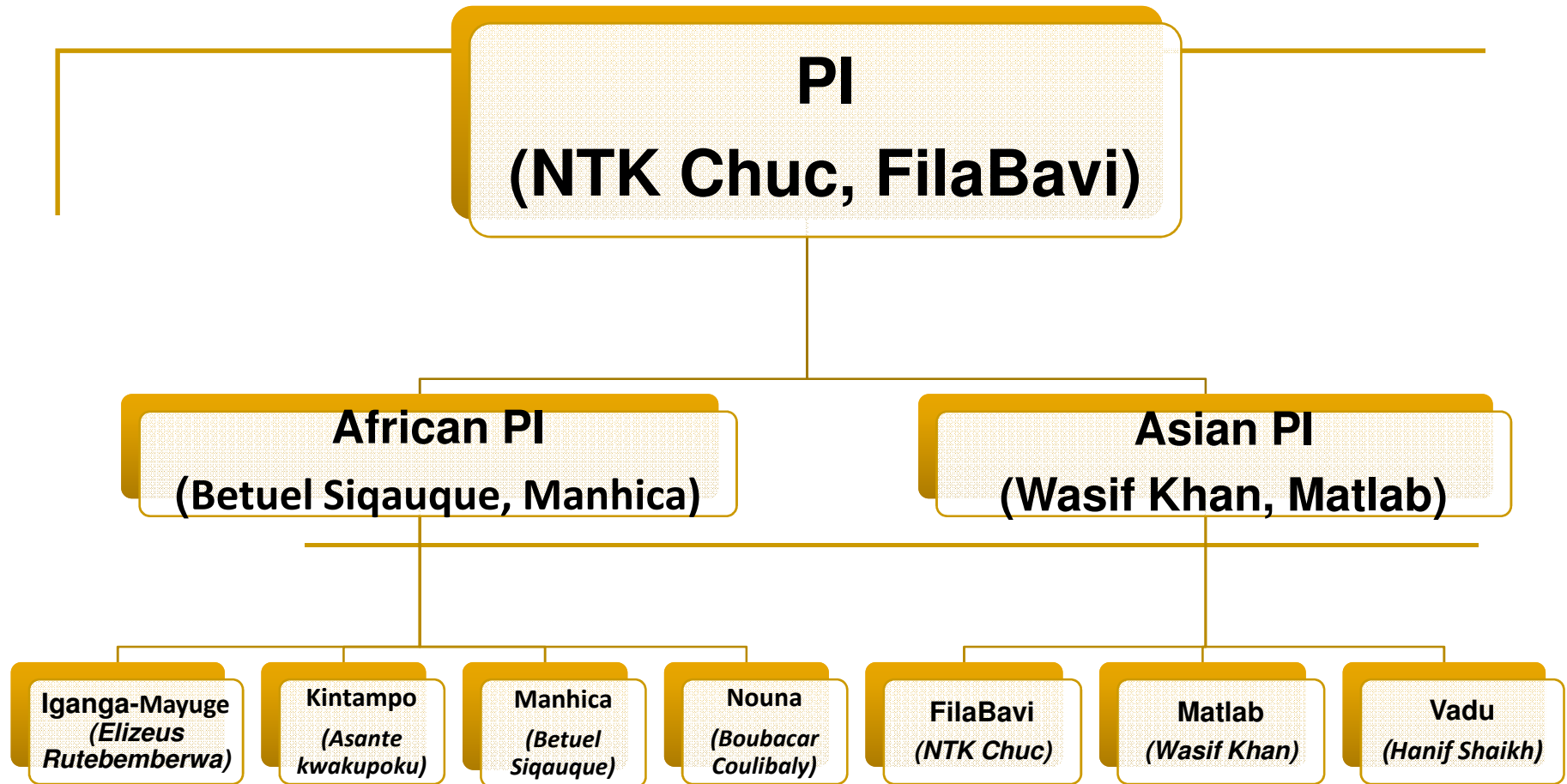


Accepted HDSS

- Manhiça HDSS, Mozambique
- Kintampo HDSS, Ghana
- Nouna HDSS, Burkina Faso
- Iganga/Mayuge HSDD, Uganda
- Matlab HDSS, Bangladesh
- Vadu HDSS, India
- Filabavi HDSS, Vietnam



CONSORTIUM MANAGEMENT



Pre-proposal is developing

- Wellcome Trust form
- Email discussion
- Completing the pre-proposal end Nov
- It's necessary to have a Face to face WS to complete the pre-proposal

WHEN and HOW ???

