



Reflections from GARP Phase 1

Kenya

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Overview

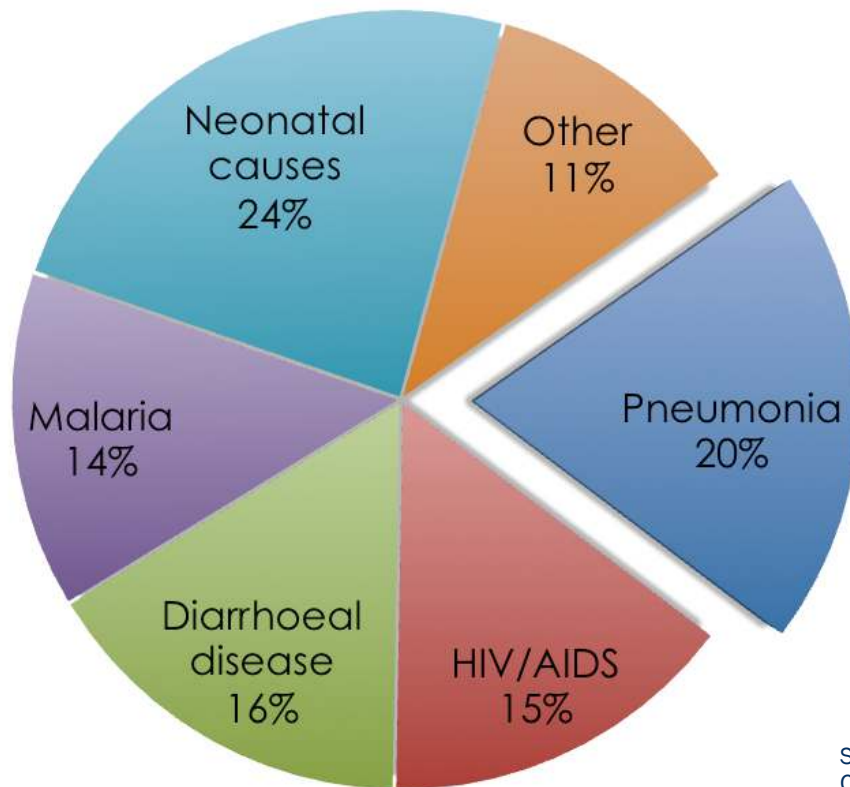
- Background
- GARP-Kenya contributions
- Recommendations
- Challenges

BACKGROUND

Antibiotic Resistance Knowledge Base

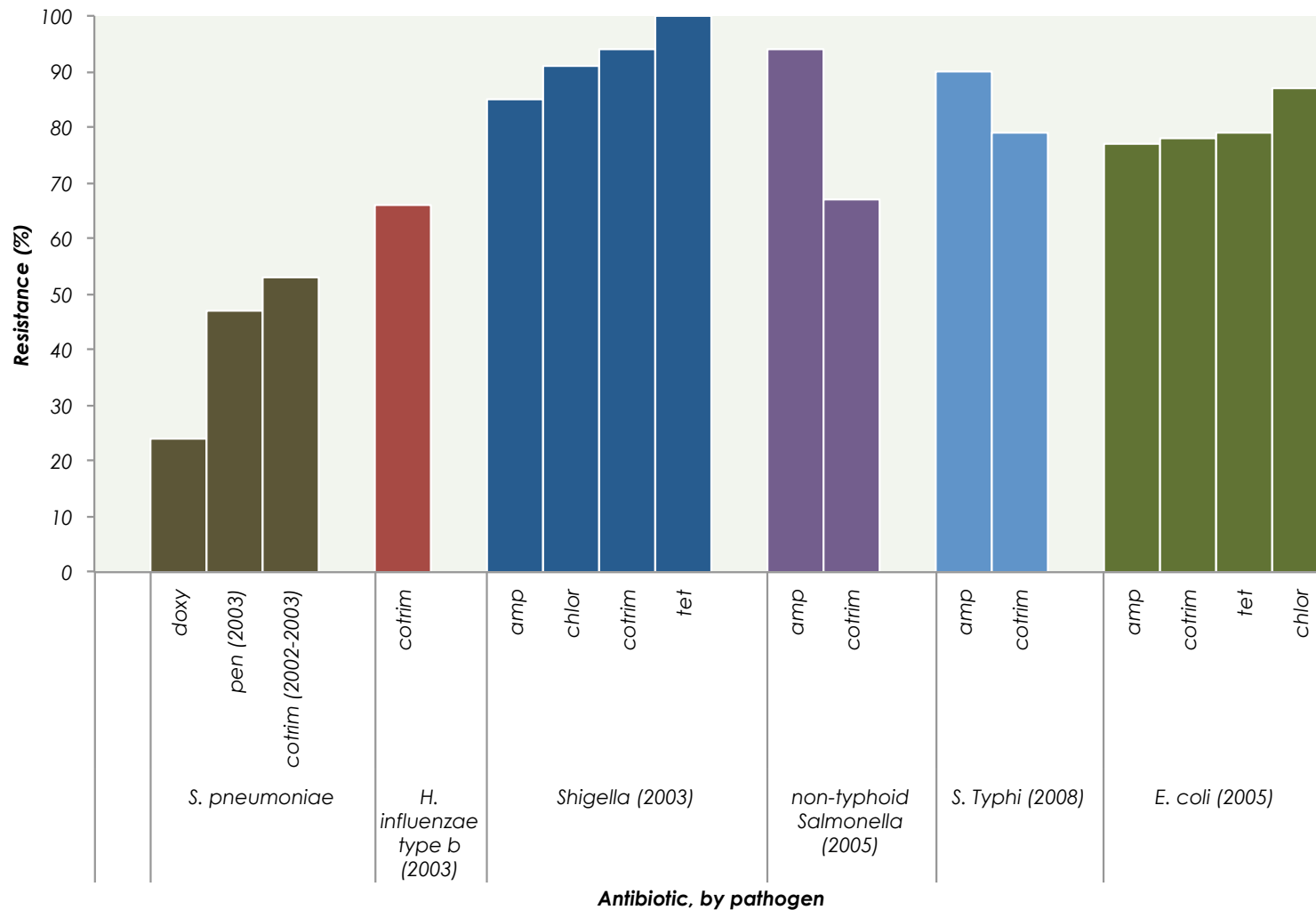
- Antibiotic overuse in some settings, yet little or no access in others, especially rural and remote places
- No clear picture of the extent of antibiotic resistance: glimpses from occasional hospital-specific studies
- Strong suspicion that patient treatment was being adversely affected by resistance: high treatment failure rates in ICUs and HDUs, prolonged hospitalizations

Mortality in Kenyan Children Under 5 Years (2000-2003)



Source: World Health Organization. Kenya: Country Health System Fact Sheet 2006,

Antibiotic Resistance in Kenya

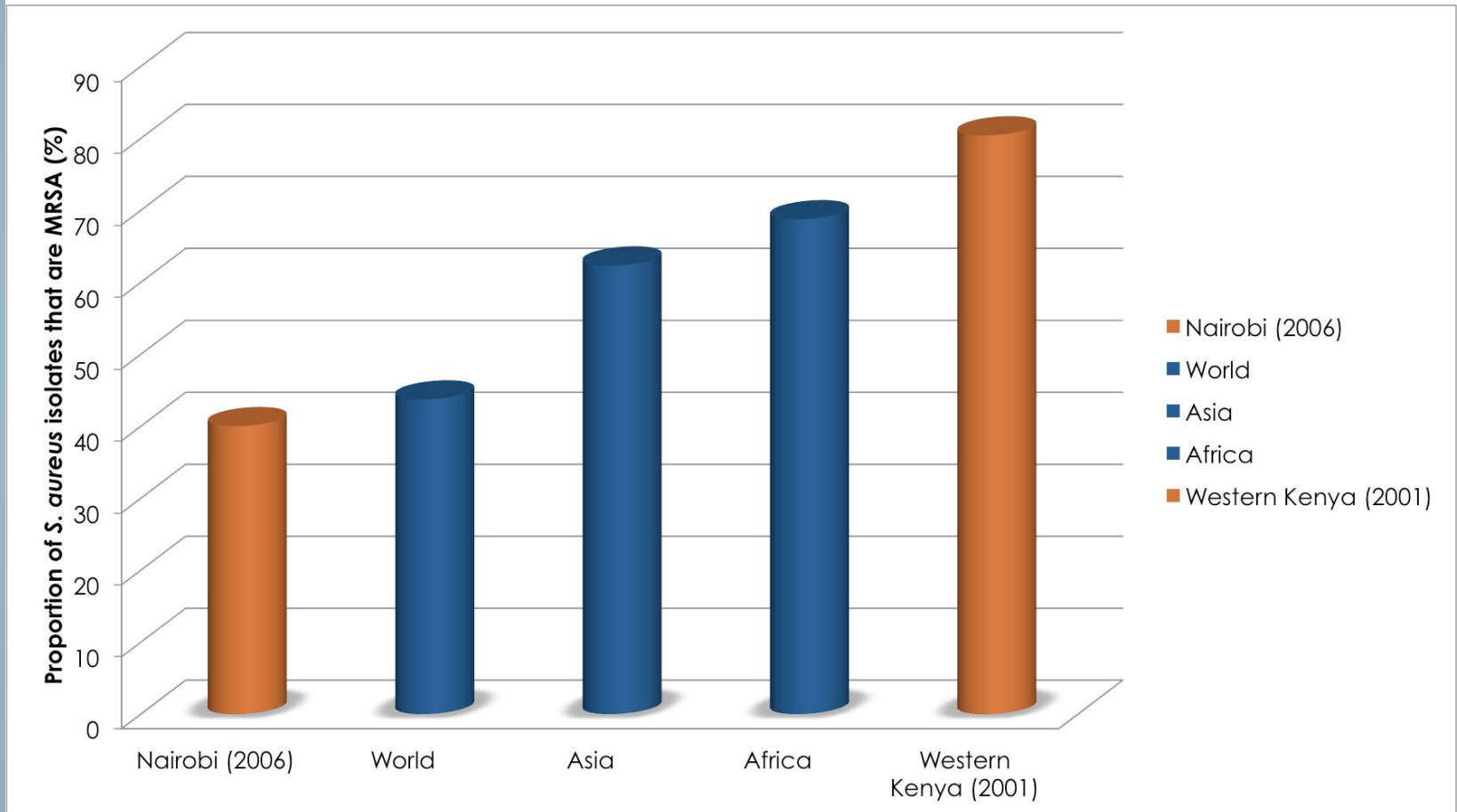


Source: Kenya Situation Analysis

Knowledge Gaps

- Almost nothing known about antibiotic resistance in the community
- What drives antibiotic prescribing? UNKNOWN!
- Antibiotic treatment guidelines: how are they used and how effective they in patient treatment? UNKNOWN!
- Staff in many hospitals lack access to guidelines, even if they know about their existence

Comparison of *S. aureus* isolates that are MRSA in Kenya (2001, 2006) and other geographical regions (2007)

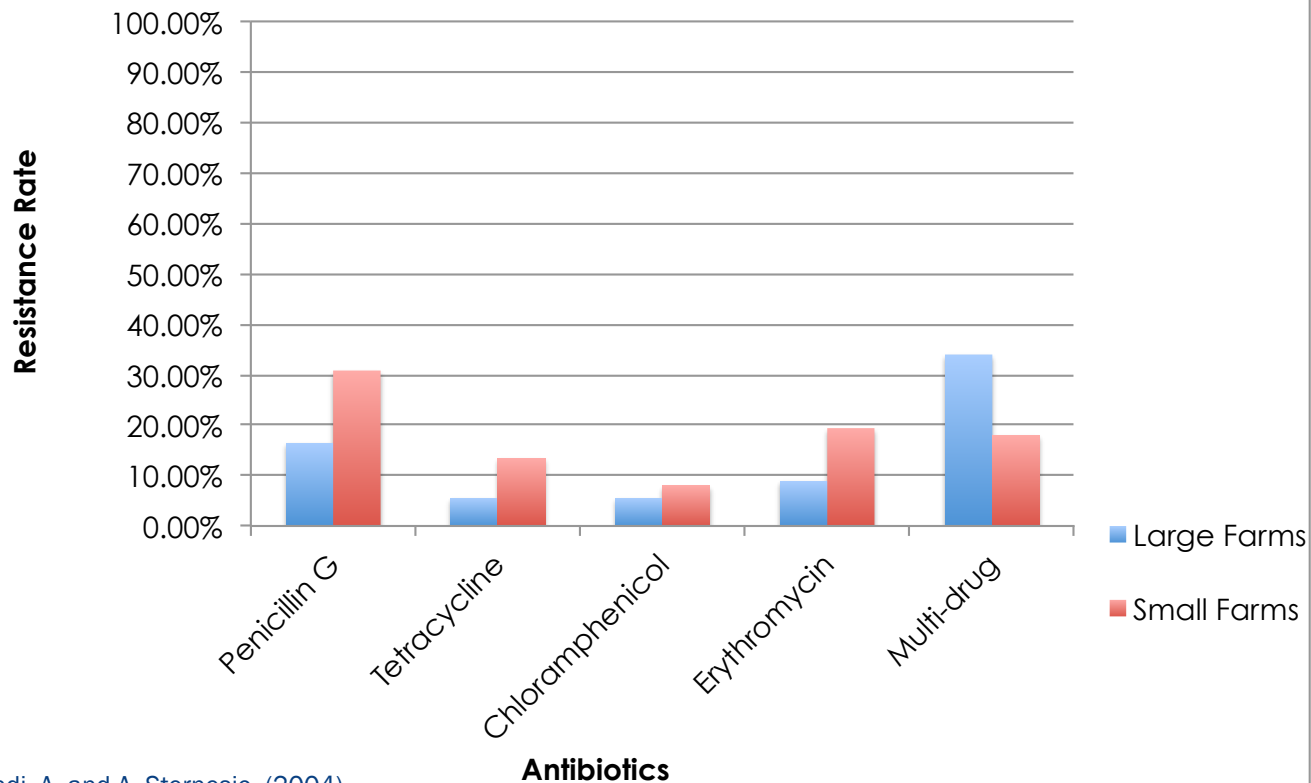


Sources: Vincent, J.-L., J. Rello, et al. (2009); Kenya Situation Analysis; Andhoga J., et. al (2002).

Antibiotic Use in Animals

- Lack of information about how and what antibiotics were being used by farmers raising cattle, pigs, chickens.

Staphylococcus aureus in Milk Samples: Resistance to Antibiotics (2001-2002)



Source: Shitandi, A. and A. Sternesjo. (2004)

GARP-KENYA CONTRIBUTIONS

Situation Analysis and Recommendations

Released August 2011



SITUATION ANALYSIS AND RECOMMENDATIONS

Antibiotic Use and Resistance in Kenya



The GARP-Kenya Working Group

Dr. Samuel Kariuki, Chairman

August 2011

1. Survey on Perception of Antibiotic Resistance and Use in District Hospitals

- Antibiotic prices, profitability to supplier, affordability to patient or consumer
- Volumes of antibiotics purchased by hospitals
- Knowledge and perceptions of health workers in hospitals

Results

- Antibiotic resistance is a serious national problem... but not in my hospital
- Antibiotic shortages are common, especially outside of Nairobi
- Perception that infection control is adequate: may not equate with reality
- Medicines and therapeutics committees: private and faith-based hospitals have been ‘less enthusiastic’ than have public hospitals
- Treatment guidelines welcome *if* available

2. Antibiotic Use and Resistant Bacteria in Food Animals

Two part pilot study:

- Knowledge, attitude and perceptions of prescribers and users of antimicrobials (livestock farmers, vets): which antibiotics they use, how often and why
- Resistance profiles for common bacterial pathogens from livestock

Findings: Interviews

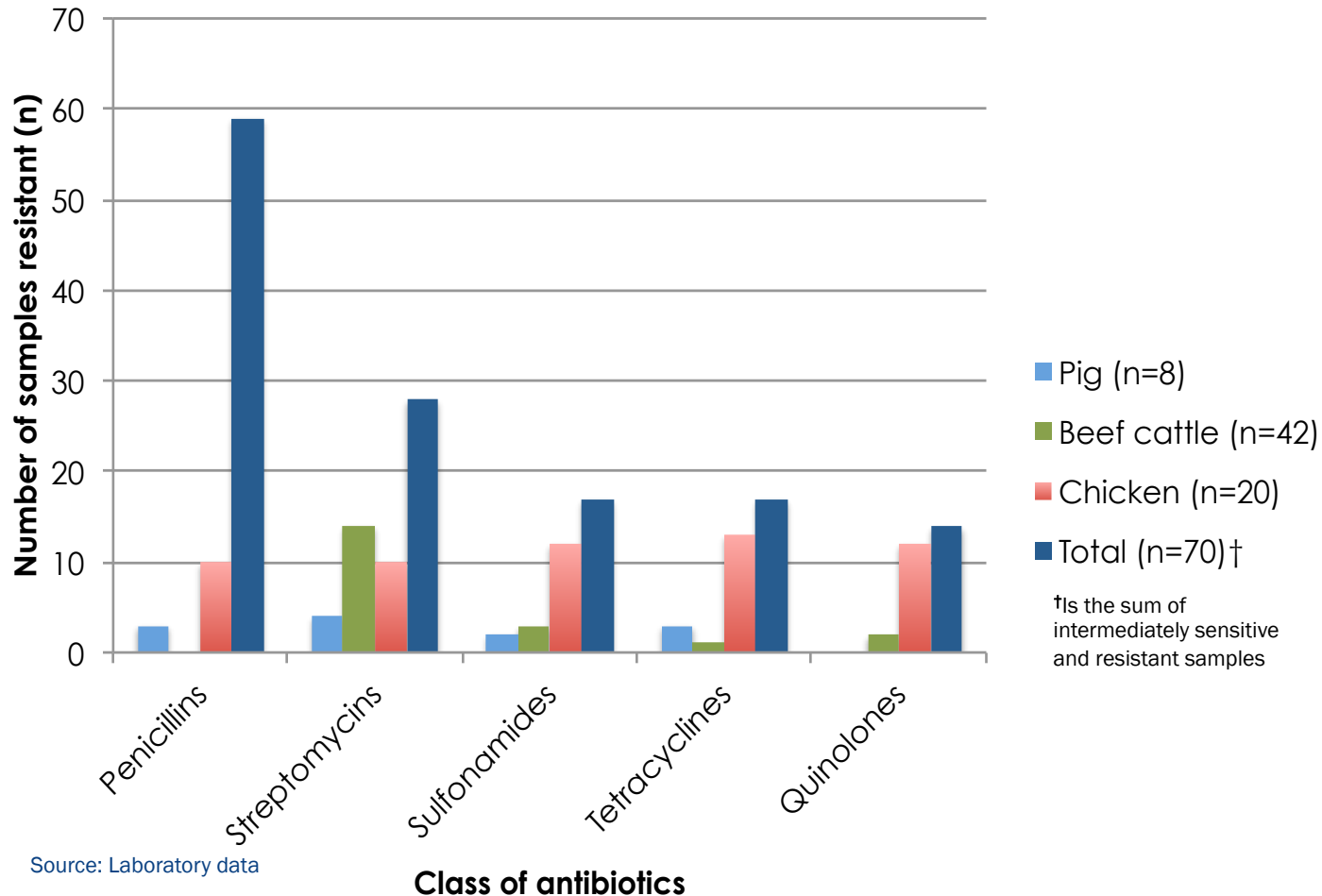
- >80% of farmers gave antibiotics without veterinary supervision
- Most frequently used: tetracyclines, sulfonamides, penicillins, streptomycins
- Lack of access to veterinary professionals, especially in arid and semi-arid regions (cattle raising areas)
- Vaccines provided by government reduced antibiotic use *AND* antibiotics provided by NGOs increased use
- Government rules for antibiotic use had little impact *BUT* antibiotic residues better controlled in animals raised for export

Findings: Laboratory

- Significant antibiotic resistance across the three livestock production systems
- 10-15% bacteria from beef cattle and poultry production systems: resistant to 3 or more of 11 antibiotics tested; 15% pig samples resistant to 4 or more of antibiotics tested
- Most commonly used antibiotic classes also recorded the highest number of resistant bacteria:
 - tetracyclines, penicillins, sulfonamides and streptomycins

And has led to funding of continuing surveillance by FAO

Number of bacteria resistant to various classes of antibiotics



Source: Laboratory data

RECOMMENDATIONS

General Areas of Focus

- surveillance and monitoring
- training and education
- vaccination
- quality control and supply chain improvements
- veterinary use of antibiotics

Specific: Critical Paths for Policy Actions

HOSPITAL INFECTION CONTROL

- An agenda for the National Infection Prevention and Control (IPC) Secretariat, within the Ministries of Health
 - Determine current IPC activities in *all* hospitals
 - Collect specific information on antibiotic use regularly

Critical Paths [2]

VETERINARY

- Fast-track Veterinary Poisons and Medicines bill to provide legal mandate for further action

Future steps

- Surveillance
- Education and training
- Supply chain and quality assurance

Critical Paths [3]

ANTIBIOTIC USE GUIDELINES

- Experts and stakeholders
 - Pharmacists, microbiologists and clinical specialists from professional bodies, Ministry of Health regulatory bodies, private sector, consumer society and relevant NGOs.
- Annual production of national antibiotic use guidelines
- Antibiotic guideline review in professional medical journal
- Pocket guideline distribution to all hospitals
- Repeat annually!

Challenges

- Expanding the GARP circle within Kenya: getting the word out about antibiotic access and resistance
- Sustainability of activities recommended/started (e.g., surveillance): interest and resources
- Conflicting interests among key players in antibiotic procurement, distribution, sale and use
- Taking advantage of GARP as a global partnership

Acknowledgments

- KEMRI
- University of Nairobi
- Ministry of Public Health and Sanitation
- Global Antibiotic Resistance Partnership