ZAMBIA’S AMR NAP & INTEGRATED SURVEILLANCE STRATEGY

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Workshop on Integrated Surveillance Framework for Antimicrobial Resistance
Focusing on Animals and Environment
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Introduction

In 1945 Alexander Fleming said; “The time may come when penicillin can be bought by anyone in the shops. Then there is the danger that the ignorant man may easily under dose himself and by exposing his microbes to non-lethal quantities of the drug make the microbes resistant.” That time is upon us!

AMR has rapidly become a global public health priority

The use of antimicrobials in both humans and animals is associated with the emergence of AMR in microorganisms Worldwide.

This has been highlighted by several studies in different parts of the world, including Zambia.
Why should we be concerned about AMR

Almost every type of microbe has become less responsive to antimicrobial treatment when it is really needed.

- E.g
  - Resistance in HIV and Malaria
  - MDR/XMDR Bacteria
  - MDR TB
  - Colibaccilosis in poultry
  - MRSA
  - ESBL – producing *Klebsiella pneumoniae*

No registered classes of antibiotics were discovered after 1987.
What id being done?

- Zambia has keenly followed events related to AMR

  ✓ WHO, FAO, & OIE tripartite agreement of 2013 adopted by member states

  ✓ 2015 WHA agreed that National Action Plans (NAPs) on AMR be developed by May 2017

  ✓ Declaration for collaborative global response to AMR threat made at 71st UN General Assembly (Sept. 2016)

- Zambia, through H.E. the president Mr. Edgar Chagwa Lungu, affirmed commitment to join the fight against AMR

- Zambia adopted a “One-health” approach in the fight against AMR and has developed 10 year MS-NAP.
AMR Situation Analysis Report and AMR National Action Plans

Multisectoral National Action Plan on Antimicrobial Resistance

Government of the Republic of Zambia

COUNTRY SITUATION ANALYSIS FOR ANTIMICROBIAL RESISTANCE.
FOREWORD

The World Health Organisation defines Antimicrobial Resistance (AMR) as the development of resistance in a microorganism – bacterium, virus, fungus, or parasite – to an antimicrobial agent to which it was previously sensitive. Resistance is the property or characteristic of the microbe and not the person, animal, and plants affected by the microbe.

Antibiotics are one of the most important therapeutic discoveries in human and animal medical history that revolutionised the way infections are treated. This has contributed in reducing morbidity and mortality caused by microorganisms. Antimicrobial resistance is therefore of concern, as previously treatable infections like pneumonia and diarrhoea can become serious health threats.

One of the five strategic objectives in the global action plan to combat AMR is creating awareness on AMR. Human use and abuse of antimicrobial has accelerated development of resistance in some microbes. Evidence based information is therefore required to facilitate behavioural changes on appropriate use of antimicrobials and safeguard human and animal health.

There is evidence of antimicrobial resistant microorganisms in human and animal health in Zambia and therefore to tackle this challenge the Zambian Government undertook a multi-sectoral approach to develop this National Action Plan (NAP) in line with the global AMR strategy.

It is our sincere hope that through this NAP, strategic interventions will be initiated towards the long-term goal of containing the AMR threat in Zambia, the African region, and the World at large.

Dr. Jabbin Mulwanda

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Permanent Secretary, Ministry of Fisheries and Livestock, CO-CHAIRPERSON, AMR NMSC
NAP Submitted to 70th WHA by Hon. Minister of Health
The Zambia Multisector-AMR NAP

Main objective

❖ To provide a coherent framework for combating AMR using the “One Health” approach embracing human, animal, agriculture and environment sectors in Zambia from 2017 to 2027.

❖ Focus Areas are:

➢ Awareness and education, Surveillance and research, Regulation, Infection prevention, Sanitation and hygiene, Optimising drug use, Investment in research
Governance structure

**STEERING COMMITTEE**

**NATIONAL MULTI SECTORAL STEERING COMMITTEE**

(Ministry of Health - Chair, Ministry of Fisheries and Livestock - Co-Chair, ZNPHI - Secretariat, Ministry of Finance, Ministry of Agriculture, Ministry of Water Development, Sanitation and Environment Protection, FAO, OIE, WHO, CDC)

**COORDINATING COMMITTEE**

**ANTI-MICROBIAL RESISTANCE COORDINATING COMMITTEE**

(Focal Point Persons / Heads of TWGs)

**TECHNICAL WORKING GROUPS**

- TWG Education & Awareness
- TWG Surveillance & Research
- TWG Hygiene, IPC & Biosecurity
- TWG Antimicrobial Use
- TWG Investment R & D
Status of NAP Implementation

Objective 1: To improve awareness and understanding of antimicrobial resistance through effective communication, education and training.

- Targeted awareness material developed (FF2 Supported)

- Orientation for Media personnel, Permanent Secretaries & Heads of Institutions on AMR

- Sensitisation of Agro-vet dealers on AMR and ZAMRA agro-vet (FF2 Supported)

- Assessing poultry value chain and production system to identify high risk behaviours and practices in relation to AMR/ Measure the impact of AMR awareness among the poultry farmers (FF2 Supported)

- Draft Internal communication strategy for awareness on AMR done

- Live TV interviews/discussions

- Commemoration of 2017 & 2018 World Antibiotic Awareness Week (WAAW)
  - Awareness Walk/campaign
  - Sensitisation of Poultry farmers on prudent use of antibiotics in poultry.
Developed/adapted Targeted Awareness Materials

Antimicrobial Resistance
What Policy Makers can do

- Develop and implement policies on the use of antimicrobials
- Support implementation of the antimicrobial resistance action plan
- Strengthen regulatory frameworks for the use of antibiotics
- Support research and development of new antimicrobial agents
- Facilitate and promote the wise-use of antibiotics
- Introduce and support the use of alternative treatments

ANTIMICROBIAL RESISTANCE

- Microorganisms are becoming resistant to the antibiotics used to treat and cure diseases
- The use of antibiotics in agriculture, aquaculture, and human health
- AMR refers to the ability of an organism to develop resistance to antibiotics or antimicrobial agents

Save Medicine for Yourself and the Future Generation

- Prevent infection: Practice good hygiene
- Use antibiotics only when prescribed by a qualified practitioner
- Buy antibiotics from licensed pharmacies
- Finish your course of treatment even when you feel better
- Do not share your antibiotics with anyone
- Avoid using animal products from feed-addressed poultry
- Spread the word on Antimicrobial Resistance in the community

Prevent AMR in Animal Health

- Practice effective biosecurity and sound animal husbandry
- Promote use of vaccinations and alternative treatments
- Treat based on the best diagnostic results preceded by an antimicrobial sensitivity test
- Ensure correct dose, and site of disease follow-up prescribing and dosing
- Ensure the antimicrobials are of acceptable antibiotic quality

Take ACTION on Antimicrobial Resistance in Plants NOW

- Follow instructions given by agricultural specialist when using agrochemicals
- Report cases of plant infection treatment failure
- Adopt integrated Pest Management (IPM) strategies
- Maintain the continuous use of agrochemicals (pesticides, herbicides)
- Always read the label and follow instructions on the packaging to avoid misuse
- Seek advice from extension staff before buying agrochemicals
Orientation of PS’s and Heads of Institution & Launch of FF2 Zambian Component
Agro-vet sensitisation
Agro-vet guidelines Dissemination meeting
Live TV Interviews/Discussions
Commemoration of 2017 WAAW
Commemoration of 2018 WAAW
Status of NAP Implementation

Objective 3: To reduce the incidence of infection through effective sanitation, hygiene and infection prevention measures

- Advocacy to strengthen IPC

- ToT Biosafety and biosecurity Training
  Done—Trained 16 trainers in biosafety and biosecurity
Biosafety and Biosecurity ToT
Status of NAP Implementation

Objective 4: To optimize the use of antimicrobial medicines in human and animal health

- Agro-vet guidelines developed and disseminated.

- Antimicrobial Stewardship (AMS) workshop done (Supported by ReAct Africa/EPN).
  - Policy, Framework & ToRs done
  - Identified 5 AMS pilot facilities at different levels of health care.

- Review of legislation – (FF2 Support/MoH) – Draft report
  - Medicines and Allied Substances Act No. 3 2013
  - Food safety & Quality Bill,
  - PHA,
  - The Animal Health Act No. 27 of 2010,
  - The Veterinary and Para-veterinary Professionals Act No.45 of 2010,
  - Environmental Management act #12 of 2011,
Antimicrobial Stewardship Workshop
AMR SURVEILLANCE

Objective 2: To strengthen the knowledge and evidence base through surveillance and Research.

- GLASS enrolment
- AMR Surveillance—Routine and Programmatic (mostly bacterial pathogens).
- Lab assessment /ATLASS assessment mission
- Laboratory Training at KEMRI—13 trained from all sectors (FF2 /WHO Supported)
- Onsite microbiology
- OMS mentorship
ROUTINE AND PROGRAMMATIC

- Lab surveillance commenced with WHO AGISAR support

- WHO AFRO Paediatric Bacterial Meningitis (PBM) sentinel surveillance

- Cholera and Typhoid outbreaks (Country Level)

- Veterinary Drugs Residue Monitoring Plan (VDRM) is in place

- Draft Integrated AMR Surveillance Strategy done (FF2 /WHO Supported)
Honey Residue Control Plan being implemented for honey exports to the EU.

- Dihydrostreptomycin,
- Tetracycline
- Tyrosin

Sales data on antimicrobial used in animals has been obtained from the major suppliers of veterinary medicines for 2015, 2016 & 2017 and submitted to the OIE.

ZAMRA—post marketing surveillance and pharmacovigilance

Monitoring disposal of drugs—ZEMA
HUMAN RESOURCE CAPACITY BUILDING—TRAINING

- Laboratory Training at KEMRI—13 trained from all sectors (FF2 /WHO Supported), culture and AMR testing
ONSITE MICROBIOLOGY—MENTORSHIP

- Build capacity in microbiology through hands-on on-the-job training.

- Built capacity to collect and share data, implement and strengthen the core components of a NLSS.

- 3 Labs currently being Mentored—NTH, CMH & LTH
Onsite Microbiology Mentorship
QMS MENTORSHIP

- systematically guide the labs through ISO 15189 requirements. The ultimate goal is developing a public health lab system and obtain international accreditation.

- Unlike classroom-based QMS trainings, onsite mentorship allows for adaptation of solutions and quality activities to the local context.

- The mentors tailor mentorship package to the lab’s organizational and resource

- 3 labs being mentored—KTH, CMH & Choma DH
CHILONGA MISSION GENERAL HOSPITAL
MEDICAL LABORATORY

Quality Manual

CHILONGA MISSION GENERAL HOSPITAL
MEDICAL LABORATORY

LABORATORY HANDBOOK

Information for users on the effective utilisation of our laboratory services
GLASS ENROLMENT

- Global Antimicrobial Resistance Surveillance System (GLASS) – WHO web based surveillance system

- Currently focuses on surveillance of resistance in common human bacterial pathogens.

- 1 lab currently enrolled into GLASS – submitted 2015, 2016 & 2017 data

- 3 Labs being mentored to be enrolled by end of 1Q 2019

- 3 more labs added to the mentorship program
NEXT STEPS IN AMR SURVEILLANCE

- Flemming fund country grant (Targeting 7 HH Labs & 5 AH Labs)

- RFP published

- Planned training for targeted GLASS sites (13th – 17th May, 2019).
  - GLASS priority pathogens & WHONET for data management
  - Introduce tricycle project – frequency of extended spectrum beta-lactamase (ESBL) producing E. coli
Integrated AMR Surveillance Strategy

- Focuses on AMR surveillance in AH, HH, PH, and Environment.

- Comprehensive including Budget and M&E

- Leverage low hanging fruits

- To employ phases implementation
NIAMRSS-OBJECTIVES

❖ To measure the prevalence of AMR in human, animal, environmental and Agriculture sectors.

❖ To monitor trends and patterns of AMR pertaining to human, animal, environmental and Agriculture sectors.

❖ To monitor trends and patterns of AMU pertaining to human, animal, environmental and Agriculture sectors.

❖ To determine levels of veterinary drug residues in food products and how these can inform patterns of AMR in animals and humans.
NIAMRSS—OBJECTIVES

❖ To determine the presence and levels of chemical, physical and biological residues in the environment which can lead to resistance with direct or indirect link to plant, human and animal health.

❖ To determine antimicrobial pesticide maximum residue limits (MRLs) in Agricultural produce in target areas.

❖ To generate AMR surveillance specific information to raise awareness among strategic stakeholders.

❖ To address the gaps pertaining to AMR surveillance in human, animal, environmental and Agriculture sectors.
Establish partnerships on Supporting Implementation of Zambia’s Multisectoral AMR National Action Plan

- Centre for Science and Environment (CSE) MoU signed on supporting AMR Surveillance and policies

- Action on Antibiotic Resistance Africa Node (ReAct Africa) – MoU in draft. Aimed at supporting Implementation of Antimicrobial Stewardship programs in Health facilities

- FIND AMR connectivity project – Draft MoU aimed at developing Integrated AMR data management system.
Challenges

- Inadequate enforcement of laws & regulations
- Limited microbiological capacity
- Limited access to funding
- One Health Approach

Opportunities/Strengths

- Strong political will
- One health approach
- Collaboration—PPPs
Partners

- WHO
- FAO
- OIE
- AFRICA CDC
- US CDC
- ReACT Africa
- CSE
- ZCHI
- PHAS
- CHAZ
CONCLUSION

“A journey of a thousand miles begins with 1 step;
This is Zambia’s first step in contributing to a world free from fear of untreatable infections!”