ReAct Africa and South Centre Conference 2019

Theme: Achieving Universal Health Coverage while Addressing Antimicrobial Resistance

Four Points by Sheraton Airport Hotel,

Nairobi, Kenya

July, 23-25th, 2019

PARTICIPANTS OF THE REACT CONFERENCE 2019

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PREFACE

Antimicrobial resistance (AMR) remains a global public health threat. Unless the importance of addressing the barriers to conservation of antibiotics and promoting prevention of infections is addressed with urgency, the AMR burden will only worsen. It is estimated that 10 million people will die globally by 2050, if nothing is done about AMR. Currently, approximately 700.000 people are dying globally as a result of AMR. The increased burden of AMR, not only affects the affordability of healthcare on the national level, but also has a huge impact on national and individual healthcare expenditure. The possibility to treat infections however is essential for good quality care. Maintaining or creating Universal Health Coverage (UHC), without addressing AMR, therefore becomes unfeasible or very complicated. AMR is a multi-sectoral challenge and requires work to be done on a very wide range of themes. In recent years, attention has focused on harnessing UHC reforms to accelerate AMR-related gains. Since AMR is a health-system problem, UHC provides the best enabling framework to tackle AMR.

Concurrently UHC, is a global agenda that is encompassed within the Sustainable Development Goals (SDGs). This is the goal number 3, which seeks to enable all populations access health services that address the most significant causes of disease and death, which in our LMICs, majorly translates to infectious diseases. Enabling access here therefore translates to improved access to needed antimicrobials and infection prevention and control (IPC) services. While appropriate, equitable access to such services is the ultimate goal for UHC, excessive uncontrolled access to antimicrobials and IPC interventions/diagnostics, with the aim of alleviating the financial burden that out-of-pocket health expenditure places on individuals and families, could paradoxically increase the AMR burden.

The ReAct Africa Annual Conference 2019 aims to address the connectedness of achieving Universal Health Coverage (UHC) and Antimicrobial Resistance (AMR) agendas. It addresses how the two influence or affect each other and how they link to the acheivement of the SDGs. It seeks to affirm that addressing AMR is a path to attaining UHC and thus bring to light what country programs can be leveraged on.

Expected Conference Outcomes are:

1. Raised awareness on the urgency of addressing AMR
2. Participants have built understanding on the interconnected links between AMR and UHC.
3. Exchange of experiences of AMR; SDGs; UHC and identify synergies and entry points.
4. Learning from exchange of experiences and challenges faced in implementation.
5. Cross learning and fertilization from current country vertical programs.
6. Develop inputs for global AMR governance

ABOUT THE CONVENERS

ReAct

ReAct is a global network dedicated to the problem of antibiotic resistance. ReAct was initiated in 2005 with the goal to be a global catalyst, advocating and stimulating for global engagement on antibiotic resistance by collaborating with a broad range of organizations, individuals and stakeholders. It works with a multidisciplinary team, which includes microbiologists, physicians, veterinarians, communication experts and global health specialists,

The ReAct vision is to create a a world free from fear of untreatable infections. The mission is to enable collective action that ensures sustainable and equitable access to effective antibiotics for all. The objectives of ReAct are:

1. National Action Plans on AMR
2. Movement building
3. Globally coordinated governance
4. Public health driven innovation

Over the years ReAct established nodes across the continents. These currently include ReAct Europe, ReAct North America, ReAct Latin America, ReAct Asia Pacific and ReAct Africa, which was formed in 2014. ReAct Africa catalyzes African action on antibiotic resistance and engages Sub-Saharan African countries in the development of National Action Plans. ReAct Africa is hosted by the Ecumenical Pharmaceutical Network (EPN) in Nairobi Kenya.

Ecumenical Pharmaceutical Network (EPN)

The Ecumenical Pharmaceutical Network (EPN) is an International non-profit Christian member organization registered in Kenya. EPN is the only global church-based organization that works specifically to increase access to medicines and to strengthen pharmaceutical services. EPN's vision is to be a valued global partner for just and compassionate quality pharmaceutical services for all. This is done by supporting churches and church health systems to provide and promote just and compassionate quality pharmaceutical services. EPN has a network of 118 members from 37 countries.

The South Centre

The South Centre is the inter-governmental policy research institution of developing countries, with currently 54 developing country member States from Africa, Asia and the Pacific, and Latin America and the Caribbean. The South Centre promotes more effective South-South cooperation and coordination, supports developing countries in participating in and voicing their development interests and priorities more effectively in various multilateral and regional development policy related issues and fora, and provides policy advice and technical assistance to governments on their national development-related policies.

The main activities of the Centre are policy research and analysis, convening of meetings and conferences for developing countries to share views and experiences, and technical assistance and capacity building activities. The issues taken up by the Centre include international and regional trade policy, global macroeconomic and finance issues, global public health, innovation and intellectual property policy, climate change, environment and sustainable development, international economic issues including tax policy, external debt and international investment policy; human rights policy; global governance for and North-South relations, South-South cooperation, and global governance for development.

The South Centre has three major institutional pillars: The Council of Representatives in which the Member States are represented; the Board comprising a Chairperson and members who act in their individual capacities and provide guidance to the Secretariat; and the Secretariat headed by the Executive Director which implements the activities of the South Centre. The Secretariat is accountable to and works under the guidance of the Board and the Council.

ABBREVIATIONS/ACRONYMS

AFRO	Africa Regional Office (WHO)
AWaRe	????
AMR	Antimicrobial Resistance
AMS	Antimicrobial Stewardship
ASP	Antimicrobial Stewardship Program
DSP	Diagnostic Stewardship Program
FAO	Food and Agriculture Organization of the United Nations
GAP	Global Action Plan
GARGP	Global Antibiotic Research and Development Partnership
GHSA	Global Health Security Agenda
GLASS	Global AMR Surveillance System
GLEWs	Global Early Warning and Surveillance
GLOAN	Global Outbreak Alert and Response Network
GPW	
HAIs	Hospital Acquired Infections
HEP	Health Extension Program
HEWs	Health Extension Workers
HLM	High Level Meetings
HSTP	Health Sector Transformation Plan
IACG	Inter-agency Coordination Group
ISP	????
IPC	Infection Prevention and Control
JEE	Joint External Evaluation
LMICs	Low Middle Income Countries
MDROs	Multidrug Resistant Organisms
MTaPS	Medicines, Technologies and Pharmaceutical Services
NAPs	National Action Plans
OECD	Organisation for Economic Co-operation and Development
OIE	World Organization for Animal Health
PHC	Primary Health Care
PHCU	Primary Health Care Units
PPP	Public Private Partnership
ReAct	Action on Antibiotic Resistance
TPP	Target Product Profile
UHC	Universal Health Coverage
WHO	World Health Organization

CONFERENCE PROGRAM

Day 1 — TUESDAY JULY 23RD 2019

07:30-08:30	Registration
08:30-09:30	**Session 1** **Welcome, Opening Remarks, Introductions, Conference Objectives and Overview** • Mirfin M. Mpundu - Head of ReAct Africa, Executive Director Ecumenical Pharmaceutical Network (EPN) • Viviana Muñoz Tellez - Coordinator, Health, Intellectual Property and Development Programme South Centre. • Laetitia Gahimbare – World Health Organization, Africa Region • Marc Sprenger - AMR Director - World Health Organization HQ • Otto Cars - ReAct Founder and Senior Advisor • **Official Opening** - Dr. Rashid Abdi Aman - Chief Administrative Secretary, Ministry of Health, Kenya
09:30-11:00	**Plenary** **Session 2** **Part 1 – Setting the scene - A reflection of AMR, SDGs and UHC** **Moderator- Mirfin Mpundu** • AMR and National Action Plans – Marlon Banda, Director of Pharmaceutical Services Churches Health Association of Zambia & Board Chairman EPN • Combating Antimicrobial Resistance to Achieve Sustainable Developmer Goals, South African perspective – Olga Perovic, AMR Lead, National Institute for Communicable Diseases South Africa • AMR and UHC – Andreas Sandgren, Deputy Head of Office, Policy Adviso ReAct Europe • Global Health Security Agenda – Francis Kofi Aboagye-Nyame, Management Sciences for Health, MTaPs Program Director
11:00-11:30	Tea Break
11:30-13:00	**Plenary** **Session 2** **Part 2- Setting the Scene** • One Health- AMR- IACG Co-convener – Anthony So, ReAct North Americ (recording) • AMR in the UN and related processes – Viviana Muñoz Tellez - Coordinat Health, Intellectual Property and Development Programme, South Centre • IACG Recommendations to the United Nations General Assembly – Marth Gyansa-Lutterodt , Director, Technical Coordination, MOH Ghana
13:00-14:00	Lunch
14:00-14:30	**Session 3** **How AMR is affecting people in your country and what is your country progress in implementing NAP from last conference?** **Moderator - Mercy Korir , Medical Journalist, KTN** **Plenary- Panel Discussion** • Ghana – Boi Kikimoto - Head-Public Health & Food Safety, AMR Focal Point • Malawi – Watipaso Kasambara – AMR Coordinator Malawi • Madagascar – Carmen Randriamanampisoa, Assistante Technique à la Direction de la Veille Sanitaire, de la Surveillance Epidémiologique et Riposte • Sudan – Mirghani Yousif - Head, Medication Safety Research
14:30-15:10	**Breakout Sessions** **Group Discussions Chairs:** • Japhet Opintan - Senior Lecturer, University of Ghana • Yara Mohsen - Infectious disease Clinical Pharmacist in charge of the AMS Program- Joint Commission Accredited Hospital, Egypt • Steve Kisembo - Medical Director- Bethesda Hopital/CBCA, DRC • Kusu Ndinda - Country Project Director, MSH/ MTaPS, Kenya
15:10-15:30	**Plenary- Feedback** Feedback from group discussions
15:30-16:00	Tea Break
16:00-16:30	**Session 4** **Perspectives on context of issue:** **Exploration and prioritization of AMR within UHC at country level** **Moderator - Mercy Korir , Medical Journalist, KTN** Plenary- Panel Discussion • Cameroon – Deli Vandi, Director Department of Drugs, Pharmacy and Laboratories • Ghana – Peter Yeboah, Executive Director Churches Health Association of Ghana • Tanzania – Elizabeth Shekalaghe, Registrar Pharmacy Council • Kenya – Evelyn Wesangula, MOH Kenya, AMR Focal Point
16:30-17:10	**Breakout Sessions** Group discussions: Chaired by presenters above
17:10-17:30	**Plenary - Feedback** Feedback from group discussions
17:30-19:00	**Reception** -Wellcome Trust

Day 2 WEDNESDAY JULY 24TH 2019

08:30-08:50	**Plenary** Recap of Day 1 & Highlights, ReAct Activities 2018 & 2019 – Tracy Muraya, ReAct Africa
08:50-09:20	**Support from Agencies** • Fleming Fund- Lucy Andrews, Head of Fleming Fund • Wellcome Trust – Jeremy Knox, Policy & Advocacy Lead, AMR
09:20-10:05	**Session 5** **Plenary** **Moderator – Julian Nyamupachitu, ReAct Africa** • Diagnostics – Revathi Gunturu, Head of Clinical Microbiology, Aga Khan University Hospital Nairobi • Quality of medicines – Philip Nguyen, Director, Quality Institute, US Pharmacopeial Convention(USP); Advisor, MedsWeCanTrust Campaign (MWCT) • Experience of regulation of quality of medicines within the UHC context- Zivanai Anthony Makoni, Senior Regulatory Officer, Medicines Control Authority of Zimbabwe • Developing empiric treatments for neonatal sepsis – Monique Wasunna, Director DNDi
10:05-11:00	**Breakout Sessions- 3 Groups** (Diagnostics; Quality of medicines; Developing empiric treatments for neonatal sepsis) Group discussions
11:00-11:30	Tea Break and Poster Presentations -Question & Answer Sessions
11:30-12:30	**Plenary** **Session 5** **Part 2- One Health -** **Moderator – Ann Mawathe, Africa Health Editor, BBC Africa** • Are there any synergies within the One Health Concept and UHC – Emmanuel Kabali, AMR Coordinator, FAO, Zimbabwe • Where are we and where should we be in the animal sector – Allan Azegele, Deputy Director Veterinary Services, AMR Focal Point, Ministry of Agriculture, Kenya • AMR and the environment – Mirza Alas, Programme Officer, Development, Innovation and Intellectual Property Programme, South Centre • OIE Strategies, Activities and Best Practices on the One Health Agenda- Jane Lwoyero, Programme Officer, World Organization for Animal Health (OIE), Kenya
12:30-13:30	Lunch and Poster Presentations -Question & Answer Sessions
13:30-14:10	**Session 6** **Plenary- Case studies on UHC: Examples of UHC Implementation** **Moderator – Tracy Muraya, ReAct Africa** • Thailand – Satya Sivaraman, Communications Coordinator, ReAct Asia Pacific • Nigeria – Abubakar Aliyu JAFIYA, Nigeria Centre for Disease Control • Ethiopia – Yidnekachew Degefaw, Team Coordinator , MOH Ethiopia • Kenya – Nancy Njeru, Officer at MOH Kenya, Department of Universal Health Coverage
14:10-1500	**Breakout Sessions** chaired by presenters above
15:00-15:30	**Plenary - Feedback** Feedback from group discussions
15:30-16:00	Tea Break
16:00-16:30	**Plenary** **Session 7** **Preventing and managing infections** **Moderator - Oladipo Aboderin Professor/ Honorary Consultant, Obafemi Awolowo University, Nigeria** • IPC, WASH, Immunization in UHC – Philip Mathew, ReAct Asia Pacific • Implementing national Antimicrobial Stewardship programs in LMICs – Mirfin Mpundu • Surveillance One Health – Otridah Kapona, Laboratory Scientist, AMR National Focal Point & Coordinator, Zambia • Role of training in UHC – Freddy Kitutu, Lecturer, Pharmacy Department, Makerere University Uganda
16:30-17:10	**Breakout Sessions** Group discussions
17:10-17:30	**Plenary - Feedback** Feedback from group discussions
17:30-19:30	Reception **#MedsWeCanTrust Campaign**

Day 3 THURSDAY JULY 25TH 2019

08:30-08:45	Recap of Day 2 – Mirza Alas, Programme Officer, Development, Innovation and Intellectual Property Programme, South Centre.
08:45-09:30	**Plenary** **Session 8** **Sustainable financing / financing mechanisms for UHC – Mirza Alas** • Financing model example –Andrew Mulwa, Minister of Health, Makueni County • Financing model from a Faith-based Hospital – Ken Muma, Director General, Kijabe Hospital Kenya
09:30-10:00	**Plenary** **Session 9** **Country Updates/ Examples on One Health Approach** **Moderator - Ann Mawathe, Africa Health Editor, BBC Africa** **Panel Discussion** • Sudan – Hassan Abdelrahman Ataelseed Abdelrahman, Secretary General, Sudan National Medicine & Poisons Board • Kenya – Allan Azegele, Deputy Director Veterinary Services, AMR Focal Point, Ministry of Agriculture, Kenya • Uganda – Denis Byarugaba, Professor , Makerere University
10:00-10:40	**Breakout Sessions** Group discussions
10:40-11:00	**Plenary-Feedback** Feedback from group discussions
11:00-11:30	Tea Break
11:30-12:10	**Session 10** **What are the commonalities and approaches to move forward** **Moderator - Mathew Phillip, ReAct Asia Pacific** **Breakout Sessions** **Group discussions Chairs:** • Borna Nyaoke-Anoke – Clinical Trial Manager, DNDi • AMR and UHC – Andreas Sandgren, Deputy Head of Office, Policy Advisor ReAct Europe • Christian Mugabo – Co-founder, Co-Chair and Country director International Students' Partnership for Antibiotic Resistance Education (ISPARE), Rwanda • Linus Ndegwa – Division of Global Health Protection, Centers for Disease Control and Prevention, Kenya
12:10-13:00	**Plenary** Feedback from group discussions
13:00-14:00	Lunch
14:00-15:00	**Plenary** **Session 11** **Beyond the conference what next?** **What are the next steps to achieve AMR, UHC & SDGs Agendas in African Countries Panel Discussion.** **Moderator – Mercy Korir, Medical Journalist, KTN** • Mirza Alas – Programme Officer, Development, Innovation and Intellectual Property Programme, South Centre South Centre • Mirfin Mpundu – ReAct Africa, Head of ReAct Africa, Executive Director Ecumenical Pharmaceutical Network (EPN) • Martha Gyansa-Lutterrodt - Director, Technical Coordination, MOH, Ghana • Allan Azegele – Deputy Director Veterinary Services, AMR Focal Point, Ministry of Agriculture, Kenya • Laetitia Gahimbare – World Health Organization, Africa Region • Emmanuel Kabali - AMR Coordinator, FAO, Zimbabwe
15:00-15:30	Vote of thanks **Official Closing** - Laetitia Gahimbare – World Health Organization, Africa Region
15:30-16:00	Farewell Tea

CONFERENCE PROCEEDINGS

DAY ONE – 23RD JULY 2019

Session 1- Welcome, Opening Remarks, Introductions, Conference Objectives and Overview

1.1 Mirfin M. Mpundu, Head of ReAct Africa, Executive Director Ecumenical Pharmaceutical Network (EPN)

The *Head of ReAct Africa* welcomed the participants to the 5th ReAct Conference. He acknowledged that the participants were drawn from 33 different countries namely Benin, Burkina Faso, Brazaville, Cameroon, Chad, Cote d'Ivoir, Democratic Republic of Congo, Egypt, Ethiopia, Ghana, Guinea, Guinea-Bissau, India, Kenya, Liberia, Lesotho, Madagascar, Malawi, Namibia, Niger, Nigeria, Rwanda, South Africa, Sudan, Sweden, Swaziland, Tanzania, Togo, Uganda, UK, USA, Zambia and Zimbabwe. He emphasized that the conference would look at AMR in light of UHC and the SDGs. The presenter gave a background of the conference and went on to discuss the conference outcomes, which are stated in the preface of this report. He talked briefly on ReAct Africa, and emphasized that it was established in 2014 and is hosted by EPN. Details on these organizations are given at the beginning of this report, where the conveners of the conference are introduced. This is the 5th ReAct conference. He hoped that the discussions held would draw up lessons that would be useful for influencing and informing government decisions.

1.2. Viviana Munoz, Programme Coordinator, Development, Innovation and Intellectual Property Programme - South Centre

The presenter gave an overview of The South Centre. She emphasized that it has 54 member countries in Africa, Asia, and Latin America. It is an institution of developing countries and for developing countries. The headquarters are in Geneva for historical reasons. The details of the organization are given at the beginning of this report, where the conveners of the conference are introduced. She emphasized that The South Centre recognizes that AMR is a critical issue, particularly for the developing countries, and that UHC is the best enabling framework for ensuring AMR. AMR poses dual challenges, namely, that of lack of adequate drugs and the misuse of antibiotics. There is still a lot to do to achieve the SDGs by 2030. She then stated that the theme of the conference this year was therefore very relevant. She remarked that The South Centre is happy to partner with ReAct Africa, and also acknowledged the partnership with Wellcome Trust.

1.3 Laetitia Ghambire, World Health Organization Africa Region

The presenter began by introducing the 3 big impact agendas that WHO is focusing on, to be achieved by 2013. These include:

- UHC coverage – – 1 billion more people with health coverage
- Health emergencies - 1 billion more people made safer
- Health priorities - 1 billion lives improved

She explained that The WHO is leading two health initiatives with big implications for the use of antimicrobials. These are SDG3 and Global Action Plan (GAP). The SDG 3 includes a commitment to achieve UHC by the year 2030. This implies significant increase in access to healthcare, including treatment of infections. The GAP is aimed at ensuring continuity of successful treatment of infectious diseases and prevention of infectious diseases with effective and safe medicines. Neither of these initiatives is likely to succeed in isolation from the other. Action to address AMR should go hand in hand with measures to strengthen attributes of health systems that contribute to progress towards UHC such as: equity, quality, efficiency, accountability, sustainability and resilience. She explained that all countries in the WHO Africa Region have signed up to the SDGs and steps have been initiated in all countries towards selecting and implementing actions towards UHC and the SDGs. However, the UHC status in the different countries in the Africa Region shows some variation.

In alignment with WHO, the Global Action Plan on AMR; GPW and AFRO, the UHC framework for actions, strategies in place aim to ensure that all countries have essential capacity to implement national action plans to monitor, prevent and reduce infections caused by AMR; that there is appropriate use and availability of antimicrobial medicines in human health and food production settings as a contribution to improving access to and maintaining effectiveness of treatment and there is high level political commitment sustained and effective coordination at the regional level to combat AMR in support of the SDGs.

AMR achievements supporting AFRO framework for achieving UHC

Health Governance:

- AMR Situation analysis a has been carried out, and 33 countries have National Action Plans (NAPs)
- There has been established/strengthened partnership and multi-sectoral collaboration with FAO, OIE, Africa CDC, UK; Canada; ReAct Africa, Academic institutions; other partners
- Links with International Health Regulation Joint External Evaluation and Global Health Security Agenda have been made.
- The strengthening of regulatory capacity
- Awareness campaigns with tailored messages to public, policy makers and the agricultural sector

*Education of Health Workforce***:**

- Regional AMR workshops and trainings have been held
- WHO AMR Competency framework was developed

Health Information:

- Tools and guidelines for data collection: Global AMR Surveillance System (GLASS) ; Antimicrobial Consumption/use; Pricing and availability of medicines; research on AMR; monitoring-using existing systems and indicators where possible
- African prices and availability medicines platform (APRAMED), aiming to regularly monitor and inform decision-making for pricing regulation and scaling-up of medicines availability.
- Establishment/reinforcement of national surveillance systems, diagnostic and laboratory quality assurance capacities

Health Infrastructure:

- Tools and guidance implementation of Quality Management Systems; Training and dissemination of IPC tools and guidelines

Supply Chain of Medicines, Laboratory Equipment and Supplies:

- Development/review of National Essential Medicines/Diagnostics Lists; inclusion of AWaRe categories
- Pooled procurement in small islands
- Joint work plan with *Association Africaine des Centrales d'achats de Médicaments Essentiels* (ACAME)

Health Financing:

- Extensive support from AFRO

Specific actions that could be encouraged at country level to achieve UHC

Equity:

- Strengthen basic public health and prevention to reduce the burden of infectious disease among the poor
- Revise National Essential Medicines Lists to consider classification of antibiotics as per the AWaRe categories; ensure access to appropriate antibiotics at an affordable cost, including by the poor
- Ensure that measures aimed at reducing inappropriate use of antimicrobials do not interfere with access to them by the poor
- Regulate the quality of health products, antimicrobials

Access and Quality:

- Include AMR in medical curriculum and training programs
- Ensure that guidelines for treatment of infections take into account surveillance findings

- Ensure that advice on antimicrobial use provided to healthcare workers and through advertisements reflects best-practice guidelines and acknowledges the threat of AMR
- Revise/develop National Essential Diagnostics Lists; promote laboratory quality management assessments; increase access to low-cost diagnostic technologies for more accurate diagnosis

Efficiency:

- Alter financial incentives that encourage overuse of antimicrobials
- Reduce need for expensive treatment of infections with resistant organisms

Accountability:

- Provide information on surveillance findings
- Provide information on appropriate treatment for different infections

Sustainability and Resilience:

- Carry out awareness and educational campaigns to change understanding of healthcare workers and the population on appropriate use of antimicrobials
- Invest in research and development of new drugs and in new approaches for providing effective treatment of common infections

She concluded that there are opportunities to achieve UHC while addressing AMR, and that investments for interventions with high impact, low complexity, low level of resources that build resilient systems should be prioritized, as well as interventions that lead to more robust data on AMR. There needs to be coordination, harmonization, convergence and joint efforts**.**

1.4 Marc Sprenger AMR Director - World Health Organization HQ, Geneva

> "Left unchecked, antimicrobial resistance (AMR) will roll back a century of medical progress, damage the environment, interrupt food production, cause more people to fall into extreme poverty and imperil global health security" *Dr, Tedros Adhanom Ghebreyesus, Director General, WHO.*

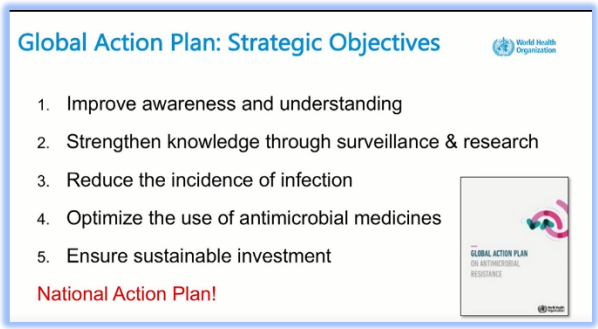
The presenter made a video presentation at the conference as he was unable to be physically present. He began with a quote that brought out the magnitude of the problem.

He asserted that AMR is one of the greatest threats to modern medicine. Despite the fact that there is no accurate data available, OECD predicts that 2.4 million people could die in Europe, North America and Australia due to superbug infections between 2015 and 2050. This he felt was a conservative figure and said that it is likely to be higher, especially in Africa, where the burden of infectious diseases are highest. In some countries more than 40% of infections are due to bacteria that are resistant to antibiotics meaning that these cannot be treated. He went on to compare the economic damage of uncontrolled resistance to the 2008-2009 global financial crisis. The economic impact is between 4-10% in low-income countries and 2.5% in high-income countries. This could be due to infections being more difficult to treat, more deaths occurring, more chronic infection and longer

hospital stays that then cost more. There is an up to 3.5% fall in global GDP and a fall in Livestock production.

He explained that AMR threatens the SDGs 1, 2, 3, 6, 8 and 12, and explained how food security could be affected due to infections in animals, and clean water due to antibiotic residues from pharmaceutical companies, factories, hospitals and also agriculture. AMR has many dimensions including human health, agriculture, environment and crop protection. In human health, he explained, we can distinguish between health-care based settings and community-based intervention. Most of the resistant gram-negative bacteria will appear in health care settings. Hand-hygiene is therefore important and can reduce these by 58%. We need to invest in stewardship programs and environmental hygiene.

The World Health Assembly has approved the global action plan for AMR with 5 objectives. Every member state was asked to develop their own National Action Plans to translate the GAP into their own plans. The countries that did now have a NAP are 73%. The low-income countries have a NAP are 68%, which is a good result.



In regards to UHC, it is important that everyone has access to good health services without facing financial hardship. At least half of the world's population still do not have full coverage of essential health services, which means that people fall into extreme poverty each year due to health expense. 800 million people spend more than 10% of household budget on healthcare. In low-income countries, AMR could drive an additional 24 million people into extreme poverty by 2030. There should be improved access to health care providers, vaccines and quality medicines. Healthy people do not need antibiotics, so people need to pay attention to prevention. The key entry points for AMR in UHC are:

- Public health is key. IPC is most important to prevent infections. In low income countries less than 50% have an IPC policy in place and that needs to improve
- Infection disease management, essential medicines need to be of good quality antibiotics and the ability to quantify the consumption of antibiotics.
- A good health workforce is key. Nurses should be trained to avoid the use of antibiotics and IPC
- Finance, which includes the ability to reduce cost that people need to pay for treatment and regulation in the pharmaceutical chain;

- Leadership and governance is key, particularly if there is a minister that supports the development of NAPs in a '*one health'* setting.
- Monitoring and surveillance to set up systems to monitor the resistance Is helpful.

It is important to remember that AMR is not only a problem in humans. It is also a problem in agriculture and animals so it is important to approach the problem in a one health context.

Key Takeaways:
- AMR has consequences for human health global development agenda
- If left unchecked, AMR will hinder the achievement of UHC
- A lack of UHC will exacerbate AMR
- Invest in UHC and PHC
- One Health Approach, all sectors must collaborate for effective response

"You can make a difference!"

1.5 Official Opening – Dr. Rashid Abdi Aman – Chief Administrative Secretary, Ministry of Health, Kenya

The presenter echoed that AMR is a serious public health concern with political implications. He stated that it has health, economic and social effects. There is therefore need to mitigate beyond the health agenda. There is a key linkage between AMR, UHC and SDGs. He lauded the theme of the conference, saying that it was timely and would inform the UN high level meeting, set to be held in September 2019. He said that the progress of AMR should be in tandem with UHC, addressing issues of equity, so that everyone can access quality medicines. Achieving UHC is one of the targets set by the various nations as part of SDGs. Kenya has great UHC aspirations set to be achieved by 2022, which provides an opportunity for AMR efforts. In sub-Saharan Africa, up to 50% of human fatality can be attributed to misuse of anti-microbial drugs. He emphasized that the misuse of anti-microbial drugs is a serious problem, and that the challenge goes beyond the traditional health system boundaries. Collaboration is needed between those who are responsible for health prevention and health provision. The presenter emphasized that the Government of Kenya is committed to the UHC agenda.

Dr. Mirfin Mpundu (ReAct Africa), Dr Rashid A. Aman (MOH, Kenya) & Viviana Munoz (South Centre)

Session 2 – Setting the Scene - A Reflection of AMR, SDGs and UHC (Moderator – Mirfin Mpundu)

2.1 AMR and National Action Plans Marlon Banda – Churches Health Association of Zambia, Director of Pharmaceutical Services & Board Chairman EPN

The presenter stated that the Sustainable Development Goal 3 includes a commitment to achieve UHC by the year 2030. This implies significant increases in access to healthcare, including treatment of infections. He explained that the health of people is connected to the health of animals and the environment. It is therefore not possible to discuss and deal with human health without discussing the animals and without reflecting on what is happening in the environment. This is the basis for the *One Health* approach, which should be considered in the development of NAPs, as all aspects are tackled together in one platform.

There has been progress of the AMR response, with 100 countries having prepared a NAP, while a further 67 had plans in progress. He emphasized the Global Action Plan objectives discussed earlier by the WHO presenter. He further explained that thirty countries have integrated approaches, and are using those to implement the national AMR action plan. He emphasized the statistics brought out by the WHO speakers including:

- 30 countries have integrated approaches and are using those to implement the national AMR action plan.
- 26 countries have National AMR action plans with funding sources identified and defined monitoring and evaluation systems
- 19 have targeted nation-wide government supported activities implemented.
- National monitoring system for consumption and rational use of antimicrobial
- 24 counties have got IPC programmes in place and functioning at a national
- 8 counties have guidelines on optimizing antibiotic use being implemented for all major syndromes and data is systematically feedback to prescribers

Key Challenges:

- In a lot of countries there is a political ascent, but the public awareness for changing behavior is still lacking
- Finance: commitment to fund NAPs still not there
- Coordination: In a lot of countries NAPs belong to the MoH limited involvement of other ministries
- Monitoring: use of data still a challenge

There is need to change behaviors and to inform the public

He concluded that there is need to raise awareness in the general public, advocate for policy and regulatory change and lead antimicrobial stewardship on the ground for the general public to understand and want to implement the NAP.

2.2. Combating Antimicrobial Resistance to Achieve Sustainable Development Goals, South African perspective – Olga Perovic, AMR Lead, National Institute for Communicable Diseases South Africa

The presenter began by explaining that AMR is not a new issue, but has been in existence for many years. It is related to SDGs, 1, 2, 3, 6, 8, 12 and 17. It is not only related to infectious diseases, but also to non- communicable diseases. The "One health" approach is important in tackling AMR. AMR is an urgent global threat with deep implications across low and high income settings for health security and sustainable global development. Recognizing the urgency and complexity of the AMR threat, the United Nations General Assembly (UNGA) held a high level meeting on AMR in 2016, which brought this issue to the highest political level and called for commitment to an integrated One Health approach response. Actions include alignment of efforts with the World Health Organization (WHO) Global Action Plan (GAP) on AMR adopted by the Member States in 2015. Member States were expected to develop and have multi-sectorial national action plans (NAP) on AMR in place by the 70th World Health Assembly in 2017.

The presenter explained the South African situation. Millions of South Africans lack healthcare cover. According to the report, out of South Africa's population of over 54 million people, only 17.4% are covered by a South African medical scheme. This means that only 9.5 million South Africans have access to private medical care while more than 44 million do not. The leading barrier to private healthcare in South Africa continues to be the cost. The millions of South Africans living without medical cover put increasing pressure on the public health system. Seven in every ten (70.5%) households opted to go to a public clinic or hospital as their first point of access if they felt ill or sustained an injury (General Household Survey [GHS] 2015). Public health uses almost 11% of the government's total budget.

The South African journey on AMR:

- It began in 2011, with the publication of the Situation Analysis highlighting that South Africa had a quadruple burden of resistant infectious diseases – MDR TB, Drug resistant HIV, Resistant Malaria and antimicrobial resistance (AMR).
- In October 2014, the Minister for Health launched the National AMR Strategy Framework, which spans 10 years (2014-2024), and outlines the country's plan for the management of AMR and the improvement of patient outcomes.
- In 2015, the World Health Assembly endorsed the Global Action Plan and South Africa developed and published an Implementation Plan for the AMR Strategy Framework to guide the implementation of the strategy.
- Following on closely to the World Health Assembly endorsing the Global Action Plan in 2015, South Africa developed and published an Implementation Plan for the AMR Strategy Framework to guide the implementation of the strategy.
- Since then South Africa has been working actively with the animal health and environmental colleagues to update the AMR Strategy Framework, and incorporate more relevant interventions from these sectors and this will be published in the near future.

2.3 AMR and UHC Dr. Andreas Sandgren Deputy Head, ReAct Europe

The presenter began with an explanation on what UHC is and the objectives of UHC including equity, quality of health services and protection against financial risk. He explained that Primary Health Care (PHC) is an essential component of this. He explained the focus of The 1978 Declaration of Alma-Ata – 'Health for All' through PHC. Forty years later, in 2018, The Astana Declaration gave a renewed commitment to PHC to achieve UHC and the SDGs, including universal access to effective antibiotics as well as quality, access and care.

Key factors linking primary health care and AMR:

- This reaffirmation of the importance of primary care is timely, given the growing threat of AMR: rising incomes, high background rates of infectious diseases and easy, over-the-counter access to antibiotics, driven in part by lack of access to good-quality primary care, are exacerbating the problem of resistance in LMICs.
- LICs are particularly vulnerable because the second-line antibiotics needed to combat the most resistant infections are often unaffordable.
- Antibiotics are often used as a substitute for basic public health. When formal primary care is missing, patients obtain antibiotics from pharmacists or lay providers.
- In poor regions with ineffective infection prevention and control and limited access to clean water and sanitation, health care has come to depend on cheap antibiotics. Increasing resistance undermines the quality of care and services. Conversely, primary health care can dramatically reduce AMR through simple, cost-effective interventions.
    1. Equitable distribution, including access and healthcare transmission;
    2. Intersectoral coordination, including education, infection prevention and control, and water, sanitation, and health;
    3. Appropriate technology, including diagnostics and technical support to stewardship and surveillance;
    4. Community participation, including reduced information asymmetry and behavioral change, as well as pressure to prescribe.

Note: These factors require attention to quality, not just access, to care.

Conclusions

- Sustainable access to effective antimicrobials is essential for the functioning of all health systems.
- AMR poses a risk for the financing of UHC programs
- Antimicrobial resistance is seriously undermining the essence and objective of UHC

Next Steps

- The recommendations by IACG to the UN Secretary General states:
- AMR poses a formidable challenge to achieving UHC
- Efforts to ensure UHC also promote access to quality-assured and appropriate use of antimicrobials and play a role in reducing the development of AMR.
- The IACG urges existing and future financing mechanisms including financing streams for UHC to give AMR greater priority in their resource allocations.

- UN General Assembly convenes in September – High-level meeting on UHC, reporting back on AMR political resolution
- UHC resolution – Need Member States to argue for AMR to be included. Opportunities to address it in the strongest possible way,
- Need to act on IACG recommendations and secure AMR remains high on global political agenda with strong governance and commitments by governments to act.
- WHO, FAO, OIE, UNEP Global Framework for Development & Stewardship to Combat AMR.
- Member State obligations for following through this work might intersect with UHC.
- Dialogue with member states on a way forward to secure commitments and action.

The presenters, Olga Perovic, Laetitia Ghambire, Andreas Sandgren *and Marlon Banda take questions from the floor*

Question and Answer Session: (Panel: Olga, Laetitia, Andreas and Marlon)

- *In what ways is WHO Africa Region supporting African countries in preparations of NAPs?*
  - Training and collaboration of the NAPS – trained 300 focal points from 44 countries, also support to monitor and elaborate plans. On UHC, a WHO methodology is in place and was adopted by member states, and discusses this with them on priorities, which lead to a joint work plan for the countries. Helps also to finance the various support areas of the countries.

- *What actions is WHO taking to make UHC a reality?*
  - WHO provides practical guidelines on how to achieve/implement UHC, and has daily activities on support for all areas including MCH, service delivery, etc. with technical support to countries. WHO has a list of countries to be visited every year to discuss priorities within the framework of actions. Supporting these as much as possible collaboratively with other players, with close monitoring.

- *Comment: UHC feels like the recycling of old policies, so there is need to highlight what is different to avoid going round in circles.*

- *Different bodies and organizations are involved in the development of NAPs. Is there a way that these can be consolidated especially in Africa?*
  - Coordination needs to be managed under a full time secretariat that manages all activities to enhance synergies. This has to be deliberate. It should take the form of a clearing-house – obligate participation and report on AMR. This will lead to success.
  - Financing and accountability

- *Share experiences from South Africa (SA) on interventions, assessment and monitoring of surveillance program.*
  - Know how surveillance is complicated, and when AMR started, set up laboratories for reporting purposes. Champions who report twice yearly on AMR situation, and monitor resistance trends and report back on antimicrobial problems.
  - Trainings at two centers, are funded by government. In one year, 4 to 5 week long trainings done,. It's intensive process.
  - On UHC, SA is tackling financing of UHC, and who is to fund it.

- *HIV: 40 million people are infected. Why is there not enough emphasis on AMR and HIV infection, backed up with data, especially since it is worst in Africa?*
  - AMR features how to look at HIV populations. Immunization change makes a huge different. Highly resistant organisms are not necessarily linked to HIV, that is what investigations have proven. However, it has impact on a different organism, e.g. fungi like candida, present a different scenario, hence next level of investigations.

2.4 Global Health Security Agenda – Management Sciences for Health, MTaPs - Program Director Francis Kofi Aboagye-Nyame

The presenter began with an introduction to the International Health Regulations (IHRs). He noted that IHRs is necessary because health threats have no boarders; travel and trade are made safer; global health security is enhanced; daily threats are kept under control; and ultimately all sectors benefit.

He then proceeded to present The Global Health Security Agenda (GHSA). The GHSA was launched in February 2014 to advance a world safe and secure from infectious disease threats, to bring together nations from all over the world to make new, concrete commitments, and to elevate global health security as a national leaders-level priority. The G7 endorsed the GHSA in June 2014.

GHSA objectives include to:

- Advance a world safe and secure from infectious disease threats (prevent avoidable catastrophes);
- Bring together nations from all over the world to make new, concrete commitments (detect threats early)
- Elevate global health security as a national leaders-level priority (respond rapidly and effectively).

GHSA is a shared responsibility that cannot be achieved by a single actor or sector of government. Its success depends upon collaboration among the health, security, environment, and agriculture sectors that aims to build capacity to prevent, detect, and respond to infectious disease threats (natural, accidental, or deliberate).

Progress:

- Growing partnership of over 60 nations
- Emphasizes multi-sectorial approach, One Health
- Support 19 technical areas and 11 action packages, including that on AMR to strengthen IHR
- Use joint sectorial evaluation (JEE) tool to assess and plan capacity improvements.

USG Commitment to GHSA

Technical priorities include building partner countries' capacities across 16 JEE technical areas, including AMR.

Goals

1. Strengthened partner country global health capacities
2. Increased international support for global health security
3. A homeland prepared and resilient against global health threats

The principal implementers include:

- CDC and USAID
- USAID OHS
- Medicines, Technologies, and Pharmaceutical Services (MTaPS) and IDDS

The MTaPS Program

The goal of MTaPS is to enable low and middle-income countries to strengthen their pharmaceutical systems to ensure sustainable access to and appropriate use of safe, effective, quality-assured, and affordable essential medicines and medicine-related pharmaceutical services.

MTaPS Program Objectives:

1. Pharmaceutical sector governance strengthened
2. Institutional and human resource capacity for pharmaceutical management and services increased, including regulation of medical products
3. Availability and use of pharmaceutical information for decision-making increased, and global learning agenda advanced
4. Pharmaceutical sector financing, including resource allocation and use, optimized
5. Pharmaceutical services including product availability and patient-centered care to achieve desired health outcomes improved

MTaPS GHSA Mandate	MTaPS Focus Countries	Key MTaPS Strategies
• Support the containment of antimicrobial resistance (AMR), in the following two areas: o Enhancing infection prevention and control (IPC) o Antimicrobial stewardship (AMS) • Multi-sectorial coordination (MSC) on AMR	• 10 African Countries: o 6 Francophone: Burkina Faso, Cameroon, DRC, Cote d'Ivoire, Mali, Senegal o 4 Anglophone: Ethiopia, Kenya, Tanzania, Uganda	• Multi-sectorial coordination • Country-driven, locally-led approach • HSS, sustainability, and self-reliance • Collaboration with WHO, FAO, ReAct and other global, regional and national partners • Sharp focus on strengthening partner country capacity to progress towards next JEE/IHR level • Package and disseminate lessons learned to inform similar GHSA actions by other countries

Key observations and lessons learned

- Multi-sectorial (One Health) coordination
  - Such a platform exists in all countries
  - Need support with improving functionality and helping establish/strengthen AMS & IPC TWGs
- AMS
  - Policy, guidelines, and programs lacking in most countries
  - Need support with developing these first, then with implementation
  - Need to strengthen/establish DTCs
- IPC
  - Policy, guidelines mostly present
  - Need support with implementation, auditing, monitoring, and feedback
  - Need to strengthen IPC committees

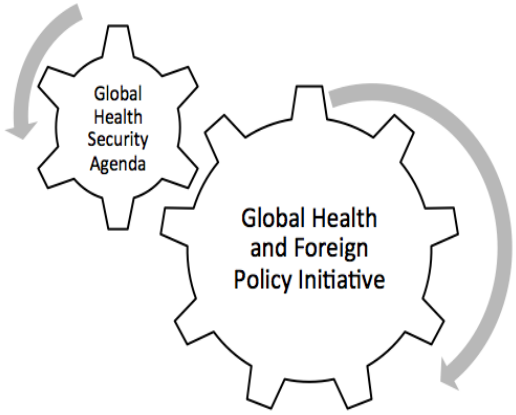
Conclusions

- AMR, Ebola, MERS, AI, and other outbreaks remind us of the importance of the GHSA
- A focus on medicines use – human and animal – and not just on availability
- All hands on deck approach
- Focus on strengthening country capacity to progress towards next JEE/IHR level

Participants listen attentively to the presentations

2.5 UN discussions on access and innovation - Viviana Muñoz, Programme Coordinator, Development, Innovation and Intellectual Property Programme

The UN General Assembly (UNGA) and subsidiary bodies, i.e. third committee, is the main decision- making body of the UN, representing all 192 Member States. It is responsible for influencing Global Health Priorities. The membership include other UN agencies e.g. WHO, UNICEF, UNAIDS, UNFPA and Human Rights Council. It advocates for a multilateral and multi-sectorial approach to strengthen both the global capacity and nations' capacity to prevent, detect, and respond to human and animal infectious disease threats, whether naturally occurring or accidentally or deliberately spread. The presenter emphasized the need to focus on the interlinkages between the national agenda and the global health agenda.



Global health priorities

Global Action Plan for Healthy Lives and Well-being for all

Global Action Plan:
- Launch of plan at UNGA in September 2019
- To accelerate progress of SDG 3
- Coordinated by WHO – including 11 agencies
- Common milestones 2023

The commitment follows a request from Chancellor Angela Merkel of Germany, President Nana Addo Dankwa Akufo-Addo of Ghana, and Prime Minister Erna Solberg of Norway, with support from United Nations Secretary General, Antonio Guterres, to develop a global action plan to define how global actors can better collaborate to accelerate progress towards the health-related targets of the of the 2030 Sustainable Development Goals Agenda.

Initiative on Global Health and Foreign Policy:	**High-Level Meetings (HLM) of the UNGA:**
▪ Raise priority of health in foreign policy ▪ Reinforce health as key element in strategies for development and fighting poverty, links to other sectors ▪ Launched by the Oslo Ministerial Declaration in 2007 ▪ Led by the foreign ministers of Brazil, France, Indonesia, Norway, Senegal, South Africa and Thailand. ▪ Regular item on the UN General Assembly agenda. ▪ Annual resolution ▪ Report prepared by the WHO Director-General	✚ To increase awareness and political will ✚ To convene all sectors under the leadership of heads of State and government ✚ Accelerate global momentum ✚ Deepen international commitment

2.6 One Health – AMR - IACG Co-convener – Anthony So, ReAct North America: Connecting Global to local and local to global (Video recording)

The presentation was made through a video recording. The presenter began by highlighting the background to the Inter-Agency Coordination Group (IACG). He thus noted that, in September 2016, the UNGA, for the fourth time, adopted a health issue, which was on Antimicrobial Resistance to combat antimicrobial resistance worldwide using a one-health approach, with focus on affordable

IACG's Recommendations – April 2019
a) Accelerate progress in countries
b) Innovate to secure the future
c) Collaborate for more effective action.
d) Invest for sustainable response
e) Strengthen accountability and global governance

Highlights of IACG attention areas:
- Greater public purchase over antibiotic chain, especially antimicrobial production facilities and pooled procurement mechanisms;
- Building on and extending PDPs in human, animal and plant health;
- A call for the provision of political, financial and technical support of civil society; and
- Private sector to test innovative approaches, realign economic incentives and engage in environmentally sustainable production.

access to and stewardship of life saving antibiotics. The IACG was constituted in the meeting, bringing together intergovernmental agencies – tripartite agencies, UN environment, UNICEF, global partners and independent experts. Two years later, in April 2019, the group had generated recommendations in a report delivered to the UN Secretary General.

Why must UHC address AMR?

- Lower the greater mortality that may result from drug-resistant infections
- Avoid higher costs of second-line antibiotics in the face of drug resistance
- Reduce the need for antimicrobial susceptibility testing at or on referral from level I or II healthcare facilities

Addressing AMR as part of UHC

The presenter argued for the need to have AMR addressed as part of UHC agenda. On the same note, he highlighted the following to be put into consideration:

- UHC: Coverage versus Care – therapeutic, financial and structural access;
- Equitable and affordable access, but responsible and prudent use – access but not excess;
- Behavior change through effective awareness creation, communication and appropriate incentives – quality of care;
- Strengthening key national systems for vaccination, infection prevention and hygiene, integrated laboratory systems – NAPs within SDG context.

How to connect global to local and local to global

The presenter noted that connecting global to local and local to global requires the following to be in place:

- Governance
- Communication to collective action
- Financing
- Monitoring and accountability

2.7 IACG Recommendations to the United Nations General Assembly – Martha Gyansa-Lutterodt (video recording)

This session was presented through a video recording. The presentation was about IACG's recommendations to the UNGA. She noted that the drivers of microbial resistance have everything to do with UHC, and hence if not handled properly, the goal of leaving no one behind may become a mirage, even as antimicrobial resistance wipes out all achievements made over the years. She further observed that 8 SDGs will not be achieved if ARM is not addressed. These drivers are divers in nature. These include:

- Human driving the misuse of antibiotics;
- Improper water, sanitation and hygiene;
- Environmental discharge of waste of healthcare products through manufacturing firms;

- Foods and feeds that are subjected to poor infection and disease prevention and control programs.
- Terrestrial and aquatic animals e.g. foods and fishes exposed to growth hormones.

Recommendations:

a) AMR is about people, settings – progress is more than having an action plan.
b) Innovation to secure the future – This means that we need diagnostics to secure the future. This, as well as vaccines, waste management tools…
c) Collaboration – with all stakeholder in research and development
d) Investment for a sustainable response – Countries need to do domestic financing mobilizing.
e) Strengthening accountability and global governance (this is missing in the GAP) - for AMR 7 "One Health"

One-health response to antimicrobial resistance

Incidentally, all the recommendations have something to do with SDGs. Eight of the SDGs have something to do with AMR, hence not paying attention to it may hinder the achievement of the SDGs, whether related to poverty, UHC, or multi-stakeholder approach. The following are therefore the IACG's recommendations:

IAGC Recommendations

- ***Accelerate progress in countries*** through effective and tailored national response plans, political commitment and coordinated multi-sectorial efforts. This must go beyond development of NAPs and be custom made to African needs.
- ***Innovate to secure the future*** through research and development of new antimicrobials, diagnostics, vaccines, waste management tools and other technologies that we can use to get value for money and to secure the future.
- ***Collaborate for more effective action.*** Collaborate using a multi-sectorial one-health approach, with civil societies, the private sector, national governments, academics and funders, for more effective action.
- ***Invest for a sustainable response.*** Invest in innovative approaches to AMR control with a focus on sustainable domestic financing commitments by national governments.
- ***Strengthen accountability and global governance.*** Strengthen accountability, surveillance and global governance to raise the profile and urgency of AMR. There is currently no overarching body which can demand accountability from WHO, IOE etc. There is need to put in place governance mechanisms.

Questions & Answer session (Viviana & Kofi)

Philip (India). What are we looking for in terms of UHC? What model are we looking for?

Global health security agenda: it seems the countries contributing to AMR in the action packages, it seems that it is very much of voluntary activity. Is there anything that we can be updated on what is happening consistently and differently. Where are with the AMR package?

Diana Liberia – supporting 10 countries. Any plans to support other countries that are yet to develop the action plans
Kofi: USAID decides, which countries that should be targeted.

Advocacy in different country contexts. Talk practically about tools that can be used to have countries come on board
Kofi: We need to advocate with the governments and with the donors. We all need to be advocates, and we need to be presenting the data, the results.

Viviana

- We need to move forward on awareness raising. We need to translate the message in a way that all the stakeholders can participate. For everybody. It is a long list of stakeholders. What does each have to do.
- Awareness raising for the policy makers. Tell them this is your agenda and decide how to shape it according to your country's context.
- Create institutional driver force not only dependent on the champions

Mirfin

- If the priority countries do very well then it creates opportunity for other partners to support.

Session 3 – How AMR is affecting people in your country and what is your country progress in implementing NAP from last conference – Moderator Dr. Mercy Korir – Medical Journalist, KTN.

3.1 Plenary - Panel discussion

This was a panel discussion involving representatives from 4 countries namely Ghana, Malawi, Madagascar and Sudan. The Moderator, Dr. Mercy Korir posed the question: "From your different countries, between 2018 and 2019, what steps have been made towards implementing the NAPs?" The responses by country was as follows:

3.1.1. Ghana – Boi Kikimoto - Head-Public Health & Food Safety -, AMR Focal Point

Noted that Ghana was one of the first countries to have finished their NAPs. Since the last conference, they had done a lot including putting down all protocols, standard operating procedures (SOPs) in accordance with the NAP to ensure that a system for surveillance is in place. Ghana had also been able to assess the various laboratories that are going to carry out AMR surveillance. Trying to do a world health assessment of all the referral laboratories for both the human and the animal sector. They assess all regional hospitals, all public health laboratories in Ghana that are going to be involved in AMR surveillance system. Ghana has also been able to carry out a progressive improvement pathway of effort to assess the NAP. Ghana is ranging from 70% to 10% depending upon the objectives of the NAP. For example, in governance, Ghana has over 70% achievement, just because of political will and support from the presidency up to the senior level of the technical working groups. They have also carried out a KAP study in the poultry producing areas, hence have been able to follow through certain tasks in the NAP. So far have harmonized all protocols for the human sector, animals and the environment. All partners are to align with the NAP if they have to work in the health, animal and environment sector.

3.1.2 Malawi – Watipaso Kasambara – AMR Coordinator Malawi

Also reported to have made tremendous progress. From the last time when had similar interviews, Malawi had not launched its long awaited NAP, although it had been finalized. It got approved and from there, they have had momentum building with the ministry because of the strong will of the national coordinating members, some of whom were present in the conference. They have seen strong commitment from those members to drive their agenda in Malawi. Malawi has also done assessment of labs, and has also seen Fleming fund coming through to build up momentum in the country for the road map of country progress. That has also accelerated a lot of momentum in the country. The greatest achievement according to Watipso was the mainstreaming of AMR into the existing government framework. She noted thus,

> *"What has stood out, which is a great achievement and which need emphasis is the mainstreaming of AMR into the existing government framework. Malawi has managed to do that – to mainstream AMR to become a priority. We are called for meetings even for HIV and for many programs, because they critically understand that AMR is a challenge and the program can be incorporated into the system, and we can scribble through some resources together."*

Noteworthy is also that Malawi has been working with the research unit so that any research coming through has AMR as well. Having the visibility in that space has ensured that they are able to look at each and every research coming through for AMR. AMR has become a priority and the program has been incorporated into the system. She further mentioned that Zambia is part of the countries which WHO selected as pilot countries to test the AMR stewardship tool kit. Malawi has finalized the tool kit and the study and the report is out. The report has given a lot of recommendations; almost like another situational analysis. The initial situational analysis left out some critical issues – since they were on a learning phase. The study is helping in setting up agendas that the country can look into. The report highlights key issues, especially now as the country considers developing its own stewardship program. The country is already having discussions with other organizations to support them. The report highlights what is critical and what should start. These are some of the things that have given the country a road map on what next can be done and how they can be achieved, hence building momentum in the country as well as pulling stakeholders together to understand that there is need to move to work with a lot of urgency.

3.1.3 Madagascar – Carmen Randriamanampisoa, Assistante Technique à la Direction de la Veille Sanitaire, de la Surveillance Epidémiologique et Riposte

She reported that Madagascar finished the inauguration of NAP in 2018, and that the country has a multi-sectoral AMR coordination control committee. There are 40 members who participate in events to raise awareness about AMR. Integrated disease surveillance and response through the MoH. Give data for GLASS since 2017/2018. Surveillance helping laboratories in 6 regions. Have repeated advocacy with ministers. The NAP is adopted and integrated as a government program since April 2019. Preparing the launch ceremony on August 8, 2019. Hope that key stakeholders will be on the same page. This spells out commitment of national and international partners in the fight against AMR. It is expected to be implemented in 5 years and the project is around 30 million dollars.

Dr. Korir then narrowed down on to one of the big issues that came out from the conference last year. One of the issues was awareness, especially to the public when it comes to AMR, observing that awareness is still a key challenge. She then sought to found out from the 4 panelist if they have made any significant progress in involving the public to know about AMR. She wanted to know whether there has been any progress in increasing awareness to the public on AMR even as the countries continue to work on the NAPs. The panelists responded as follows:

3.1.4 Sudan – Mirghani Yousif - Head, Medication Safety Research Chair

Dr. Mirghani noted that for the last 6 months, Sudan has been struggling with political instability, but the work has to still continue as much as possible. With regard to the human sector, the country was in the process of completing the plans for its priority interventions. Overall, the plans are for interventions around behavior change. They were also in the process of collecting data on the different interventions as well as doing auditing for the interventions including the standard analysis. They were also doing surveillance on Antibiotic consumption. With regards to Fleming Fund; they are doing assessment for four laboratories in different states of Sudan.

And like in any other African countries, patients are paying for their own medication and are often looking for self-medication. One of the main part of the entire movement is to change the behavior of the public. Good effort has been done in Sudan to change their behavior and to increase awareness about AMR. To this response, Dr. Korir sought to understand the notable change from the public owing to this awareness. Dr. Mirghani confirmed in the affirmative that there is a change. He mentioned that these efforts have led to the establishment of a new collaboration between the universities, who are increasing the awareness on irrational use of antibiotics.

Dr.Korir then narrowed down to one of the big issues that came out from the conference last year. One of the issues was awareness, especially to the public when it comes to AMR, observing that awareness is still a key challenge. She then sought to found out from the 4 panelist if they have made any significant progress in involving the public to know about AMR. She wanted to know whether there has been any progress in increasing awareness to the public on AMR even as the countries continue to work on the NAPs. The panelists responded as follows:

Ghana (Boi Kikimoto) There is some improvement also in Ghana as reported by Boi. He observed that awareness was second to governance; have made a concerted effort to improve on it. Carried out a KAP study: awareness need to be targeted to different groups and the message has to be different. Have developed some materials targeted at various prescribers, physicians and pharmacist and those who sell the drugs. With the KAP interviewed around 112 farmers and realized that 53% have been using antibiotics just for prophylaxis alone not any treatment. 35% were using antibiotics to increase production and 8% using as growth promoters knowingly. Have now developed measures to educate them again. Decided to meet the

media (the editors first) – all media houses, especially the producers. Have engaged the editors first and then the Ghana's medical association. Doing something, but will still need to apply the tool more by the end of the year.

Malawi: Has made progress in awareness. Realize the need for the public to know the real life stories. They are focusing in telling stories so that people begin to know that there is a challenge. Malawi uses the media a lot. E.g. Investigative journalism on real life. Those are real life stories. This is helping the public to know what AMR is about. Keep telling the stories, have 2 journalist in in the country who keep telling the story both electronic and TV. Will try to ensure that there is visibility in the radio and TV. Will also continue to raise awareness within the stakeholders through the different platforms. Intend to develop print materials that will be sent to different stakeholders. But also raising awareness using conferences. Used that platform to raise awareness.

Madagascar: Already began to sensitize MoH using FB to send messages, but it is a few people who can have access to FB and the messages are in French. Use of other ways of communication to reach people. Have a lot of things to do. The problem is the instability in politics. When we do something with the former government in the new government, the politicians make trouble by sending messages that the previous government did nothing. Asking for help. Wait for the upcoming official launch to raise awareness; and inviting journalist. The issue of political instability and interference was highlighted in the last year's conference

After the panelist presented their perspectives on progress across the different countries they represented, Dr. Korir extended the invitation to any other country, which was not represented in the panel to share their countries' progress they had made since last year on their NAPs. Representatives from 2 countries, Togo and Zimbabwe shared the following updates:

Zimbabwe (Tapiwanashe Kujinga – Director, Pan- African Treatment Access Movement [PATAM]): National Action Plan approved in 2017. Started working on implementation Surveillance strategy and it is across sector. Within surveillance Have been working through the GLASS system and the ATLASS system, which assess the capacity of the laboratory centers and the Fleming fund has also come through will be investing in capacity building of a number of laboratories which will be involved in the system of surveillance. There is a consortium that was started by the Fleming fund which will also be collecting data from Zimbambwe. Have been sensitizing a number of stakeholders including the hospital doctors in terms of Antimicrobial use; and irrational use of medicine. Zimbabwe is also coming up with a framework for AMR research and development. This will help in mainstreaming AMR agenda. Also coming with communication strategy which will help to frame/craft the AMR agenda.

Togo (Prof. Salou Mounerou, AMR Focal Point, University of Lomé: In line with NAP. This plan is moving forward in Togo but in 2018, started the implementation of the same. Participated in various activities. Developed some tools in communication. The MoH in the month of March 2019 did a campaign in one health approach. Animal sector understood the danger of their activities. In the universities, whenever they go ensure that they understand the one health approach. Now have a partnership with national TV on One health now. Before people were coming to buy, but now.

Dr. Korir then asked the panelists to share their commitments that they would be coming to report in the next conference, come next year 2020. The panelists share their thoughts as follows:

- ✓ Sudan: Looking to complete what they have began. Complete the analysis and also to complete what they are missing with regard some facilities. Looking forward to a stable country
- ✓ Ghana: By next year will be coming up with data. Will be coming with real data.

- ✓ Malawi: See real action. Most of the member states there is political statement, but no real action, no financial commitment. What is the government doing. Is it investing into AMR? Is the government really committed? If we don't make this sustainable we cannot win this war. We should be able to use available
- ✓ Madagascar: Efforts to involve the ministry of environment and ministry of livestock. Most of the partners involved for now come from human health. Hope that next year many partners from Agriculture and other ministries will come in. After the official launch of the NAP hope to implement a campaign to raise the awareness.

3.2 Breakout Sessions

Dr. Korir explained the breakout sessions activities to the participants before releasing them to their respective groups. The Group chairs were: Japhet Opintan – Senior Lecturer, University of Ghana; Yara Mohsen – Infectious disease Clinical Pharmacist in charge of the AMS Program – Joint Commission Accredited Hospital, Egypt; Steve Kisembo – Medical Director – Bethesda Hopital/CBCA, DRC; and Kusu Ndinda – Country Project Director, MSH/MTaPS, Kenya.

In all the groups, participants were asked to describe how AMR was affecting people in their country and what the progress was in implementing NA from the last conference held in 2018. The objective of the sessions was to steer a discussion into letting the participants identify how AMR is connected with many aspects of UHC and making them aware of the impact AMR is having and will have on achieving the goals of UHC. The sessions were also aimed at harvesting national examples of the consequences AMR at different levels of the national system. The questions explored included: What programs are there in your country that address UHC? Does your country have an AMR national action plan? How is AMR affecting your country? Where are you in your NAP implementation process? How will AMR affect the achievement of UHC in your country? What areas are affected in your country for UHC because of AMR? What are the consequences at different levels of the national health system? How is AMR affecting your health systems? This was a 40-minutes session, with discussions happening within the 4 groups with members representing different countries.

While all countries have UHC programmes, these are operationalized differently by different countries. The following were some of the updates from selected countries which were represented in the various groups:

Participants at a breakaway session

Group Discussions Chairs:

3.2.1. Japhet Opintan - Senior Lecturer, University of Ghana

Group 1. Participants were drawn from Togo, Cameroon, Niger, Liberia, Zimbabwe, Rwanda and Cote d'ivoire

- **Cameroon:** The implementation of UHC programme to begin in 2020 and intended to focus on vulnerable groups like People living with HIV, children under 5, and pregnant women. The AMR National Action Plan (NAP) was launched in 2018. There is also ongoing work in collaboration with the National Health Public Laboratory, which involves supervision of laboratories (using diagnostic criteria) and pharmacies, where accreditation is based on good medicine supply.
- **Niger:** The country has worked on creating awareness on UHC. The national roadmap was put in place in 2015. However, sensitization only begun in June 2018 during a scoping mission by WHO. The AMR NAP was validated in December 2018 through the WHO and Global Fund support. Unlike the usual scenario in many other countries, other sectors are more active and pushing for the implementation of NAP, compared to the human health sector. The country has also recognized the importance of laboratory work in addressing AMR. Consequently, the country is in the process of identifying a national surveillance laboratory as well as training laboratory staff for AMR diagnostics. There is no much change in addressing AMR at the moment, but awareness has increased.
- **Cote d'ivoire:** Since 2004, the national surveillance system has been in place. 26 laboratories, both public and private, are already installed under the programme and are reporting to the surveillance system. These laboratories include veterinary laboratories and environmental laboratories. Recently, CDC and GHSA have come in to provide support to the system. The country adopted the UHC concept a number of years back and a lot of meetings on UHC do occur. UHC stakeholders do address AMR, although there is no laid-down/written down protocol that indicates synergies within the 2 programmes.
- **Togo**: The country is currently implementing UHC via objective 3 – on infection prevention and control (IPC). There is a national insurance cover for health services offered

in public facilities since 2010. The laboratory/diagnostic fee is however not covered by this national insurance, with the impact driving AMR.

3.2.2 Yara Mohsen - Infectious disease Clinical Pharmacist in charge of the AMS Program- Joint Commission Accredited Hospital, Egypt

Group 2. Participants were drawn from Ghana, Uganda, Liberia, Burkina Fasso, Gambia, Zimbabwe, Benin and Kenya

- **Liberia:** The country has a UHC policy in place as most of the countries do. Diagnotics also cuts across in terms of irrational dispensing of medicine, which in turn affects UHC.
- **Zambia:** Has UHC but point of access has fees.
- **Benin:** Has done a lot of awareness raising.
- **Nigeria:** In Nigeria most people are self-prescribing as pharmacies are mostly not registered.
- **Kenya**: In Kenya UHC is not yet implemented because of government bureaucracy and physician patient ratio being a challenge.

3.2.3 Steve Kisembo - Medical Director- Bethesda Hospital/CBCA, DRC

Group 3. Representations from DRC, Ghana, Tanzania, Kenya, South Africa, Sudan, Cameroon, Malawi, Uganda and Zimbabwe

- All the 10 countries had NAPs, but two have not started implementing their plans.
- **DRC:** The country has a NAP already, but still waiting for validation for implementation to start. They have also started creating a national insurance on UHC in different provinces.
- **Ghana:** National Health Insurance started in 2006, with free maternity. Currently, out of 28 million nationals, about 18 million are insured in the health cover. For every expense, a certain percentage is deducted as health tax.
- **Tanzania:** All employers are required by the government to enroll staff in the health insurance cover. Currently, a national policy has been set, which aims to achieve UHC. Each family is expected to enroll into the community health fund. There is a lot of political influence towards enforcing UHC in the country through advocacy. 40% of the residents have already been enrolled into the fund. It is estimated that by the end of the year 2019, at least 80% will have enrolled.
- **Kenya:** UHC is one of the big 4 agendas currently being implemented by the Kenyan government. The government has implemented a pilot project in at least 4 counties in 2018 and currently preparing for full scale-up to the 47 counties. The plan is to involve community health workers (CHWs) to mobilize families to enroll. The population shall be issued with a special card to enable them access health services free at the health facilities. However, there is a challenge of increasing demand. A clear advocacy plan for better understanding, and also creating a better financing model for better scale up will be vital for this process.
- **Zimbabwe:** The country has noted 7% resistance to Salmonella, with outbreak noted in early 2019, and surveillance on more than 80% of the population.

- **South Africa:** National Health Fund is in place and a population of about 5 million people is covered. Challenges with the funding model – public versus private sector. The basic provision of essential health care should be provided from the private health care.

3.2.4 Kusu Ndinda - Country Project Director, MSH/ MTaPS, Kenya

Group 4. Countries represented include Namibia, Nigeria, South Africa, Tanzania, Rwanda, Uganda, Sudan, Namibia, Cameroon and Zambia

- All the countries represented had NAPs.
- **Nigeria:** There exists a National Healthcare Act, which provides for basic healthcare provisions. A good amount goes to states and 50% goes to the national insurance scheme. The National Strategic Health Plan supporting the most vulnerable section of the population. Many of the NAP interventions are not translated into broader community level action.
- **Tanzania:** There is a NAP and actions are moving on – initiatives to rationalize prescriptions. Efforts are on to increase the one health nature of NAP. NAP is being implemented with focus on public engagement. The implementation is also robust in agriculture. For instance, the regulator does not register products meant fo growth promotion. Communication Plan is also being prepared. UHC is being provided through the National Health Insurance, but there is a co-payment needed. There is an Act that is expected in the year that provides for UHC. Incidence of resistant cases is going up. This is also the case for agricultural sector. This is causing higher mortality and morbidity; apart from increasing the cost of care.
- **Rwanda:** There are multiple insurance schemes, which are available. Most of them need a co-payment. There is also a NAP for AMR in place. Prevention programmes have got enough priorities, most of which are school-based and aimed to prevent communicable diseases.
- **Sudan:** There are provisions for ensuring subsidized care to the people, but these initiatives are far from optimal. NAP is in place and it is being implemented through a 'one health approach.'
- **Namibia:** AMR is becoming a problem in the farm sector. Initiatives have been started to tackle the issue right from the farm level. In human sector also, antibiotics are becoming redundant. There are issues of competing priorities. For instance, drought is taking away most of the resources. So, NAP implementation is not moving as fast.
- **Cameroon:** Porous borders and over-the-counter medicines are a huge problem. The other challenge is late presentation to health facilities and absence of standard treatment guidelines.

- **Southern Africa (multiple):** Time span available for development of NAPs was very short, coupled with limited involvement of stakeholders in the NAP development process. Therefore, NAP implementation is becoming difficult as there is no ownership.

Key Take Home Messages:

- Some system for subsidized medical available in all countries, but grossly insufficient and does not cover the whole spectrum of healthcare demand.
- New UHC initiatives are in the pipeline in most of the countries, but financing is still a concern.
- NAPs are there in most of the countries, but there are a lot of challenges in the implementation.
- There is a lack of ownership of NAPs among various stakeholders, as the process of development was not optimal.
- There is a need for localized plans of action, which can be achieved by breaking down NAP into smaller packets.
- Addressing AMR is an essential part of UHC initiatives, as AMR can affect the timeline/costs needed for UHC. But we need to explore issues like malnutrition, IPC, access/excess etc. more carefully.
- We have unrealistic expectations in the NAPs. The solutions have to be tailored to the local contexts; and should have extensive involvement of the local communities and community health workers.

Participants listen attentively

Session 4 – Perspectives on context of issue: Exploration and prioritization of AMR within UHC at country level - Moderator Mercy Korir Anchor KTN

4.1 Plenary- Panel Discussions

This was a panel discussion with representation from Cameroon (Deli Vandi, Director Department of Drugs, Pharmacy and Laboratories; Ghana (Peter Yeboah, Executive Director Churches Health Association of Ghana); Tanzania (Elizabeth Shekalaghe, Registrar Pharmacy Council); and Kenya (Evelyn Wesangula, MOH Kenya, AMR Focal Point). Questions were posed by the moderator and the panelists expected to respond in turns. The questions and the respondents perspectives are highlighted below.

Question 1: *Is it possible to prioritize AMR within UHC?*

Cameroon: The panelist noted that it is possible to prioritize AMR within UHC. For Cameroon, NAP for AMR was endorsed in 2018. While AMR is their top priority they are not letting UHC. They intend to move with the two programmes together. According to Cameroon's government agenda, UHC begins in 2020.

Ghana: This year (2019) the country developed a road map for UHC. That road map is to look at where Ghana is in terms of UHC, where they want to go and strategies required to achieve the desired results. There are seven key areas in the roadmap, and AMR is part of it. There is a strong political goodwill – the President launched the policy. Ghana came up with 20 action points. Out of these 20, AMR features under research and development on how to address AMR. The government looks at this as an opportunity to promote this as part of UHC. The Government considers this as relevant as 40% of the national health budget is on medicine.

Tanzania: Expect UHC bill to be tabled in parliament in September 2019. Currently have community health fund and national health insurance as a show of commitment to UHC and AMR agenda ("we cannot avoid prioritization of AMR.") The current priority is to move towards the enforcement of NAP for AMR. Before the action plan for AMR, all their legal framework had already mentioned the need to prioritize on AMR. They hoping that, coming in to 2020, everything would be in place.

Kenya: After piloting UHC in 4 counties over the last 2 years, the country has learnt key lessons that has convinced them that it is possible to implement UHC. 4 key results areas that have brought the conviction include: 1) strengthening of health work force as a result of UHC; 2) strengthening of the medicines and commodities (one of the challenges has been interrupted supply of lab reagents) - looking at medicines; 3) strengthening the review of medicines. AMR secretariat is represent in the national essential medicine committee. There are many opportunities that can be plugged into; and 4) strengthening of PHC and engagement of communities. Dr. Wesangula underscored the importance of community engagement, noting that without it, there will be very little that can be achieved on the AMR issues. All these components will be financed by the government.

Question 2: *One of the issues that came across in the last year's conference is financing. What more can countries do to make UHC a reality and also AMR conspicuously visible?*

Kenya: Sees opportunity for increasing taxes on beverages that contribute to communicable diseases, but the financing model is still being discussed. The other thing is reframing the AMR story. This has to do with, looking at the cost of infection and modeling what that would mean in terms of financing AMR and UHC. Generating data that can speak to financial modeling. Even just demonstrating the percent of funding towards antibiotics.

Tanzania: Recognizes that finances cannot be enough. Hence, argues that AMR should be integrated within the existing government health management system. Once it is integrated into the existing programmes then it is possible to sustain the momentum. They also advised for the need to educate the public so that they can be prevented from unnecessary infections and diseases.

Ghana: Ghana adopts partnerships as a strategy for sustained financing. In developing the UHC framework, all stakeholders/agencies came together. It is out of this framework that each agency takes their plans. They also appreciate the untapped opportunity within the churches and the mosques. Since Christians and Muslims constitute 80%, churches and mosques can used as a platform for continuous awareness. Ghana has placed AMR under training and research department. One of the recommendations is that the issues of AMR should be incorporated in the curriculum of the institutions.

Cameroon: Reiterated the fact that financing is a key issue. The country is only sure of just about 35% of finances of what is needed to implement UHC. They would continue promoting good prescription practices, good quality assessment, as well as good treatment policy so that they can have good AMR and UHC programmes.

Breakout session

This was the second breakaway session of the day. The sessions were chaired by the Session 4 panelist, namely Deli Vandi (Group 1), Peter Yeboah (Group 2), Elizabeth Shekalaghe (Group 3) and Evelyn Wesangula (Group 4). The aim of the session was to know the priorities of countries when it comes to implementing UHC actions. This exercise was to help the participants to rank what aspects of the work within UHC that they would prioritize the highest. In each group, the participants were to capture an overall agreed ranking of prioritization (the common view), but also capture specific national differences and disagreements if there was lack of consensus. They were also expected to capture the opportunities, relevance, acceptability and feasibility of incorporating AMR perspectives into each of the UHC activity areas. Through the group chairs the participants explored a number of questions, including: How do they go about prioritizing? What factors do they consider normally while prioritizing health topics? Do they prioritize per department or in general? Is prioritization done per disease or per part of the health system? Is there a specific/separate process for AMR? What role does financing/the Ministry of Finance or National Treasury play in prioritization? How do they think AMR interventions could fit within current priorities? What would be the most feasible and low-cost intervention on AMR? The highlights by group are discussed below.

Group 1. Participants from Burkina Faso, Togo, Cote d'ivoire, Cameroon, Liberia, Zimbabwe and Rwanda

How do the countries prioritize given there are competing demands in healthcare subsectors?

- **Zimbabwe:** Applies the principle of 'first in, first out, no prioritization. Low hanging fruits prioritized because they're easy to implement with low resources
- **Uganda:** In Uganda, the public health planning considers impact of the action. The degree of change it may cause. Political, cultural factors also influence some of the decisions. Existing programmes, healthcare issues with highest impact are given priority, for example Malaria, TB and neonatal issues like diarrhoea. Existing frameworks e.g. Global Action Plan.
- **Liberia:** In Liberia, maternal and neonatal health considered at the fore in the decisions.
- **Rwanda:** In Rwanda, equity is key. For instance, community health insurance had to prioritize equity and other factors like maternal and neonatal health.
- **Burkina Faso:** The first consideration is the affected population and the impact of the intervention - the bigger the better. Funds also come into play in the decisions. There's free healthcare for kids under 5 and priority is in terms of mortality and morbidity.

Is the AMR part of the priorities? And do the above-mentioned factors considered in prioritizing AMR?

- Consequences of AMR in public health makes it a priority in interventions.
- **Zimbabwe:** Faces less commitment by finance ministry as in other African countries. Hence financing for AMR is low.
- Because AMR is a new area of priority, e.g. laboratory capacity needs financial interventions.
- **Uganda:** Prioritizes AMR in referral hospitals, but there's weakness in animal health laboratories. Public health has integrated and institutionalized AMR work.
- **Liberia:** The public health law has been amended to integrate AMR activities in the country.

What would be the most feasible low cost intervention on AMR?

- **Ghana:** In Ghana, 94% of healthcare services delivered at primary level. Hence achievement of AMR objectives have to be integrated in the systems for all decisions being made. This is because it is the districts that implement, and not national or regional governments.
- Advocacy is the most feasible.
- Hand washing in hospital and out of hospital settings is the cheapest AMR intervention.
- There's no one answer to the question. There is need to use the information and evidence we already have to model these kinds of interventions, hence may be different models in different settings. Depends on each country's interest. Hence strategies have to be developed contextually.
- Change of attitude to start working in unity and for each other will do it.
- AMR education should be included at health facility level.

Group 2. Participants were drawn from Ghana, Uganda, Liberia, Burkina Fasso, Gambia, Zimbabwe, Benin and Kenya

- **Access versus excess**. Majority of our countries' populations are not able to gain access to much needed antibiotics, especially in the public health facilities. Paradoxically, at the same time, same populations are able to access antibiotics without a doctor's prescription,

for the wrong indication etc. There is therefore need to strengthen supply chain. However, there is need to be aware of our situations in the different country contexts

- Priorities differ from country to country, though AMR ought not be taken as a stand-alone, but as an integrated programme.
- Most of our countries generally treat empirically (and this is allowed per national guidelines). However, indication for antibiotic use must be informed by the lab test or symptomatic; that is, indication (rather than prophylactic) treatment must be there for any antibiotic that is prescribed. Thus, the need for budget to prioritize labs rather than current bias towards medicines. The minimum requirements should be enforced to have certain infrastructure. For example, level 3 must have labs etc.
- Another suggested solution is **'restriction of antibiotics as per AWaRe'**, where 2nd and 3rd line antibiotics use are restricted.
- There is need to **develop a strong economic case** and engage the Ministries of Finance; integrate national and subnational level strategic health plans (county, provinces etc.). Additionally, while budgeting and planning, there is need to incorporate AMR in all intervention budgets in the different one health sectors. Each of the relevant department/sector should refer to the NAPs and budget in line with the objectives.
- As we address AMR, we must keep in mind that **AMR is a priority that fits within other priorities**. For example, if the identified intervention is in training and strengthening laboratory capacities, say specifically in diagnosis via microbe identification, then this should go on to addressing and building capacity on sensitivity testing rather than stop at microbe identification.
- Involvement of **professional councils and regulatory frameworks** – is also a plausible low cost intervention that would address and mitigate the sale of substandard quality antibiotics in open markets.
- Incorporate AMR in pre-service training and at all education levels.

Group 3. Representations from DRC, Ghana, Tanzania, Kenya, South Africa, Sudan, Cameroon, Malawi, Uganda and Zimbabwe

How do we go about prioritization in UHC? What factors do you consider when prioritizing health topics?

- Need to link the discussion to what's vital. For instance, at the moment essential needs are those that go towards sustainable development goals (SDGs) and UHC – mother and child protection.
- It's not possible to prioritize effectively without mapping out UHC gaps. Every country has very different problems, so mapping the gaps is the absolute first step and then link it to where you want to go. Unless you have mapped your gaps, you cannot prioritize effectively.
- Think more about basic interventions that are low-cost but with great impact, like IPC and WASH. These are things on the preventive side. Hand hygiene, for instance is low cost but the impact is great.
- The group also discussed mapping current capacity at the country level around diagnostics, human resources, built environment, etc.

Do you prioritize by department or in general? Is prioritization don by disease or part of the health system?

- Prioritization is more effective if AMR is a cross cutting process. When talking about UHC, like AMR, there is not one department or sector that has preeminence. Each one feeds into the other and impacts each other. **Cross-cutting prioritization process would be more efficient and effective.**

Is there a specific or separate process for AMR with respect to prioritization? Would it be similar or together implementing AMR processes?

The discussion went back and forth between separate and together processes and ultimately decided that it was necessary to have parallel mapping processes and look at it both separately and then more holistically.

- While UHC is the broader umbrella, AMR has components that resides within UHC, so there is need to find out where UHC-AMR components reside. The AMR components should map to UHC. If you do not engage in a parallel process, people working in UHC may not necessarily be thinking of AMR. Consequently, we still need to ensure that the component of AMR has been covered – cannot assume people are prioritizing AMR in UHC.
- There is need to have all the strands working together – look at holistic perspective, so that AMR does not derail the road to UHC.
- HIV team is trying to find space under UHC banner. Separate mapping exercise to ensure specific sector goal is met, but in the broader context under the national or regional or global level plans.

What role does financing play in prioritization? Does the Ministry of Finance or National Treasury play a role in financing and what role does it play?

- The Ministry of Finance/National Treasury plays a critical role when it comes to prioritization. They all need to be part of the process, not only to help with costing. That way, they will be able to, for example, levy a special tax and determine premiums, if health insurance is going to cover for that.
- There is need to do more in terms of communicating AMR in financial terms, and not at later stages as is practice. Proper preparation has also to be done prior, with clear emphasis on its impact on the economy (particularly, with regards to return on investment or cost savings). Inviting them without this information might confuse them and end up doing more harm than good. Some of the strategies for involvement include:
    - Bring finance people in the room in AMR meeting committees. Bring them the data – they will need to see data
    - Package AMR in a way for people on the outside so they can enter the conversation.

Key Takeaways: Group 3

- **Link to essential needs**. At this moment, essential needs that goes to development of SDGs and UHC—mother and child protection. If you link AMR to that, we know the resistance is hugely prevalent in those, we might prioritize, have a listener or policy maker to hear the issue around it. Considering the population: mother and child
- **Mapping UHC gaps in each country** because you realize each country is different. Unless you have mapped your gaps, you cannot prioritize effectively. Map current capacity at the country level – diagnostics, human resources, built environment, etc.
- **Cross-cutting prioritization process** would be more efficient and effective – systematic. Specific for AMR
- **Need to do more in terms of communicating AMR in financial terms.** Figures and impact on the economy. Package AMR in a way for people on the outside so they can enter the conversation. Don't invite finance teams to meeting and confuse them – doing more harm than good. If we don't have numbers, what are we doing to do collectively to get the numbers?
- **Hand hygiene** was selected by the group as the most low-cost, high impact intervention to address AMR. This can also include engagement of private sector providers – e.g. Lifebuoy providing funds for hand washing; community engagement; and communication & education.

Group 4. Countries represented include Namibia, Nigeria, South Africa, Tanzania, Rwanda, Uganda, Sudan, Namibia, Cameroon and Zambia

- **Namibia:** Country level priorities should be decided based on the local needs. For example, AMR agenda cannot be pushed when the country is going through a natural disaster or drought.
- **Nigeria:** Facilities at secondary and tertiary care centers were assessed. On the basis of this, facilities were categorized as red, yellow and green-based on external support needed. National AMR surveillance system has 12 centres now – 4 more just enrolled. Reporting is happening through WHONET.
- **Sudan:** There is a health information system in place; and AMR was integrated into the system. There are already existing systems for disease surveillance – resistance data was incorporated into the system.
- **Kenya:** IPC and AMR based activities have been taken as priorities. Capacity building has been done at multiple levels. The support is being offered by various external groups.
- **Cameroon:** Parliament are possible through pressure from multiple stakeholders. In Cameroon, Faith Based Organizations (FBOs) are powerful enough to influence government decisions.

Key Takeaways: Group 4

- NAP implementation has to happen in a truly 'one health' manner for it to be successful
- AMR should be placed as a priority not just a plan. Convince administrators that AMR can waste away valuable public resources spent on other health domains and should be addressed.
- We need a feedback system for the data collected. There is also need to incentivize reporting of data.
- Use existing systems, it can become cost-effective and administrators become amenable.
- The NAPs can be aligned with the National Health Plans, so financing becomes easier.
- Parliamentary (National Assembly) interventions are also possible, than approaching Finance Ministries directly.
- Opportunities should be used effectively and we should place ourselves as helping out the government to achieve its commitments to international community
- Use the political commitment when its available or where it is available

Package the AMR story into strong messages, which can help the decision makers to make a commitment

Feedback from the breakout sessions (Session 4)

- Priorities differ from country to country. Some of the countries, much as they had the plan, something came up and they cannot doing it.
- Other stakeholders other than the MOH need to be taken on board.
- There is need to advocate for the political will, the only way the plans can be implemented or realized.
- Package the AMR story into a strong message.
- You cannot be able to prioritize effectively if you have not mapped your UHC gaps.
- According to finance, should development national and sub-national financing strategic plans; an example from Kenya. Incorporate AMR in all development so that every department can incorporate AMR in their priorities.
- Incorporate AMR in pre-service trainings
- We need to build a case for investment; data for economic impact; build in the financing aspect into AMR discussion
- Make a case for investment on AMR before it is too late and cost us a lot more.

4.1.1 Cameroon – Deli Vandi, Director Department of Drugs, Pharmacy and Laboratories

Highlights:

- It is possible to prioritize AMR within UHC
- AMR NAP endorsed in 2018

- According to Govt agenda UHC begins in 2020
- We will move the AMR and UHC strategies together

Health financing for UHC & AMR:

- There is only about 35% of financing for UC. However there is need for good quality assessment; good treatment policies.

4.1.2. Ghana – Peter Yeboah, Executive Director Churches Health Association of Ghana

Highlights:

- Ghana has done a roadmap for UHC (2019) to look at where UHC is at, where we want to go and what strategies we need.
- 7 areas in the roadmap; 20 _____, and AMR is part of it
- Ghana politically backs AMR – President launched the strategy
- Relevance: the govt considers this as relevant 40% of the national health budget goes to medicine

Health financing for UHC & AMR:

- Adapting partnership with all other depatments/ministries
- Untapped opportunities of Christians and Muslims – use them to create awareness – a free service
- AMR was placed as a research, innovation & _____ in the policy.
- Improve quality checks

4.1.3 Tanzania – Elizabeth Shekalaghe, Registrar Pharmacy Council

Highlights:

- A priority
- UHC - Sept 2019 – Bill will be tabled in parliament
- Community health fund and _____
- The legal framew

Health financing for UHC & AMR:

- AMR should be integrated into existing programmes.
- As the govt is committed to funding UHC, them it can be integrated into that
- There is emphasis on prevention of disease

4.1.4 Kenya – Evelyn Wesangula, MOH Kenya, AMR Focal Point

Highlights:

- Yes
- UHC was piloted in 4 counties – the lessons learnt has shown that it is possible to add AMR into UHC roadmap

Result areas

- Strengthening of health workforce as a result of UHC
- Strengthening of medicines and commodities
- UHC plan will strengthen the review of the medicines and essential medicines
- Strengthening of PHC and community systems

Looking forward to leveraging in all his ways especially UHC

Health financing for UHC & AMR:

- Taxing betting
- Taxing soft drinks that are contributing to NCDs

What more needs to be done to make AMR as a conspicuous part of UHC

- Costing it and modelling what that will look like
- Demonstrate that addressing AMR is cost-effective and sustainable way of saving funds

Reception by Wellcome Trust

A reception to welcome the participants to the conference was held after the sessions on day one, hosted by Wellcome Trust. There was a celebration of the 5th Anniversary of ReAct Africa.

Conference participants at the Wellcome reception

The cutting of the cake by selected conference participants led by the ReAct Africa Director, Dr. Mirfin Mpundu (on the right)

Participants at the receptio look on

DAY TWO – 24TH JULY 2019

Support from Funding Agencies

The day began with a recap of day one discussions done by Tracy Muraya (ReAct, Africa). This was followed by presentations were made by two funding agencies.

Fleming Fund- Lucy Andrews, Head of Fleming Fund

The presenter introduced The Fleming Fund as a 265 million UK government commitment to building partnerships in Africa and Asia to help generate and share AMR data always through one health approach. She then explained why AMR is important the Fleming fund. "If left unchecked estimates are that 10 million people will die annually from 2050 and the majority of those will be from low-income countries where the burden of disease is greater. " The Fleming fund is keen on seeing the implementation of the NAPs, and supports the surveillance aspects of the same. The Fleming fund aims to improve the surveillance of AMR and generate relevant data that is shared nationally and globally. She then shared some of the key milestones achieved by the fund.

Wellcome Trust – Jeremy Knox, Policy & Advocacy Lead, AMR

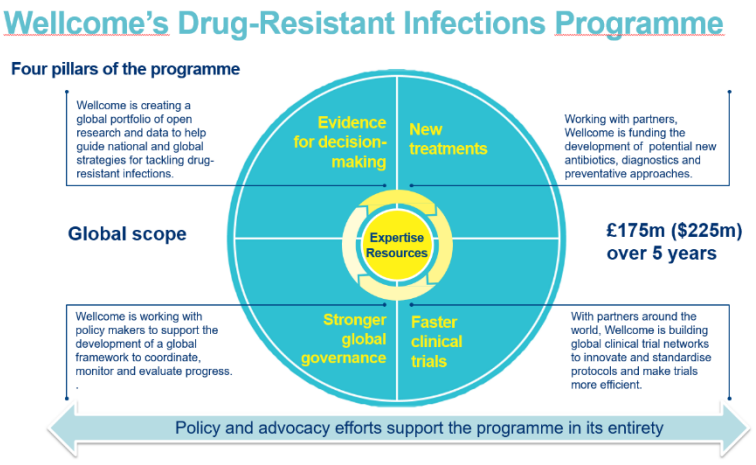
Wellcome is a global charitable foundation, both politically and financially independent. Wellcome's charitable activities have supported 14,000 people; in 70 countries. It has an expected commitment of £5 billion between 2016 and 2021. Wellcome works in three ways, namely:

- Advancing ideas –supporting great ideas and inspired thinking
- Seizing opportunities – to bring ideas together to make a difference
- Driving reform – to change ways of working so more ideas can flourish

AMR was one of the first challenges that Wellcome decided to take since 2017

Drug-resistant Infections Programme - Four pillars

- Evidence for decision- making
- New treatments (development of new antibiotics)
- Faster clinical trials
- Stronger global governance – engage with the global system



Next steps

- Initial programme planned to run 2017-2022 – but looking for opportunities for a second phase
- Scoping new opportunities over coming year

Question and Answer Session (Janet Midega, Patrick Mubagis, and Jeremy)

Jane, Uganda: Fleming Fund:
We cannot achieve UHC if we do not tackle AMR. Fleming Fund is concerned with laboratory enhancement, can Fleming Fund consider

- Work with countries to determine priorities – in Uganda has an activity related to ….at the movement don't have comprehensive data, but supporting countries to come up with a national surveillance system
- It is not enough to equip laboratories, it is also good to start talking about diagnostic capacity to strengthen…..it is not a full-scale stewardship
- Have a fellowship programme towards developing AMR champions at country levels
- Within the countries grantes there are activities related to training

What is the one policy statement, statistics that makes a difference looking to December?

- The WB study in 2017 is also helping to make a case that this is a problem that cannot be ignored.
- One of the challenges, we still don't have strong public mandate for action – we need to have public engagement
- Currently don't have numbers that can show the burden of AMR. …..it is going to look like the world malaria map

Freddy, Makerere University: Are there any plans to put efforts in AMR stewardship using the current model of training

- Wellcome is interested in behavior change
- Wellcome have 2 projects – same anti-biotics are used in growth of animal meat production. Doing a study
- Scoping for a project in antibiotics use ……teach and educate both the users and the sellers
- Have a behavior change project – encourage clinicians to always source proper diagnosis…..

Tapiwa –Zimbabwe: When you look at AMR there are so many components. Didn't you think there is need to build global fund for AMR

- Very keen to make sure they are coordinating efforts with the other funders
- As Fleming Fund, one of the key principles is alignment. Work closely with the development powers. Coordination and alignment at country is better coordinated by the national coordinating committees. Fleming Fund is country-owned, country driven and support country priorities

Mirfin: Country government are responsible of ensuring we align to our national priorities through our national coordinating committees.

Session 5 Plenary Moderator – Julian Nyamupachitu, ReAct Africa

5.1 Diagnostics – Revathi Gunturu, Head of Clinical Microbiology, Aga Khan University Hospital Nairobi

The presenter talked of the hospia where she works.
Highlights:

Point of Care Test (POCT)

- Some force is required
- Positive patient outcomes (PPO)

In the era Of increasing AMR

Need for speed is what is pushing us into problems

There are so many false positives

Current scenario in developing countries – AMR surveillance AMS implementation

1. Poor and broken-down infrastructure of public health care system
2. Lack of expertise in special clinical fields like neurology, cardiology and infectious diseases, intensive care, neonatology
3. Incompetent or frustrated HCWs due to lack of basic amenities like running water.
4. Irrational use of antibiotics and subsequent skyrocketing AMR due to syndromic approach
5. Scanty diagnostics

Break away Session for Diagnostics – Feedback

How do we prioritize diagnostics which can support stewardship in a low-resource setting?

- Look at the priority within the country – depending on the disease burden
- Get a test that can differentiate between a viral infection and a bacterial infection so as to avoid
- Microbiology is critical, but there needs to be support from allied lab e.g. heamatology and clinical chemistry
- Microbiology basics include basic bacteriology cultures – Sepsis blood cultures, stool tests
- Bio-markers for CRP, PCT
- Molecular biology – but this is a challenge for resource-limited settings.

Minimal diagnostics in an outpatient

- Promote clinical ecumen – clinical judgement
- Education of HCWs is important, with more capacity building at higher level laboratory facilities.
- Have an ideal referral system, and try and make that work as we build lab capacity and infrastructure
- Have levels of diagnostics and make them available

Challenges:

- Malaria dip-stick has been said to increase the use of anti-biotics
- De-learning of syndromic approach to avoid misuse of antibiotics

Primary based on prioritization	High level
- **Microscopy on TB** - **Blood culture** - **Stool analysis** - **Urine dip-stick** (any level of HCW can use this) **Key questions to address:** Could increase antibiotic use? Is it economic to refer the patient for further tests? - Continue syndromic assessment? - Referrals? - Infection control at the lowest level **Veterinary Practitioners Point of View** - Relies on information from the animal owner - Use a broad spectrum antibiotic - Sample and take to a referral lab – handle it with care - Uptake of laboratory services is not common because it is expensive - If one gets a farmer that is willing to go the whole way the there are options for referrals. - Small animal clinics are normally in the urban areas. - Infrastructure: there is a good network (7 regional labs 3 satellite in Govt.; several others in private practice)	Basic heamatology Basic Chemistry Basic Microbiology

5.2 Quality of medicines – Philip Nguyen, Director, Quality Institute, US Pharmacopeial Convention (USP); Advisor, MedsWeCanTrust Campaign (MWCT)

Back to basics is a non-profit organization and development partner and custodian of " medicines we can trust campaign". Emphasized the number of deaths that could occur if AMR is left unchecked. "What doesn't kill you will make you stronger. " This, the speaker emphasized is true of microbes". Inappropriate use and overuse in ranching, fisheries and agriculture is a cause ofor AMR.

Why Quality of Medicines matters in AMR

Exposure to sub-therapeutic environments that breed resistance:

- Low patient adherence/inadequate treatment course
- Substandard human medicines – medicines that are low quality
- Substandard animal medicines driving resistance

Quality Of medicines and AMR

- Medicine quality underpins strategies to combat AMR
- Poor medicine quality – overuse of last-line antibiotics

Complex interaction between the drug and the bug

- Resistance arises when the bug sees……
- At least a need for better surveillance……; reporting to GLASS…market surveillance…..
- We need drug-bug policies

What we need about substandard and falsified medicines…

- A broad, global problem
- Approximately 12% antibiotics in …..
- Antibiotics and antimalarials make up the two….

Poor Quality Meds bring global harm

- Approx. 30 billion USD is wasted

WHA Resolution on AMR: 2019 called for……

Solution: Investing in Quality-Assured Medicines & Systems Mitigates AMR

When Medicine Quality (MQ) is discussed in AMR NAPS, four notable themes emerge:

Break away Session for Quality of Medicines – Feedback

Quality of medicines – Merissa
Hypothesis 1: AB quality assurance
Hypothesis 2:

Research Objectives:

- Identify common themes and strategies
- Share experiences and learn from one another
- Adapt experiences into own country context

WHO's Guidance on Addressing Substandard and Falsified (SF)

Quality-related strategic objectives parallel the WHO prevent, detect, respond (PDR) Framework

Parallels between PDR Framework and Quality within NAPs

Case of Ghana:

- Quality woven into Ghana's NAP in a very comprehensive way
    - Improving manufacturing
    - Education and awareness
- Response
    - Collaboration with law enforcement agencies and low station owners

Implications

- Highlight the progress of and the process for implementing quality
- Inform and support other nations

Q1: What aspects of assuring AB medicines quality do you feel need to be prioritized
Highlights
Looked at regulatory capacity building e.g.

- Rapid detection of poor quality medicines
- Stakeholder collaboration
- Important to prioritize prevention; but should also tighten the boarders, but again since there are already fake medicines in the system and so need to enforce the regulations.
- Cross-country collaboration (Inter-country collaborations) – that will go a long way to improve the quality of medicines – boarders are too porous.
- Provide regulatory authorities with tools for quick detection of fake medicine
- Training for capacity buildling in order to reinforce best practice on dossier evaluation.
- Reinforcing detection: by quality control, routine inspection and pharmaco vigilance.
- Priority should be given on the quality of medicine

Q2: What would be helpful to learn from other countries' experiences in implementing their NAPs? For example, who should be consulted, what information is needed to inform the plans, how are policies and plans, how are policies and plans, how are policies and plans put into action?

- Country governments finance and supporting NAP activities
- Have behavior change interventions for prescribers and dispensers

Q3: Efforts to address medicines quality within AMR policies and plans

- Collaborating with government authorities in a network
- Have pre-qualified laboratories in some countries

WHO priorities (ref.…

- Strengthening of political leadership for strengthening of quality of medicines
- Strengthen regulatory capacity; the establishment of Africa Medical Agency
- Trained of 300 regulatory personnel
- There are 34 countries that have quality control laboratories and 21 of them involved in market surveillance
- Strong collaboration with EAC and IGAD
- Assess capacity of the regulatory systems
- TZ External evaluation conducted in 2018 confirmed that …..maturity
- Annual self-assessment (2018-2019) 55% of African conferences responded that they have laws or regulations on ……..animal use
- 74% they have laws on prescriptions …..human use
- 26% prohibiting the use of AB in animal growth …….without analysis..

Kofi: Regional approaches to regulatory and
" We need to do this under one Africa framework…" The one health approach.

5.3 Experience of regulation of quality of medicines within the UHC context- Zivanai Anthony Makoni, Senior Regulatory Officer, Medicines Control Authority of Zimbabwe

Experience of regulation of quality of medicines within the UHC context. The idea is to protect and promote public health by assuring that medicines marketed in the country are safe, effective and of good quality. Scope of prequalification includes:

- Limited to priority medicines as published
- Special authorizations 'exemption to registration requirements'

Session 5 -Breakout Sessions (Julian moderating)

Quality of medicines – Merissa
Research Objectives:

- Identify common themes and strategies
- Share experiences and learn from one another
- Adapt experiences into own country context

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- Highlight the progress of and the process for implementing quality
- Inform and support other nations

5.4 Developing empiric treatments for neonatal sepsis (Presenter: Dr. Monique Wasunna, Director for Neglected Diseases Initiative [DNDi] – Africa Regional Office) – Case of Global Antibiotic Research & Development Partnership (GARDP)

Global Antibiotic Research & Development Partnership (GARDP) is focusing on drug resistant bacterial infections on WHO priority pathogen lists with an objective to deliver 4 improved treatments by 2023 while maintaining a robust pipeline. Appropriate antibiotic use as well as access are also very important areas that will be addressed. There are two founding partners for GARDP, which are WHO as well as well as DNDi. GARDP has four main programmes: Neonatal sepsis, pediatric antibiotics, sexually-transmitted infections and memory recovery and exploratory including adults with serious bacterial infections. Since inception, GARDP has been successfully operating and delivery on its stated mandates. GARDP has built up a skilled team with expertise from a range of sectors. It has also now been registered as a Swiss Foundation whose board comprises of leading international figures in global health.

Key successes:

a) *Neonatal Sepsis*
- Started trials to understand correct dosage and safety of Fosfomycin.
- Launched a Global observation study to understand prescribing practices in 19 sites in 11 countries in partnership with St. George's University of London, Penta and hospitals across the world.

b) *Pediatrics*
- Developed an international clinical trial network
- Support the update of pediatric evidence-based guidelines
- Design and conduct Pediatric plans acceptable to regulatory authorities e.g. polymyxin B.

c) *Sexually transmitted infections*
- Leading the pharmaceutical development of an antibiotic for drug-resistant gonorrhea.
- On track to start phase III clinical trial in Africa, Asia, EU and USA later this year.

d) *Memory recovery, asset evaluation and exploratory*
- REVIVE: website has 120 experts registered; 755 participants have joined the 5 webinars organized to date; and published 6 blogs.
- Reviewed over 80 new chemical entities, new and 'recovered' drugs.
- Initiated projects to identify effective combinations to treat bacterial sepsis.

Neonatal sepsis causes a lot of neonatal mortality with 2.9 million deaths estimated in newborns, less than 28 days of life every year. Globally, the proportion of under-5 deaths in the neonatal period increased from 37.6% to 43.9%. Neonatal mortality now represents more than half of under-five child deaths in most regions of the world with one quarter of neonatal deaths due to sepsis.

GARDP runs a Neonatal sepsis AMR program (NeoAMR). NeoAMR is a global consortium to develop two new treatments for neonatal sepsis: 1) An empirical treatment for babies with possible serious bacterial infection in areas where drug-resistant Gram-negative (ESBL) pathogens are suspected (Target Product Profile[1] 1 [TPP1]); and 2) A treatment for babies where MDR Gram-

[1] TPP is a planning tool for therapeutic candidates, it outlines the characteristics of a target.

negative pathogens is confirmed (e.g. carbapenem-resistant K. pneumonia, or Acinetobacter spp((TPP2). TPP1 has been designed to meet the needs of the first targeted treatment. GARDP has identified the antibiotic fosfomycin as an initial candidate to assess in combination with other antibiotics as potential components for an improved empiric regimen.

Some of the challenges in the antibiotic research and development (R&D) environment include that little investment in new antibiotics as expected returns are much lower than other indications - no profitable market opportunities justifying cost of capital and loss of opportunities; pull mechanisms not yet implemented; current pathway of development does not guarantee that relevant needs/gaps are met nor ensure a sustainable model for access; difficult for governments to solve the problem in isolation, and challenging for them to pick winners and losers efficiently; and end-to-end system not in place – promising CARB-X candidates for examples need to have support in progress to patients.

Session 5 (Part 2 - One Health Moderator – Ann Mawathe, Africa Health Editor, BBC Africa

5.5 Are there any synergies within the One Health Concept and UHC – Emmanuel Kabali, AMR Coordinator, FAO, Zimbabwe

"One Health means different things to different people; there is no clear definition. It is about all the things that impact on human health. Is it everything else other than human health or also vice versa, the impacts on animal health and environment. It recognizes that the health of humans, animals and ecosystems are interconnected and so there is a need for a multisectoral and collaborative approach. When viewed correctly a UHC context, one Health concept is relevant to:

- Disease prevention
- Health promotion
- Effective treatment

5.6 Where are we and where should we be in the animal sector – Allan Azegele, Deputy Director Veterinary Services, AMR Focal Point, Ministry of Agriculture, Kenya

AMR threatens sustainable growth of the agricultural sector and in ensuring food security and trade across different economies. The impact of AMR in animal health includes:

- Loss of livelihoods
- Loss of productivity
- Loss of lives
- Expensive and prolonged hospitalization

Major gaps and challenges

- Governance and Multi-sectoral coordination due to multiple players
- Partner coordination and support is not well streamlined
- Economic investment and outcomes are not well described
- Political will
- Financing of programs, budget allocations, advocacy
- Human capacity/skills are inadequate to fully support the process

In conclusion therefore, it means that achieving UHC in public health is directly linked to animal, plant and environment health.

5.7 AMR and the environment – Mirza Alas, Programme Officer, Development, Innovation and Intellectual Property Programme, South Centre

Some considerations on AMR and the environment include risks of environmental exposure. The Global Action Plan (adopted in 2015) brought out that AMR could circulate between humans, animals and the environment. This could happen through trade, travel, and migration. Genes and some resistance can be found from circulating pathogens in the environment. Others include:

Aquaculture

- Antibiotics are generally added to the feed that goes directly into the water
- Exposure of a broader variety of bacteria to antimicrobials and this can generate resistance

Other environmental exposure routes

- Discharge from hospitals
- Runoffs from farms
- The discharge from pharmaceutical manufacturing facilities
- Waste management

Co-selection

- Antibiotics, biocides and metals
- Use routinely through society because they kill/inhibit bacteria – they drive resistance

Challenges for developing countries

- Phase out antibiotics as growth promoters and eliminate the use of medically important antibiotics in agriculture and aquaculture while ensuring productivity and retaining livelihoods.
- Increase research, and knowledge of how the environment facilitates the emergence, persistence and transmission of antimicrobial resistance and find ways in which these can be mitigated.
- Develop laboratory capacity.

5.8 OIE Strategies, Activities and Best Practices on the One Health Agenda- Jane Lwoyero, Programme Officer, World Organization for Animal Health (OIE), Kenya

The presenter began by explaining the one heath approach. OIE has had strong collaboration based on shared principles:

- Prevent and control emerging infections
- Strong collaboration based on shared principles (8 years on):
- Involved in the IHR – 2005 Monitoring Framework (JEE)
- IHR – PVS Bridging capacity-building (NBW)

OIE Global database on antimicrobial agents intended for use in animals. So far three reports have been produced. OIE contributes to communication materials. Other projects include:

- Disease surveillance programs in Africa
- Rabies elimination

- Vaccine bank
- Has authored books on one Health
- Involved in the Global HEALTH Security agenda (GHSA)
- Platform for early warning system (GLEW)

In conclusion, there is need for a multi-sectoral collaboration in controlling and managing health risks, which is well-structured

Question and Answer Session (Emmanuel, Allan, Mirza, Jane)

Question: Is it realistic to expect surveillance for AMR at the regional level and to give us some data that we can rely on?

- It should be possible with term. For IOE collecting data on use. Been collecting data at the national level, but will need to improve on to collecting data up to the farm level. So far get information on total amount of drugs used and the molecule
- FAO tries to set up systems for surveillance, see how member states can have support systems beyond just surveillance. Capacity building starting with the basics; develop some integrated surveillance systems. Globally working together as a tripartite. Looking at it from a country-based approach. The other intervention include doing pilot studies on various farmer groups.
- Besides SADIC working closely with CDC.

Question (for Jane): What are we learning from the 3 reports

- 3 reports have already been published. The information is collected from different countries, but are general reports.
- Studies giving a lot of lessons with regards to prudence use

Question: Where are we and where should we be in the animal sector? What are the measures that have been put in place that antimicrobials are used properly?

Question to panelists/WHO: If there is an attempt to do a regional AMR Work Plan

- Came up with a proposal of the regional action plan on AMR
- This regional plan has not be launched
- In April 2019 had the first regional tripartite meeting.

Question: Boarders on the use of antimicrobials; from among the feed millers. Without regulations, feed millers lace the meals with growth promoters. Is there a deliberate shift to address this issue?

- IoE: At the tripartite it is an important component in fighting AMR. There is a ban on use of certain generations on drugs as feed additives. It is however, up to the countries to put that into their own regulations.
- We also need to look at the driver of the use, which is actually the farmer. We need to talk about it as a problem so that it can be addressed. If there is sufficient hygiene the farmer will not require antibiotics.
- At national level there are initiatives to address this aggressively; the Kenyan case (ref.…). Use of any microbials on feeds must be on prescription only. Once you put up a framework and it is adopted by the government.

We need to start integrated

Session 6: Plenary- Case studies on UHC: Examples of UHC Implementation Moderator – Tracy Muraya, ReAct Africa

This was a plenary session involving four presenters. These were basically case studies related to UHC implementation in different country contexts particularly, Thailand, Nigeria, and Ethiopia. The session was aimed at seeing the different country's milestones, experiences and challenges as they implement UHC. The following are the highlights from the four countries:

6.1 **Universal Health Coverage in Thailand:** *– Satya Sivaraman, Communications Coordinator, ReAct Asia Pacific – Presented Philip Mathews Communications Coordinator, ReAct Asia Pacific*

Thailand is among few middle income countries globally that has a well-functioning UHC system. The main driver behind the Thailand's UHC has been the idea that access to free health is a fundamental right, an entitlement and the governments must take full responsibility. In Thailand, UHC has been implemented over several decades, being championed by civil society groups, health professionals and also key political parties. Currently the UHC policy provides a comprehensive benefit package, free at point of service for up to 98% of the Thai's population. The citizens have access through a geographically extensive network of primary, secondary and tertiary facilities. In 2015, public hospitals accounted for 75% and 79% of total hospitals and beds respectively in the country. And since 2002, out-of-pocket expenditure in the country has reduced from 27.2% to the current 12.4%. The UHC system has brought about several benefits including reduced infant and child mortality, HIV infections, and workers' sick days, along with other benefits. With UHC in place, Thailand has also been able to achieve all health related Millennium Development Goals.

In order to ensure adequate service to rural populations, Thailand's strategy has included recruitment of students from rural backgrounds; medical curriculum reflecting rural health problems; mandatory rural services by all doctors, nurses, pharmacists and dentists graduated since 1972; and financial and non-financial incentives such as social recognition for doctors serving in rural areas. They thus systematically eliminated all the changes that would have undermined the UHC rollout.

In 2010, the burden of AMR in Thailand was estimated to result in 3.24 million day of hospitalization and 38,481 deaths per year, and to cost 0.6% of the national GDP. AMR is also emerging as an important concern in the food-animal farming sector. In responding to AMR, the health authorities have been working on the AMR's driving factors such as nutrition, burden of infectious diseases, WASH, health literacy etc. for long. Over the decades, Thailand has successfully tackled the problems of malnutrition, ensuring clean drinking water and access to sanitation facilities. The country has also established efficient vaccination programs covering the biggest proportion of its population. Additionally, Thailand has created a network of over a million trained health volunteers who play a critical role in many public health initiatives.

The Antibiotic Smart Use (ASU) project, which started in 2006, was the first major initiative on AMR in Thailand. The project's objective to reduce unnecessary prescriptions of antibiotics for upper respiratory tract infections (URIs), acute diarrhea, and simple wounds. It used a combination of community mobilization, and policy level initiatives to tackle the problem. In 2009, ASU was adopted into the Thai UHC system's Pay-for-Performance (P4P policy), an initiative to incentivize health professionals to lower antibiotic use. The policy specified that the rate of antibiotic use for URI, acute diarrhea and simple wounds should not exceed 20%.

Key Takeaways:

- UHC and AMR are complementary
- Focus needs shift from access to quality of care and services.
- Moving towards firmer foundation for long-term AMR-related work in the national health system, necessary.
- We need accountability systems and so need to integrate everything. Changing the narrative to catapult our fight against AMR; health is a fundamental right to all citizens.

6.2 **Universal Health Coverage in Nigeria** - *Abubakar Aliyu JAFIYA, Nigeria Centre for Disease Control, Assistant Director Surveillance*

Nigeria is a lower middle-income country with a population of approximately 180 million people and a GDP of $522 billion. The health care system is largely driven from the public sector, but there is a substantial private sector involvement in the provision of health services. The country has over 34,000 health facilities. The primary care facilities are being supported by the local governments.

The goal of UHC adapted for Nigeria is to improve health status and health outcomes with the specific objectives to ensure adequate access to health care needs for all, financial risk protection for vulnerable women and children, quality assurance and citizen satisfaction with health services. To achieve these objectives, Nigeria monitors some target UHC indicators including: Total health expenditure should be at least 4%-5% of GDP; out-of-pocket spending should not exceed 30-40% of total health expenditure; over 90% of the population is covered by pre-payment and risk pooling schemes; close to 100% coverage of vulnerable population groups with social assistance and safety-net programmes; and at least, 80% of the poorest 40% of the population have effective coverage to quality health services. Performance indicators show that currently, the total health expenditure is at 3.7%, total expenditure as a percentage of total health expenditure is at 25%, life expectancy at 53, under 5 mortality per 1000 live birth is 109 and maternal mortality ration per 100,000 live births is 576; and less than 5% of the population are covered by any form of insurance. The country has however recorded some successes including that the country is at the verge of being declared polio free; the growing trend in ownership and use of insecticides treated mosquito nets – this is going to free a lot of resources; and there is increase in the fiscal space for getting money to do some of the UHC activities. For example, the government has earmarked 1% of all the consolidated revenue for the health sector (general tax/revenue; specific taxes, telecom levies, taxes on tobacco and alcohol etc.). The sector is also leveraging the private sector (PPPs, use of tax breaks and harnessing philanthropic interest – trust funds, matching grants, and social impact bonds).

Nigeria has been facing a lot of challenges towards UHC. The first challenge is structural in nature. The health system comprises of three independent tiers with no levers for accountability among the tiers. Consequently functions of each tier are not clearly defined and the constitution is silent on the roles of different levels of government in health services provision. Other challenges include emphasis on curative care with little focus on preventive care services as well as weak system levers; dearth of human resources especially in rural areas; fragmentation of programs due to multiplicity of implementing partners and development partners; funding gaps; poor coordination and insecurity.

The key levers towards UHC in Nigeria through the government include the National Health Act (2014); the National Health Policy (2016); the Basic Health Care Provision Fund (BHCPF); and 2nd National Strategic Health Development Plan 2018-2022 (NSHDP II). The NSHDP has 5 strategic pillars and 15 priority areas with the goal of reduced morbidity and mortality.

Key Highlights:

- Health is a fundamental human rights issue
- Access to health must be universal
- The panacea is the effective implementation of the NSHDP II and the BHCPF as well as country's alignment with regional and global strategies towards UHC

Basic Health Care Provision Fund (BHCPF) is administered through the provisions in the National Health Act 2014 with the main sources of fund being Federal Government Grant, donor funding and other sources including the private sector. The fund is distributed such that 50% is for BMHCP through insurance, 45% for primary healthcare and 5% emergency care. The services supported include ante-natal care; labour and delivery care including caesarian sections and emergency obstetric and neonatal care; family planning services; treatment of childhood illnesses; screening and referrals for non-communicable diseases such hypertension and diabetes; and malaria and TB treatment for adults.

6.3 Ethiopia – Yidnekachew Degefaw, Team Coordinator, MOH Ethiopia

The country has a total of population of over 100 million people, with 83% being a rural population. It is divided into 9 regional states and 2 City Administrations. Ethiopia follows a three tier healthcare delivery structure: primary, secondary and tertiary levels. The primary health care is composed of health posts (HPs) responsible for a population of 3,000-5,000 people; and health centers (HCs), which serves a population in the range of 15,000 to 25,000 persons, in the rural areas, and up to 40,000 people in the urban HCs. The country envisions to provide universal health coverage by 2035 through strengthening of primary health care. The objective is therefore to provide accessible, quality, affordable and equitable health care service to the people. In order to implement this, Ethiopia developed Health Sector Transformation Plan (HSTP), which is the first phase of envisioning Ethiopia's path towards UHC. The major successes this far include progress on the improvement of many health indicators which measure UHC from HSTP; maternal mortality has been decreasing; remarkable achievement on under-five, and infant mortality; maternal health indicators performance from routine HMIS (contraceptive acceptance rate, antenatal care coverage, percentage of deliveries attended by skilled health personnel etc. are all improving); and increased number of skilled delivery attendance. These achievements have been

made possible mainly due to the implementation of health extension program; expansion of the health centers; and introduction of the health insurance system.

Key Takeaways:

- Expansion of health centers plays a pivotal role for the achievement of UHC.
- CHBI is a promising pathway to UHC
- CHBI enhance health services utilization and creates pressure on providers for quality care
- Ethiopia has empowered communities to demand quality health services.

The health extension program (HEP) was designed to achieve universal coverage of primary health care particularly among the rural population and less privileged communities. HEP improves the utilization of health services through linking community and health facilities, particularly health centers. The components of HEP are family health, hygiene and sanitation and disease prevention and control as well as health education and communication. Currently, the MOH has established the Ethiopian Health Insurance Agency to plan, implement provide Community Based Health Insurance (CBHI) and Social Health Insurance (SHI) Program. The enrollment rate in CBHI currently stands at 38%. Some of the challenges facing the Ethiopian health sector include shortage of health work force; poor inter-sectoral collaboration during expansion of health facilities; limited engagement of private sector in the provision of primary healthcare, inadequate funding; health extension workers turnover; and issues of services covered by CBHI.

Panel discussion: Question and Answer session

The 3 presenters were invited into a panel to respond to questions and answers from the plenary.

Question 1: *Talked about financial risk protection for women and children, the 5% allocation is quite worrying, what your take on that?*

Response (Dr.Abubakar): In addressing UHC you look at vulnerable population and give them some form of free or subsidized treatment. This however does not replace other interventions for UHC. There is a fund that is available for states to access to improve on their existing health insurance schemes – they are supposed to bring a matching fund of about N100 million.

Question 2: *What are some of the innovations are you considering current resistant of organisms to fosfomycin, which is an old molecule (Cases of resistant have been reported in Zimbabwe)?*

Response (Dr.Wassuna). Yes, fosfomycin, is not a new molecule but when you are in drug development you go for low hanging fruits. You repurpose drugs as you develop new pipelines – currently fosfomycin is being tried out in children. That is why. There are many libraries that are going to be screened to see if there are any active compounds that could be pushed into the pipeline. That could happen in the next few years. Fosfomycin resistance in Zimbabwe is possible, and also in Kenya, but will not be using it a lone – it will be used in combination with other molecules.

Question 3: The issue of human resources. Is there an issue of attracting these people or shortage of technical workforce in Nigeria?

Human resources is an issue in the rural areas. There are wide disparities between states in the North and South, so this is an issue in some particular states.

Question 4: Drug resistance to gonorrhea, didn't see it on the chart, what are the plans in fixing this?

Response (Dr.Wassuna): Not aware of resistance, but it is true it is going to phase 3 of clinical trials.

Question 5: What are the thoughts around the entry of these molecules into the market, especially in the area of stewardship?

Response (Dr.Wassuna): Right now GARDP is involved in the issues of access by engagement, but there is no formal structure of what will happen. These are ongoing discussions with partners. But this is something that is critical. This is something under discussion.

Question 6: It is important to talk about the model of GARDP. It is a non-profit way of doing research and development. Trying to focus a nitche on the gaps. Tighten the question of access. Do we have a sense of how in Africa there is support for these initiatives?

There is support from the Africa governments but not adequate. For example South African Government is already involved in GARDP activities

Question 7: There is a tendency that bacterias will also fight and develop resistance. Is there a possibility to look back to old antibiotics?

Response (Dr.Wassuna): There is intention to look back. Antibiotic memory recovery and exploratory programs towards repurposing antibiotics. Looking into libraries and screening the chemical entities and trying them out whether they can be repurposed.

6.4 Kenya – Nancy Njeru, Officer at MOH Kenya, Department of Universal Health Coverage

Kenya did not make a presentation.

Question and Answer Session:

Question: directed to GaDP. What the innovation; financial risk protection for women and children

- This should not replace other interventions for UHC.
- There is a fund that is available for states to access to improve on their existing health care schemes; they are supposed to bring a matching fund of a bout 100million

Are you considering current resistant of organisms to ….protomaicin

- Not a new molecule; repurpose drugs as you develop your pipeline – protomycin being tried out for children.
- Resistance in Zimbabwe is possible and also in Kenya will not be using it alone

Is there an issue of attracting the workforce in Nigeria

- There are disparities in states and in rural areas.

Tapiwa: Directed to Monique: Drug resistant to gonorrhea

- Not aware of resistance….

Mirfin: what are the thoughts around the entry of these molecules into the market, especially in the area of stewardship?

- Right now GaDP is involved in the issue of access in engagement, but there is no formal structure of what will happen. But this is something that is critical. This is something under discussion

Vivian: It is important to talk about the model of GaDP. Trying to focus a nitche on the gaps. Tighten the question of access. Do we have a sense of how in Africa there is support for these initiatives?

Fidelis: There is attendance that bacteria will also fight and develop resistance.
Dr. Wassuna: there is intention to look back. Antibiotic memory recovery programs towards repurposing antibiotics.

Session 7: Plenary - Preventing and managing infections Moderator - Oladipo Aboderin Professor/ Honorary Consultant, Obafemi Awolowo University, Nigeria

This was a plenary session. The session involved presentations from four presenters on various topical areas related to IPC. These are highlighted below.

7.1 IPC, WASH, Immunization in UHC – Philip Mathew, ReAct Asia Pacific

Hospital Acquired Infections (HAIs) are infections acquired while in the health care setting with a lack of evidence that the infection was present or incubating at the time of entry into the health care setting. Poor IPC as well as increase in invasive procedures and AMR are blamed for the increase in HAIs. Between 5% and 10% of patients get admitted to acute-care centres per year in the United States acquire a HAI. At least 90,000 deaths per year are a result, making HAIs the fifth leading cause of death in hospital. The infections add an extra $4.5 billion to $5.7 billion per year to the cost of patient care in United States alone. Such conclusive data are however not available from many developing countries, but the disease burden is estimated to be higher.

Key Takeaways:

- IPC, WASH and immunization are integral parts of UHC
- All the three domains have a definite role in preventing infections, reducing costs and improving overall quality of health.
- IPC is a low-hanging fruit and is affordable to all developing country contexts. But the interventions need to be through a national programme which has accountability.
- WASH and vaccines need larger investments, which cannot be substituted by any other
- HAIs may be much more deadly than the same infection acquired from the community.

AMR levels have been worse in isolates from HAIs, as compared to community acquired ones. Most of the highly resistant strains like MRSA, VRSA and ESBL, emerged from healthcare facilities and were first isolated in HAIs.

7.2 Implementing National Antimicrobial Stewardship Programs in LMICs – Mirfin Mpundu

One of the major drivers of AMR is the use of antimicrobial agents. Promotion of prudent use of these agents is therefore necessary in prolonging the efficacy and curtailing acceleration of AMR. This involves ensuring access and appropriate use of safe and effective antimicrobials in the human, animal, agriculture and environment sectors. Antimicrobial Stewardship Programmes (ASP) involved coordinated interventions designed to measure and improve the appropriate use of antimicrobials by promoting the selection of the optimal antimicrobial drug regimen, including dose, duration of therapy and route of administration. The expected benefits of ASP include improved patient outcomes; optimized selection, does and duration of Rx; reduced adverse drug events including secondary infections; reduced morbidity and mortality; limited emergence of AMR; reduced length of stay; reduced health care expenditures; and promote equitable access.

Core elements of performance

- Leadership and commitment
- Accountability
- Drug expertise
- Action
- Tracking
- Reporting
- Education.

Some of the factors undermining AMS include lack of awareness, diagnostic challenges, lack of access to quality-assured antimicrobials, lack of policies and framework on AMS and economical and political challenges. To address these challenges, AMS interventions should focus on prescribers, patients, drug providers and general public. For successful implementation, AMS will therefore need to develop an AMS national framework for implementation; anchor the framework into policy; engage key stakeholders; put in place treatment guidelines and tools; and develop M&E tools.

Antimicrobial Stewardship – Yara Khalaf, Infectious Disease Clinical Pharmacist in charge of the Antimicrobial Stewardship Program, International Medical Center Hospital

The presentation was on implementing Antimicrobial Stewardship Program – case of International Medical Center Hospital, Egypt. The hospital applies the CDC core elements for antimicrobial stewardship including leadership commitment; accountability and drug expertise; implement policies and interventions to improve antibiotic use; tracking and reporting Antibiotic use and outcomes; and education. The hospital carries out continuous performance measures in order to track progress. The measures include percentage of Antimicrobial (monthly); percentage of Iv to PO compliance (monthly); percentage of surgical prophylaxis antibiotic compliance (random sample measured by infection control team on monthly basis); percentage of Antibiotics medication errors to total medication error (monthly); percentage of acceptance of antimicrobial related recommendations by the physicians from the clinical pharmacists (monthly); defined daily dosing (DDD) of antimicrobials (including restricted antimicrobials that require prior reauthorization from the clinical pharmacist (monthly); and percentage of resistance (annually).

7.3 Surveillance One Health – Otridah Kapona, Laboratory Scientist, AMR National Focal Point & Coordinator, Zambia

Key Takeaways:

- Integrate only where it is practically possible
- What is important is what you do with data – collection of data, integration of data…and use it for policy
- AMR may not be completely preventable, but we need to slow it down. It is all in our hands.

Presented the Zambia's understanding of one health surveillance. Zambia's One Health agenda focuses on awareness and education, surveillance and research, IPC and Biosecurity, optimizing drug use and investment in research and development. Surveillance is strategic number 2 which is to strengthen the knowledge and evidence base through surveillance and research. This objective is achieved through routine AMR surveillance mostly in human health and programmatic (mostly bacterial pathogens); GLASS enrolment (4 labs enrolled); Lab assessment/ATLASS assessment mission; laboratory training at KEMRI – 13 trained from all sectors (FAO/WHO supported); onsite microbiology/QMS mentorship; and honey residue control plan being implemented for honey exports to EU. Zambia has an integrated AMR surveillance strategy which focuses on AMR surveillance in AH, HH, PH and environment, build on past experiences, phased, leverage low hanging fruits, integrate data management system (FIND) and responds to draft SOPs for priority pathogens (FAO).

7.4 Role of Academia in UHC – Freddy Kitutu, Lecturer, Pharmacy Department, Makerere University Uganda

> "Health systems could be more effective in saving lives across a spectrum of conditions by improving quality of care along with expanding coverage."

The role of academia has to do with innovative teaching, learning, research and analyzing what is to be achieved. In research the academia is expected to generate knowledge around the unresolved research areas. Some of the unresolved research areas include: Essential health services (constituents, delivery arrangements, intended and unintended effects); care-seeking choice (public versus private ownership; mixed health system); utilization of health services versus effective demand; effective coverage; and economic evaluations (for example, what is the actual cost of intervening versus non-intervention?).

According to The Lancet Global Health Commission (2018), in 2015, 8.6 million deaths were recorded in 137 LMICs due to inadequate access to quality care. Out of these, 3.6 million did not access the health system, and 5.0 million sought care but received poor quality care. Poor quality care resulted in 82 deaths per 100,000 people in LMICs. These deaths led to USD 6 trillion in economic losses. Some of the driving factors to these health challenges include inadequate adherence to evidence-based care, negative patient experiences, unequal treatment and access to health services, and deficiencies in safety, prevention, continuity, and timeliness, leading to poor health, adverse economic outcomes, and loss of trust and confidence in health systems. The poor and the vulnerable groups appear to experience worse quality care.

Key Takeaways:

- Systems thinking can help our understanding of the dynamic complexity that characterizes our health systems.
- AMR is not a single entity; it is a cluster of problems.
- While health systems as adaptive systems are complex, their understanding informed by systems thinking need not be complicated.

Questions and answers session

Question 1 (To Yara): One of the greatest challenge that we face our countries is the influx of medical sale representatives. How will you be able to overcome this in your system?

Response: Leadership commitment. Medical representatives don't have to meet with the physicians. Any meetings should be through the AMS group.

Question 2 (To Yara): Is the program in the public or private sector. How do you manage to sustain the programme if it is in the private sector? And what happens if a new director comes in, how do you get them to prioritize?

Response: It is a private sector hospital, not public. The main driver was the accreditation. It doesn't matter if the CEO, was changing, the hospital adopting the AMS program.

Question 3 (To Mirfin): You highlighted the areas to achieve antimicrobial stewardship. Is there a way to target the upstream, the regulators and the policy makers that we have often left out?

Response: We have to involve the professional bodies in our countries to do more. Professional bodies prescribe, determine and come up with guidelines. They should be working together with the stakeholders. Professional bodies have not taken their roles in developing countries. We have actually, in Kenya established 3 stewardship in private hospitals, and this was driven by the need for accreditation with some US and UK accreditation bodies. With them it doesn't matter who is going to be the CEO tomorrow, they just wanted accreditation.

Question 4 (for Otridah): We know that in our countries the surveillance system in our countries are potential epidemic. Since we have been talking about one health, in Zambia you talked about surveillance with the focus of one health. How is the collaboration with other sectors as you put together this strategy?

Response: The most challenging thing has been to bring people together, and most of the sectors don't have the needed capacity. Some sectors have felt like their mandate in surveillance is being taken away from them, making them understand that it is health for everyone, it is not personal. The other challenge is budgetary allocation. we are delegating mandate to certain sectors, but where is the budget coming from; have had challenges where have the same sector contributing and the other sectors are withdrawing – it is work in progress.

Question 5: Regression and restricting access to antimicrobials.

Key Takeaways:

- IPC do not need too much of investment; there is no reason for not implementing an effective program.
- ReAct is piloting a framework in Zambia for AMS. The Zambian doctors are developing the guidelines; and the country has taken that up.
- There must be coordination between sectors – AMR is a multi-disciplinary theme.
- Not everything requires money. There are so many things you can do, especially in AMR surveillance, just look at what you can do.
- AMR is a burden to achieving UHC and it is a cluster of problems – to address it we shall need a combination of interventions that are informed by evidence that is generated by the system thinking lens.

Depending on the contexts, restricting access to AM might be a good thing but may not be the best strategy for some countries. This may not be what we are looking at especially for the children and mothers who suffer sepsis. We need to acknowledge that it will be a combination three or four strategies; if you are looking at treating malaria, you need to make sure you take the rapid diagnostic test and there after administer the prescriptions. Care seeking is from the private sector; the proportion of people who seek care some of them genuinely seek assistance and as such access the antimicrobials. A number of interventions to address this problem

Question and Answer Session

Egypt: How will you be able to overcome this? How do you manage to sustain the programme if it is in private sector

- Leadership commitment. The medical representives don't have to meet with …..
- It is a private sector hospital not a private; the main driver was the accreditation…..It doesn't matter if the CEO was changing

You highlighted the areas to achieve AM stewardship. Is there away to target the upstream, the regulators? Regulatory enforcement
Mirfin: We have to involved the professional bodies to do more. They should be working together with the stakeholders. Professional bodies have not taken their roles in developing countries. We have actually, in Kenya established 3 stewardship in private hospitals, and this was driven by the need for accreditation.

Question for Zambia: We know that in our countries the surveillance system in our countries are potential epidemic. Since we have been talking about one health, in Zambia you talked about surveillance with the focus of one health. How is the collaboration with other sectors as you put together this strategy?

- Providing coordination
  Challenges
- The most challenging thing has been to bring people together; and most of the sectors don't have the needed capacity; some sectors have felt like that mandate in surveillance is being taken away from them; making them understand that it is health for everyone
- Budgetary allocation; we are delegating mandate to certain sectors, but where is the budget coming from; have had challenges where have the same sector contributing and the other sectors are with drawing – it is work in progress.

Depending on the contexts, restricting access to AM might be a good thing but may not be the best strategy for some countries. This may not be what we are looking at especially for the children. We need to acknowledge that it will be a combination of strategies; if you are looking at treating malaria, you need to make sure you take the rapid diagnostic test and there after administer the prescriptions. Care seeking is from the private sector; the proportion of people who seek care…….A number of interventions to address this problem

Philip Mathews (India) – regulate systems to access to any kind of antibiotics

IPC do not need too much of investment and
We cannot implement just IPC alone,…..

- We are pilot a framework in Zambia; guideliens and the country has taken that up
- There must be coordination between sectors – a multi-disciplinary priority
- Not everything requires money; so many things you can do, just to look at what
- AMR is a burden to achieving UHC and it is a cluster of problems

Reception held after the sessions to explain the #MedsWeCanTrust Campaign

DAY THREE – 25TH JULY 2019

Session 8 Sustainable financing / financing mechanisms for UHC – Moderated by Mirza Alas, Programme Officer, Innovation and Intellectual Property Programme, South Centre.

This was a plenary session with 2 presenters, one with a presentation on financing from a faith-based hospital perspective and the other a financing model based on Makueni County of Kenya. The highlights from these presentations are as follows:

8.1 Financing model from a Faith-based Hospital – Ken Muma, Director General, Kijabe Hospital Kenya)

The presentation was based on the case of Kijabe Hospital. The Hospital began in 1915 driven by the need for evangelism, but sharing the gospel with 'a healing touch.' The hospital is based on 3 key pillars, namely provision of compassionate healthcare, medical training and spiritual ministry of Jesus Christ. Its core revenue sources include compassionate healthcare through affordable inpatient and outpatient services; as well as non-core revenue sources, for example premium services through outpatient clinics (Nairobi Satellite Clinic) and catering services. The strategy is to have a little bit more income from things that are not necessary to the hospital's core business. If a patient is not able to afford quality healthcare, there are alternatives. Kijabe has partnered with African Mission Healthcare, Watsi and Safaricom Foundation.

These provide more Kenyans with access to surgical care. Within the 2 models, the hospital is driven by its philosophy, brand identity, cost centering and aligning systems so that, as a hospital they can become sustainable. Although the hospital works with partners, they take time to define who the likely partners are and whether they are like minded. They therefore do not take partnership with organizations that do not share their philosophy. Strategies for partnerships include identifying partners, shared visions, strategic plans and alignment, robust accountability, and communication – appreciation and sharing successes. The hospital is also working through public private-sector partnerships. The County Government of Kiambu, for example has provided the hospital with a fully equipped ambulance; and also received a CT-scan from a private company.

8.2 Financing model example –Andrew Mulwa, Minister of Health, Makueni County

Makueni is a rural county, with a population of about 1 million people. Makueni County, one of the Kenya's 47 counties, has been a pioneer county to pilot the UHC. From 2013, health in the country was devolved. As most of other places, the county faces the burden of non-communicable diseases. The healthcare in Makueni is aligned to Kenya's vision 2030, Kenya's Health Policy 2014 – 2030 and the County's vision 2025. Before devolution the county health budget was merely 12 million. But with the coming up of the devolved government the health budget increased to 300 million. Devolution created opportunity for equitable development in the country. The county has made significant investments in the healthcare system by allocating > 30% of its annual budget since FY 2013/14. The budget for 2018/2019 is 34% of the county's budget, approximately 2.3billion.

The health approach is based on the WHO's health system building blocks: Human resource for health; medical products, vaccines and technologies, leadership & governance, infrastructure, healthcare financing, health research, service delivery and health information. In terms of health workforce, in 2013 there were only 977 health officers. Currently the county has 1,505 health work force. The county has never had Makueni-specific health workers strike/industrial action. There have been a number of initiatives to increase staff morale including available and fair training opportunities; promotions and timely salary payment; timely remittance of all statutory deductions; improved and safe work environment; locums for staff off duty (an innovation, giving doctors and nurses opportunity for locums to bridge the staffing gaps); uninterrupted supply of health commodities; improved staffing levels to match workload; and improved infrastructure/equipment.

Makueni is the first county to have a Directorate of health commodities and supply chain. Have 99.9% supply of essential commodities throughout the year. The commodities are only sourced from MEDS and KEMSA. Have uninterrupted supply of health commodities. The county also gives awards to best performing healthcare workers.

In terms of infrastructure, in 2013 had 109 facilities. As a priority the county committed operationalize every facility and also to increase the number of facilities to 235. Of the 235, 233 are able to deliver mothers. 65% of mothers are currently having delivery in the hospitals. Currently have 14 functional theatres from 3 in 2013. The other facilities include ultramodern NBU with pediatric ICU, Aqua-birthing facility, post surgical wards, labor ward with private rooms, twin operating theatres with capacity for laparoscopic surgeries, ICU/HDU and pediatric wards.

As a strategic intervention, the county decided to establish the Makindu Hospital Trauma Centre. The facility is to serve Mombasa-Nairobi Highway trauma/accident patients from Voi to Malili and other surgical cold cases across the country. Othopaedic patient stay/waiting time is envisaged to reduce from 14 days to 3 days. Other initiatives include upgrading of satellite facilities, new rural health facilities, county medical waste management at Makindu Sub-county Hospital with a modern incinerator, county ambulance system and construction of staff houses in new health facilities as another strategic intervention. In leadership and governance, the Governor is the champion.

All revenue generated in the county hospitals is ploughed back to improve service delivery. Other streams of revenue to strengthen hospital operations include recurrent hospital financing, free maternity, universal healthcare and reimbursements. With predictable and reliable financing mechanism, hospitals have been able to undertake development projects, recruit staff on contract basis and fund operations supplementing the National Government's funding thus very high quality service delivery. In service delivery, the county is keen on quality improvement models. Have SOPs and ensure they are followed. Makueni is famous for Universal Healthcare Scheme. Members of the scheme get services without paying, and the UHC Fund is charged. Most of the inpatient and outpatient services are covered. All bills incurred by patients at the county hospitals are reimbursed by the Government of Makueni County.

Participants listen attentively to the presentations

Plenary Session 9 Country Updates/ Examples on One Health Approach Moderator - Ann Mawathe, Africa Health Editor, BBC Africa Panel Discussion

This was a panel discussion intended to understand the progress in the one health approach as applied by the selected countries. The participating countries included Sudan (Hassan Abdelrahman Ataelseed Abdelrahman, Secretary General, Sudan National Medicine & Poisons Board), Kenya (Allan Azegele, Deputy Director Veterinary Services, AMR Focal Point, Ministry of Agriculture) and Uganda (Denis Byarugaba, Professor, Makerere University).

Question: Discussing one health approach in the countries and the success therein, if any

9.1 Sudan – Hassan Abdelrahman Ataelseed Abdelrahman, Secretary General, Sudan National Medicine & Poisons Board

Adopted one health approach in the development of NAP. For endorsement of NAP, endorsed by the secretary; implementation of the NAP, conduct behavior change and raising awareness, also conduct surveillance also with veterinary. There is collaboration between Sudan and many programmes including the tripartite collaboration between WHO, IOE and FAO. In higher coordination, have health coordination council which coordinates health issues. There is also a coordination forum under the secretariat council with other ministries.

9.2 Kenya – Allan Azegele, Deputy Director Veterinary Services, AMR Focal Point, Ministry of Agriculture, Kenya

Launched NAP in 2017. From then on has had implementation activities including the establishment of the National AMR Stewardship Committee, which has been very instrumental in driving this process. Currently setting up the various Technical Working Groups (TWGs). There is the establishment of County inter-agencies Antimicrobial Committees. On awareness, have constantly held World AM awareness week. Had a 2-day symposium, farmer field days, interaction with the media and interviews. In surveillance have launched the national surveillance strategy on AMR, which covers human, animal and AMR and use. There are 2 pilot sites that are being pre-tested both in human and animal and are now enrolled in GLASS. In IPC, have the

National IPC programme and have already the policy and the guidelines and have had the TOTs. Have capacity building on farm bio-security and practices informed by KAP studies undertaken with support of FAO. In optimization of use of AM, currently there is development of guidelines for AM use in humans. There is also several point prevalence surveys.

9.3 Uganda – Denis Byarugaba, Professor, Makerere University

Uganda has had one health kind of issues before and was working on ad hoc arrangements dealing with a number of diseases e.g. the Anthrax outbreak some years back. To address AMR a NAP was launched in 2018 with an agreement between the MOH, agriculture and fisheries. One part that is missing is the crop sector. This is an important element that is driving AMR because of massive use of pesticides and other chemicals which drive resistance. Have made significant progress in the following areas:

In surveillance, in research and innovation and AMR with support from partners. The surveillance is supported by Fleming Fund, this addresses AMR, but weak on the crop component. With regard to research and innovation, have had a number of programmes: CDC improvement security programme, Makerere University; Drivers of resistant drugs addressing how human behavior affect AMR. For a long time researchers have focused more on the organisms than the factors driving them (actions of humans); and AMIS (Anti-AMR in society) etc. The country is still grappling with the other parts of the NAPs e.g. the awareness. One fundamental element that has not been addressed is the IPC. There is a lot of work that is still there to be done.

Question and answer session

Question 1: *Is it possible to share the rationale for choosing what is not covered in the UHC model as prescribed for Makueni? Also elaborate on the interest and the politics around the supply chain*.

The health sector needs to encompass MOH, MOA, Ministry of environment, and MOE. The determinants of health must be right for right outcomes. The county has one health approach. The FBO's contribute about 10% of facilities in Makueni. Makueni has one health approach. The standards are however, the same for the country and the county. When inspections are done, they are done for public, private and FBO.

Question 2: *Share the challenges and how to mitigate the inappropriate use of AM and containment of AMR.*

One of the key concerns today is increasing efficiency in the system. Makueni have medicine therapeutic committees within the sub-county hospitals. The healthcare have been trained on prescriptions and try to track prescriptions. The county is trying to automate the system to ensure they get to know the prescription trends. Especially so, for high level health care workers – Level 4 and 5. Always advise health care workers to stick to molecules.

Question 3: *What is the role of the local government in the governance of faith-based organizations which are serving the people?*

Have a memorandum of understanding with FBO. Some staff, who are paid by the county are deployed in FBO facilities. The FBO facilities also place their orders with county health for commodities. This the county does as part of its cooperation with the FBO.

Doing PPP in the provision of PHC. AMREF mobilizing people who can afford to enroll in NHIF. There is increased financing in the facilities. Now these facilities are now getting NHIF allocation. Have other forms of contractual PPPs. Have several ongoing partnerships.

Question 4: *Expand on PPP a bit more, what the schemes are in Kijabe and how they are working.*

Kijabe have identified their priorities and needs and have identified the need for human resources. The county government seconds doctors to Kijabe. Equipment, initially, used to have a very old CT scanner. Got into partnership with someone who was able to place a CT scanner and agreed on a model to share resource. Have agreed with the counties to be the stop-gap measure in case of health workers strike.

Breakout Sessions/Group discussion

Question 1: Experiences are so broad about how we have approached NAP in our various countries. What approach the countries took and what one success story.

Ivory Coast: Have a one health platform with an executive secretariat which gathers many sectors human, animal etc. The same institution governs the AMS. The country Have a multi-sectoral group, human, animal and environment. A committee that gathers all experts and work together with synergy. Have activities and report to the AMS secretariat and shared with the coordination of the team, which is more political.

Chad: Have a multi-sectoral institution that was put in place in 2016 and is linked with the PH ministry. In 2017 drafted a work plan, which was validated in 2018.

Madagascar: In the MoH have put in place multii-sectoral committee for coordination of fight against AMR. Also have expert from each sector in the committee. Started elaborating the NAP, but what made the process delay was the change of government. Now there is a new government in place. Did an official launch on 8th August. Benefitting from the experience from Ivory Coast. Have learnt so much experience from other countries, for example, Uganda, Kenya.

Liberia: Have one health platform chaired by the VP of Liberia. Also have the technical committee coordinated by the. Have 5 pillars, with AMR as one of them. The NAP was developed by different agencies. The person who is chairing the technical working group. Have AMR related updates every month. All the sectors are involved in the implementation of NAP in Liberia. Have 2 liaison officers for animals and other technical working group. Have a strong one health coordinator.

Cameroon: Have multi-sectoral committees according to AMR and one health approach. The committee is working very well. This one focal person in all the relevant ministries. Have an approach to establish laboratories network led by the national public health laboratory. In order to detect resistance, have acquired new equipment for bio-molecular equipment. One of the key

problems is financing. When there is a collaborative platform then it is possible to have a well-coordinated approach.

Zimbabwe: Received funds from WHO, managed to engaged the food sector, the animal sector, the human sector, but what was missing was the agriculture. Because of the funding it was easy to establish a one-health platform. Engaged the referral labs in all the sectors. Started with the main labs and added a few provincial labs. This started in 2017 and managed to isolate the organisms. Have managed to investigate MDR typhoid outbreak in Zimbabwe and discovered its source, which was Harare. Starting with the top side is easy and now can spread to other levels. Although are able to communicate, there seem to be no communication strategy, which then affect AMR. Having the strategy helps to cub the feeling that there is fragmentation.

Tanzania: Have been able to scale up activities in AMR. Able to come to organize awareness activities in all the sector, however the environment sector is still lagging behind. Have conducted a few symposiums in addressing the AMR. More still needs to be done. Have AMR Focal persons from the MoH and MoA. Feel that not all players have been involved. There is need to also incorporate the professional bodies, apart from the ministries. There is need to engage other stakeholders so that we can move together e.g. from the animal health, little is moving. (How do you think needs to strengthen one health coordination in TZ?).

Zambia: Started by drafting a communication strategy. Got feedback from all the stakeholders and got idea on how best to communicate. The secretariat is not from one sector, includes the department of vet, national health institute. Have meetings on how best to coordinate. In most of the cases the coordinator is coming from one sector, and time and again there is a bias. There is need to separate one's sector and play one health. Everyone would want to feel represented by you. You need to learn to separate yourself from who you are. As far as possible establish a mechanism that is autonomous. For coordination there is need to establish an autonomous responsible mechanism, such as it works with HIV response. The one health system is supposed to introduce a mechanism for cross-accountability from one partner to another – partners accounting one another. We need to move away from project mode into mainstreaming. Coordinators should then be devolved from their core to the autonomous unit.

Ghana: The issue of secretariat was stressed. From what has been said, in Ghana the secretariat is hosted in MoH, but still has the inter-ministerial committee. However, it is still difficult to get all the ministries together (high level), but through the Fleming Fund has been able to bring the ministries to meeting together. Advise was given for the secretariat to consider using the support to fund the autonomous operation of the secretariat.

Feedback from group discussions
Group 1:

General message the countries have NAPs. All countries have coordinating structures for the implementation of the NAPs. Cameroon for instance, has gone a step further to establish network for labs. The same with Zimbabwe, with a lab-based one health surveillance, to investigate strains. TZ had a case where took advantage of the awareness week in November but noted that a lot of these activities are not coordinated. Spent time to talk about how the activities can be coordinated and a good example from Uganda with the breakfast meetings and rotating chair, which was shared

by the Cameroon. There is also the one health bulletin. Then ensure that for any opportunities, the beneficiaries are from across multi sector. It was also noted that there is need for a clear communication strategy. Need to ensure that information sharing is improved. The national coordinator needs to be strong, they need to separate themselves from the sector they come from and should ensure they give opportunity to other sectors. There is need for an autonomous mechanism independent from the health ministries. This will help create cross-accountability. Had a sharing from Ghana and pointed out that the coordination is currently below the level of the ministry and now proposing an inter-ministerial coordination with the support from the Fleming fund.

Group 2

The human health sector has been ahead but the animal sector is coming up with the environment left behind. Need to also include education. The agriculture/sector is also still left behind and should all be brought on board. The governance structures is coming up well, but the coordination structure is still weak. Ghana has an AMR platform through which you need to go to before any interventions. They assess the proposals using the FAO ATLASS II and the WHO guidelines. In Zimbabwe the coordination of the environment and the human sector labs was a key lesson. Now bringing other sector on board. In Nigeria, the one health has been implemented for over 10 years but no documentation and coordination is weak. In Uganda there is a meeting that brings policy makers and the academia, and do case stories. In the involvement of the environment, but there are still no standards. In DRC, since there is no one health aspects, this has been the driver of Ebola in DRC. From Malawi, the AMR taskforce has different TWGs and the awareness is only composed of journalists. None of the countries is considering the plant aspects on AMR.

Session 10: What are the commonalities and approaches to move forward Moderator - Mathew Philip, ReAct Asia Pacific

The session began with a presentation from Mathew, who highlighted the themes to be discussed and the expected outcomes from the breakout sessions. He laid down the expectations to include: Consensus regarding approaches and targets; decide on a common pan-African Agenda; and define actionable points and timeline. The discussions revolved around several themes including increasing quality of IPC in healthcare facilities; improving (antibiotic) prescribing competency of medical professionals; phasing out Highest Priority Critically Important Antibiotics from agriculture; regulating pharma promotions and de-linking prescriber/dispenser income from antibiotic volumes sold; financial access to essential (appropriate) antibiotics; improving quality of animal feeds and better labelling practices for feeds; addressing shortages of antibiotics and strengthening supply chain for antibiotics; ensuring quality of antibiotics at country level without limiting access; incentives to farmers to phase out use of antibiotics in agriculture; investments for strengthening lab capacity and surveillance systems; financing of Universal Health Coverage initiatives at country level; and partnerships and Coalition building for AMR and UHC. The participants were organized into 4 groups.

Breakout sessions

The breakout sessions were aimed at arriving at consensus regarding approaches and targets; and deciding on a common agenda. The sessions were chaired by Borna Nyaoke-Anoke – Clinical Trial Manager, DNDi (Group 1); Andreas Sandgren, Deputy Head of Office, Policy Advisor ReAct Europe (Group 2); Christian Mugabo – Co-founder, Co-Chair and Country Director International Students' Partnership for Antibiotic Resistance Education (SPARE), Rwanda (Group 3); and Linus Ndegwa – Division of Global Health Protection, Centers for Disease Control and Prevention, Kenya (Group 4).

Breakout Sessions Group discussions Chairs:

10.1 Borna Nyaoke-Anoke – Clinical Trial Manager, DNDi

Theme: Increasing quality of IPC in healthcare

Question 1: What is the best approach in LMIC setting?

Hand hygiene – by providing the facilities, awareness, including the nursing – making hand hygiene critical. There is need to have protocol on IPC implemented - have SOPs for IPC and then reward those who comply with those SOPs. Lesotho, for example has a Quality Assurance department which seek to ensure the SOPs are adhered to.

Question 2: What should be the core messages framed around this issue?

We need to do a lot of presentation in prevention. Messages should work towards making people understand the impact of prevention. Message should be to the health workers and should include messages like *"Protect yourself and others"; "prevention is better than cure*". We need to remind people that AMR is happening now and that hands are the main route of pathogen transmission. In terms of prevention, there is need to carry the message to animal world, so that the sickness is not transmitted to others.

Question 3: Who should be the stakeholders involved?

The stakeholders should include infections control team working in the hospital (main physicians, nurses and pharmacy staff). The top management should be involved to ensure that everybody is complying. We also need to talk about the external stakeholders e.g. In Kenya has Life Boy soap brand that uses a celebrity to remind the public of the need to hand wash.

Question 4: Are there a way we can work on infection control in pan-African context? How can we try and work around infection control?

Work on harmonizing policies in IPC, sharing information. A meeting like the ReAct Conference is what can be done regularly and share information to influence policy. Purpose to move in a group.

Question 5: What joint collaboration can be undertaken?

For DRC and Rwanda there is an Ebola situation. At the border posts, the two countries try to share information so that no infected person finds themselves on the other side of the border; doing the same thing with Uganda. Information is shared online and always updated so that people can take the necessary measure. The mentioned countries have hygiene programmes at every border point, and if a case happen, they do not allow the person to cross to the other side; so if there is a suspected case, he/she is contained. In Madagascar, communication happens over the phone, and through emails within the Indian Ocean area. Also have weekly meetings. For example, concerning Ebola, it's been months now assessing everyone coming from DRC and taking their contacts and asking them to alert the MoH in case of suspected infection.

Theme 2: Prescribing competency of medical professionals

Question 1: How can this be improved?

Starts by the education and by having the basic diagnostic criteria. By implementing antibiotic policies; starting an empiric antibiotics. Initial training and continuous training.

Question 2: What are the messages that should be framed?

Antibiotics are not automatic (frame it in a way for them to know that, just because your patient got better does not mean that the medication was the right one); there are other ways of empiric treatments. Rational use of medicine - prescribing only what is necessary over what is needed. Put in place guidelines tools for the prescribers to follow. Communicate through radio, TV; e.g. every fever does not require an antibiotic. Do small stories in order to evaluate adequacy of the empiric antibiotic.

Question 3: Who are the stakeholders?

Development partners, MoH, distributers, private should do awareness. Other stakeholders should be the patient themselves and the public- awareness should go out to them. Everybody is a stakeholder; e.g. in Cameroon MoW is a stakeholder; energy supply, education sector. Regulatory bodies and medicine therapeutic committees should enforce the relevant policies and SOPs. There is also need to talk with the pharmaceuticals, but need to talk business sense to them.

Question 4: Is there a Pan-African context on this?

Regulatory bodies have a mandate of regulating how the private hospitals are using the antibiotics. At regional level have networks for professionals such as Africa Regulatory Medicine Agency (ARMS). There can be regional regulatory body regulating the use of AM; and countries which are complying should be incentivize. Africa has the regional harmonization blocks like ECOWAS, EAC etc. These should be utilized, especially in pharmacovigilance space.

Theme 3: Phasing out highest priority critically important antibiotic use in Agriculture

Question 1: What is the best way LMICs can use to address these issues?

For the case of VET, IOE and FAO, have guidelines; and countries should be advised to use these global guidelines. Having regulations which stipulates on what should and/or should not be done;

but should be careful, sometimes with the regulations come the appetite not to comply. We need to get the users to a level where they see why it is important to adhere to the guidelines. There is need to bring the message to a personal level. If they are made to understand, then it will be easy for the users to be able to comply. Having examples of what others have gone through, for example cases of army worms that are now not working because of the resistance. We need to bring them to the understanding of what is happening here and now. Multiple approaches - there is a discussion around access versus accessibility; professionals should do their work; farmers should seek advices; the pharmacist should only give critically important drugs based on prescriptions.

Question 2: Messaging

Tell them that it is happening now. For instance, Malawi is a success story in HIV, because of targeted awareness. With behaviour change, some of the interventions will not be a problem. We have to do awareness including on animal wellbeing.

Question 3: Who are the stakeholders?

Everyone: One health platform – CSOs, chiefs, politicians, industries which are making medicines – all need to be targeted. Pharmaceutical industries have to be stakeholders. We have to make sure they are involved because they are the ones pushing the irrational prescription. Under the guidance of IOE, have identified the stakeholders and have crafted different messages, just need to adopt the messages to different groups.

Question 4: In a Pan-African context, what joint collaborations exist?

In the animal sector there is the cattle movement permit; given based on the disease status (implemented in Uganda by the MOA). Branding animals; "Birth certificates for cows…." TZ-Kenya launched the joint project for controlling livestock diseases last month in Namanga (Joint ventures) boarder post. We need to tailor all these messages according the different stakeholders.

10.2 AMR and UHC – Led by Andreas Sandgren, Deputy Head of Office, Policy Advisor ReAct Europe

Theme 1:

Came up with some strategies, starting with awareness raising. One part of the strategy is to push for the self-regulation of the agencies. There is need to ensure that the regulations are followed. There is need to include it as part of implementing low-cost stewardship program. Need unbiased source of information on how the drugs are used and not the MED reps.

Theme 2: Affordable access to essential antibiotics

Action needed at various levels. At the local level, the role of the HCWs in the development of treatment protocols and guideless, and the prescription of generic as encouraged instead of the branded. There is need to establish regulations in instructing on the prescription of drugs. Should include list of essential medicines that can be used and the government taking responsibility. The role of procurement, the supply chain management needs to be informed by what the hospitals

need. The appropriate drugs may not be the same across the various care levels. The issue of quality should not be forgotten in the access narrative.

Theme 3: Improving quality of animal feeds

The strategy is at different levels. It should begin at the consumer level. Also the role of NGOs, e.g. the consume watch in Ghana pushing pressure on the professional groups and the farmers. Farmers are encouraged to procure feeds from accredited sources. Need to target pharmaceuticals that provide antibiotics to the feeds. Regulation of animal feeds is general week and so should be instituted and strengthened where they exist.

10.3 Christian Mugabo – Co-founder, Co-Chair and Country director International Students' Partnership for Antibiotic Resistance Education (ISPARE), Rwanda

Theme 1: Addressing shortages of Antibiotics/Quality

Have been operating under a push system which is not sophisticated enough to know what will be needed. Needs to create a balance system between the push and pull model for distribution of antibiotics. There is also need to create incentives for farmers. Need better data to build this case. Need to look at long-term effect of the antibiotic. Can use both punitive measures and incentives. There is need to be a case for them to explain the down side effect. Awareness raising needed to be done more. There is an opportunity to engage across sectors on data collection around the implication of.

10.4 Linus Ndegwa – Division of Global Health Protection, Centers for Disease Control and Prevention, Kenya

Theme 1: Investment for strengthening lab capacity

There is need to clearly define the type of services required at each level and the kind of requirement for the services and then the type of lab required. The issue cut across animal, human and environment. Having determine the service provide the appropriate labs.

Theme 2: Surveillance

The core message is to map services at the various levels, provide the appropriate labs and equip them. The stakeholders will include the government, CSOs, professional bodies, consumers, communities and the regulators. The African CDC is coming up and most likely most these services will be provided. Collaborative actions to be taken will include converging the health systems, etc. On financing UHC initiative consider multiple streams of funding. Pull all the resources together and allocate them based on the priorities that you have provided for UHC. On partnership, the best approach will to work with all partners, professional bodies– invest more on preventive health.

Plenary: Feedback from group discussions

Key Takeaways:

- Engaging professional bodies
- Engagement of regional groupings which focus on various things
- There are feasible and practical examples in Africa; but unfortunately this are only limited to the respective countries, should think of a platform e.g. Community of practice (COP) to highlight the best practices; sharing best practices; can take que from what the logisticians have done in putting up a COP.
- Need better forecasting system and balance in the push and pull system
- Need for a mix of regulatory approach and behavioural change approach
- Strategic lab placement
- Putting a surveillance system in place
- Budgetary allocation; need for resources
- Mobilize awareness and advocacy; messages and case stories that can be used in media to give more of a life to all these problems
- There is need for more operational research; to build a body of evidence.

Session 11 Beyond the conference what next? What are the next steps to achieve AMR, UHC & SDGs Agendas in African Countries Panel Discussion. Moderator – Mercy Korir, Medical Journalist, KTN

The panelist included Martha Gyansa-Lutterodt - MOH Ghana; Mirza Alas – South Centre, Programme Coordinator, Development, Innovation and Intellectual Property Programme; Mirfin Mpundu – ReAct Africa; Allan – MoA, Kenya; Letitia; and Emmanuel.

One thing you have picked after the 3 days; as an individual

Important takeaways by the conference participants

- "I am encouraged to see progress and seeing people getting involved even with difficulties…"
- "Collective energy. There is a lot of engagement in countries. It is clear that there are champions."
- "Acknowledge the big number of participants from many countries. I have learnt a lot around the important entry points between animal sector and human health."
- "We have so many champions for AMR, this shows some hope because AMR is very difficult but we have champions."
- "We can make a difference and hopefully will have public participation in the next conference."
- "I have not regretted coming into the meeting, and learnt that there are more champions than thought there were."
- "AMR is a bigger problem than HIV and will definitely need global fund for AMR."
- "We should have a healthy environment if we want to have healthy humans."
- "Now I think about my role, the takeaway message to put together actors so that we can see how we are addressing UHC while addressing AMR."

Question: What issues were you expecting and that you think we need to craft a way forward for?

Notable responses from the panelists:

- "How difficult it is to think about AMR and to relate it to UHC. I feel we need to strengthen capacity to collaborate and coordinate; need to create platforms for collaboration and ensure that we are bridging the gaps (partnership building)."
- "Practical lesson learnt from Makueni County; when we talk about UHC we think it is theory, but we have come to see that it is possible from Makueni and Kijabe. We need to encourage study visits so that people can see practical examples."
- "There is a great need/appetite for platforms like this one (ReAct Conference). There is still a great need to continue facilitating these platforms. Some of the things that have been validated is the area of stewardship which we should continue to support. We also need to continue promoting this one health concept. And should be promoted it in the region. "
- "The aspect of UHC, so far doing very well with the UHC coverage, but more focused to humans, but that may not be achieved optimally if we do not have the animal, plant and environmental health. If these are not covered, then we may not achieve much. Approximately 75% is yet to be covered….."
- "Continue pushing financing to be made available. We need to position this as a priority to the countries. Keep bringing to the table the needs. The environment continues to be an area that there is still a dearth of knowledge of what needs to be done."

Question: Do you think we have been able to articulate well the connection between AMR and UHC?

Notable responses from the panelists

- "We have looked at various aspects. We were able to look at these set goals under the SDGs through the lens of AMR and illustrated how AMR affects these SDGs. That particular outcome of the conference, has been met."
- "It is clear that UHC is much broader than AMR, but we have clearly spelt out the clear points of entry. Particularly from the Makueni example."
- "All the areas related to SDGs, particularly SDG3. This is due to the quality of the participants that were represented. This made this conference a success. We need to emphasize more the quality of medicine and IPC – poor hygiene and poor quality of hygiene…"
- "It is very critical to ensure that you have a healthy population. When you are healthy, you are more productive and can impact positively on other aspects. Whatever goes to make you healthy is very critical and important to ensure productivity. This drives everything else including taking care of yourself, and not able to transmit diseases to animals. I hope going forward as we work towards containing the emergence and prevalence of AMR, we will need to stand up and ensure this does not happen in other sector…"

How do we maintain political momentum where there is one or initiate it where the country is still struggling?

Notable responses from the panelists:

- "The key word is to mainstream. The champions need to go back and start mainstreaming. Let's keeping to preaching to our political leaders; move from project mode to programmes."
- "It is very important that we push the politicians to keep focusing on the radar; push for this to remain in the political agenda. We don't just want political good will. We want to start seeing political commitment through the existence of a functional secretariat and the increased investment by the political class. We can be our own advocates even in our own government to ensure there is more recognition. There is still not proportionate response to be to bring the desired change. Advocate internally, regionally and globally."

Beyond this conference then, what next? What are the action points?

Notable responses from the panelists:

- "In the short-term we have to take some of the messages built here and propagate them. In the long-term, think in ways in which we can look for entry points, evidence and research on how we can fill the gaps identified."
- "The recommendations from this workshop should be circulated and shared within the organizations represented so that the focus is known. Have operational secretariat on AMR for the momentum to be sustained."
- "There are activities we are already doing targeted towards the UHC. Encourage the countries to do some mapping of activities happening geared towards the UHC. Try and map the players within the countries, what are the funding streams and see the synergies and duplications and where need to lobby for financial support."
- "Work towards functional secretariats, towards strengthen the governance of one health."
- "We will ensure that the report of this conference is out and circulated and that the ideas will be amplified both at the regional level and at the global level."
- "Use the lesson learnt to continue supporting the member states to emphasize on the UHC."
- "Will advocate for the regional and national AMR plans so that the activities can be implemented in a more coordinated manner. Will support the regional activities related to UHC."
- "Continue supporting the countries on the integrated surveillance."
- "Ultimately we need to start seeing behavior change from the short-term to the long-term. The first behavior that needs to change about how we utilize resources when they are made available. Keep the plans detailed, focused and costed."

Notable commitments by conference participants

- Try to amplify the messages through the policy briefs.
- For the next year's conference to show more presentation of data; and presence of political leadership and those that finance the interventions.
- Building political momentum.
- Different countries are at different levels in implementing one health programme. The next conference will need to be based on the current status of the respective countries.
- Will share the results with the MTaPs team, with initial discussion towards establishing the communities of practice.
- Will seek to have much more participation from the USAID MTaPs perspective.
- There is need to start working on what we have discussed with the resources; keep the one health spirit; and start working from the available resources.
- We need to focus and encourage research on the one health approach – this can be done in the short-term; have a way to encourage research; 'in God we trust, but all others should bring data'
- In terms of UHC, it is important to increase more of preventive and not necessarily curative; increasing the preventive perspective will be a great deal.
- Is there any way we can help any countries that seem to be lagging behind? Some countries may need a push. Come up with minimal but important/compulsory activities, that the tripartite can support.
- I have realized that in the fight against AMR; we have a long way to go and have a lot of stuff that we still need to put in place to realize this great impact.
- We need to reframe our AMR stories to give life to AMR if we are to make some progress. This is something that can be done in the short term.
- There is need to give more voice to regional and technical people and bring that perspective to governance processes.
- The one health approach is what we own and what we do every day….Go out and mobilize the colleagues…….from the silos…..

Official closing remarks:

Emphasize the importance of AMR if we are to achieve the UHC. AMR is a global crisis with significant global health security implications. AMR is a challenge that cannot be addressed overnight by one country. The challenge of AMR and potential areas have been highlighted for making a difference. The challenge is of sustaining interest and implementation under one health approach. The discussions were interesting and very inspiring with sharing of knowledge and experiences. Progress made by various countries aligned with the global action plan under one health approach. Valuable inputs were provided for the global AMR governance. Reiterated the commitment of WHO to support…..Congratulated all countries that are implementing their NAPs and invited the countries to start preparing for the upcoming AMR awareness week celebrated in November every year.