A Call-to-Action National Workshop on Antimicrobial Resistance Containment: Adama, Ethiopia, November 16-18, 2006: Trip Report

Wonder Goredema, MSH/RPM Plus
Oliver Hazemba, MSH/RPM Plus
Nick Nelson, MSH/RPM Plus
Marisabel Sanchez, Links Media
Anibal Sosa, Alliance for the Prudent Use of Antibiotics

Printed December 2006

Rational Pharmaceutical Management Plus
Center for Pharmaceutical Management
Management Sciences for Health
4301 N. Fairfax Drive, Suite 400
Arlington, VA 22203 USA
Phone: 703-524-6575
Fax: 703-524-7898
E-mail: rpmplus@msh.org

This report was made possible through support provided by the U.S. Agency for International Development, under the terms of cooperative agreement number HRN-A-00-00-00016-00. The opinions expressed herein are those of the author(s) and do not necessarily reflect the views of the U.S. Agency for International Development.

About RPM Plus

RPM Plus works in more than 20 developing and transitional countries to provide technical assistance to strengthen drug and health commodity management systems. The program offers technical guidance and assists in strategy development and program implementation both in improving the availability of health commodities—pharmaceuticals, vaccines, supplies, and basic medical equipment—of assured quality for maternal and child health, HIV/AIDS, infectious diseases, and family planning and in promoting the appropriate use of health commodities in the public and private sectors.

About APUA

APUA's mission is to improve infectious disease treatment and control worldwide through promoting appropriate antibiotic access and use and reducing antibiotic resistance. Founded in 1981 as a nonprofit organization, APUA is the only organization in the world solely dedicated to strengthening society's defenses against infectious diseases through research and education and field support to improve antimicrobial use and curb antimicrobial resistance. Headquartered in Boston, APUA encompasses a network of affiliated chapters in 56 countries throughout the world. This global network supports country-based activities to control and monitor antimicrobial resistance tailored to local needs and customs. APUA facilitates the exchange of objective, up-to-date scientific and clinical information among scientists, health care providers, consumers and policy makers worldwide. The APUA chapters provide a multi-disciplinary approach to containing antimicrobial resistance by involving expertise in infectious disease medicine, microbiology, pathology, clinical pharmacology, and antibiotic resistance surveillance.

About Links Media

A full service communication company, Links Media provides organizations with an array of technologies and methods to influence behavior, communicate risk, mobilize resources to generate positive change. Links Media's portfolio of offering includes market research**,** strategic communications**,** multimedia production**,** partnership building and advocacy**,** and knowledge dissemination. Currently, Links Media is leading communication and advocacy efforts in support of multisectorial and multifactorial AMR containment strategies in Africa and South America through the USAID's South American Infectious Diseases Initiative (SAIDI).

Abstract

The Rational Pharmaceutical Management Plus (RPM Plus) Program and other U.S. Agency for International Development (USAID)-funded partners have collaborated to field test a country-level AMR advocacy and containment approach in Zambia, starting in 2004. The approach has recently been initiated in Ethiopia as well. Technical staff from RPM Plus, Links Media and Alliance for the Prudent Use of Antibiotics (APUA) traveled to Ethiopia to participate and provide technical assistance at the Ethiopian stakeholders' call-to-action workshop at the Adama Mekonnen Hotel in Adama, Ethiopia from November 16 to 18, 2006 and to further the implementation of the AMR advocacy and containment approach in Ethiopia. The theme of the workshop was "Preserving the Efficacy of Antimicrobial Drugs in Ethiopia." A total of 65 participants attended the workshop representing various stakeholder organizations. The workshop included 20 presentations interspersed with discussion sessions and followed by breakout group discussion aimed at generating recommendations and action plans. The workshop resulted in an AMR call-to-action declaration entitled the Adama Declaration which was ratified by all workshop participants. AMR Task Force will formulate and implement a national plan on AMR using the recommendations from the meeting. Additional activities in Ethiopia included the initial development of an APUA Ethiopia country chapter.

Goredema, W, O. Hazemba, N Nelson, M. Sanchez and A. Sosa. 2006. *A Call-to-Action National Workshop on Antimicrobial Resistance Containment; Adama, Ethiopia, November 16-18, 2006: Trip Report.* Developed in collaboration with the Alliance for the Prudent Use of Antibiotics and Links Media. Submitted to the U.S. Agency for International Development by the Rational Pharmaceutical Management Plus Program. Arlington, VA: Management Sciences for Health.

Key Words

Antimicrobial resistance. Stakeholder. Call to action.

Rational Pharmaceutical Management Plus
Center for Pharmaceutical Management
Management Sciences for Health
4301 North Fairfax Drive, Suite 400
Arlington, VA 22203 USA
Telephone: 703-524-6575
Fax: 703-524-7898
E-mail: rpmplus@msh.org
Web: www.msh.org/rpmplus.org

CONTENTS

ACRONYMS

ACT	artemisin-based combination therapy
AMR	antimicrobial resistance
APUA	Alliance for the Prudent Use of Antibiotics
ARI	acute respiratory infection
ART	antiretroviral therapy
ARV	antiretroviral
AST	antibiotic susceptibility testing
AWG	Advocacy Working Group (Zambia)
CDC	Center for Disease Control and Prevention
DACA	Drug Administration and Control Authority (Ethiopia)
DOTS	Directly Observed Therapy Short course
DTC	drug and therapeutics committee
EHNRI	Ethiopian Health and Nutrition Research Institute
EDL	essential drug list
FMoARD	Federal Ministry of Agriculture and Rural Development (Ethiopia)
FMoH	Federal Ministry of Health (Ethiopia)
GFTAM	Global Fund for Tuberculosis, AIDS and Malaria
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
ID	infectious disease
INRUD	International Network for the Rational Use of Drugs
MDR TB	multidrug-resistant tuberculosis
PEPFAR	President's Emergency Fund for AIDS Relief
Pharmid	Pharmaceuticals and Medical Supplies Import and Wholesale Company
RDU	rational drug use
RPM Plus	Rational Pharmaceutical Management Plus
SP	sulfadoxine-pyrimethamine
STGs	standard treatment guidelines
STI	sexually transmitted infection
TB	tuberculosis
USAID	United States Agency for International Development
VOA	Voice of America
WHO	World Health Organization
WHONET	information system developed to support The World Health Organization's (WHO) goal of global surveillance of bacterial resistance to antimicrobial agents
XDR TB	extremely drug resistant tuberculosis

BACKGROUND

Health gains achieved by priority public health programs targeting infectious diseases (IDs) such as HIV/AIDS, tuberculosis (TB), malaria, acute respiratory infections (ARI) and diarrhea are increasingly threatened by antimicrobial resistance (AMR). In 2001, the World Health Organization (WHO) released a global strategy to contain AMR. However, few AMR containment programs have been implemented in low-resource countries. Recognizing this gap, the Rational Pharmaceutical Management (RPM) Plus Program and other U.S. Agency for International Development (USAID)-funded partners collaborated to field test a country-level approach to catalyze a response by local stakeholders in Zambia in 2004[1]. Key accomplishments resulting from implementation of the approach in Zambia have been highlighted in various reports[2][3][4][5][6]

The approach has recently been initiated in Ethiopia as well. IDs are a major cause of morbidity and mortality in Ethiopia. Along with nutritional problems, they account for 60–80 percent of health problems in the country.[7] The Department of Disease Prevention and Control of the Ethiopian Federal Ministry of Health (FMoH) reports that "the country's most important health problems are communicable diseases such as diarrheal diseases, malaria, HIV/AIDS, tuberculosis, sexually transmitted infections (STIs) and epidemic-prone diseases like meningococcal meningitis, cholera, measles and bacillary dysentery."[8]

Several global initiatives—including the President's Emergency Plan for AIDS Relief (PEPFAR) and the Global Fund to Fight AIDS, Tuberculosis, and Malaria (GFATM)—are currently working in Ethiopia to increase access to antimicrobials for these three major diseases. As availability and use of antiretroviral (ARV), anti-tuberculosis, and antimalarial medicines are increasing, it is critically important to implement measures to try to preserve the effectiveness of

[1] Joshi, M., S. Zimicki, M. Sommer. 2004. *Initiation of Antimicrobial Resistance Country-level Implementation Pilot in Zambia, March 2-13, 2004*: *Trip Report*. Submitted to the U.S. Agency for International Development by the Rational Pharmaceutical Management Plus Program. Arlington, Va: Management Sciences for Health.
[2] Joshi, M., N. Pollock, K. Garrison. 2004. *Antimicrobial Resistance Stakeholders' 'Call-for-Action' Meeting, Lusaka, November 12, 2004.* Submitted to the U.S. Agency for International Development by the Rational Pharmaceutical Management Plus Program. Arlington, VA: Management Sciences for Health.
[3] Soisson, D., L. Shafritz, 2005. *Zambia trip report: Message, advocacy and communication workshops, Lusaka, February 23–March 4, 2005.* Washington, D.C.: Academy for Educational Development
[4] Sanchez, M., D. Briones. 2006. *Antimicrobial Resistance Country-Level Implementation Pilot in Zambia: Rapid Appraisal of Advocacy Activities.* Submitted to the Rational Pharmaceutical Management Plus Program. Arlington, VA: Links Media.
[5] Joshi, M. 2005. *Workshop on Implementation of Standard Treatment Guidelines to Support Antimicrobial Resistance (AMR) Containment in Zambia: June 27–29, 2005.* Submitted to the U.S. Agency for International Development by the Rational Pharmaceutical Management Plus Program. Arlington, VA: Management Sciences for Health
[6] Goredema, W. 2006. *Antimicrobial Resistance Country-Level Advocacy and Containment Pilot in Zambia: Trip Report of a Follow-up Visit in July 2006.* Submitted to the U.S. Agency for International Development by the Rational Pharmaceutical Management Plus Program. Arlington, VA: Management Sciences for Health.
[7] Ethiopian Federal Democratic Republic. 2004. *Health and Health Related Indicators*. Addis Ababa: Planning and Programming Department, Ministry of Health.
[8] Ethiopian Federal Democratic Republic. Undated. *Guidelines for the Prevention and Control of Selected Major Epidemic Diseases in Ethiopia*. Addis Ababa: Department of Disease Prevention and Control, Ministry of Health.

these agents. It is equally important to try to preserve the effectiveness of antimicrobials used for other common conditions in Ethiopia such as STIs, pneumonia, bacillary dysentery, and meningitis.

AMR is a growing problem in Ethiopia. Already, Ethiopia is seeing a high therapy failure rate of chloroquine (73.7% in under 5s, 63.7% in those aged 5 and up) and sulfadoxine-pyrethamine (SP) (35%), both formerly first-line treatments for malaria[9]. A national study reported that 1.6% of new TB cases and 11.8% of previously treated cases were multi-drug resistant tuberculosis (MDR TB). Extensively drug resistant TB (XDR TB), which is virtually untreatable, is a possible developing threat.[10] Increased access to ARVs raises new concerns over treatment failure due to resistance, which would render the most affordable drugs ineffective. *Staphylococcus aureus*, a common nosocomial infection, has been found to be resistant to chloramphenicol (30.4%) and tetracycline (65.2%).[11] There is evidence of resistance to commonly used antibiotics in diarrhea causing agents such as *E. coli* and *Shigella*.[12] *N. Gonorrhoea* has rendered formerly common first line treatment, like penicillin, useless.[13] These rates demonstrate the urgency of the situation.

The first AMR stakeholders' meeting was held on March 2, 2006 in Addis Ababa.[14] Following the meeting, a multidisciplinary AMR Task Force was formed, which finalized its terms of reference in June 2006. The AMR Task Force is situated within the Ethiopian Drug Administration and Control Authority (DACA), whose representatives occupy the Chair and Secretariat positions on the Task Force. In August 2006, the Task Force conducted a Drug and Therapeutic Committees (DTC) training course in collaboration with DACA and RPM Plus.

Additionally, the AMR Task Force planned to hold an Ethiopian stakeholders' call-to-action workshop from November 16 to 18, 2006. Technical staff from RPM Plus and partner organizations—Links Media and Alliance for the Prudent Use of Antibiotics (APUA)—traveled to Ethiopia to participate in and provide technical assistance at the workshop and to further the implementation of the AMR advocacy and containment approach in Ethiopia.

[9] H/Mariam, A. 2006. "Overview of Malaria-Programs and Patterns of Drug Resistance and Future Plan to Contain Resistance" power-point presented at the Call-to-Action National Workshop on AMR Containment. November 16-18, 2006. Adama, Ethiopia.
[10] Wondimagegn, G. 2006. "Overview of TB-Programs and Patterns of Drug Resistance and Future Plan to Contain Resistance" power-point presented at the Call-to-Action National Workshop on AMR Containment. November 16-18, 2006. Adama, Ethiopia.
[11] Mohammed, E. 2006. "Trends of Bacterial Resistance to Common Antibiotics from Clinical Specimens" power-point presented at the Call-to-Action National Workshop on AMR Containment. November 16-18, 2006. Adama, Ethiopia.
[12] Ibid.
[13] Geyod, A. 2006. "A Review on the AMR Patterns of Bacterial Pathogens in GDs for STIs and in Stools for DDs or other GITIs" power-point presented at the Call-to-Action National Workshop on AMR Containment. November 16-18, 2006. Adama, Ethiopia.
[14] Joshi, M., and M. Miralles. 2006. *Antimicrobial Resistance Advocacy and Containment in Ethiopia: Report of Initial Activities in February–March 2006*. Submitted to the U.S. Agency for International Development by the Rational Pharmaceutical Management Plus Program. Arlington, VA: Management Sciences for Health.

Purpose of Trip

Dr. Wonder Goredema, Mr. Nick Nelson, Mr. Oliver Hazemba, Dr. Anibal Sosa, and Ms. Marisabel Sanchez traveled to Ethiopia to provide technical assistance to the Ethiopian AMR Task Force in finalizing preparations and facilitating the call-to-action workshop that was held in Adama—also called Nazareth—November 16-18, 2006.

Scope of Work

The scope of work for Wonder Goredema, Nick Nelson, and Oliver Hazemba included—

- Working with the AMR Task Force to finalize preparations for the stakeholder workshop
- Working with facilitators to help them finalize facilitation strategies at the stakeholder workshop
- Being available to provide technical assistance and respond to any AMR- and advocacy-related issues that might have arisen during the workshop
- Making relevant presentations during the workshop, including that on experiences and lessons learned from the AMR advocacy and containment program in Zambia
- Coordinating with the AMR Task Force after the workshop to map out next steps
- Participate in preparing a trip report

The scope of work for Anibal Sosa included—

- Making a presentation to introduce APUA to the AMR Task Force and discussing ways for it to contribute to the AMR advocacy and containment process in Ethiopia.
- Beginning country assessment for APUA chapter development and exploration to identify a potential chapter leader and core members from various disciplines and institutions
- Collecting country-specific AMR data
- Identifying AMR country priorities for future action
- Participating in preparing a trip report

The scope of work for Marisabel Sanchez included—

- Working with facilitators to help them finalize facilitation strategies at the stakeholder meeting and providing assistance in identifying behaviors and issues for current and future discussions as plans are elaborated
- Being available to provide technical assistance and respond to any advocacy and communication-related issues that might have arisen during the workshop
- Making a presentation on advocacy and communication issues should the national organizers agree upon
- Working with the AMR Task Force to ensure next steps are in place
- Supporting APUA chapter development by providing ideas and tools for communication and advocacy
- Establishing contacts with members of the news media
- Participating in preparing a trip report

ACTIVITIES

Finalize Preparations for the Workshop

The AMR Task Force held a meeting on Monday, November 13 at DACA. Oliver Hazemba and Marisabel Sanchez met with Task Force Members Abraham Gebregiorgis, Aberra Geyid, Asfew Debella, and Tenaw Andualem to discuss preparations for the workshop, appointments with other stakeholders (journalists), and other strategic program implementation issues. The Task Force gave a brief overview of the preparations made, including invitations for the key stakeholders, and activities still to be carried out prior to the workshop.

On Tuesday November 14, Oliver Hazemba, Marisabel Sanchez, Wonder Goredema, Nick Nelson, and Anibal Sosa ("the team") met at the Hilton Hotel in Addis Ababa to discuss the previous day's meeting with the Task Force, as well as to discuss plans for the next meeting and preparations for the workshop. In the afternoon, the team met with the AMR Task Force members to discuss progress on the workshop planning process, including reviewing the agenda, methodology, and facilitation of plenary sessions and division of breakout groups. The final participant list was reviewed, logistics for traveling to Adama were discussed, and arrangements were made.

It was requested by members of the task force that in light of time limitation the advocacy and communication presentation be cancelled. However, a request was made for a presentation at a future meeting or in a way of a workshop.

Attend and Provide Technical Assistance at the Workshop

The workshop was held at the Adama Mekonnen Hotel in Adama, Ethiopia November 16-18. The theme of the workshop was "Preserving the Efficacy of Antimicrobial Drugs in Ethiopia." The objectives of the workshop were—

- To promote the awareness of all stakeholders on the situation of AMR in Ethiopia
- To familiarize and promote the role of the AMR Task Force in advocating for the containment of AMR
- To prioritize problems and propose actions to be taken by stakeholders

The expected short and long-term results of the workshop were—

- Participants' improved awareness about AMR raised
- Participants develop recommendations and a plan of action for AMR containment in Ethiopia
- Participants identification of country priorities and gaps

- Participants' endorsement of the AMR call-to-action declaration

A detailed program of the workshop can be found in Annex 1. A total of 65 participants attended the workshop, representing various stakeholder organizations including the FMoH, DACA, the Federal Ministry of Agriculture and Rural Development (FMoARD), regional health bureaus, academic and research institutions, developmental partners, importers, local pharmaceutical manufacturers, hospitals, professional associations and mass media agencies (Annex 2).

Inauguration

The workshop started with welcoming remarks (Annex 3) by Abraham Gebregiorgis, Chair of the AMR Task Force, Director of Planning and Drug Information at DACA, and chair of the call-to-action workshop. This was followed by an inaugural speech (Annex 4) read on behalf of Dr. Tedros Adhanom, Minister of Health by the Director General of DACA, Mr. Hailesellasie Bihon. Key points from the Minister's remarks included—

- AMR is a growing problem in Ethiopia.
- The Governmental and various other organizations have already taken steps to address AMR, such as developing a Nation Drug Policy, a Pharmaceutical Sector Master Plan (to be launched soon), a policy on ARV supply and use, essential drug lists (EDLs), standard treatment guidelines (STGs) and formularies, drug information bulletins, and DTCs.
- Ethiopia still faces some challenges related to including regulatory enforcement, infection control systems, counterfeit drugs, and limited knowledge and awareness of AMR.
- A brief background on events leading to the call-to-action workshop, including the formation and activities of the AMR Task force.
- AMR containment is a problem which requires the commitment and active participation of prescribers, dispensers, consumers, the government, the media, donors, as well as implementing partners.
- The call-to-action workshop is expected to identify and prioritize the problems related to AMR in Ethiopia and propose recommendations on a national action plan and actions to be taken by workshop participants and all stakeholders.

An overview of the workshop agenda, objectives, expected outcomes, methodology, materials, expectations from participants, and administrative issues was then presented to the participants.

Presentations

The presentations were divided into four sessions—

- Overview of AMR and Public Health Programs

- Role of Drug Regulation and Training in Promoting AMR Containment
- AMR Research—Implications for Response to AMR in Ethiopia
- Underlying Factors—Drug Use and Advocacy and Containment Experiences from Other Countries

At the end of each session, there was time for plenary discussion for clarification of presentations, as well as deliberation on identifying gaps in AMR containment, what can be done to fill those gaps, and how that can be done. The discussion sessions were meticulously recorded by an official secretary hired for the meeting who synthesized recommendations that came out of each day's discussions. Key points and recommendations from the previous day were then presented to the workshop participants at the beginning of each day.

The presentations are available on a separate CD. Key points and recommendations from the presentations included:
Session One: Overview of AMR and Public Health Programs

- *Global Overview of AMR*: Summarized the global patterns of AMR in diseases of major public health importance and the factors, impact, and cost of AMR.
- *Overview of ART and STI Programs and Patterns of Drug Resistance and Future Plan to Contain Resistance*: There are currently 171 free antiretroviral therapy (ART) sites in Ethiopia. Although there are some issues with tracking patients on ART, ARV resistance has not been seen often; only 95 clients are on second line drugs. ARV resistance is not currently performed in Ethiopia and it is not viewed as an issue at this time.
- *Overview of TB Programs and Patterns of Drug Resistance and Future Plan to Contain Resistance*: Ethiopia has the third highest TB burden in Africa. MDR TB is becoming more of a problem and XDR TB is a concern. DOTS will continue to be utilized and a greater emphasis will be put on advocacy.
- *Overview of Malaria Programs and Patterns of Drug Resistance and Future Plan to Contain Resistance*: The current STGs for malaria call for the use of SP; however, studies show that SP has a high treatment failure. There is a need to change the first-line drug to combination therapy following WHO guidelines.

Session Two: Role of Drug Regulation and Training in Promoting AMR Containment

- *The Role of Effective Drug Regulation in AMR Containment*: Recommendations to strengthen regulatory measures include opening more branch offices, expanding drug retail outlets in rural areas, regulating drug promotion and promoting quality use of drugs by updating the national drug policy, emphasizing AMR in the national drug plan, strengthening research, expanding pre- and in-service training for health professionals, and ensuring distribution and utilization of STGS.
- *An Overview on the Trends of Antimicrobial Drugs Supply*: Antimicrobials account for more than 50% of the pharmaceuticals purchased by the Pharmaceuticals and Medical

Supplies Import and Wholesale Company (Pharmid). There is evidence that first-line drug supply is decreasing and new generation drugs are increasing. Further study on drug supply is recommended.

- *Self-medication and Public Awareness*: Inappropriate self-medication is a problem in Ethiopia. While self-medication contributes to the health service, antimicrobials should not be self-administered. There is a need for further study of the impacts of self-medication and education.

- *Quality of Medical Training and AMR Containment*: AMR and related topics are currently addressed in medical curricula; however, they are not addressed in adequate duration. More emphasis must be placed on attitude change and practicing rational prescribing using principles of pharmaco-therapeutics.

- *Quality of Pharmacy Training and AMR Containment*: AMR is addressed in every course and there is a post-graduate course on AMR. However, the program can be improved and there are gaps in infection control training, clinical pharmacy training, and in-service training.

Presentations on day two included:

Session Three: AMR Research—Implications for Response to AMR in Ethiopia

- *Review Paper on Malaria*: There is a need to introduce a new first line antimalarial drug in Ethiopia. Artemisin-based combination therapy (ACT) is recommended.

- *Review Paper on TB*: MDR TB is a growing problem in Ethiopia. Strengthening DOTS and initiating DOTS plus are recommended.

- *Trends of Selected Bacterial Resistance to Common Antibiotics from Clinical Specimens*: Causative agents of many infectious diseases are becoming resistant to commonly used antibiotics. Increased health education on AMR and rational drug use should be given to the public.

- *Research Paper on STI and Diarrhea*: Laboratory diagnostic capabilities should be strengthened and relationships between laboratory staff and clinicians improved. A national surveillance system for AMR should be established to study resistance patterns and trends.

- *Hospital Infection Control System Mechanism:* Nosocomial infections are especially at risk for becoming resistant. Infection control teams are starting to form at a few hospitals. However, infection control teams and policies and procedures need to be established at all hospitals.

Session Four: Underlying Factors—Drug Use and Advocacy and Containment Experiences from Other Countries

- *Prevalence of Veterinary Antimicrobial Drug Resistance in Ethiopia and its Control*: Antimicrobial use in animals is a problem in Ethiopia. Veterinarians have a role to play in AMR containment. Training of veterinarians should include AMR.

- *Resistance to Antimicrobial Drugs of Veterinary Importance, Ethiopian Context*: Antimicrobials are widely available over the counter and farmers use them inappropriately. Education to both consumers (in rural populations) and veterinarians is necessary.

- *Overview of AMR Containment Interventions*: Key strategies outlined in the WHO Global Strategy include reducing the disease burden and spread of infection, enforcing regulations and legislation to improve medicine quality, improving access to quality antimicrobials, improving use of antimicrobials and strengthening health systems and their surveillance capabilities. All stakeholders have a role to play.

- *RPM Plus Tools for Implementing Hospital Infection Control*: With USAID support, RPM Plus has collaborated with Harvard Medical School to develop a standardized approach for improving hospital infection control that combines an infection control self-assessment tool (ICAT) and implementation of rapid cycle quality improvement (RCQI) methods. RPM Plus plans to support and provide technical assistance for initial implementation of the approach to the extent possible in selected hospitals in a few countries. Feedback from the field will be utilized to upgrade the approach materials and disseminate them in the form of a CD-ROM.

- *AWG Zambia Experience*: With USAID support RPM Plus and a group of partners, developed a country-level approach for advocacy and containment of AMR. The pilot was initiated in 2004 in Zambia by in-country partners with support from RPM Plus and the CHANGE Project in collaboration with APUA The approach involved collaboration between a multidisciplinary AMR advocacy working group and various stakeholders in developing and implementing appropriate AMR interventions.

- *APUA Global Chapter Network*: With 57 country chapters worldwide, seven of them in Africa, APUA is in the position to influence the national AMR agenda through key interventions and resources. APUA recommended priorities are surveillance, research, advocacy, policy and regulation, providers' education and training and consumer awareness. APUA publishes a quarterly newsletter, and moderates an AMR electronic discussion group.

Breakout Groups

After the last presentation in the afternoon of the second day, the participants broke out into groups to discuss recommendations on AMR containment and develop action plans for future commitment to AMR prevention. Annex 5 includes the handout provided to the participants covering methodology and discussion points.

The participants were divided into four groups. Each group was multidisciplinary, with most professions represented in all groups. Each of the team members was assigned to a breakout group to observe and help faciliate the discussions. Additionally, each group had a chairperson to moderate the discussion and a secretary to take notes and present the group's recommendations and action plan in the plenary session.

The groups were provided the following discussion points to aid in their discussion—

- Share personal/organizational experiences with AMR prevention/containment.
- Identify main factors/causes of AMR in Ethiopia.
- Identify the roles that professionals and their organizations should play in AMR containment.
- Identify and discuss constaints and gaps in AMR containment.
- Develop a plan of action for AMR containment at the national and institutional levels.

The groups were instructed to formulate recommendations and actions which were feasible and aligned with the theme of the meeting. They were also asked to prioritize interventions and categorize them into short-term and long-term.

The breakout groups had an initial one hour discussion on the evening of the second day and continued for another four and a half hours during the morning of the third day. In the afternoon, each of the four groups gave 20 minute presentations of their work followed by 10 minutes for questions and comments (Annex 6).
The discussion which followed the group presentations brought out several points—

- Veterinary/animal health was not adequately reflected in most of the groups' recommendations. This was agreed upon.
- The need for a national AMR policy (as recommended by one group) was questioned. It was argued that there was plenty that can and should be done and a policy was not necessary. This was also agreed upon.
- Several participants stated their commitment to sharing these recommendations and action plans with their colleagues in the organizations they were representing at the meeting.

The recommendations were incorporated in to the call-to-action declaration.

The Declaration

Following the final plenary discussion of the group presentations, there was a short break, wherein the participants' recommendations (above) were synthesized and included in a call-to-

action declaration entitled the “Adama Declaration” (Annex 7). The Declaration was then quickly reviewed by the organizers and members of the team.

The Declaration was read aloud and was projected on the screen for all to read. The reading of the declaration was followed by a brief discussion during which consensus was reached to approve the Declaration. The Director General of DACA, Hailesellasie Bihon, gave the closing remarks (Annex 8) in which he—

- Thanked the participants for their tireless effort
- Emphasized the FMoH and DACA’s commitment to take the recommendations and use them in formulating the national plan for AMR
- Encouraged all participants to embark on advocacy work by sharing what they learned about AMR with their colleagues and beginning work on the activities in their action plans
- Encouraged the stakeholders to begin to work together, across disciplines, in order to achieve the goal of AMR containment
- Pledged DACA’s commitment to its role, highlighted by recommendations in the meeting

Organizers’ Meetings

During the course of the three day meeting, the organizers met with the international partners to discuss the progress of the meeting, address logistical issues needing attention, and synthesize the recommendations that came from the discussions. Following the first day of presentations and discussion, the AMR Task force and the partners met with the official note-taker of the meeting to review the main recommendations that came out of that day’s discussion, as well as to decide on how to summarize for the following day. It was agreed that the day had gone well and there was momentum in the discussions, which were already beginning to touch on important recommendations. The partners then worked with the note-taker to synthesize concrete recommendations. The summary was presented at the beginning of the second day.

On the evening of Friday November 17, a representative from the team worked with the official note-taker to synthesize the recommendations from day two discussions and incorporate them into the draft call-to-action document. The document was further revised and finalized by Task Force members, assisted by two members of the team, on Saturday. The Declaration was then presented at the close of the meeting.

Pictures documenting the progress of the meeting can be found in Annex 10.

Workshop materials

Many materials provided by DACA and the international partners were handed out to workshop participants. DACA distributed the *Guideline for Adverse Drug Reaction Reporting* (including the reporting form); STGs for District Hospitals, Zonal Hospitals, and Health Centers; the *Essential Drug List (EDL) for Ethiopia*; the *List of Drugs for District Hospitals*; the *List of Drugs for Health Centers* and a CD containing workshop proceedings, including presentations and photos. RPM Plus provided the WHO Global Strategy to Contain AMR CD-ROM; the WHO Policy Perspectives on Medicine, April 2005; *Containing Antimicrobial Resistance*; the Disease Control Priorities Project *Drug Resistance Fact Sheet*; and the WHO Global Strategy for Containment of Antimicrobial Resistance Executive Summary. APUA provided a folder to key opinion leaders containing information about APUA programs and services, the country chapter network, an article on AMR in Africa published in MERA Africa, and copies of relevant previously APUA published newsletters. In addition, the newly released Voice of America (VOA) Africa CD-ROM was given to all journalists attending the event.

Summary of Media Activity

On Wednesday, November 15th, Marisabel Sanchez and Anibal Sosa met with Mr. Tessema Seleshi, Radio Fana Marketing and Business Development Manager, and Mr. Ashenafi Jima, Head of the Audience Research Department. Both provided general information about the various health programs developed by the radio station. They operate three AM channels and one FM channel will be inaugurated in December 2006. When asked about their current needs, both agreed that capacity of journalists is a priority. They have five journalists on staff. One issue that they often encounter is the friction between journalists and medical doctors. Mr. Seleshi pointed out that "both groups need specific training."

Ms. Sanchez and Dr. Sosa assessed Radio Fana's level of interest and acceptability and offered to hold a training for journalists on health-related issues, particularly AMR in HIV, malaria, TB, acute respiratory infections, and diarrheal disease. They also agreed to send a proposal to Radio Fana with the program content and logistics for their consideration and approval with a tentative date of April 2007.

The main media source in Ethiopia is the radio, followed by television. Media activities at the meeting included—

- The Ethiopian News Agency filmed the opening of the meeting. This footage and material will be available to other news media.

- Reporters from four radio stations from different regions were present: Amhara Region Mass Media Agency, the Oromifa department of Radio Fana, Tigringa Radio Station, and Radio Fana (a private station based in Addis Ababa that broadcasts in Americ). Ms. Rahel Andalew, the reporter from Radio Fana, interviewed six workshop presenters, including—
  - Mr. Abdulmegid Abda, Pharmid
  - Dr. Eshetu Lemma, Ethiopian Health and Nutrition Research Institute (EHNRI)

- Dr. Abera Geyid, EHNRI (aired December, 2006)
- Mr. Tenaw Andualem
- Dr. Wondwossen Amogne
- Dr. Girma Zewde

- Radio Fana also conducted a live interview with Abraham Gebregiorgis, on Friday, Nov 17th in which he talked about the workshop, purpose, objectives, expected outcome and number of participants.

Voice of America reporter Fregenet Asseged did several interviews prior to the AMR meetings. Three were broadcast in Amharic on November 21, 28, and December 12. One included an interview with Mr. Abraham Gebregiorgis, which centered on the AMR call-to-action Workshop. The others interviewed Negussu Mekonnen and Gabriel Daniel and discussed efforts to contain AMR in Ethiopia. William Eagle of VOA Washington is also planning a five-part series on AMR in Ethiopia to be aired soon.

APUA Ethiopia Country Chapter Development

On the evening of Tuesday, November 15, Anibal Sosa and Marisabel Sanchez met at the Hilton Hotel with key opinion leaders invited by Mr. Tenaw Andualem. During the meeting, Dr. Sosa provided information about the purpose of creating an APUA chapter in Ethiopia within the context of the National AMR efforts (Annex 9A). Potential chapter members were interested in learning about the future dynamics between the APUA Ethiopia chapter and the National AMR Task Force as well as possible duplication of efforts and sustainability of the chapter. Dr. Sosa made them aware of the allocation of seed money for operational activities, and a small grant to conduct a baseline survey on physician prescribing practices. APUA will send a consultant to conduct a review of antibiotic susceptibility testing (AST) and quality control protocols, installation of the AMR surveillance software WHONET, staff training, and the carrying out of a National Symposium on Prudent Use of Antibiotics and Control/Prevention of AMR.

Dr. Sosa agreed to support the formation of the APUA-Ethiopia once due diligence is accomplished. To that effect, core members would submit their curriculum vitae, complete a country assessment form (Annex 9B) and the chapter identification form (Annex 9C), sign an agreement form (Annex 9D), and submit a letter of intent by the selected chapter leader. Once these document are reviewed and accepted, the core members should submit an annual work plan that delineates countries activities (Annex 9E). These activities should not duplicate those outlined by the National AMR Task Force; on the contrary, activities designed by the chapter will complement and assist in achievement of the national AMR strategy.

Post Workshop Meetings

On the morning of Sunday, November 19, Wonder Goredema and Nick Nelson met with Abraham Gebregiorgis at the Hilton Hotel in Addis Ababa to review he meeting and next steps for the AMR task force. Everyone felt the meeting had met its objectives and was successful, and

there was need to keep the momentum. Abraham informed the partners that the action plans from the groups would be condensed into one national action plan. This would be distributed, along with the finalized Declaration, as part of the meeting proceedings to all of the participants and the heads of the organizations and institutions represented at the meeting.

Collaborators and Partners

- The FMoH is very supportive of the AMR work in Ethiopia, as was evidenced by the Minister, Dr. Tedros Adhanom's meeting with RPM Plus staff during a visit to Ethiopia in March 2006[15] and in the inaugural speech read on his behalf at the beginning of the call-to-action workshop by the director of DACA. In his inaugural remarks he highlighted the FMoH's commitment to supporting implementation of the workshop recommendations within a national plan for AMR.

- The FMoH, DACA and other governmental and non-governmental bodies have taken regulatory, managerial and educational steps to promote the rational use of quality medicines, including antimicrobials in Ethiopia. The Director General of DACA, Hailesellasie Bihon, provided a major show of support by officially opening and closing the workshop. He highlighted the commitment of DACA to AMR containment in his closing remarks. DACA plays a critical leadership role in AMR containment and in the Task Force and the AMR initiative. Mr. Abraham Gebregiorgis, the Director of Planning and Drug Information at DACA initiated the collaboration with RPM Plus on the AMR initiative back in December 2005. Since then he has worked tirelessly to plan and coordinate the formation and activities of the AMR Task Force, including preparations and implementation of the call-to-action workshop. Thus, the coordinating role of DACA and the Task Force will be vital for successful implementation of activities of a national AMR program by the FMoH, DACA, regional health bureaus and other stakeholders in collaboration local RPM Plus staff.

- The members of the Task Force, including Chairman Abraham Gebregiorgis, constitute the core group in the Ethiopia AMR activity. It is important that their interest and motivation be retained.

- RPM Plus Ethiopia has plans to work with DACA in establishing 100 DTCs and drug information centers in hospitals around the country. The activities of these important bodies are expected to contribute significantly to AMR containment.

- DACA has an ongoing collaboration with the media in broadcasting messages promoting rational drug use (RDU). Five journalists representing four radio stations attended the workshop; some of them conducted interviews, including a live radio interview with Mr. Abraham Gebregiorgis. Marisabel Sanchez and Dr. Anibal Sosa met with officials of Radio Fana before the workshop and initiated discussions on a possible collaboration in building

[15] Joshi, M., and M. Miralles. 2006. *Antimicrobial Resistance Advocacy and Containment in Ethiopia: Report of Initial Activities in February–March 2006*. Submitted to the U.S. Agency for International Development by the Rational Pharmaceutical Management Plus Program. Arlington, VA: Management Sciences for Health.

the capacity of journalists to report relevant health issues. Such collaboration should continue to be promoted.

- The APUA country chapter began its formation during this trip. The chapter will be an important partner to the Task Force in achieving AMR containment in the country. Tenaw Andualem, Coordinator of the International Network for the Rational Use of Drugs (INRUD) in Ethiopia and AMR Task Force member, is the interim coordinator for the APUA Ethiopia Country Chapter.

- A variety of other stakeholders, including EHNRI; the Center for Disease Control and Prevention (CDC); WHO; INRUD Ethiopia; health professionals' associations; medical, pharmacy and nurse training institutions; and regional health bureaus were represented at the workshop. Their continued collaboration will be critical in implementing AMR containment interventions related to research; surveillance; curriculum review for pre- and in-service education; promoting rational use of medicines; dissemination of guidelines, formularies, and drug information; infection control; AMR advocacy; and public awareness.

NEXT STEPS

Immediate Follow-up Activities

- The Task Force will condense the action plans and recommendations from the breakout groups into one national action plan which will be distributed, along with the finalized Declaration, to all meeting participants and the heads of the organizations and institutions that were represented at the meeting.

- The AMR Task Force will initiate work on formulating a national plan on AMR using the recommendations from the meeting. The Task Force has requested the partners to provide support in undertaking a national base-line survey on AMR and implementing the national plan for AMR. RPM Plus has recommended incorporation of relevant modules of the infection control assessment tool in the baseline assessment to facilitate assessment of the current infection control situation in hospitals. Opportunities could then be explored to implement the tools to complement on-going or planned activities.

- Continue to collaborate and provide technical assistance and funding support to the extent possible for the planned baseline survey of factors impacting AMR in Ethiopia, as well as for the development and implementation of appropriate interventions within the action plan of the national AMR program by relevant stakeholders.

- Provide technical support to capacitate relevant RPM Plus and regional health bureau staff to coordinate in implementing the national AMR program.

- Provide technical support to build the advocacy capacity of the AMR Task Force, in supporting the formation and activities of the APUA country chapter. APUA will work closely with the new APUA-Ethiopia chapter members in the elaboration of a workplan and timeline to complement the work to be done by the National AMR Committee. In addition, APUA will provide technical assistance needed to organize a national symposium on Prudent Use of Antibiotics and Control/Prevention of Resistance. During this event, local scientists will present country-specific information on antibiotic use and resistance as well as results of baseline prescription practices survey.
- Provide technical support to capacitate journalists to report relevant health issues.

Recommendations

- To maintain the momentum, the collaborating partners should move ahead and support the Task Force to implement the call-to-action Workshop recommendations and should not wait for results of the baseline survey as there is adequate information to act upon.

ANNEX 1

PROGRAM
A CALL-TO-ACTION NATIONAL WORKSHOP ON ANTIMICROBIAL RESISTANCE CONTAINMENT

Theme: Preserving Efficacy of Antimicrobial Drugs in Ethiopia

Workshop dates: November 16-18, 2006.
Adama Mekonnen Hotel, Adama, Ethiopia.

Thursday, November 16, 2006

Time	*Subject*	
08:30 – 09:00	Registration	
09:00 - 09:10	Welcome Address	Ato Haileselassie Bihon Director General, Drug Administration and Control Authority
09:20 – 09:30	Opening Address	His Excellency, Dr Tedros Adhanom , Minister of Health
09:30 – 09: 45	TEA/COFFEE BREAK	

Overview of AMR and Public Health Programs
Moderator: Dr Teferi Gedif

Time	**Subject**	*Presenter*
09:45 – 10:15	Global overview of AMR	Dr Negussu Mekonnen, MSH/RPM Plus
10:15-10:45	Overview of ART and STI Programs and Patterns of Drug Resistance and Future Plan to Contain Resistance	Dr. Esmael Wabela, HAPCO MOH
10:45-11:15	Overview of TB - Programs and Patterns of Drug Resistance and Future Plan to Contain Resistance	Dr Getachew Wondimagegn, TB and Leprosy Control and Prevention Division, FMOH
11:15-11:45	Overview of Malaria - Programs and Patterns of Drug Resistance and Future Plan to Contain Resistance	Dr.Afework H/Mariam, Malaria and Other Vector born Disease Control and Prevention Division, FMOH
11:45-12:30	Discussion	
12:30-2:00	LUNCH BREAK	

Role of Drug-Regulation and Training in Promoting AMR Containment

Moderator: Professor Tsige G/Mariam

Time	*Subject*	Presenter
2:00-2:30	The Role of Effective Drug Regulation in AMR Containment	Mr. Abraham Gebregiorgis, Planning, Drug Information Establishment and Distribution Department, DACA
2:30-3:00	An Overview on the Trends of Antimicrobial Drugs Supply	Mr. Abdulmegid Abda, PHARMID
3:00-3:30	Self-medication and Public awareness	Mr. Tenaw Andualem, INRUD Ethiopia
3:30-3:45	TEA/COFFEE BREAK	
3:45-4:15	Quality of Medical Training and AMR Containment	Prof. Eyasu Makonnen, Faculty of Medicine, AAU
4:15-4:45	Quality of Pharmacy Training and AMR Containment	Dr Ephrem Engdawork, School of Pharmacy, AAU
4:45-5:30	Discussion	
6:00-8:30	Social Evening Reception	

Friday, November 17, 2006

AMR Research-Implications for Response to AMR in Ethiopia
Moderator: Dr Tsehainesh Messele

Time	*Subject*	Presenter
8:30-8:45	Synthesis of discussions of Day One	Responding Panel (AMRAC)
8:45-9:15	Review Paper on Malaria	Dr Wondwossen Amogne, Faculty of Medicine, AAU
9:15–9:45	Review paper on TB	Dr Eshetu Lemma, EHNRI
9:45-10:15	**Trends of Bacterial Resistance to Common Antibiotics from Clinical Specimens**	Mr. Endris Mohammed, EHNRI
10:15-10:30	TEA/COFFEE BREAK	
10:30-11:10	Research Paper on STI and Diarrhea	Dr. Abera Geyid, EHNRI
11:10-11:40	Hospital Infection Control System Mechanism	Dr Wondwossen Amogne, Faculty of Medicine, AAU
11:40-12:30	Discussion	
12:30– 2:00	LUNCH BREAK	

Underlying Factors-Drug Use and Advocacy and Containment Experiences from Other Countries

Moderator: Dr Negussu Mekonnen

Time	**Subject**	Presenter
2:00-2:30	Prevalence of Veterinary Antimicrobial Drugs Resistance in Ethiopia and its Control (Review)	Dr Girma Zewde, Faculty of Veterinary Medicine, AAU
2:30-3:00	Resistance to Antimicrobial Drugs of Veterinary Importance, Ethiopian Context	Dr Fikru Regassa, Faculty of Veterinary Medicine, AAU
3:00-3:30	Discussion	
3:30-3:45	TEA/COFFEE BREAK	
3:45-4:00	Overview of AMR Containment Interventions	MSH/RPM Plus Zambia
34:00-4:15	RPM Plus Tools for Implementing Hospital lC	Wonder Goredema, MSH/RPM Plus
4:15-4:35	AWG Zambia Experience	Wonder Goredema, MSH/RPM Plus
4:35-4:55	APUA Global Chapter Network	Anibal Sosa, APUA
4:55-5:15	Discussion	
5:15-7:00	Group Breakout Sessions	

Saturday, November 18,2006

Moderator: Mr. Abraham Gebregiorgis /Ms. Marisabel Sanchez

Time	*Subject*
08:00-10:15	Working group discussion continued
10:15-10:30	TEA/COFFEE BREAK
10:30-12:00	Working group discussion continued
12:00-1:00	LUNCH BREAK
1:00-1:30	Presentations of Call to Action Working Groups-I + Discussion
1:30-2:00	Presentations of Call to Action Working Groups-II + Discussion
2:00-2:30	Presentations of Call to Action Working Groups-III + Discussion
2:30-3:00	Presentations of Call to Action Working Groups-IV + Discussion
3:00-4:00	Plenary Call to Action Session
4:00-5:00	Workshop Declaration and Closing Remarks

ANNEX 2
LIST OF PARTICIPANTS
A call-to-Action National Workshop
on Antrimicrobial Resistance (AMR) Containment
November 16-18, 2006, Adama Mekonnen Hotel, Adama, Ethiopia

S.N	Name	Working Address	Telephone	Profession	E-mail Address
1	Frehiwot Mengistie	Amhara Mass media Agency	(91) 878-3790	Journalist	aschle2000@yahoo.com
2	Abrehaley Teklemariam	Tigrey Radio Station	(91) 470-9443	Journalist	abraha25@yahoo.com
3	Mohammedbrhan Abdulwahab	Gonder University	0911-663609	Pharmacologist	mohammedawahab@yahoo.com
4	Girma Zewde	Faculty of Vetrenary Medical Deber Zeit	(91) 140-7453	Veterinarian	girmazd@yahoo.com
5	Mehari Hadgu	Tigray Refional Health Bureau	(91) 474-5708	Health Service Expert	mtasa2005@yahoo.com
6	Yirga Haile	Walta Information Center	0911-320299	Journalist	yirga2002@yahoo.com
7	Abdella Mohammed	Semera Health Bureau	(33) 666-0015	Head Health Staff B. Pharmacist	frandam2001@yahoo.com
8	Theodres Abera	DireDawa Health Bureau	(91) 575-5243	Health officer	abebawdr@yahoo.com
9	Dr. Yilkal Asfaw	FUM, AAU	(91) 140-8011	Lecturer	yilkalsfaw@yahoo.com
10	Asegid Shiferaw	MOARD	(91) 134-5252	Veterinarian	asbezdagim@yahoo.com
11	Lemma Bogale	Harari	(11) 374-0149	Nurse	
12	Dr. Tesfaye Motera	Dilchora D.D	(91) 573-0419	G.P Pediatrics	
13	Deneke H. Mariam	AHRI	(11) 321-1565	Researcher	denekeh@hotml.com
14	Shimelis Ayele	EPHARM	(11) 371-1000	Pharmacist	jshimayaet@yahoo.com
15	Mulushewa Beshah	Ethiopian Vet. Association	(11) 552-5020	Veterinarian	eva.ha@ethionetet
16	Dr. Abraha Hailu	Mekelle University	(91) 141-3363	MD	abrahah2002@yahoo.com
17	Dr. Assegid Tassew	DACA	(91) 140-8888	MD	
18	Dr. Anibal Sosa	APUA	617-636-2709	MD	anibal.sosa@tufts.edu
19	Dr. Asfew Debella	EANRI/EM		Pharmacist	asfewdabella@yahoo.com

20	Lake Ademe	DACA	+251911464325	Pharmacist	lemo11ademen@yahoo.com
21	Dr. Elias Gossa	AFGH	(91) 140-7531	Microbiologist MD.	eliasgossa@yahoo.com
22	Gabriel Daniel	RPM Plus/MSH		Pharmacist	gdaniel@msh.org
23	Nick Nelson	RPM Plus/MSH	1-703-310-3498	Public Health	nnelson@msh.org
24	Abdulmejid Abda	Pharmid	50-0353	Pharmacist	
25	Naod G/Samuel	Mekelle University	(91) 473-3535	Pharmacist	Naod40@yahoo.com
26	Solomon Shiferaw	DACA	(91) 145-3273	Pharmacist	solshi22@yahoo.com
27	Dr. Hailu Mamo	DACA	(91) 140-7570	Veterinarian	hamiuto@yahoo.com
28	Tesfaye Kassa	Jimma Univercity	(91) 782-0065	Microbiologist	kies33@yahoo.com
29	Endalk Gebrie	JHU-TSEHAI	(91) 163-9092	Pharmacist	enalkg@yahoo.com
30	H/Gebriel Biniyam	A.A SNA	(91) 184-2422	Journalist	
31	Aberra Geyid	A.A EHNRI	(91) 141-3194	Microbiologist	aberrage@yahoo.com
32	Oliver Hazemba	MSH-Zambia	2601-26164	Pharmacist	ohazemba@msh.org
33	Marisabel Sanchez	Link media	(301) 987-5497	President	msanchez@linksmedia.net
34	Miheret Tamir	PHARMID	011-276-32-72	Pharmacist	miheretameh@yahoo.com
35	Bekele Youna	FAWES/EPA		Pharmacist	behyoubera@yahoo.com
36	Alemayehu Nigatu	MSH/RPM Plus		Microbiologist	anigatu@msh.org
37	Mekonnen Biru	Biological Society of Ethiopia		Botanist	megbir@yahoo.com
38	Mekdes Gebeyehu	EHNRI	011-275-1522/0911686743	Microbiologist	mekgeb1961@yahoo.com
39	Sultan Suleman	Jimma University	(91) 174-2354	Pharmacist	sult.pharma@yahoo.com
40	Dr. Ibrahim Bahiru	ALERT	(91) 114-1901	MD	ibrahimbahiru@yahoo.com
41	Teferi Gedif	SOP, AAU	(11) 155-8566	Pharmacist	teferig@phar.aau.edu.et
42	Dr Yoseph Mamo	UCSD/JU		MD	yoazmera@yahoo.com
43	Dr Ermias Getaneh	J. THE		MD	
44	Dr. Wonder Goredema	MSH WASHINGTON	+1-703-310-3429	Pharmacist	wgoredema@msh.org

45	Atnafu Setegn	FHD/MOH	0915-155542	Health Officer	atnafusetegn@yahoo.com
46	Tenaw Andualem	INRUD		Pharmacist	
47	Tamerat Tadesse	ENA (Ethiopia Nurse Association)	0911-102410	Nurse	
48	Dawit Dikasso	EHNRI	0911-247092	Pharmacist	ddikasso@yahoo.com
49	Hiwot Teshome	PSLO (MOH)		Pharmacist	
50	Moges Kassa	EHNRI	0911-893688	Researcher	eyobmk@yahoo.com
51	Dr. Eshetu Lemma	EHNRI	0911-566384	Microbiologist	eshetuu@yahoo.com
52	Dawit Safoye	St. Pauls Hospital	0911-650865	Pharmacist	daldinn77@yahoo.com
53	Shewangizaw Kassahun	ENA (Ethiopia News Agency)		Journalist	
54	Fedlu Wabela	ENA (Ethiopia News Agency)		Journalist	
55	Rahel Endalew	Radio Fana	0911-677258	Journalist	richfena@yahoo.com
56	Endris Mohammed	EHNRI	0911-892419	Microbiolist	endrismahmudm@yahoo.com
57	Dr. Melaku Samuel	EPHARM	0916-825222	MD in Public Health	ephaz@ethionet.et
58	Ezra Muluneh	A.A	0911-400288	Pharmacist	ezram@ethionet.et
59	Firew Tadesse	Amahar Health bureau	0911-487690	Public Health	tadessefirew@yahoo.com
60	Tigist Mekonnen	Oromya Health bureau	0911-483919	Pharmacist	tigistmek2006@yahoo.com
61	Dr Beniam Feleke	CDC Ethiopia		MD	felekeb@et.cdc.gov
62	Dr Yonas Tadios	FMOH	0911-405848	Public Health	ytad2005@yahoo.com
63	Negero Gemeda	EHNRI	0911-339449	Researcher	negerogemeda@yahoo.com
64	Dr. Fikru Regassa		0911-907056	Veterinarian	fikruregassa@yahoo.com
65	Mohammed Fatiy	Radio Fana	0911-179332	Journalist	
66	Berhan T/Haimanot	MSH/RPM Plus		Communications	btekle@msh.org
67	Bekele Tefera	WHO/EDM	0911-169663	Pharmacist	bekelet@afro.et.who.int
68	Hailu Tadeg	MSH/RPM Plus		Pharmacist	htadeg@msh.org
69	Berhanu Muche	DACA/MOH	0911-413153	Pharmacist	berhanuem@yahoo.com

ANNEX 3
WELCOMING ADDRESS

Call to Action National Workshop on Antimicrobial Resistance

November 16-18, 2006, Adama

Honarable Ato Haileselassie Bihon Director General, Drug Administration and Control Authority of Ethiopia

Distinguished workshop participants
Distinguished representatives of partner organizations,
Distinguished Guests

Ladies and Gentlemen!
It is indeed an honor and pleasure to welcome you to this national workshop.
On behalf of the Drug Administration and Control Authority and the AMR adhoc advisory committee, I would like to thank you for your determination to come to this very important and timely workshop that aims at promoting awareness on the need for containment of antimicrobial resistance in Ethiopia and propose strategic measures that should be taken by the government and stakeholders.

Antimicrobial resistance is now recognized as an serious global public health problem. AMR which is a natural phenomenon is aggravated by irrational use of drugs. the Federal Ministry of Health, academic and research institutions and scholars have been playing their part in addressing some of the precipitating factors for this irrational use of drugs and antimicrobial resistance. These include:

- A National Drug Policy which is under revision
- Pharmaceutical sector Master Plan which soon will be launched
- Policy on ARV drugs supply and use
- Development of documents including national essential drugs lists standard treatment guidelines, and formularies, different guidelines such as on Drug and Therapeutics Committees, adverse drug reactions monitoring and drug donations as well as Drug Information Bulletins.
- Conducting research on efficacy and trend of resistance of some antimicrobials and others.

However as every body would agree what has been accomplished so far is far from adequate and are of the belief that a lot more needs to be done to ensure the rational use of drugs in general and that of antimicrobial drugs in particular. To mention some of the problems faced:

- Antibiotics distribution is still not fully subject to prescription.
- There is lack of infection control system in hospitals
- Threat of the presence of substandard and counterfeit drugs in the gray market.
- Limited knowledge and awareness on the rational use of drug and consequences of AMR

- Limited diagnostics ability in rural health facilities

In recognition of these and other problems, DACA in collaboration with the MSH-RPM Plus/ has been carrying out some activities on antimicrobial resistance advocacy and containment. One such activity was a preliminary assessment done by a team sent by MSH/RPM Plus head office about the AMR situation followed by a stakeholders meeting on Antimicrobial Resistance held on 02 March 2006 in Addis Ababa. Among the major conclusions that emerged from the first stakeholders meeting on AMR was the need for a broad base stakeholders "Call to action" meeting to move the AMR agenda forward in a comprehensive way. To facilitate the process an adhoc committee was established on the basis of the recommendation of the meeting. This workshop is the result of the relentless effort exerted by the DACA the adhoc AMRAC and MSH/RPM plus.

The workshop on antimicrobial resistance is therefore organized as part of the activity to mount a country-level advocacy and containment program. The workshop in its two days deliberations aims to accomplish the following main tasks:

- Create and promote the awareness on the situation of AMR in Ethiopia
- Define the role of stakeholders in advocacy and containment of AMR
- Identify problems and propose actions to be taken at a national and stakeholder level.

Once again, I would like to thank you all for readily accepting our invitation and your commitment shown towards working together to tackle problem and contain AMR in Ethiopia.

At this juncture, I want to assure you that DACA and the advisory committee are very glad to work with you all who are willing to contribute to the achievement of our vision that people of our country have access to safe, effective, affordable and quality essential drugs that are prescribed, dispensed and used rationally.

Finally, I take this opportunity to thank USAID and MSH/ RPM Plus for their financial and technical assistance for the organization of the workshop.

I now call upon honorable Ato Haileselassie Bihon to officially inaugurate this "Call to action national workshop on Antimicrobial Resistance Containment in Ethiopia".
I thank you.

ANNEX 4
OPENING ADDRESS

Call to Action National Workshop on Antimicrobial Resistance
16-18 November 2006 at Adama Mekonen Hotel, Adama
Inaugural address by H.E. Dr. Teodros Adhanom, Minister of Health.

Mr. Haileselassie Bihon, Director General of DACA,
Distinguished representatives of partner organizations,
Distinguished representatives of the health sector,
Honorable guests!
Ladies and Gentlemen!

It is indeed an honor and pleasure to address this national workshop that discusses on Antimicrobial Resistance. On behalf of the Federal Ministry of Health and myself, I wish to welcome you all to this important workshop.

All of us here would agree that health care is one of the crucial components of basic social services that with a direct linkage to the growth and development of a country as well as to the welfare of a society. However we cannot think of quality health services without the availability of and access to essential drugs.

The government of the Federal Democratic Republic of Ethiopia in recognition of the critical role of pharmaceuticals has been exerting its utmost effort to realize not only that our people have access to safe, effective, quality, affordable medicines but also use them rationally. In this regard, the Health Sector Development Program (HSDP), currently on its third phase, has considered the service as one of its eight important components. Since we started implementation of the HSDP both the Health and Pharmaceutical Sector have accomplished a number of major legislative, regulatory and organizational reforms. To mention some:

- The Proclamation to provide for Drug Administration has been issued followed by the establishment of the Drug Administration and Control Authority (DACA) as a semiautonomous body.
- A comprehensive National Drug Policy (that is part and parcel of the Health Policy) as well as policies on comprehensive care of HIV/AIDS and on ARV drugs supply and use.
- Development of documents such as essential and national drugs lists, standard treatment guidelines, formularies, etc.

Ladies and gentlemen!

Infectious diseases such as malaria, tuberculosis and HIV/AIDS are a major cause of morbidity and mortality in Ethiopia. The government of the Federal Democratic Republic of Ethiopia in collaboration with international partners has been working to improve public access to essential medicines including antimicrobials and encouraging results are being obtained in these aspects and the ability to manage infectious diseases has greatly improved because of the availability of these agents.

As availability and use of antiretroviral (ARV), anti-tuberculosis and anti-malarial medicines are increasing, it is increasingly important to implement measures to try to preserve the effectiveness of these agents as well those antimicrobials used for other common conditions in Ethiopia such as STIs, pneumonia, baciliary dysentery and meningitis.

Although large-scale studies and documentation do not exist on the problem of AMR in Ethiopia, the available reports do indicate that it is already a problem that is growing. Documented high levels of chloroquine and sulfadoxine-pyrimethamine resistance among Plasmodium falciparum strains is a clear example of the problem of AMR that necessitated the recent regimen change to artemisinin-based combination therapy (ACT).

Ladies and Gentlemen!

If you allow me, I would like to quote the saying of a leading American scholar in molecular genetics and informatics, also a Nobel Laureate, Joshua Lederberg; he said, "Antibiotic resistance as a phenomenon is, in itself, not surprising. Nor is it new. It is, however, newly worrying because it is accumulating and accelerating, while the world's tools for combating it decrease in power and number."

Ladies and Gentlemen!

The rise of antimicrobial resistance in human pathogens poses a growing challenge to medicine and public health. From the very first case of resistance (that of staphylococcus), the problem of antimicrobial resistance has snowballed into a serious public health concern with economic, social and political implications that are global in scope and cross all environmental and ethnic boundaries. Although antimicrobial resistance also affects industrialized nations, its impact is far greater in the developing world. To have an overview of the economic impacts of antimicrobial resistance few examples could be cited:

- For cases of nonresistant Neisseria gonorrhea, genitourinary infections that respond to penicillin, tetracycline or sulfonamides, the cost per course of treatment is less than US$ 1, whereas in resistant cases treated with ceftriaxone, ciprofloxacin or spectinomycin, the cost may be as high as US$ 7, depending upon the drug.
- The cost of treating multiple drug resistant (MDR) TB may be as high as US$15 000 for an 18-month treatment regimen. In contrast, the first line anti-TB drugs needed for management of drug-susceptible TB cost as little as US$11 for a six-month regimen.
- WHO estimated that if the cost of the treatment with chloroquinine is one, it is 35-40 with quinine and other antibiotics in the developing world.

As you all know the plight of a patient infected with a resistant strain is not only the increased cost faced with second and third line drugs. This patient may endure prolonged illnesses and hospital stays, which in turn result in lost wages, lost productivity, family hardship and increased infectiousness. Unfortunately, treatment with second and third line drugs is also often toxic to the patient and increasingly ineffective, owing to the speed with which mutant organisms develop resistance.

Ladies and Gentlemen!

The problem of AMR is aggravated by the prevailing irrational use of medicines including inappropriate prescribing and dispensing practices, sub-optimal treatments trailing to self-medication behavior and poor drug quality. Containment of this problem therefore requires the commitment and active participation of the medicine users, namely the prescriber, the dispenser, the patient/consumer and the government, media and communication professionals, donors as well as implementing partners.

It is therefore important that all workshop participants come with an open mind and a flexible approach to problem solving. As you consider different perspectives on any issue, let your thinking be open, rational and far-sighted.

I would like to reemphasize that the workshop is expected to identify and prioritize the problems related to AMR and propose recommendations on a national action plan and actions to be taken by workshop participants as well as by all stakeholders.

At this juncture, I want to assure you that the Federal Ministry of Health and the Board of DACA are very glad to work with all who are willing to contribute to realization of the goal of the Health Sector in general and that of the Pharmaceutical Sector in particular. If we continue collaborating our efforts, we can roll out poverty and roll in development.

Finally, I take this opportunity to thank all partners, especially the USAID funded RPM Plus/MSH for its financial and technical assistance given to this sector.

I hope at the end of this meeting you will achieve the objectives of the meeting, which will eventually contribute to the success of the HSDP.

I wish you successful and pleasant deliberations during your meeting sessions and I now declare this Workshop on Antimicrobial Resistance officially open.

I thank you.

ANNEX 5

Breakouts' Discussion points, Organization and Modalities

I. Discussion Points

1. Share experience on AMR prevention/containment and efforts exerted by you, your organization/institution, professional Association, known previous activities….etc
2. Identify the factors/causes for spread of AMR in Ethiopia
3. Identify the roles that individuals/professionals, Associations organizations (government bodies, media, academic and research institutions NGOs, other partners) should play in the containment of AMR
4. Identify/discuss constraints, gaps… etc to prevent/contain AMR and/or promote appropriate use/management of Antimicrobials (resources, information, etc.)
5. Develop a Plan of action for AMR containment at the national level and institution/organization level that includes *needs for*
   - Situational analysis/baseline survey/,
   - Education (Sensitization,/Advocacy Training Curriculum review)
   - Research
   - Surveillance

II. Organization

1. There will be Four groups (each group is a multi-professional as well multi-organizational)
2. Each group will select a chair person and a raporteur
3. Discussion will follow the " package provided" and any additional points agreed by the group
4. Friday's session will continue until 7:00 pm
5. Group discussions will be completed at mid-day Saturday
6. Plenary will take place Saturday afternoon
7. Workshop declaration will be adopted at the end of the plenary

III. Modality

1. Group discussion should be participatory, inclusive, economical and effective

2. Recommendations should:
   - be aligned with the theme of the workshop "Preserving efficacy of Antimicrobial drugs in Ethiopia"
   - Reflect the interest of different stakeholders
   - implementable
   - prioritize
   - Identify action at different levels
   - Identify resources

3. The plan of action should be

- Comprehensive (include: research, practice, regulation, advocacy/media….etc)
- Aligned with the theme "Preserving efficacy of Antimicrobial drugs in Ethiopia
- Reflect the commitment of stakeholders
- Address national as well as institutional issues
- Ensure continuum through identification of activities that should be acted by the participants and their organizations
- Identify the type and sources of resources
- Implementable
- Long and short term

Call-To-Action National Workshop on AMR Containment
Nov 16-18, 2006, Adama Action Plan
Group:
Chairperson:
Raporteur:

Sn.	Objectives	Activities	Resource needed (material, financial, technical)	Responsible body

IV. Recommendations

Main areas of focus

1. Research: baseline, meta-analysis of existing papers, communication……
2. Regulation: guidelines/application, PMS, quality, safety monitoring
3. Rational use: guidelines, indicator study, Drug information…….
4. Drug Supply: availability, distribution, storage,
5. Human and Animal Health and pharmacy services (Ethics, legislation…)
6. Collaboration (inter-intra, local/international…etc)
7. Public and health care workers sensitization

8. Training (curriculum, in service…..)

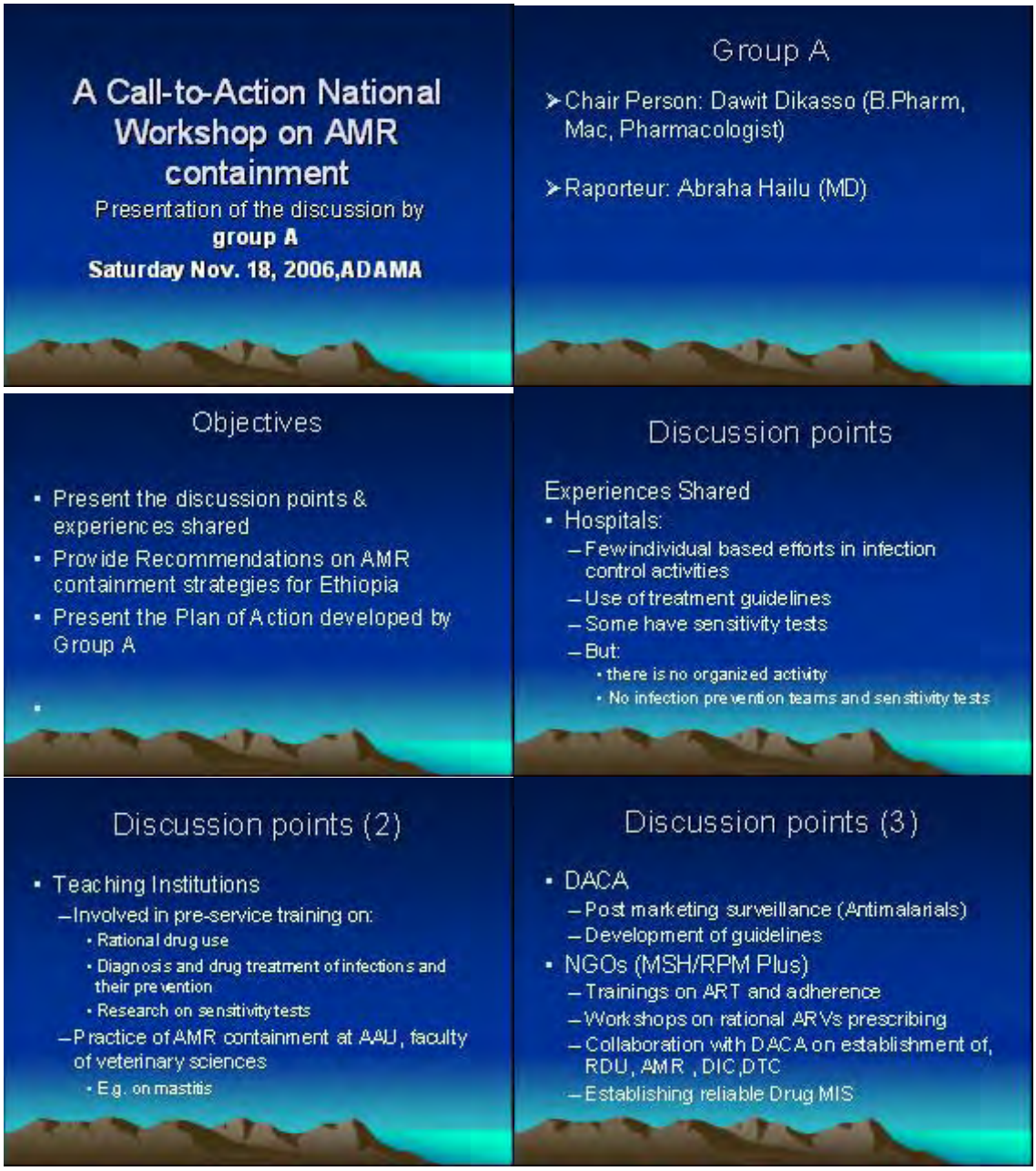
V. Assistance:

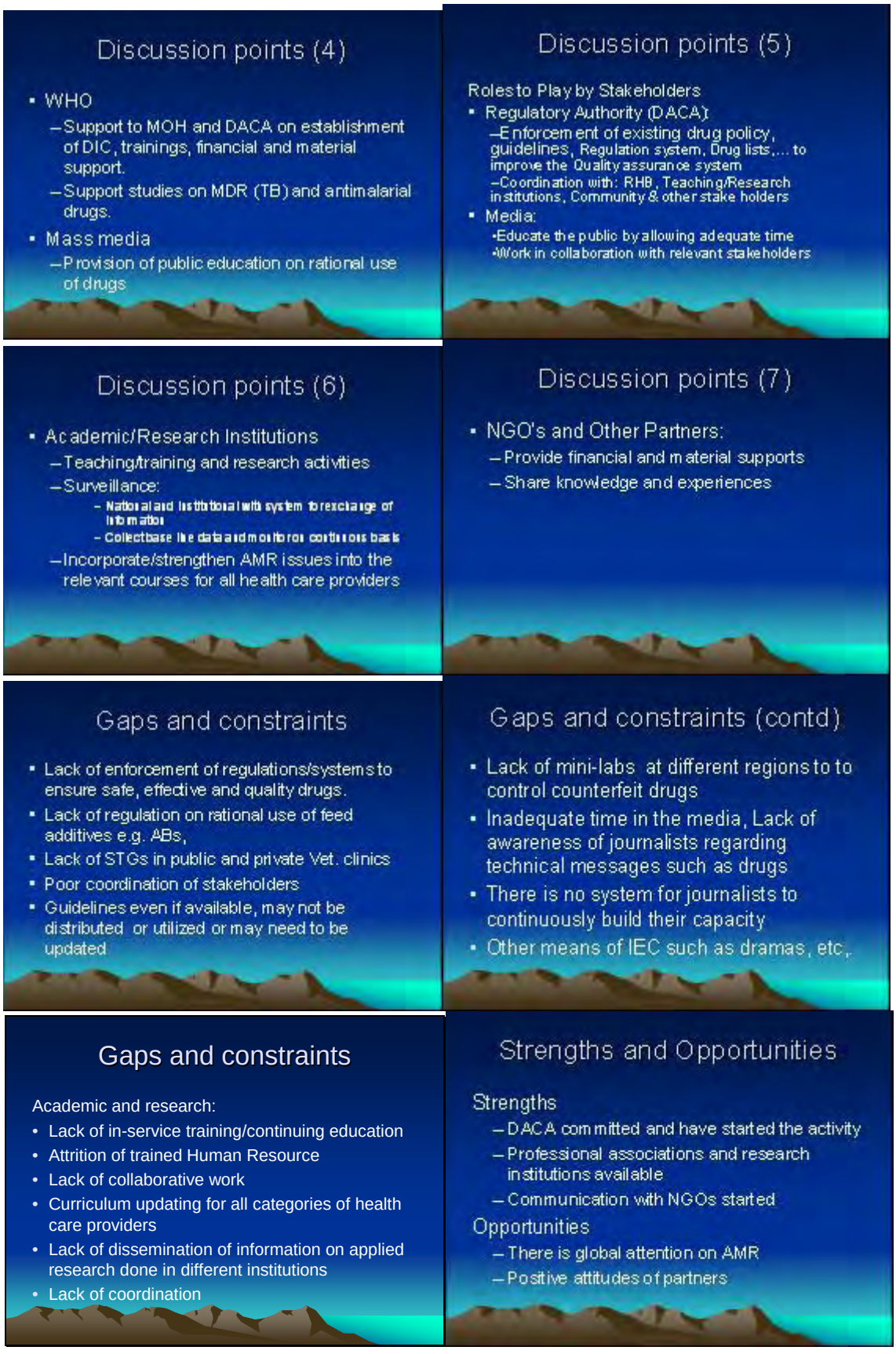
AMR task force members and guests are assigned in each group to facilitate the discussion.

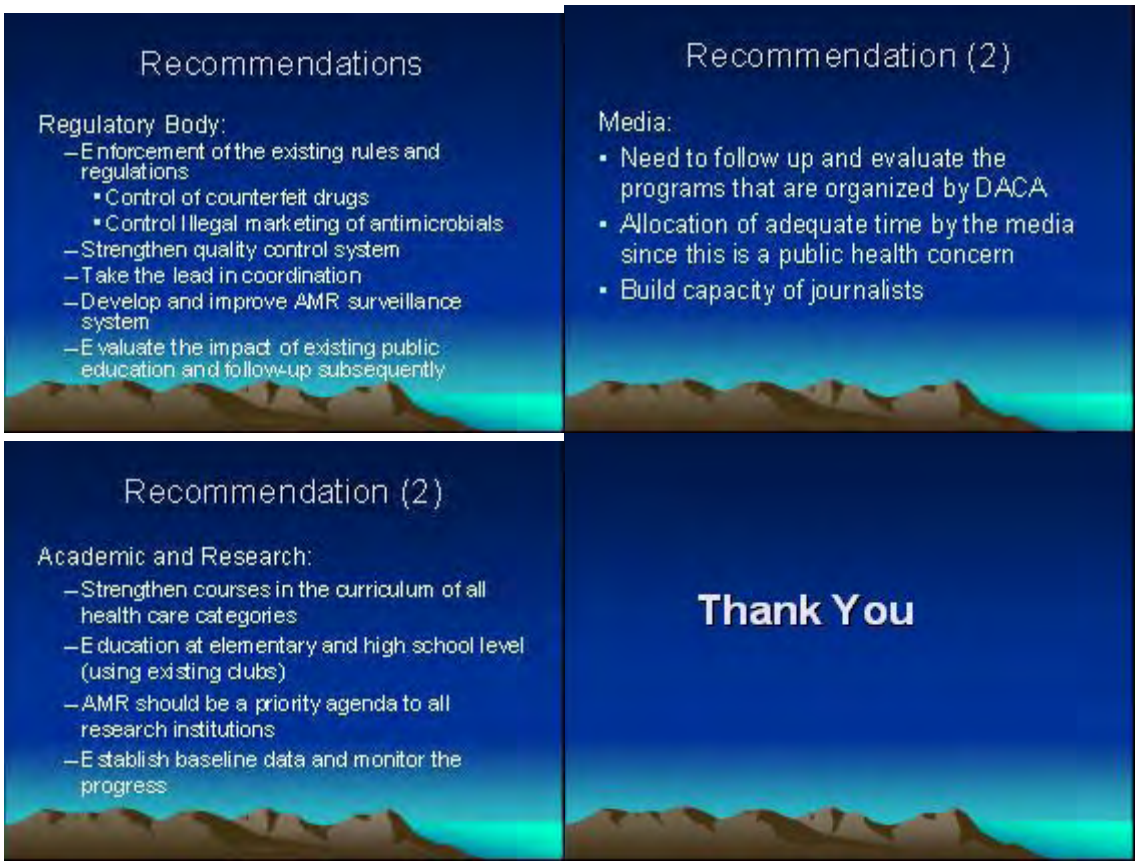
VI. Logistics

- Each group will be provided with a Lap top
- Print outs (Presentations, Reference materials ex. Global strategy..)

ANNEX 6
BREAKOUT GROUP PRESENTATIONS
GROUP A PRESENTATION




Discussion points (4)
• WHO
– Support to MOH and DACA on establishment of DIC, trainings, financial and material support.
– Support studies on MDR (TB) and antimalarial drugs.
• Mass media
– Provision of public education on rational use of drugs
Discussion points (5)
Roles to Play by Stakeholders
• Regulatory Authority (DACA):
– Enforcement of existing drug policy, guidelines, Regulation system, Drug lists,... to improve the Quality assurance system
– Coordination with: RHB, Teaching/Research institutions, Community & other stake holders
• Media:
•Educate the public by allowing adequate time
•Work in collaboration with relevant stakeholders
Discussion points (6)
• Academic/Research Institutions
– Teaching/training and research activities
– Surveillance:
– National and institutional with system to exchange of information
– Collect base line data and monitor on continuous basis
– Incorporate/strengthen AMR issues into the relevant courses for all health care providers
Discussion points (7)
• NGO's and Other Partners:
– Provide financial and material supports
– Share knowledge and experiences
Gaps and constraints
• Lack of enforcement of regulations/systems to ensure safe, effective and quality drugs.
• Lack of regulation on rational use of feed additives e.g. ABs,
• Lack of STGs in public and private Vet. clinics
• Poor coordination of stakeholders
• Guidelines even if available, may not be distributed or utilized or may need to be updated
Gaps and constraints (contd)
• Lack of mini-labs at different regions to to control counterfeit drugs
• Inadequate time in the media, Lack of awareness of journalists regarding technical messages such as drugs
• There is no system for journalists to continuously build their capacity
• Other means of IEC such as dramas, etc.
Gaps and constraints
Academic and research:
• Lack of in-service training/continuing education
• Attrition of trained Human Resource
• Lack of collaborative work
• Curriculum updating for all categories of health care providers
• Lack of dissemination of information on applied research done in different institutions
• Lack of coordination
Strengths and Opportunities
Strengths
– DACA committed and have started the activity
– Professional associations and research institutions available
– Communication with NGOs started
Opportunities
– There is global attention on AMR
– Positive attitudes of partners



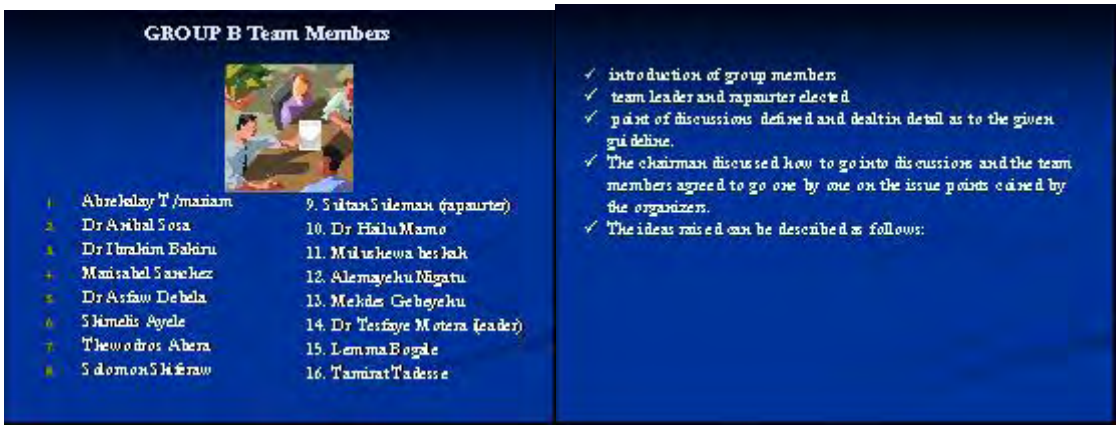
GROUP A ACTION PLAN

Objectives	Activities	Resources	Responsibility
To create **awareness** on AMR of HCPs and the public	• Education of the public through various means: **Radios, TVs**, News papers, Flyers, etc…. • In-service and continuous **training t**o HCPs •		**Participants** of AMR Workshop, Media, Professional Associations, etc….
To ensure the **quality** of AMs	• Establishing **mini labs for QC** of AMs • Monitor the storage and distribution of AMs at different levels • Encourage the pharmacovigillance activities • Control illegal drug marketing		**DACA**, Professional Associations, Manufacturers, NGO's, etc…
To determine the **status** of AMR	• Carry out base line **surveys**		**Research** Institutions, Universities, etc…

	and meta analysis of the current status • Establish sentinel **surveillance** sites • Carry out monitoring and evaluation regularly		
To strengthen capacity of **diagnostic facilities**	• Develop **minimum requirements** for diagnostic facilities • Monitor their performance regularly • Build capacity of practitioners		MOH, DACA, EHNRI, NGO's etc…

Infection Prevention and Control: • To control the spread of hospital aquired **infection**s	• **Establish IP committees** • Create awareness to all staff • Avail IP logistics • Implement universal precautions all the time		**IP committee** of each health facilities, Health facility, MOH, etc…
Promote RDU	• Create awareness on RDU • Establish DIC and DTC • Provide continuous education on RDU to all HCPs		DACA, Professional Associations, NGO's, etc…

GROUP B PRESENTATION



1. Shared experiences
- ✓ AMR Research undertakings either as routine part of their work or based on self interest and attending papers produced on different scientific seminars and workshops (members from research institutes and academia)
- ✓ Antimicrobials production: quality production of antimicrobials and their contribution to prevention of AMR
  - ✓ Rendering trainings on mechanisms and preventions of exposures for the workers on production line of these antimicrobials
  - ✓ Annual health check up for the workers whether the developed resistant strains of microbes
  - ✓ Regulatory aspects related to registration, quality control through well equipped DACA lab, rendering drug information regarding AMR through pamphlets, bulletins.

2. Causes of AMR

Regulatory problems
- ✓Illegal drug outlets
- ✓Drug smuggling
- ✓Poor awareness on quality use of drugs /AM/ among the public
- ✓Lack/Inadequate distribution of standards
  Ex. STG, Formularies, manuals
- ✓Weak popularization of standards, manuals, formularies guidelines

Problems related to prescribers
- ✓Poor adherence to STGs
- ✓Unjustified prescription by physicians,
- ✓Patients being prescribed from different physicians
- ✓Lack of patient advice by physicians about the antimicrobials while prescribing
- ✓Pressure from Drug promoters

Problems related to drug use
- ✓recommendation from unqualified Health personnel/family members/friends
- ✓Patient's belief "New and expensive medication more efficacious"

Dispensing problems from pharmacy professionals
- ✓labelling
- ✓appropriate drug information/advice
- ✓amount/dose dispensed is as to the patients interest than as prescribed
- ✓ dispensing without prescription

Lack/inefficient control activities from regulatory authority in
- ✓ pharmacy settings
- ✓ clinics
- ✓ traditional medical practitioner premises

Lack of drug information by the public
- ✓on how to use the drugs
- ✓how to store drugs to the public
- ✓ the hazard of self medication

Lack of the inclusion of drug information to the health extension worker by DACA
- ✓ on storage
- ✓Use
- ✓ distibution
- ✓ quality
- ✓impact of self medication
- ✓ etc.

Drug promotors
- ✓ create bias to the prescribers
- ✓ misguide the society
- ✓insufficient control and information

Lack of awareness at all level health professionals about AMR
- ✓ starting from health extension to the highest degree health professionals
- ✓ prescribers bias on brand/generic prescription because of lack of prescribing information/guidelines /national drug lists / document
- ✓ lack of coordination between professionals/control authorities like FMOH and DACA
- ✓ misdiagnosis by physicians /lack of lab facilities
- ✓ non-professional owners of pharmacy settings enforcing illegal dispensing

- ✓insufficient or no quality control laboratories e.g. At regions leading to flow of substandard, counterfeited, unsafe and non-efficacious drugs

- ✓Lack of integration between quality control laboratories and diagnostic laboratories

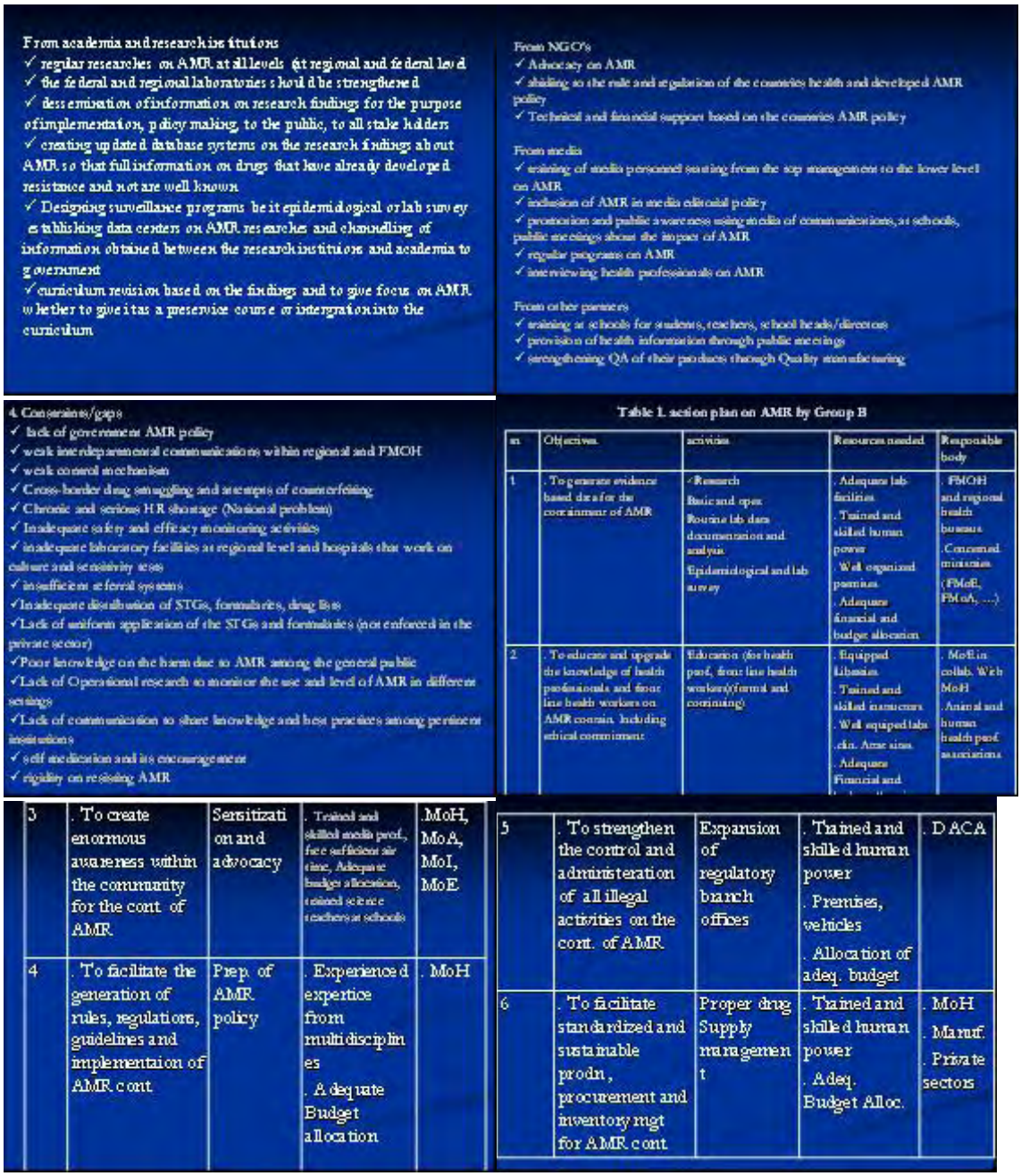
- ✓Lack of AMR reporting system /research coordination

- ✓Insufficient and sustainable supply of medicines

3. Roles for prevention of AMR
From individuals/professionals
- ✓ dedication from oneself/individuals
- ✓ encouraging seeking behaviour for diagnosis, medical advice, prescription
  - discouraging self medication even health professionals
  - promoting going for diagnosis
  - promoting adherence to therapy
  - promoting strict medical follow up
  - advocacy/provision of health information
- ✓ strict follow up of STG and other relevant guideline
- ✓ strict follow up of professional code of ethics and professional ethical commitment
- ✓ initiation for self learning and problem solving e.g. undergoing researches on AMR

From professional association
- ✓ advocacy about AMR to members and the public
- ✓ updating health professional about AMR through health education
- ✓ preparation and advocacy about the code of conduct regarding AMR
- ✓ active participation in government policy and decision making about AMR
- ✓ networking of inter and intra professionals

From governmental bodies
- ✓ declaring AMR is emergency
- ✓ there should be AMR policy as a priority
- ✓ networking between different governmental health settings (federal and regional)
- ✓ enough budjet allocation



From academia and research institutions
- ✓ regular researches on AMR at all levels (at regional and federal level
- ✓ the federal and regional laboratories should be strengthened
- ✓ dessemination of information on research findings for the purpose of implementation, policy making, to the public, to all stake holders
- ✓ creating updated database systems on the research findings about AMR so that full information on drugs that have already developed resistance and not are well known
- ✓ Designing surveillance programs be it epidemiological or lab survey establishing data centers on AMR researches and channelling of information obtained between the research institutions and academia to government
- ✓ curriculum revision based on the findings and to give focus on AMR whether to give it as a preservice course or intergration into the curriculum

From NGO's
- ✓ Advocacy on AMR
- ✓ abiding to the rule and regulation of the countries health and developed AMR policy
- ✓ Technical and financial support based on the countries AMR policy

From media
- ✓ training of media personnel starting from the top management to the lower level on AMR
- ✓ inclusion of AMR in media editorial policy
- ✓ promotion and public awareness using media of communications, at schools, public meetings about the impact of AMR
- ✓ regular programs on AMR
- ✓ interviewing health professionals on AMR

From other partners
- ✓ training at schools for students, teachers, school heads/directors
- ✓ provision of health information through public meetings
- ✓ strengthening QA of their products through Quality manufacturing

4. Constraints/gaps
- ✓ lack of government AMR policy
- ✓ week interdepartmental communications within regional and FMOH
- ✓ week control mechanism
- ✓ Cross-border drug smuggling and attempts of counterfeiting
- ✓ Chronic and serious HR shortage (National problem)
- ✓ Inadequate safety and efficacy monitoring activities
- ✓ inadequate laboratory facilities at regional level and hospitals that work on culture and sensitivity tests
- ✓ insufficient referral systems
- ✓ Inadequate distribution of STGs, formularies, drug lists
- ✓ Lack of uniform application of the STGs and formularies (not enforced in the private sector)
- ✓ Poor knowledge on the harm due to AMR among the general public
- ✓ Lack of Operational research to monitor the use and level of AMR in different settings
- ✓ Lack of communication to share knowledge and best practices among pertinent institutions
- ✓ self medication and its encouragement
- ✓ rigidity on resisting AMR

Table 1. action plan on AMR by Group B

n	Objectives	activities	Resources needed	Responsible body
1	. To generate evidence based data for the containment of AMR	✓Research Basic and oper. Routine lab data documentation and analysis Epidemiological and lab survey	. Adequate lab facilities . Trained and skilled human power . Well organized premises . Adequate financial and budget allocation	. FMOH and regional health bureaus . Concerned ministries (FMoE, FMoA, ...)
2	. To educate and upgrade the knowledge of health professionals and front line health workers on AMR contain. Including ethical commitment	Education (for health prof, front line health workers)(formal and continuing)	. Equipped Libraries . Trained and skilled instructors . Well equipped labs . clin. Attachments . Adequate Financial and	. MoE in collab. With MoH . Animal and human health prof. associations

3	. To create enormous awareness within the community for the cont. of AMR	Sensitization and advocacy	. Trained and skilled media prof., free sufficient air time, Adequate budget allocation, trained science teachers at schools	.MoH, MoA, MoI, MoE
4	. To facilitate the generation of rules, regulations, guidelines and implementation of AMR cont.	Prep. of AMR policy	. Experienced expertice from multidisciplines . Adequate Budget allocation	. MoH
5	. To strengthen the control and administeration of all illegal activities on the cont. of AMR	Expansion of regulatory branch offices	. Trained and skilled human power . Premises, vehicles . Allocation of adeq. budget	. DACA
6	. To facilitate standardized and sustainable prodn, procurement and inventory mgt for AMR cont.	Proper drug Supply management	. Trained and skilled human power . Adeq. Budget Alloc.	. MoH . Manuf. . Private sectors

7	. To facilitate the control and info. Exchange among regions, countries and international organizations for AMR cont.	Inter/intra collaborations	.financial support .skilled human power	Government and international organizations
8	. To ensure the quality, safety and efficacy of antimicrobials	Quality assurance	. GMP and GLP, . Budget allocation . Trained skilled H.power	Marufa DACA/ EHNRI

Recommendations

1. **Opening more Branch offices**: North-East, North-west, West to effectively regulate drug distribution and use in Regions, through issuance/renewal of license and inspection, to Control Drug Smuggling in to and out o the country
2. Encourage the **expansion of drug retail outlets** in to rural areas
3. Encourage **local production** of Drugs/especially antimicrobials
4. Strengthen **safety and efficacy monitoring** of Antimicrobials
5. Effective regulation of **Drug promotion and advertisement**
6. Forge cooperation with **local and international agencies**
7. Adequate emphasis on quality use of drugs and AMR containment in the updated/revised National drug policy
8. Adequate emphasis on quality use of drugs and AMR containment in the draft Pharmaceutical master plan
9. Strengthen Research on AM Safety and efficacy monitoring/post marketing surveillance
10. Revision of Essential and National Drug lists to be based on evidence/research and reports
11. Expand Pre and in service to Public /Animal health practitioners/professionals
12. Ensure distribution and uniform utilization of STGs and formularies in Public and private Health institutions
13. Establish/strengthen DTCs and DIs in HF
14. Conduct antimicrobial use survey at national level and HF
15. More Airtime and coverage of the Mass media programs
16. Incorporate AMR related Education in to the curricula of HF based Health education/Health extension workers Education
17. Mass production and distribution of Brochures and Posters

GROUP C PRESENTATION

Plan of Actions and Recommendations in the Containment of AMR

Proposed by Group C

Outline of the Discussion

- Problem of AMR
- Factors contributing to the emergency and spread of AMR in Ethiopia
- Plan of actions for containment of AMR
- Recommendations

Problem of AMR

- After reviewing all presentation materials, participants share the same level of concern in the growth of AMR in Ethiopia
- Factors contributing for the Emergency of AMR in Ethiopia were identified and proper implementation strategies were suggested

Factors contributing to the emergency & spread of AMR in Ethiopia

- Irrational use of antimicrobials
- Poor essential drug supply mechanisms
- Lack of well designed curriculum, in-service training & research initiatives
- In efficient drug regulatory mechanisms
- Poor infection control mechanisms in the hospitals
- Lack of collaborative effort

Irrational use of antimicrobials

- Factors that encourage irrational use of antimicrobials include:
- Patient related factors
  - Perception of patients: new and expensive drugs are more efficacious
  - Self medications: unnecessary use and inadequate doses
  - Economic and awareness level of patients: unable to afford full course treatment & lack of knowledge on the impact of AMR
  - Poor compliance to the prescribed antimicrobial

Interventions

- Intensify mass campaign/ education/advocacy
- Easy access to health institutions

Irrational uses….

- Prescribers related factors
  - Level of training: different backgrounds of prescribers(traditional healers, HA, nurses, HEW, MD and specialists); various perception of AMR impact
  - Low diagnostic capacity: lack of proper diagnostic facility,
  - Influenced by patients: patients perception and demand substantially influences the physician
  - Influenced by advertisement
  - Poor access to treatment guideline
  - Lack of knowledge regarding optimal diagnostic approach, appropriate drug selection
  - Lack of professional ethics
  - Providers economic status
  - Providers lack of work motivation

Interventions

- Enhance providers capacity
- Provide supervision/support
- Proper popularization of STG by regulatory body
- Provide continuing education/professional associations
- In-service training

Irrational uses….

- Dispensary related factors
  - Financial motives
  - Lack of knowledge: heterogeneity of dispensers training level(pharmacy technician, druggists and pharmacists)
  - inadequacy of STG/Formularies
  - Lack of professional ethics

Interventions

- Creation of awareness by professional associations
- In-service training
- Regulation on drug promotion

Poor essential drug supply mechanisms

- Inadequate supply of the most wanted essential drugs and diagnostic facilities to the periphery health institution
- Poor selection, quantification and financing
- Circulation of counterfeit drugs

Interventions

- Encourage private sectors to participate in local production of antimicrobials
- Encourage private sectors to import and distribute essential antimicrobials and laboratory facilities
- Strengthen revolving funds scheme
- Increase the budget allocated for the health service as well as to the human resource involved in human and veterinary medicine
- Establish effective pharmacy management unit at the Woreda and regional level
- Encourage NGOs and international organizations to participate in supporting the supply
- Encourage establishment of public pharmacies in the regions/Woredas

In efficient drug regulatory mechanisms

- Poor quality, efficacy and safety monitoring and assuring mechanism
- Insufficient control in counterfeit drugs circulation
- Poor promotion on STG and applications
- In efficient inspection in the open market and RDVs

Interventions

- Establish new branches in the regions
- Strengthen the linkage b/n the central regulatory bodies and the existing branches in the regions
- Build the capacity of the branch offices
- Develop better and efficient system to work with collaborators such as customs office, police and local authorities in controlling/monitoring of drugs
- strengthen field inspection/monitoring/supervision

Lack of well designed curriculum, in-service training & research initiatives

- Inadequate curriculum design in addressing attitude component of the trainees on AMR
- Antimicrobial topics do not received due emphasis in middle and lower health professional training
- Insufficient training by DACA, professional associations and NGOs on AMR
- No national surveillance mechanisms AMR
- Lack of grants and motivations for university and other independent researchers

Intervention

- Strengthen in-service training
- Enhance laboratory capacity, information networking mechanisms
- Establishing coordinating office/ surveillance
- Monitor relevant aspects: self medication and prescribing behaviors

Poor infection control mechanisms in the hospitals

- Lack of IP and infection control practice in all hospitals

Interventions

- Improve supplies
- Training and facilitate implementation

Thank you !!

GROUP C ACTION PLAN

Summary of plan of actions and recommendations proposed by group C for the containment of AMR

Cause/ associated factors	Possible Intervention	Responsible bodies	Collaborative Bodies	Implementation time
Irrational use of antimicrobials **Patient related factors** – Perception of patients: new and expensive drugs are more efficacious – Self medications: unnecessary use and inadequate doses – Economic and awareness level of patients: unable to afford full course treatment & lack of knowledge on the impact of AMR – Poor compliance to the prescribed AM	• Intensify mass campaign/ education/advocacy • Easy access to health institutions	MOH:DACA/HEC	Media	Immediate
Prescribers related factors • Level of training: different category of prescribers(HA, nurses, HO and MD); various perception of AMR impact • Low diagnostic capacity: lack of proper diagnosis facility, • Influenced by patients: patients perception and demand substantially influences the physician • Influenced by advertisement • Poor access to treatment guideline • Lack of knowledge regarding optimal diagnostic approach, appropriate drug selection • Lack of professional ethics • Providers economic status	• Enhance providers capacity • Provide supervision/support • Proper popularization of STG by regulatory body • Professional association continuing education • In-service training	MOH/RHB	Professional associations	Immediate

• Providers lack motivation **Dispensary related factors** – Financial motives – Lack of knowledge: heterogeneity of dispensers training level(pharmacy technician, druggists and pharmacists) – Lack of STG/Formularies – Lack of professional ethics	• Creation of awareness by professional associations • In-service training • Regulation on drug promotion	DACA	Professional associations	Immediate
Poor essential drug supply mechanisms • Inadequate supply of the most wanted essential drugs and diagnostic facilities to the periphery health institution • Poor selection, quantification and financing • Circulation of ctounterfeit drugs	• Encourage private sectors to participate in local production of antimicrobials • Encourage private sectors to import and distribute essential antimicrobes and laboratory facilities • Strengthen revolving funds scheme • Increase the budget allocated for the health service/ to the human and veterinary human resource • Establish effective pharmacy management unit at the Woreda and regional level • Encourage NGOs and	MOH/MORD/RHB	Investors local and international NGOs	Intermediate

	international organizations to participate in supporting the supply • Encourage establishment of public pharmacies in the regions/Woredas			
In efficient drug regulatory mechanisms • Poor quality, efficacy and safety monitoring and assuring mechanism • Poor controlling power in counterfeit drugs circulation • Poor promotion on STG and applications • In efficient inspection in the open market and in the shops	• Establish new branches in the regions • Strengthen the linkage b/n the central regulatory bodies and its branches in the regions • Build the capacity of the branch offices • Develop better and efficient system to work with collaborators such as customs office, police and local authorities in controlling/monitoring of drugs • strengthen field inspection/monitoring/supervision	MOH: DACA/RHB	Customs/ Police/ MOJ/ local authorities	Immidiate/Intermediate
Lack of well designed curriculum, in-service training & research initiatives • Inadequate curriculum design in addressing attitude component of the trainees on AMR • Antimicrobial topics do not received due	• Strengthen in-service training • Enhance laboratory capacity, information networking mechanisms	Training institutions, MOH:DACA MOE	Professional associations	Immediate /Intermediate

emphasis in middle and lower health professional training • Insufficient training by DACA, professional associations and NGOs on AMR • No national surveillance mechanisms AMR • Lack of grants and motivations for university and other independent researchers	• Establishing coordinating office/ surveillance • Monitor relevant aspects: self medication and prescribing behaviors			
Poor infection control mechanisms in the hospitals • Lack of efficient IP and infection control practice in our hospitals	• Improve supplies • Training and facilitate implementation	MOH	Local and international NGOs, EHNRI	Immediate/ Intermediate

GROUP D PRESENTATION
REPORT OF WORKING GROUP D ON AMR

Experience sharing on AMR

- Dissemination of laboratory & research findings for appropriate action
- Continuous & on job training of health professionals
- Improve health education on proper drug use through media , video clips, documentaries `etc
- Teaching of rational use of drugs
- Teaching of methodology (indicators) to measure proper use of drugs
- Mapping out of resistance and drug utilization patterns

Identify factors/ causes for spread of AMR in Ethiopia

- Consumer
  - Lack of awareness
  - Accessibility (economic and geographic)
- Prescribe
  - Improper prescription
  - Not providing proper information to the patient
  - Poor patient followup
- Health institution
  - Lack of adequate diagnostic facility
  - Lack of nosocomial infection control system
- Regulatory body
  - Lack of capacity (ensuring quality, safety and efficacy)
  - Lack of law enforcement
- Media
  - Inadequate coverage on proper drug use

Identify roles of individuals, professional associations…

- **Hospitals**
  - Develop system to control nosocomial infection
  - Provide on job training for health care workers on AMR
  - Provide proper information to patients
  - Proper use of drugs in health facilities

- **Research institution**
  - Undertake DST surveillance
  - Provide information on findings
  - Support capacity development of Regions
  - KAP study on AMR
  - Adoption and transfer of lab technique on AMR

- **Media**
    - Dissemination of AMR related informations by radio news paper, and TV

- **Consumer/ consumer association**
    - Must be made aware to request all information on the drugs that they consume
    - Information transfer
    - Inform the harm/danger of self prescribed and illegal drugs

Constraints, gaps etc

- Limitation information on AMR
- Lack of information
- Lack laboratory facilities
- Lack of collaboration between different organizations
- Lack electronic networking systems
- Lack of manpower
- Human resource in quantity and quality
- Motivation of staff
- Lack of appropriate committee in hospitals in AMR

Action plan

	Objectives	Activities	Resources	Responsible
Situation analysis/base line survey	Determine magnitude & trend of AMR	• Establish national task force • Perform meta analysis, pilot studies • Carry out surveillance for base line data	Human resources • Epidemiologist • Microbiologist/lab technologist • Pharmacists Strengthen laboratory facilities	• MOH/DACA • Research Institutes and universities • Professional associations
Education (sensitization/advocacy/training curriculum review)	Create awareness of community on proper use of drugs	• Increase the role of media in for community awareness of AMR • Improve routine health education of the public on AMR at HFs		DACA Media Health institution Consumer association HEEC
	Improve the knowledge of health professional AMR	• Curriculum review with • emphasis on AMR • AMR should be addressed in veterinary		Training instituitions Professinal association Research Institutions

		schools also including techniques of drug sensitivity testing Continue medical education with regard to AMR to all health professional		
Research and surveillance	Early detection and emergence as well as patterns and trend AMR	• Studies on sentinel sites • Periodic surveillance of AMR in different settings • Introduction of new laboratory techniques and technologies • Develop standardized KAP/survey methodologies		Research institution Training Institutions

Recommendations

Research

- Scale up research activities on AMR
- Scale up information dissemination of research and laboratory findings through networking

Regulation

- Enforcement of existing regulations directives guidelines
- Review the `existing regulations in line of AMR containment
- Capacity building to monitor the quality, safety and efficacy of drugs

Rational use

- Continuously up date existing guidelines interims of AMR
- Design a system to provide HW with update AMR related information

Drug supply

- Select, quantify & procure antimicrobials based on AMR information
- Ensure uninterrupted of supply of drugs
- Improve access (affordability, availability) to drugs for AMR
- Maintain a minimum standard for the storage of AM at all levels

Human & animal health/pharmacy services

- Strict control of usage of prescription paper for AM
- Strict use of AM in veterinary practice. /strict adherence to withdrawal periods

Collaboration

- Strength collaboration with all stake holders liked DACA, research institutions etc at local and international level

Public and health care workers sensitization

- Organize series of sensitization seminars workshops other media for health workers and decision makers at various level
- Promote media coverage of proper AM use

Training

- Provide continuous training (pre and in service) related to AMR

Priority setting

Magnitude of AMR
Coordination of information system
Awareness about AMR at all levels
Enforcements of regulation directives etc related to AMR

ANNEX 7
Adama Declaration

Workshop on A Call to-Action National workshop on Antimicrobial Resistance Containment Nov.16 – 18, 2006, Adama

Background:

Close to 65 participants from the FMoH, DACA, Regional Health bureas, Acadamic and research institutions, developmental partners Importer/wholesalers, local Pharmaceutical manufacturers, Hospitals , mass media and professionals associations, assembled for three days at the Adama Mekonen Hotel, Nazareth from November 16-18, 2006, to deliberate on Antimicrobial drugs use and resistance situation and call to actions to be taken by all concerned bodies in Ethiopia

Coordinated by the DACA and the Antimicrobial resistance task force, the participants were briefed on the current situation of treatment protocols of major diseases, regulatory activities including efforts to promote rational use, quality of health professionals training curricula in light of conaining AMR, research activities in the area and international interventions as well as experiences of other countries. In between the presentation the participants had discussed issues of concern, opportunities to recommend possible intervention to contain AMR in the public and animal health sectors.

For more in depth discussion, to come up with pertinent recommendations and implementable plan of action on the major agenda items including drug regulation, research, training, drug supply, rational use four groups have been organized. At the end of the three-days intensive workshop, the following declaration was released.

We the participants:

- Commend the current initiative being undertaken by the federal ministry of health, the drug administration and control authority AMR Taskforce and partners to bring the issue in to the attention of concerned bodies.
- Realized that effective regulation and quality use of Antimicrobial drugs are key instruments to alleviate the major health problems of the country and in the creation of healthy population.
- Are aware that efforts to monitor antimicrobial drugs effectiveness have been under way and served as the corner stones for changing treatment protocols.
- Also are aware that the issue of rational use of Antimicrobial drugs is adequately addressed in the curricula some of health professionals' training institutions however learned that more has to be done in the emerging as well as some existing universities.
- Recognize that even though concerned bodies including the Federal ministry of health, the drug administration and control Authority of Ethiopia, the Ethiopian Health and Nutrition research institute, academic institutions and partners have been striving to regulate, monitor efficacy and promote the quality use of antimicrobial drugs we have identified that there is an urgent need to assure realistic commitment is in place,

coordinated efforts and result oriented interventions are considered by all concerned bodies..

We therefore recommend that:

- The AMR advisory committee in collaboration with governmental agencies and other partners devise mechanisms for conduction of a national base line survey on the current situation of antimicrobial drug supply management, research, regulation, use as well as other parameters to facilitate for further action.
- Based on available data and information and with due consideration of the results of the envisaged baseline survey the federal ministry of health and drug administration and control authority in collaboration with the AMR advisory committee develop a national program for AMR containment.
- The health professionals training higher education institutions to assess their curicila in terms of its contribution to ensure containment of AMR and promote attitudinal change of graduates.
- Recognizing the complexity of the issue and its multidimensionality in involving stakeholders, both FMOH and DACA, should create enabling environment and foster cooperation among local and international partners, who have interest in and potential to contribute towards the shared vision.

- The FMoH and DACA should intensify surveillance on the safety, efficacy and quality of the Antimicrobial drugs in the market and take prompt corrective action accordingly and communicate so to stakeholders.
- Public and private drug manufacturing and procuring agencies should work closely with public and animal health institutions to ensure the Antimicrobials produced and imported reflect realistic need of the country.

And Call upon

- The DACA to strengthen its regulatory mechanisms and quality use promotion strategies to ensure that the Antimicrobial drugs used in the Ethiopian public and animals health sectors are safe, effective and of good quality
- The FMoH and DACA and other governmental and non-governmental agencies to provide and/or facilitate capacity building (i.e. technical support, management and organizational development training, logistics, etc) for all stakeholders.
- Development Partners to work closely with government agencies, training institutions, research institutions, the mass media and provide technical and financial support.
- Research institutions to intensify research on antimicrobial traditional medicines used for the preservation of human and animal health.
- All concerned organizations to exchange information regarding research out puts, reports on antimicrobial use and other related fields.
- Public and Animal Health professionals training institutions to train adequate and qualified professionals to alleviate the current serious shortage at public and animal health facilities.

- The Mass Media to give more attention to the area and initiate new health education programs and collaborate with the FMoH, DACA and other partner organizations to discourage current inappropriate self medication practice among the general public.

We Commit to:

- Mobilizing our colleagues collaboratively to
    - Create awareness on the need to contain AMR in our settings
    - Share the Plan of action developed at the workshop and play our part in its implementation.
    - Educate the patients and animal owners on the harm of in appropriate self-medication
    - Organize ourselves to better work with our partners
    - To work in collaboration with mass media agencies in building awareness on the rational use of drugs
    - Link AMR containment activities with and supporting other health interventions and sectors/areas.

The Way Forward:

We, the workshop participants, mandate the **FMoH, DACA and the AMR Task Force** to:

- Develop a proposal and coordinate the conduction of a national baseline survey on antimicrobial supply, regulation, research, use …etc and a national program document
- Formally launch a national program for the containment of AMR
- Ensure the participation of all concerned bodies and funding for the program

ANNEX 8
Call to Action National Workshop on Antimicrobial Resistance
16-18 November 2006 at Adama Mekonen Hotel, Adama

Closing Remarks by Ato Hailesellasie Bihon Director General Drug Administration and Control Authority of Ethiopia.

Distinguished participants
Honorable guests!
Ladies and Gentlemen!

On behalf of the AMR Task force and myself, I want to thank you all for your tireless effort, active participation and time towards the success of this workshop.

I am informed that in the last three days you have been discussing on a number of issues related with resistance problems of common human and animal pathogens as well as on AMR advocacy and containment. The global and Ethiopian AMR situation were presented and useful recommendations on the best way forward have emerged from the discussions held. you also had then in groups critically discussed on the challenges posed by AMR based on the thematic ideas proposed.
I have learned from the session reports that every session was dealt intensively from the presentation point of view and your participation had been remarkable and had been the building block for the success of this workshop.

The breakout sessions had also given you the opportunity to :

- Share Your experience on AMR and the role you, your organization or association is playing or should play in AMR advocacy and containment
- Identify the Constraints/gaps (if any) in AMR containment.

The discussions indeed culminated with strong and valuable recommendations and proposals for a national plan of action for containment of AMR.

Dear Participants
Ladies and Gentlemen:

It is in deed an opportunity for us in the FMoH and DACA to assure you that we will do our level best to take forward your recommendations and use them in the formulation of the proposal and program you already indicated in your declaration.

In the meantime all of us should of course go back and embark on the advocacy work in our respective organizations/associations in creating awareness, on the situation, the need to contain AMR, share the recommendations of the workshop and set momentum to get started to implement the plan of action you just have formulated.

We know that the stakeholders related to AMR are diverse and in this meeting we have tried our best to include all potential players. We believe that such consultative meetings are very useful to tackle this and similar problems in the sector; thus, such collaborations should be strengthened to achieve the vision of the Health and pharmaceutical sector.

I have noted that some of the items among the recommendations and issues raised during the discussions sessions, need immediate intervention which are with in the jurisdictions of the Federal ministry of Health and the Drug Administration and control Authority and would like to inform you that we shall take all appropriate and legal measures, especially in regulating the informal/illegal market. We shall also intensify our efforts in building the capacity of public and animal health professionals and provision of appropriate guidelines.

Moreover I would like to bring to your attention that to ensure the prevalence of rational use of drugs both for human and animal health we will two important manuals namely Good Prescribing and Dispensing manuals will be made available in this budget year.
In addition,

- Standard treatment guidelines for veterinary medicine developed in close consultation with relevant professionals will soon be released. and there are plans to indicated in our strategic plan to
- Prepare formulary for veterinary drugs,
- Conduct workshops to familiarize the upcoming standard treatment guideline for veterinary medicine and trainings on rational drug use.
- Train both human and animal health professional in different areas.

However I should also emphasize that to effective implementation of the mandate and tasks you have entrusted on us, requires your active participation, cooperation and contributions to reach our common goal. Every one of us as professional and citizen of this country should practice ethically, legally and expose those who act otherwise. I believe that this is a crucial way to safeguard the health and life of the people and animals and indicator of our commitments to our profession and the country.

I should also capitalize on this momentum to reassure you that AMR will be priority area in both the National drug policy and the upcoming pharmaceutical sector master plan, DACA will utilize the constructive comments forwarded in this workshop and will work with all stakeholders in the implementation of the recommendations and action plans proposed by this consultative workshop.

Finally, on behalf of the Federal ministry of Health and the Drug administration and control authority AMR taskforce, and myself I thank our friends who have come all the way from the United States and Africa to assists us in this endeavor and call upon them to keep abreast with us.

I should again like to thank the USAID, and the RPM Plus/MSH for their financial and technical assistance given in organizing this and the first stakeholders' workshop.

Once again I thank you all and wish you safe journey back home

ANNEX 9
A

APUA
ALLIANCE FOR THE PRUDENT USE OF ANTIBIOTICS

CHAPTER DEVELOPMENT

Background
APUA's mission is to improve infectious disease treatment and control worldwide through promoting appropriate antibiotic access and use and reducing antibiotic resistance. Founded in 1981 as a nonprofit organization, APUA is the only organization in the world solely dedicated to strengthening society's defenses against infectious diseases through research and education on antibiotic use and antibiotic resistance. Headquartered in Boston, APUA encompasses a network of affiliated chapters in over 50 countries throughout the world. This global network supports country-based activities to control and monitor antibiotic resistance tailored to local needs and customs. APUA facilitates the exchange of objective, up-to-date scientific and clinical information among scientists, health care providers, consumers and policy makers worldwide. The APUA chapters provide a multi-disciplinary approach to containing antibiotic resistance by involving expertise in infectious disease medicine, microbiology, pathology, clinical pharmacology, and antibiotic resistance surveillance

APUA chapters serve these vital functions:

- Raise awareness about the problem of resistance within a country and about the dangers of incorrect antibiotic usage and faulty prescriptions;
- Communicate information on proper antibiotic usage;
- Foster related research and educational projects;
- Provide a multidisciplinary approach to interventions; fostering scientifically sound solutions;
- Afford a local platform for input and feedback into global planning efforts; and
- Provide international networking opportunities to enhance knowledge and effectiveness on the country level

Established Chapters

ARGENTINA	INDIA	ROMANIA
AUSTRALIA	ITALY	SERBIA AND MONTENEGRO
BANGLADESH	KENYA	SENEGAL
BELARUS	KOREA	SPAIN
BOLIVIA	LEBANON	SOUTH AFRICA
BRAZIL	MEXICO	SWEDEN
BULGARIA	MOLDOVA	TAIWAN
CHILE	NAMIBIA	TURKEY
CHINA	NEPAL	UGANDA
COLOMBIA	NICARAGUA	UKRAINE
COSTA RICA	NIGERIA	URUGUAY
CUBA	PANAMA	VENEZUELA
CROATIA	PAKISTAN	VIETNAM
DOMINICN REPUBLIC	PARAGUAY	ZAMBIA

ECUADOR GREECE GUATEMALA HONDURAS	PERU POLAND PHILIPPINES RUSSIA	

Chapters in Developing Stage

BOTSWANA GHANA GAMBIA NEW ZEALAND ESTONIA, LATVIA, LITHUANIA,	TANZANIA CZECH REPUBLIC, SLOVAKIA, SLOVENIA, BOSNIA-HERZEGOVINA, MACEDONIA,	JAPAN, SINGAPORE HONG KONG KYRGYZSTAN, TAJIKISTAN, TURKMENISTAN, UZBEKISTAN, ZIMBABWE

Steps to Establishing an APUA Chapter

The APUA chapter network involves internationally recognized experts in their field. APUA chapter development follows a due diligence process

- **Send a letter of intent**
  Include the names, Curricula Vitae and contact information of the proposed founding members and proposed chapter leaders; a brief statement of the antibiotic resistance problems in the country; a list of specific chapter objectives; a preliminary list of activities planned for the next two years; and a description of the proposed internal structure of the chapter.
- **Recruit members**
  There should be a minimum of 15 members before a chapter is formally established. It is encouraged that chapter be formed by a team of multi-disciplinary professionals and consumers.
- **Elect Officers and Governing Board**
  Each chapter should have as a minimum two Officers: a leader and a Secretary-Treasurer. All chapters must have a governing Board to whom the Officers report and to whom they are responsible. The Board should consist of at least five individuals, including the leader and Secretary-Treasurer.
- **Develop Chapter**
  All chapters should develop by-laws, articles of organization or a similar written charter under which the chapter is organized and to which it is legally bound. The charter should set forth the structure, purpose and procedural rules of the chapter.
- **Submit documents to APUA for approval**
  The prospective chapter should send to APUA: 1) its list of officers and Board members, 2) Curricula Vitae of all Officers, 3) its charter document(s) in English, and 4) its initial list of members.
- **Formally establish chapter**

Once APUA reviews the above documents and finds them in conformity with APUA's goals and requirements, it will send a Statement of Agreement signed by APUA President, Executive Director and chapter leader that formally states the terms under which the chapter becomes entitled to use the APUA chapter designation and to participate in APUA's international network.

- **Submission of a workplan**

The newly developed chapter should submit a workplan identifying major antibiotic resistance

problems in the country and an annual report.

To promote chapter effectiveness, APUA headquarters provides technical consultation and education materials to chapters on a regular basis and sponsors the exchange of country lessons learned and model interventions.

B

APUA COUNTRY CHAPTER ASSESSMENT

Section 1. Applicant Information:

APUA Chapter Name *(country)*_____ Contact Person (s) _____

Address: _____

Phone: _____ Fax: _____ E-mail: _____

Section II: Description of Antibiotic Resistance Information Available in the Country

Section III. Chapter Goals and Objectives

Section IV: Plan of Activities for the Next 2 Years

Section V: Microbiology Capabilities

Antibiogram (Kirby-Bauer Susceptibility Testing) ☐

Minimal Inhibitory Concentration (MIC) ☐

E-Test ☐

Resistance Research Studies ☐

Quality Control: ☐ External:_____

Frequency: monthly ☐ Every 2 months ☐ Every 3 months ☐

☐ Internal: weekly ☐ monthly ☐

Other: _____

Section VI. Surveillance Systems

WHONET ☐ BACLINK ☐ SENTRY ☐ Alexander Project ☐

Other: _____

Section VII: Reporting

How often is Antibiotic Resistance information disseminated? _____

To whom is Antibiotic Resistance information distributed? _____

Section VIII: Antibiotic Resistance Control & Prevention

Does your institution have an infection control committee? Yes ☐ No ☐

Does your institution have an Antibiotic Restriction Policy? Yes ☐ No ☐

Does your institution monitor antibiotic resistance trends? Yes ☐ No ☐

How your institution controls antibiotic resistance?

How your institution prevents antibiotic resistance?

Section IX. Local and International Support

Ministry of Health ☐ Private Foundation/Corporation ☐

CDC ☐ WHO ☐ PAHO ☐ USAID ☐

ASM ☐ IDSA ☐ Other: _____

Section X. Research Activities *(Please describe current research activities that involve antibiotics)*

Section XI. Communications

Bulletin ☐ Publications ☐ Web Site ☐ Brochures ☐

Special Report: ☐ Other: _____

Section XII> Education and Training

How often are health-care practitioners trained on Antibiotic Resistance issues in your institutions? Monthly ☐ Every 3 months ☐ Every 6 months ☐ Yearly ☐

Are there any educational Antibiotic related material directed to consumers (patients)?

Brochure ☐ Video ☐ Newsletter ☐ Flier ☐ Other: _____

What is available for patients who don't know how to read?

Section XIII. Attachments:

Letter of Intent ☐ List of Founding Members ☐ Leaders' Credentials ☐

Other: _____

C

APUA CHAPTER INFORMATION SHEET

Dear Chapter Leader,

In an effort to improve communication with our chapters, update our records, and seek funding for chapter activities, we would like you to please complete this form and return it to APUA-I by email (anibal.sosa@tufts.edu) or by fax (1-617) 636-3999 (Attention: Anibal Sosa, MD) as soon as you can. Thank you!

Date: _____

Country: _____

I. Contact Information

Main chapter contact:
Name:
Position in chapter (e.g., President, Coordinator, etc.):
Address:

Telephone: Fax:
E-mail:

Other chapter official:
Name:
Position in chapter (e.g., President, Coordinator, etc.):
Address:

Telephone: Fax:
E-mail:

General Information

a. Number of current members:

b. Number of newsletters we should send each quarter:

c. Names of the main organizations affiliated with your chapter (hospitals, universities, etc.):

Board of Directors

Please list the names, affiliated organization and addresses for all current board members.

1. Name:
   Position on Board:
   Affiliated Organization and Position:
   Address:

   Telephone: Fax:
   E-mail:

2. Name:
   Position on Board:
   Affiliated Organization and Position:
   Address:
   Telephone: Fax:
   E-mail:

3. Name:
   Position on Board:
   Affiliated Organization and Position:
   Address:

   Telephone: Fax:
   E-mail:

4. Name:
   Position on Board:
   Affiliated Organization and Position:
   Address:
   Telephone: Fax:
   E-mail:

5. Name:
   Position on Board:
   Affiliated Organization and Position:
   Address:

   Telephone: Fax:
   E-mail:

6. Name:
   Position on Board:
   Affiliated Organization and Position:
   Address:
   Telephone: Fax:

E-mail:

7. Name:
Position on Board:
Affiliated Organization and Position:
Address:

Telephone: Fax:
E-mail:

8. Name:
Position on Board:
Affiliated Organization and Position:
Address:
Telephone: Fax:
E-mail:

Objectives

Please list the stated updated objectives of your chapter:

Recent and Current Activities

D

Document #006

APUA Country Chapter
Statement of Agreement

APUA Pledge

On behalf of the Board of Directors of the Alliance for the Prudent Use of Antibiotics ("APUA"), I welcome APUA- Perú into the international APUA network as a country-based counterpart organization, independently managed and financed as outlined in the Document #005, APUA Chapter Guidelines and appendices. APUA-I agrees to work with this chapter in realizing its outlined objectives.

_____ _____

Date Stuart B. Levy, M.D.
Chairman, Board of Directors

APUA-Perú Pledge

As Leader of APUA-Perú and on its behalf, I pledge our chapter's commitment to pursue the goal of APUA by promoting the effective use of antibiotics worldwide through education, communication and other nonpolitical activities. Pursuant to this goal, our chapter agrees to abide by the policies of APUA as set forth in Document #005. I understand that any failure to comply with those guidelines may, upon review by the APUA Board of Directors, result in revocation of chapter status, severance of the chapter from the APUA network, and withdrawal of its ability to use the "APUA" designation.

_____ _____

Date Dr. Cesar Sangay
APUA-Perú Coordinator

BOS1 #1038862 v1

E

Country:
Annual Work Plan for year 2006-2008

APUA Goals & Mission

Founded as a non-profit global organization in 1981, APUA's mission is to strengthen society's defenses against infectious disease by promoting appropriate antimicrobial access and use and controlling antimicrobial resistance on a worldwide basis. With affiliated chapters in over 50 countries, APUA stands as the world's leading global organization conducting applied antimicrobial resistance research, education, capacity building and advocacy at the global and grassroots levels.

Wide-scale antimicrobial misuse and related drug resistance is challenging infectious disease treatment and healthcare budgets worldwide. Antimicrobials are uniquely societal drugs because each individual patient use can propagate resistant organisms affecting entire health facilities, the environment and the community.

APUA's goal is to improve antimicrobial policy and clinical practice worldwide so as to preserve the power of these agents and to reduce drug resistance and to improve the effectiveness of infectious diseases treatment for acute bacterial diseases, tuberculosis, AIDS and malaria.

APUA's Values

Each APUA program is based on the following core values:

- Objectivity and scientific integrity;
- A multidisciplinary and collaborative approach involving diverse stakeholders;
- Grassroots leadership and involvement;
- Strategic multiyear partnerships;
- Cost effective, sustainable intervention approaches
- Emphasis on early detection and prevention of resistance.

Workplan

Please take the time to gather all the information and get input from your members in order to compose the most valuable answers. We understand that this is a time consuming process and look forward to seeing the results. Thank you very much for your assistance. Your input is invaluable to APUA.

It is recommended that the work plan should be developed taking into consideration the operational targets of the WHO Global Strategy for Containment of Antimicrobial Resistance (http://www.who.int/emc/amr_interventions.htm).

I. Background/Focus Areas

Describe antimicrobial/antibiotic resistance issues in your country, providing basic, anecdotal information for the following areas. If the situation varies by different parts of the country or by institutions, please briefly describe the differences i.e. *1) Rural areas lack laboratory equipment and are not linked to the regional surveillance network, but most cities and major hospitals are well-equipped and linked to a network*:

Please describe the **surveillance** of Antimicrobial/Antibiotic Resistance in your country. What is the availability of laboratory equipment, diagnostic expertise, external and internal quality control procedures and a surveillance network.

Is **training** of health care providers on antimicrobial/antibiotic use and resistance provided?

Are there mechanisms to educate the **community** on antimicrobial/antibiotics and resistance? Please describe.

Related **research**: Scientists' level of training and access to proper information and equipment to conduct studies; what types of studies are and are not being conducted, and why?

Policy and regulation: What laws are currently in existence regulating the sale and dispensing of antimicrobial/antibiotics? In particular, is a prescription mandatory? Is there enforcement and monitoring of these laws (if they exist). Are there any related national or local policies and budgetary commitments to implement these laws and policies?

What is known about the use of antimicrobial/antibiotics in **agriculture, animal husbandry and aquaculture** in your country or region?

Stakeholders' Activities: Who is interested in antimicrobial/antibiotic resistance in your country/local area, and why? What kinds of activities/interventions are these stakeholders involved in?

Chapter resources: How strong is your chapter leadership? Funding base? Are your members active? Do you need to expand your membership to include other disciplines, geographical areas and/or institutions?

Overall Strategy, Goals and Objectives with Specific Activities for Focus Areas/ Available Resources and needs:

Describe how the chapter would like to address one or more areas as described above and set priorities according to country/local realities and resources. In other words, what are the chapter's ultimate goals under the above areas and ways of reaching those goals? Note, chapters may choose to do some activities under each heading or focus on only one area, whatever seems feasible/desirable to you.

Describe available and needed resources to accomplish the work plan, including question 8. above. What are potential barriers to success and how might you address them? Chapters should aim to become self-sustaining, so capacity-building as an organization may be part of your work plan. When possible, APUA-International will provide assistance with your management and fundraising efforts i.e. help you expand chapter membership, review grant applications or put you in touch with funders and grant announcements. We can also provide limited small grants to developing countries for research projects.

Expected Outputs and Outcomes

Output: List specific products the chapter would like to achieve through this work plan i.e. a consumer education campaign, with new written materials distributed throughout a city or a report resulting from a physician-targeted conference.

Outcomes: List measurable outcomes that the chapter will attempt to achieve i.e., in these cases, improved consumer and physician knowledge and behavior. Are consumers demanding antibiotics less frequently in areas where the campaign was conducted and have unnecessary prescriptions decreased by physicians who attended the conference?

Monitoring and Evaluation: **Describe who will be responsible for monitoring and evaluating the proposed plan.**

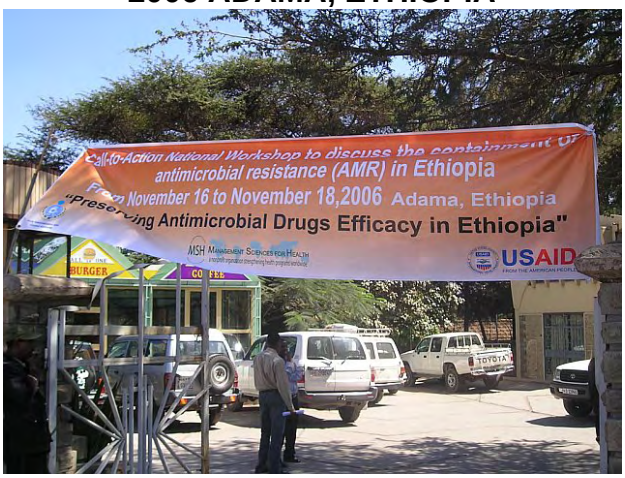
Operational Budget: **The chapter is responsible for developing a budget and fundraising strategies.**

Establishing partnerships with other in-country or international organizations

Registering the country chapter as non-government organization (NGO)

Even though is not required, it may be necessary to be registered as an NGO when applying for funding in-country or internationally.

ANNEX 10
PICTURES TAKEN DURING THE AMR CALL TO ACTION MEETING NOV. 16-18, 2006 ADAMA, ETHIOPIA



Workshop banner at entrance to the Adama Mekonnen Hotel, Adama, Ethiopia

Group picture of workshop participants

A breakout group engaged in discussion of AMR issues and recommendations for containment

ANNEX 11

Request for Country Clearance

TO: Dr. Omer Ahmed, USAID/Ethiopia
Melissa Jones/USAID Ethiopia
Fikru Bekele, USAID/Ethiopia

FROM: Management Sciences for Health (MSH)/RPM Plus (HRN-A-00-00-00016-00)

SUBJECT: Request for Country Clearance for travel for Wonder Goredema, Nicolas Nelson, Oliver Hazemba, Anibal Sosa, and Marisabel Sanchez to Ethiopia for the period November 12-19, 2006.

COPY: Anthony Boni/USAID/GH/HIDN/HS, CTO for RPM Plus
Kama Garrison, Pharmaceutical Management Advisor, USAID/GH/HIDN/HS
Douglas Keene, Director, RPM Plus
Maria Miralles, Deputy Directory, RPM Plus
Michael Gabra, Regional Technical Coordinator, MSH/RPM Plus
Kathy Young, Executive Director, APUA
Mohan Joshi, Program Manager for Antimicrobial Resistance, RPM Plus
Aklile G. Giorgis (Gabriel), Senior Program Associate, MSH/RPM Plus
Negussu Mekonnen, Senior Program Associate, MSH/RPM Plus/Ethiopia
Marisabel Sanchez, President, Links Media
Anibal Sosa, Director, International Program & Clinical Advisor, APUA
Wonder Goredema, Senior Program Associate, RPM Plus
Oliver Hazemba, Regional Technical Advisor, RPM Plus, Zambia
Nick Nelson, Program Associate, RPM Plus

1. RPM Plus wishes to request country clearance for proposed travel to Addis Ababa, Ethiopia by
   - Wonder Goredema, RPM Plus
   - Nicolas Nelson, RPM Plus
   - Oliver Hazemba, RPM Plus
   - Anibal Sosa, APUA,
   - Marisabel Sanchez, Links Media

2. Background:

   Health gains achieved by priority public health programs, including HIV/AIDS, tuberculosis, and malaria are increasingly threatened by antimicrobial resistance (AMR). In 2001, the World Health Organization (WHO) released a global strategy to contain this problem. However, few AMR containment programs have been implemented in low-resource

countries. Recognizing this gap, RPM Plus and U.S. Agency for International Development-funded partners collaborated to field test a country-level approach to catalyze a response by local stakeholders in Zambia in 2004. The approach has recently been initiated in Ethiopia as well. A first AMR stakeholders' meeting was held on March 2, 2006 in Addis Ababa. Following the meeting, a multidisciplinary AMR Task Force was formed. The Task Force has planned to hold an Ethiopian AMR stakeholders' call-to-action meeting from November 16 to 18, 2006. Technical staff from RPM Plus and partner organizations—Links Media and APUA—will travel to Ethiopia to participate and assist in the meeting.

3. The purpose of this visit is to provide technical assistance to further the implementation of AMR advocacy and containment approach in Ethiopia. Dr. Goredema, Mr. Nelson, Mr. Hazemba, Dr. Sosa, and Ms. Sanchez will provide technical assistance to the Ethiopian AMR Task Force in finalizing preparations and facilitating the stakeholders meeting scheduled for November 16-18, 2006.

4. Scope of Work:

Wonder Goredema, Nick Nelson, and Oliver Hazemba will:

Work with the AMR Task Force to finalize preparations for the stakeholder meeting

- Work with facilitators to help them finalize presentations and facilitation strategies at the stakeholder meeting
- Be available to provide technical assistance and respond to any AMR- and advocacy-related issues that may arise during the meeting
- Make relevant presentations during the meeting, including that on experiences and lessons learnt from the AMR advocacy and containment program in Zambia
- Coordinate with the AMR Task Force after the meeting to map out next steps
- Debrief the USAID officials, if requested
- Prepare a trip report

Anibal Sosa will:

- Make a presentation to introduce APUA and discuss ways for its contribution to the AMR advocacy and containment process in Ethiopia.
- Begin country assessment for APUA chapter development and explore to identify potential chapter leader and core members from various disciplines and institutions
- Collect country specific AMR data
- Identify AMR country priorities for future action

Marisabel Sanchez will:

- Work with facilitators to help them finalize presentations and facilitation strategies at the stakeholder meeting and provide assistance in identifying behaviors and issues for current and future discussion as plans are elaborated
- Be available to provide technical assistance and respond to any advocacy and communication-related issues that may arise during the meeting
- Make a presentation on advocacy and communication issues
- Work with the AMR Task Force to ensure next steps are in place
- Provide information in writing for a trip report

5. Anticipated Contacts:
   - Abraham Kahsay, DACA
   - AMR Task force members

6. Logistics: (LIST ARRIVAL AND DEPARTURE DATE, HOTEL TRAVELER IS STAYING IN AND CITY)
   - Wonder Goredema, Nicolas Nelson and Oliver Hazemba will arrive on or about November 13, 2006 and depart on or about November 19, 2006. Accommodation will be at the Hilton Hotel, Addis Ababa (Nov. 13-16 and 18-19) and the Adama Mekonnen Hotel, Nazareth.
   - Anibal Sosa will arrive on or about November 12, 2006 and depart on or about November 19, 2006. Accommodation will be at the Hilton Hotel, Addis Ababa (Nov. 13-16 and 18-19) and the Adama Mekonnen Hotel, Nazareth.
   - Marisabel Sanchez will arrive on or about November 12, 2006 and depart on or about November 19, 2006. Accommodation will be at the Hilton Hotel, Addis Ababa (Nov. 13-16 and 18-19) and the Adama Mekonnen Hotel, Nazareth.

7. Funding: The visit will be funded through USAID S05/AMR global funding..

8. Action: Please inform the RPM Plus Program whether country clearance is granted for the activity to take place as proposed. Please reply via e-mail to the attention of Tony Boni, USAID/G/PHN/HN/HPSR, e-mail: aboni@usaid.gov, tel. (202) 712 4789, fax (202) 216 3702. Please send carbon copies to Kama Garrison at kgarrison@usaid.gov, Douglas Keene at dkeene@msh.org, Maria Miralles at mmiralles@msh.org, Michael Gabra at mgabra@msh.org, Mohan Joshi at mjoshi@msh.org, Gabriel Daniel at gdaniel@msh.org, Negussu Mekonnen at nmekonnen@msh.org, Wonder Goredema at wgoredema@msh.org,

Nick Nelson at nnelson@msh.org, Oliver Hazemba at ohazemba@msh.org, Anibal Sosa at anibal.sosa@tufts.edu, Marisabel Sanchez at msanchez@linksmedia.net, and Lindsay Gibbs at lgibbs@msh.org

Thank you.