

Francophone Workshop on Antimicrobial Resistance and Infection Control in Health Care Facilities: Training Report

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About EPN

The Ecumenical Pharmaceutical Network (EPN) is a Christian, not for profit, independent organization committed to the provision of quality pharmaceutical services as a means to achieving global goals and targets on health and access to medicines.

EPN and its members are involved in various ways in fighting antimicrobial resistance.

About the SPS program

The Strengthening Pharmaceutical Systems (SPS) Program strives to build capacity within developing countries to effectively manage all aspects of pharmaceutical systems and services. SPS focuses on improving governance in the pharmaceutical sector, strengthening pharmaceutical management systems and financing mechanisms, containing antimicrobial resistance, and enhancing access to and appropriate use of medicines.

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ACRONYMS AND ABBREVIATIONS

ACT	Artemisinin-based combination therapy
AMR	Antimicrobial resistance
	Association Protestante des Œuvres Médico-Sociales et Humanitaires du Togo
APROMESTO	[The Protestant Association of Medico-Social Works of Togo] Association des Œuvres Médicales des Eglises pour la Santé en RCA [Association of the Medical Work of Churches for Health in the Central African Republic]
ASSOMESCO	Bureau d'Etudes et de liaison d'Action caritative et de Développement [diocesan bureau for development]
BELACD	Office of Church-affiliated Health Facilities in Rwanda
BUFMAR	Baptist Community of Central Africa
CBCA	U.S. Centers for Disease Control and Prevention
CDC	Council of Protestant Churches of Cameroon
CEPCA	Nyankunde Evangelical Medical Center
Nyankunde CME	Drug and Therapeutics Committees
DTC	Church of Christ in the Congo
ECC	Evangelical Church of Cameroon
EEC	Evangelical Lutheran Church of Cameroon
EELC	Ecumenical Pharmaceutical Network
EPN	Health facility
FOSA	Infection Control Assessment Tool
ICAT	Infection Control Quality Improvement
ICQI	Multidrug Resistant TB
MDR TB	Management Sciences for Health
MSH	Catholic Health Service of Cameroon
OCASC	World Health Organization
WHO	Nongovernmental Organization
NGO	Pharmacy Taskforce
PTF	Central African Republic
CAR	Democratic Republic of the Congo
DRC	Action on Antibiotic Resistance
ReAct	Rational Pharmaceutical Management Plus
RPM Plus	Strengthening Pharmaceutical Systems
SPS	U.S. Agency for International Development
USAID	Human Immunodeficiency Virus
HIV	Extremely Drug-resistant TB
XDR TB	

INTRODUCTION

Antimicrobial resistance (AMR) is a rapidly-growing global problem. In developing countries, infectious diseases are a principal cause of morbidity and mortality. However, the major intervention for infectious diseases is antimicrobial treatment, which is increasingly rendered ineffective due to AMR.

The Ecumenical Pharmaceutical Network (EPN) is collaborating with the Strengthening Pharmaceutical Systems (SPS) program of Management Sciences for Health (MSH) funded by USAID to promote south-south collaboration and improve pharmaceutical management in EPN member organizations through various activities including activities to contain antimicrobial resistance.

In 2008, EPN organized in collaboration with MSH/SPS and ReAct a *Workshop on local and regional initiatives to tackle antimicrobial resistance* for English-speaking members. This workshop brought together representatives of EPN member organizations from 11 English-speaking African countries.

Following this workshop, EPN and its members launched the campaign “*Fight AMR – Save medicines for our children*” at the World Health Assembly in Geneva in May 2009. The key tool of this campaign is a *Call to Action*, which was established at the workshop in Moshi, Tanzania. The EPN members conducted various activities to tackle the issue of antimicrobial resistance, in particular sensitization, training and research activities.

Capitalizing on the dynamism created during and after the Moshi workshop and also the successful implementation of the infection control and quality improvement assessment approach (ICAT) with the goal of strengthening infection control programs in several countries including South Africa during the last 3 years, and in order to increase the involvement of the Francophone countries of EPN in the campaign and fight against AMR, EPN and MSH/SPS decided to organize a workshop on antimicrobial resistance for these countries.

This workshop took place November 23 to 27, 2009 at the Mille Collines Hotel in Kigali, Rwanda. Thirty (30) participants from EPN member organizations from 7 countries of Central and West Africa and from MSH/SPS Rwanda and the Pharmacy Task Force/Rwanda Ministry of Health attended this workshop. The list of participants, including their organizations and countries, appears in Annex 1.

Most participants were pharmacists and physicians working in health facilities in their countries. These participants were chosen because the organizers felt that they would be able to put into practice what they learned during this workshop.

The workshop was organized by Dr. Wonder Goredema (MSH/SPS-Arlington), Mr. Mupela Ntengu (MSH/SPS-South Africa), Mrs. Anke Meiburg (EPN), Mrs. Gege Buki (MSH/SPS-Rwanda), Mr. Patrick Gaparayi (MSH/SPS-Rwanda), Dr. Damien Nsabimana (Kibogora Hospital – Rwanda) and Mrs. Nathalie Furere (BUFMAR).

Purpose and Objectives of the Workshop

The purpose of this workshop was not only to strengthen the capacity of participants to develop and implement advocacy tools and messages on AMR/infection control appropriate to their institutions and introduce the practice of the infection control assessment tool (ICAT) to improve infection control in the respective countries, but also to provide a platform for sharing information, collaboration and networking for activities on AMR and infection control between EPN members from Francophone countries.

In addition to talking about antimicrobial resistance in general, this workshop addressed the issue of infection control in health facilities. The program included an overview of AMR and data from Francophone countries, infection control, and various tools used to fight AMR developed by MSH with particular emphasis on the ICAT tool. The participants shared AMR/infection control experiences from their own countries. Representatives from Rwanda, Togo, DRC and Chad presented their countries' AMR/infection control activities. The activities in Rwanda and Togo were developed following the Moshi workshop. The ICAT tool was put into practice during a field visit to Kibagabaga Hospital in Kigali where the participants conducted 4 modules. The pharmacist and infection control and hygiene officer of Kibagabaga Hospital participated in the workshop and the chief of staff was present when the results of the assessment were presented.

The participants prepared different drafts of the advocacy tool for infection control as well as quality improvement plans for their facilities/countries.

The workshop schedule and expectations of the participants appear in Appendices 2 and 3.

ACTIVITIES

Day 1

Workshop opening

The *Francophone workshop on antimicrobial resistance and infection control in health care facilities* began with the devotion led by the Rwanda team. The speaker cited texts from Proverbs 8:17 and Jeremiah 29:13-14. The theme of his appeal was to seek God first, God as our friend. We must always search for Him, because He promised to be with us always. God said to Moses, “I will always walk with you,” and to Jeremiah, “If you search for me, I will let myself be found.” All participants should be with God at all times – this is the difference from other health care professionals.

In conclusion, the speaker reminded the participants to first seek the kingdom of God and its justice and everything will be given to them from above.

Mrs. Anke Meiburg, who is in charge of the EPN Francophone program, welcomed the participants and thanked MSH/SPS and USAID for making this workshop possible. She emphasized that it was the responsibility of the participants, as Christians, to improve the health care services provided by faith-based organizations.

Then, Ernest Rwagasana, Executive Director of BUFMAR, an EPN member in Rwanda and host of the workshop, addressed the participants and called their attention to the importance of this workshop in order to review the quality care that should be administered with compassion and to involve them in the campaign to fight AMR. He affirmed his commitment to fighting AMR and stated that BUFMAR is working with other public, private and faith-based partners to establish initiatives to fight AMR in Rwanda. In addition, BUFMAR representatives participated in the EPN campaign activities on AMR.

On behalf of MSH/SPS Rwanda, Mrs. Gege Buki welcomed all the participants to Rwanda, especially those from other countries.

Introduction to the workshop

Mrs. Anke Meiburg presented an overview of the EPN, its mission to *provide support to churches and faith-based health care systems in providing high-quality and just pharmaceutical services with compassion* and its new priority areas. EPN recently devised a new strategy for 2010-2015, so Meiburg took this opportunity to inform the participants. In addition, this activity was the first meeting organized by EPN for over half of the participants. Her presentation also addressed EPN's on AMR.

Then, Dr. Wonder Goredema, MSH/SPS facilitator, presented the goal, objectives, methods and schedule for the workshop. In his opinion, this workshop should enable the participants to gain awareness of the impact of antimicrobial resistance and the actions necessary to fight it, notably by providing the elements necessary to infection control programs in health facilities. This workshop also provided a platform for collaboration and networking to contain AMR.

The specific objectives of the workshop follow—

- Advise representatives of EPN member organizations of the threat of AMR and the actions to be taken to resolve this problem.
- Inform participants of the approaches and tools established by the RPM Plus and SPS programs of MSH and other EPN partners to fight AMR.
- Present the infection control assessment approach and the ICAT tool.
- Establish plans for infection control quality improvement (ICQI) by teams of members from the same country or same institution in order to implement low-cost, appropriate solutions once they return to their health facilities.
- Participants establish an infection control sensitization tool for Francophone countries.

Mrs. Gege Buki also presented the various MSH/SPS activities in Rwanda relative to AMR, notably the establishment and implementation of Drug and Therapeutics Committees (DTC), the support given to the Pharmacy Taskforce/Ministry of Health to establish a list of essential medicines and standard treatment guidelines and to reform the initial pharmaceutical training program. In addition, a national AMR sensitization program began in September 2009.

Overview of AMR, global and African situations

Taking the floor, Dr. Damien Nsabimana gave a general outline of the scientific basis of antimicrobial resistance using statistical data from some countries and the global AMR threats. His presentation highlighted the fact that antimicrobial agents are not as effective as they used to be and their effectiveness is eroding daily. The examples cited included multidrug resistant TB (MDR TB), 400,000 cases of which appear each year and extremely drug-resistant TB (XDR TB), which was identified in South Africa and caused the death of 52 out of 53 patients in 2006.¹ With regard to malaria, resistance to chloroquine and sulfadoxine is very frequent in the most endemic areas.² The last option for treatment is often artemisinin-based combination therapy (ACT); however resistance to ACT has been noted in Southeast Asia.³ A study conducted in Togo showed that chloramphenicol-resistant enteric salmonella grew from 33% between 1998 and 2002 (168 samples) to 82% during the 2003-2004 period (164 samples).⁴ According to the data from Chad on antiretroviral resistance, at least one resistance mutation was observed in 64% (56 patients) of 88 adults receiving first-line antiretroviral treatment for 6 months.⁵ And in Rwanda, *M. tuberculosis* [Mycobacterium tuberculosis] was isolated in 644 out of 710 patients (90.7%) who were studied for *M. tuberculosis*. The MR TB [sic] rate was 11.6%, 7% of which were new cases, and 25.5% were retreatment cases.⁶

¹ Singh, et al. *PLoS Med* 4 (1):e50.

² Boland, P.B. 2001. *Drug Resistance in Malaria*. Geneva, WHO.

³ SEARO and WRPO. 2007. Containment of Malaria Multi-drug Resistance on the Cambodia-Thailand Border: Report of an Informal Consultation, Phnom Penh, Cambodia, January 29-30, 2007. Geneva, WHO.

⁴ Dagnra, et al. *Med Mal Infec* 2007 May; 37(5):266-9.

⁵ Kovalta et al. *Clin Infect Dis* 49(1):155-9.

⁶ *Med. Trop.* (March) 67(2):149-53.

Given that the majority (95%) of deaths of over 11 million people due to infectious diseases occurs in developing countries and the impact of AMR is enormous, emphasis was placed on urgent action to be taken. For countries with limited resources, like those where EPN is active, it has proven necessary to preserve important medicines because these countries are not able to mobilize the resources required for the mass treatment of MDR tuberculosis, for example, whose treatment is 100 times more expensive than drug-susceptible tuberculosis.⁷ Even for a widespread disease like malaria, the cost of treating chloroquine-resistant malaria is 6 to 35 times more expensive than treating an infection of drug-sensitive parasites.⁸ As for HIV treatment, it is proving necessary to preserve the medicines that are available because in 4-5 years, the cost of supplying second-line treatments could require up to 90% of the budgets available for antiretroviral funding.⁹ This could seriously compromise the access to care if several patients must be treated with second-line regimens.

Several factors contribute to antimicrobial resistance, notably—

- Inappropriate use of antimicrobial agents.
- Poor infection control practices.
- Poverty and all its ramifications on treatment, i.e. incomplete treatments, the need of pharmacies to earn money, the failure/inability of governments to commit the funds necessary to develop policies and share information.
- Self medication and readily available antimicrobials.
- Poor quality antimicrobial agents.

WHO global strategy for AMR containment

Dr. Wonder Goredema presented the World Health Organization (WHO) Global Strategy for Containment of Antimicrobial Disease, which was established in 2001 after it was realized that AMR was one of the biggest threats of this century. The strategy provides a framework for interventions to slow the emergence of antimicrobial resistance and limit its spread. It is also a practical guide for interventions in various countries. Because the fight against AMR requires multi-sector action, the strategy describes 67 interventions in six key areas. There are two pillars of AMR containment: sensitization activities and containment activities. The containment activities include actions targeting the irrational use of medicines and those aimed at improving infection control.

Dr. Goredema stressed that it is necessary to organize coalitions between the different stakeholders in order to capitalize on synergies. In addition, it is crucial to be proactive: instead of using buckets to put out the fire, it would be better to avoid the fire.

⁷ Gachenge, B. Kenya: Cost of Treating TB Up As Drug-Resistant Strain Spreads. *Business Daily (Nairobi)* March 28, 2008.

⁸ Yeung, S., et al. *J Trop Med Hyg* 71(Suppl. 2): 179-86.

⁹ Plus News. *WHO narrows down second-line ARV options*. February 7, 2008.

After his presentation, the participants gave the following key messages for fighting AMR—

- AMR is a problem. We must act now.
- AMR is a danger to public health.
- We are all involved in the fight.
- We must work together to create synergies.

Day 2

The second day's devotion led by the team from Cameroon on the text of John 14:13-14 addressed the issue of prayer. Why is it necessary to tell God, since He knows everything, even the future?

We pray because—

- God requires us to.
- We do not want to change God's thinking, but know it.
- The powers given by God will be released through prayer.

Prayer is important – in order to receive the thoughts and wishes of God, but not to change them.

Results of the pre-workshop questionnaire

Mrs. Anke Meiburg presented the results of the pre-workshop questionnaire. Seventeen completed copies were returned. Most of the respondents were not aware of activities to fight antimicrobial resistance in their countries, but almost half indicated that their health care facilities were involved in fighting AMR.

The results of the questionnaire appear in Annex 7.

Tools related to AMR

Mr. Patrick Gaparayi of MSH/SPS Rwanda introduced the participants to the different tools related to AMR established by MSH.

First, Mr. Gaparayi spoke about the training materials on drug and therapeutics committees (DTC), a very important subject to most participants, which was followed by a lively discussion. DTCs are considered a key intervention in the fight against AMR. They are concerned with, among other things, the choice of medicines, establishment of standard treatment guidelines, and establishment of infection control strategies. In places where DTCs function well, one can find improved service quality and good management of the resources available.

The WHO established in collaboration with MSH a guide on DTCs, which is also available in French.

Afterwards, Mr. Gaparayi presented the indicators for monitoring the use of antimicrobials in hospitals. The guide developed by the WHO includes all the indicators for the use and

management of antimicrobials, the methods for conducting a study in a hospital and the forms necessary to conduct this study.

Then, Mr. Mupela Ntengu gave a presentation on infection control – one of the main themes of this workshop. Nosocomial infections (caught in health care facilities) are a frequent problem with an approximate prevalence of 9%,¹⁰ which encourages AMR through the inappropriate use of antimicrobials (appearance) and poor infection control practices (spread). However, effective infection control programs are beneficial because they reduce the spread of nosocomial infections, morbidity, mortality and health care costs. Therefore, all hospitals should have an infection control program based on good AMR containment practices.

In order to help health care facilities set up infection control programs, MSH under the RPM Plus program (predecessor of SPS) funded by USAID in collaboration with Harvard University, established a self-assessment and quality improvement approach. Existing infection control systems are assessed using ICAT. Then, rapid cycle quality improvement [RCQI] methods are applied. Finally, the effectiveness of the interventions is monitored using performance indicators and observation checklists.

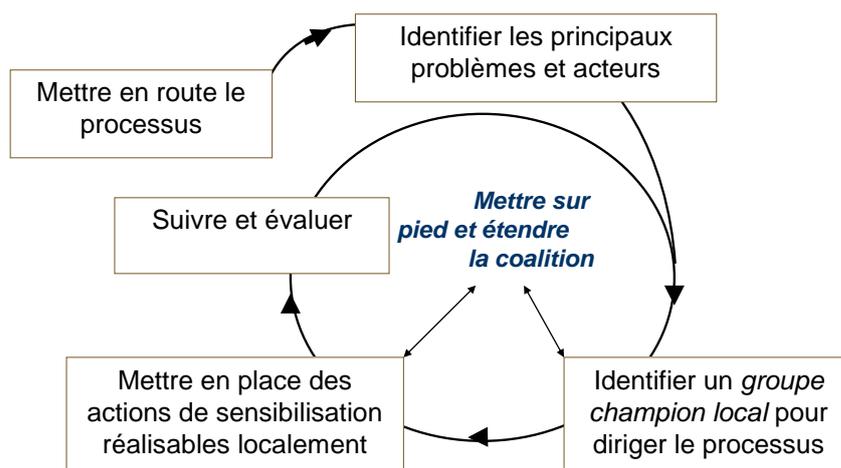
This approach permits improved infection control practices, even in environments with limited resources.

AMR: Progress to date – MSH/SPS activities

Dr. Wonder Goredema then spoke about creating local coalitions to contain the progression to date of antimicrobial resistance. For clear explanation and illustration, he gave a report, which was prepared in Zambia and Ethiopia using a national approach for AMR sensitization and its containment, which aims to have local stakeholders organize and coordinate realistic strategies for containing AMR. The two key steps of this process to ensure the success of all the AMR containment activities include identification of the principal players and the creation of a local champion group.

The elements of the approach are below: *[captions below, clockwise: Identify key issues and players, Identify a local champion group to lead the process, Initiate the advocacy and locally feasible actions, Monitor and evaluate, Initiate the process, [center: Build and expand coalition]*

¹⁰ WHO/CDS/CSR/EPH/2002.12



The approach is consistent with rapid cycle quality improvement. After the activities are assessed, one must correct them, if necessary, or choose other actions or coalitions.

Dr. Goredema also presented other documents to guide the implementation of MSH/SPS activities, notably—

- Guide to setting up local coalitions to contain drug resistance.
- AMR Field Guide for USAID Missions.

AMR: Progress to date – EPN member activities

The last session of this day concerned the activities of EPN members related to antimicrobial resistance.

Representatives of APROMESTO from Togo and BUFMAR Rwanda presented some activities conducted following the AMR workshop in Moshi and the publication of the Call to Action. The APROMESTO strategy was to involve journalists in their workshop on antimicrobial resistance. For this purpose, they presented a report on AMR and a televised show was organized for broad dissemination of their activities.

Mr. Alex Mayambi of Bon Berger Hospital in Tshikaji, DRC gave a presentation on infection control in his hospital in response to an Ebola epidemic in the region.

Mr. Mayambi stressed that infection control is carried out on 4 levels in the hospital—

- Improved use of antibiotics.
- Practical measures applied by the staff.
- Cleaning of the premises and sorting and removal of waste according to specific procedures.
- Purchase and dispensing of good-quality antibiotics.

Day 3

The day began with a devotion led by [representatives from] Chad and Benin. The devotion concerned the theme “Keep the Faith” - John 5:1-9. The impotent did not have the strength to step in the water, as there were always people who were faster. But he said: One day...and Jesus intervened and healed him.

One must always be faithful to Jesus because he intervenes in our lives – in his own time!

Preventing the transmission nosocomial infections

Dr. Damien Nsabimana spoke about preventing the transmission of nosocomial infections. He first presented the two categories of people at risk of nosocomial infections, i.e. patients and health care providers. He then presented the transmission routes and modes before developing the interventions to prevent the spread of infection.

During the discussion, it was clarified that nosocomial infections are infections caused by specific germs. However, Dr. Goredema insisted on the fact that it is ideal for patients not to contract any infections during their stay in the hospital.

Overview of the infection control and quality improvement assessment approach

The infection control and quality improvement assessment approach consists of first assessing the existing infection control systems in health care facilities by using the ICAT tool. This tool enables identification of the priority problems, analysis of the factors and development of the interventions. These interventions are put into practice using rapid cycle quality improvement (planning, execution, analysis, and action).

It is crucial that this process be carried out as a team.

Quality improvement principles and methods

Mrs. Anke Meiburg presented the principles and methods of quality improvement applied in the context of health care. Excellent quality health care is adequate care administered appropriately at the correct time due to effective use of the resources.

There are four **quality improvement** principles: (1) patient orientation so that the care meets the needs and expectations of the patients and community; (2) good knowledge of the health care system (resources, processes and impact); (3) teamwork; and (4) an evaluation of the changes in the system with the use of data.

Infection control and quality improvement assessment approach – ICAT

Mr. Mupela Ntengu introduced the ICAT tool to the participants.

ICAT is an important tool for infection control in health care facilities. It (1) aids in assessing existing infection control practices; (2) provides recommendations on improving the practices and (3) provides checklists for monitoring compliance with good practices.

ICAT consists of 22 modules covering all aspects of infection control in a health care facility (Hand Hygiene, Waste Management, Microbiology Laboratory, Sterilization and Disinfection, Labor and Delivery, Precautions for Tuberculosis, etc.). These modules use a method of classification by performance category. They contain comments and recommended practices—

- Explaining the context and reasons for the notation [of scores].
- Stressing practices based on evidence and recommendations of expert organizations (WHO, CDC, NGOs).

In answering a question, Mr. Ntengu emphasized that it is always important and necessary to advise the people who will be involved in the assessment because it is a process to improve services and not a punitive inspection.

An exercise was completed by all participants on completing the *Labor and Delivery* module. The participants learned how to complete the assessment sheet ending with the notation of scores to determine the performance category. This category (A, B and C) makes it possible to note the sections where actions for improvement must be taken.

Establishment and implementation of ICQI plans

After the presentation on developing an ICAT survey and an introduction to the CD-ROM, Dr. Goredema spoke about establishing and implementing ICQI (Infection Control Quality Improvement) plans.

The assessment with ICAT should result in the establishment of plans for improvement – with interventions at an affordable and appropriate cost. One should begin progressively with interventions that are easy to execute and in a one area or department. Several modules were presented, the most important of which is the model infection control quality improvement plan. This model includes specific objectives related to the problem identified; the activities planned; persons responsible; intervention period; indicators and results of the exercise. The results are a comparison of the data before the intervention and after in order to see whether there was a change. This information enables good decisions on how the intervention can be improved or if it should be changed or put into practice on a large scale.

Day 4

The devotion was led by the teams from Togo and the Central African Republic. We read Romans 12:17-18 – cultivating peace. We must always seek peace - even where it is impossible and people do not accept peace and also [seek it] among those who are blessed. Our health depends on seeking peace with others - “*Make every effort to live in peace with all men and to be holy; without holiness no one will see the Lord,*” Hebrews 12:14.

Field work

For the field work on the use of the ICAT tool, the group traveled to Kibagabaga Hospital in Kigali. The four teams below were organized:

Team	Module	Department/Workplace
1	Hand Hygiene – Mod. 17	Internal Medicine
2	IV Solutions and Med. – Mod. 21	Surgery
3	Labor and Delivery– Mod. 8	Maternity
4	Waste Management – Mod.7	Emergency Room, Morgue, Waste Repository

Each group visited a specific medical department in the hospital. They interviewed the medical staff responsible for infection control in these units and used checklists to observe the current practices. Afterwards, all the groups presented their results to the heads of the departments or units visited and provided feedback and suggestions for improving some questions of the ICAT tool. In general, the participants noted that ICAT is easy to use and they can put it into practice in their facilities to improve infection control.

The presentations/results of the survey are presented in Annex 4.

Kibagabaga Hospital Chief of Staff, Dr. Christian Ntizimira, attended the results presentation in the Mille Collines Hotel conference room and thanked the participants for the results obtained from the survey conducted in his institution because they will make it possible to improve the quality of work in this young hospital, which needs a great deal of support.

ICAT: Implementation, progress and experiences to date

Mr. Mupela Ntengu presented the progress and experiences in the implementation of the ICAT tool in South Africa, Swaziland, Guatemala and Namibia. This tool was adopted in these countries by the authorities and used in the majority of health care facilities of their respective countries.

Mr. Ntengu emphasized that simple and low-cost interventions such as hand washing can be very effective at improving infection control.

Day 5

The DRC team led the devotion on the last day. Based on the text of Romans 12:1-2, we were reminded that one day we must account for how we have used our time and what we have done – and do so with respect to AMR too. We must stop telling God we are unable and ask Him to give us knowledge and instructions on what we must do. He will say a word.

Sensitization/advocacy tool

The participants worked in four groups on the advocacy tool. Two groups tackled the introduction and the other two worked on messages to different stakeholders. After the presentation, the tool was discussed among the full group and the facilitators noted all the interventions and suggestions.

At the end of the workshop, the facilitators put together a tool using the projects of the different groups. A committee of four workshop participants gave feedback and the facilitators incorporated the recommendations.

The final version of this tool is in Annex 5.

Action plans

The purpose of last session of this workshop was to establish action plans using the infection control quality improvement (ICQI) plan for each country/health care facility.

Due to insufficient time, only one group had the opportunity to present its plan. However, the facilitators should provide feedback and suggestions on each plan via e-mail.

The draft action plan of the Togo participants appears in Annex 6 as an example.

Conclusion, evaluation and closing

In general, the participants were very pleased to have participated in this workshop and they found that it was relevant to their work. They reported that they were ready to use the ICAT tool in their own health care facilities.

The participants evaluated the location, organization and technical aspects of the workshop using the evaluation scale in Annex 8.

John Patrick Mwesige, leader of the Pharmacy Taskforce, representing the Rwanda Ministry of Health emphasized in his official closing speech that antimicrobial resistance is a real threat and it is necessary henceforth to make available the resources to combat it. He stated that the Rwanda Ministry of Health supports putting the recommendations of the workshop into practice. Finally, he reminded the participants that their organizations sent them to participate in this workshop and he strongly advised them to use what they learned during this week in Kigali.

Key observations

- The participants felt that AMR is a threat in the Francophone region and it is necessary to implement appropriate interventions, notably infection control activities, in order to tackle this issue.
- After the Moshi workshop, some EPN members developed and organized activities to fight AMR with the support of their local organizations.
- Illegal importation, distribution and use of antimicrobials were considered important factors contributing to antimicrobial resistance in some countries. It is necessary to work with national partners, local stakeholders, opinion leaders and the community and media to develop and put in place appropriate community sensitization interventions to tackle this problem. Some countries do not have functioning pharmaceutical control authorities to develop standards for the importation and use of medicines and ensure that they are observed.
- The Rwanda Ministry of Health representative supported the workshop and declared collaboration and support for the implementation of the recommendations and next steps following this workshop based on the availability of resources.

NEXT STEPS

Immediate Follow-up Activities

- The EPN and MSH/SPS facilitators coordinated and finalized the advocacy tool for infection control.
- The EPN and MSH/SPS facilitators provided remote technical support to the participant teams for the finalization and implementation of the quality improvement plans as soon as these plans are validated by the competent local officials.

Recommendations

- The EPN and MSH/SPS should plan an opportunity to share national and regional-level experience with the implementation of the ICAT tool and AMR activities at the 11th International Pharmaceutical Forum, which will take place in June 2010 in Kinshasa, DRC.
- The EPN and MSH/SPS should study the possibility of organizing a workshop on DTCs for Francophone countries.
- MSH/SPS should provide contact information for the pertinent people living in Zambia, Ethiopia and Guatemala so that the participants can contact them for more information on the AMR containment work in their countries.
- EPN and MSH/SPS should finalize and distribute the advocacy tool for infection control.
- EPN and MSH/SPS should continue to provide remote technical support to the Kigali workshop participants in order to finalize and implement the quality improvement plans that have received approval from the competent officials.

ANNEX 1. LISTS OF PARTICIPANTS AND ORGANIZATIONS

Participants

	Name	Organization	Position	Country
1	Tchiboza K. Junior	NGO Bethesda	Physician, Pharmacy Manager	Benin
2	Hounmenou Constant Marcel	NGO Bethesda	Physician, CMC Manager	Benin
3	Valence Ndifor Ndip	OCASC	Pharmacist	Cameroon
4	Guy-Blaise Biantcho Atchonkeu	OCASC	Physician	Cameroon
5	Tankoua Yonkeu Irene Eulalie	EEC (PHARMACEEC)	Director, Pharmacist	Cameroon
6	Djaboulé Akoubé Marlyse	EELC Ngaoundéré Protestant Hospital	Pharmacist's Assistant	Cameroon
7	Ursula Roemhild	Pala BELACD	Pharmacist	Chad
8	Bernhard Roemhild	Pala BELACD	Physician	Chad
9	Dr. Olivier Musongya	CBCA	Physician	DRC
10	Musivirwa Wa-Tsongo	CBCA	Pharmacy Assistant	DRC
11	Upio Nzeni Mike	Nyankunde CME	Physician, Executive Director	DRC
12	Santos Iboko	Nyankunde CME	Pharmacist	DRC
13	Alexis Mayambi	Bon Berger Hospital, Tshikaji	Pharmacist	DRC
14	Dr. Mfulu Kiese Papy	ECC	Physician	DRC
15	Tomety Dovi Mawuli	APROMESTO A.F.A.D.	Medical Assistant	Togo
16	Degbe Koffi Doh	APROMESTO	Pharmacy Assistant	Togo
17	Emmanuel Wane	Evangelical Baptist Church [French initials EEB] Medical Center Gamboula ASSOMESCA		CAR
18	Lambone Lévy	ASSOMESCA	Ophthalmology Surgeon	CAR
19	Patrick Migambi	Kibilizi Hospital	Medical Director	Rwanda
20	Fidèle Rwabukera	Musanze District Pharmacy	Director	Rwanda
21	Basile Habimana	Kibagabaga Hospital	Pharmacist	Rwanda
22	Muhimpundu Alice	Kibagabaga Hospital	Environmental Health Officer	Rwanda
23	Uwineza Elise	BUFMAR	Pharmacist	Rwanda
24	Felix Hitayezu	MSH/SPS	Senior Program Associate	Rwanda
25	Patrick Gaparayi	MSH/SPS	Senior Program Associate	Rwanda
26	Inès Buki Gege	MSH/SPS	Senior Technical Advisor	Rwanda
27	Aline Mukerabirori	MSH/SPS	Technical Coordinator	Rwanda
28	Ernest Rwagasana	BUFMAR	Director	Rwanda
30	Damien Nsabimana	Kibogora Hospital	Hospital Director	Rwanda
31	Nathalie Muhoze Furere	BUFMAR	Pharmacist	Rwanda

	Name	Organization	Position	Country
32	Penelope Ingabire	Ministry of Health	PTF Staff	Rwanda
33	Dr. Wonder Goredema	MSH/SPS	Country Program Manager	USA
34	Mupela Ntengu	MSH/SPS	Cluster Manager	South Africa
35	Cedric Owuor	EPN	Administrative Assistant	Kenya
36	Anke Meiburg	EPN	Pharmacist, Francophone Program Manager	Kenya

Organizations

Organization	Women	Men	Total
APROMESTO, Togo	0	2	2
ASSOMESCA, CAR	0	2	2
BELACD, Chad	1	1	2
BUFMAR, Rwanda	3	4	7
CBCA, DRC	0	2	2
CEPCA, Cameroon (EEC and EELC)	2	0	2
Nyankunde CME, DRC	0	2	2
ECC, DRC	0	2	2
OCASC, Cameroon	0	2	2
NGO Bethesda, Benin	0	2	2
SPS/MSH, Rwanda	2	2	4
PTF/Ministry of Health, Rwanda	1	0	1
Total	9	21	30

ANNEX 2. WORKSHOP SCHEDULE

Session	Time	Subject	Facilitator
1st Day: Monday, November 23, 2009			
1st Session: Orientation and Overview	8:00 – 8:30	Registration for Rwandan Group	
	8:30 – 8:45	Devotion	Rwanda
	8:45 – 9:15	Welcome and Opening	Anke BUFMAR Gege
		<ul style="list-style-type: none"> • EPN • BUFMAR • MSH Rwanda 	
	9:15 – 11:00	Group of experts, including expectations, participant committees, internal agenda, pre-workshop questionnaire and logistics.	Anke, BUFMAR
	11:00 – 11:30	Coffee/Tea Break	
	11:30 – 13:00	Introduction	Anke Gege Wonder
<ul style="list-style-type: none"> • EPN, emphasis on work related to AMR • MSH/SPS Rwanda; work related to AMR • Introduction and objectives of the workshop 			
1:00 – 12:00	Lunch		
2nd Session: AMR: Overview, Containment and Progress to Date	12:00 – 3:30	Overview of AMR, Global and African Situation	Damien
	3:30 – 4:00	Coffee/Tea Break	
	4:00 – 5:00	WHO Global Strategy for Containment of AMR	Wonder
2nd Day: Tuesday, November 24, 2009			
2nd Session (cont.)	8:30 – 8:45	Devotion	Cameroon
	8:45 – 9:15	Internal agenda	Anke, Nathalie Reporter Mupela
		Summary of key points from the 1 st day Overview of the schedule for the 2 nd day	
	9:15 – 10:30	Results of the pre-workshop questionnaire	Mupela, Anke
	10:30 -11:00	Coffee/Tea Break	
	11:00 – 12:00	Tools related to AMR- – DTC and UAM [United Against Malaria] training materials, Infection control, Indicators Manual	Patrick
		Tools related to AMR- – DTC and UAM training materials, Infection control, Indicators Manual (cont.)	Patrick
	12:00 – 1:00		
	1:00 – 2:00	Lunch	
	2:00 – 3:30	AMR: Progress to date: MSH/SPS activities for advocacy and containment of AMR in Zambia, Ethiopia and regional work in Africa with RPF [Regional Pharmaceutical Forum]/ECSA [East, Central and South Africa] & EPN; reference documents for implementation of country-level activities	Mupela, Wonder
Coffee/Tea Break			
4:00 – 5:30	AMR: Progress to date – Activities on AMR by EPN member countries, including experiences with infection control in the DRC	Togo, BUFMAR, DRC (Alex)	
3rd Day: Wednesday, November 25, 2009			
3rd Session: Introduction to the Infection Control Quality Improvement Assessment	8:30 – 8:45	Devotion	Benin, Chad
	8:45 – 9:15	Internal agenda	Anke, Nathalie Reporter Mupela
		Summary of the key points of the 2 nd day; Overview of the schedule for the 3 rd day	
9:15 – 10:00	Prevention of Nosocomial Infection Transmission	Damien	

Session	Time	Subject	Facilitator
Approach	10:00 – 10:30	Overview of the Infection Control Quality Improvement Assessment Approach	Wonder, Mupela
	10:30 – 11:00	Coffee/Tea Break	
	11:00 – 11:45	Principles and Methods of Quality Improvement	Anke
4th Session: Infection Control Assessment Tool (ICAT) and infection control quality improvement [ICQI] plan	11:45 – 1:00	Infection Control Quality Improvement Assessment Approach - ICAT	Mupela
	1:00 – 12:00	Lunch	
	2:00 – 3:00	Infection Control Quality Improvement Assessment Approach – ICAT (cont.)	Mupela
	3:00 – 3:30	Introduction and use of the infection control CD ROM	Wonder, Mupela
	3:30 – 4:00	Coffee/Tea Break	
	4:00 – 4:30	Introduction on how to conduct a survey using ICAT	Mupela
	4:30 – 5:00	Establishment and implementation of ICQI plans	Mupela, Wonder
	5:00 – 5:30	ICAT: Preparation for the field work	Mupela, Nathalie, Anke
4th Day: Thursday, November 26, 2009			
	8:00 – 8:15	Devotion	Togo, Central African Republic
5th Session: ICAT: Field work and infection control quality improvement (ICQI) plans	8:15 – 8:45	Internal agenda Summary of the key points from the 3 rd day Overview of the schedule for the 4 th day	Anke, Nathalie Reporter Mupela
		ICAT: Field work at the hospital: Teams administer the assessment.	ICAT Teams, Mupela, Wonder, Nathalie
	8:45 – 1:00	Teams prepare reports on the surveys at the hospital.	Mupela, Wonder, Anke
	1:00 – 2:00	Lunch	
	2:00 – 2:45	Completion of the reports.	ICAT Teams
	2:45 – 3:30	Teams present the results of the surveys at the hospital.	Mupela, Wonder, Anke
	3:30 – 4:00	Coffee/Tea Break	
	4:00 – 5:00	ICAT: Implementation, progress and experiences to date	Wonder, Mupela
	7:00	Group Dinner	Everyone
5th Day: Friday, November 27, 2009			
	8:30 – 8:45	Devotion	DRC
6th Session: Advocacy tool and development of the action plan	8:45 – 9:15	Internal agenda Summary of the key points from the 4 th day Overview of the schedule for the 5 th day	Anke, Nathalie Reporter Mupela
	9:15 – 10:30	Group work on advocacy tool for infection control	Mupela, Nathalie, Wonder, Anke
	10:30 – 11:00	Coffee/Tea Break	
	11:00 – 12:00	Presentations on the advocacy tool for infection control, discussion and completion of the draft	Mupela, Nathalie, Wonder, Anke
	12:00 – 1:00	Team work by country on ICQI action plans	Anke, Mupela, Wonder
	1:00 – 2:00	Lunch	
	2:00 – 2:45	Presentations and feedback	Anke, Mupela, Wonder

Annex 2. Workshop Schedule

Session	Time	Subject	Facilitator
7th Session: Evaluation and Recap	2:45 – 3:30	Evaluation and Recap	Mupela, Wonder, Anke
	3:30 – 4:00	Closing	MSH Rwanda, Anke, BUFMAR
	4:00	Coffee/Tea	

ANNEX 3. PARTICIPANTS' EXPECTATIONS

1.	Information on AMR, infection control and strategies for containing AMR.
2.	Inquire about antimicrobial resistance as this is occurring in other countries.
3.	Be equipped to fight AMR and able to put new methods into practice.
4.	Improve the quality of the services.
5.	Advocacy on AMR and infection control.
6.	A network to fight AMR will be established. Experiences shared.
7.	We will make a firm commitment to this fight (sensitization, in particular).
8.	Plan concrete actions.
9.	Emphasis to be placed on rational prescribing and use of antimicrobials.
10.	Training for health care facilities on the following practices: <ul style="list-style-type: none">• Prescribing medicine• Over/under dosing• Medicine storage
11.	How to assess the AMR problem.
12.	Regulate the opening of pharmacies and drug outlets, sometimes by non-professionals.
13.	Medical training.

ANNEX 4. RESULTS OF THE ICAT SURVEY

Group 1-Module 17: Hand Hygiene

Members: Basile, Constant, Félix, Alexis, Alice, Emmanuel, Guy-Blaise
Facility Name: KIBAGABAGA Hospital

1. Principal Results:

- **Insufficient Equipment:** Insufficient hand washing stations (2 out of 36), no soap dish, no liquid soap dispenser or antiseptic, no hand lotion, no towels for drying hands.
- **Insufficient Hygiene Practices:** Hands are not washed before and after contact with patients. Gloves are worn for each patient, but without washing hands.

2. Describe a potential priority problem for initial improvement.

- Hand Washing

3. Suggest an initial action plan to improve quality in order to solve the problem.

- **Proposed interventions:**
 - Sensitize and educate the staff on systematic hand washing.
 - Make alcohol-based solution available in the rooms.
- **Improvement objective proposed for the intervention:** Make the practice of hand hygiene effective among the hospital's staff
- **Proposed activities:**
 - Hold a meeting of the staff.
 - Give the staff feedback on the hand hygiene assessment.
 - Sensitize the staff to hand hygiene.
 - Make available in the department: alcohol-based solution, liquid soap and single-use towels.
 - Place soap dishes on the walls with running water.
 - Establish and display a hand washing protocol.
 - Department managers must ensure that this protocol is applied.

Group 2-Module 21: Intravenous Solutions and Medicines

Members: Irène, Emmanuel, Junior, Bernard, Santos, Elise

Facility Name: KIBAGABAGA Hospital

1. Principal Results:

- Cleanliness of the premises and beds
- Good collaboration
- Good distribution of duties despite the insufficient number of nurses
- No stock-outs
- Good theoretical knowledge
- Compliance with hand washing
- Compliance with asepsis rules in the care
- Poor storage of multiple-dose vials following use
- No written procedure

2. Describe a potential priority problem for initial improvement.

- No SOP [standard operating procedure] for preparing IV solutions and medicines

3. Suggest an initial action plan to improve quality in order to solve the problem.

- Proposed intervention: Organize a training session on establishing SOPs.
- Improvement objective proposed for the intervention: Establish and comply with SOPs to improve the quality of the care according to current standards.
- Proposed activities:
 - Identify the employees to be trained
 - Identify the trainers and tools
 - Seek funding
 - Choose a setting for the training that will suit the employees
 - Plan the training with the employees
 - Conduct the training

4. Problems encountered using the ICAT tool:

- Question 4
 - It lacks a proposed response: what does one do when the perfusion is blocked?
- Question 10
 - Comprehension of the question is a bit confusing because of the two words: “fabriqués” [manufactured or made] and “conçus” [designed].
- The assertions in questions 1 - 3 do not fit our situation.

5. Suggestions for improving the ICAT modules:

- Q4: Add this proposal.
- Q10: Medicines intended for one patient are used for several.

Group 3-Module 8: Labor and Delivery

Members: Olivier, Mike, Patrick, Patrick, Marlyse, Valence

Facility Name: KIBAGABAGA Hospital

1. Principal Results:

- No preparation of perineum.
- [Umbilical] cord not cleaned before clamping.
- No single-use blade for cutting cords. No policy on streptococcus prevention.
- The issue of sorting medical waste.
- Cleaning and hygiene policy is not displayed on the walls.
- Smocks are not long-sleeved.
- No masks for vaginal delivery.

2. Describe a potential priority problem for initial improvement.

- Insufficient equipment and material for the staff

3. Suggest an initial action plan to improve quality in order to solve the problem.

- Proposed intervention: Plan to give the hospital equipment and material to protect the staff.
- Improvement objective proposed for the intervention: Improve staff and parturient protection.
- Proposed activities:
 - Identify equipment and material requirements according to the standards in the maternity department.
 - Purchase the equipment and material necessary.
 - Train staff on the use of the equipment.
 - Provide the equipment to the maternity ward.
 - Monitor the correct use of the equipment.

4. Problems encountered using the ICAT tool:

- Some responses are not consistent with the national policy: for example, question 25 (single-use kit), and question 36.
- One question is ambiguous: question 35.
- The answers to some questions are not in the literature: for example, cleaning the cord before clamping.
- Translation issue: questions 32, 33 and 34.

Group 4-Module 7: Waste Management

Members: Papy, Nathalie, Ursula, Levy, Wonder, Tony, Wa-Tsongo, Pénélope
Facility Name: KIBAGABAGA Hospital

1. Principal Results:

- The practices and policies recommended for contaminated waste are followed systematically and exhaustively.
- Waste removal processes are generally followed.
- So, we address them, congratulate them and encourage them not to let up.

2. Describe a potential priority problem for initial improvement.

- Policies and procedures are not displayed in daily practice settings, in particular at the morgue.

3. Suggest an initial action plan to improve quality in order to solve the problem.

- Proposed intervention: Display the procedures for handling and removal wherever necessary.
- Improvement objective proposed for the intervention: Better handling of waste by the staff.
- Proposed activities:
 - Train the staff.
 - Provide a sufficient amount of posters.
 - Sensitize the staff.

ANNEX 5. ADVOCACY TOOL

Infection Control in Hospital Environments



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Systems



Infectious diseases kill 11 million people globally each year, 95% of which live in countries with limited resources. The principal life-saving intervention for infectious diseases remains antimicrobial treatment. However, antimicrobial resistance (AMR) is rapidly reducing the effectiveness of these vital medicines. This problem has rendered many first-line treatments ineffective. This has an impact on all infectious diseases, in particular HIV, tuberculosis and malaria.

Antimicrobial resistance often develops due to poor prescribing and dispensing practices, improper use by patients with self medication and the poor quality of medicines.

Antimicrobial resistance has severe consequences for public health, including increased morbidity and mortality linked to infections, higher treatment costs, long infectious periods with an increased risk of transmitting resistant pathogens to other people, extended hospital stays, prolonged absence from work, and a reduced list of effective antimicrobials.

For example, MDR tuberculosis treatment is 100 times more expensive than the treatment for drug-sensitive tuberculosis. Even for malaria, the cost of chloroquine-resistant malaria treatment is 6 to 35 times more expensive than treatment for infections with drug-sensitive parasites. With regard to HIV treatment, it has proven necessary to preserve the medicines that are available because in 4 to 5 years, the cost of providing second-line treatments could require up to 90% of the budgets available to fund ARVs. This could seriously compromise access to care if several patients must be treated with second-line regimens.

There are two basic pillars for containing AMR, specifically sensitization activities and containment activities, which are carried out on two levels: rational use of medicines and infection control.

According to the *World Health Organization (WHO) Global Strategy for Containment of Antimicrobial Disease*, infection control is a key intervention for hospitals and health care facilities because it reduces the disease burden and spread of infection.

Nosocomial infections are a frequent problem with an approximate prevalence of 9% (WHO/CDS/CSR/EPH/2002.12). In some regions of Sub-Saharan Africa, this rate is as high as 40% (Lynch et al., 1997). However, most of these infections could be avoided through the low-cost strategies available. This involves compliance with infection control strategies, in particular washing hands and wearing gloves, as well as effective decontamination and proper waste management.

It is our opinion that in order to achieve this, different stakeholders in health care from different countries must emphasize infection control and prevention in health care facilities.

Efforts are already under way in this area to raise the awareness of health care professionals of the importance of the fight. This is the case of the *Francophone workshop on antimicrobial resistance and infection control in health care facilities* held in November 2009 in Kigali by EPN¹¹ in collaboration with the MSH/SPS program.¹² This workshop brought

¹¹ The Ecumenical Pharmaceutical Network (EPN) is a Christian organization with members in over 30 countries whose primary goal is to promote quality, just and compassionate pharmaceutical services in faith-based health care facilities. For several years, this network has been involved in fighting antimicrobial resistance.

¹² The Strengthening Pharmaceutical Systems (SPS) program of Management Sciences for Health (MSH), funded by USAID, has endeavored to develop capacities in developing countries to manage effectively all aspects of pharmaceutical services and systems. In addition, SPS is committed to containing antimicrobial resistance.

together 30 professionals from seven Central and West African Francophone countries: Cameroon, Togo, Benin, CAR, DRC, Chad and Rwanda.

This fight is not the prerogative of health care employees solely, but requires multidisciplinary collaboration involving all stakeholders, notably ministries of health, health care facilities, churches and faith-based organizations, health care training organizations, associations of health care professionals, health care providers, mass media agencies as well as the entire population.

Political Leaders and Decision Makers

- Support and be actively involved in infection control and AMR activities.
- Establish, disseminate, put into general use and enact standards and guidelines on infection control in hospital environments.
- Ensure the strict application of policies and laws governing the health sector.
- Sensitize international partners so that they comply with national policies and standards.
- Improve the working conditions of health care professionals with regard to infrastructure, equipment, materials and continuing training.

International Partners

- Respect the laws, health policies and guidelines in different countries.

Organizations and Associations of Health Care Professionals

- Take the appropriate steps to ensure compliance with ethics rules relative to infection control and the rational use of medicine.
- Promote an atmosphere of collaboration among health care professionals and create networks related to infection control and antimicrobial resistance (AMR).

Managers of Health Care Facilities

- Establish and disseminate to all parties concerned the policies, procedures and guidelines for infection control and ensure their enforcement.
- Establish and support hygiene and/or infection control committees and drug and therapeutics committees (DTC).
- Provide the infrastructure and equipment necessary to prevent nosocomial infections (for example, equipment for hand hygiene, waste management, etc.).

- Set up laboratories and/or make them operational for appropriate research on infections.
- Establish mechanisms for monitoring and evaluation relative to infection control and the appropriate use of antimicrobials.
- Collect information regularly on infections and submit it to the competent officials for action.
- Plan and organize continuing training sessions for health care staff on infection control activities.
- Ensure the availability and accessibility of good-quality pharmaceutical products and their rational use.

Managers of Health Training Organizations

- Include and strengthen the aspect of infection control in hospital environments in training programs.
- Support the ministry and health facilities in the organization and validation of continuing training on infection control for health care professionals.
- Promote research projects on infections and publish them.

Health Care Providers (advocate a multidisciplinary team approach)

- Practice proper hand hygiene in your daily performance.
- Periodically train on/inquire about developments in infection control and prevention science.
- Use the standard treatment guide for antimicrobials when treating infections.
- Train patients and the public on general hygiene and infection prevention on the individual and community levels.
- Train patients on the correct use of medicines and the dangers of self medication, especially with antimicrobials.

Patients

- Relentlessly perform hygiene measures to prevent infection.
- Consult a medical professional immediately when sick and avoid as much as possible spreading germs to others.
- Follow the instructions given by the health care staff when taking medicines.
- Do not self medicate, especially with antibiotics.

General Public

- Practice daily hand hygiene with clean (running) water and soap.
- Keep household waste in appropriate locations.
- Do not self medicate with antibiotics or buy medicine on the street.
- Consult health care professionals for the correct information on infection control.

Media

- Become actively involved in disseminating sensitization messages on infection control, antimicrobial resistance, self medication and hygiene in general.

This document was prepared by the participants at the Francophone workshop on antimicrobial resistance and infection control in health care facilities, which took place in Kigali, Rwanda November 23-27, 2009.

ANNEX 6. ACTION PLANS

EXAMPLE: TOGO TEAM PLAN

Facility Name: **ELEME –AFAD Kpélé Medical-Social Center Togo.**
(APROMESTO)

Members of the infection control quality improvement team (ICQI)

Name	Position
TOMETRY, Dovi Mawuli	Medical Assistant and Director of the Center
MAGNI, Aklesso	Head Nurse
ADEGBAGBA, Massan	Maintenance Manager
PESSO, Koffi Mazamesso	Pharmacy Manager
ZEGUE, Yawa Charité	Maternity Ward Head Midwife
KENAO, Gerôme	Security Manager (Guard)
GALLEY, Koffi	Laboratory Technician

What is the priority problem for infection control in your health care facility (refer to Part 1 of the *Model for the application of the quality improvement principles and tools to problems with nosocomial infection control*)?

- **Poor management of infectious waste at the ELEME Kpélé Medical-Social Center.**

What factors contributing to improvement will you give priority (refer to Part 2 of the *Model for the application of the quality improvement principles and tools to problems with nosocomial infection control*)?

- **Little knowledge of the handling of infectious waste by the staff at the center.**
- **Insufficient equipment for handling infectious waste.**
- **Lack of formalized operating procedure for handling infectious waste at the center.**

Describe your priority intervention (refer to Parts 3 and 4 of the *Model for the application of the quality improvement principles and tools to problems with nosocomial infection control*).

- **Establish a training program for the staff on waste management at the center.**
- **Establish a formalized operating procedure for waste management at the center.**

Establish an improvement objective for your priority intervention (refer to Part 4 of the *Model for the application of the quality improvement principles and tools to problems with nosocomial infection control*).

- **Improve the management of infectious waste at the ELEME Kpélé Medical-Social Center.**

Annex 6. Action Plans

Establish an action plan for the evaluation and implementation of the priority intervention by including activities to solve potential problems (refer to Part 4 of the *Model for the application of the quality improvement principles and tools to problems with nosocomial infection control*).

Specific Objective	Planned Activities	Person in Charge	Time Period	Indicators				Results of the Exercise	
				What will you measure?	How will you measure it?	When will you measure it?	Who will measure it?	Before the Intervention	After the Intervention
Establish an annual training program for the staff on waste management at the center from now until the end of the first half of 2010.	Sensitize the staff to become aware of the scope of the problem.	President of the center's ICQI office.	Once a week	Inventory of the center's departments.	With the waste management tool and its grading sheet.	Daily: from 7:30 to 9:00 Beginning January 2, 2010.	ICQI Team	Center generally dirty and mixture of this waste in the departments.	Condition of the departments is very clean, with correct management of waste by category.
	Provide training and refresher training to the staff.	Senior Nursing Officer of the center.	Once every six months	Number of staff members trained and retrained.	Training register.	March 15, 2010 September 13, 2010	ICQI Team	The number of staff members not trained.	The number of staff members trained at the end of the year.
Give the center maintenance and infectious waste management equipment beginning in January 2010.	Supply the center with maintenance and waste management equipment.	Senior Nursing Officer of the center.	Once a month	Maintenance and waste management equipment available.	Review the order and delivery sheets.	The first of every month.	ICQI Team	Lack of maintenance and waste management equipment.	Permanent availability of maintenance and waste management equipment.

Specific Objective	Planned Activities	Person in Charge	Time Period	Indicators				Results of the Exercise	
				What will you measure?	How will you measure it?	When will you measure it?	Who will measure it?	Before the Intervention	After the Intervention
Establish a manual on formalized operating procedures for infectious waste management at the center, now through March 2010.	Form a committee to establish this procedures document.	President of the center's ICQI office.	One month	Operating procedures manual available at the center.	Work sessions and register of meeting minutes.	March 22, 2010.	ICQI Team	No formalized operating procedures manual for waste management at the center.	Effective availability of the formalized operating procedures manual for waste management at the center.
	Provide the procedures document to the staff.	President of the center's ICQI office.	After one month		Seen or displayed in each department.	April 30, 2010	ICQI Team		

ANNEX 7. PRE-WORKSHOP QUESTIONNAIRE RESULTS

1. What is the status of antimicrobial resistance in your country?

I DO NOT KNOW	2
AVERAGE	3
Major challenge	6 (IST)
?	1
Cause for concern	2
It exists	3

2. Is antimicrobial resistance a major problem in your country?

YES	17
NO	
I DO NOT KNOW	

3. If YES, in your opinion, what are the key factors contributing to the problem in your country?

13	Self medication
9	Illicit/over-the-counter sales
8	Prescriptions/Irrational use
4	Socio-economic issues – total noncompliance with treatments
3	Noncompliance with dosages
3	Poor prescription by unqualified employees
3	Poor quality
3	Regulation
2	Insufficient education on medicines
2	Inappropriate use of antimicrobials (of prescriptions)
2	Wrong diagnoses
2	Unsanitary conditions at the hospital
1	Insufficient bacteriology laboratories
1	War, insecurity
1	Ignorance of the population
1	Polypharmacy
1	Inappropriate treatment
1	Ignorance of health care staff/the population
1	Promotion by medical visitors
1	Treatment limitation
1	Noncompliance with prescriptions

4. In your opinion, who are the stakeholders to tackle the issue of antimicrobial resistance in your country?

12	Health care providers – hospital administration/prescribers
11	Ministry of Health (the government)/political and health officials
3	Universities/training schools
3	Pharmacists' platform/pharmacists
3	The population
2	Laboratories
2	Pharmacy managers/sellers
2	Patients
1	Pharmaceutical products control office
1	Medical association
1	Media
1	Drug and therapeutics committees

5. Are you aware of any activities to fight antimicrobial resistance in your country?

YES	5
NO	9
I DO NOT KNOW	3

If, YES, please specify:

1	Adoption of ACT (Palu)
1	Adoption of bi and tri-therapy for HIV
1	No activities
1	ORG – training seminars for clinical managers
1	Media – advertising
1	Pharmaceutical training workshops
1	A center created to isolate people with multidrug resistant TB

Individual activities: Discontinue the prescription of a given drug for several years.

6. Has your organization/facility been involved recently in **activities to fight AMR**?

YES	8
NO	9

If YES, please specify:

1	Prevention of mother-child transmission
1	Unit treating people living with HIV given antiretrovirals (ARV)
1	Review of the attitude in prescribing antimicrobials
1	Sensitization against self medication
1	Campaign to sensitize prescribers and some managers to the handling and selection of drugs

1	Correct use of antimicrobials
1	Assurance of a good diagnosis
1	Culture and bacterial sensitivity test to antibiotics for a better choice of the latter
1	Supervised ingestion of medicines
1	Data sheet on antibiotics use
1	Dissemination of information on fighting AMR through the distribution of EPN publications on this subject

7. Please explain the **infection control activities** in your health care facility/department:

5	Hygiene and cleanliness of the work environment (exam, hospital rooms, etc.)
4	Sensitization of the staff to infection prevention (continuing training)
2	Sensitization of the staff to infection prevention (posters)
2	Compliance with protocols on antibiotic therapy/rational prescription
2	Strict compliance with asepsis rules in care
2	Sensitization to avoid the use of antibiotic therapy when it is not indicated/good prescription
2	Sensitization of the population to hygiene/patients
2	Asepsis of health care equipment
1	Control of antibiotic prescriptions
1	Use of high-quality antimicrobial products
1	Sanitary education of patients
1	Monthly formalization of the premises [sic]
1	Staff training on infection algorithms
1	Correct waste management
1	Use by providers of WHO alcohol-based hand rubbing solution
1	Use of treatment protocols
1	Use of some culture media/ systematically run lab test
1	Trainings managed by qualified staff
1	Prevention
1	Antimicrobials prescribed by qualified staff
1	Antimicrobials administered under hygienic conditions
1	Sensitization to compliance with medical prescriptions
1	Training on the rational use of medicines, placing particular emphasis on antibiotics

8. In your opinion, what factors contribute to the challenges of infection control in your facility/department:

5	Unavailability and inaccessibility of equipment
3	Improper use of the antimicrobials available/injections (by prescribers)
2	Hygiene in the hospital environment
1	Staff resistance to adopting new procedures
1	Asepsis in the care
1	Fighting self medication
1	Fighting the illicit sale of antibiotics
1	Patients' poverty
1	Proliferation of bad medicine

1	War – favors self medication
1	Infrastructure does not meet standards
1	Lack of training in schools
1	Lack of standard treatment protocols
1	Waste management
1	Inappropriate use of antibiotics
1	Lack of observational control
1	Lack of regulation
1	Poor function of small health care centers
1	Training of the staff
1	Ensuring application of the AMR effort
1	Ignorance
1	Carelessness
1	Insufficient information for prescribers and dispensers on the rational use of antibiotics

9. What interventions would you propose to address these factors and improve infection control in your facility/department?

4	Training and sensitization – health care staff and population
3	Improve hygiene measures in the hospital environment
3	Sensitize all stakeholders
2	Give health care employees refresher courses (on asepsis rules/biosafety)
2	Provide good generic medicines at accessible costs
2	Scientific research
1	Advocate to authorities the allocation of resources
1	Strengthen education and sensitization for behavior change
1	Sensitize patients and caregivers to hygiene rules
1	Sensitize patients and caregivers to the dangers of abusive and inappropriate use of antibiotics
1	Sensitize patients and caregivers to avoid the use of illicit or poor quality antibiotics
1	Organize a hospital hygiene and sanitation committee
1	Establish an infection treatment protocol
1	Distribution control – health administration
1	Involve the central government in infection control in health care facilities
1	Set up pharmaceuticals committees
1	Rational prescription
1	Effective sterilization
1	Bio cleaning
1	Educate providers on hand hygiene following each activity
1	Information – Education – Communication
1	Advocate for resources to strengthen the capacity of the staff
1	Organize a local training (return information received on AMR)
1	Improve the education of the population

10. Do you think a sensitization tool would be useful in promoting infection control in your facility/department?

YES	15
NO	
I DO NOT KNOW	1

If YES, please list the items/information that you would like to include in this sensitization tool for the facilities in your region.

2	Severity of the situation/Antimicrobial treatment failure rates or recurrence rates
2	Rational prescription
2	Restoration/equipment of facilities
2	Protocol on antimicrobial use
1	Importance of the fight
1	Personal willingness to commit to the fight
1	Means of control
1	Images showing the danger of resistant microbes
1	Posters showing the risks of using medicines that are illicit or from the [illicit] market
1	Images showing the serious evolution of an untreated or poorly-treated infection
1	Posters showing the different components of hygiene in a hospital setting: handling of waste, garbage cans, syringes, inpatient hospital rooms, etc.
1	Posters summarizing nursing care
1	The principal concepts of asepsis and antisepsis
1	Probabilistic [approach] antibiotic therapies according to infections (by organs, systems, etc.)
1	Biosafety
1	Develop and promote biological products
1	Medicine selection
1	Medicine preservation
1	Educate the population on hygiene and compliance with medical prescriptions (cure)
1	Brief on AMR
1	Hospital hygiene/Training of hospital hygiene committees
1	Emphasis on this aspect of infection control in the programs of training schools for physicians and para-medical staff
1	The government must now play its role to assist health care facilities that have long served without aid, but saved thousands of human lives.
1	Waste management
1	Rate of compliance with antibiotic therapy
1	Talk about insufficient information
1	Sensitization of prescribers and the population
1	The risks incurred when there is resistance
1	Persistence and complication of diseases
1	The cause of extending a patient's treatment

1	Management tools
1	Strengthening human capacities
1	Equipment to organize hygiene
1	To control infection, it is necessary to know the prevalence and frequency of infections in a region, their mode of contamination and the prevention measures.

ANNEX 8. EVALUATION

Evaluation Scale:

- 5 = Excellent
- 4 = Very Good
- 3 = Good
- 2 = Fair
- 1 = Unsatisfactory

1. Workshop Evaluation

Devotion	4.35
Pertinence of the workshop to my field of work	4.50
The extent to which the objectives were achieved	4.09
Facilitation of the course	4.27
Organization of the course	4.35
Work tools	4.19
Field work	4.31
Audio visuals	4.15
Announcements and communication about the workshop	4.32

2. Location

Hospitality	4.69
Cleanliness of the rooms and comfort	4.64
Meals and refreshments	4.48
Courtesy of the hotel staff	4.31
Convenience of the hotel for future seminars	4.58

ANNEX 9. WORKSHOP PHOTO GALLERY



Group Work



A workshop participant demonstrates appropriate hand washing



Field Work at Kibagabaga Hospital



Wonder Goredema and Mupela Ntengu, workshop facilitators, on a field visit to Kibagabaga Hospital



Closing

Mr. Gaparayi MSH/SPS
Mrs. Meiburg EPN
Mr. Mwesige PTF
Dr. Goredema MSH/SPS
Mrs. Furere BUFMAR



Group Photo

