Report

WHO Meeting on
Global Initiative for Emergency and Essential Surgical Care
(GIEESC)

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1. Executive Summary

The second meeting of the Global Initiative for Emergency and Essential Surgical Care (GIEESC) was held in Dar-es-Salaam, United Republic of Tanzania, during 24-25 September, 2007. The GIEESC was established in December 2005, and represents the first coordinated effort to address the lack of adequate capacities for emergency and essential surgical and anesthesia interventions at the primary healthcare facilities in lower and middle income countries (LMICs). The purpose of the meeting was to review progress with implementation of the WHO Emergency and Essential Surgical Care (EESC) project in countries, explore and discuss specific strategies to raise the profile of emergency, surgery and anaesthesia care, outline important components of a “road map” for guidance on collaborations, coordination, monitoring, define important research issues, promote appropriate and sustainable technologies that will allow access to essential surgical care to save lives and prevent disability.

The Clinical Procedures Unit (CPR) in the EHT department is responsible for “ensuring efficacy, safety and equity in the provision of clinical procedures in surgery, anaesthetics, obstetrics, and orthopaedics, particularly at the district hospital level”. The meeting reviewed and discussed the progress with implementation of GIEESC activities, partnerships, collaborations with other WHO programs, the Bellagio meeting on "Access to Essential Surgical Care for sub-Saharan Africa", and introduction of the WHO Integrated Management for Emergency and Essential Surgical Care (IMEESC) toolkit in 23 countries through joint WHO and MoH workshops.

The situation in Africa was reviewed including the challenges (lack of reliable data, research focused mainly on tertiary care, deficiencies in infrastructure, supplies and human resources). It was suggested that research efforts focus on local pathologies, ensure wider dissemination of teaching materials, and establish regional networks to exchange ideas and experiences for improving the delivery of services in the AFRO region. Focal persons from 14 countries presented updates on EESC implementation, outlining the progress, common barriers to the delivery of services, and suggestions on how the EESC program may be integrated and expanded at the country level.

The issue of access to controlled medications for pain relief in perioperative care, emergencies, trauma, cancer and HIV, and the access to safe anaesthesia equipment were discussed. An update was also provided on the production, distribution of adaptation and translation WHO publications and Surgical Care at the District Hospital manual into languages, and the ongoing project on anaesthesia guidelines.

The gaps in the existing knowledge on surgical care, the role of research in promoting access to the treatment of surgical conditions at primary health facilities, and the implementation and monitoring of the EESC project was discussed. A better understanding of the burden of surgical diseases at the regional or local level would help inform allocation of resources, including implementation of EESC. A situational analysis was suggested to document the delivery of surgical and anesthesia services at first referral level/district hospitals and health centres. This will inform implementation of EESC, and will assist countries to upgrade the delivery of surgical and anesthesia services. Research may also be viewed as a quality control measure, and an important component of monitoring implementation of the EESC. Participants allocated to the four breakout sessions for discussions were tasked on four key issues including: training, research, advocacy, and appropriate technologies for training and education.

The 'Training group' stressed to conduct training and wider dissemination of the WHO IMEESC teaching tools modified to meet the local needs, and development or packaging of additional materials complementing the core information within the IMEESC, with a mechanism for monitoring. The 'Research group' suggested the importance of research initiatives to gain a better understanding of the local burden of surgical disease, for guidance on implementation and monitoring of ongoing EESC
training program. Formation of a subcommittee was suggested for guidance on future research, focusing on a “systems approach”, evaluating surgical service at a district hospital which may provide very useful information. The ‘Advocacy group’ outlined mechanisms to raise the awareness of provision of timely, safe emergency and essential surgical and anesthesia services. These include the media, donor agencies, professional organizations, NGO’s, governments and a concept paper/identity statement linked with safety or human rights, or with vertical programs involving surgery or anaesthesia towards achievement of the Millennium Development Goals (MDG’s). ‘Appropriate technology for training and education group’ discussed both the tools required for training, and how to deliver the training. Standards for low cost and appropriate technologies relating to surgery and anaesthesia should be developed, and equipment needs to be durable, low cost, and appropriate to the local environment. Training should be linked with regional needs, educational materials to serve variations in the level of education of trainees and printed materials should always be available (electronic teaching materials may not be practical in many regions).

Recommendations and an action plan involved establishment of a ‘GIEESC Planning group’ to confirm the terms of reference for GIEESC, and to develop a “road map” to implement the activities of GIEESC. It was recommended that subcommittees be appointed to focus on key issues, including advocacy, communications, research, and appropriate technologies for training, education, and patient care. Responsibilities of individual members of GIEESC included the promotion of GIEESC as the “international task force for surgical and anaesthetic services”, supporting member states in their implementation of EESC, raising funds to support GIEESC initiatives, setting up regular lines of communication between GIEESC members, and producing advocacy materials which may push the GIEESC agenda forward. There was consensus that this 'Global Initiative' signifies a shift in the way we think about surgery, which until recently was a neglected health issue in developing countries because it was assumed to be too expensive and sophisticated.

2. Background

Gaps in the provision of emergency and essential surgical and anesthesia services at primary health care facilities in LMICs result in unacceptably high rates of death and disability due to surgically treatable conditions such as injuries (road traffic crashes, falls, burns, domestic violence), infections (HIV, osteomyelitis, septic arthritis), pregnancy-related complications, congenital anomalies and acute abdominal conditions. Each year 500,000 women die from pregnancy related complications. Obstructed labor is one of the leading causes of maternal illness and death in sub-Saharan Africa and South Asia. In addition, obstructed labour is often the immediate cause of obstetric fistula, a devastating condition which affects more than two million women worldwide.

Barriers to the delivery of these essential services in LMIC’s include deficiencies in infrastructure, physical and human resources, lack of adequately trained healthcare personnel in primary healthcare facilities, due to brain drain and the HIV/AIDS epidemic. In many developing countries, the majority of people reside in rural areas and surgical services may only be available at tertiary centers in urban areas, and this human resource crisis has resulted in a significant proportion of medical services being provided by non-specialist medical personnel.

Additional challenges include a lack of recognition that surgical diseases constitute a major public health problem, and the low priority given to research involving the burden of surgical diseases in LMICs. The role of basic surgical interventions in developing countries has traditionally not been considered a public health priority in developing countries despite evidence of significant mortality, morbidity and disability imposed by treatable surgical conditions, because of perceived high costs. It is, thus, not surprising that there are only a few studies examining cost-effectiveness of surgery in developing countries. There is, however, a growing perception of surgery as an important part of the public health armamentarium, as evidenced by an entire chapter devoted to cost-effectiveness of surgery in resource-poor environments in the World Bank book Disease Control Priorities in
Strengthening the delivery of essential surgical services at primary health facilities should be a priority if we are to reduce mortality and morbidity. In addition to providing a suitable environment for safe surgery and anaesthesia, adequate training of health care workers (and maintenance of their skills) in emergency and essential surgical procedures is required. Spiegel and Gosselin have suggested that “available epidemiological information and experiential evidence lend support to the conclusion that basic surgical and anaesthetic services should be integrated into primary health care packages”, which is in accord with the Alma Ata Declaration in 1978; “primary health care is essential health care based on practical, scientifically sound and socially acceptable methods and training made universally accessible” (www.thelancet.com Vol 370 September 22, 2007).

In response, with the goal of strengthening local capacities in emergency and essential surgical care at the first referral level, the WHO established the Clinical Procedures Unit (CPR) in 2004, in the Department of Essential Health Technologies (EHT). This unit was charged with “ensuring efficacy, safety and equity in the provision of clinical procedures in surgery, anaesthetics, obstetrics, and orthopaedics, particularly at the district hospital level” and “promoting the appropriate effective and safe use of cell, tissue, and organ transplantation”.

The EESC Project employs a diagonal approach, cutting across various vertical initiatives which have a component of surgical and anesthesia care such as maternal and child, cancer, Buruli ulcer, trauma, burns, disasters, male circumcision (HIV prevention). Activities have been focused at the country level, and have encouraged links between tertiary/university hospitals and primary health care level facilities. The target audience includes non-specialist doctors, nurses, technicians, and paramedics. This integrated approach towards meeting the MDGs calls upon collaboration between WHO, MoH, academia, NGO’s, professional and civil societies, local and international partners.

The WHO Integrated Management of Emergency and Essential Surgical Care (IMEESC) toolkit includes reference manual Surgical Care at the District Hospital and is targets both policy makers and health providers to transfer appropriate technology for capacity building at the primary healthcare facilities. It comprises of policy guidelines (standards, needs assessment, equipment, anaesthetic infrastructure and supplies); teaching and training (reference manual, slides, evaluation, and quality/safety best practices (trauma, burns, HIV prevention, anesthesia, obstetrics, waste disposal, disasters, monitoring and evaluation). The IMEESC represents a flexible template which may be adapted to the local needs, integrated into the teaching and training programs in medical and nursing schools, universities, NGOs, and continuing medical education.

A meeting held with a diverse group of stakeholders (academia of surgery, orthopaedics, obstetrics, anesthesia, emergency medicine, trauma, paediatrics), directors of education and training programs, professional and civil societies, local and international organizations, health economists, MoH, and WHO departments, in December 2005 at WHO/headquarters in Geneva, resulted in a consensus on the establishment of the GIEESC. It was agreed to have its secretariat at WHO/EHT/CPR, Geneva. The overall goal is to facilitate the exchange of ideas, experiences, and to stimulate collaboration between stakeholders to raise the profile of surgical care and promote educational programs involving training in emergency, essential surgery and anesthesia at primary health facilities. GIEESC strategies include the development of policies, norms, and standards, tools (IMEESC), advocacy, and regional/country activities.

3. Objectives

The overall objective of GIEESC is to facilitate exchange of ideas and improve collaborations and coordination among organizations, agencies and institutions involved in reducing death and disability from injuries (road traffic accidents, burns, falls, pregnancy related complications, domestic violence, disasters), congenital anomalies and other surgical conditions through strengthening capacity for delivery of effective emergency and surgical care at the first referral level facility, thereby contributing towards achieving the MDGs.
The specific objectives for this second meeting of the GIEESC include the following:

- Review of overall WHO activities in GIEESC, including advocacy, research and communications;
- Review of activities in surgery, in particular:
  - collaboration and role of surgery with various programmes
  - report on the Bellagio meeting on "Increasing Access To Surgical Services In Resource-Constrained Settings In Sub-Saharan Africa"
  - review of literature since the inception of GIEESC: what should be our concern and what are the gaps;
- Draft the GIEESC strategy for 2008-2009 with field projects and tools for improvement.

4. Opening Session

Welcome remarks were made by Dr. M. Belhocine, the WHO representative to Tanzania, on behalf of WHO/AFRO Regional Director, Dr. L.G. Sambo. The meeting was officially opened by the Guest of Honor, Professor David Mwakyusa, Minister of Health and Social Welfare of the United Republic of Tanzania. The Director, EHT, Dr Steffen Groth, explained the role of the department in making Essential Health Technologies accessible to district hospitals, with the creation of CPR Unit, which has developed standards, guidelines and training tools adapted to country needs. This meeting will update progress with regard to the implementation of emergency and essential surgical care in member states, and will stress the need to address safe and timely surgery as a public health issue contributing to achievement of the MDGs.

The coordinator, CPR, Dr. Luc Noel described the mission of the Clinical Procedures Unit. Activities have been focused at the country level, and have encouraged links between tertiary/university hospitals and primary health care level facilities. The target audience includes non-specialist doctors, nurses, technicians, and paramedics. This approach is an integrated and collaborative approach towards meeting the millennium development goals. The initiative calls upon collaborations between WHO, MoH, and local and international partners. The EESC through necessary skills, technologies and team work form the backbone of the district hospital. In September 2007, Director General Margaret Chan addressed the regional committee of the Western Pacific, and suggested the importance of strengthening primary health care systems to reduce maternal and neonatal deaths. The Caesarean-section rate is used in some countries as an indicator in primary health care. The practice of C-section implies access to EESC. Recognition of the issue is progressing; basic surgical and anaesthetic services are part of the primary health care package.

Dr. Meena Cherian presented an overview of the implementation of the EESC project through Joint WHO and MOH workshops in 23 countries, representing the six WHO regions [EMRO (3), EURO (2), SEARO (5), AFRO (9), WPRO (3), and AMRO/PAHO (1)]. A host of partnerships have been established, including the 2nd Patient Safety Challenge: Safe Surgery Saves Lives, Global Initiative for Buruli Ulcer, HIV reduction: Male Circumcision program, Global Action Plan Against Cancer, Pain Management, Burns Management, Injuries and Violence Prevention, Making Pregnancy Safer, Human Action in Crisis, and Primary Health Care Task Force. The Bellagio meeting, hosted by Rockefeller Foundation, held in June of 2007 and cosponsored by the WHO, World Bank, Global Health Sciences University of California San Francisco, the Karolinska Institute, and the Fogarty International Center focused on access to essential surgical care for Sub-Saharan Africa with the following objectives:

- To identify what is needed to improve access to safe surgical care
- To assess how a lack of human resources might impede achieving this goal
- To prepare a roadmap of activities to improve surgical care in sub-Saharan Africa.

Findings of this meeting included the following:

- Burden of surgical conditions in sub-Saharan Africa is large but better quantification is needed
Majority of these conditions can be prevented or treated with low cost interventions delivered at the primary referral level.

Basic surgical capability should strengthen the health sector in a resource constrained setting, and efforts should be made to develop horizontal programs with this aim.

Such efforts need to be integrated into primary health packages, and more attention should be directed to raising the profile of surgery on national and international agendas.

Planning to begin to develop models of rural surgery services appropriate to each country.

Formation of the Bellagio Essential Surgery group.

Introductions of the participants were followed by the election of the chairperson Dr. A. Wasunna and the rapporteur Dr. D. Spiegel.

5. Progress with GIEESC: Country Reports

Overview of Africa (Dr. J-B Ndihokubwayo)

Findings from the WHR (2002) suggest that 10 million DALY’s from injury and 4 million DALY’s from obstetric related complications in the African continent. Challenges include the following:

- Lack of awareness of the burden of surgical diseases
- Lower prioritization of surgical care
- The perception that surgical care is resource intensive and not cost-effective
- Budgetary constraints
- Isolation of those caregivers who work in rural and remote areas.
- Barriers to the delivery of surgical services include inadequate resources, and the human resource crisis (brain drain).
- Data is available from only a few countries Reliable data on surgical diseases and delivery of services is available for only a few countries
- The pattern is that of inadequate/inappropriate human resources, facilities, and supplies
- The policy framework is often lacking
- Research has mainly been focused on tertiary care
- There is an increasing awareness that emergency and essential surgical care is important
- There have been capacity building efforts in some countries.

The WHO response to the situation has included a resolution on “Emergency Care Systems” at the World Health Assembly (WHA60.22), regional committee meetings, and technical support for the organization of workshops which promote the guidelines and standards developed through the EESC project. There has also been a resolution on injury (AFR/RC53/10 Rev 3) adopted in the AFRO region in which members states have been urged to “improve national programs on preparedness as well as pre-hospital care, hospital care and rehabilitation in order to reduce the immediate and remote consequences of injury”. The EESC project has been introduced in 9 countries (Zambia, Gambia, Kenya, Malawi, Tanzania, Ethiopia, Uganda, Ghana, and Mozambique). The need for collaboration is stressed, both with local and international partners, in order to strengthen programs for the delivery of emergency and essential surgical and anesthesia care.

Suggestions for the AFRO region include the following:

- Need for research in local areas
- Need for wider dissemination of the teaching materials
- Support countries in establishing partnerships
- More comprehensive data collection
- Regional networks for the EESC project
Regional meetings for those providing both surgical and anaesthetic services
Dissemination of teaching materials has been a challenge due to a lack of internet access in many locations, but the WHO manual 'Surgical Care at the District Hospital' and WHO IMEESC toolkits has been distributed to many hospitals in the member states.

5.1. Tanzania (Dr Kibatala)
The country is comprised of the mainland and Zanzibar, and there are 36 million inhabitants. Health facilities include hospitals (280), health centers (479), dispensaries (3955), and village health posts. There are 32,000 hospital beds, one for each 896 people. Of the 100 surgeons, roughly one third practice in the cities, one third have an administrative position, and one third have left the country.

Key components of the project include:
- EESC project was started in January of 2007.
- A task force has been organized, which included representatives from 9 zones, including seven Geographic areas from the mainland, Zanzibar, and the military.
- The first training of trainers workshop was held in June 2007 and produced 20 trainers.
- The trainers were charged with conducting future training initiatives in their home zones in essential surgical procedures including dilatation and curettage, cesarean section, and trauma management.
- Ongoing health sector reform has included the provision of district hospitals.
- A follow up evaluation is planned one year after the training is completed within each zone.

5.2. Ethiopia (Dr. D. Argaw)
There are four levels of health care facility in Ethiopia, including the primary health center (one health center and four health posts; serves 25,000 people), the district hospital (serves 250,000), the zonal facility (serves 1 million), and the specialized referral hospital (serves 5 million). Health statistics include maternal mortality rate (871/100,000), infant mortality rate (96.8/1000), and under five mortality rate (140.1/1000). For a population of more than 75 million, there are 138 hospitals (14,000 beds), 1206 health centers, 5955 health posts, and 1784 private clinics. The health workforce includes 144 surgeons, 31 anaesthesiologists, 254 anaesthesia nurses, 1124 general practitioners, 776 health officers, and 18,000 nurses.

Challenges include:
- poor infrastructure,
- insufficient supply of medical equipment,
- shortage of human resources for health,
- uneven distribution of health services, and
- poor access to health care.

Key components of the project include:
- The EESC training has been carried out in one region, in which 9 health officers and 18 nurse anaesthetists were trained. These individuals were stationed at one district hospital and three health centers. Their presence could not be sustained at the level of the health centers, and the current strategy is being reevaluated.
- Future plans include expansion of the program, and a task force has been established involving the Federal Ministry of Health, Ministry of Education, WHO, Carter center, and Universities. Four medical colleges are planning to include the training materials in their curriculum (train emergency surgical house officers and GP’s on a 3 year MSc program).
- By 2010, the goal is to train 300 general practitioners or surgical health officers, 600 nurse anaesthetists, and 300 midwives.
- Standard medical equipment sets have been identified.
5.3. Gambia (Dr Barbara Philipps)

The population is 1.5 million, and there is a single tertiary center. Each of the six districts in the country has a district hospital.

Challenges to the provision of care include:
- insufficient staff,
- lack of equipment, and
- problems with infrastructure (electricity, water supply).

These barriers have impaired the ability to implement the training.

Key components of the project include:
- A survey of the hospitals and health centers is being conducted to determine what resources must be provided to support essential surgical care.
- A focus has been the integration of hospital based and community based care.
- The ESSEMCH training has focused on emergency care, especially as related to maternal and child health, and has mainly involved nurses at this point. Different courses have been employed (5 days, 3 days, etc.).
- This update also described the emergency obstetrical flying squad, which utilizes the services of 60 birth attendants. Ambulance services are available 24 hours per day, seven days per week. Over the first 2 months of the ESSEMCH project, it is estimated that 27 lives were saved.

5.4. Ghana (Dr A. Painstil)

The Buruli Ulcer program has incorporated the WHO IMEESC toolkit and includes a link with the EESC training. This mycobacterial skin disease is seen with frequency in children less than 15 years old (70%), when medical treatment fails or delayed the local tissue damage with large ulcers, or intense fibrosis. Treatment involves excision of affected skin followed by skin grafting.

Key components of the project include:
- IMEESC teaching materials form a component of the educational program for Buruli Ulcer, which lasts one month.
- Standard equipment for safe surgery is provided.
- Identified health facilities have been refurbished.
- Follow up evaluation has suggested that the skills learned by the trainees enabled them to treat other surgical diseases as well.

5.5. Mozambique (Dr Mujovo)

The population is 20 million, and there are 4 levels of health care facility.

Key components of the project include:
- In response to the GIEESC meeting, two large scale initiatives have been developed.
  - A Multidisciplinary Emergency National Commission was formed with the goal of decreasing morbidity and mortality due to trauma, and to prepare for mass disasters. In collaboration with WHO and the government of Spain, courses have been held to build local capacity, including 2 courses on disaster management, 3 courses on the primary management of polytrauma, and an additional course was given by “trainers” from Mozambique.
  - A Joint WHO-MoH TOT workshop for tecnicos chirugie (surgical technicians) was held on Integrated Management for Emergency and Essential Surgical Care
  - National Program for Infection Control was established.
- A situational analysis involving 3 rural hospitals has been performed with the WHO needs assessment tools (WHO IMEESC toolkit):
  - Key findings include an insufficient number of health workers, no specialized emergency room, and a lack of protocols and teaching materials. Insufficient funding remains a concern. Additional challenges include how to improve coordination of activities, enhancing advocacy, and obtaining a list of essential supplies.
- Plans for the future include translating the IMEESC materials into Portuguese, training in other regions, and additional basic anaesthesia techniques.
- Promoting the integration of the IMEESC teaching materials into standard medical curriculae.

5.6. Uganda (Dr Amandua)

159 hospitals (18,000 beds) are available to service a population of one million. The nearest health center is often 50 km. away, so prompt access remains a barrier to the delivery of services. Surgical services are available at the health centers. The health workforce includes 150 general surgeons, a few specialist surgeons, 13 anaesthesiologists, and 160 nurse anaesthetists or assistants. The government is deploying medical officers to the health centers (1/100,000 population), where emergency surgery is mainly for obstetric emergencies and injuries. Uganda hosted the first meeting AFRO Regional Meeting in Dec 2003 for experts (surgeons, anesthesiologists and directors representing teaching and district hospitals, universities, NGOs', professional societies) representing 12 countries of Africa, to launch the publication of the WHO manual *Surgical Care at the District Hospital*.

Challenges include:
- Inadequate systems development,
- lack of support staff (and accommodation for staff),
- lack of physical, financial and human resources,
- retention of health care workers,
- regulation of those providing essential surgical services.

Key components of the project include:
- Essential surgery has been brought to lower levels of health facility through a vertical approach (cleft palate, fistulas, congenital problems, Buruli Ulcer, Vision 20/20, and clubfoot).
- Surgical services have been delivered through camps in the rural areas, and both training and advocacy have been incorporated into these camps.
- The government is committed to the EESC project, and consideration is being given to a national program.
- Bridge the gap in anaesthesia services through updated generic anaesthesia guidelines.

5.7. Zambia (Dr Syakantu)

The country has 10.5 million people, and there are 9 provinces and 72 districts. Most districts are serviced by a district hospital (some have more than one district hospital) and a primary health center. These facilities include both public and mission hospitals. Communication has improved, including the provision of cell phones.

Challenges include:
- lack of health workers,
- poor infrastructure,
- inadequate equipment/supplies, and
- decreased access to surgical services (poor roads make referral difficult).

Key components of the project include:
- In August of 2007 a Joint MoH-WHO meeting on IMEESC for facilitators was held with academia, health providers and policy makers, with the goal of devising a strategy for implementation of the EESC.
- A situational analysis is underway, and should help to guide recommendations.
- A steering committee has been established (multisectoral).
- The first training the trainers workshop (TOT) is to be held in 2008.
5.8. Malawi
The WHO IMEESC toolkit was introduced in Malawi and the report of the Joint WHO - MoH Facilitators meeting is available at [www.who.int/surgery](http://www.who.int/surgery)

5.9 Kenya
The WHO IMEESC toolkit was introduced in Kenya and the report of the Joint WHO - MoH Facilitators meeting is available at [www.who.int/surgery](http://www.who.int/surgery)

5.10. Mongolia (Drs L. Ganbold and S. Govind)
The health care facilities for the 2.5 million inhabitants of Mongolia include 21 Aimags and 360 Soums (health posts). Both the maternal and the infant mortality rate have decreased over the past 10 years. Problems at Soum facilities include lack of infrastructure and physical resources. Challenges include the following:
- More than 40% live in rural areas.
- Skilled health workers prefer to live in urban areas.
- Distances between Aimag centers and Soum hospitals are 100-380 km.
- Severe winter conditions limit access for much of the year.
- Injuries such as road traffic crashes, falls from horses, burns, frostbite, are the 3rd leading cause of death, and the 5th leading cause of morbidity.
- Pregnancy related complications are also a major health problem.
- Wrong surgery at the wrong place and the wrong time results in complications.

Key components of this project include the following:
- The EESC pilot program was started in 2004, through orientation of key stakeholders and has been very well received.
- Numerous partners have been involved, including the Health Sciences University of Mongolia, the Mongolian Surgeons Association, the Mongolian Federation of Obstetrics and Gynaecology, the Mongolian Society of Anaesthesiologists, the Mongolian Nurses Association, the National Trauma Hospital, the Ministry of Health/NCHD, the ADB, and the Swiss surgical team of the ICS, PTC, Swanson family foundation, CDA.
- The program was introduced into 6 Aimags and 111 Soums, serving a rural population of 500,000 (Mongolia has 2.5 million people, 21 Aimags, and 360 Soums).
- Assessment of implementation sites using WHO assessment tools.
- Adaptation, translation and publication of WHO guidelines, training materials, and e-learning materials.
- Training of national and Aimag facilitators.
- Training conducted at both Aimag and Soum facilities.
- More than 300 primary health workers have been trained at the main hospitals, and more than 120 have been trained at the primary health facilities.
- Procurement of essential supplies and equipment.
- Monitoring and evaluation. The WHO IMEESC tools have been translated into Mongolian, and facilitators have been charged with continuing the training of other providers at the Aimag facilities.

5.11. Afghanistan (Dr Taqdeer)
Health care facilities include 49 district hospitals, 387 comprehensive health centers, and 667 basic health centers. The health work force includes more than 17,000 community health workers and 1864 midwives. Positive developments in health care include better penetration of vaccinations against TB (70% in 2006 vs. 57% in 2003) and polio (70% in 2006 vs. 30% in 2003). The infant mortality rate has decreased from 165 (2000) to 129 (2005), and the under five mortality has decreased from 257 (2000) to 191 (2005). Five percent of the annual budget is directed to health care, and 9% of births are attended by skilled nursing care.
Key components of this project include the following:

- The EESC project introducing the WHO IMEESC toolkit began in June of 2006 with a signed statement of intent between the Ministry of Public Health of Afghanistan, the Ministry of Defense of Norway, and the WHO.
- A hospital assessment was performed in September of 2006.
- An anaesthesia training program was initiated at 2 sites (Faryab, Mazir-I Sharif).
- The equipment required for safe anaesthesia was donated.
- Both “Anaesthesia at the District Hospital” and “Surgical Care at the District Hospital” have been translated, and are accepted as official documents by the Ministry of Public Health.

5.12. India (Dr. K.M. Shyamprasad)

Recent statistics suggest that 25% of deaths are due to surgical problems, mainly injuries and maternal conditions. In considering resources for health, 80% of the infrastructure is available to less than 30% of the population. While the majority of the population resides in a rural environment, most of the doctors are found in urban settings. Eighteen of 27 states have been identified as having inadequate infrastructure and provisions. The National Rural Health Mission represents the largest program in the history of India, and has been charged with improving health delivery in these 18 states. Private/public partnerships are being developed to help address the issue. A new paradigm is suggested which differs from the traditional western model, and focuses on the training of “alternate” health care providers, as training doctors alone will not meet the current needs.

The EESC concept and teaching materials will play a major role in these training initiatives. There are two new training programs under development, the first of which involves training existing professionals (rural environment) in life saving skills. The second initiative involves the development of a distinct specialty called “rural surgery”. This specialized training program will include surgical education in essential abdominal and obstetric procedures, and orthopaedic emergency procedures. Most of the education is provided in the rural setting, although trainees due complete rotations in major surgical centers. The surgeons are trained to deal with the common surgical problems seen in rural areas of India, using the resources available at the district level facilities. The project is being piloted in 6 areas of the country.

Challenges include:
- resistance from elements of the traditional medical system (for example professional anaesthesia organizations),
- retaining a faculty of teachers with the appropriate experience in “rural” surgery, and
- developing the technology to make the teaching program more effective (such as surgical “simulation technology”).

5.13. Kyrgyz Republic (Dr Omuraliev)

The government started to implement a health care reform strategy in 1996, and the initial phase was finished in 2006. The second phase is now underway, and is expected to be completed by 2010. The first phase focused mainly on the burden of communicable diseases. In response to a shift in disease burden, the second phase will focus on emergency care and will make surgery a priority. Injuries represent the third leading cause of death. Funding has been obtained (6 million EURO), and each provincial hospital will be equipped with the resources for safe surgery.

The WHO IMEESC training toolkit will be incorporated into existing curricula at state medical institutions, and to this point 300 surgeons and 250 nurses have received the training. The materials have been translated into the local language, and there is a need for these to also be translated into Russian. Barriers to delivery of services include medical migration (to Russia and other countries of the former Soviet Republic), and delivering services to patients in the remote mountainous regions. The provision of a better mechanism for transporting patients is being investigated.
5.14. Guyana (Dr Rambaran)

Guyana is the first country in South America to utilize the WHO IMEESC teaching tools. Challenges include:
- There are 800,000 inhabitants, most of who live on the coast, and do have access to health care facilities. The remaining one third of residents live in the interior, often in isolated areas, which makes delivery of emergency and essential surgery more of a challenge.
- There are five levels of health care facility, including primary health centers, district hospitals, regional hospitals, and tertiary hospitals. Only the regional and tertiary hospitals have surgical capability.

Key components of the project include:
- Improvements in surgical care have been through two models. The first has introduced certain a subset of more technically dependent procedures at the tertiary level.
- At the more basic facilities having surgical capability, the EESC is being integrated into the training package, with the goal of avoiding duplication of efforts.
- Twenty-five to thirty percent of the health care budget is directed towards training of health care providers, and the major challenge is retention of these workers and maintenance of training initiatives.
- A new “Diploma in Surgery” (similar to the “rural surgeon” in India) has been established. An anaesthesia program is being developed to complement this surgical training program.
- In collaboration with the Canadian Network for International Surgery, training of “teams” for trauma surgery is also being completed.
- The WHO IMEESC tools are being used for monitoring and evaluation. The results are reported to the Ministry of Health. Upgrades in the existing system are planned based upon the monitoring.

5.15. Cote D’Ivoire (Prof. Asse)

A strategy involving surgical care of Buruli Ulcer was described. More than 30,000 cases have been treated in Cote D’Ivoire since 1978, mostly in the rural areas.
- The focus has been on “proximate surgical care”, in which services are delivered within the rural communities.
- Mechanisms for the delivery of services include employing temporary surgical units in the rural health centers, and the provision of mobile surgical units.
- Additional components include both research and the training of general doctors.
- This vertical approach teaches skills which enable the general doctors to care for other surgical problems.
- The WHO IMEESC teaching materials will be utilized in the training program with local adaptation
- There is a gap in basic anaesthesia teaching materials.

6. Access to controlled medications for pain relief; Access to equipment (Drs. O. Soyannwo, M. Cherian, W. Scholtem, B. Fahlgren)

Adequate provision for the medical use of narcotics should be made for the relief of pain (1909 Shanghai conference). Access to these agents is important for all surgical patients, patients suffering from cancer (500 million), those affected by HIV (36 million), those suffering from myocardial infarction, victims of road traffic crashes and injuries, and those with chronic pain syndromes or terminally ill patients. Overall, it is estimated that between 600 million and 1 billion patients require relief of pain. It is estimated that 7.7% of all people in the world will suffer from cancer pain that is treatable, but will receive no treatment (Cancer and HIV/AIDS deaths in 2001, WHR 2002, and INCB statistics). Access to such essential medications falls within universal human rights, and governments should be responsible (rather than just MoH) to ensure this.
Goals for the WHO “Access to Controlled Medications Program” include the identification of barriers to such access, whether they are political or regulatory based, knowledge and attitude based or economic and procurement based. Programme activities include advocacy workshops, review of national legislation, training for making estimates and statistics, procurement workshops, development of clinical guidelines on pain, and training of health care professionals. Details regarding the programme can be found at www.who.int/medicines.

While a major focus globally has been on surgery, safe anaesthesia is an obvious requirement for safe surgery. The WHO IMEESC toolkit (www.who.int/surgery/publications/imeesc) includes a WHO generic Essential Emergency Equipment list for resuscitation, and Anesthesia infrastructure and supplies (which lists pulse oximeter, oxygen concentrator, anaesthesia machine). The provision of an anaesthesia machine for the resource limited setting has been requested by member states, which includes low maintenance, low training requirements, yet satisfies high levels of safety and efficiency. We need realistic standards, and it is expected that WHO should take the lead in this process. The importance of providing a minimum standard for anesthesia equipment was stressed and the ongoing project in collaboration with the Medical Devices unit in the EHT department can realistically be made available for primary or first referral health care facilities. Key principles of this project include the following:

- Use industry standards
- Generic specification
- Performance oriented rather than design oriented specifications
- Testability
- Good anaesthesia practices
- Prequalification
- Education and training in maintenance practice.

7. Round Table Discussions

7.1. Communications and the Media (Dr. L. Gollogly)

The expansion and evolution of the “Surgical Care at the District Hospital” text was described, including the most recent English edition (2003), and the newly revised French edition, which will be published in 2008. Challenges in moving through the translation process were highlighted, including the complex process of internal validation (for the 6 major languages). The plan is to have the text translated into other languages as well, and in these other languages the process will move faster. The ongoing development of a basic manual of anaesthesia includes the planning of content, recruitment of contributors, and funding. A timeline has been established. One concern raised was the ability to download online WHO teaching materials in some low and middle income countries due to software related considerations. With respect to WHO publications, WHO performs a one time, internal free distribution to member nations (schools of public health, medical schools, and district hospitals).

7.2. Research (Dr. D. Spiegel)

It has been recognized that a lack of basic surgical services results in unacceptable morbidity and mortality in low and middle income countries, particularly in the rural areas. Barriers to the provision of care include a lack of infrastructure, a lack of physical and human resources for health (brain drain), as well as a lack of adequate training/educational materials. Conditions which account for 10% of the world’s burden of disease account for 90% of the world’s health research spending (“10/90 gap”).

How can research initiatives help contribute to the implementation, monitoring, and funding of EESC country projects? At the global level, our hypothesis is that implementation of the IMEESC will result in a measurable improvement in health for the population, as defined by key indicators such as a
decrease in the mortality or morbidity due to surgically treatable diseases, a decrease in unmet needs, or others.

Several issues were used to frame the discussion session.

- Understanding the magnitude of the problem (disease burden)
- Evaluating the resources available to deal with the problem at the country level (infrastructure, physical resources, health workforce)
- Gauging the impact of the EESC program on selected outcome variables or indicators (morbidity/mortality, cost effectiveness, change in practice, met needs, others).

Discussions included the following issues:

1. **Magnitude of the problem.**
   - As the burden of surgical disease in the rural areas of low and middle income countries remains largely unknown, consideration should be given to quantifying this burden in a language that would facilitate comparison with competing health priorities. While some data is available in DCP 2, this could be expanded.
   - Challenges include poor record keeping and data retrieval, little health surveillance at primary referral level
   - Mechanism for data collection include:
     i. “National health information systems”
     ii. Community based surveys may be most relevant, rather than hospital based surveys
     iii. Determine which diagnoses to include, consider focusing on just emergency surgical interventions to save lives and minimize disability e.g. In India, the available information suggests that cataracts, obstetric and gynecologic procedures, and treatment of injuries are most important. DCP 2 data includes 40-50% trauma, then OBGYN, then 5-10% abdominal. It may be the best to only study obstetrics, to have a high volume of cases, and also have country specific data on population, such as birth rate for example.
   - Indicators: Quantitative (DALY’s or other) versus qualitative (social science literature) information on DALY’s; “Met” versus “Unmet needs”; number of surgical procedures per 100,000 population per year; and others
   - Goals of research should be clearly defined such as: What we will do with the data? Why do we want to measure the burden of disease? Is it to make things better, to determine whether the country can do more? Do we look at 1 or 2 hospitals, or an entire country? There are new rules which we should all be aware of. “Official data” is endorsed by the MoH of the country, and the only data that can be used by WHO for country specific studies. The data must be collected in a certain manner, and the MoH would interface with the facilities to standardize the data collection process. If we elect to study only a few hospitals, then these rules would not apply.

2. **Evaluating the available human and physical resources (situational analysis) at the country level.**
   A situation analysis should be performed (e.g. in Mongolia) using the WHO monitoring tool for a baseline assessment for selected centers, this information serves the MoH to identify deficiencies, and document the current status of physical and human resources at primary health facilities, and help prioritize capacity building as identified by MoH and WHO country office.

3. **Gauging the impact of the EESC program based upon selected indicators**
   Monitoring is felt to be essential, both internally and from the standpoint of funding agencies and may be viewed as a “quality control measure”. WHO should be at the forefront of defining safety and quality of care. Research may help to provide a “definition of a well functioning surgical service”. Challenge is to determine the most appropriate “indicators” (what we want to measure) e.g. do we want to measure how the training effects practice or how the interventions impact upon patient or population based health outcomes? Suggested indicators might include, but are not limited to the following:
- System performance (how does the entire surgical service at the primary facility function); the system goes well beyond the training program, and involves diverse issues such as access to care (roads, ambulances, etc.).
- Outcomes following selected interventions; patient centered; doctor derived (radiographic, physical findings, function); awareness, attitudinal changes; met needs; number of procedures per 100,000 inhabitants per year.
- Outcomes at the country level; if we are to help countries, we should know how they are doing e.g. should the country budget more for surgery? Is it realistic that they can do more?

4. Funding
While WHO is not a research institution, consideration can be given to a “coordinated approach. Concrete project proposals could be formulated in which WHO plays a role, in collaboration with other institutions.

8. Breakout sessions
Participants were allocated into 4 groups. Discussions from this breakout session resulted in the following recommendations:

8.1. Training (Facilitator: Dr. N. Mbembati; Rapporteur: Dr Othman)

- Translation
  i. Recommend delegating this responsibility to a committee assigned by the MoH.
  ii. Work will likely be completed by academic institutions at the country level.
  iii. Tasks will include both translation and updating the scientific information.
- Adaptation of the materials at the local level.
  i. As certain technologies may not be available, adjustments to the content can be made on the translated version, as long as the WHO office is notified of these changes.
  ii. Should integrate EESC into other training programs such as maternal health, as there are limited resources for vertical training in LMICs.
- Venue: Training should always be done locally. Findings of a study from Mongolia, in which 200 people were sent abroad for training, indicated that 55% were not trained, and of the 45% who were trained, 75-80% worked in a central location (rather than rural), or for the Ministry of Health. The strategy was refined, with emphasis on local fellowships. Short term courses at the peripheral level, and a signed letter that participants will return and work in a rural facility.
- Impact evaluation: Need baseline data, including indicators of output or outcome (morbidity, mortality, complications, others)
- Additional training materials: Manuals on emergency surgery and anaesthesia should be developed. Other materials may include movies and posters.
- Dissemination of WHO materials as electronic version should be made available throughout the health sector, including NGO’s, academic institutions. WHO country office should distribute to MoH and to academic institutions. WHO libraries should be set up in academic institutions.
- Strategy for response to requests for training: WHO will facilitate, and a steering committees should be developed under the guidance of WHO. The logistics will be carried out by specialized NGO’s and training consultants, with the goals of fundraising, advocacy, and coordination of training activities.
- Efforts at WHO “in house”: Avoid duplication of efforts, collaborate with other groups at WHO with related training initiatives. Need in house advocacy, as the same health worker will be doing male circumcision, caesarian section, and other basic surgical procedures.

8.2. Research: (Facilitator: Dr H. Cohen; Rapporteur: Dr D. Spiegel)

- Research is an essential component of our mission.
  - Gain a better understanding of the burden of surgical diseases on a regional basis
- Guide implementation of the EESC
- A “Quality control measure”
- Impact evaluation/monitoring of EESC through: Quantitative indicators; Qualitative research as utilized in the social science literature; anecdotal data and case series as the first step prior to tackling larger questions.
- Collaboration with other units at WHO such as Burden of Disease, Cost effectiveness
- Interest donors

• Focus on “systems approach” to the delivery of surgery and anaesthesia services at primary health facilities with a basic surgical service as a component of the primary health center or district hospital; and centers with adequate population base, adequate implementation of EESC, adequate record keeping
• Formation of a subcommittee to:
  - Define specific research questions
  - Determine key indicators to use in evaluation
  - Approach funding

8.3. Advocacy (Facilitator: Dr O. Kiloloma; Rapporteur: Dr V. Muntari)

• Channels for Advocacy include:
  - Ministries of Health
  - Key stakeholders: Politicians, donors, healthcare organizations, community groups
  - Policy makers to make EESC a priority
  - University Programs
  - The general public (human rights issue)
• Raising the Profile of Essential Surgery and Anaesthesia through:
  - Documentation of our activities
  - To interest the funders, highlight that this is an epidemic (actually a pandemic), and much is preventable. There is a great need for proper and safe surgery
  - Identity statement (link with “safety” or “human rights”) since access to highest attainable level of health is a human right e.g. Access to EESC as a human right, similar to safe motherhood; what happens when there is no access to surgery; gender imbalance with respect to surgical services
  - Publicity through the media (television, news, magazines, and other)
  - Link EESC with vertical programs and with the MDGs
  - Support the idea that EESC should be a component of primary health packages
  - Move towards a United Nations resolution on essential surgical care
• Financial and Technical Commitment
  - Linkage of existing programs and policies in the countries involved
  - Increased budgetary allocation for EESC at the primary health centers
  - Bringing EESC and anaesthesia into the Global fund/Health system strengthening
  - Proposal writing
• Scope and Intended Audience
  - WHO and other UN agencies (UNFPA, UNICEF)
  - National Governments
  - Donors and foundations (Gates, others)
  - International NGO’s
  - Meetings and conferences
  - Professional Associations
  - Scientific publications in journals
• Coordination of Advocacy
  - Focused effort on EESC to be delivered in a safe and timely fashion: “Safe surgery and anaesthesia is a human right”
- Linkage to other programs is very important, especially those involving “systems issues” which impact upon the delivery of services (such as building of roads and airports, link to a level of investment where there are funds available)
- National level: MoH, scientific meetings, general public
- Regional level: scientific meetings
- Global/international level: WHO, conferences, research, etc.

8.4. Appropriate Technology for Training and Education (Facilitator: Dr M. McCunn, Rapporteur: Dr Shyam Prasad).

Discussion addressed two key issues, firstly, how to provide the tools for skills training, and secondly, develop a mechanism to deliver that training.

- Proposals for low cost and appropriate technologies should be solicited from involved parties
  - Countries would benefit from a list of essential equipment to perform necessary life saving procedures.
  - Technology/equipment may be useless in the absence of skilled personal for utilization and maintenance. Equipment needs to be low cost, durable, and reliable; the “wood” standard rather than the “gold” standard.
  - Donations of used or old equipment are often undesirable. These may not be appropriate for the culture, or the local environment. The government/MoH are often not consulted regarding distribution and maintenance. What is needed is the “capacity to coordinate” such donations of equipment.
- Need to define how technology will serve the local needs
- Need to prioritize
- A cadre of trainees is required
- Training should be linked with needs on a regional basis to solve particular problems.
  - Should training be coordinated by country representatives or outside agencies? One problem is the per diem, which may be more than the trainee's salary for the given period. There is a significant motivation to take courses, and this keeps practitioners out of work, reducing the delivery of services. The training should be conducted in the place where the trainees do their work.
  - There is no single solution with respect to educational materials (particularly basic anaesthesia), as these need to be suited to the environment and level of education of the audience e.g. electronic teaching materials are impractical in many regions, so printed materials will always be needed.

9. Recommendations and Action Plan
Roundtable discussions resulted in the following recommendations:

1. Formation of a “Planning Group”
   - Confirm the Terms Of Reference
   - Develop a “Road Map” to:
     - Promote safe and sustainable EESC at the primary referral level, including proper identification of procedures, ways to convey good practices, chain of referral
     - Promote the training of multiskilled workers

2. Appoint subcommittees to address key issues
   - Advocacy
   - Communications and the Media
   - Research
   - Appropriate Technology for Training and Education
• Facilitate communication between GIEESC members and subcommittees to establish timelines, coordinate Quarterly or semiannual teleconference/videoconference for planning group and subcommittees

3. Subcommittees and their charges

• Advocacy
  - Develop an identity statement with key words such as “safe and timely surgery/anaesthesia is a human right”
  - Raise the profile of essential surgery and anaesthesia
  - Media campaign to Promote Surgery as a public health strategy
    ▪ Equitable access for basic surgery and anaesthesia at primary health facilities for: Injury, Mothers and children, Disaster preparedness
    ▪ Define target audiences and develop a strategy to inform each
    ▪ Link with vertical programs towards MDG’s
    ▪ Lobby for EESC as a component of primary health packages
    ▪ Lobby for increased funding for surgical services at primary health facilities

• Communications
  - Coordinate the dissemination of WHO teaching materials with translation into different languages and adaptation at the local level to maximize penetration
  - Develop additional educational materials such posters, movies
  - Develop a strategy to respond to requests for training in collaboration with NGO’s and institutions

• Research
  - Coordinate projects which enhance our understanding of the surgical disease burden on a regional basis and define key indicators
  - Coordinate a situational analysis to document the status of the delivery of surgical services at primary health facilities on a national and regional basis
  - Develop a strategy to monitor progress with the EESC project using key indicators
  - Editorial group to work on advocacy papers to discuss issues such as surgery as a public health initiative, crisis in the health workforce, impact of EESC

• Appropriate Technology for Training, Education, and Patient Care
  - Define the “essential” equipment and supplies needed for safe surgery and anaesthesia at the primary health facility
  - Develop a strategy for procurement and maintenance of essential equipment and supplies
  - Refine and expand the training materials, particularly to bridge the gap in anaesthesia for resource constrained settings.

4. Charges for participating members of GIEESC

• Promote global visibility as the “international task force for surgical services”
• Advocate for equitable access to basic surgery and anaesthesia at primary health facilities
• Support member states in their training activities and implementation of EESC
• Develop initiatives to raise funds
• Increase visibility of EESC through papers, chapters, and the media
• Communicate with other members about their activities
• Produce products on key issues
  - Monitoring and evaluation of training programs and their impact on surgical care
  - Strategies to ensure sustainability of training programs
  - Collaborate with academic institutions and professional associations
  - Create a web page of training programs that have WHO endorsement (consider WHO certification such that WHO takes responsibility for quality control
  - Promote telemedicine and E-learning
10. Closing Session

The WHO Representative of Tanzania, Dr Belhocine, expressed his pleasure that the meeting was held in Tanzania, while the message delivered on behalf of the AFRO/Regional Director Dr Sambo stressed his personal commitment to improving the delivery of services for patients suffering from surgical diseases. The meeting was productive, and highlighted the breadth of ideas and experiences amongst the participants.

Access to basic surgery and anaesthesia are being increasingly recognized as public health measures that contribute to decreasing morbidity and mortality, and should be promoted as an integral component of primary health packages in low and middle income countries. Since the requisite number of trained surgeons and anaesthesiologist might not be available in these countries in the short term, efforts should be directed at building capacity in primary health workers to address some of these problems in the short term. Such capacity strengthening could be part of the interest expressed by member states in the training “multiskilled” health workers as a response to shortfalls in their health work force. In order to ensure that training in basic surgery and anaesthesia is included in the training curriculum of multiskilled health workers, the profile of surgery and anaesthesia needs to be raised, both through scientific articles and through the lay press. The contribution made by individual nongovernmental organizations with regard to teaching/training was acknowledged and their services should continue to be used in the ongoing training.

The WHO training materials should be viewed as a generic package appropriate for primary health care workers at the district hospital or equivalent, and countries may adapt or modify this basic template to suit their needs. Within the WHO, linkages need to be developed beyond those with vertical programs addressing specific surgical problems, such as Buruli Ulcer or male circumcision, and include relationships with other departments such as those focusing on health education and/or health systems strengthening.

A small planning group should be tasked with developing to assimilate the thoughts/opinions of this diverse group of individuals and organizations, work through subcommittees that will flesh out specific areas related to research, training, advocacy and communication to develop a consensual vision on the future of GIEESC with a well delineated set of objectives, goals and indicators accompanied by a “roadmap” to guide the implementation and ongoing management and monitoring of EESC projects on a national and regional basis. Collaboration between stakeholders should be maximized in order to push the GIEESC agenda forward. The planning group, and the subcommittees, should establish a mechanism for regular communications/updates. This might be accomplished 2-4 times per year, perhaps by video teleconference. Regional collaboration will be important to guide implementation of the EESC, and to remove barriers which may arise during this phase. Innovative approaches should be developed for the implementation of EESC projects and research, and adequate communication will be essential to move forward. The GIEESC Mednet web page should facilitate communication amongst GIEESC members.

Concluding remarks were provided by Dr Luc Noel who reminded participants that the first GIEESC meeting in 2005 highlighted the as yet, generally underestimated issue of the lack of access to emergency and essential surgical care at the first referral hospital. It supported the approach based on training existing staff, leveraging the existing programmed collaboration of health authorities with NGOs. This second meeting shows progress and confirms the feasibility of the concept. Data are starting to emerge that justify implementation of EESC tools and methods in the 23 countries where this has been started.

This achievement and the new perspective on EESC impact on public health and its place at primary health care needs to be shared with the World Health Assembly. This should be a goal for the next
biennium. Documenting progress as well as the challenges and obstacles to scaling up efforts are essential to convince countries and donors about investing in this area of work.

From a WHO perspective, the work carried out by the Clinical Procedure unit on EESC has to keep close links with all the vertical programmes depending on skills and technologies to practice emergency and essential surgery and anesthesia at the first referral hospital level. It is also necessary to always link with health systems and health education. The efficacy of training in medical procedures can be improved by using mannequins and other physical simulation to supplement written training materials and lectures but should also aim to develop innovative tools taking advantage of electronic simulation, to increase their efficacy.

The GIEESC, because of its global representativeness, diversity and experience has no equivalent in this field of work and has the potential to make a difference in EESC practice globally. However it needs to be confirmed and reinforced. Advocacy for EESC as the core component of health care delivery at the first referral health facility, its back bone, must be based on facts but it will gain from a well organized GIEESC. A planning group will have to prepare proposals on how the GIEESC could evolve, what possible structures could be appropriate for the GIEESC, how could the GIEESC improve its impact and its resources, directly or indirectly raise and manage funds for example

Work of GIEESC has benefited from electronic communication and continues on an ongoing basis that must be reinforced. Opened working groups, planning but also research as well as training and innovative tools will be active on an ongoing basis and regularly report to the GIEESC membership.

Dr Noel acknowledged the contributions of our chairman Dr Wasunna to the delivery of surgical services in Africa, and commended Dr Cherian for all of her efforts in taking on this difficult challenge. He recognized the input and help from the members of GIEESC in this difficult task, and thanked all those present for their participation.
WHO Meeting
Global Initiative for Emergency and Essential Surgical Care (GIEESC)
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