Report

Third Meeting of the WHO Global Initiative for Emergency and Essential Surgical Care (GIEESC)

5-6 June, 2009
Government House
Ulaanbaatar, Mongolia

Clinical Procedures Unit
Emergency and Essential Surgical Care
Department of Essential Health Technologies
World Health Organization
## Contents

1. Executive Summary
2. Background
3. Overall Objectives
4. Session I - Opening Session
   4.1 Welcoming remarks
   4.2 WHO GIEESC as a catalyst for health systems strengthening through Primary Health Care (PHC)
5. Session II. Global and Country Activities
   5.1 WHO GIEESC progress
   5.2 Country projects: **AFRO** (Ethiopia, The Gambia, Liberia, Malawi, Sierra Leone, Tanzania, Zambia, Uganda), **AMRO/PAHO** (Ecuador), **EURO** (The Kyrgyz Republica), **EMRO** (Afghanistan), **SEARO** (Democratic People’s Republic of Korea, India, Nepal, Sri Lanka), **WPRO** (China, Mongolia)
6. Session III- Maximizing Synergies between Emergency, Anaesthesia & Surgical Interventions in Primary Health Care
   6.1 WHO IMAI-WHO IMEESC
   6.2 GIEESC synergies with partners & organizations
7. Session IV. Working Groups
   7.1 Introduction to working groups
   7.2 How can surgery be integrated into the health care system?
   7.3 What are the barriers to surgical care at the district level to the tertiary level?
   7.4 Resource mobilization and partnerships
8. Session V. Working Groups
   8.1 Advocacy: Emergency and Essential Surgical Care as a critical component of primary health care
   8.2 Technology Transfer, Training Tools and Local Adaptations
   8.3 Research and Effective Coordination
9. Session VI. Plenary Session: Roadmap for WHO GIEESC – Building Local and Global Collaborations
   9.1 Roadmap for WHO GIEESC – Building Local and Global Collaborations:
   9.2 Discussion Points
10. Session VII. Action Plan and Recommendations for 2010-2011
11. Session VIII. Conclusions
12. Annexes
    12.1 Pre-GIEESC Summary
    12.2 Post-GIEESC Summary
    12.3 Programme agenda
    12.4 List of participants
1. Executive Summary

The third meeting of the WHO Global Initiative for Emergency and Essential Surgical Care (GIEESC) was convened on June 5-6, 2009, in Ulaanbaatar, Mongolia, with participants from 20 countries representing Ministries of Health, WHO country offices, local and international organizations, NGOs, and academia. GIEESC was established in December 2005, and represents the first coordinated effort to address the lack of adequate capacities for emergency and essential surgical care services at the first referral level of care in Low and Middle Income Countries (LMICs). The purpose of this GIEESC meeting was to update participants on global, regional and country progress in implementation of WHO Emergency and Essential Surgical Care (EESC), to explore and outline key components of a “road map” for future implementation of country projects and collaborations among GIEESC members, discuss specific strategies to raise the profile of emergency, anaesthesia and surgical care as a critical component of primary health care, to define important research gaps, and to develop and promote appropriate sustainable technologies that will allow universal delivery of life-saving and disability-preventive emergency and essential anaesthestic and surgical interventions.

The WHO GIEESC meeting was preceded by a Pre-GIEESC program on June 4, 2009, including the visit to Bagnur District Hospital, where there was a demonstrable impact of the implementation of the EESC project starting in 2004, in terms of establishment of an emergency room, increase in trauma care procedures, including anaesthesia, and decreased rates of referral and surgical infections.

The GIEESC meeting on June 5-6, 2009 was divided into six sessions, including two sessions wherein participants were divided into working groups that discussed specific issues and reported back in the plenary discussions.

**Session I:** The opening session set the scene for the discussions that followed and emphasized the WHO GIEESC efforts as an integral part of health systems strengthening through primary health care.

**Session II:** Consisted of reports from countries and several participating organizations of GIEESC members. Sixteen countries representing WHO regions of Africa (AFR), Americas (AMR), Eastern Mediterranean (EMR), Europe (EUR), South-east Asia (SEAR), and Western Pacific (WPR), provided progress reports on implementation of the EESC to address death and disability as a result of injuries, pregnancy-related complications, and other surgical conditions. Snapshot situation analysis of availability of key emergency, anaesthesia, surgical (obstetrics, trauma, pediatrics) procedures, standard protocols, equipment and skilled workforce to deliver life-saving and disability-preventive interventions and barriers to scaling up delivery of EESC was completed using the WHO survey tool in 10 countries and ongoing in seven. Almost all 17 countries had initiated training activities and used a variety of approaches for incorporating the WHO IMEESC tool kit into their training curriculum, day-to-day best practices and policy guidance and for improving quality of EESC through monitoring and evaluation.

---

1 [http://www.who.int/surgery/globalinitiative/en/]
Local adaptations of WHO IMEESC toolkit include translation into the local language which had been completed in Mongolia and North Korea, and is ongoing in Afghanistan, Ecuador and China. A national level masters program for health officers (non-physicians) was started in Ethiopia and a degree course in rural surgery has been initiated in India with the IMEESC toolkit forming the core of the training curriculum.

Session III: This session explored opportunities to synergize the activities of various health programs aimed at capacity building for delivery of primary health care, including initiatives of NGOs that were focused in specific countries. Elements of IMEESC have been incorporated into the Integrated Management of Adult Illness. There was consensus that opportunities for building on existing collaborations and further strengthening others needed to be explored and enhanced.

Session IV: Working groups were established to discuss the following issues:
- How can surgery be integrated into health systems?
- What are the barriers to surgical care at the district level?
- Resource mobilization and partnerships

The framework used to guide discussions in each group was based on six building blocks, namely: (i.) service delivery; (ii.) health workforce; (iii.) health information and monitoring; (iv.) medical products and technologies; (v.) financing; and (vi.) leadership and governance.

In addition two working groups looked at issues specific to the host country, Mongolia.

Session V: The participants were once again divided into work groups to discuss how to move GIEESC forward. The three groups discussed; (1) advocacy; (2) technology transfer, training tools and local adaptations; and (3) research and effective coordination. In addition, two groups specifically discussed each of these issues specifically related to the host country, Mongolia.

Session VI: The outcomes of the work group discussions were presented and discussed in this plenary session

Session VII: The GIEESC participants developed the following recommendations:
1. The importance of integrating EESC into the health system through PHC and scaling up of EESC should be considered during the strategic planning for universal coverage.
2. Country specific EESC programs/projects addressing various components of health system strengthening should be developed and their implementation supported.
3. Community participation should be an important component of the EESC project.
4. There is an urgent need for collaboration and coordination among partners implementing EESC at the country level to maximize the use of limited available resources. The Ministry of Health (MoH) should take the leadership role in these collaborative efforts.
5. Develop a resource mobilization strategy to support EESC globally and at the national level.
6. Develop advocacy packages/tools to promote EESC to be on the highest agenda of policy makers, governments/MoH, donors, media and communities as an integral part of health systems.
7. Promote research and documentation of the barriers encountered in the delivery of EESC, the burden of surgical diseases, the post-intervention health outcomes, the monitoring of district level capacity and the unmet need for surgical care.
8. Continue to develop training tools and appropriate technologies to meet local needs by reviewing and updating WHO IMEESC toolkit with input from district level providers
   • Create a global platform to bring synergies into EESC
   • Develop further the WHO IMEESC toolkit in a skills package for training through didactic and practical elements, adaptable at the country level involving MoH and academic institutions
9. Support provision of essential and appropriate EESC technologies.
11. Develop a template for strategic planning and project outcomes.
12. Integrate information and communication technologies on EESC to increase capacities

Session VIII: The closing session commended efforts of the GIEESC members and acknowledged the MoH, Health Science University of Mongolia, for hosting the WHO GIEESC meeting.

The WHO GIEESC meeting was followed by a Post-GIEESC Scientific Conference held on June 7, 2009, featuring scientific papers, presentations, lectures and discussions. It concluded in the development of an action plan for the Mongolian Surgical Society to address the gaps in research, education and training of health workforce in emergency, anaesthesia and surgery services.

2. Background

Deficiencies in the provision of surgical and anaesthetic services at primary health care facilities in low- and middle-income countries (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, and acute abdominal conditions. Obstructed labor is one of the leading causes of maternal illness and death in sub-Saharan Africa and South Asia, and each year more than 500,000 women die of pregnancy-related complications. Obstructed labour may lead to obstetric fistula, a devastating condition which affects more than two million women worldwide.

Barriers to the delivery of essential surgical services in LMIC’s include deficiencies in infrastructure, physical resources and health care providers adequately trained in emergency, anaesthetic and surgical care at primary healthcare facilities.
Additional challenges include a lack of recognition that surgical disease constitutes a major public health problem and the low priority given to research involving the burden of surgical diseases in LMICs, despite evidence of significant mortality, morbidity and disability imposed by treatable surgical conditions.

Recently, there has been a growing reception of emergency, anaesthetic and surgical care 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 second edition of the World Bank book: *Disease Control Priorities in Developing Countries.* Integration of basic surgical and anaesthetic services into the "primary health care package" is in accordance with the Alma Ata Declaration (1978) which states: “primary health care is essential health care based on practical, scientifically sound and socially acceptable methods and training made universally accessible”.

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) to ensure “efficacy, safety and equity in the provision of clinical procedures in surgery, anaesthetics, obstetrics, and orthopaedics, particularly at the district hospital level” and promote "appropriate, effective and safe use of cell, tissue, and organ transplantation.”

The Emergency and Essential Surgical Care Project (EESC) employs a horizontal approach, cutting across the variety of vertical initiatives including a component of surgical care (surgery, anaesthesia, Buruli ulcer, HIV prevention and infection control, male circumcision, transfer of knowledge/skills and technologies). This integrated approach towards meeting the Millennium Development Goals (MDGs) calls upon collaboration between WHO, MoH, and both local and international partners.

Policy, research and training materials include the Integrated Management of Emergency and Essential Surgical Care (IMEESC) toolkit and a reference manual *Surgical Care at the District Hospital.* The IMEESC toolkit is designed to transfer appropriate technology to the primary health centers, and includes the following components:

- Policies (standards, needs assessment, essential emergency equipment, and anaesthetic infrastructure and supplies),
- Capacity building (integrated workshops to “train the trainers”), reference manual *Surgical Care at the District Hospital* and slides/teaching materials,
- Quality and safety (best practices on surgical and anesthesia safety, disaster situations, equipment, monitoring and evaluation of programs).

The IMEESC represents a flexible template which may be adapted to the local needs. The materials may be integrated into teaching programs at universities and medical colleges, and training programs implemented by a variety of NGOs, and continuing medical education activities.

The Global Initiative for Emergency and Essential Surgical Care (GIEESC) was established in December 2005 at WHO headquarters in Geneva. The inaugural meeting assembled a diverse group of stakeholders, including participants from various disciplines of medicine and nursing, professionals in paramedical education and training, professional

---

and civil medical societies, local and international organizations, and WHO representatives from headquarters, regional and country offices. This meeting resulted in a consensus on the establishment of the GIEESC with a secretariat hosted at WHO/EHT/CPR, Geneva. The overall goal is to facilitate the exchange of ideas and experiences, stimulate collaboration between stakeholders to raise the profile of surgery, and promote educational programs involving training in emergency and essential surgery at primary health facilities. GIEESC strategies include the development of policies, norms, and standards, tools (IMEESC), advocacy, and regional/country activities.

GIEESC pre-planning meetings were conducted by the MoH in collaboration with WHO Mongolia Country Office since March 2009, by developing a GIEESC planning committee comprising of focal persons (WHO, MoH, Health University of Mongolia) to prepare for the Third Meeting of GIEESC.

3. Overall Objectives

The overall objective of GIEESC is to improve collaborations among organizations, agencies and institutions involved in reducing death and disability from road traffic accidents, trauma, burns, falls, pregnancy related complications, domestic violence, disasters, acute surgical problems and other emergency conditions in order to strengthen capacity to deliver effective emergency surgical care at the first referral level facility, thereby contributing to the achievement of the MDGs.

The specific objectives for this third meeting of the Global initiative for Emergency and Essential Surgical Care include the following:

- Reporting progress on GIEESC-related activities by member countries
- Building synergistic relationships with partners, related non-governmental organizations, and other WHO programs to facilitate integration of EESC into the public health care package
- Developing a roadmap to prioritize advocacy, research and training activities for 2010-2011

4. Session I – Opening Session

4.1.1 Welcoming remarks: R. WIWAT: WHO Representative, WPRO

Dr. Wiwat acknowledged the participation of representatives from 16 countries at the meeting, from all six WHO regions. He congratulated the government of Mongolia for its leadership in organizing the meeting, and noted that Mongolia has been the pioneer country within the region for EESC since 2004. The goals of the EESC project are to meet the emergency, anaesthetic, and essential surgical needs of the rural population. The World Health Report in 2008 emphasizes the importance of primary health care, in order to establish standards and meet the needs of communities. The concept of primary health care involves a series of reforms which are needed to take on the challenges. The four major areas for reform include universal coverage, service delivery, public policy, and leadership. The GIEESC aims to address all areas of these essential reforms based on the needs of the health system.
4.1.2 Welcoming remarks: S. LAMBAA: Minister of Health, MP, Mongolia

Dr. Lambaa welcomed all participants to the meeting, and noted that the EESC project has been implemented in more than 30 countries. He expressed that the government of Mongolia attaches a high level of significance to the meeting, and looks forward to a productive exchange of information and experiences, and learning to improve best practices. He briefly discussed the three tiers of the health system in Mongolia. Soum facilities provide primary health care; secondary care is administered at essential clinics, 21 provincial hospitals and 9 district hospitals. The tertiary level care includes central hospitals and maternal and child health centers. Each tier has specific responsibilities and a shared goal of meeting the health demands of the population. Significant progress has been made in Mongolia with regard to specialized medical care. Mongolian surgeons have reached a high level of competence, as evidenced by their transplantation program (kidney and liver).

One major challenge is how to extend this level of excellence to all levels of the health care system, especially the rural and remote populations. Extending emergency and essential surgical care to the rural population remains a core issue for government policy. Deficiencies in infrastructure have been a challenge, especially with regard to transportation of patients between levels of the health facility. While ambulance service is available for 11 aimag facilities, the more remote areas will need access to helicopter transport which has not yet been established. Clients from remote regions often have to travel up to 240 km to receive surgical services, and the furthest point in the country from Ulaanbaatar is 1400 km. As such, the delivery of complex care is a major challenge. In response, the WHO Emergency and Essential Surgical Care (EESC) project was started as a joint program with the Mongolian Government (Ministry of Health), WHO, and the Medical Health Sciences University (HSUM). National Training of Trainers workshops were begun in 2004. As of 2008, 161 individuals from 10 aimag facilities had received WHO EESC training. One hundred twenty SOUM hospitals received the WHO IMEESC tool kit.

Recent progress reports have indicated that 80% of facilities have developed a special room for emergency care. 71% are now capable to render emergency and essential surgical services. Complications have been reduced, and both morbidity and mortality have been decreased. There have been improvements in the delivery of timely medical service, and transfer between facilities has also been improved.

Given this initial success, the goal is to extend the EESC project into other areas of the country. Another goal for the future is to be able to deliver emergency, anesthetic and essential surgical care at the level of the soum hospital. In addition to adequate training of primary health providers legal reform will be required. The Minister of Health thanked all of the participating countries, and the 40 delegates for participating in the meeting. He recognized the 21 provinces of Mongolia represented and over 70 surgeons in attendance.

4.2. WHO GIEESC as a catalyst for health systems strengthening through Primary Health Care (PHC): Luc NOEL: Director/Coordinator Clinical Procedure Unit, Department of Essential Health Technologies, WHO/HQ, Geneva, Switzerland

Dr. Noel delivered a lecture linking the Emergency and Essential Surgical Care Project with the primary health care movement, with the goal of “access to quality health
for all”. He discussed shortcomings in health care delivery, including inverse care, impoverished care, fragmented care, unsafe care, and misdirected care. More than 100 million families are pushed below the poverty line due to out of pocket expenses for health care and excessive specialization. High cost curative services have been problematic at the level of the health system. The primary health care movement is based on equity, solidarity, and social justice and may be best viewed as a hub of coordination within the health system. This relies upon intersectoral collaboration, and a strategic approach must be developed. This movement has been driven by many factors, in addition to the previously cited shortcomings in health care delivery including the global financial crisis, global inequities, and the demand for better services by the members’ states. Current trends of high commercialization have pushed health care systems in the wrong direction. The provision of emergency, anaesthetic, and essential surgical care at the first referral level will improve public health and is consistent with the series of reforms envisioned in the primary healthcare movement. The global initiative for Emergency and Essential Surgical Care links with the four components of primary healthcare, including universal coverage, service delivery reforms, and reforms in public policy and leadership.

Dr. Noel then cited the resolution concerning primary healthcare and health systems ratified at the World Health Assembly three weeks ago. Surgical care should have a significant role in comprehensive health services, and is necessary in order to achieve the millennium development goals for health. He concluded that progress has been made in the recognition of emergency, anaesthetic, and essential Surgical Care as part of the primary healthcare reform, and at the core of the district health system. In moving forward, EESC must be seen as an important part of universal health coverage, and further investments should be made in strengthening EESC at the first referral level. There should be an increasing role for providers, societies, NGOs and others in serving as partners at the country level and at the international level in achieving these goals. There is a need for further research establishing a base of evidence, as well as improving and refining training tools.

- Introduction of participants
- Selection of Chairpersons, Rapporteurs, and adoption of programme
  Chairpersons: Vice Minister of Health, Mongolia, J. TSOLMON, Michael SHYAMPRASAD
  Rapporteurs: David SPIEGEL, Adam KUSHNER

5. Session II – Global and Country Activities

5.1. WHO GIEESC progress: Meena CHERIAN

Dr. Cherian introduced the EESC project, an initiative designed to address inequities in the delivery of safe and timely emergency, surgical, and anaesthetic services in order to save lives and prevent disability. She reviewed the role of GIEESC and updated participants on all the progress that has occurred since the last GIEESC meeting in 2007. The first meeting was in Geneva, Switzerland (December 2005), and the 2nd meeting was in Dar-es-Salaam, Tanzania (September 2007). GIEESC activities have been prioritized into three major areas, namely advocacy, research, and the development of training tools and the transfer of appropriate technologies.
A planning group was established in 2007, and a tool for situational analysis (infrastructure, physical resources, human resources) was developed by the planning group in association with partners in 2007. A database of facilities based reports has subsequently been established in Geneva.

Capacity building has been achieved through regional EESC workshops utilizing the WHO Integrated Management for Emergency and Essential Surgical Care (WHO IMEESC) toolkit, implemented jointly with MoH in 33 countries. Country progress reports have focused on adapting the methodology to meet the local needs, on transfer of low cost primary health care based technologies, and on research including situational analysis (multiple countries) and the impact (Mongolia) of EESC interventions. The manual, Surgical Care at the District Hospital, has been adapted to meet local needs including translations from English version into other languages.

Advocacy efforts have been underway, focusing on the need to integrate EESC into health systems at the primary health care level. This message has been asserted at three key forums recently, including the Global Forum for Health Workforce (Uganda), the Primary Health Care Conference (Burkina Faso), and the Global Ministerial Forum on Research for Health (Mali). In addition, WHO has developed an interdepartmental Working Group on “Reaching Emergency and Essential Surgical Care to the Unreached” (WG-RESCU). Country workshops have been supported by local television, newsletters, newspapers through collaborations of local WHO and MoH and WHO GIEESC members (ICS, SICOT, CNIS, IFSC, WFSA, SIHS, GFMER, HVO, ICRC, MSF, CAI/ALSG, academic universities).

Research efforts have focused on raising profile for surgery as a public health agenda, on measuring and monitoring the capacity to deliver EESC, and on locally adapted methodologies. GIEESC members have published articles in scientific journals, and have made numerous presentations over the past two years.

Where are we going? The ultimate goal is to strengthen health systems by integration of emergency and essential surgical care into the primary health care reforms, which will take a multidisciplinary, multisectoral effort. First referral health facilities in the rural communities serve as the hub for primary health care, and the delivery of EESC must be strengthened at this most basic level of health care delivery. We must stress need for EESC as a major tool for life-saving care and disability prevention and necessary for the achievement of MDGs. The GIEESC should build on synergies with other initiatives such as Maternal and Child Health: IMPAC, IMCI, Oxygen, Emergencies and Disasters (safe hospitals, emergency preparedness, Violence and Injuries, Buruli Ulcer, Patient Safety Challenge, Cancer, Essential Drugs and Medical Devices, Health Information Systems (Service Availability Mapping), HIV, IMAI, and Human Resources.

5.2. Country projects

AFRO:
5.2.1 Ethiopia: Abraham Endeshaw MENGISTU

Update: The population of 73.9 million is served by 149 hospitals and 732 health centers. There are 136 surgeons and 24 anaesthesiologists. Primary health coverage is estimated at 90%. Challenges include poor infrastructure, insufficient supply of medical equipment,
shortage of trained caregivers, and unequal distribution of health facilities. The 2005 meeting conducted with WHO support to strengthen EESC and adopt the WHO IMEESC tool kit. National level masters program for health officers was started. Continuing medical education (CME) has been provided for 120 lab technicians, 120 midwives, 18 nurse anaesthetists and training of trainers was administered for 20 individuals. Emergency skills training was provided for 300 house officers.

*Future:* The health tier system has been revised to include primary hospitals with purpose of addressing emergency surgical and obstetric care, and the postgraduate training program will be scaled up. CME will be administered to different levels of health professional, and WHO IMEESC activities will be scaled up across all regions. Business process regeneration will be implemented across the health sector to improve delivery of service.

### 5.2.2 Gambia: Bakary T. JARGO

*Update:* Health facilities for the population of 1.5 million people include one teaching hospital, three district hospitals, five major health centers, 40 minor health centers, and 492 PHC VHS. Barriers to the delivery of services include inadequate skilled health providers, poor/inadequate health infrastructure, de-motivated health staff, inadequate surgical equipment, high staff attrition, and an inadequate referral system. Initial situational analysis was in 2006, repeated in 2009. Training using WHO IMEESC began in 2007, and the basic skills have been applied in most health facilities and PHC.

*Future:* Implement WHO IMEESC toolkit in trainings, continue to monitor capacity with situational analysis tool.

### 5.2.3 Liberia: presented on behalf of Lawrence SHERMAN

*Update:* Barriers to the delivery of services include inadequate manpower, lack of basic packages for health services, poor road infrastructure, and poor incentives. A situational analysis has been performed in 15 district hospitals. WHO EESC was introduced in 2008, and activities include surgical training for the GP, teaching in the medical college, and surgical outreach lectures.

*Future:* Best practice protocols and guidelines to be available at all health facilities. The situational analysis will be performed at all public and private health facilities in the country. WHO IMEESC toolkit will be available at all health centers and will be integrated into task shifting training modules. A WHO IMEESC toolkit will be given to all graduating physicians and will be available at all hospitals.

### 5.2.4 Malawi: Mwawi MWALE

*Update:* The situational analysis was performed in 28 district hospitals and three referral hospitals with ICUs. Barriers to implementation of EESC include the lack of a focal person in country, lack of national guidelines, limited funds to conduct training and provide district hospitals with training materials, inadequate equipment and lack of high-
dependency units in the districts. WHO IMEESC has been incorporated into the clinical officer training program.

**Future:** WHO IMEESC toolkit will be integrated into training at all district hospitals, and situational analysis tool will be utilized to evaluate the capacity for EESC. Advocacy efforts will focus on publications, media, and presentations. Fundraising must also be pursued. Increase coordination with NGOs.

**5.2.5 Sierra Leone:** Lynda FORAY-RAHALL (presented by Adam KUSHNER)

**Update:** A situational analysis has been performed at all 10 government hospitals, and the results have been published in the Archives of Surgery. Barriers to the delivery of services include supplies, training, and manpower. Two 3-day workshops based on WHO IMEESC toolkit were held in 2008, training 45 individuals.

**Future:** Additional workshops are planned for district hospitals, and monitoring and evaluation (follow-up situational analysis to assess interventions) of programs is planned in two-three years.

**5.2.6 Tanzania:** Pascience KIBATALA

**Update:** There are 4,714 health facilities (280 hospitals, 479 health centers, 3955 dispensaries). Most surgery is done in the hospitals, although dispensaries are utilized for uncomplicated deliveries and minor cases. Barriers include few qualified staff, poor road infrastructure, irregular supply of materials, inadequate maintenance of equipment, and deficiencies in human resources. There are 110 surgeons, one third of whom practice in major cities, and 16 anaesthesiologists, serving a population of 40 million people. WHO EESC was introduced in 2007, and a country task force was formed to oversee areas of the country divided into zones. The WHO IMEESC toolkit has been used to complete Training of Trainers workshops at one university and three AMO colleges, and has been integrated into other training initiatives. The GIEESC tool has been used to complete a situational analysis in 15 of 26 regions (3/8 zones).

**Future:** A situational analysis will be completed for the remaining districts, and the findings will be disseminated for advocacy. The WHO IMEESC toolkit will be translated into Kiswahili and integrated into the medical school curriculum. Research and publications are planned, as well as media outreach.

**5.2.7 Uganda:** Olive SENTUMBE (presented by Meena CHERIAN)

**Update:** Preliminary data collection and analysis is ongoing. The majority of facilities have been surveyed.

**5.2.8 Zambia:** Mohamed LABIB
**Update:** Two hospitals have been identified in each of the nine provinces to implement EESC training using WHO IMEESC. Best practice protocols have been implemented in health facilities for routine practice. Research and advocacy efforts are underway.

**Future:** Incorporate the program into undergraduate medical education in the form of hands-on training which will extend into the internship period. Develop and enhance telemedicine between University Teaching Hospital and district hospitals. Start e-learning program at the district hospitals. COSECSA is developing a new degree for training doctors in surgery (2 year program) using WHO IMEESC as curricular component.

**AMRO:**

**5.2.9 Ecuador:** Sandro CONTINI

**Update:** A cooperative project on surgical emergencies was developed, and partners included the University of Parma (Italy), University of Loja (Ecuador), Italian MoH, and the Ecuador MoH. Components include the development of guidelines (surgery, obstetrics, neonatology), training, and building/equipping hospitals. The WHO Tool for Situational Analysis to Assess Emergency and Essential Surgical Care was administered to hospitals in Loja province in 2007. Training courses held in Loja in collaboration with University of Parma, Italy. The WHO IMEESC toolkit has been translated into Spanish. In December 2008, a meeting was held in Quito with stakeholders (Ecuador MoH, Italian MoFA, WHO HQ, PAHO representatives) towards strengthening EESC in Ecuador.

**Future:** Additional training courses planned for Quito and major cities within the country. Local trainers are to be identified and local funds raised. The training initiative may be extended into northern Peru.

**EMRO:**

**5.2.10 Afghanistan:** Asadullah TAQDEER

**Update:** Numerous challenges remain in Afghanistan, and recent information suggests a widespread lack of surgical care. The number of surgical beds is inadequate and unequally distributed. Basic commodities like running water, oxygen supply, and electrical power are often unavailable at district hospitals and primary health centers, and functional anaesthesia equipment is needed at the provincial hospitals. Only 20% of district and provincial hospitals can manage neonatal emergencies and open fractures, and 40% can manage mine injuries and carry out amputations. One third of hospitals have no certified gynaecologist, and 30% of midwives are not certified; OBGYN services are not available at the majority of peripheral centers on a 24 hour basis. While acute burn care is available, only one third of facilities can perform a skin graft. The situational analysis tool has been utilized at a subset of district health facilities to gather information on the capacity to deliver surgery.

The WHO IMEESC was introduced in 2006 (MoPH, Norwegian MoD, WHO), and the teaching materials including the text Surgical Care at the District Hospital is widely available for health professionals. A training of trainers workshop was held in 2008, and 80 individuals were trained. The best practice protocols have been introduced but at this point have not been widely implemented. Adaptation and translation of the
teaching materials is underway. Despite attempts at advocacy and fund raising, there has been insufficient interest in hospital based services such as surgery, and health sector investment has been directed to primary health care.

*Future:* A training center has been established by the MoPH at the national level, and the WHO IMEESC will be incorporated into the trainings. Quality care practices have been established at a subset of provincial hospitals, and the WHO materials are gradually replacing the previous guidelines. The Situational Analysis Tool will be utilized to gather additional information on the capacity to deliver EESC. Monitoring and evaluation of the impact of the trainings is planned.

**EURO:**

5.2.11 The Kyrgyz Republic: Josen SCHMITD

*Update:* WHO IMEESC toolkit introduced

*Future:* By end of year, equipment is hoped to be delivered; training will begin for doctors and surgeons at district level hospitals.

**SEARO:**

5.2.12 Democratic People’s Republic of Korea: Nagi SHAFIK

*Update:* There is a strong commitment to universal health services, and an extensive network of health facilities and health workers. Barriers to the delivery of services include infrastructure (electricity, water supply, heating), outdated knowledge and skills of health workers, lack of equipment, medicines, and consumables, and lack of transportation/fuel especially in mountainous regions of the country. The WHO IMEESC was introduced June 2006, and this contributed to upgrading of facilities at county hospitals and provincial hospitals. In terms of capacity building, the training has impacted more than 1,300 surgeons and 700 anaesthetists. Korean version of WHO IMEESC has been developed, and cascade training is underway.

*Future:* The WHO IMEESC materials will be incorporated into a variety of activities. In terms of enhancing the quality of care, this will involve supervision, e-learning and telemedicine. The training will be expanded through collaboration with regional institutions, and greater attention will be dedicated to the anaesthesia component. Research efforts will focus on assessing the situation after incorporation of IMEESC materials and analyzing supervisors reports to evaluate the impact of training and to identify further needs. The data collected will be also be used for fundraising to support improvements in EESC.

5.2.13 India: Michael SHYAMPRASAD

*Update:* Barriers to the delivery of EESC include deficiencies in infrastructure, physical resources, and human resources for health. A situational analysis was undertaken in all districts of Meghalaya state. The WHO EESC project has been introduced in the states of
Uttarkand and Meghalaya through workshops and advocacy. A post graduate degree program in “Rural Surgery” has been developed and is being piloted by the National Board of Medical Examinations and the Ministry of Health. The syllabus focuses on EESC, and the WHO IMEESC toolkit has been incorporated into the teaching materials. Research has focused on utilizing the situational analysis tool in Meghalaya to identify deficiencies in capacity. Advocacy efforts have been channeled through the Association of Rural Surgeons of India (ARSI) and the Ministries of Health in individual states.

**Future:** Additional training will be performed, focusing on mid level health workers in the rural areas. The materials will be translated into the local language, and low cost mannequins and skills training modules will be developed to supplement the materials. Research will focus on performing the situational analysis for capacity in three states over the next two years, and on studies which will correlate inadequate delivery of EESC with both morbidity and mortality. Advocacy efforts should be focused at the level of individual states within India.

**5.2.14 Nepal:** Mahesh MASKEY and Kan TUN (presented by David SPIEGEL)

**Update:** The WHO EESC project and WHO IMEESC training materials were introduced by Dr. Meena Cherian at a workshop in 2004. Dr. Spiegel presented a summary of a “Joint MoH/WHO workshop on the Delivery of Essential Surgical Services at the District Hospitals in Nepal”, which was held in January 2008 in Kathmandu. Barriers to the delivery of EESC include topography, variations in both capacity and quality of EESC between district hospitals, and political instability/civil unrest. While there are sufficient numbers of trained surgical providers, they are unevenly distributed often leaving a gap in manpower at the district level. The need for service mapping to identify gaps was also discussed, as well as the need to empower communities and reverse traditional mentality on surgery in many rural communities.

**Future:** A situational analysis is suggested to help identify highly successful district level facilities which can be used as “role models” for other facilities. This will allow the system to build upon existing strengths. The goal will be to train and retain general practitioners to service district level facilities. Another strategy which may potentially strengthen the deliver of district level surgical services is to partner existing medical colleges (16) with one or more district hospital, which would provide additional manpower (students, residents, fully trained surgeons and anaesthesiologists) for both training and service delivery. A follow-up workshop should be considered to discuss all issues, and to explore how the EESC project and WHO IMEESC materials may play a role in this process.

**5.2.15 Sri Lanka:** Breena TAIRA, Mohan DE SILVA

**Update:** A situational analysis using the WHO Tool for Situational Analysis to Assess Emergency and Essential Surgical Care was undertaken in 47 hospitals in conflict affected regions in 2008 (51% district level, 30% primary health facilities), and was somewhat limited by using two versions of the assessment tool. In terms of basic infrastructure, 82% of facilities had uninterrupted water, 57% had consistent electricity, and 77% had oxygen
available. 60% of facilities, however, did not have an operating room, and of those that had an operating room, 2/3 could only perform minor procedures. In 57% of facilities general doctors performed some surgery, and 91% had midwives or paramedics. In terms of supplies, 60% had sterile gloves, 3% had eye protection, and only 49% had equipment for intravenous lines.

Future: Surgical capacity will be addressed in the recovery and rehabilitation plan. Training programs will be continued, and attempts will be made to improve infrastructure in secondary care facilities. Develop a national level training program for EESC based on WHO IMEESC and SCDH; link with academic institutions for sustainability.

WPRO:
5.2.16 China: Hans TROEDSSON

Update: A workshop was held in 2008 in collaboration with MoH, and there were 195 participants representing 12 Emergency Centers. The workshop included lectures, discussion groups, and hands-on basic skills training. Positive feedback was received from the participants, and overall there was a good experience with the WHO collaborating center and the local practitioners. Support was obtained from the central level.

Future: Translate teaching materials into Chinese and explore how to expand the program to other regions in China. There is also a need to develop a strategy to sustain the training. To undertake a situation analysis may require involvement of CDC or several technical units in the MoH and local health bureaus.

5.2.17 Mongolia: O. SERGELEN

Update: The Mongolia EESC project was started in 2004, and has expanded considerably over these 5 years. Capacity building and training in EESC has been achieved for workers at all levels of the health system, including the soum facilities (178 doctors) and the aimag facilities and main hospitals of Ulaanbaatar (410 doctors and 96 nurses). Teaching materials have been adapted and translated into Mongolian. More than 12 aimag facilities have been used as pilot sites for the project. This would not be possible without the support of partner organizations, including WHO, Swiss Surgical Team (Switzerland), HUG (Switzerland), Swanson Foundation (USA), Helfen Beruehrt (Austria), and Siberian Academy of Sciences (Russia).

Major abdominal problems include appendicitis, cholecystitis and ileus. A recent study demonstrated that 70% of morbidity associated with surgery for appendicitis could be related to pre-hospital and in-hospital delays, surgical skill incompetence and postoperative care. A situational analysis has been completed using the GIEESC tool in 78 soum facilities.

The impact of the EESC program in Mongolia has been observed in several areas. First, the project has been associated with a favorable expansion in the capacity to deliver EESC at participating soum hospitals. An emergency room is available in 86% of these facilities (29% before the project), and an emergency kit is now available in 68% (8% before project). Medical records are now kept concerning EESC in 78% (5% before), and
instructional materials concerning the facility and equipment is now available in 51% (5% before). In addition, preliminary results suggest that patient outcomes have improved following institution of the program, in comparing mortality and surgical complications from 2004 (pre program) and 2007. Overall, mortality decreased by 36.8%, and complications decreased by 49.1%. These preliminary findings suggest the need to expand the project and to strengthen the delivery of EESC at all levels of the health system in Mongolia.

Future: Expand the EESC project through the Mongolian health system. Support and distribute EESC kits for the hospitals involved in project, undertake project impact evaluation, increase emergency rooms, emergency kits, recording for emergency care and instrument usage.

6. Session III – Maximizing synergies between Emergency, Anaesthesia & Surgical interventions in Primary Health Care

6.1 WHO IMAI – WHO IMEESC: Richard GOSSELIN

The Integrated Management of Adult Illness (IMAI) program involves a symptoms based approach using algorithms, similar to the IMCI. In April 2009, the handbook and learning tools were finalized at a meeting in Ethiopia, and the importance of injuries was recognized, leading to incorporation of selected materials from the WHO IMEESC toolkit. Common interests between EESC and IMAI include the management of acute injuries, complicated pregnancies, and non-traumatic abdominal emergencies. There is a need to update the WHO IMEESC toolkit and this should be discussed in the working groups. GIEESC will benefit from synergies with NGOs (ICRC, MSF, others), Academia (GHS, Bellagio, IGOT, others), professional associations (SICOT, ISS, ACS, others), and Foundations.

6.2 GIEESC synergies with Partners and Organizations

6.2.1 Children’s Hospital of Philadelphia, UPENN School of Medicine: David SPIEGEL

More than 180,000 babies are born with clubfoot each year, the vast majority in Asia and Sub-Saharan Africa. While clubfoot is clearly not an emergency, the reason for presenting this evolving strategy within the context of essential surgery is the focus on a less invasive, cost effective technology which can be delivered through task shifting. Physiotherapists and other paraprofessionals can be trained to deliver the services. The initial experience at the Hospital and Rehabilitation Centre for Disabled Children (Banepa, Nepal= were presented. The method was introduced in 2004. The manipulation and casting is done by physiotherapists and the night splint is made from local materials. A minor surgical procedure (percutaneous release of the tendoachilles) is required in approximately 90% of Ponseti operations are completed by orthopaedic residents. Our preliminary study has shown that a flat foot can be initially achieved in 94% of untreated idiopathic clubfeet in patients up to 6 years of age. Further follow-up is planned to
evaluate maintenance of correction. The International Ponseti Association, in collaboration with partners (CURE International, CBM International), has supported training activities in many countries around the world.

The Carl T. Brighton Workshop on musculoskeletal trauma in low and middle income countries (Association of Bone and Joint Surgeons) was held in Ahmedabad, India, in December 2007. This brought together orthopaedic surgeons from more than 20 countries to discuss the challenges in trauma care, focusing on the public health aspects rather than specific type of treatment. The results were published as a symposium in *Clinical Orthopaedics and Related Research*.

One of the major barriers to the delivery of EESC is a lack of infrastructure and physical resources/supplies. The WHO surgical capacity questionnaire was administered to 132 health facilities in eight LMICs, selected by each MoH. Enormous shortfalls in the capacity to deliver surgery were identified at district level facilities, supporting anecdotal data.

Having established that glaring deficiencies exist in these facilities, GIEESC members discussed how to monitor capacity. It would be desirable to have a mechanism which allowed MoH to monitor capacity (infrastructure, physical resources, human resources) at the facilities level, and this would strengthen a country’s health information system. The GIEESC surgical questionnaire has been incorporated into the WHO’s Service Availability Mapping (SAM) facilities based questionnaire, and this low cost technology may easily be transferred to LMICs.

### 6.2.2 Swanson Family Foundation: Ray PRICE

The SFF has worked in Mongolia since 2000 towards improving infrastructure for the health care system and providing health education (medical/surgical) in partnership with local medial leaders. Activities have focused on clinical education (surgical oncology, laparoscopy, obstetrics and gynaecology, anaesthesia, orthopaedic surgery, others), and formal courses have been designed for doctors, nurses, surgical technicians, bio-technicians and administrators (emergency surgery, trauma team course, basic life support, basic and advanced laparoscopic surgery). For example, topics covered in the emergency surgery course include recognition and treatment of traumatic shock, stabilization and transport of the trauma patient, and use of vital signs in the inpatient management of trauma patients. The team was asked how to expand laparoscopic surgery in Mongolia, and developed a course which incorporates sterility, equipment, technical abilities and judgment. Laparoscopic surgery is planned for four regional diagnostic centers, thus far the services have been transferred to Bulgan and Khovd. The trainee serves as an assistant on 3 to 5 procedures, then 3 to 5 times as the primary surgeon. They are then able to train other Mongolian surgeons in the method. The greatest challenge has been how to maintain supplies and equipment.

### 6.2.3 Society of International Humanitarian Surgeons: Adam KUSHNER

Numerous activities have been in progress in collaboration with the MoH and partners. A situational analysis was performed using the GIEESC tool in collaboration with MoH. Three-day EESC workshops were held for 45 participants that discussed salary
support and HIV protective gear. There has been a 51% increase in surgical procedures at Connaught Hospital following all these activities. Future plans include a surgical residency training program which has been accredited by the West African College of Surgeons.

6.2.4 Swiss Surgical Team: Beat KEHRER

The SST has a long history of service and training in Mongolia, including eleven surgical missions since 1999. The team also provides medical equipment (donated and also bought locally), scholarships, and telemedicine services. The team of specialists includes surgeons, anaesthesiologists, nurses, and medical technicians. Considerable experience has been gained through this experience, and the importance of long term commitment is stressed. It is important to have a knowledge of the local needs, to network, to collaborate closely with partners, and to build mutual understanding and trust. Team members must be experienced, and cooperation with both local and international partners is important.

6.2.5 Human Info NGO: Michael LOOTS

This presentation addressed a mechanism for expanding an enhancing the WHO IMEESC training tool through a global training cooperative platform. The content would be needs oriented, and developed as a collaborative effort amongst stakeholders. This strategy allows for content feedback, local adaptation, and could be based on the UNESCO open training platform model. Open training platform (OTP) provides collaborative access to existing free training materials and courses, and promotes access to licensed resources for specialized groups and communities. In two years time, the OTP has amassed 3426 training resources, 293 categories, and 3303 portal members. There are 22 partners, and as of March 2009, there were 400 visitors per day. This OTP could achieve synergy with the WHO IMEESC toolkit through links to existing open training resources, continual addition of new resources, uploading of full text and MM content, creating a community platform, and global outreach and distribution. There is a need for continuing needs assessment, as well as maintaining and verifying quality of OTP materials. The ideas and participation of GIEESC members are welcomed, for example in producing and sharing training tools, developing a health training content platform, facilitate networking under GIEESC and gather feedback on the WHO IMEESC training tools.

7. Session IV– Working Groups

7.1 Introduction to working groups: Health systems strengthening through Integrated Management of surgery, anesthesia, and emergency care: Salik GOVIND

Given the challenges facing the establishment of universal access to safe and timely surgery, we need to think out of the box, or beyond our horizon. Surgery, anaesthesia, emergency care can not be planned, implemented, evaluated and sustained as a vertical programme. The only way forward is to promote a horizontal, integrated approach based on the reforms envisioned in the primary health care movement, as
highlighted in the World Health Report 2008. Universal health care reforms (coverage, service delivery, public policy, leadership and governance) will be required to meet the challenges.

A framework was offered to guide the working group discussions based on six building blocks:

i. Service delivery: packages, delivery models, infrastructure, management, safety and quality, demand for care

ii. Health workforce: national workforce policies and investment plans, advocacy, norms, standards and data

iii. Information: facility and population based information and surveillance systems, global standards, tools

iv. Medical products, vaccines and technologies: norms, standards, policies, reliable procurement, equitable access, quality

v. Financing: national health financing policies, tools and data on health expenditures, costing

v. Leadership and governance: Health sector policies, harmonization and alignment, oversight and regulation

7.2 Working Group 1: How can surgery be integrated into the health system?
Facilitator: David SPIEGEL

Recognizing that a health system involves a variable number of tiers or levels of service, the group focused on the “district” level given the focus of EESC at this level. It was assumed that fully trained surgeons are available at tertiary centers, and that non-surgeon (or non-formally trained anaesthesiologists) providers will be delivering EESC to the rural populations at the district hospital level. The discussion focused on service delivery, the health workforce, information technology, and financing.

i. Service delivery:
   - Define the package of services that could be universally accessible at the district level (or catchment area), adapted to the local disease burden.
   - Develop and enhance mechanisms (infrastructure, communications links) for pre-hospital care and transfer between facilities
   - Develop guidelines for referral.
     - Define which diagnoses and/or procedures require referral to higher levels of service, and how transport will be accomplished within the health system.
     - Establish communication links between district level facilities and other tiers of the health system
   - Consider establishing and cultivating relationships between district level facilities and existing medical schools (or other institutions) to enhance capacity to deliver services (additional trained health workers) and to promote educational exchange (enhance quality).
   - Define the infrastructure, physical resources and equipment needed to provide acceptable standards of care for EESC.

ii. Health workforce
• Define the qualifications and numbers required for health workers at that level of care.
• Develop policies and recommendations for recruitment and retention.

iii. Information: Assuming that district facilities possess a basic health information system (HIS)
• Recognizing that data from population based surveys is most reliable, can estimate the burden of surgical disease by facilities based information relating to diagnoses and/or procedures.
• Develop policies/mechanisms for quality assurance at district level. Monitor outcomes and complications.
• Monitoring system for the capacity (infrastructure, physical resources, human resources) to deliver EESC.

iv. Financing:
• Assume that the government budget will be unable to meet all the needs of an essential package of surgical services.
• Explore alternate mechanisms for funding to support EESC.
• Empower community representatives (leaders, businessmen, others) to establish needs/desires and participate in the process of securing funding for the desired level of services, gather support from the local communities to help achieve these goals.

7.3 Working Group 2: What are the barriers to surgical care at district level?
Facilitator: Pascience KIBATALA

   i. Service delivery: Poor infrastructure is a barrier
   ii. Health Workforce: Inadequate quality of services
   iii. Information: Lack of standards for HIS
   iv. Equipment
   v. Financing: major problem, less problem for motivation
   vi. Leadership and governance

7.4 Working Group 3: Resource mobilization and partnerships
Facilitator: Fizan ABDULLAH

   i. Increased advocacy for surgical care as a public health issue.
   • Recognize surgical care as a nidus for broader infrastructure development
   • Frame surgical priorities in a non-surgical context, for example patient safety, disease prevention, and emergency preparedness.
   ii. Need more accurate data for the burden of surgical disease (especially injury)
   • Quantification of unmet need for surgical and anaesthetic services at local, regional, national, and global levels
   • Domestic vs. global disparities in access to safe and timely surgical care.
   iii. Need to determine how to quantify effectiveness of training strategies
   • Patient outcomes, for example decreased wound infection with laparoscopy vs. open surgery for cholecystitis.
   iv. Need to determine the cost effectiveness of EESC interventions.
• Increase advocacy of surgical care as a public health issue: recognize surgical care as a nidus for broader infrastructure development. Frame surgical priorities in non surgical context: patient safety, prevention, emergency preparedness.
• Identify partnerships with other organizations: United Nations, international organizations, industry, NGOs, academic institutions, private philanthropic organizations

7.5.1 Working Group 4: Mongolia group A
Facilitator: Dr. CHINBUREN

Surgical care should be recognized as an essential component of public health, and the need to build bridges between surgeons and policy makers.

i. Service delivery
   • Provide ambulances with better equipment to transport patients in supine position.
   • Develop helicopter transfer service.
   • Develop standards for aimag and district hospitals for ICU and OR.

ii. Health workforce
    • Change policy for practitioner and residency program to include more EESC.

iii. Information
    • Improve and enhance utilization of both the internet and cell phone for exchange of health information.
    • Develop and promote telemedicine.

iv. Medical Products and Technologies
    • Address shortages of medications.
    • Insurance needs to be flexible.

v. Financing:
    • Health insurance not based on cost of the service.
    • Increase salary for health workers.
    • Health workers working in rural areas should have a higher salary than others.

vi. Leadership and Governance
    • Decentralize medical services
    • Focus on local problems.
    • Trust and share overload with private clinic.

7.5.2 Working Group 4: Mongolia group B
Facilitator: Dr. ENKHAMGALAN

i. Financing
   • Introduce an equitable financing system.
   • Revise the wage system.
   • Improve the health insurance system.

ii. Service delivery
    • Improve referral system.
• Establish local teams for emergency care.
• Improve ambulance system.

iii. Health workforce
• Strengthen resources for training doctors with help of professional societies and WHO.
• Improve post-graduate training.
• Revise and update training for emergency care.

iv. Information: Use data to drive action.

v. Medical Products and Technologies
• Improve procurement methods for supplies and equipment.
• Introduce open bidding system for equipment in rural areas.
• Train staff in use of new equipment.

vi. Leadership and Governance: Address the high local health administration costs.

8. Session V – Working Groups: Taking GIEESC forward

8.1 Advocacy: Emergency and Essential Surgical Care as a critical component of Primary Health Care.
Facilitator: Richard GOSSELIN

A horizontal approach incorporating EESC will strengthen the capacity of district level facilities to deliver health care. Surgery can be seen as a preventive as well as a curative treatment for many problems that are increasing in prevalence such as injuries, maternal and child health, and non-traumatic essential surgical procedures.

i. Address cross cutting issues between EESC and primary health care by the provision of basic essential facilities, including initial resuscitation at the first point of contact. (Oxygen, infection prevention, shock trauma versus general resuscitation)

ii. Improve the availability of health workers with sufficient training and skills
• Judgment and decision making. Better selection of patients who need transfer to secondary facility.

iii. EESC as a cost effective approach to the provision of essential health services at the first point of contact.

8.2 Technology transfer, training tools, and local adaptations.
Facilitator: David SPIEGEL

i. Develop a human resources package for EESC, including transfer of skills, appropriate technologies, and the development of training tools and educational materials, which may be adapted to suit the needs of each country.
• Requires didactic education and practical skills training.
• The WHO IMEESC training program may serve as the common denominator on which to build.
  o Consider adding modules to expand and enhance basic information and skills provided by WHO IMEESC.
o Practical goals for the next 2 years.
o Get feedback on WHO IMEESC at the country level to identify areas which should be updated and/or refined.
o Consider updating WHO IMEESC toolkit over the next 3 to 5 years.
• Strengthen the pediatric section of WHO IMEESC toolkit.
i. How can GIEESC contribute to training tools?
• Create and facilitate a global community of individuals and organizations (discussion forum) who can contribute to enhancing and updating the basic training materials.
• There is a need for innovative approaches to adapt and adopt these tools in countries continuing medical educational programs
iii. Practical skills training
• Need to include all stakeholders - MoH, academic institutions and trainees.
• Importance of having exchange of knowledge (and possibly health workers) between tertiary and district facilities.
• In some setting a centralized training facility (i.e. Afghanistan) may be established to achieve some training goals.
iv. Educational Output: Need to evaluate training programs

8.3 Research and effective coordination.
Facilitator: Adam KUSHNER

i. Formalize and expand the research committee
ii. Establish a formal research fellowship
iii. Identify a GIEESC research coordinator. This individual would be responsible for coordinating research activity including developing and monitoring a section of the website, and for facilitating communication between GIEESC members and other individuals or organizations (i.e. Bellagio, BoSD)
iv. Specific research goals
• Burden of Disease. Community based surveys to gain a better understanding of surgical disease burden and variations both between and within countries.
• Situational analysis to be completed for more countries, which will provide a benchmark for change and support advocacy to develop a “surgical capacity index” to grade health facilities
• Enhance mechanisms to monitor surgical capacity at district level facilities though Service Availability Mapping
• Cost effectiveness of surgery in LMIC
• Outcome measures and evaluation

8.4.1 Mongolia Working Group A
i. Advocacy:
• Provide selected nonmedical individuals from our community (local business leaders, decision makers, community leaders) with honorary membership into professional societies.
• Report data concerning burden of EESC/surgical conditions (morbidity and mortality) to local administration.
• Improve distribution of professional publications.
• Policy level changes to provide tax benefits or exemption for those who invest or donate to local health care.

ii. Technology transfer, training tools, and local adaptations:
• Improve physical resources and equipment at provincial level centers
• Establish an emergency helicopter service.
• Train Soum doctors in basic obstetrics and surgery.
• Enhance soum hospitals’ supply of consumables, including tubes, drains, and surgical instrument kits.
• Dispatch of highly trained teams to training local doctors using similar model as Swiss Surgical Team and Swanson Family Foundation.

iii. Research:
• Consider reorganization or restructuring of the provincial health department.
• Province center should play a major role in coordination of health care delivery.

8.4.2 Mongolia Working Group B

i. Advocacy
• It is essential to implement and continue EESC at Aimag and district hospital level.
• Ulaanbaatar district hospitals need reorganization to better provide EESC, including provision of an intensive care unit (ICU), OP, and Obstetrics and Gynaecology.
• Reassess governmental and administrative structure.

ii. Technology transfer, training tools, and local adaptations
• Train the trainers at aimag and district level facilities. Transfer of knowledge and skills to health workers at soum and khoroo level will occur through cascade training.
• Introduce WHO IMEESC tool kits and provide a sustainable source of these training materials.
• Strengthen professional societies.

iii. Research: Collect data at the national level by routine monitoring

9. Session VI – Plenary session: Roadmap for WHO GIEESC - Building local and global collaborations

9.1 Roadmap for WHO GIEESC – Building Local and Global Collaborations
Hans TROEDSSON

How can the GIEESC project or approach become sustainable? The concept of scaling up was presented as a means of transition from an introductory phase towards permanent viability. He explained that the introduction strategy is different from scaling up strategy. Scaling up at the country level involves transitioning from a generic approach to a site specific approach. Sustainability requires true integration into the health system through health system reform.
What can be learned from programs such as ORS, ARI, IMCI, and others? Of health programs that failed to reach their potential, the problem was rarely technical and nearly always due to implementation. GIEESC was advised to consider novel approaches and given historical examples such as the highly successful “DOTS” program for TB. Focus is also needed on how to reach target groups such as medical students, interns, associations, local governments, and others. Start with simple, short-term easy achievements that demonstrate clear outcomes to prove success and build momentum and profile. GIEESC is not in competition with other health programs. Proving cost-effectiveness is less important unless you are planning to implement a new or alternate intervention. Research should support development of implementation, monitoring and evaluation leading to new questions.

9.2 Discussion points

- Scaling up, how may we achieve national impact in a sustainable way?
- We have a winning concept, but are not getting it across.
- Our intervention has an obvious and tangible impact, it can save lives and limit disability. We do not need to create infrastructure, just to upgrade or improve existing infrastructure.
- The GIEESC target audience is diverse: (i.) policy makers (ii.) self (self-evaluation) (iii.) journals and (iv.) health professionals.
- There is certainly a demand for EESC services; EESC is appreciated by health professionals and contributes to staff development.
- Post-graduate training should include EESC, and competence with EESC should be required for licensing.
- We need to strengthen the health information system. Tele-medicine is useful for reducing referral and assisting with emergencies, distance learning.
  - Research approach considerations:
    - Difficult to assess what a health worker gains from a workshop or book, we must prove that patient care is improved.
    - Identify 2 to 5 conditions that occur with significant frequency and can be treated easily.
    - Use proxy indicators, such as time to treatment or to OR, instead of mortality and morbidity rates.

10. Session VII – Action Plan and Recommendations for 2010 - 2011

1. The importance of integrating EESC into the health system through PHC and scaling up of EESC should be considered during the strategic planning for universal coverage.
2. Country specific EESC programs/projects addressing various components of health system strengthening should be developed and their implementation supported.
3. Community participation should be an essential component of the EESC project.
4. There is an urgent need for collaboration and coordination among partners implementing EESC at the country level to maximize the use of limited available resources. The MoH should take the leadership role in these collaborative efforts.
5. Develop a resource mobilization strategy to support EESC globally and at the national level.
6. Develop advocacy packages/tools to promote EESC to be on the highest agenda of policy makers, governments/MoH, donors, media and communities as an integral part of health systems.
7. Promote research and documentation of the barriers encountered in the delivery of EESC, the burden of surgical diseases, the post-intervention health outcomes, the monitoring of district level capacity and the unmet need for surgical care.
8. Continue to develop training tools and appropriate technologies to meet local needs by reviewing and updating WHO IMEESC toolkit with input from district level providers
   - Create a global platform to bring synergies into EESC
   - Develop further the WHO IMEESC toolkit in a skills package for training through didactic and practical elements, adaptable at the country level involving MoH and academic institutions
9. Support provision of essential and appropriate EESC technologies.
11. Develop a template for strategic planning and project outcomes.
12. Integrate information and communication technologies on EESC to increase capacities

11. Session VIII – Closing Session
Remarks by Chairman: Michael SHYAMPRASAD, participants, and WHO Representative in Mongolia: R. WIWAT

Drs. Shyamprasad and Wiwat commended GIEESC members for continued efforts over the past two years in areas of advocacy, research, and health education for increased access to live-saving services in emergency to, anaesthetic, and surgical care. Words of encouragement were offered with expressions of hope for higher levels of commitment to the advancement of emergency and essential surgical care worldwide.

Acknowledgements were given to Dr. S. Laamba, Minister of Health, representatives of WHO Mongolia, officials from the Ministry of Health, member country delegates, Health Sciences University of Mongolia faculty and students, and honored guests for their participation and contributions in hosting the WHO Third Meeting on GIEESC.

12. Annex

12.1 Pre-GIEESC program summary

The Pre-GIEESC program was held on June 4, 2009 to provide a cultural, geographical, and medical context to the challenges and achievements in delivering EESC
in Mongolia. In 2004, Mongolia became one of the first countries to join implement the WHO EESC project and address the lack of adequate capacities for emergency and essential surgical and anaesthesia interventions at the primary health care facilities: soum, intersoum, and aimag hospitals. Participants visited one such facility to better understand the WHO IMEESC implementation process at the soum level. Baganur District Hospital, a 135 bed facility, is located in Baganur district, 140 km from Ulaanbaatar. Emergency care, birth delivery, and elective surgery is provided for roughly 26,000 people which includes the entire district population as well as eight bordering soums. Since 2004, district and soum medical staff have been trained in emergency and essential surgical care procedures using translated and adapted materials from WHO IMEESC tool kit.

The delegates and participants of the Third Meeting of the WHO GIEESC were accompanied by Bagnur Hospital officials, representatives from the MoH, WHO Mongolia, and WHO HQ Geneva during the visit to the hospital. Participants viewed ambulance care equipment, such as portable oxygen bags, toured a triage area, surveyed a renovated emergency room, and examined a postoperative/intensive care ward with oxygen delivery and electronic patient monitoring capabilities.

Dr. T Bolormaa, Director of Bagnur District Hospital, reported on surgical and trauma needs, capacity of the hospital, and improvements facilitated by the WHO EESC training project. Goals achieved since the initiation of the EESC project in 2004 included the establishment and equipment an emergency room in accordance with the WHO Essential and Emergency Equipment List, improved record-keeping, increased access to emergency equipment and supplies, the reduction of peri-operative complications decreased threefold since 2005 and the reduction of hospital-acquired infections (HAI) by 32%.

Challenges remain, however, such as the lack of ventilators, intubation kits, and patient monitors, standard ambulance truck that would permit transport of patients in the supine position, and community health educational programmes. Future goals of Bagnur Hospital included improving the capacity building of doctors in intensive care, providing wider distribution of WHO SCDH and WHO IMEESC toolkits, improving work safety conditions of health workers at workplace, and providing continuing medical education.

12.2 Post-GIEESC Conference summary

The Post-GIEESC conference is a scientific session traditionally held after the final day of the meeting of the GIEESC. The conference invites presentations, scientific papers and lectures related to fields of emergency medicine, anaesthesia, and surgery. A brief discussion was held the end of each of the four sessions.

Session I commenced with an overview of the undergraduate and postgraduate medical training curriculums at the HSUM, followed by an introduction to a pilot rural surgery residency training program in India which has incorporated the WHO IMEESC toolkit in the curriculum of the inaugural class. An interactive segment on telemedicine tools was presented by the Swiss Surgical Team which also included a review of a three-year training experience at aimag hospitals. The session concluded with a paper presentation on surgical and anesthetic capacity in eight low and middle income countries based on the WHO Tool for Situational Analysis to Assess EESC. Major deficiencies in
basic and emergency care and surgical infrastructure were revealed and presented as significant barriers to achieving the MDG 4, 5, and 6.

Session II featured a review of morbidity, mortality, and economic impact of hospital-acquired infections and a series of lectures on institutional challenges and initiatives on infection control procedures and patient safety in Russia and Mongolia.

During Session III, presentations were shared on the impact of WHO EESC training tools in Mongolia and a documentary on EESC improvements at Orkhon Aimag Hospital, in Erdenet was shown. A comprehensive evaluation of the WHO EESC project in Mongolia was presented. The project started with five aimags and was expanded to 10 aimags at the request of the MoH. A study was undertaken to assess the impact of WHO IMEESC training on quality of care provided at aimag and soum-level health facilities using the WHO Monitoring and Evaluation Form, adapted for Mongolia. After training, significant improvements in the number of designated emergency rooms, emergency drug reserves, and essential instruments and supplies (i.e. artificial respirators, nasopharyngeal tubes, splints, and compression bandages) were observed. Improvements also included increased operative case load, more frequent use of analgesia, greater adoption of emergency guidelines, and reductions in perioperative mortality and post-appendectomy complication rates during the period 2004-2007.

Focus was shifted to emergency and surgical clinical management in low-resource areas during Session IV. Treatment outcomes for the Ponseti method to treat congenital clubfoot in Nepal were shared, along with the benefit of endoscopy for the management of foreign body obstruction and acute gastrointestinal bleeding and need for application in peripheral settings. The Post-GIEESC session concluded with recommendations.
Third Meeting of the
WHO Global Initiative for Emergency and Essential Surgical Care (GIEESC), 5-6th June 2009,
Ulaanbaatar, Mongolia

Friday, June 5

09.00-10.30 Session I - Opening Session
- Welcome remarks: R. Wiwat, Regional Director, WHO/WPRO
  S. Lambaa, Minister of Health, Mongolia
- WHO-GIEESC as a catalyst for health systems strengthening through Primary Health Care, Luc Noel, Director/Coordinator Clinical Procedures Dept of Essential Health Technologies, WHO/HQ
- Introduction of participants
- Administrative announcements, Salik Govind, WHO/Mongolia
- Selection of Chairperson and Rapporteurs
  - Chairpersons: Michael Shyamprasad, J. Tsolmon
  - Rapporteurs: David Spiegel and Adam Kushner
- Group photo

10.30-11.00 Coffee Break

11.00-13.00 Session II - Global and Country activities
Chairpersons
- WHO GIEESC progress, M Cherian, Clinical Procedures Unit, Emergency and Essential Surgical Care, Essential Health Technologies, WHO/HQ
  - Current research and publications
  - Training tools
  - Follow up on recommendations of GIEESC 2007
- Country projects
  - AFRO: Cote d'Ivoire, Ethiopia, Gambia, Ghana, Kenya, Liberia, Malawi, Mali, Sierra Leone, Uganda, United Republic of Tanzania, Zambia
  - AMRO: Barbados, Dominica, Ecuador, Grenada, Guyana and Saint Lucia
  - EMRO: Afghanistan, Oman, Pakistan
  - EURO: Kyrgyzstan and Tajikistan
  - SEARO: Bangladesh, Democratic People's Republic of Korea, India, Maldives, Nepal, Sri Lanka
  - WPRO: China, Mongolia, Philippines, Vietnam

13.00-14.00 Lunch Break

14.00-15.30 Session III - Maximizing Synergies between Emergency, Anaesthesia & Surgical interventions in Primary Health Care
Chairperson
- WHO IMAI - WHO IMEESC, R Gosselin
- GIEESC synergies with Partners & Organizations
  - Swiss Surgical Team, Beat Kehrer
  - Swanson Family Foundation, Todd Collins
  - Children's Hospital at the University of Pennsylvania, David Spiegel
  - Society of International Humanitarian Surgeons, Adam Kushner
  - Human Info NGO, Michel Loots

15.30-16.00 Coffee Break
16.00-16.45  
**Session IV - Working Groups**  
Introduction to working groups: Strengthening Health systems through Integrated Management Surgery, Anesthesia and Emergency care, S. Govind  

Working Groups  
*Facilitators:* D. Spiegel, P Kibatala, F. Abdullah  
- How can surgery be integrated into the health system?  
- What are the barriers to surgical care at District level?  
- Resource mobilization and partnerships

16.45-17.30  
**Recommendations from Working Groups**

Saturday, June 6  

09.00-09.45  
**Session V - Working Groups**  
Taking GIEESC Forward  

Working Groups  
*Facilitators:* R. Gosselin, D. Spiegel, A. Kushner  
- How can surgery be integrated into the health system?  
- Advocacy: Emergency & Essential Surgical Care as a critical component of Primary Health Care  
- Technology transfer, training tools, and local adaptations  
- Research and effective coordination

09.45-10.30  
**Recommendations from Working Groups**

10.30-11.00  
Coffee Break  

12.30-14.00  
Lunch Break

14.00-15.30  
**Session VII - Action Plan & Recommendations for 2010 - 2011**  
*Facilitators*

15.30-16.00  
Coffee Break

17.00-17.30  
**Session VIII: Closing Session:**  
- Remarks by Chairpersons  
- Remarks by participants  
- Remarks by WR, WHO/Mongolia

18.00-19.00  
Dinner
Third Meeting of the
WHO Global Initiative for Emergency and Essential Surgical Care (GIEESC), Ulaanbaatar, Mongolia (Government House)
5-6 June, 2009

LIST OF PARTICIPANTS

Dr Fizan Abdullah
Assistant Professor of Surgery
Division of Pediatric Surgery
Johns Hopkins University School of Medicine
600 N Wolfe Street Harvey 319
Baltimore, MD 21287 USA
Tel: +1410 955 1983
Fax: +1410 502 5314
E-mail: fa@jhmi.edu

Dr Lubna Quazi Abdullah
Resident in Pediatrics
Johns Hopkins University School of Medicine
600 N Wolfe Street Harvey 319
Baltimore, MD 21287 USA
Tel: +1410 955 1983
Fax: +1410 502 5314
E-mail: lubnaquazi@hotmail.com

Professor Munkhtogoo Baatar
Senior Lecturer
Department of Surgery №1
Health Sciences University, Mongolia
Tel: +976 997 37113
E-mail: bntogoo@yahoo.com

Dr Shijirbaatar Batbayar
Anaesthesiologist, General Hospital
Tel: +976 991 40513
Fax: +976 114 58091
E-mail: ninjeee_1943@yahoo.com

Dr Delgermaa Battumur
Officer in Charge of Health Care
National Emergency Management
Agency Ulaanbaatar Mongolia
Tel: +976 112 63568
E-mail: delgermaa16@yahoo.com

Bulgan Aimag
Mongol
Tel: +976 991 10572
Fax: +976 013 422275

Dr Nyamkhuu Baljaa
Anaesthesiologist, General Hospital
Uvs Aimag
Mongolia
Tel: +976 994 52755
E-mail: nyamka1975@yahoo.com

Dr Enkhbolor Batmunkh
Surgeon, General Hospital
Khentii Aimag
Mongolia
Tel: +976 995 68861

Dr Munkhbat Batmunkh
Deputy Director of Health Project
Millennium Challenge Account
Sukhbaatar District, Ulaanbaatar
Mongolia
Tel: +976 701 21024
Fax: +976 701 21023
E-mail: munkhbatb@mca.mn

Dr Oyuntsetseg Batsuuri
Head of Anesthesia and Emergency Care
Central Armed Forces Hospital
Bayanzurkh District

Dr Besain Bulan
Surgeon, General Hospital
Bayan-Ulgii Aimag
Mongolia
Tel: +976 994 29203
E-mail: beisen55@yahoo.com
Dr Daurjan Bayagabil
Anaesthesiologist, General Hospital
Bayan-Ulgii Aimag, Mongolia
Tel: +976 994 29117

Dr Ariunbold Bazarsad
Surgeon, General Hospital
Darkhan Uul Aimag, Mongolia
Tel: +976 998 71771
E-mail: ariuka_lida@yahoo.com

Ms Janeil Belle
Duke University School of Medicine
38 Forest Green Drive
Durham, NC 27705 USA
Tel: +1 321 431 2620
E-mail: jmb43@duke.edu

Dr Dolgormaa Begjjav
Anaesthesiologist, General Hospital
Govi-Altai Aimag
Mongolia
Tel: +976 990 10114
E-mail: sansar73@yahoo.com

Ms Amartuvshin Bor
Nurse UN Dispensary
Ulaanbaatar
Mongolia
Tel: +976 991 19317
E-mail: amartuvshin@undp.org

Dr Lkhagvasuren Damba
Surgeon, General Hospital
Bulgan Aimag
Mongolia
Tel: +976 112 2533

Dr Sodbileg Dambatseren
Anaesthesiologist, General Hospital
Darkhan Uul Aimag
Mongolia
Tel: +976 993 78890
E-mail: sodbileg_2006@yahoo.com

Dr Naranbaatar Davaa
Surgeon, General Hospital
Govisumber Aimag
Mongolia
Tel: + 976 992 32621 or 966 76623

Dr Batbayar Byambaa
Anaesthesiologist, Regional Diagnostic Treatment Center in Orkhon Aimag
Mongolia
Tel: +976 993 56007

Dr Bayarmaa Chinbaatar
Officer in Charge of Emergency Medical Services, Division of Medical Care Policy Implementation and Coordination Ministry of Health
Mongolia
Tel: +976 112 63846
Fax: 976 113 20912
E-mail: chin ba88@yahoo.com

Dr Altantuul Choidiikhuu
Anaesthesiologist, General Hospital
Tuv Aimag
Mongolia
Tel: + 976 980 99993
E-mail: altantuul_ch@yahoo.com

Mr Todd Collins
Swanson Family Foundation
3523 West 5225 South Ray
UT 84067
USA
Tel: +1 801 985 1570
E-mail: paletoad1@msn.com

Professor Sandro Contini
Department of Surgical Sciences
University of Parma
Strada S. Eurosia 45/B
43100 Parma
Tel: +39 348 5656989
Fax: +39 0521 940125
E-mail: sandro.contini@unipr.it
Dornogovi Aimag
Mongolia
Tel: 976-99084093
E-mail: baagii_77_09_16@yahoo.com

Dr Ganbold Galsannamjil
Anaesthesiologist, General Hospital
Khotent Aimag
Mongolia
Tel: +976 995 65585
E-mail: herlen445us@yahoo.com
Dr Tserenbadam Davaa  
Surgeon, General Hospital  
Khovd Aimag  
Mongolia  
Tel: +976 994 38580  
E-mail: tseeigee2002@yahoo.com

Dr Davaasambuu Donorov  
Anaesthesiologist, General Hospital  
Umnugovi Aimag  
Mongolia  
Tel: +976 990 25399

Dr Chuluunbaatar Dorjnyambuu  
Surgeon, General Hospital  
Khuvsgul Aimag  
Mongolia  
Tel: +976 990 35489

Dr Choijilsuren Dovdonjamts  
Surgeon, General Hospital  
Selenge Aimag  
Mongolia  
Tel: +976 998 94012

Dr Battsetseg Dugerjav  
Anaesthesiologist, General Hospital  
Institute for Global Orthopedics and Traumatology, USA  
Tel: +1650 712 8927  
E-mail: froggydoc@comcast.net

Dr Oyuntsetseg Gur-Osor  
Health Department of Government Implementing Agency  
Ulaanbaatar  
Mongolia  
Tel: +976 991 3568

Dr Tsolmon Jadambaa  
Vice Minister of Health  
Ministry of Health  
Government building –VII  
Olympic street Ulaanbaatar  
Mongolia  
Tel: +976 112 67872  
E-mail: tsolmon_orth@yahoo.com

Dr Khurelbaatar Galsantavkhai  
Surgeon, General Hospital  
Dornod Aimag  
Mongolia  
Tel: +976 995 89535

Dr Battsetseg Dugerjav  
Anaesthesiologist, General Hospital  
Dornogovi Aimag  
Mongolia  
Tel: + 976 990 84093  
E-mail: baagii_77_09_16@yahoo.com

Dr Ganbold Galsannamjil  
Anaesthesiologist, General Hospital  
Khentii Aimag  
Mongolia  
Tel: + 976 995 65585  
E-mail: herlen445us@yahoo.com

Dr Khurelbaatar Galsantavkhai  
Surgeon, General Hospital  
Dornod Aimag  
Mongolia  
Tel: +976 995 89535

Dr Ganchimeg Gomboo  
Anaesthesiologist, General Hospital  
Zavkhan Aimag  
Mongolia  
Tel: +976 994 60658

Dr Richard Gosselin  
Orthopedic Surgeon  
Dr Beat Kehrer  
Team Leader of Swiss Surgical Team  
Tutilostrasse 5 CH-9011 St. Gallen  
Switzerland  
Tel: +4171 223 5969  
Fax: +4179 219 89 2510  
E-mail: kehrer@swissonline.ch

Dr Pascience Laurent Kibatala  
Assistant Director of St Francis Hospital  
Ministry of Health and Social Welfare  
PO Box 9083, Dar-es-salaam  
Tanzania  
Tel: +255 784 381231  
E-mail: plkibatala@yahoo.co.uk
Dr Enkhchimeg Jamsran
Anaesthesiologist, General Hospital
Dornod Aimag
Mongolia
Tel: +976 995 89027
E-mail: enkhchimegj@yahoo.com

Dr Nyamaa Janchiv
Anaesthesiologist, General Hospital
Arkhangai Aimag
Mongolia
Tel: +976 993 39574
E-mail: nyamaa_33@yahoo.com

Dr Chinburen Jigjidsuren
Head of Hepatopancreatic Surgery
Department, National Cancer Research Center, Bayanzurkh District, Ulaanbaatar
Mongolia
Tel: +976 114 50043
E-mail: chburan@hotmail.com
Tel: +976 995 25968
E-mail: lham_bayaraa@yahoo.com

Dr Munkhtsetseg Lkhamsuren
Anaesthesiologist, General Hospital
Uvurkhangai Aimag
Mongolia
Tel: +976 993 20287

Dr Michel Loots
General Manager
Human Info NGO
Oosterveldlaan 196
B-2610 Antwerpen
Belgium
Tel: +32 3 440 54 59
Fax: +32 3 449 75 74
E-mail: mloots@humaninfo.org

Dr Ganbold Lundeg
Senior Lecturer
Department of Surgery №1
Health Sciences University
Mongolia
Tel: +976 991 45624
E-mail: ganboldl@yahoo.com

Dr Adam Kushner
Director of Society of International Humanitarian Surgeons
36 Graham Street Alpine NJ 07620
USA
Tel: +1917 697 4040
E-mail: adamkushner@yahoo.com

Professor Mohamed Labib
Chairman Education Committee
College of Surgeons of East Central and South Africa University of Zambia
5499 Lunsmfwa Road Kalundu,
Lusaka, PO Box 33982
Zambia
Tel: +260 211 293827 or +260 977 772 2 44
E-mail: labib@zamtel.zm

Dr Gankhuyag Lkhagvaa
Surgeon, General Hospital
Uvs Aimag
Mongolia
Tel: +976 994 58348

Dr Bayarsaikhan Lkhamsuren
Surgeon, General Hospital
Dornogovi Aimag
Mongolia

Dr Abraham Endeshaw Mengistu
Assistant Director of the Hospital Care Team
Medical Services Directorate
Federal Ministry of Health
PO Box 55572
Ethiopia
Tel: +251 922 6375
E-mail: abrahamend08@yahoo.com

Dr Mwawi Mwale
Mzimba District Hospital
Ministry of Health PO Box 1691
Lilongwe Mzimba
Malawi
Tel: 265 0999801478
E-mail: mwawi@hotmail.com
Dr Davaa Magsar  
Surgeon, General Hospital  
Arkhangai Aimag  
Mongolia  
Tel: 976-99738279

Dr Battuvshin Majigsuren  
Director, Regional Diagnostic Treatment Center in Orkhon aimag  
Mongolia  
Tel: +976 993 63036

Dr Ganbold Mijiddorj  
Anaesthesiologist, General Hospital  
Khuvsgul Aimag  
Mongolia  
Tel: +976 993 89416 or 993 82367  
Tel: 976-99772345  
E-mail: bikhaa27@yahoo.com

Professor Martin Oberholzer  
Vice-Chairman  
Department of Pathology of the University Hospital CH-4031 Basel  
Switzerland  
Tel: +41 61 265 2525  
Fax: +41 61 265 3134  
E-mail: moberholzer@uhbs.ch

Dr Ganzorig Oidov  
Anaesthesiologist, General Hospital  
Selenge Aimag  
Mongolia  
Tel: +976 992 44041

Dr Sergeelen Orgoi  
Head, Department of Surgery №1  
Health Sciences University  
Mongolia  
Tel: +976 991 14004  
E-mail: sergeelen1958@yahoo.com

Dr Raymond Richard Price  
Swanson Family Foundation  
1923 E Browning Ave Salt Lake City  
Utah 84108  
USA  
Tel: +1801 581 9834  
E-mail: rayrprice@comcast.net

Dr Gary Myers  
Surgeon Advisor  
Medecins Sans Frontieres-Swiss  
Taborstrasse Vienna A-1020  
Austria  
Tel: +43 409 7276 61  
Fax: +43 409 7276 40  
E-mail: gary.myers@vienna.msf.org

Professor Baasanjav Nachin  
Head of National Mongolian Association of Surgeons  
Shastin Clinical Hospital Ard-Ayush Street-1  
Bayangol District Ulaanbaatar  
Mongolia  
Tel:+976 116 87902

Dr Davaanyam Namsraijav  
Surgeon, General Hospital  
Bayankhongor Aimag  
Mongolia  
Tel: +976 992 65353

Dr Bikhanzragchaa Nanjid  
Surgeon, General Hospital  
Tuv Aimag  
Mongolia

Dr Erdene Sandag  
Senior Lecturer  
Department of Surgery №1  
Health Sciences University  
Mongolia  
Tel: +976 991 44556  
E-mail: serdene999@yahoo.com

Dr Enkhbayar Sangi  
Anaesthesiologist, General Hospital  
Bayankhongor Aimag  
Mongolia  
Tel: +976 994 49189

Dr Amarsaikhan Sanjaajamts  
Lecturer Department of Surgery №1  
Health Sciences University  
Mongolia  
Tel: +976 991 80030  
E-mail: amara_san@yahoo.com
Dr Peter Reemst  
Consultant Surgeon Dutch Society  
Tropical Surgery  
Berg 82 5671 ce nuenen  
Netherlands  
E-mail: p.reemst@onsnet.nu

Dr Munkhbayar Regzen  
Surgeon Bor-Undur Intersoum Hospital  
Khtitii Aimag  
Mongolia  
Tel: +976 958 94830  
E-mail:munkhbayar_regzen@yahoo.com

Dr Mendsaikhan Sharav  
Surgeon, General Hospital  
Govi-Altai Aimag  
Mongolia  
Tel: +976 994 89454

Dr. Lawrence M. Sherman  
Clinical Coordinator College of Medicine  
PO Box 1018  
University Of Liberia  
Monrovia, Liberia  
Tel: +231 657 861

Dr Kunchala Michael Shyamprasad  
Chancellor, Martin Luther Christian University, Meghalaya  
S14 Anna Nagar Chennai-600040  
Tel: 009 144 2632454  
E-mail: lutheranuniverse@gmail.com

Professor Mohan de Silva  
Professor of Surgery  
Head of the Department  
Faculty of Medical Sciences  
University of Sri Jayawardenepura  
Nugegoda Ministry of Health Colombo  
Sri Lanka  
Tel: +94 777 314693  
E-mail: thathya.ds@gmail.com

Dr Uulziijargal Sodnomdarjaa  
Anaesthesiologist, General Hospital  
Dundgovi Aimag  
Mongolia  
Tel: +976 997 34775

Dr Jochen Schmidt  
Senior Consultant Prehospital  
Emergency Care, EPOS Health Management GmbH  
Germany  
Tel: +49 608 1448590, + 496081  
Fax: +49 608 1448589  
E-mail: jochen.schmidt@transmedix.info

Dr Enkhbat Shagisuren  
Director of Medical Care Policy Implementation and Coordination  
Division Ministry of Health  
Mongolia  
Tel: +976-11-263757  
E-mail: enkhbat@moh.mn

Dr Battur Shajinbadrakh  
Surgeon, General Hospital  
Zavkhan Aimag, Mongolia  
Tel: +976-99084810  
E-mail: turoo.shhd@yahoo.com

Dr Gerelt-Od Sugar  
Surgeon, General Hospital  
Dundgovi Aimag, Mongolia  
Tel: +976 982 12099

Dr Breena Taira  
ECRIP Research Fellow  
Department of Emergency Medicine  
Stony Brook University Medical Center  
HSC L4, 080 Stony Brook, NY 11794-8350  
Tel: +1 631 444 8351  
E-mail: btaira@notes.cc.sunysb.edu

Ms Bolormaa Tsagaan  
Nurse of Anesthesia  
Central Armed Forces Hospital  
Bayanzurkh District  
Dandar Street Ulaanbaatar, Mongolia  
Tel: +976 992 90036  
Fax: +976 114 58091

Dr Gankhuu Tseekhuu  
Director City Health Department  
Ulaanbaatar  
Mongolia  
Tel: +976 113 20981  
Fax: +976113 25076  
E-mail: info@ub.ehoc.mn
Dr David Andrew Spiegel  
Pediatric Orthopaedic Surgeon  
Division of Orthopaedic Surgery  
Children's Hospital of Philadelphia  
2nd Floor Wood Building 34th Street and Civic Center Blvd  
Philadelphia, PA 19104  
USA  
Tel: +1215 590 1524  
E-mail: spiegeld@email.chop.edu

Dr Eshi N. Tsibikov  
Director of the Buryat Branch  
Honoured Doctor of Buryatia and Russia  
Scientific Centre of Reconstructive and Recovering Surgery ASSC SD RAMS  
Republic of Buryatia Ulan-Ude 12 Pavlov Street Russian Federation  
Tel: +3012 43 62 03

Dr Enkh-Amgalan Tsiregzen  
Surgeon Hepatopancreatic Surgery  
Department, National Cancer Research Center, Bayanzurkh District, Ulaanbaatar  
Mongolia  
Tel: +976 881 10168  
E-mail: dr_enkhamgalan@yahoo.com

Dr Bolormaa Tugsuu  
Director Baganuur District Hospital  
Ulaanbaatar  
Mongolia  
Tel: +976 990 80185  
E-mail: info@bnemn.ehoc.mn

Dr Batsaikhan Tushigtsoodol  
Surgeon, General Hospital  
Uvurkhangai Aimag  
Mongolia  
Tel: +976 993 26237

Dr Munkhtuya Vaanchig  
Surgeon, General Hospital  
Sukhbaatar Aimag  
Mongolia  
Tel: +976 505 10848  
E-mail: muugii0848@yahoo.com

Dr Ravdanjamts Tsevel  
Surgeon, General Hospital  
Umnugovi Aimag  
Mongolia  
Tel: +976 995 39234

Dr Altannavch Tsevegjav  
Physician UN Dispensary  
Ulaanbaatar  
Mongolia  
Tel: +976 991 14861  
E-mail: altannavch.tsevegjav@undp.org

Dr Bagsansuren Yansan  
Anaesthesiologist, General Hospital  
Sukhbaatar Aimag  
Mongolia  
Tel: +976 995 19531

WHO

Dr Tsogzolmaa Bayandorj  
National Professional Officer  
WHO Representative Office  
Government Building –VII  
Olympic Street Ulaanbaatar  
Mongolia  
Tel: +976 990 38030  
E-mail: bayandorjt@wpro.who.int

Dr Meena Nathan Cherian  
Emergency and Essential Surgical Care Project Unit  
Department of Essential Health Technologies  
Switzerland  
Tel: +41 22 791 4011  
Fax: +41 22 791 4836  
E-mail: cherianm@who.int

Dr Angar Dashnyam  
Secretary  
WHO Representative Office  
Government Building –VII  
Olympic Street Ulaanbaatar  
Mongolia  
Tel: +976 951 89705  
E-mail: dashnyama@wpro.who.int
**Dr Buyanjargal Yadamsuren**  
Officer in Charge of Policy Coordination on Midwifery and Gynecological Care and Service Ministry of Health Mongolia  
Tel: +976 991 90750  
E-mail: buyanjargal@moh.mn  
Olympic Street Ulaanbaatar, Mongolia  
Tel: +976 113 25701

**Dr Bakary Tijan Jargo**  
National Professional Officer  
WHO Representative Office  
Kotu Layout PMB 170 Banjul Gambia  
Tel: +220 9927713  
E-mail: jargob@gm.afro.who

**Dr Luc Noel**  
Coordinator, Clinical Procedures Unit  
Department of Essential Health Technologies WHO/HQ  
Tel: +41 22 791 3681  
Fax: +41 22 791 4836  
E-mail: noel@who.int

**Ms Ariunaa Puntsagdulam**  
Administrative Assistant  
WHO Representative Office  
Government Building –VII  
Olympic Street Ulaanbaatar Mongolia  
Tel: +976 11450152 Ext.1002  
E-mail: puntsagdulama@wpro.who.int

**Dr Wiwat Rojanapithayakorn**  
WHO Representative in Mongolia  
WHO Representative Office  
Government Building –VII  
Olympic Street Ulaanbaatar Mongolia  
Tel: +976 113 28202  
Fax: +976 113 24683  
E-mail: wiwatr@wpro.who.int

**Dr. Olive Sentumbe-Mugisa**  
National Professional Officer  
WHO Uganda Office  
+256 414 335515  
E-mail: sentumbweo@who.int

**Dr. Lynda Foray, MD MPH**  
National Professional Officer  
WHO Sierra Leone  
PO Box 529 21 A/B Riverside drive  
Freetown, Sierra Leone

**Dr Salik Ram Govind**  
Public Health Specialist  
WHO Representative Office  
Government Building –VII

**Dr Nagi Shafik**  
Technical Officer  
WHO Representative Office  
Munsundong Pyongyan DPR Korea  
Tel: +850 2 3817 913  
Fax: +850 2 3817 916  
E-mail: shafikn@searo.who.int

**Dr Enkhtsetseg Shinee**  
National Professional Officer  
WHO Representative Office  
Government Building –VII  
Olympic Street Ulaanbaatar Mongolia  
Tel: +976 990 09299  
E-mail: shineee@wpro.who.int

**Dr Asadullah Taqdeer**  
Technical Officer  
WHO Representative Office  
UNOCA Compound Jalalabad Road Pulicharkhi Kabul, Afghanistan  
Tel: +937 9976 1066 Ext.2317  
E-mail: taqdeera@afg.emro.who.int

**Dr Hans Anders Troedsson**  
WHO Representative in China  
401 Dongwai Diplomatic Office Building 23 Dongzhimenwai Dajie Chaoyang District Beijing 1000600, China  
Tel: +8610 653 27189  
Fax: +8610 653 22359  
E-mail: troedssonh@wpro.who.int
Background

The Pre-GIEESC program was held on June 4, 2009 to provide a cultural, geographical, and medical context to the challenges and achievements in delivering EESC in Mongolia. Mongolia was among the first countries to join and implement the WHO Emergency and Essential Surgical Care (EESC) project and address the lack of adequate capacities for emergency and essential surgical and anaesthesia interventions at the primary health care facilities (soum, intersoum, and aimag hospitals). The first Joint WHO/MoH Training of Trainers workshop was held in Ulaanbaatar in May 2004. The WHO Surgical Care at the District Hospital manual (SCDH), Best Practice Protocols for Clinical Procedures Safety and the WHO Integrated Management of Emergency and Essential Surgical Care toolkit\(^1\) were translated into Mongolian for dissemination and utilization in health facilities and training workshops. Intensive training efforts contributed to a reduction in complications and deaths after emergency surgical and trauma procedures and an improvement in equipment and instrument supplies in Mongolian hospitals at all levels.

\(^1\) available at www.who.int/surgery/publications/imeesc/
Field Visit

Participants visited the Baganur District Hospital to understand the implementation of the Integrated Management for Emergency and Essential Surgical Care (IMEESC) at the soum level. Baganur District Hospital, a 135 bed facility, is located in the district of Baganuur, 140 km from the capital city, Ulaanbaatar. It has five clinical departments: surgery, pediatrics, obstetrics and gynecology, neurology and internal medicine. Emergency care, birth delivery, and elective surgery is provided for roughly 26,000 people which includes the entire district population as well as eight bordering soums in Tuv and Khentil provinces. Four specialized surgeons and four anesthesiologists are employed full time at the hospital.

Since 2004, district and soum medical staffs have been trained in emergency and essential surgical care procedures using the WHO-IMEESC toolkit. A total of 42 health workers have been trained at Baganur District Hospital.

The delegates and participants of the Third Meeting of the WHO Global Initiative for Emergency and Essential Surgical Care (GiEESC) were accompanied by Bagnur Hospital officials, representatives from the Ministry of Health, WHO Mongolia, and WHO HQ Geneva during the visit to the hospital. The site visit was arranged to provide context for the evaluation of the Monogolia WHO-EESC Project through first-hand demonstration of achieved results and impact on the delivery of health care. Participants viewed ambulance care equipment, such as portable oxygen bags (Figure 1), toured a triage area with color-coded patient grading system (Figure 2), surveyed the upgraded emergency room with cabinets for the storage of labelled acute care medications (Figure 3), and examined a postoperative/intensive care ward with oxygen delivery and electronic patient monitoring capabilities.

Discussion

After the tour of the facilities, Dr. T Bolormaa, Director of Baganur District Hospital, reported on surgical and trauma needs, capacity of the hospital, and improvements facilitated by the EESC training project (Figure 4). Goals achieved after the beginning of the WHO EESC project in 2004 include:

- Establishing and equipping an emergency room in accordance with the WHO Essential and Emergency Equipment List
- Improved record-keeping
- Increased access to emergency equipment and supplies
- Reduction of peri-operative complications decreased threefold since 2005
- Reduction of hospital-acquired infections (HAI) decreased by 32%.

Challenges remain, however, such as the lack of ventilators, intubation kits, and patient monitors, standard ambulance truck that would permit transport of patients in the supine position, ambulance support staff, and community health educational programmes. Furthermore, a fatal mass methanol poisoning on New Year's Eve 2007-2008 and the increasing incidence of road accidents over the past two years have highlighted the necessity for adequate trauma and acute care resources. The later trend is of great concern to the hospital as the use of roads has increased due to the renovation of the local highway. Future goals of Bagnur Hospital were defined and include the following:

- Improve the capacity building of doctors in intensive care
- Provide wider distribution of WHO SCDH and WHO IMEESC toolkits
- Improve work safety conditions of health workers at workplace.
- Provide continuing medical education
1. Opening Session

Dr. N. Khurelebaatar, State Secretary of the Ministry of Health opened the Post-GIEESC Conference. Dr. R Wiwat, WHO/Mongolia welcomed the participants. Dr. M. Cherian, WHO/HQ, delivered an overview of the Post-GIEESC conference. The Post-GIEESC conference is a scientific session following the final day of the WHO GIEESC Meeting. The conference invites presentations, scientific papers, and lectures on country experiences related to fields of emergency medicine, anaesthesia, and surgery. Following each scientific session, discussions are held. This particular scientific conference concluded with an action plan session for Mongolia.

Scientific session chairman Dr. Ts. Lkhagvasuren, President of the Health Science University Mongolia (HSUM) gave remarks commending efforts over the past two years training health care professionals in rural parts of Mongolia and encouraged future work in the provision of emergency, anaesthesia, and essential surgical care in Mongolia.

2. Scientific Session I: Capacity Building of Rural Health Care Workers on Emergency and Essential Surgical Care

The session commenced with an overview of the HSUM medical undergraduate and postgraduate training program by Dr. Kh. Altaisaikhan. Challenges in developing a program to adequately prepare
residents for speciality work were discussed along with considerations to lengthen the current 1.5 year residency training period, in order to be comparable in length with other surgical and anaesthesia training programs globally.

The Rural Surgery residency training program in India was introduced by Dr. KM Shyamprasad as a possible pedagogical model for preparing surgical trainees to work in rural settings. The program has incorporated WHO-Integrated Management for Emergency and Essential Surgical Care (IMEESC) toolkit components\(^1\) into curricular modules and utilizes the *WHO Surgical Care at the District Hospital* manual.

An interactive session on telemedicine tools was presented by the Swiss Surgical Team which included a demonstration of the technology and discussion on the utility of telemedicine support and education led by Dr. M. Oberholzer and Dr Beat Kehrer from the Swiss Surgical Team (International College of Surgeons). Dr. A. Rotzer provided a review of training surgeons for three years at aimag hospitals through partnerships with the MoH, HSUM, and WHO.

Surgical and anesthesia capacity in eight low-and middle-income countries based on the WHO Tool for Situational Analysis to Assess Emergency and Essential Surgical Care\(^2\) was presented by Dr. D Spiegel. Major deficiencies, across all countries studied, in basic and emergency care and surgical infrastructure: electricity, water, and oxygen supplies and lack of HIV personal protective equipment were revealed and presented as a significant barrier in achieving the Millenium Development Goals (MDG) 4,5, and 6.

3. Scientific Session II: Infection Control Measures in GIEESC towards patient safety

This session presented a review of the morbidity, mortality, and economic impact of hospital-acquired infections by Dr. G. Drack. Institutional challenges and initiatives on patient safety and infection control procedures in Russia were later shared by Dr. E. Tsybikov, followed by an evaluation of a peroperative infection control teaching program at 7 facilities in Mongolia by Mr. T.


\(^2\) [http://www.who.int/surgery/publications/QuickSitAnalysisEESCsurvey.pdf](http://www.who.int/surgery/publications/QuickSitAnalysisEESCsurvey.pdf)
Collins. Dr. J. Bärtschi outlined patient safety concerns and emphasized that standardized medical procedures and structured mechanisms for basic drugs and medical equipment were fundamental steps towards improving patient safety in Mongolia. Dr. B. Tumurbat described achievements in hand washing compliance the implementation of hand hygiene training programme and plans for promotion of alcohol-based hand rub solution.

4. Scientific Session III: Lessons Learnt from Countries on GIEESC

Dr. G. Myers discussed the need for and application of IMEESC tools in high-trauma areas and regions of unrest served by Médecins Sans Frontières Surgery. Ms. SK Chynoweth described how the incidence of domestic and gender based violence increases in times of economic instability and war and accounts for more death and disability among women ages 15 to 44 than cancer, malaria, traffic injuries and war. She stressed that 99% of maternal deaths are preventable and that the over 70 million displaced persons worldwide (75% of which are women and children) have a right to access to basic reproductive, emergency, and surgical care.

Following a lecture on the implementation of IMEESC at Orkon Aimag by Dr. M. Battuvshin, session participants witnessed improvements as shown in a documentary film of Orkhon Aimag Hospital in Erdenet.

Dr. D Ganbold presented a comprehensive evaluation of WHO EEESC project which was started in five aimags and later expanded to 10 aimags at the request of the MoH. The project was initiated to strengthen and improve coverage of emergency and essential surgical care in Mongolia. A study was undertaken to assess the impact of WHO IMEESC training on quality of care provided at aimag and soum-level health facilities using the WHO Monitoring and Evaluation Form, adapted for Mongolia. After training, significant improvements in the number of designated emergency rooms, emergency drug reserves, and essential instruments and supplies (i.e. artificial respirators, nasopharyngeal tubes, splints, and compression bandages.) were observed. Improvements included increased operative case load, more frequent use of analgesia, greater adoption of emergency guidelines, and reductions in perioperative mortality and post-appendectomy complication rates during the period 2004-2007.

5. Scientific Session IV: GIEESC and Clinical Practice

The focus shifted to clinical issues in emergency and surgical care in low-resource areas in the final session. Treatment outcomes for the Ponsetti method to treat congenital clubfoot in children
under the age of six in Nepal were shared by Dr. D Spiegel. Dr. Kh. Oyuntsetseg discussed the benefits of an endoscopic approach for the management of foreign body obstruction and acute gastrointestinal bleeding at speciality endoscopic centers in Mongolia as well as the utility in peripheral settings.

6. Closing Session & Conclusions
The Post-GIEESC session concluded with the following recommendations:

i. Capacity Building
   - Comprehensive assessment of undergraduate and postgraduate training is required with a focus on a need for rural surgical, anesthetic, and emergency care
   - A working group consisting of HSUM, MoH and relevant partners should be formed immediately
   - Develop a proposal for training assessment with budget to be submitted to MOH to mobilize funding resources and technical expertise
   - Based on findings and recommendations an action plan should be developed.

ii. Infection Control Measures
   - Create a working group on infection control measures in EESC with members from the MoH, HSUM, professional societies, and National Center for Communicable Diseases (NCCD)
   - Develop and implement action plan with budget

iii. Lessons learnt from GIEESC countries
   - Develop a proposal to create an emergency response team in UB comprised of a surgeon, anesthesiologist, traumatologist, obstetrician, ambulance, disaster management team, MoH
   - MoH should allocate budget for emergency response, for response team, planes and helicopters when needed
   - Develop a plan of action for implementation of IMEESC in all soums, aimags, and districts
   - Develop an information system base on SAM integrated with national health information system.

iv. GIEESC and Clinical Practice
   - Issues and challenges identified during presentation
     - Limited access for upgrading knowledge on best practice
     - PHW limited access to participate in annual and other professional meetings
   - Professional societies need to focus more on best practice training in limited resources area for EESC
   - PHC workers need to have motivation to upgrade their knowledge and practice based on best practice
Third Meeting of the
WHO Global Initiative for Emergency and Essential Surgical Care (GIEESC)
Ulaanbaatar, Mongolia

Post GIEESC Conference
7 June 2009, Chinggis Khaan Hotel

8:30-9:00am  Opening Ceremony
Opening remarks: Dr. N. Khurelbaatar, State Secretary, MoH Mongolia
Dr. R. Wiwat, WHO Representative in Mongolia

Welcome/Introduction: Dr. M. Cherian, Emergency and Essential Surgical Care, Clinical Procedures Unit, WHO/HQ Geneva

9:00-10:15am  Session I: Capacity Building of Rural Health Care Workers on Emergency and Essential Surgical Care
Chair: Prof. Lkhagvasuren, President, Health Science University of Mongolia

"Challenges in Undergraduate and Postgraduate Education on Essential Surgical Care in Mongolia"
Dr. Kh.Altaisaikhan, Vice President of Clinical Affairs, HSUM
Dr. O. Sergelen, Head of Department of Surgery, HSUM

"Building a Telemedicine Network"
Prof. M. Oberholzer, Swiss Surgical Team

"Experiences in Training Surgeons from Aimag Hospitals in Mongolia"
Dr. A. Rotzer
Swiss Surgical Team

"Essential Surgery and Anesthesia in Eight Low and Middle Income Countries"
Dr. D. Spiegel, Pediatric Orthopaedic Surgeon, Childrens' Hospital of Philadelphia

"Rural Surgery, an Innovative Surgical Training Programme in India"
Dr. KM. Shyamprasad, Vice President, National Board of Examinations

10:15-10:45am  Discussion

10:45-11:00 am  Tea Break

11:00-12:20pm  Section II: Infection Control Measures in GIEESC towards patient safety
Chair: Dr. B. Kehrer, Swiss Surgical Team Leader

"Impact and Prevention of Hospital Associated Infections in Healthcare Facilities in Mongolia"
Dr. G. Drack, Swiss Surgical Team
"Infection Control Measures and Procedures during Preoperative Period"
Mr. T. Collins, RN, BSN, Swanson Family Foundation
Mrs. Oyunterel, Central Clinical Hospital

"Challenges for Patient Safety in Aimag Hospitals In Mongolia"
Dr. J. Bartschi, Swiss Surgical Team

"Experience of Infection Control Measures in Health Facilities in Ulan-Ude of Russia"
Dr. E. Tsybikov, Surgeon Russia
Dr. A. Plekhanov, Surgeon, Russia

"Use of Alcohol Hand Rubs in Promotion of Hand hygiene in Health Facilities in Mongolia"
Dr. B. Tumurbat, Officer, Ministry of Health of Mongolia

12:20-1:00pm  Discussion
1:00-2:00pm  Lunch

2:00-3:00pm  Section III: Lessons Learnt from Countries on GIEESC
Chair: Dr. M Cherian, Emergency and Essential Surgical Care Programme, WHO/HQ

"Implementation of GIEESC in Orkhon Aimag"
Dr. M. Battuvshin, Director Regional Diagnostic Treatment Center, Orkhon Aimag

"Evaluation of WHO Project of Essential Surgical Care in Mongolia: Lessons Learnt"
Dr. D. Ganbold, Senior Lecturer Department of Surgery, HSUM

"Application of WHO GIEESC Tools & Forum for MSF and Surgical Activity"
Dr. G. Myers, MFS-Surgery, Austria

"Sexual and Reproductive Health in Humanitarian Settings"
Ms. S. Chynoweth, SPRINT Initiative, International Planned Parenthood Federation

3:00-3:30pm  Discussion
3:30-3:45pm  Tea Break

3:45-4:50pm  Session IV: GIEESC and Clinical Practice
Chair: Dr. O Sergelen, Head of Department of Surgery, HSUM

"Paradigm Shift in Global Clubfoot Treatment: Experiences from Nepal"
Dr. D. Spiegel, Pediatric Orthopaedic Surgeon, Childrens' Hospital of Philadelphia

"Challenges and Opportunities in Management of Gastrointestinal Bleeding Cases in Resource Limited Settings In Mongolia"
Dr. Kh. Oyuntsetseg, Department of Gastroenterology, HSUM

4:50-5:20pm  Discussion

5:20-6:00pm  Recommendations
Chair: Dr. S. Govind, WHO/Mongolia
Facilitators: Drs. Kh. Altaiskhan, HSUM and J. Chinburen, National Cancer Research Center

6:00-8:00pm  Reception Hosted by Swiss Consulate
Third Meeting of the
Global Initiative for Emergency and Essential Surgical Care

Post GIEESC Conference
7 June 2009, Chinggis Khaan Hotel
Ulaanbaatar, Mongolia

LIST OF PARTICIPANTS

Mr Todd Collins
Swanson Family Foundation
3523 West 5225 South Ray
UT 84067
USA
Tel: +1 801 985 1570
E-mail: paletoad1@msn.com

Dr Michel Loots
General Manager, Human Info NGO
Oosterveldlaan 196
B-2610 Antwerpen
Belgium
Tel: +32 3 440 54 59
Fax: +32 3 449 75 74
E-mail: mloots@humaninfo.org

Dr Beat Kehrer
Team Leader of Swiss Surgical Team
The International College of Surgeons (ICS)
Tutilostrasse 5 CH-9011 St. Gallen
Switzerland
Tel: +4171 223 5969
Fax: +4179 219 89 2510
E-mail: kehrer@swissonline.ch

Dr Abraham Endeshaw Mengistu
Assistant Director of the Hospital Care Team
Medical Services Directorate
Federal Ministry of Health
PO Box 55572
Ethiopia
Tel: +251 922 6375
E-mail: abrahamend08@yahoo.com

Dr Adam Kushner
Director of Society of International
Humanitarian Surgeons
36 Graham Street Alpine NJ 07620
USA
Tel: +1917 697 4040
E-mail: adamkushner@yahoo.com

Dr Gary Myers
Surgeon Advisor
Medecins Sans Frontieres-Swiss
Taborstrasse Vienna A-1020
Austria
Tel: +43 409 7276 61
Fax: +43 409 7276 40
E-mail: gary.myers@vienna.msf.org

Dr David Andrew Spiegel
Pediatric Orthopaedic Surgeon
Division of Orthopaedic Surgery
Children's Hospital of Philadelphia
2nd Floor Wood Building 34th Street
and Civic Center Blvd
Philadelphia, PA 19104 USA
Tel: +1215 590 1524
E-mail: spiegeld@email.chop.edu

Professor Martin Oberholzer
Vice-Chairman
Department of Pathology of the
University Hospital CH-4031 Basel
Switzerland
Tel: +41 61 265 2525
Fax: +41 61 265 3134
E-mail: moberholzer@uhbs.ch

Ms Janeil Belle
Duke University School of Medicine
38 Forest Green Drive
Durham, NC 27705 USA
Tel: +1 321 431 2620
E-mail: jmb43@duke.edu

Dr Breena Taira
ECRIP Research Fellow
Department of Emergency Medicine
Stony Brook University Medical Center
HSC L4, 080 Stony Brook, NY 11794-8350
Dr. Gero Drack  
Swiss Surgical Team  
Switzerland  
E-mail: gero.drack@kssg.ch

Dr. Raymond Richard Price  
Swanson Family Foundation  
1923 E Browning Ave Salt Lake City  
Utah 84108  
USA  
Tel: +1801 581 9834  
E-mail: rayprice@comcast.net

Dr. Eshi N. Tsibikov  
Director of the Buryat Branch  
Honoured Doctor of Buryatia and Russia  
Scientific Centre of Reconstructive and Recovering Surgery ASSC SD RAMS Republic of Buryatia Ulan-Ude 12  
Pavlov Street Russian Federation  
Tel: +3012 43 62 03

Dr. Peter Reemst  
Consultant Surgeon Dutch Society  
Tropical Surgery  
Berg 82 5671 ce nuenen  
Netherlands  
E-mail: p.reemst@onsnet.nu

Dr. Khurelbaatar Nyamdavaa  
State Secretary, Ministry of Health  
Government Building - VII  
Olympic Street Ulaanbaatar  
Mongolia  
Tel:976-11-263541  
E-mail: khurel@moh.mn

Dr. Kunchala Michael Shyamprasad  
Chancellor, Martin Luther Christian University, Meghalaya  
S14 Anna Nagar Chennai-600040  
Tel: 009 144 26432454  
E-mail: lutheranuniverse@gmail.com

Professor Mohan de Silva  
Professor of Surgery, Head of the Department  
Faculty of Medical Sciences  
University of Sri Jayawardenepura Nugeoda Ministry of Health Colombo, Sri Lanka  
Tel: +94 777 314693  
E-mail: thathya.ds@gmail.com

Professor Baasanjav Nachin  
Head of National Mongolian Association of Surgeons  
Shastin Clinical Hospital Ard-Ayush Street-1  
Bayangol District Ulaanbaatar  
Mongolia  
Tel:+976 116 8790

Dr. Bayarmaa Chinbaatar  
Office in Charge of Emergency Medical Services, Division of Medical Care Policy Implementation and Coordination Ministry of Health  
Mongolia  
Tel:976 11 263846, Fax: 976 11 320912  
E-mail: chin ba88@yahoo.com

Professor Lkhagvasuren Tserenkhuu  
President of Health Sciences University (HSU)  
Mongolia  
Tel: 976-11-328679  
E-mail: bmtogoo@yahoo.com

Dr. Erdene Sandag  
Senior Lecturer  
Department of Surgery №1  
Health Sciences University  
Mongolia  
Tel: +976 991 44556  
E-mail: serdene999@yahoo.com

Professor Munkhtogoo Baatar  
Senior Lecturer  
Department of Surgery №1  
Health Sciences University  
Mongolia  
Tel: +976 997 37113  
E-mail: bmntogoo@yahoo.com

Dr Amarsaikhan Sanjaajamts  
Lecturer Department of Surgery №1  
Health Sciences University  
Mongolia  
Tel: +976 991 80030  
E-mail: amara san@yahoo.com
Dr. Altaiskhan Khasag  
Associate Professor  
Vice President of clinical Affairs, HSU  
Mongolia  
Tel: 976-98003292  
E-mail: medicine@hsum.edu.mn

Dr Altantuul Choidiikhuu  
Anaesthesiologist, General Hospital  
Tuva Aimag  
Mongolia  
Tel: 976-98099993  
E-mail: altantuul.ch@yahoo.com

Dr Sergelen Orgoi  
Head, Department of Surgery №1  
Health Sciences University  
Mongolia  
Tel: +976 991 14004  
E-mail: sergelen1958@yahoo.com

Dr Ariunbold Bazarsad  
Surgeon, General Hospital  
Darkhan Uul Aimag, Mongolia  
Tel: +976 998 71771  
E-mail: ariuka.lida@yahoo.com

Dr Ganbold Lundeg  
Senior Lecturer  
Department of Surgery №1  
Health Sciences University  
Mongolia  
Tel: +976 991 45624  
E-mail: ganboldli@yahoo.com

Dr Battuvshin Majigsuren  
Director, Regional Diagnostic Treatment Center in Orkhon aimag  
Mongolia  
Tel: +976 993 63036

Dr Chuluunbaatar Dorjnyambuu  
Surgeon, General Hospital  
Khuvsgul Aimag  
Mongolia  
Tel: +976 990 35489

Dr Bagsansuren Yansan  
Anaesthesiologist, General Hospital  
Sukhbatar Aimag  
Mongolia  
Tel: 976-99519531

Dr Chojilsuren Dovdonjamts  
Surgeon, General Hospital  
Selenge Aimag  
Mongolia  
Tel: +976 998 94012

Dr Batbayar Byambaa  
Anaesthesiologist, Regional Diagnostic Treatment Center in Orkhon  
Mongolia  
Tel: +976-99356007

Dr Daavasambuu Donorov  
Anaesthesiologist, General Hospital  
Umnugovi Aimag  
Mongolia

Dr Batsaihan Tushigtsoodol  
Surgeon, General Hospital  
Uvurkhangai Aimag  
Mongolia  
Tel: 976-99326237

Dr Davaa Magsar  
Surgeon, General Hospital  
Arkhangai Aimag  
Mongolia  
Tel: 976-99738279

Dr Battur Shajinbadrakh  
Surgeon, General Hospital  
Zavkhan Aimag  
Mongolia  
Tel: 976-99084810  
E-mail: turoo.shhd@yahoo.com

Dr Davaanyam Namsraijav  
Surgeon, General Hospital  
Bayankhongor Aimag  
Mongolia  
Tel: +976 992 65353

Dr Battsetseg Dugerjav  
Anaesthesiologist, General Hospital  
Dornogovi Aimag, Mongolia

Dr Davaasambuu Donorov  
Anaesthesiologist, General Hospital  
Umnugovi Aimag
Dr Bayarsaikhan Lkhamsuren
Surgeon, General Hospital
Dornogovi Aimag
Mongolia
Tel: 976-99525968
E-mail: lham_bayaraa@yahoo.com

Dr Ganzorig Oidov
Anaesthesiologist, General Hospital
Selenge Aimag
Mongolia
Tel: +976 992 44041

Dr Besein Bulan
Surgeon, General Hospital
Bayan-Ulgii Aimag
Mongolia
Tel: 976-99429203
E-mail: beise55@yahoo.com

Dr Gerelt-Od Sugar
Surgeon, General Hospital
Dundgovi Aimag
Mongolia
Tel: 976-98212099

Dr Dolgormaa Begzjav
Anaesthesiologist, General Hospital
Govi-Alta Aimag
Mongolia
Tel: 976-99010114
E-mail: sansar73@yahoo.com

Dr Khurelbaatar Galsantavkhai
Surgeon, General Hospital
Dornod Aimag
Mongolia
Tel: +976 995 89535

Dr Enkhbayar Sangi
Anaesthesiologist, General Hospital
Bayankhongor Aimag
Mongolia
Tel: 976-99449189

Dr Lkhagvasuren Damba
Surgeon, General Hospital
Bulgan Aimag
Mongolia
Tel: +976 112 2533

Dr Enkhchimeg Jamsran
Anaesthesiologist, General Hospital
Dornod Aimag
Mongolia
Tel: 976-99589027
E-mail: enkhchimegj@yahoo.com

Dr Mendsaikhan Sharav
Anaesthesiologist, General Hospital
Govi-Alta Aimag
Mongolia
Tel: +976 994 89454

Dr Ganbold Galsannamjil
Anaesthesiologist, General Hospital
Khentii Aimag
Mongolia
Tel: 976-99565585
E-mail: herlen445us@yahoo.com

Dr Munkhbayar Regzen
Surgeon Bor-Undur Intersoum Hospital
Khentii Aimag
Mongolia
Tel: +976 958 94830
E-mail: munkhbayar_regzen@yahoo.com

Dr Ganbold Mijiddorj
Anaesthesiologist, General Hospital
Khuvsgul Aimag
Mongolia
Tel: 976-99389416 or 99382367

Dr Munkhtsetseg Lkhamsuren
Anaesthesiologist, General Hospital
Uvurkhangai Aimag
Mongolia
Tel: +976 993 20287

Dr Ganchimeg Gomboo
Anaesthesiologist, General Hospital
Zavkhan Aimag
Mongolia
Tel: 976-99460658
E-mail: tseejgee2002@yahoo.com

Dr Tserenbadam Davaa
Surgeon, General Hospital
Khovd Aimag
Mongolia
Tel: +976 994 38580
E-mail: tseejgee2002@yahoo.com
Dr Tsetsegmaa Myjan
Head of Emergency Unit
Baganuur District Hospital
Mongolia
Tel: 976-99887100

Dr Badamtsenseg Dunkhree
Anaesthesiologist
Mon-Mes Clinic
Khan-Uul District Ulaanbaatar
Mongolia
Tel: 976-96061242
E-mail: badma.h@yahoo.com

Dr Chinburen Jigjidsuren
Head of Hepatopancreatic Surgery
Department, National Cancer Research Center, Bayanzurkh District, Ulaanbaatar
Mongolia
Tel: 976-11-450043
E-mail: chburen@hotmail.com

Dr Mishigdorj Lkhagvasuren
Surgeon
Mon-Mes Clinic
Khan-Uul District Ulaanbaatar
Mongolia
Tel: 976-99084736
E-mail: tsende_kh@yahoo.com

Dr Drkhan Amgalan Tsiiregzen
Surgeon Hepatopancreatic Surgery
Department, National Cancer Research Center
Bayanzurkh District, Ulaanbaatar
Mongolia
Tel: 976-88110168
E-mail: dr oyunbileg@yahoo.co.uk

Dr Oyunbileg Ulziikhutag
Surgeon
Mon-Mes Clinic
Khan-Uul District Ulaanbaatar
Mongolia
Tel: 976-11-379266
E-mail: oyunbileg@yahoo.com

Dr Baldar Chogsom
Dandar Street Ulaanbaatar
Bayanzurkh District
Central Armed Forces Hospital
Senior Adviser of Surgery
Mongolia
Tel: 976-99893059, Fax: 976-11-453674
E-mail: dr_enkhamgalan@yahoo.com

Dr Ganchimeg Darmaa
Deputy Director Surgery Clinic
Maternal and Child Health Research Center Bayangol District
Ulaanbaatar
Mongolia
Tel: 976-11-360951

Ms Bolormaa Tsagaan
Nurse of Anesthesia
Central Armed Forces Hospital
Bayanzurkh District
Dandar Street Ulaanbaatar
Mongolia
Tel: 976-99290036, Fax: 976-11-458091

Dr Tsengjav Ayushman
Head, Department of Pediatric Surgery
Maternal and Child Health Research Center Bayangol District
Ulaanbaatar
Mongolia
Tel: 976-11-362715

Dr Jargalbadrakh Lkhamjav
Head of Surgical Clinic
Central Armed Forces Hospital
Dandar Street, Ulaanbaatar Mongolia
Bayanzurkh District

Dr Narantsend Sharav
Surgeon
Bayanzurkh District Hospital
Ulaanbaatar, Mongolia
Tel: 976-99918690
E-mail: narantsend_sharav@yahoo.com

Dr Altan-Undrakh Bazargarid
Anaesthesiologist
Mon-Mes Clinic
Khan-Uul District Ulaanbaatar
Mongolia
Tel: 976-11-379266
E-mail: umdrab2007@yahoo.com

Ms Oyungerel Subid
Nurse
Central Clinical Hospital

Dr Tsendjav Ayushman
Head, Department of Pediatric Surgery
Maternal and Child Health Research Center Bayangol District
Ulaanbaatar
Mongolia
Tel: 976-11-362715

Dr Tselmon Gundchanba
Surgeon
Khan-Uul District Hospital
Ulaanbaatar
Mongolia
Tel: 976-99160010

Dr Erdenechimeg Jugder
Surgeon
Bayangol District Hospital
Sukhbaatar District Ulaanbaatar
Mongolia
Tel: 976-88110629
E-mail: s.oyuna0629@yahoo.com

Dr Bira Namdag
Head of Department Gastroenterology and Hepatology HSU
Mongolia
Tel: 976-91928400
E-mail: bira60200@yahoo.com

Dr Oyunsetseg Khasag
Lecturer of Department Gastroenterology and Hepatology HSU
Mongolia
Tel: 976-99810180
E-mail: k_oyuntsetseg@yahoo.com

Dr Tsolmon Muugulug
Head of Section Nosocomial Infection
National Center of Communicable Diseases
Bayanzurkh District Ulaanbaatar
Mongolia
Tel: 976-99702944 or 96695009
E-mail: tsoube@yahoo.com

Ms Anandra Navgan
Nurse of Surgery
Department of Pediatric Surgery
Maternal and Child Health Research Center

Dr Oyun Dorj
Surgeon
Iven Private Clinic
Sukhbaatar District Ulaanbaatar
Mongolia
Tel: 976-91911090
Fax: 976-11-455684

Dr Amarjargal Yadam
Vice Director of Medical Care Policy Implementation and Coordination Division Ministry of Health, Government Building –VII Olympic Street Ulaanbaatar, Mongolia
Tel: 976-99030894
E-mail: yamarjargal@yahoo.com

Mongolia
Ulaanbaatar
E-mail: erdenechimeg_jugder@yahoo.com
Tel: 976-99798535

Kharkhorin Soum Uvurkhangai Aimag
Mongolia
Tel: 976-99011058
E-mail: byambatsend.d@gmail.com
byanku0808@yahoo.com

Dr Nyamдорж Содном
Surgeon
Chingeltei District Hospital
Ulaanbaatar
Mongolia
Tel: 976-99821384

Dr Batkhishig Tsoloo
Anaestheologist and Intensive Care Doctor
SOS Medica UB International Clinic
Mongolia
Fax: 976-11-454537
Tel: 976-91913122
E-mail: marketing@sosmedica.mn

Dr Altangerel Byambaa
Head, Department of Surgery
Shastin Clinical Hospital Ulaanba
Mongolia
Tel: 976-11-687903

WHO

Dr Wiwat Rojanapithayakorn
WHO Representative in Mongolia
WHO Representative Office
Government building –VII Olympic Street Ulaanbaatar
Mongolia
Tel: 976-11-328202
Fax: 976-11-324683
E-mail: wiwatr@wpro.who.int

Dr Meena Nathan Cherian
Emergency and Essential Surgical Care Department of Essential Health Technologies
WHO/HQISS/EHT/CPR
Tel: +41 22 791 4011
Fax: +41 22 791 4836
E-mail: cherianm@who.int