Report Facilitators Meeting

Joint WHO Meetings with Ministry of Health towards a Standardized Emergency and Essential Surgical Training in Malawi

28 - 30 March 2006

Lilongwe and Blantyre, Malawi
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1. Executive Summary

Joint WHO and Ministry of Health (MoH) meetings was held for facilitators on Integrated Management for Emergency and Essential Surgical Care (IMEESC) with key health providers, local and international partners in Lilongwe and Blantyre, during 28 to 30 march 2006. The meeting objectives were to introduce and facilitate the use of WHO standard best practice guidelines on Integrated Management for Emergency and Essential Surgical Care into the existing training programs and plan strategies with the department of clinical services in MoH towards a standard training of clinical officers, medical and nursing students in emergency care. A standard training would strengthen capacities of doctors, nurses and clinical officers to better manage the life threatening conditions in injuries (road traffic, falls, burns, domestic violence, pregnancy related complications), and infections at district hospitals and health centres in Malawi.

WHO was requested to present the emergency and essential surgical care project by Department of Clinical Services, Ministry of Health, emphasizing that the department is currently making plans for its activities next year 2006/2007. The priorities are quality improvement in the district hospitals, reduction in maternal mortality, childhood diseases mortality and HIV/AIDS mortality. The achievement of the health sector goals is heavily dependant on proper functioning of the Clinical Services. Emergency care should be taken in the context of the overall clinical care in the hospitals.

Participants represented key health providers and policy makers, international and local partners, Millennium Village project of the UNDP, and directors of the training programs for surgery, orthopaedics, anaesthesia, obstetrics, trauma, HIV, nursing, and medical students, and clinical officers in Malawi.

The meeting resulted in a consensus that the WHO Integrated Management for Emergency and Essential Surgical Care standard best practice guidelines will be adapted to local clinical settings and incorporated in the activity plans of the Clinical Services Department of the MoH Malawi, towards improving the quality of emergency services at all levels of care.
2. Background

Malawi has one of the highest maternal mortality ratio and road traffic accidents. It is estimated that 40% of the care is provided by the Christian Health Association of Malawi (CHAM). It has a population of 12 million and doctor patient ratio of 1:50,000. There are 266 physicians and density of 0.02 physicians per 1000 persons.¹ It has 21 district hospitals, one in each health district and 4 central hospitals in 4 major towns.

Health system has very weak response capacity in terms of staff, basic equipment, transport and communication. Most of the health centres are functioning with one nurse, and need one medical assistant and at least two nurses to run the outpatient and maternity departments. Health facilities commonly lack delivery kits. This problem is compounded by the lack of skills among staff to implement specific health programmes.

Shortage of personnel, shortage of drugs, lack of transport/communication affecting provision of basic health care, lack of food, lack of safe water, non availability of drugs in the far off health facilities are affecting health in the communities. There is a decrease of use of health facilities due to lack of drugs, goods services and geographical access, which is exacerbated as resources for food are considered first priority.

Top priorities are quality improvement in district hospital, reduction on maternal mortality, childhood diseases mortality, and HIV/AIDS mortality which are heavily dependent on proper functioning of clinical services. Most patients are referred to the central hospitals which cannot handle the load.

Malawi has enormous need for healthcare professionals. There is shortage of general and specialist doctors. It has 21 district hospitals all of which have operation theatres but none of which has a surgeon. Some district hospitals have a single doctor (district health officer-DHO) and two or more paramedic clinical officers (COs). Due to the lack of medical doctors, the clinical officers also have to act as DHO or deputy DHO. The College of Medicine, Malawi trains doctors. The intake has gone up from 20 to 40 per year. Some newly trained doctors are leaving the country for better career perspectives. It is therefore the clinical officers, who have no formal medical training are the backbone of healthcare of Malawi.

The Earth Institute of Columbia University, U.S.A, is working towards meeting the Millennium Development Goals (MDGs). It has established Millennium Village Projects in 10 countries of sub-Saharan Africa with the aim to provide overall development (agriculture, education and basic health) to these villages.

Many international partners are providing training to clinical

officers on surgery, orthopaedics and anaesthesia. Some of these speciality clinical officers training programs are not directly linked to MoH and are under the CHAM. The clinical officer on the job training program is a joined project between CHAM, COM and MoH, but CHAM is the project owner. There is a need as expressed by the MoH and WHO country office to coordinate these trainings to bring them together to assess the impact of such trainings in health facilities.

3. Objectives:

- To introduce and facilitate the use of WHO Integrated Management for Emergency and Essential Surgical Care training tools within the existing training programs
- Plan strategies with the Department of Clinical Services in MoH for coordination of existing training programs and implementation of the WHO standard best practices on Emergency and Essential Surgical Care towards a standard training

4. Field Visits to health facilities

Field visits were made by a team including WHO, Director Health Services of the MoH, Malawi and Project Manager of Clinical Officer training programs (surgery, gynaecology, orthopaedics and anaesthesia) with the following objectives:

- For a situation analysis and discussions with directors
- To assess the situation and provide technical guidance for collaborations to meet the emergency and basic surgical care in existing health clinics of the Millennium Village Project (UNDP in collaboration with Earth Institute of Columbia University, U.S.A.) on the request of the director Dr Sonia Sachs.

Visits to the emergency/admission and operation rooms (O.R), surgical and obstetrics wards included the following teaching and district hospitals (government and mission hospitals), training institutions for clinical officers, medical and nursing students and health centres:

- Malawi College of Health Sciences
- University of Malawi: College of Medicine Malawi: Department of surgery, Department of Obs and Gyne and College of Anaesthesia,
- Lilongwe Central Hospital
- Queen Elizabeth Hospital (QECH), Blantyre
- Mulanje Central Hospital
- Christian Health Association of Malawi (CHAM)

Maternity Hospital, Mulanje
- Zomba Central Hospital
- Thondwe Health Centre
- International Center for Research in Agroforestry (ICRAF), Mwandama Millennium Village Project (in Zomba district)
5. WHO Meetings for facilitators

Presentation was made on the WHO Emergency and Essential Surgical Care (EESC) project and the WHO Integrated Management for Emergency and Essential Surgical Care (IMEESC) toolkit and discussions were held towards a standard emergency and essential surgical training in Malawi. An individual meeting was held with the Dr H. Niaba, MoH Malawi and the relevant files from the WHO IMEESC tool kit were presented to him.

The meeting participants included director of Department of Clinical Services in MoH, WHO country office, directors of CHAM administration, The Project manager of the on the job training of COs in surgical procedures, Medical Director Staff of maternity (District and Mission) hospitals in Mulanje, Principal of College of Medicine, Malawi College of Health Sciences, Queen Elizabeth Hospital Blantyre, Directors of Health services of Central Hospitals Lilongwe, district hospitals Zomba and Mulanje, Health Centre Thondwe, ICRAF, UNDP.

6. Discussions

Discussions addressed the following issues:

- It was very strongly stated that there are so many training programs on going in Malawi that there is a need to plan a strategy for coordination, monitoring and evaluation of these existing training and education programs.
- MoH stated that currently there are uncoordinated efforts to improve emergency care. The following initiatives are happening:
  - Essential surgical Skills Course - Canadian Network of International surgeons
  - Advanced Trauma Life Support (ATLS) Course - College of Medicine
  - International Trauma Life Support (ITLS) Course - United Kingdom group
  - Advanced Life Support in obstetrics (ALSO) Scotland.

There is a problem with some of these, in that they cater for central hospitals and are equipment intensive. We need one which can be implemented at a district hospital and health centre which are ports of first call. MOH through the Clinical Services will develop the best practices guidelines and protocols to monitor and evaluate services and equipment.

- It would be beneficial to know how this programme is organized in other countries and how to apply it in Malawi in order that all the health care workers can be trained through such a programme. The trained surgical COs could be the custodian of this eventually in the districts.
- The WHO Integrated management for emergency and essential surgical care training program will be of great value towards strengthening capacities of health personnel at district hospitals and health centres in Malawi.
• It was emphasized that this WHO EESC project does not intend to add more training or even another program to countries. This project is a 'Stop Gap solution' until the health systems are in place and cuts across many vertical programme HIV, Maternal and Child Health, violence, emergency preparedness for disasters etc. Through these workshops WHO proposes to bring together existing training programs (partners, NGOs) linked to the emergency and essential surgical interventions to strengthen the skills of general doctor, nurse, technician, clinical officer, paramedic to be able to perform life saving emergency and essential surgical interventions at first referral level health facilities.

• The health providers at the health care facilities suggested that the cross cutting topics in the WHO best practice protocols for Clinical Procedures Safety (hand washing, standard precautions for prevention of HIV, basic life support, burns, bleeding, trauma, preoperative and postoperative checklists, transportation of the critically ill, waste disposal) and the essential emergency equipment list can be implemented into their day to day practices.

• Training should be made available at the point of care in the district hospitals. Often health workers already in short supply at rural areas are often found attending training programs in urban health facilities.

• Due to lack of human resources, on the job training should be encouraged.

• Incentives to attend the training and education programs in various topics, needs to be addressed. A better system needs to be introduced other than the present system of per diem in addition to the salary, accommodation and food which is already provided by the training program.

• The profile of frontline health personnel (clinical officers and general doctors) providing services in difficult clinical settings with limited human resources, equipment, training and education materials, needs to be raised.

• There is lack of readily available education materials at district hospitals and health centres. These should be made available at all district hospitals for use in training, reference guide and for implementation of best practice protocols

• At present Malawi has only one Malawian orthopaedic surgeon and one Malawian general surgeon in the entire government health service. In Malawi’s biggest hospital, elective surgery has all but stopped and no plaster of Paris is available. A recent national survey (unpublished report by Dr Chris Levy) showed that at district hospitals procedures for acute obstetric emergencies comprise of 44% of all operations. But very little general and abdominal surgery is performed comprising of only 3% of all surgical activity. As a result of delay in abdominal emergencies, mortality is increased.

• New district hospitals are being planned in Malawi with operating rooms. But the hospitals do not have surgeons or sufficient other staff to run them. Thus this emphasises the need for improving surgical manpower and skills at district level. Further training of medical and clinical officers in common life threatening emergency surgery is first step towards that goal.
• Strengthen capacities of village health centres to meet the emergency services of the rural population through partnerships with existing village projects. WHO/CPR was requested (by the director Dr Sonia Sachs, Earth Institute) to provide technical guidance for collaborations on expansion of the existing health centre in the Millennium Village Project, Mwandama in Zomba, Malawi in order to meet the local needs of access to emergency and essential surgical care. There could be possibilities of preparation of joint proposals with the director of the Millennium Village Project on the expansion of the health facility in Thondwe to meet the emergency and essential surgical care.

• The Earth Institute of Columbia University, U.S.A, is working towards meeting the Millennium Development Goals (MDGs) has established Millennium Village Projects in 10 countries of sub-Saharan Africa with the aim to provide overall development (agriculture, education and basic health) to these villages WHO/CPR was requested (by the director Dr Sonia Sachs, Earth Institute) to provide technical guidance for collaborations on expansion of the existing health centre in the Millennium Village Project, Mwandama in Zomba, Malawi. To look into possibilities of preparation of joint proposals with the director of the Millennium Village Project on the expansion of the health facility in Thondwe to meet the emergency and essential surgical care.

7. Recommendations and action plan

The deliberations of the meetings resulted in the following recommendations:

• A brief report of the meeting will be prepared towards generating interest in supporting training of clinical officers, medical and nursing students to better manage emergency and essential surgical procedures in resource limited health care facilities.

• The report will be used for advocacy and dissemination through the WHO website (with other country workshop reports).

• The focal person, Dr Lungu, Director of Department of Clinical services in the MoH will follow up on the plans for the 'Training of Trainers' workshop on emergency and essential surgical procedures and linked equipment in 2006-7.

• The WHO Integrated Management for Emergency and Essential Surgical Care (IMEESC) toolkit will be used as a generic guidelines by the working group comprising of key health providers, directors of training programs and MoH to plan a standard best practice folder (package) for emergency care including equipment towards strengthening capacities of frontline health personnel in district hospitals and health clinics

• To explore possibilities of sharing the WHO IMEESC e-learning tool (available at www.who.int/surgery), through telemedicine when available in Malawi

• The Department of Clinical Services will look into the possibility of making the hard copies of the WHO manual Surgical Care at the District Hospital accessible at every district hospital of Malawi
8. Conclusions

This meeting brought together local and international partners supporting training in emergency, surgery, obstetrics, HIV, anaesthesia, trauma, and community health. The meeting resulted in a consensus towards a standardize training for the frontline health personnel required to provide basic emergency and surgical interventions at district hospitals and health centres through adaptation of the WHO IMEESC training tools to the local clinical setting.

9. Acknowledgements to collaborations and support:

- Directors and staff of College of Medicine of University of Malawi and Malawi Colleges of Health Sciences, Central and district hospitals, and health centres.
- Ministry of Health Malawi in Department of Clinical Services
  - WHO country office Malawi and WHO/AFRO
  - Dutch Consulate
  - Christian Health Association of Malawi (CHAM)
  - Canadian Network International Surgical Society
  - Association of Surgeons of South East Africa
- UNDP: Millennium Village Project in collaboration with Earth Institute of Columbia University, U.S.A and International Center for Research in Agroforestry (ICRAF)
- Departments of Essential Health Technologies, Evidence and Information for Policy (Patient Safety), Making Pregnancy Safer, Violence and Injury Prevention, Child Health and Adolescent, WHO

1. Annexes

- **Annexe 1:** Participants list
- **Annexe 2:** Programme Agenda
- **Annexe 3:** WHO training tools for improving skills of health personnel
Annexe 1. List of Participants

Dr H. Ntaba
Health Minister
Ministry of Health Malawi
Lilongwe, Malawi

drhn@sdnp.org.mw

Dr. Douglas Lungu
Surgeon
Associate Director of Clinical Services
Director Clinical Services
Ministry of Health Malawi
Lilongwe, Malawi
dlungu@sdnp.org.mw

Dr Deleza
District Health Officer
Zomba, Malawi
Tel: 08 522 835

Dr. FM Chimbawandira
Ministry of Health, Malawi
District Health Officer
Mulanje District Hospital
PO Box 227
Mulanje, Malawi

Dr. Arturo P. Muyco
Head, Department of Surgery
Lilongwe Central Hospital
Ministry of Health and Population
Box 149,
Lilongwe, Malawi
Tel 265753555
ichsurg@sdnp.org.mw

Dr. Liz Grant
Scottish Executive
International Division
Health Advisor
Scotland -Malawi Development Tem
Edinburgh, Scotland
Tel 0131 244 1608
Liz.Grant@scotland.gsi.gov.uk

Dr. Margaret McGuire
Scottish Executive
Health Department
Nursing Officer
Edinburgh, Scotland
Margaret.Mcguire@scotland.gsi.gov.uk

Dr P.W Jiskoot
Surgeon
Project Manager Clinical Officer Training (Malawi)
Verlengde Slotlaan 66
3707 CK Zeist
The Netherlands
Tel: + 31 30 6915335
pjiskoot@africa-online.net
pjiskoot@planet.nl

Dr. Michael Keating
Advanced Life Support in Obstetrics (ASLO)
Lilongwe, Malawi

Dr Joshua Kambala
Orthopaedics
Lilongwe Central Hospital
Lilongwe, Malawi

Dr Tarek Meguil
Department of Obs & Gyn
Lilongwe Central Hospital
Lilongwe, Malawi

Dr Chimwemwe J Mulla
Accident and Emergency Unit
Lilongwe Central Hospital
Lilongwe, Malawi

Dr J Nyrenda
Casualty
Lilongwe Central Hospital
Lilongwe, Malawi

Dr N Msiska
Surgery
Lilongwe Central Hospital
Lilongwe, Malawi

Dr Lijenje
Casualty
Lilongwe Central Hospital
Lilongwe, Malawi

Dr Godfrey Phiri
Anaesthesia
Lilongwe Central Hospital
Lilongwe, Malawi
Dr K William
Surgery
Lilongwe Central Hospital
Lilongwe, Malawi

M Chawmgga
Orthopaedics
Lilongwe Central Hospital
Lilongwe, Malawi

Ms Hariat Mariwi
UNDP, Millennium Village Project
Malawi

Ms Colleen Zamba
Country Coordinator, Millenium Village Project
Malawi
Tel: +265 8 842 625 / + 265 9 842 625
coleen.zambo@undp.org

Dr Rebbie Harawa
Millenium Village Project, Programme Manager Zomba
Malawi
Tel: + 265 9 341 222
rebbieharawa@Africa-Online.net

Mr Kabuluzi
District Agriculture Development Officer
Millenium Village Project
Malawi
Tel: 08 388 708

Mrs. Phereire Nkhoma
Crops Officer
Millenium Village Project
Malawi
Tel: 08 382 243

Mr Aubrey Chindebu
International Center for Research in Agroforestry (ICRAF)
Malawi
Tel: 08 856 667

Dr. Bruce Mc Cormick
UK
brucemcc@doctors.org.uhs

Dr. Robert A Lapyem

Medical Specialist-United Nation Volunteers/UNDP
Lilongwe, Malawi
robayella@yahoo.ie

Mr. Martin Malunga
Senior Clinical Officer
Mulanje District Hospital
Mulanje, Malawi

Mr. Christopher Mlowoza
Intern Clinical Officer
Mulanje District Hospital
Mulanje, Malawi

Mr Wales Mvona
Trainee Clinical Officer Student
Mulanje District Hospital
Mulanje, Malawi

Mr. Brown Mainje
Trainee Clinical Officer Student
Mulanje District Hospital
Mulanje, Malawi

Mr Dalitso Taulo,
Trainee Clinical Officer Student
Mulanje District Hospital
Mulanje, Malawi

Mr Emmanuel Kamuyango
Trainee Clinical Officer Student
Mulanje District Hospital
Mulanje, Malawi

Mr Havy Makhwala,
Trainee Clinical Officer Student
Mulanje District Hospital
Mulanje, Malawi

Mr. Loveness Mwase
Trainee Clinical Officer Student
Mulanje District Hospital
Mulanje, Malawi

Ms. Angella Zaina
Trainee Clinical Officer Student
Mulanje District Hospital
Mulanje, Malawi

Ms. Ruth Betha
Trainee Medical Assistant
Mulanje District Hospital
Mulanje, Malawi

Ms. Tamanda Chalichi
Trainee Medical Assistant
Mulanje District Hospital
Mulanje, Malawi

Mr. Charles Blaimu
Trainee Medical Assistant
Mulanje District Hospital
Mulanje, Malawi

Mr. Jordan Mwakyeru.
Trainee Medical Assistant
Mulanje District Hospital
Mulanje, Malawi

Dr. AT Muthambala
Zomba Central Hospital
PO Box 21
Zomba, Malawi
Tel 265 1527881
medzych@malawi.net

Dr. Desiree Mhango
Director of Health Programmes
Christian Health Association of Malawi
PO Box 30378
Lilongwe 3, Malawi
Tel 00265 01 775 404
dmhango@cham.org.mw
desmhango@yahoo.com

Dr. Joep Van Oosterhout
Senior Lecturer, Department of Medicine
College of Medicine, Blantyre, Malawi
Consultant in Internal Medicine and Infectious diseases (The Netherlands)
Private Bag 360
Blantyre, Malawi
Tel 265-1-670202
vanoosterhout@malawi.net

Dr. Nyengo Mkandawire
Head, Department of Surgery,
Deputy Undergraduate Dean
Senior Lecturer,
Consultant Orthopaedic Surgeon
University of Malawi,

College of Medicine
Blantyre, Malawi
Tel 265 01 674 678
nmkandawire@medcol.mw
ncmkandawire@malawi.net

Prof. Broadhead,
Paediatrician, Principal College of Medicine
Blantyre, Malawi

Prof. Bowie
Community Health, College of Medicine
Blantyre, Malawi

Prof. Eric Borgstein
Paediatric Surgeon
Queen Elizabeth Hospital
Post graduate Dean College of Medicine
Blantyre, Malawi

Dr. Evert van Hasselt,
Surgeon
Burns department
Queen Elizabeth Hospital
Blantyre, Malawi
ehasselt@africa-online.net

Dr. Marcel Schutgens,
Surgeon,
Queen Elizabeth Hospital
Blantyre, Malawi
marcels@africa-online.net
mschutgens@medcol.mw

Dr. Kafufula
Gynecologist
Head, Department of Obs and Gyne
Queen Elizabeth Hospital
Blantyre, Malawi

Dr. Ynze Rijken
Gynecologist
Department of Obs and Gyne
Queen Elizabeth Hospital
Blantyre, Malawi
ynzerijken@malawi.net

Mr. Cyril Goddia
Director
Malawi School of Anaesthesia
P.O. Box 31149
Chichiri
Blantyre 3, Malawi
Tel: +265 1670839
Cell: +265 8844978
anaesthesia@globemw.net

Mrs. Ruth Mwandira
Executive Director
CHAM
Lilongwe
Malawi

Dr. H Mothes
Surgeon
Institute for Postgraduate courses for Clinical Officers
Zomba Central Hospital,
Zomba, Malawi
Tel 08823359

Mr. Adams Ntiala
Thoudwe Agriculture Officer
Box 44
Thoudwe
Zomba, Malawi
Tel 09347480
Mr. Peter Kandawire
ICRHF
Box 134
Zomba, Malawi

Dr. George Kafulafula
Deputy Dean- Postgraduate Studies
University of Malawi,
College of Medicine, Malawi
Private bag 360
Chichiri
Blantyre, Malawi
gkafulafula@ihu.medcol.mw

Ms. Irene Kadzere
Country Representative ICRAF (Zimbabwe)
Malawi
ikadzere@mweb.co.

Dr. Damson D. Kathyola
Hospital Director
Kamuzu Central Hospital
PO Box 149
Malawi

Tel 265 175 1615
ichdir@malawi.net

Mrs M Sacranie-Simons,
Dutch Consulate Representing Children fund of Malawi
Blantyre, Malawi
sacranie@africa-online.net

WHO Secretariat

Dr Matshidiso Moeti
WHO Representative
WHO/WR/Malawi
P.O. Box 30390
Lilongwe 3, Malawi.
Tel: +265-1-772755
+265-1-772526
Fax: +265-1-772350
Cell: +265-8-826799
Email: moetim@mw.afro.who.int

Dr E M Limbambala
HIV/AIDS Country Officer
WHO/AFRO/Malawi
Lilongwe 3, Malawi
Tel 47 2413 7466
limbambalae@mw.afro.who.int
Dr E Z Asbu,
WHO/AFRO/Malawi
Lilongwe 3, Malawi
Tel 09473073
asbue@mw.afro.who.int

Dr Meena Nathan Cherian
Project: Emergency & Essential Surgical Care
Clinical Procedures Unit (CPR)
Department of Essential Health Technologies
WHO, Geneva, Switzerland
tel:0041 22 791 4011; fax: 0041 22 791 4836
cherianm@who.int; www.who.int/surgery
Annexe 2. Program Agenda

1. Field Visits for situation analysis to teaching and district hospitals, Millenium Village Project Health facility, in Malawi

2. WHO facilitators meeting with focal persons in MoH, stake holders, directors of teaching and district hospitals in Lilongwe and Blantryre
   - College on Medicine
   - MCH, OBs and Gyne Specialists
   - KCH, QECH,
   - MoH Lilongwe

3. Introduce and facilitate the use of WHO "Integrated Management on Emergency and Essential Surgical Care (IMEESC)" tool kit

4. Discussions on:
   - Collaborative approach to surgical training on emergency and essential surgical procedures and linked equipment
   - Presentation of WHO project and WHO IMEESC toolkit and experience of implementation in 9 countries
   - Strengthening emergency and essential surgical (including anesthesia) skills with linked equipment of clinical officers at primary health facilities
   - Identify trainers and the district/rural hospitals which will become models for expansion to other districts.

5. Recommendations and follow up action plan

6. Conclusions of meetings and visits
### Annexe 3

#### Needs Assessment and Evaluation Form for Resource Limited Health Care Facility

**Essential Emergency Equipment in Emergency Room***

*At an entry point in any health facility such as: Emergency room/ Admission room / Treatment room/ Casualty room

1. **Name/Address of Health Care Facility** ____________________________
   ____________________________
   ____________________________

2. **Type of Health Care Facility** (please check one)
   - Primary or First referral level facility/ District Hospital/Rural Hospital ☐
   - Health Centre ☐

3. **Human Resources** in emergency room (please indicate number of health staff)
   - Doctors _____  Nurses _____  Clinical or Health officers ____
   - Technicians ___  Paramedical staff ___

4. **Physical Resource**

(a) Infrastructure

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is there an area or room designated for emergency care?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Is there running water?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>If yes: Interrupted / Uninterrupted (please circle one)</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Is there an electricity source?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>If yes: Interrupted / Uninterrupted (please circle one)</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

(b) Equipment

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is a list of essential emergency care equipment available?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Is following available</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Oxygen Cylinder: Interrupted /Uninterrupted (please circle one)</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Oxygen Concentrator: Interrupted /Uninterrupted (please circle one)</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Equipment for oxygen administration available (tubes, masks)</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Essential Emergency (EE) Equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are the EE equipment in working order?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Is there access to repair if equipment fails?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Is there access to repair within the health care facility?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Is there access to repair outside the health care facility?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>If yes, how far (in km): 1-25 / 26-50 / 51-200 / &gt;200 (please circle one)</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Is there an agreement for the maintenance of the equipment with the supplier?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Does the health care staff in the emergency room get training in the use of the equipment?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Is information available on supply, repair, and spare parts for the equipment?</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
5. **Quality, safety, access and use**

<table>
<thead>
<tr>
<th><strong>Yes, in some procedures</strong></th>
<th><strong>Yes, in all procedures</strong></th>
<th><strong>No</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Are the best practice protocols for management of essential emergency procedures available?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Are the protocols for safe appropriate use of equipment in essential emergency procedures available?</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

How often is ‘room to room inspection’ performed to ensure that **EE equipment** and supplies required for the essential emergency procedures are available and functioning? (please circle one)

- Daily
- Weekly
- Monthly
- 6-monthly
- Yearly
- Once in ___ years
- Never

<table>
<thead>
<tr>
<th><strong>Yes</strong></th>
<th><strong>No</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Are the information, education and training materials on emergency procedures and equipment available in the emergency room for health care staff use?</td>
<td>☐</td>
</tr>
<tr>
<td>Are there introductions of any new procedures/interventions?</td>
<td>☐</td>
</tr>
<tr>
<td>If yes, which procedure/intervention: (please specify)</td>
<td></td>
</tr>
<tr>
<td>Has referral to other health facility decreased because of skills and knowledge of procedures and intervention?</td>
<td>☐</td>
</tr>
<tr>
<td>Are records maintained?</td>
<td>☐</td>
</tr>
</tbody>
</table>

6. **Policy**

<table>
<thead>
<tr>
<th><strong>Yes</strong></th>
<th><strong>No</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Is there a policy to promote training for health care staff in the essential emergency management of trauma, obstetric care and anaesthesia?</td>
<td>☐</td>
</tr>
<tr>
<td>Is there a policy to update the protocols for the emergency management of trauma and obstetric care adapted to local needs?</td>
<td>☐</td>
</tr>
<tr>
<td>Are there any guidelines on donation, procurement, and maintenance of all EE equipment?</td>
<td>☐</td>
</tr>
<tr>
<td>Is there a list of extra health personnel to be contacted in disaster situations?</td>
<td>☐</td>
</tr>
</tbody>
</table>

*For guidance use WHO generic list of Essential Emergency Equipment*

**Department of Essential Health Technologies**

World Health Organization,

20 Avenue Appia, 1211, Geneva 27, Switzerland

Fax: 41 22 791 4836  
Internet: [www.who.int/surgery](http://www.who.int/surgery)
WHO Generic Essential Emergency Equipment List

This checklist of essential emergency equipment for resuscitation describes minimum requirements for essential emergency surgical care at the first referral health facility(small or rural hospital/health centre)

<table>
<thead>
<tr>
<th>Capital Outlays</th>
<th>Quantity</th>
<th>Date checked</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resuscitator bag valve and mask (adult)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resuscitator bag valve and mask (paediatric)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxygen source (cylinder or concentrator)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mask and Tubings to connect to oxygen supply</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light source to ensure visibility (lamp and flash light)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stethoscope</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suction pump (manual or electric)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood pressure measuring equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thermometer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scalpel # 3 handle with #10,11,15 blade;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scalpel # 4 handle with # 22 blade</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scissors straight 12 cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scissors blunt 14 cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oropharyngeal airway (adult size)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oropharyngeal airway (paediatric size)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forcep, Kocher no teeth 12-14 cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forcep, artery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kidney dish stainless steel approx. 26x14 cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tourniquet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Needle holder</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Towel cloth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waste disposal container with plastic bag</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sterilizer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nail brush, scrubbing surgeon's</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vaginal speculum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bucket, plastic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drum for compresses with lateral clips</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Examination table</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wash basin</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Renewable Items</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Suction catheter sizes 16 FG</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tongue depressor wooden disposable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nasogastric tubes 10 to 16 FG</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Batteries for flash light (size C)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intravenous fluid infusion set</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intravenous cannula # 18, 22, 24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scalp vein infusion set # 21, 25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Syringes 2ml</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Syringes 10 ml</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disposable needles # 25, 21, 19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sharps disposal container</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capped bottle, alcohol based solutions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sterile gauze dressing</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Bandages sterile
Adhesive Tape
Needles, cutting and round bodied
Suture synthetic absorbable
Splints for arm, leg
Urinary catheter Foleys disposable #12, 14, 18 with bag
Absorbent cotton wool
Sheeting, plastic PVC clear 90 x 180 cm
Gloves (sterile) sizes 6 to 8
Gloves (examination) sizes small, medium, large
Face masks
Eye protection
Apron, utility plastic reusable
Soap
Inventory list of equipment and supplies
Best practice guidelines for emergency care

**Supplementary equipment for use by skilled health professionals**

Laryngoscope handle
Laryngoscope Macintosh blades (adult)
Laryngoscope Macintosh blades (paediatric)
IV infusion bag
Magills Forceps (adult)
Magills Forceps (paediatric)
Stylet for Intubation
Spare bulbs and batteries for laryngoscope
Endotracheal tubes cuffed (# 5.5 to 9)
Endotracheal tubes uncuffed (# 3.0 to 5.0)
Chest tubes insertion equipment
Cricothyroidotomy

**This list was compiled from the following WHO resources:**

- WHO training manual: *Surgical Care at the District Hospital*
- WHO Emergency Relief Items, Compendium of Basic Specifications
- WHO/UNFPA Essential drugs and other commodities for reproductive health services.
- WHO Essential Trauma Care Guidelines

*For specifications refer to this book*

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