Facilitators Report

Achieving MDGs through strengthening capacities at primary health care facilities

Joint WHO Meetings with Ministry of Health on Buruli Ulcer Control program and Strengthening Emergency and Essential Surgical Training in Ghana

15-20 August 2005

Greater Accra and Ashanti Regions, Ghana
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1. Executive summary

Joint meetings of the WHO Global Buruli Ulcer Initiative (GBUI), WHO Emergency and Essential Surgical Care project and WHO country office were held with officials at Ghana Ministry of Health (MoH) Headquarters, teaching and district hospitals in the Accra and Ashanti regions of Ghana, during 15-20 August 2005.

Surgical intervention required in the management of Buruli ulcer (BU) to avoid long term disability is often not available at primary healthcare facilities. The overall objective of the meeting was to identify ways to strengthen the surgical training capabilities of doctors, nurses and clinical officers to better manage BU, using standardized training "WHO Integrated Management on Emergency and Essential Surgical Care (IMEESC)" tools.

Visits were made and meetings were held with the directors and staffs of teaching and district hospital and primary health care facilities for a situation analysis in the two regions. The following major issues were discussed: the need to equip better the operating theatre (OT), renovation of the OT, provision of modern anesthetic machines to replace the outdated machines, construction of a new physiotherapy building, strengthening human resource capacity in endemic districts, provision of transport and support of ongoing training activities. The main problems identified were 'brain drain' (doctors and nurses), lack of basic emergency equipment, inadequate training in the emergency procedures (surgical and anaesthetic) and related equipment.

Visits were made to the construction site for a new OT, wards and Physiotherapy unit, a classroom for hospitalized children at the main district hospitals providing BU management supported by Acción Sanitaria y Desarrollo Social (ANESVAD), Madrid, Spain and International Anti-Leprosy Organization (IALO), Ghana. It was agreed that the WHO recommendations (IMEESC) will be referred for setting up the OT facility. The projects once completed by mid-2006, are expected to enhance the surgical treatment of all cases and could be used for future training activities on Buruli ulcer.

An European Union supported research project on BU is expected to start in 2006. For the implementation of the studies on the transmission of BU in Ghana (supported by NIH/USA grant), agreement was reached on the selection of endemic and non-endemic areas.

Suggestions were made by the directors of Institutional Care Division, Ghana Health Service, Policy, Planning, Monitoring and Evaluation at the MoH, Headquarters to incorporate the WHO IMEESC toolkit into the activities of the MoH and the Ghana Health Service.

The meeting at MoH, on Disability Strategy for Ghana by the WHO/ HQ department unit of Disability and Rehabilitation included participation from the Global Initiative for Burili Ulcer and Clinical Procedures units of WHO/Geneva, Switzerland.

The experience of Komfo Anokye Teaching Hospital with an existing course on basic surgery for district doctors will be valuable in the proposed basic plastic surgery program to improve BU management. It was agreed; the WHO IMEESC toolkit will be useful for capacity building in basic surgery for the non-specialist doctors, medical assistants, nurses and other health workers and therefore must be made available in all medical and nursing training schools, district hospitals to ensure wider usage.

Discussions were held at the WHO Country Office for the WHO Ghana Plan of Action for 2006-2007. The Country office will support training workshops in different regions of the country to increase awareness of the disease among health workers.
2. Background

Ghana is a tropical country situated on the west coast of Africa, and bounded by Côte d’Ivoire on the west, Burkina Faso on the north and Togo on the east. The population of Ghana, according to the 2000 population census, is 18.4 million, with about 60% of the population living in the rural areas. The average population density is 77 per sq km, a ranging from 897 in Greater Accra Region to 31 in Northern Region. Ghana has 12 regions. The doctor population ratio is 1:16,0587, which ranges from 1:4,317 in greater Accra Region to 1:64,000 in Northern Region. Greater Accra Region has about 61% of all doctors.

The epidemiological situation of Ghana is similar to other sub-Saharan countries, i.e. a predominance of communicable diseases, under-nutrition and poor reproductive health with newly emerging noncommunicable diseases such as neoplasm, diabetes and cardiovascular diseases. The major causes of mortality are anaemia, respiratory tract infections, hypertensive diseases, malaria, diarrhoea, gynaecological conditions, accidents and injuries, cardiac conditions, tuberculosis and meningitis. Road traffic accidents are increasing and are responsible for approximately 1,300 deaths and 10,000 injuries annually.

The Ghana health service (GHS) is organized along a five-tier system: national, regional, district, sub-district and community. The Minister of Health is the head of the health sector. The MOH is responsible for policy formulation, planning, and donor co-ordination and resource mobilization. The GHS is responsible for service delivery under the management of the Director-General. There is a GHS Council which oversees the activities of the GHS. The teaching hospitals are autonomous with governing management boards.

It is estimated that the private providers account for about 40% of the total patient care nationally. There is also a coalition of Nongovernmental Organizations (NGOs) working in the health sector. The Christian Health Association of Ghana (CHAG) is an umbrella organization which brings together Christian mission hospitals and clinics. They provide a significant portion of the health services.

2.1 Situation analysis of health facilities

Insufficient access to referral services, inadequately staffed and equipped referral centres, and inability to pay for referral services are some of the factors that need to be addressed to reduce maternal mortality. Safe motherhood is a priority for the health sector, particularly in the three northern regions, so as to reduce the unacceptably high rates of maternal mortality. The second health sector programme of work, 2002–2006, has been developed. The goal is to contribute to the reduction of health inequalities in Ghana, inequalities between the north and south, urban and rural areas, and those related to gender, education and disability status. The emphasis is on district, sub-district and community-based quality care.

The current health sector policy strategies are to ensure access to health services; improve the quality of health delivery; improve the efficiency of health service delivery; foster partnerships in improving health and improve financing of the health sector. The Community-based Health Planning and Service (CHPS) strategy is one of the initiatives to increase access to close-to-client health delivery system. A major concern is the depletion of teaching staff at all the health training institutions. There is heavy reliance on retired teachers. There is a need for links between the
training institutions and the MoH to ensure greater use of the limited resources through curriculum modification and involvement of training institutions in the formulation and development of health policies.

Although an essential package of priority interventions has been defined, there are difficulties with capacity for scaling up. Enhancing the functionality of the district health management team by improving the work environment and providing necessary operating manuals is crucial to the achievement of goals and objectives. WHO provides support in critical areas such as setting standards, monitoring and evaluation. Current assistance is to build capacity at the district level for managing obstetric emergencies and complications, and to improve awareness at the community level to promote prompt referral of obstetric emergencies.

The WHO in partnerships with the private sector provides drugs for leprosy and lymphatic filariasis control programmes. HQ provides financial and technical support for BU and lymphatic filariasis programmes. To support the country in addressing this Situation, the following strategic agenda needs to be pursued:

- strengthening health systems;
- strengthening health information and surveillance systems;
- scaling up priority health interventions;
- health promotion.

### 3. Objectives

Meetings with policy makers, key health providers and stakeholders to support training of doctors from endemic countries in basic plastic surgery for the management of Buruli ulcer and related conditions.

- Visits to teaching and district hospitals for a situation analysis for the proposed surgical training program
- Discuss the plan of action for 2006–2007 with the WHO/Country Office, for strengthening surgical (including anesthesia) training as a horizontal program for surgical interventions in BU, trauma, obstetrics, pediatric, orthopedic, general and plastic surgery.
- Introduce and facilitate the use of WHO Integrated Management on Emergency and Essential Surgical Care (IMEESC) tool in the training courses in surgery, trauma and anesthesia in Ghana.

### 4. Field visits for a situation analysis

Field visits were made by the team to the following health facilities:

- Agogo Presbyterian Hospital, Agogo, Ashanti
- Komfo Anokye Teaching Hospital, Kumasi
- Regional Health Administration, Kumasi
- Kumasi Centre for Collaborative Research (KCCR), KNUST-Kumasi
- Dunkwa Government Hospital, Dunkwa, Upper Denkyira
- St. Martins Catholic Hospital, Agroyesum, Amansie West
- Nkawie Government Hospital, Nkawie, Atwima Nwabiagya
- Reconstructive and Plastic Surgery Unit, Korle Bu Teaching Hospital
- Noguchi Memorial Institute for Medical Research (NMIMR), Legon Accra,
5. Meeting discussions with health facilities

Discussions with directors and staff of these hospitals addressed the need to equip better the OTs, and in one hospital renovation of the OT in the casualty department so that some of the operating rooms can be spared during the entire training period; there was a need to provide modern anaesthetic machines to replace the outdated machines which have no monitors; the physiotherapy building was too small and not suited for the purpose, therefore a new physiotherapy building will be needed.

5.1. Agogo Presbyterian Hospital
Acknowledgement was made by the WHO/GBUI and National Buruli Ulcer Control Programme (NBUCP) to the hospital management for hosting surgical training for districts on Buruli ulcer sponsored by ANESVAD in 2005. Visits were made to the OT and wards. The NBUCP through GBUI donated audio visual equipment (Laptop computer, LCD projector, screen and UPS) to the hospital as part of institutional strengthening.

Discussions on the following issues were held:

- This 250-bed hospital is used by the National Buruli Ulcer Control Programme for training activities.
- The hospital authorities agreed to host the 4-week training programme in basic plastic surgery.
- Accommodation for participants for the proposed training will not be possible in the hospital or town but an alternative accommodation (a hotel) at Konongo, 20 minutes drive from the hospital could be arranged.
A site to construct a new physiotherapy block for the hospital was inspected. Possible funding will be explored to replace the existing block which is very small and not suited for the training.

There is need for refurbishing and re-equipping of OT of the casualty department and need to equip a second surgical theatre for the hospital. This will help to spare some theatres for the entire period of training. The outdated machines which have no monitors need to be replaced with modern anesthetic machines.

5.2 Komfo Anokye Teaching Hospital
Meetings with the Chief Administrator, Dr Nsiah-Asare, Professor Peter Donkor, Head of Surgery, Dr Pius Agbenorku, Head of Plastic Surgery, Dr R. Quansah, Surgeons, Anaesthestist, doctors, nurse in charge of the Intensive Surgical unit, Accident and Emergency Unit, OT staff, medical students, clinical officers of the hospital. The meeting was chaired by Professor Peter Donkor. Round table discussions addressed the following issues:

- A 4-week basic plastic surgery programme was proposed to improve BU management. The experience of the ongoing 2-week course on 'basic surgery for district doctors' could help with the proposed 4-week training programme.
- There was a need for a follow-up once the doctors have been trained in the existing 2 week course, which was presently not possible because of lack of resources and transport. WHO was requested to provide transport to assist the trainers (surgeons) to visit and do follow-up with the doctors who have undergone the training. This follow-up training will also be useful for the proposed 4-week training programme and whatever resources that are provided for this programme can also help in the broader context of building surgical capacity at the district level.

Access to basic surgical interventions is needed to save lives in many life threatening conditions (injuries, infections, pregnancy related complications, disasters) therefore, gaining attention as a public health issue. WHO is addressing this through the project Emergency & Essential Surgical Care at resource limited health care facilities.
Participants identified that some of the relevant contents of the WHO IMEESC tool for guidance on policies and training of health provider can be incorporated in training through this integrated approach, such as:

**Policy materials:**
- Policy guidelines: Aide-Memoire Essential Surgical Care
- Needs Assessment for Essential Emergency Room Equipment
- Essential Emergency Equipment generic list.xls
- Guide to Development of a Training Curriculum on Essential Emergency Surgical Skills
- Guide to Anaesthetic Infrastructure and Supplies at Various Levels of Health Care Facilities

**Teaching and training materials:**
- Surgical Care District Hospital (SCDH) manual pdf and html
- Surgical Care District Hospital (SCDH) teaching power point
- Evaluation of Self Learning based on WHO manual SCDH
- Best Practice Protocols for Clinical Procedures Safety
- Best Practice Guidelines on Emergency Surgical Care in Disaster Situations
- Surgery at the district hospital- training videos
- Sample brief report of training workshop
- Participants evaluation of training workshop
- Model Agenda training workshop

It was suggested that the IMEESC tool with the WHO manual *Surgical Care at District Hospital* be made available to teaching institutions and the districts. The IMEESC tool kit was given to the hospital for study and implementation for capacity development at districts.

Visits were made to the Intensive Surgical unit, Accident and Emergency Units of the hospital.

The Chief Executive of the hospital emphasized the lack of funding to implement some of the programmes the hospital intends to run to support district hospitals, in particular, Quality Assurance of the ongoing training program provided by the hospital for district hospital doctors.

### 5.3 Regional Health Administration (RHA), Kumasi

Meetings were held with the Regional Director, Dr Kofi Asare, and the Deputy Regional Director, Clinical Care, Dr Joseph Bonney. Discussions were on the following issues:

- The two hospitals in the region: Agogo Presbyterian Hospital and the St. Martin's Catholic Hospital, Agroyesum will be involved in the proposed training programme, with the regional health Administration' support being vital.
- The Regional Director emphasized the strategic importance of the St. Martin's Catholic Hospital in Buruli ulcer management and control in Ghana.
- Despite the shortage of doctors in the country that everything is being done to find a replacement for the doctor who recently left for further studies.
WHO Emergency & Essential Surgical Care project was discussed and the WHO was requested to send more copies of the IMEESC tool kit for distribution to the various districts.

5.4. Kumasi Centre for Collaborative Research (KCCR)
Meetings with Professor Ohene Adjei, Deputy Director of the Center, and Mr Michael Abgo, Administrator.

Discussions on the following issues:
- Professor Ohene Adjei informed that 3 dry-reagent based PCR will be installed in three district hospitals (Agroyesum, Dunkwa and Tepa) to facilitate laboratory confirmation of BU cases. Starting from 2006, KCCR will confirm cases free of charge on samples received from endemic health facilities.

5.5. Dunkwa Government Hospital
Meetings with Dr Erasmus Klutse, District Director of Health Services and Dr George Abram, International Anti-Leprosy Organization (IALO)
The following issues were discussed
- This district hospital is one of the main hospitals providing BU management.
- Visit to the ongoing construction of a new operating theatre and a 30-bed ward with the support from ANESVAD, Spain and IALO, Ghana.
- The project will be completed by mid-2006 and is expected to enhance the surgical treatment of all cases at this hospital.
- Once these facilities are completed, it will be possible to include this hospital in the future training activities on BU.

5.6. St. Martins Hospital, Agroyesum:
Meetings with Mr John Bawa, administrator and Ms Paulina Opei, Head of Nursing. Visits to the construction of a physiotherapy unit and a classroom for hospitalized children, supported by ANESVAD, Spain. This 140-bed hospital is the major hospital for BU treatment in Ghana.
All welcomed the proposed training programme and the hospital's long-standing experience in BU management, will be an added value.

The hospital administrator informed that efforts are on the way to find the replacement for the surgeon both locally as well as to identify doctors from abroad, especially Germany through Miseror, a German NGO for possible recruitment and posting to the hospital on a long term basis. For the short time however, Cuban and locum doctors at the hospital have been managing cases except for except surgical interventions.

Visits were made to the new operating theatre supported by ANESVAD and inspected the construction works on the incinerator, physiotherapy and class room blocks which were progressing satisfactorily.

5.7. Nkawie Government Hospital:
Meeting with Dr P. C. Awuah, Medical Superintendent of the hospital, discussed that there is a general inadequacy of essential treatment facilities in the hospital. This includes the physical infrastructures in limited supply, equipment installations and fittings are also severely limited and outdated to keep with modern trends in hospital care. Most of the beneficiaries about 70% are rural dwellers living either in the district or outside the district in very deplorable and inhumane conditions. They are mostly farmers with little or no access to basic amenities like portable water, good roads, health facilities formal education and electricity.

Discussions included:

- Surgery at the hospital was suspended due to lack of a nurse anesthetist.
- Documents related to a proposal for construction of appropriate facilities for BU were provided to the team for recommendations and inputs.
- The proposal for the construction of a new operating theatre, a physiotherapy unit and a 20-bed ward was finalized for submission to ANESVAD. If approved, the construction will begin by October 2005.
- These new developments will contribute to Buruli ulcer management in particular and surgery in general at this hospital.
5.8 Korle Bu Teaching Hospital
Meetings with Dr Albert Painstil, head of Reconstructive and plastic surgery unit, and surgeons
Discussions included:
- The proposed training programme and the role of this hospital in the programme.
- It was agreed that a meeting of experts should be held to develop the detailed programme and module for the training programme.
- It was suggested the WHO toolkit on Integrated Management on Emergency and Essential Surgical Care should be made available in all medical and nursing training schools, district hospitals to ensure wider usage.

5.9. Noguchi Memorial Institute for Medical Research (NMIMR)
Meetings with Professor David Ofori Adjei, Director, Professor Michael Wilson, Deputy Director, Dr Edwin Ampadu (Manager, BU programme Ghana), Professor Richard Merritt (Michigan State University, USA); Professor Pam Small (University of Tennessee, USA); Dr Dan Boakye (Noguchi, Accra), Dr Joseph Amakye (Water Research Institute, Accra) and other researchers from USA, Noguchi Institute and Ivory Coast.
Discussions on the following issues;
- Implementation of the NIH/USA grant that will support studies on 'the transmission of Buruli Ulcer in Ghana'.
- The five-year project will start in 2006.
- Selection of 4 endemic districts namely Amansie West, Atwima, Upper Denkyira and Ga. Non-endemic areas will be selected from the Volta Region.
- A total of 150 endemic and non-endemic communities will be involved in this study.
- The National BU Programme will provide village level data on endemic communities to assist in the randomization process.
- Existing collaborations between the Noguchi and the researchers from Ivory Coast and possibility of WHO to provide some seed funding to jump start some activities in Ivory Coast.
- Training opportunities (Masters/PhD) for one or 2 candidates from the Noguchi and Water Research Institutes in the course of the project.
- Involvement of a social scientist in the project in order to understand the human activities in endemic and non-endemic areas.

6. Meetings at Ghana Ministry of Health, Head Quarters, Accra, Ghana
Meetings were held with Dr Awuah-Siaw, Director, Institutional Care Division (ICD), Ghana Health Service and Dr Edward Addai, Director of Policy, Planning, Monitoring and Evaluation, Director Public Health Division. Discussions included:
- The Emergency & Essential Surgical Care project as a horizontal approach to improve access to basic care at primary health care facilities introducing the WHO IMEESC tool kit comprising 1 CD on comprehensive policy guidelines, needs assessment, essential emergency equipment list, training curriculum, best practices and 4 CDs of training videos was developed for capacity building for the health providers and policy makers.
The Director, ICD welcomed the concept and looked forward to see how the concept can be replicated nationwide to benefit the frontline staff.

The WHO IMEESC tool kit would be useful and ways to incorporate it into the activities of the Ministry of Health and the Ghana Health Service were suggested.

ICD will discuss the IMEESC tool with the Director of Human Resources, to see how it can be used in capacity building in basic surgery for district doctors.

The GBUI and EESC/CPR units of WHO/Geneva, Switzerland, NBUP, participated at the WHO and MoH meeting on Mission Report on Development of Strategy for Rehabilitation of the Disabled in Ghana, organized by Mr Khasnabis, Disability and Rehabilitation Unit /WHO/ Geneva, Switzerland. The meeting was chaired by the deputy minister of health, Ghana.

This meeting gave a good opportunity to discuss the WHO collaborative approach on reducing disability through prevention, rehabilitation and access to timely appropriate surgical interventions, in Ghana.

7. Meetings at the WHO Country Office, Ghana

Meetings were held with Dr Melville O George, Dr Harry Opata, Dr Edwin Ampadu, Dr Kingsley Asiedu, Dr Meena Cherian. Discussions included:

- Briefings on the field visits and meetings
- A meeting will be organized in Accra before the end of the 2005 to develop the 4-week course on basic plastic surgery. It will consist of local and international experts. Dr Asiedu will identify the international experts. It will be a 2-week meeting; the first week will be used to develop the training modules using the WHO IMEESC toolkit and other teaching materials required for the course, establish the criteria for selection of candidates and discuss other practical arrangements that will be needed for the programme. The second week will used to visit the various hospitals which will be involved in the training programme. WHO Country office, Ghana and the National Programme will identify the dates and venue for the meeting and work out the local budget for the meeting. WHO, Geneva will fund the meeting.
- Incorporation of the WHO IMEESC tool in the wider surgical programs of Ghana for management of Buruli Ulcer, trauma, obstetrics emergencies and disasters in medical and nursing schools, training of clinical officers and continuing medical education programmes.
- The BU aspect of the WHO Ghana (Plan Of Action) POA for 2006-2007, including a review status of BU program implementation, organize a stakeholders meeting, an external evaluation of the program in 2007 and provision of transport to support the above training program. Dr Asiedu suggested the inclusion of the 4-week program with Country office coordination and training workshops in different regions to increase awareness of the disease among health workers.

8. Recommendations and follow up action plan:

- Preparation of a Joint report of the meetings for BU program and surgical training for dissemination to participants, partners (local and international)
- WHO country office to plan the meeting in Accra, Ghana, 2005
- Wider dissemination of the WHO training materials and in particular to each of the identified district and teaching hospitals in the 2 regions
- Preparation of joint project proposal with BU program for strengthening surgical training in Ghana
- Discuss with ANESVAD, Spain, on the needs of Agogo Hospital
- Collaborations to incorporate the WHO IMEESC toolkit to be included in the surgical training programs in Ghana.
- Experience of the hospital with the ongoing basic surgery training program will be useful in the proposed training
- The proposed 4-week plastic surgical training program will include basic surgical and anaesthesia techniques thus improving the overall capacities at district hospitals.

9. Conclusion:

Buruli ulcer is a disease caused by *mycobacterium ulcerans*. It destroys skin, underlying tissues and cause deformities. Presently the only treatment available is surgery followed by skin graft if necessary. At the district hospital level, excision of nodules, papules, plaques and ulcers as well as skin grafting are required. Some cases may need specialized surgery, e.g. amputation of limbs. Patients with severe extensive lesions and osteo-articular complications and other disabling sequelae need to be referred for specialized surgery.

This meeting identified the health facilities for involvement of the proposed surgical training program for management of BU and areas requiring strengthening capacities at primary health care facilities for access to basic surgical care. This will benefit all surgical interventions to reduce death and disability in the management of trauma, obstetrics emergencies and disaster using the WHO IMEESC tools.

Suggestions were made by the directors of Institutional Care Division, Ghana Health Service, Policy, Planning, Monitoring and Evaluation at the MoH, Headquarters to incorporate the WHO IMEESC toolkit into the activities of the MoH and the Ghana Health Service. This will be further discussed with the Director of Human Resources to see how it can be used in capacity building in basic surgery for district doctors.

WHO was requested to provide transport to assist the surgeons to make follow-up visits to the doctors who have undergone training for quality assurance. This will be useful also for the proposed 4-week training program and the resources that are provided for this program will help in the broader context of building surgical capacity at the district level. A WHO meeting will be organized to develop the detailed training modules on basic plastic surgery, incorporating WHO IMEESC tools. The Country office will support training workshops in different regions of the country to increase awareness of the disease among health workers and coordinate the 4-week training program also.

10. Acknowledgements to collaborations and support:
Directors and staff of the places visited
Acción Sanitaria y Desarrollo Social (ANESVAD), Madrid, Spain
International Anti-Leprosy Organization (IALO), Ghana
National Institute of Health (NIH), USA
Ministry of Health Ghana, and Ghana Health Services
WHO country office Ghana, WHO/AFRO
Departments of CDS/GBUI, CPR/EHT, DAR/VIP, WHO/Geneva, Switzerland

11. Annexes
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Annexe 2: Programme Agenda
Annexe 3: WHO training tools for improving skills of health personnel
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<tr>
<th>Name</th>
<th>Position and Details</th>
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<tbody>
<tr>
<td>Dr. Nana KA Enyimayew</td>
<td>Director In-Charge, Ghana Ambulance Service, Ministry Of Health, Accra, Ghana</td>
</tr>
<tr>
<td>Dr. George Amofah</td>
<td>Director, Public Health Division, Ghana Health Service, Accra, Ghana</td>
</tr>
<tr>
<td>Prof. AB Akosa</td>
<td>Director General Health Services, Ghana Health Service, Accra, Ghana</td>
</tr>
<tr>
<td>Dr. Kofi Asare</td>
<td>Regional Director, Ghana Health Services, Ashanti Regional Health Administration, Kumasi, Ghana</td>
</tr>
<tr>
<td>Dr. William Tompsom</td>
<td>Medical Director, Agogo Presbyterian Hospital, Agogo, Ashanti region, Ghana</td>
</tr>
<tr>
<td>Dr. Solomon Mamo</td>
<td>Surgeon, Agogo Presbyterian Hospital, Agogo, Ashanti region, Ghana</td>
</tr>
<tr>
<td>Mr. Thomas Mensah</td>
<td>General Manager, Agogo Presbyterian Hospital, Agogo, Ashanti region, Ghana</td>
</tr>
<tr>
<td>Dr. Nsiah Asare</td>
<td>Chief Executive, Komfo Anokye Teaching Hospital, Kumasi, Ashanti region, Ghana</td>
</tr>
<tr>
<td>Prof. Peter Donkor</td>
<td>Associate Professor, Maxillofacial Surgery, Komfo Anokye Teaching Hospital, Kumasi, Ashanti region, Ghana</td>
</tr>
<tr>
<td>Dr. E. Palmer Amaning</td>
<td>Senior Lecturer, General Surgeon, Komfo Anokye Teaching Hospital, Kumasi, Ashanti region, Ghana</td>
</tr>
<tr>
<td>Dr. Emmanuel Adu</td>
<td>Plastic Surgeon, Komfo Anokye Teaching Hospital, Kumasi, Ghana</td>
</tr>
<tr>
<td>Dr. Joseph Akpaloo</td>
<td>Plastic Surgeon, Komfo Anokye Teaching Hospital, Kumasi, Ghana</td>
</tr>
<tr>
<td>Dr. M Adu Ampofo</td>
<td>Trauma &amp; General Surgeon, Komfo Anokye Teaching Hospital, Kumasi, Ghana</td>
</tr>
<tr>
<td>Dr. E. A Osei</td>
<td>Trauma &amp; General Surgeon, Komfo Anokye Teaching Hospital, Kumasi, Ghana</td>
</tr>
<tr>
<td>Dr. Pius Agbenorku</td>
<td>Consultant Plastic Surgeon, Komfo Anokye Teaching Hospital, Kumasi, Ashanti region, Ghana</td>
</tr>
<tr>
<td>Dr. D. Beeko</td>
<td>Neurosurgeon, Komfo Anokye Teaching Hospital, Kumasi, Ashanti region, Ghana</td>
</tr>
<tr>
<td>Prof. F.A. Abantanga</td>
<td>Associate Prof. Paediatric Surgeon, Komfo Anokye Teaching Hospital, Kumasi, Ashanti region, Ghana</td>
</tr>
<tr>
<td>Dr. Joseph Bonney</td>
<td>Deputy Regional (Clinical Care), Ashanti Regional Health Administration, Kumasi, Ghana</td>
</tr>
<tr>
<td>Prof. Ohene Adjei</td>
<td>Deputy Director, Kumasi Centre for Collaborative Research in Tropical Medicine (KCCR),</td>
</tr>
</tbody>
</table>

**Annexe 1:** Participants list
Kumasi, Ghana

Mr. Michael Agbo,
Administrator,
Kumasi Centre for Collaborative Research in Tropical Medicine (KCCR)
Kumasi, Ghana
Dr. Erasmus Kluste,
District Director of Health Services,
Upper Denkyira District, Dunkwa-on-Offin
Accra, Ghana

Father (Dr.) George Abram,
Representative,
International Anti-Leprosy Organization,
Takoradi, Accra, Ghana

Mr John Bawa,
Administrator,
St. Martin's Catholic Hospital,
Agroyesum, Accra,Ghana

Ms Paulina Opei,
Senior Nursing Officer,
St. Martin's Catholic Hospital,
Agroyesum, Accra, Ghana

Dr. P. C Awuah,
Medical Superintendent,
Nkawie Government Hospital,
Nkawie, Accra,Ghana

Dr. Albert Painstil,
Plastic Surgeon, Plastic Surgery Unit,
Korle-Bu Teaching Hospital,
Accra, Ghana

Dr. Abrokwa,
Resident, Plastic Surgery Unit,
Korle-Bu Teaching Hospital,
Accra, Ghana

Ms Ethel Odei,
Theatre Nurse, Plastic Surgery Unit,
Korle-Bu Teaching Hospital,
Accra, Ghana

Dr. Awuah Siaw,
Director, Institutional Care Division, Ghana Health Service,
Accra, Ghana

Dr Robert Quansah,
Department of Surgery
Komfo Anokye Teaching Hospital,
Kumasi, Ghana

Field visit team members
Dr. Kingsley Asiedu,
Global Buruli Ulcer initiative
GBUI/WHO, Geneva, Switzerland

Dr. Meena N Cherian,
Emergency & Essential Surgical Care,
Clinical Procedures Unit CPR/EHT/WHO,
Department of Essential Health Technologies,
Geneva, Switzerland

Dr. Edwin Ampadu,
National BU Programme Manager,
Accra, Ghana

Mr William Opare,
Technical Officer, National BU Programme,
Accra, Ghana

Mr Alex Taylor,
Driver, WHO Country Office,
Accra, Ghana

Mr Abraham Gyesi,
Driver, National BU Programme,
Accra, Ghana

WHO secretariat:
Dr Melville Omorlabie George
WHO Representative, Country Office
Accra, Ghana

Dr. Harry Opata,
Medical Officer,
Disease Prevention and Control, WHO/Ghana
Accra, Ghana

Dr. Kingsley Asiedu,
Global Buruli Ulcer initiative
GBUI/WHO, Geneva, Switzerland

Dr. Meena N Cherian,
Emergency & Essential Surgical Care,
Clinical Procedures Unit CPR/EHT/WHO,
Department of Essential Health Technologies,
Geneva, Switzerland
Annexe 2

Program Agenda

1. Visits to teaching and district hospitals in Ghana for a Situation analysis

2. WHO Meetings with directors of teaching and district hospital in Accara and Ashanti regions
   - Review of the National Buruli Ulcer program
   - Proposed surgical training in the Buruli Ulcer Management
   - Introduce and facilitate the use of WHO "Integrated Management on Emergency and Essential Surgical Care (IMEESC)" tool kit

3. Discussions
   Collaborative approach to surgical training on emergency and essential surgical procedures and linked equipment in Buruli Ulcer, trauma, obstetrics and anaesthesia

4. Recommendations and follow up action plan

5. 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 ____________________________________________  
   
   Country ____________________________________________________________

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>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Essential Emergency (EE) Equipment</th>
<th>Yes in some equipment</th>
<th>Yes, in all equipment</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are the EE equipment in working order?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Is there access to repair if equipment fails?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Is there access to repair within the health care facility?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Is there access to repair outside the health care facility?</td>
<td>☐</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>
<td>☐</td>
</tr>
<tr>
<td>Is there an agreement for the maintenance of the equipment with the supplier?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Do the health care staff in the emergency room get training in the use of the equipment?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
Is information available on supply, repair, and spare parts for the equipment? □ □ □

5. Quality, safety, access and use

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes, in some procedures</th>
<th>Yes, in all procedures</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are the best practice protocols for management of essential emergency procedures available?</td>
<td>□</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>
<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

Are the information, education and training materials on emergency procedures and equipment available in the emergency room for health care staff use? □ □

Are there introductions of any new procedures/interventions?
- If yes, which procedure/intervention: (please specify)

Has referral to other health facility decreased because of skills and knowledge of procedures and intervention? □ □

Are records maintained? □ □

6. Policy

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</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>
<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>
<td>□</td>
</tr>
<tr>
<td>Are there any guidelines on donation, procurement, and maintenance of all EE equipment?</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Is there a list of extra health personnel to be contacted in disaster situations?</td>
<td>□</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
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>Forceps Kocher no teeth 12-14 cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forceps, artery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kidney dish stainless steel appx. 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>

| Renewable Items                                      |          |              |
| Suction catheter sizes 16 FG                         |          |              |
| Tongue depressor wooden disposable                   |          |              |
| Nasogastric tubes 10 to 16 FG                        |          |              |
| Batteries for flash light (size C)                   |          |              |
| Intravenous fluid infusion set                       |          |              |
| Intravenous cannula #18, 22, 24                      |          |              |
| Scalp vein infusion set #21, 25                      |          |              |
| Syringes 2ml                                          |          |              |
| Syringes 10 ml                                        |          |              |
| Disposable needles #25, 21, 19                       |          |              |
| Sharps disposal container                            |          |              |
| Capped bottle, alcohol based solutions               |          |              |
| Sterile gauze dressing                               |          |              |
Bandages sterile
Adhesive Tape
Needles, cutting and round bodied
Suture synthetic absorbable
Splints for arm, leg
Urinary catheter Foley's 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 infusor bag
Magills Forceps (adult)
Magills Forceps (paediatric)
Stylet for Intubation
Spare bulbs and batteries for laryngoscope
Endotrachael tubes cuff ed (# 5.5 to 9)
Endotrachael 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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