Government of Sierra Leone

Ministry of Health and Sanitation

Basic Package of Essential Health Services for Sierra Leone

March 2010

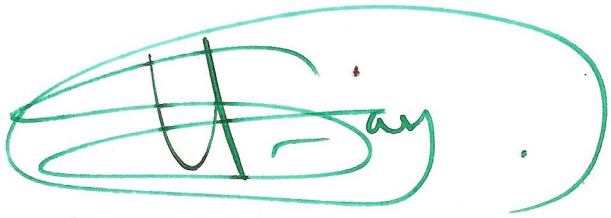
Foreword

Sierra Leone is ranked as one of the poorest countries, with the highest child and maternal mortality indices worldwide. As a government, our Poverty Reduction Strategic Plan (PRSP) which articulates an agenda for change, in the health sector focused on reducing mortality rates, especially for infants and pregnant women. We will scale-up the minimum package of essential services, including maternal and neonatal health care services, immunization, and utilisation of bed nets and promotion of hygiene practices.

The development of the Basic Package of Essential Health Services (BPEHS) is therefore very timely and represents a momentous milestone in our efforts to improve the health status of our women and children. It was developed in close partnership with all stakeholders in the health sector, including our key development partners and it is also to be implemented in close partnership with them. My Ministry is committed to supporting the implementation of this important package which will serve as a guide to implement the government's policy of free health service delivery to under fives and pregnant women. Frantic efforts will be made to mobilize the resources necessary to ensure its successful implementation

Given the clear link between health and access to safe drinking water, the content of the package includes issues of environmental sanitation. In addition, the prevention of HIV/AIDS and mitigating its effect will remain a priority of the government.

As a government, we will utilize the various levels of leadership to play an active role in the successful implementation of this package. In the medium to long term, we will develop and implement a national health insurance scheme that will improve the quality and increase access to health services.



Sahr Samuel Sam-Sumana

Vice President and Pro-tem Minister of Health and Sanitation

Freetown, Sierra Leone

January, 2010

Acknowledgements

The development of the Basic Package of Essential Health Services is an outcome of a series of consultations and team work with the cooperation of key stakeholders and partners of the Ministry of Health and Sanitation.

The Ministry is therefore appreciative of the incessant effort of all those who contributed in diverse ways to the development, review and validation of the Basic Package of Essential Health Services.

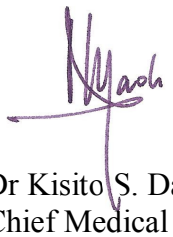
Special thanks to our development partners, UNCIEF, UNFPA, WHO, MRC, MSF-Belgium and Save the Children UK for their invaluable contributions financial or otherwise that made the review, validation and production of the document possible.

The review and validation workshop provided an opportunity for many stakeholders in the health sector to participate and share experiences of best practices which led to the successful production of the document.

Additionally, the Ministry wishes to express its thanks to all those including Ministry of Health and Sanitation staff who contribute to the improvement of the health of the people of Sierra Leone.

This document will always serve as a source of reference for health practitioners and those interested in the health sector.

I thank you all.



Dr Kisito S. Daoh
Chief Medical Officer
Ministry of Health and Sanitation, Sierra Leone

Contents

Abbreviations

ACT	———	Artemisinin Combination Therapy
ARI	———	Acute Respiratory Infections
ART	———	Anti Retroviral Therapy
AVD	———	Assisted Vaginal Delivery
BCC	———	Behaviour Change Communication
BPEHS	———	Basic Package of Essential Health Services
BSN	———	Bachelor of Science in Nursing
CHC	———	Community Health Centre
CHO	———	Community Health Officer
CHP	———	Community Health Post
CHA	———	Community Health Assistant
CHW	———	Community Health Workers
DHS	———	Demographic and Health Survey
DPs	———	Development Partners
EDCU	———	Endemic Disease Control Unit
EmONC	———	Emergency Obstetric and Neonatal Care
ENT	———	Ear, Nose and Throat
HIV	———	Human Immunodeficiency Virus
IEC	———	Information, Education and Communication
IMNCI	———	Integrated Management of Neonatal and Childhood Illnesses
IPT	———	Intermittent Preventive Treatment
ITN	———	Insecticide Treated Net
LBW	———	Low Birth Weight
LLIN	———	Long Lasting Insecticide Net
MCH	———	Maternal and Child Health
MCHP	———	Maternal and Child Health Posts
MDG	———	Millennium Development Goal
MICS	———	Multi Indicator Cluster Survey
MOHS	———	Ministry of Health and Sanitation
MRC	———	Medical Research Centre
MSF	———	Medicin Sans Frontiers
MVA	———	Manual Vacuum Aspiration
NAC	———	National AIDS Committee
NGO	———	Non Governmental Organisation
OB/GYN	———	Obstetrician and Gynaecologist
ORS	———	Oral Rehydration Salts
PEP	———	Post Exposure Prophylaxis
PHC	———	Primary Health Care
PHU	———	Peripheral Health Unit
PIH	———	Pregnancy Induced Hypertension
PMTCT	———	Prevention of Mother To Child Transmission
PRSP	———	Poverty Reduction Strategy Plan

Abbreviations

RCH	———————	Reproductive and Child Health
RED	———————	Reaching Every District
RPR	———————	Rapid Plasma Reagin (Test for Syphilis)
SECHN	———————	State Enrolled Community Health Nurse
SP	———————	Sulphadoxine Pyrimethamine
SRN	———————	State Registered Nurse
STI	———————	Sexually Transmitted Infection
TB	———————	Tuberculosis
TBA	———————	Traditional Birth Attendant
UN	———————	United Nations
UNFPA	———————	United Nations Fund for Population
UNICEF	———————	United Nations Children's Fund
VCT	———————	Voluntary and Confidential Testing
WHO	———————	World Health Organisation
DCP2	_____	Disease Control Priorities in Developing Countries, 2nd.edition

1.1 Country Profile

The republic of Sierra Leone is situated on the West Coast of Africa, bordering the North Atlantic Ocean, between Guinea and Liberia. It has a tropical climate with two distinct seasons; the dry season starts in November and ends in April, while the rainy season starts in May and ends in October. The land area covers approximately 71,740 sq km, about 28,000 sq miles.

Figure 1: Map of Sierra Leone showing districts

Administratively, the country is divided into four major areas, namely Northern Province, Southern Province, Eastern Province and the Western Area where the capital Freetown is located. The provinces are further divided into twelve districts, while the districts in turn are sub-divided into chiefdoms, governed by traditional paramount chiefs. Sierra Leone has a population of 5,473,530[1] inhabitants.

[1] 2004 National Population Census projection

1.2 Health Sector Status

Sierra Leone is facing serious challenges in delivering health care services. In 2008, the life expectancy was 48 years, infant mortality rate 89 per 1000 live births, under five mortality rate 140 per 1000 live births and maternal mortality ratio 857 per 100,000 live births[2].

The country suffers mainly from diseases such as malaria, tuberculosis, acute respiratory infections and diarrhoeal diseases for which cost-effective interventions are available. Fertility rates are high due to low contraceptive utilization and malnutrition is widely spread among children and lactating mothers. Non-communicable diseases like diabetes, cancer, hypertension, cardiovascular disease and chronic kidney disease are on the increase and now account for a significant proportion of morbidity and mortality among the population.

The Health Status of the population compared to other sub-Saharan countries is critical. Results of demographic and health indices MIC 3 Survey of 2005, and the Demographic Health Survey (DHS) of 2008 respectively revealed the following:

Table 1: Trends in Some Key Health Indicators

Key indicators	2005 (MICS3)	SLDHS 2008
Infant mortality rate (per 1000)	170	89
Under-five mortality rate (per 1000)	286	140
Maternal Mortality Ratio (per 100,000)	1300	857
Underweight prevalence (2 SD ≤ / 3 SD ≤)	31 / 9	21.1 / 3.5%
Stunting prevalence (2 SD ≤ / 3 SD ≤)	40 / 20	36.4 / 20.6%
Wasting prevalence (2 SD ≤ / 3 SD ≤)		10.2 / 4.2%
Exclusive breastfeeding rate (0-5 months)	8	11.20%
Pentavalent 3 Immunization coverage	63	54.60%
Fully immunized children	54	30.20%
Under-fives sleeping under insecticide-treated nets	5	25.80%
Anti-malarial treatment (under-fives):		
• Within 24 hours of onset of symptoms	45	15.10%
• Any time	52	30.10%
Use of improved drinking water sources		50.30%
At least 2 antenatal visits		74.30%
Skilled attendant at delivery	43	42.40%
Institutional deliveries	19	24.60%
Net primary school attendance rate (%)	69	66.20%
Gender parity index: ratio of girls : boys (primary; secondary)	1.01: 0.78	1.02 : 0.68
Contraceptive prevalence	5	8
HIV prevalence	1.54	1.5
Comprehensive knowledge about HIV prevention among young people (Female: male)	18	: 27.6%

DHS 2008 report

The country has a poor health status mainly due to a high disease burden caused by environment related communicable diseases and aggravated by poor nutrition. Malaria (38%), acute respiratory infection (16.9%) and watery & bloody diarrhoea (9.7%) are the top most causes of outpatient attendance, together accounting for about 65%. Although stunting prevalence in under-fives has decreased from 40% in 2005 to 36.4% in 2008, poor nutritional status is still a public health problem.

The above-mentioned three diseases together with malnutrition account for about 70% of under–five consultations. Although the under–fives constitute about 17% of the population, they make up 49% of consultations at PHUs. Malaria is hyper – endemic/holo-endemic in the country and affects the whole population, but children under five years and pregnant women are most vulnerable with high morbidity and mortality rates[3]. The country also, from time to time, experiences outbreaks of the following epidemic prone diseases: Cholera, Yellow fever, Shigellosis, Lassa fever, Measles and Meningitis.

Fertility rates remain high although it has decreased from an estimated at 6.5 for women in 2005 to 5.1% in 2008. High fertility rates are closely related to rural residence and low socio-economic status, with age at first childbirth being low. Contraceptive prevalence rate has also increased from 5% in 2005 to 8 % in 2008.

A recent national population based sero-prevalence survey for HIV reported a national prevalence of 1.53%. In spite of the low HIV prevalence rate however, there are factors such as high prevalence of sexually transmitted infections (STIs), poverty, ignorance and a youthful population that could easily fuel the pandemic.

Health services are delivered through a network of health facilities. This network consist of 1,040 Peripheral health facilities which are composed of Community Health Centres (CHCs), Community Health Posts (CHPs), Maternal and Child Health Posts (MCHPs) and 40 hospitals (23 government owned and the rest owned by private, non-governmental and faith based organizations). These health facilities, which are inadequately equipped and under-staffed, provide only limited services.

The formulation of the PRSP II which articulates an agenda for change opened new opportunities and at the same time brought in new challenges for all sectors of the health system including RCH. The development of the BPEHS is seen as a cost effective strategy to achieve implementation of the agenda for change by providing minimum acceptable quality of care to every Sierra Leonean.

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DPI HMIS Report June 2009

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2. The Basic Package of Essential Health Services (BPEHS)

One popular response to improve health service delivery in post-conflict countries like Sierra Leone is to provide a Basic Package of Essential Health Services for the country's population. This approach is novel because it is seen as a high impact, cost effective primary care service delivery mechanism aimed to scale up health services rapidly, including sexual and reproductive and child health services.

To address the unacceptable high child and maternal mortality and morbidity in the country, the current strategy is designed to address both reproductive and child health issues taking into account an integrated approach and continuum of care.

The major focus of this strategy will be on reducing mortality rates, especially for infants and pregnant women. It will scale up interventions of the minimum package of essential services, including utilization of treated bed nets and promotion of early and exclusive breastfeeding; family planning to address problems of teenage pregnancies and child marriage; essential and emergency obstetric care, including prenatal, delivery and post natal services; integrated management of neonatal and childhood illnesses; preventive services, including immunisation and school health; and promotion of hygiene practices.

The Basic Package consists of six distinct elements:

- It identifies the services that the MOHS guarantees will be available to the population. Other services may be available as a result of global initiatives, vertical programmes, or private donations but they would be added to, not substituted for the services contained in the Package.
- It implies that a minimum set of health staff with appropriate skills will be present at each of the facility levels to provide the services
- It gives guidance for the content of training programmes by defining the technical and management competences required at different levels of the health system.
- It gives guidance to what will constitute an essential drugs list for each level of the health system
- It is presented in such a way that costs can be estimated to give an idea of the financial resources that will be required for service provision
- It provides a basis to prepare operational plans and to design Monitoring and Evaluation tools.
- It also provides a comprehensive list of services to be offered at five standard levels of health care within the Sierra Leone health system, namely:
  - ⇒ The Community level (TBAs, CHW)
  - ⇒ Maternal and Child Health Post level (MCH Aids)
  - ⇒ The Community Health Post level (CHAs)
  - ⇒ The Community Health Centre level (CHOs)
  - ⇒ The District Hospital (Doctors, Nurses, Lab. Tech.)

2.1 Goal

The goal of the Basic Package of Essential Health Services emanates from the Ministry of Health & Sanitation's belief that access to sound health is a human right. It is also anchored in the ministry's vision of ensuring a functional national health system delivering efficient, high quality health care services that are accessible, equitable and affordable for everybody in Sierra Leone and the overall goal of maintaining and improving the health of its citizens.

This is aimed at the achievement of a reduction in maternal and child mortality by 30% by 2010. It will be the basis of service delivery in all primary and secondary health care services.

2.2 Key Characteristics of BPEHS

The basic package of essential health services is characterized by the following:

- Services which have the greatest impact on the major health problems (especially that of maternal and child health)
- Services that are cost-effective and evidence-based
- Services which could be delivered to give equal access to both rural and urban populations.

The concept of the Basic Package of Essential Health Services (BPEHS) is that all of the services in the package must be available as an integrated whole, rather than being available piecemeal or as individual services. The Ministry of Health and Sanitation therefore expects that all partners and key stakeholders involved in the delivery of health services in Sierra Leone will use this BPEHS as the basis for planning and implementing their health programs/support.

The Ministry will ensure that the core services making up BPEHS are available nationwide and that additional services that are not part of the Basic Package of Essential Health Services are added as and when appropriate. These additional services will not substitute any of the Basic Package of Essential Health Services.

2.3 Criteria for Selection of Interventions

The Ministry of Health and Sanitation has used the following four criteria to choose the interventions of the Basic Package of Essential Health Services:

- High impact, cost effective, evidence – based services that can be delivered successfully in Sierra Leone
- Diseases that have a heavy burden on the Sierra Leone population, considering the effect on individuals as well as the social impact of the disease (such as epidemics and adverse economic effects)
- Sustainability of the services in the long-term as donors reduce support in the years ahead, taking into consideration the government's ability to maintain a basic level of health service
- The need for equity in ensuring that critical health services are provided to all, especially the poor.

2.4 Priorities and Impact

Priorities

The BPEHS is designed to ensure that a comprehensive standard of service is maintained within the health care delivery system in Sierra Leone. It will also enable the effective utilisation of the limited resources available in the sector.

Partners are now required to implement the BPEHS in all their health care delivery facilities.

The intention is to implement the Basic Package of Essential Health Services as an indivisible set of services and activities in all health facilities, i.e., a health facility cannot be deemed "fully functional" until it is capable of providing the entire BPEHS to its target population. The full functionality of most facilities according to the BPEHS will be achieved through a gradual process.

Impact

As the BPEHS is meant to reach more of the Sierra Leonean population, it is envisaged to have an impact in the following areas:

- People, especially vulnerable groups in all areas of Sierra Leone, will benefit from having a basic set of services available to them which will address the major health problems they and their families face.
- It provides an enabling environment for the government to prioritise its major health problems and gives a clear direction for effective service delivery.

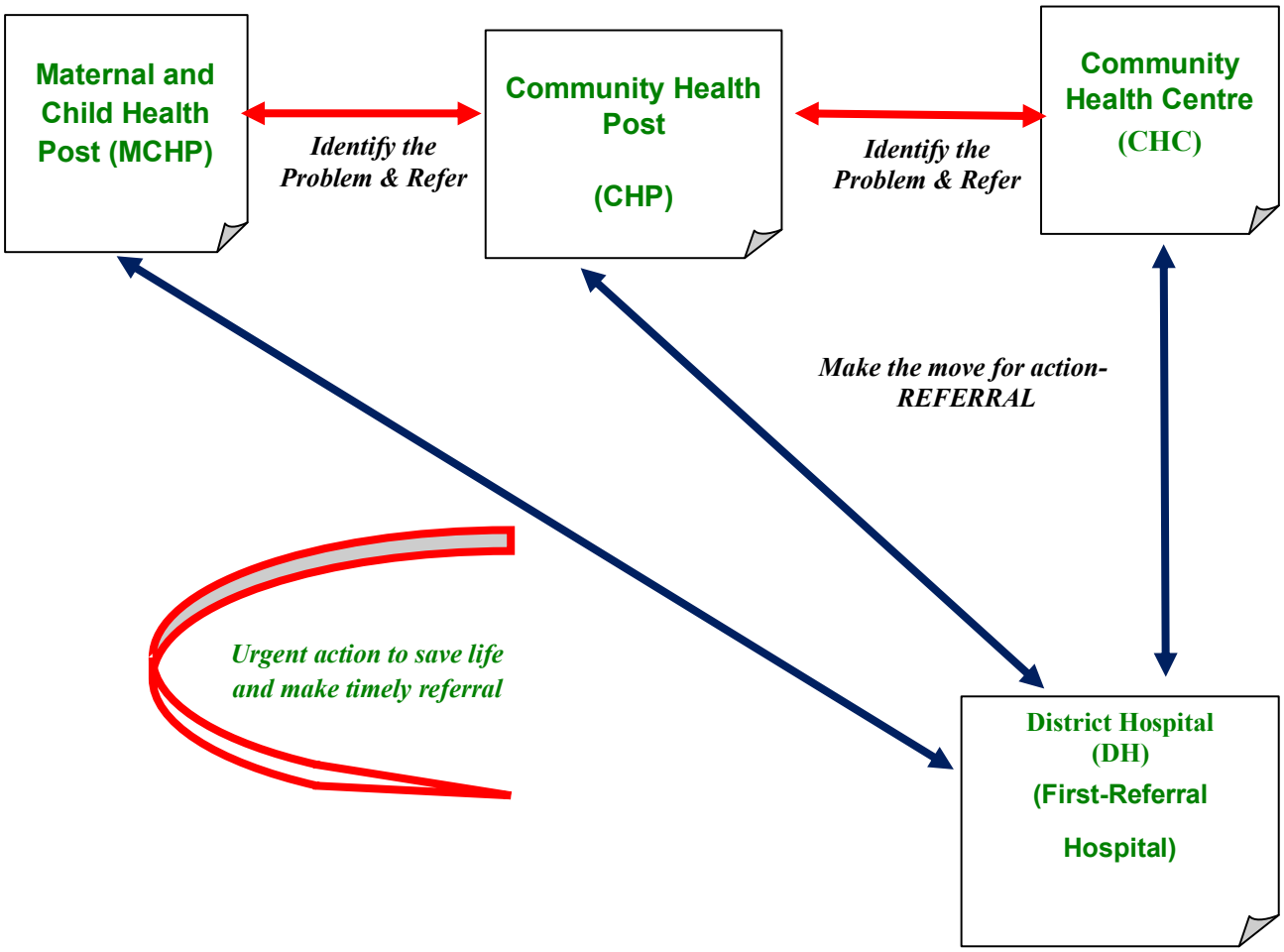
Donors and partners, including the private sector, will be able to use their expertise and resources in a cost effective manner which will ensure a positive impact on the people of Sierra Leone

2.5 Health Facility Levels of Implementation of BPEHS

The BPEHS provides a comprehensive list of services to be offered at the following levels of health facilities within the health system and the interlinkages between them (see fig 1)

- Maternal and Child Post
- Community Health Post
- Community Health Centre and
- The District Hospital

FIG 2: Flow of Referral Between the Levels of Health Care Facilities



3. Types of Facilities

3.1 Maternal and Child Health Post

The Maternal and Child Health Post is the first level of contact for patients in the village and grassroots level. One or more MCH Aides will live and perform their duties at these posts. An MCH Post should ideally serve a population of 500 to 5,000 within a 3-mile radius.

MCH Aides are to supervise the activities of the surrounding cluster of TBAs in such a way that their economic interests do not conflict. The TBAs assist the MCH Aides and refer pregnant women for antenatal, delivery and postnatal care. They are encouraged to assist with deliveries under the supervision of the MCH Aides.

3.2 Community Health Post

A Community Health Post is usually situated in a small town; it should serve a population of 5000 to 10,000 within a 5-mile radius. These posts have similar functions to the MCHP with added curative functions. Community Health Posts have been manned by SECHN or EDCU Assistants, but in future will be manned by community health assistants currently being trained.

The Community Health Post will relate to the Community Health Centre in the following ways:-

- Patients will be referred from the Community Health Post to the Community Health Centre where improved services can be offered
- Urgent and/or more serious referrals and emergencies on the other hand will go straight from the Health Posts to the District Hospital to avoid delays.

The Community Health Officer-in-charge of the CHC will support and supervise the person in charge of the Community Health Post, by visiting him/her and discussing health problems of the area.

3.3 Community Health Centre

The centre has preventive, promotive and curative functions. It should have a catchment population of 10,000 to 30,000 or more within a 5-10 mile radius. In addition to assisting normal deliveries, the community health centre can handle some complications; grave cases of childhood illness; treatment of complicated cases of malaria and inpatient and outpatient physiotherapy for disability. The facility will have space for inpatient care, as well as a laboratory. The staff of a community health centre will also be larger than that of a post, including CHOs, nurses, midwives, and laboratory and pharmacy technicians.

In addition to its own catchment area, the CHC will supervise the Community Health and the MCH Posts, as well as the community related health workers in the chiefdom. Therefore, the Community Health Centre takes responsibility for the health of the whole Chiefdom.

3.4 District Hospital (First-Referral Hospital)

The district hospital bed capacity should not be less than 45 beds and must have two (2) resident doctors. It is the first-referral centre, which should handle all services in a holistic manner, including the Basic Package of Health Services. Cases for referral to the district hospital level will include major surgery under general anaesthesia; X-rays; comprehensive emergency obstetric care, including Caesarean sections; and family planning methods relevant for Sierra Leone.

The hospital will also provide a wider range of essential drugs and laboratory services than the health centres. The hospital will be staffed with doctors, including male or female OB/GYNs, surgeon, anaesthetist, and paediatrician; midwives; lab and X-ray technicians; pharmacist; and dentist and dental technician. Each district hospital will cover a population of about 500,000.

TABLE 2: List of Suggested Health Worker Categories

No.	Category of Health Worker
1	General Practitioner, Hospital Superintendent
2	District Medical Officer – Public Health
3	Medical specialities: Radiologists/Radiographers, Neonatal Care/Paediatricians, Obstetrics. & Gynaecology, etc
4	Other Nursing specialities: Paediatrics, Radiologists Neonatal Care Unit, Intensive Care Unit, Operating Theatre, dentistry, Nurse Anaesthetist, ophthalmic, etc.
5	Dentist / Dental technician
6	Community Health Officer
7	Matron
8	Nursing Sister
9	Ward Sister/Officer
10	Staff Midwife
11	BSN Nurse
12	SRN
13	SECHN
14	CHA
15	Maternal and Child Health Aide
16	Nursing Aides
17	Nutritionist
18	Pharmacist
19	Pharmacy technician
20	Lab technician
21	Assistant Lab technician
22	X-Ray technician
23	Anaesthetist Assistant
24	Physiotherapy technician
25	Health inspector/Sanitarian
26	Community Health Workers (Vaccinators, blue flag, TBA, volunteers)

4. Contents of The Basic Package of Essential Health Services

The Basic Package of Essential Health Services for Sierra Leone consists of the following components, Interventions and Services:

4.1 Maternal and Newborn Health

- Antenatal Care
- Delivery and Peri-natal Care
- Post-natal Care
- Family Planning
- Care of the Newborn
- Emergency obstetric care

4.2 Child Health and Immunizations

- EPI Services
- Integrated Management of Childhood Illness

4.3 Infant and Young Child Nutrition

- Community Nutrition
- Micro nutrient supplementation
- Treatment of clinical malnutrition, especially Severe Acute Malnutrition (SAM)

4.4 School and Adolescent Health Services

- Information, Education and Communication on Preventive, Curative, Rehabilitative and Promotional Health Services

4.5 Control of Communicable Diseases

- Control of Tuberculosis
- Control of Malaria
- Control of STI/HIV/AIDS
- Control and management of other diseases with epidemic potential

4.6 Essential Drugs and Supplies

- Supply of Essential Drugs
- Supply of Essential Equipment
- Supply of vaccines

4.7 Emergency care

- Accidents
- disasters
- Epidemic Outbreaks

4.8 Mental Health / Non Communicable Disease

- Community management of mental problems
- Health facility based treatment of outpatients and inpatients

4.9 ENT and Audiology Services

- Provision of ear care and Audiological services
- Conduct outreach mobile clinic services
- Process and repair ear moulds
- Train Technicians, nurses and auxiliaries

4.10 Environmental Health Interventions

- Vector Control - draining all stagnated water, ensuring free-flowing drains, clearing of vegetations near homes, use of ITNs, etc.
- Safe Drinking Water - maintenance of water sources, routine chlorination and safe storage of drinking water.
- Improved Sanitation - safe excreta disposal; discouraging open defecation and safe and appropriate refuse disposal.
- Indoor Pollution - appropriate mitigation measures
- Hygiene Promotion - hand washing and personal hygiene

4.11 Health Education

- Development and dissemination of IEC/BCC materials
- Airing of radio discussion programmes
- Community sensitization meetings
- Conduct health talks in clinics
- Community volunteer training on IEC/BCC
- Monitoring and evaluation of community responses to IEC/BCC programmes

4.12 Oral Health

- Oral hygiene
- Dental care (fillings, extraction, dentures etc.)

4.13 Eye Care

- Eye injuries
- Eye infections

4.14 Disability

- Physiotherapy integrated into PHC services
- Orthopaedic services expanded to hospital level

4.15 Regulatory Bodies

- Nurses and Midwives Board
- Pharmacy Board
- Medical and Dental Council
- Community Health Officers and Assistants Board (To be formed later)

5. Implementing The Basic Package of Essential Health Services

The BPEHS implementation plan will define the series of programs and activities that will be necessary to address the needs in infrastructure, human resources, equipment and supplies, and management for the system to become fully functional.

Because the emphasis of BPEHS is on Primary Health Care, it focuses attention on those services that are provided to and used by the population of the immediate catchment area of health facilities.

The limitations in the numbers and distribution of government health facilities make it difficult for the Ministry of Health and Sanitation to provide services to the whole of the Sierra Leonean population by itself. For this reason, the Government is giving considerable attention to work out ways whereby the private, not-for-profit and for-profit sectors can become responsible partners in BPEHS's implementation.

It is important to recognize that the publication of the Essential Package as the government's policy and strategy for health care services does provide the health partners, including NGOs, with a clear statement of national priorities.

It is therefore expected that the health partners, including NGOs, will apply the BPEHS guidelines to their own services and programs because it is the statement of government's national policy for health services in Sierra Leone and it carries in itself the authority of evidence-based interventions that can be implemented with the available resources of the country at this time, to meet the needs of the population.

Implementation of the BPEHS is going to be closely monitored, with Information collected to be used to modify the understanding of the health care needs of the population as well as the ways in which those needs can best be met. The health partners, including NGOs, are invited to be partners in that implementation process.

In other post-conflict settings, different forms of performance-based contracting have been applied with generally good results. In Sierra Leone, it may be appropriate to pursue different mechanisms for BPEHS implementation, but it is clear that at present, the public sector will be unable to proceed as quickly as it might like without engaging the private sector to a considerable extent in some way or another.

5.1 Constraints to the Implementation of The Basic Package of Essential Health Services

Although each one of the components included in this BPEHS seems quite modest, yet achieving the full provision of the entire range of services in these programmatic areas in a short period of time is going to be a huge challenge for post-conflict Sierra Leone as was observed in other countries emerging from similar conflict situations

In the public sector, the distribution of health resources and the condition of health facilities is a matter of concern.

Government is struggling against enormous hurdles to improve the macro-economic situation in Sierra Leone and is committed to meeting the Abuja target of 15% of the national budget to be allocated to the health sector (Abuja Declaration of ECOWAS Heads of State, Abuja Nigeria) this in itself will be grossly insufficient to finance the effective implementation of the BPEHS.

The state of impoverishment of the population precludes the recovery of any reasonable degree of health sector costs from the consumers. Job opportunities have been and continue to be scarce, and the pursuit of sustainable livelihoods is elusive. Sierra Leone will certainly be dependent on large amounts of foreign assistance for many years to come.

The government human resources for health are grossly inadequate both in quantity and quality. Factors responsible for these include among others, low motivation, low salaries, inadequate staff quarters, slow career progression and a high attrition rate. The reluctance of key personnel, especially clinical, to live and work in the rural areas where their services are most needed, continues to pose problems of adequately staffing health facilities.

As is usually the case, the health sector in post-conflict Sierra Leone is fragmented by vertical programs and global initiatives. Furthermore, the MoHS recognises that it will not have the ability to deliver services to the entire population alone and therefore allows private organizations to be responsible for service delivery. Therefore, its attempts to implement local priority programs would require proper coordination of the activities of all partners.

The capacity of the public sector has been strengthened by the setting up of various structures to coordinate and monitor the many players charged with service delivery by the national Health Policy and Strategic Plan 2010-2015.

A Health Service Commission will be established to review remuneration for HRH, raise staff numbers, and improve retention rates and the conditions of service for health workers. A performance-based incentive system for all staff will also be introduced. Staff training will be decentralized as far as is necessary and possible.

The Ministry of Health & Sanitation will ensure equity in the distribution of health professionals across the country; maintain/develop a needs-based human resource policy and strategic plan and collaborate with relevant training institutions to train based on national needs.

The MOHS will continuously undertake review of the essential list of drugs, vaccines and supplies, as well as develop/maintain a system of monitoring and evaluation that will enable periodic review of programs in the light of their objectives, and the building of management skills within the Ministry of Health and Sanitation.

Against the backdrop of all of the above, the development of the BPEHS is seen as a formidable achievement by the Ministry of Health and Sanitation that should serve as an organizational and operational tool for many other aspects of policy development, planning, programme implementation, monitoring and evaluation.

The Ministry depends on the continued dedication of its entire staff and those of its partner organisations for the successful implementation of this BPEHS. It requires the sustained provision of public funds and the financial and technical assistance from development partners who share our vision and goals for the health sector and will indeed welcome their support. This plan embodies the dream for a better health care delivery system for all people of Sierra Leone.

6. Levels of Delivery of The Basic Package of Essential Health Services

This section will describe in more general terms the capacity and types of services that are offered at each level, and how the different levels are intended to relate to one another. Details of the services provided for each of the programmatic areas in the BPEHS are covered in Chapter 14. In addition, it also indicates the level of the health care system at which those activities and services should be offered.

6.1 Community-Based Health Activities

Health interventions need to reach people either by being provided at their homes, workplaces or by encouraging them to visit health facilities. Consequently, interventions based in communities can reduce the costs and other barriers that prevent people from accessing services. Community-level interventions generally focus on safe motherhood, nutrition, simple prevention and treatment. Community Health workers can play an important role to promote healthy behaviours, preventive action and mobilize demand for appropriate services at other levels

The MoHS, therefore, places considerable emphasis on developing a cadre of health workers to promote health awareness, to distribute a limited number of medicines and commodities, and to refer those in need of care to the appropriate health facility. Community health workers (Blue Flag Volunteers, Community Based Distributors, Community Based Providers, Pump Attendants, Traditional Birth Attendants and Community Vaccinators) are vital to the goal of achieving a maximally participatory health system, where the population has an important say in how services are managed and delivered.

Community Health Workers (CHWs), male and female, young and old, will be trained to do many different things in the communities in the following main categories:

- Promotion of healthier life-styles and environmental control;
- Promotion of appropriate use of health services;
- Promotion of health services like antenatal care, vaccinations and family planning;
- Providing more accessible preventive services in the community;
- Providing a link between the community and the formal health system as an advocate for the community.

CHWs have been trained at different times to do all or some of these things. Some have been recruited by a vertical program for only one type of activity, related to one health problem. As a way to promote community participation, some programs have also recruited health committee members to oversee community health activities.

The large number of different community-based programs is witness to the recognition of its importance. However, at this time, there is no government policy on CHWs or community-based health care. That is one of the things that will be necessary for development of the BPEHS implementation plan. In the meantime, preliminary decisions are implicit in the following areas of the BPEHS:

Although there is currently no formal policy adopted in regard to this level of health worker, it is hoped that local governments will utilize their services to complement and assist health workers in their communities under the supervision of staff of the Peripheral Health Units.

The role of the community level health workers in treating diseases with potent drugs has long been the subject of debate. It is only recently that WHO and UNICEF have issued policy guidelines promoting the use of antibiotics at community level **(Community IMNCI UNICEF, WB August 2006)**. The contribution of pneumonia to child mortality and the need for relatively urgent treatment is so great that trained CHWs should be able to diagnose and treat pneumonia, and to refer severe pneumonia to an appropriate level of care.

Evidence suggests that home treatment with anti-malarial within the first twenty-four hours of the onset of a fever reduces child mortality in malaria endemic countries. Access to appropriate timely treatment for malaria for under-fives is shown to be low, according to studies conducted in Sierra Leone, (DHS 2008.), In the light of this, several districts are presently introducing home management of malaria with Artemisinin Combination Therapy (ACT) by CHWs. These CHWs will therefore have an important role in maintaining community awareness on the importance of malaria, diarrhoea and pneumonia as main causes of child deaths. Teaching the CHW to recognize the danger signs and refer early to a health facility will contribute to reduction of morbidity and mortality.

With regards to Traditional Birth Attendants (TBAs), evidence supports the argument that TBAs do not make a substantial contribution to the reduction of maternal mortality, which depends to a large extent on their inability to provide emergency obstetric care. However, there is also recognition that when TBAs have been encouraged to build a working relationship with health facility staff, the rates of antenatal attendance and referrals of complications have increased. (Reducing Maternal Death and Disability, British Medical Bulletin, 2003; 67) The RCH Programme stresses the importance of community Sensitization and Mobilization regarding need for family planning, supervised pregnancy and child birth for all women in the country by all means. This therefore involves advocacy for bye-laws preventing home deliveries, and the phasing out of TBAs carrying out deliveries on their own. They are required to work under the direct supervision of the technical health staff trained on EmONC within their locality.

The TBAs will also be engaged in the dissemination of information relating to health matters and in monitoring the use of Insecticide Treated Nets (ITNs) by pregnant women and under-five children, among others, in the communities.

Table 3: Percentage of children who took Anti-malarial drug the same or next day

Back-ground character-istic	SP/ Fansi-dar	Chloro-quine	Amodia-quine	Quinine	ACT	Gbangba root/Sheku Ture leaves	Other anti-malarial	Number of children with fever
Age (in months)								
<12	0.5	7.7	1.6	0.0	1.7	1.9	1.1	360
12-23	1.8	5.5	1.7	0.0	0.7	2.0	1.7	308
24-35	0.8	7.2	2.8	0.0	2.5	0.7	0.9	242
36-47	1.5	10.4	2.1	0.0	2.1	0.9	1.7	201
48-59	3.3	8.4	2.4	0.9	2.3	2.5	1.0	172
Residence								
Urban	2.7	10.7	2.1	0.4	1.3	1.1	0.8	352
Rural	0.9	6.4	2.0	0.0	1.9	1.8	1.5	931
Region								
Eastern	0.6	5.9	1.1	0.0	0.9	0.0	0.3	246
Northern	1.3	4.8	0.5	0.3	0.9	2.3	2.0	569
Southern	2.0	12.7	6.9	0.0	4.5	2.2	1.5	254
Western	2.0	11.1	1.6	0.0	1.5	1.0	0.2	214
Mother's education								
No educa-tion	1.1	6.7	1.3	0.0	1.8	1.8	1.5	936
Primary	2.2	8.1	2.8	0.0	0.7	1.1	1.5	176
Secondary or higher	1.9	10.2	4.2	1.0	1.9	1.4	0.3	152
Wealth quintile								
Lowest	1.3	6.7	1.0	0.0	0.5	1.2	3.8	272
Second	0.0	6.4	3.8	0.0	1.8	2.6	0.4	272
Middle	1.8	7.5	0.7	0.0	2.9	1.2	0.0	272
Fourth	0.7	5.8	2.6	0.0	2.1	2.9	1.6	248
Highest	3.7	12.3	2.2	0.7	1.5	0.0	0.6	220
Total	**1.4**	**7.6**	**2.0**	**0.1**	**1.7**	**1.6**	**1.3**	**1,283**

Source: DHS 2008

6.2 The Basic Package of Essential Services in Health Facilities.

The Basic Package of Essential Services involves an integrated provision of primary and secondary care. Primary care, including both outpatient curative and preventive care as well as outreach services, is provided at all health facilities (PHUs and hospitals) for their primary catchment areas thought to be an area within a radius of about five kilometres (three miles) round the facility.

There are three main types of PHUs which are recognised and standardised. Each type has clearly defined functions. The buildings, equipment, drug supplies and staffing levels are specified to meet the functions.

6.2.1 Community Health Centre (CHC)

CHC is usually situated in the chiefdom headquarters or in a well populated area with a catchment population of 10,000 to 30,000 or more within 15 km (or 10 miles) radius of the facility.

6.2.2 Community Health Post (CHP)

CHP is usually situated in a smaller town. It should serve a population of 5,000 to 10,000 or more within 8 km (or 5 miles) radius of the facility.

6.2.3 Maternal and Child Health Post (MCHP)

An MCHP should ideally serve a population of 500 to 5,000 within a 5 km (or 3 miles) radius of the facility.

These centres mentioned above have preventive and curative functions and are open 24 hours. MCHPs and CHPs have beds only used for observation. Anyone requiring further supervised care needs to be referred to the CHC or hospital. Community Health Centres, where improved services can be offered, should admit cases referred from the lower levels. Urgent and or more serious referrals on the other hand should be referred to the hospitals immediately to avoid further complications. The proposed staffing for these PHUs are shown in Table 2.

6.2.4 First Referral Hospital (District Hospital)

Secondary care is provided at district hospitals. The secondary health facilities are open 24 hours, and the staff are usually organized in three shifts in order to provide appropriate medical, midwifery and nursing cover at all times. This makes it possible for more severe medical and paediatric cases to be cared for and for Emergency Obstetric and Neonatal Care (EmONC) to be provided.

The district hospital provides primary health care, secondary medical care and comprehensive emergency obstetric and neonatal care including general surgical and surgical obstetric care to the whole district, with a population of about 500,000. To manage this, it will have an operating theatre, a more extensive laboratory with safe blood transfusion services, an X-Ray machine and ultrasound. There will be more than 100 beds, and the hospital will be staffed with doctors, midwives, nurses and other categories of health staff in line with the HRH staff requirements. (MOHS HRH plan 2004-2008)

Table 4: Proposed staffing for PHUs

Staff Category	MCHP	CHP	CHC
Community Health Officer			1
Environmental Health Officer			1
SECHN-Midwife		1	1
SECHN/CHA		2	2
Dispenser		1	1
EDCU assistant		1	
Laboratory Technician			1
Laboratory Assistant		1	
MCH Aides	2	3 (RED approach)	6 (RED approach)
Community Health Assistant	1	1	1
Vaccinator (phasing out, no more training)	1	1	1
Traditional Birth Attendant (Community health workers			
Nursing Aide?			
Medical Statistical Assistant		1	1
Porters/cleaner	1	1	2
Security	1	1	1
	6	**9**	**14**

6.3 Basic Package of Essential Health Services in the Community

Outreach services need to be strengthened in hard to reach communities where pregnant women cannot access services easily. The present roles of traditional birth attendants and community health workers will be shifted to those of identifying pregnant women in the communities, social mobilization for institutional delivery and emergency preparedness, distribution of Iron, Folic acid and Vitamin A supplements, health education for maternal and newborn health, including birth preparedness, etc.

7.1 Maternal and Newborn Care

Sierra Leone, like many African countries in Sub-Saharan Africa, has very high maternal and neonatal and child mortality indicators. A series of surveys and other data collection activities have recently been conducted, and the BPEHS has been modelled and adapted as a result of the findings. The results of the 2008 demographic health survey (SLDHS, 2008) conducted in Sierra Leone provide an evaluation of the utilization of the health care services, as well as useful information for assessing the need for service expansion.

According to the 2008 Demographic Health Survey, the maternal mortality ratio is estimated at 857 per 100,000 live births. Neonatal mortality rate is estimated at 36 per 1000 live births, this shows that newborns are dying within the first month of life, and most of them are dead within the first week. The Post neonatal mortality rate is estimated at 53 per thousand live births whilst the Infant, Child and Under-fives mortalities are 89, 56 and 140 per 1000 live births respectively. This means that 1 in 11 children that are born, die before reaching the first birthday while 1 in 7 die before attaining the fifth birthday.

Access to skilled maternal care is very low. About one out of four births (24.6 percent) in Sierra Leone were delivered in a health facility, while 71.8 percent were delivered at home; and 22.2 percent were delivered in public sector and 2.4 percent in private sector health facilities. The proportion of babies born in a health facility is generally low in most of the regions, but it is least (15.5 percent) in the Northern Region: The proportion of children born in health facilities increases with increase in levels of education and wealth quintile of the mothers.

The nationwide Needs Assessment on Emergency Obstetrics and Newborn Care (EmONC) was undertaken by the Ministry of Health & Sanitation (MoHS) and partners in 2008 in response to the unacceptably high maternal and newborn mortality in Sierra Leone. The aims of the assessment were to determine the availability, utilization and quality of EmONC services, to identify gaps in service delivery, to identify interventions for the reduction of maternal and newborn mortality, and to provide baseline data upon which future programs could be monitored.

There was observed to be poor utilization of health facilities for delivery, with a resultant low demand for EmONC services. According to the 2008 EmONC Assessment Report, only about 10% of expected births were found to occur in health facilities. The inadequate skills, equipment and supplies to perform assisted vaginal delivery (AVD) and manual vacuum aspiration (MVA) meant that most community health centres (CHCs) and hospitals did not attain EmONC status.

The health sector has definitely seen some improvements, as indicated in the report of the first phase of the Poverty Reduction Strategic Plan and DHS, 2008. However, more needs to be done as these data give a poor indication of the status of women and children's health.

Teenage pregnancies continue to be common and unsafe abortions are prevalent. Cultural practices encourage early marriage of girls. School attendance by girls is still lower than for boys and dropout rates are higher for girls. Discrimination against the girl child is common, and the incidence of gender-based violence is high.

7.1.1 Antenatal Care

Antenatal care is a critical component of Safe Motherhood Initiative and it appears generally patronised by women in Sierra Leone on the basis of records of antenatal attendance. However, most women only report at the point of delivery or in labour instead of the four visits required in the focus antenatal standard during pregnancy. Four visits are generally adequate to monitor the progress of labour and detect and manage any complications at the appropriate stages of pregnancy. They are sufficient to provide tetanus toxoid immunizations, multivitamins, prevent malaria with intermittent preventive treatment of malaria and insecticide treated bed nets, and prevent anaemia with iron, folic acid and Antihelminthic treatment.

Data from the recent Demographic and Health Survey (2008) indicate that 86.9 percent of women of Reproductive age (15-49) in Sierra Leone receive antenatal care from a medical personnel, either from doctors (6.2 percent) or nurses or midwives (52.9 percent) or MCH Aides (27.8 percent) or community health workers (2.0 percent). A small fraction (3.2 percent) receives antenatal care from Traditional Birth Attendants, while 6.7 percent do not receive any antenatal care. In comparison, the institutional delivery rate is still very low, especially in rural areas where there appears to be a high attendance rate of women at antenatal care, at least from communities that have easy access to health facilities.

It is also indicated that 74.5 percent of mothers received two or more doses of tetanus toxoid during pregnancy. During these visits, health talks on diet, birth preparedness, care of the newborn, danger signs and staying healthy are given to pregnant women. Information is also provided to the women to enable them make appropriate decisions regarding place of delivery and follow-up care for mother and the newborn.

Collaboration with all members of the health care delivery team and the community is crucial to achievement of the MDGs. Health providers and community based structures such as Village Development Committees and the traditional birth attendants can reinforce the importance of antenatal care and sometimes accompany women with complications to health facilities. They can also help identify women who are at high risk of complications and persuade the families of the importance of delivering in the appropriate facility.

Recognising the pivotal role of midwives in reducing maternal and newborn mortality and morbidity, there should be a long term plan by government to increase the number of skilled birth attendants (midwives) and redefine the scope of work of TBAs, thus gradually phasing out their use in deliveries. This could be done preferably by the year 2015 with focus on a human resources development plan that will include strategies for producing, deploying and retaining skilled birth attendants. The training of MCH aides for the provision of maternal and newborn care should be an interim step of a longer-term plan for training them to be skilled attendants.

Table 5: Maternal and Newborn Care

Interventions and Services Provided	Community (TBAs etc)	MCHP/CHP	CHC	District Hospital
Routine Care				
Diagnose pregnancy (Clinic diagnosis)	Yes	Yes	Yes	Yes
Identify/ Screen for danger signs, including swollen feet, bleeding, short height etc	Yes	Yes	Yes	Yes
Monitor growth of foetus (Height of fundus)	No	Yes	Yes	Yes
Monitor mother's weight-gain	No	Yes	Yes	Yes
Give tetanus toxoid	No	Yes	Yes	Yes
Give prophylactic iron, folic acid, and multivitamins,	Yes	Yes	Yes	Yes
Give intermittent preventive treatment for falciparum malaria	No	Yes	Yes	Yes
Give Mebendazole for deworming	No*	Yes	Yes	Yes
Screen for pre-eclampsia or hypertension	No	Yes. Refer for delivery	Yes Refer for delivery	Yes
Manage PIH/Eclampsia/ hypertension	No	No	Initiate treatment and Refer immedi-	Yes
Screen for anaemia	No/yes	Yes	Yes (lab)	Yes (lab)
Treat for anaemia	no	yes	Yes (Lab)	Yes (Lab)
Manage severe anaemia (< 7 gm/dl) with symptoms or in last trimester	Refer	Refer	Refer	Yes
Screen (RPR/HIV) and manage STIs	No	Yes	Yes	Yes
Counselling for HIV	No	(Yes)	Yes	Yes
Feel for mal-presentation or twins	No	Yes and re-	Yes and refer	Yes
IEC/BCC on the importance of antenatal care, especially for teenage mothers and high parity	Yes	Yes	Yes	Yes
IEC/BCC on diet and rest during pregnancy, postpartum Promote early exclusive breast-	Yes	Yes	Yes	Yes
IEC/BCC: birth preparedness and danger signs, institutional delivery, family planning and immuni-	Yes	Yes	Yes	Yes
Promote/Provide ITNs for pregnant women	Yes	Yes	Yes	Yes

Interventions and Services Provided	Community (TBAs etc)	MCHP/CHP	CHC	District Hospital
Manage Complications of Pregnancy				
Manage threatened or complete abortion	Refer	Refer	Yes	Yes
Manage incomplete abortion (Manual Vacuum Aspiration)	Refer	Refer	Yes	Yes
Manage Complicated abortion	Refer Immedi-ately	Refer Imme-diately	Refer	Yes
Manage ectopic Pregnancy	Refer Immedi-ately	Refer Imme-diately	Refer Imme-diately	Yes
Manage urinary tract infection	Refer	Refer	Yes	Yes
Manage fever / malaria (Rapid diagnostic test)	Refer	Initiate treat-ment and	Yes	Yes
No foetal movements	Refer	Refer	Refer	Yes
Ruptured membranes, not in labour	Refer	Refer	Refer	Yes
Bleeding per vagina	Refer immedi-ately	Refer imme-diately	Assess and Refer	Yes

7.1.2. Supervision of Labour and Childbirth

The MDGs call for an increase in the proportion of deliveries assisted by a skilled attendant to 90% by 2015. In order to meet these targets, all deliveries should be supervised and conducted by midwives, who play a key role in the supervision of labour and childbirth. They are the most cost effective health providers in reducing maternal and neonatal deaths. The current shortage of qualified midwives compromises the attainment of the MDGs. Therefore, until sufficient support is provided to midwifery training to increase the number of midwives in the country, it will be difficult to increase the proportion of deliveries supervised by a skilled attendant.

Health facilities, especially hospitals, should be strengthened to provide 24 hour services. However, midwives working in district hospitals should concentrate on supporting and supervising the Maternal and Child health aides in their catchment area to promote clean deliveries, improve newborn care and recognize both maternal and newborn danger signs, including the use of the Partograph and early referral

Table 6: Supervision of Labour and childbirth

Interventions and Services Provided	Community (TBAs etc)	CHP/MCHP	CHC	District Hospital
Assess and monitor progress in labour/Recognize delay	Refer all women for institutional delivery	Partograph / Refer	Partograph / Refer	Partograph / Manage
Active management of third stage of labour Oxytoxics drugs (Syntometrine/Ergot) and controlled cord traction)	No	Yes	Yes	Yes
Episiotomy and repair of tears	No	Refer	Yes	Yes
Breech delivery	No	Recognize & Refer	Assess and refer	Yes
Transverse lie	Refer	Refer	Refer	Yes
Vacuum extraction	No	No	Yes	Yes
Induction of labour	No	No	No	Yes
Caesarean section	No	No	No	Yes
Ante partum haemorrhage	Recognise & Refer	Resuscitate & refer	Resuscitate & refer	Yes
Treat shock	Refer	Resuscitate and refer	Yes and refer	Yes
Give blood transfusion	No	No	No	Yes
Bimanual Compression of uterus	No	Yes	Yes	Yes
Manual removal of retained placenta	Recognize & Refer	Yes	Yes	Yes
Manage convulsions or unconsciousness: eclampsia	Recognise & Refer	First aid & refer	First Aid (Magnesium sulphate IM) & refer	Yes
Manage convulsions or unconsciousness with fever: malaria / sepsis	Recognise & Refer immediately	First aid and refer immediately	First aid and refer	Yes
PMTCT	Refer	Yes	Yes	Yes

7.1.3 Emergency Obstetric and Neonatal Care

EmONC has been identified as evidence based strategy for the reduction of maternal and infant mortality. The provision of emergency obstetric and neonatal care (EmONC) for the five main complications of pregnancy and childbirth: obstetric haemorrhage, eclampsia, obstructed labour, puerperal sepsis and the complications of incomplete and unsafe abortions should form the basis for all maternal and newborn care packages.

EmONC is divided into two categories: Basic EmONC and Comprehensive EmONC (See table 7 below).

Table 7: Basic and Comprehensive Emergency Obstetric Care

Basic EmONC Functions (Performed in a health centre without the need for an operating theatre)	**Comprehensive EmONC Functions (Requires an operating theatre and is performed in district hospitals)**
IV/IM Antibiotics IV/IM Oxytoxics IV/IM Anticonvulsants Manual removal of placenta Assisted vaginal delivery Removal of retained products of conception Neonatal Resuscitation	All seven Basic EmONC functions plus: Caesarean Section Blood Transfusion

All EmONC facilities should be as accessible as possible.

7.1.4 Postnatal care

The postnatal period can be a stressful time for the mother and she needs social and medical support. It is a time when life threatening conditions such as eclampsia, puerperal sepsis and secondary haemorrhage may ensue. In addition, there may be a variety of other minor complaints that require advice or management. Anaemia is also common as a result of pregnancy and blood loss at delivery.

The mother's condition and that of the baby should be checked by the midwife or other skilled attendant immediately after delivery. The mother should also be seen at the end of the first week for anaemia, breast examination and uterine involution. Vitamin A, Iron and folic acid should be given to all postpartum mothers to ensure recovery of haemoglobin and other micronutrients. This is also the best time to discuss with the mother her plans for exclusive breast feeding, contraception, birth spacing and bonding.

Table 8: Postnatal Care

Interventions and Services Provided	Community (TBAs	MCHP	CHP	CHC	Hospital
Immediate postnatal care:					
Monitor vital signs, state of uterine contraction and vaginal bleeding	No	Assess and refer complications	Assess and refer complications	Assess and refer complications	Yes
At end of first week and during puerperium					
Give postnatal vitamin A	Yes	Yes	Yes	Yes	Yes
Give prophylactic iron and folic acid	Yes	Yes	Yes	Yes	Yes
Detect and manage puerperal sepsis	Refer	First aid (Ampicillin), refer	First aid (Ampicillin), refer	First aid (Ampicillin), Refer	Yes
Detect and manage anaemia	Refer	Yes, refer anaemia with symptoms	Yes, refer anaemia with symptoms	Yes, refer anaemia with symptoms	Yes
Detect and manage urinary tract infection	Refer	Refer	Refer	Yes	Yes
Manage nipple or breast pain	Refer	Yes	Yes	Yes	Yes
Manage constipation, haemorrhoids and other	No	assess and Refer	assess and Refer	Yes	Yes
Counsel on birth spacing	Yes	Yes	Yes	Yes	Yes

7.1. 5 Care of the newborn

The risk of death is greatest during the first 28 days of life (neonatal mortality). About one million infants die during their first day of life, another two million die during the subsequent week, and a further one million die before reaching one month of age. The MDG of reducing mortality among children under five by two-thirds by 2015 cannot therefore be achieved without addressing mortality in the first 28 days of life. The following simple but appropriate home and community-based interventions can avert up to 40 percent neonatal deaths: (DCP2, Chapter 27):

- Keeping the baby dry and warm
- Cutting and caring for the cord in a clean way
- Resuscitating the baby who is not breathing well

- Breast feeding regularly
- Protecting against infection by observing proper hygiene and/or timely treatment with antibiotics

These aspects of immediate newborn care make significant differences to newborn survival rates. These skills will therefore be taught to midwives and all health providers involved in maternal and newborn care.

A contributing factor to most neonatal deaths is low birth weight. These are a mix of premature and small-for-dates babies. The important thing for these babies is to keep them warm, protect them from infection and provide frequent feeds. Problems mostly arise with very low birth weight babies (less than 1500 Gms). Premature babies may present unique challenges during resuscitation therefore they and their mothers should be referred to the district hospital where there will be the staff with the time and skills to give the mother the necessary support and supervision with feeding and other problems that may arise.

Table 9: Care of the newborn.

Interventions and Services Provided	Community	MCHP	CHP	CHC	Hospital
Immediate care:	Yes	Yes	Yes	Yes	Yes
Routine: keep dry & warm, clear airway if necessary, cord care, put to mother's breast	Yes	Yes	Yes	Yes	Yes
Resuscitate baby not breathing well	No, refer soon after	Yes, but refer soon after	Yes, but refer soon after	Yes	Yes
Tetracycline eye ointment to prevent ophthalmia neonatorum	Yes, under supervision	Yes	Yes	Yes	Yes
PMTCT - newborn management	No	Yes	Yes	Yes	Yes
During first month					
Manage low birth weight (LBW) baby (1500gms - 2500gms)	Refer	Refer if baby's condition is poor	Refer if baby's condition is poor	Yes	Yes
Manage very LBW baby (<150gms) or <32 weeks gestation	Refer immediately	Refer immediately	Refer immediately	Refer immediately	Yes
Manage neonatal jaundice	No	Assess and refer	Assess and refer	Assess and refer	Yes
Counsel and support mother on breastfeeding	Yes	Yes	Yes	Yes	Yes

Interventions and Services Provided	Community	MCHP	CHP	CHC	Hospital
Give newborn immunizations	Refer	Yes	Yes	Yes	Yes
Treat skin pustules or cord infection	Refer	Assess baby and	Assess baby and	Yes	Yes
Treat neonatal sepsis/ severe skin or cord infection	Refer	First aid treatment and refer	First aid treatment and refer	Yes	Yes
Neonatal tetanus	Refer	Refer	Refer	Refer	Yes

7.2 Family Planning

Although pregnancy and childbirth are natural parts of healthy life, they do entail risks. Globally, an estimated 210 million pregnancies occur each year, out of which 60 million end in abortion or with the death of the mother or baby. Twenty five percent of all pregnancies end in abortions and more than 500,000 maternal deaths and 4 million neonatal deaths occur annually. Contributing to poor maternal health are the large numbers of teenage pregnancies, multi-parity and poor birth spacing. Total fertility rate is 5.1 with urban and rural difference (3.8 and 5.8 respectively).

Family planning, on the other hand, reduces the disease burden associated with pregnancy by averting unwanted pregnancies and preventing between 20 and 40 percent of all infant deaths through prevention of births among Adolescents and older women as well as extension of birth intervals from three to five years between pregnancies (DCP2, 2006, Chapters 26 and 27). Birth spacing of less than 24 months compared with spacing of 36 months carries with it greater risks of foetal, infant and childhood death, and low birth weight and childhood under-nutrition. If all births were spaced at least 36 months apart, infant deaths could be reduced by up to 25% and childhood deaths by as much as 35%.

The 2008 SLDHS on birth intervals shows that the overall birth interval is 36.2 among the richest women, 12.2 months higher than the suggestion from the National Population Policy. The promotion of an optimal birth spacing of 36 months helps child and maternal survival in several ways. This is demonstrated by the result of the recent DHS 2008 studies which reveal that birth interval is higher among the richest women (44.7 months) and those in urban areas (40.1)

Similarly the shortest birth interval is 30.3 months and is reported among young teenage girls. It also reveals that about 20% of babies surveyed were born less than 24 months after the preceding births, thereby being exposed to health risks. In the first place, longer intervals between children ensures that the older children have the opportunity of two full years of breast feeding before another pregnancy, and by the age of three years they have reached a level of developmental independence that enables them to take care of themselves to a greater extent. Birth spacing, by decreasing infant deaths, also decreases the number of very short birth intervals associated with the loss of a child in infancy. Lastly, birth spacing, by increasing the average birth interval tends to reduce the total fertility rate and therefore, the number of high risk pregnancies and births.

In Sierra Leone, information about the benefits of birth spacing and supplies of contraceptives will be available at all levels of the health system. Community-based promoters and distributors will supply pills and both male and female condoms. Injectable contraceptives and intra-uterine devices will be available at all health facilities, and surgical contraception will be available in referral hospitals. Great emphasis will be placed on quality of care and the importance of communication skills for health care providers in order to minimize the incidence of method failure and discontinuation.

The table below summarises interventions that will be carried out at the five standard levels of care taking into consideration the cadre of staff available at each level.

Table 10: Family Planning

Interventions and Services Provided	Community	MCHP	CHP	CHC	Hospital
IEC/BCC on birth spacing and family planning	Yes	Yes	Yes	Yes	Yes
Counsel on informed choice	No	Yes	Yes	Yes	Yes
Distribute male & female condoms and explain their use	Yes	Yes	Yes	Yes	Yes
Distribute Oral Contraceptives and explain their use	Yes	Yes	Yes	Yes	Yes
Administer Depot Provera and explain its use	No	Yes	Yes	Yes	Yes
Insert & remove IUD and explain its use	No	No	No	Yes *	Yes
Insert & remove Norplant(R)	No	No	No	Yes*	Yes
Permanent surgical methods	Refer	Refer	Refer	Refer	Yes
Syndromic management of STIs for men	No	Yes	Yes	Yes	Yes
Syndromic management of STIs for women	No	Yes	Yes	Yes	Yes
Voluntary Confidential Testing for HIV	No	Refer	Refer	Yes	Yes
Infertility counselling	Refer	Yes	Yes	Yes	Yes
Infertility Treatment	Refer	Refer	Refer	Refer	Yes
Education of adolescents on reproductive health at all levels	Yes	Yes	Yes	Yes	Yes
Education of adolescents on family life skills at all levels	Yes	Yes	Yes	Yes	Yes
Supportive services to adolescents seeking advice and care	Yes	Yes	Yes	Yes	Yes

*Appropriate training and supervision should be done

7.3. HIV/AIDS and Sexually transmitted infections

Since the first case of AIDS was reported in 1987, HIV and AIDS prevalence has been on the increase in Sierra Leone. According to the 2005 population-based sero-prevalence survey, the HIV prevalence has increased from 0.9% in 2002 to 1.53% in 2005. Prevalence did not differ significantly between males (1.5%) and females (1.6%). The highest prevalence among women occurred in the 20-24 years group (2.0%) whereas males between 35-39 years had the highest prevalence (3.5%). HIV transmission through heterosexual contact accounts for most HIV infections in the country. The national HIV/AIDS prevalence rates women higher than men, 1.7% and 1.2% respectively. By socioeconomic characteristics, prevalence is twice higher in the urban areas compared to the rural areas with 2.5% and 1.0% respectively.

Knowledge of AIDS among women and men aged 15-49 years overall is seven in ten, with 69 percent of respondents having heard of AIDS for women and 83 percent for men.

The results further show that 87.4 percent of women resident in urban areas have heard of the disease as against 94.5 percent of men living in urban areas. For women living in rural areas, only 59.3 percent have heard of AIDS whereas 75.8 percent of men living in rural areas have hared of the virus.

In response to the HIV/AIDS epidemic, the Government of Sierra Leone, with technical assistance from the World Bank and other development partners, formed the National HIV/AIDS Control Programme (NACP) in 1986/87 under the Ministry of Health and Sanitation. The national response is through capacity building and policy coordination; multi-sectoral approach to HIV and AIDS; Health Sector response and Community and civil society initiatives.

Furthermore, the National Aids Council (NAC), established in 2003, was mandated to provide strategic leadership and to coordinate multi sectoral responses. NAC is also designed to monitor and evaluate progress, to mobilise resources, and undertake advocacy. The National Policy on HIV/AIDS and the National Strategic Framework guide the implementation of NAC activities, providing the framework, direction, and general principles for intervention, care, and support for those infected and affected by the epidemic, as well as mitigation of the effect of HIV/AIDS.

HIV/AIDS prevalence is seen to be stable, unlike Sexually Transmitted Infections (STIs) which are thought to be increasingly prevalent in Sierra Leone. The long term effects of STIs are particularly common and important in women because the initial infection is frequently symptom free and therefore, unsuspected. Chronic infections of Chlamydia and Gonorrhoea lead to acute and chronic pelvic inflammatory disease, chronic pelvic pain and/or infertility. All genital ulcer and discharge diseases may also facilitate the transmission of HIV, itself a sexually transmitted disease.

The need for effective contraception and for protection from HIV infection or other STIs means the promotion of “dual protection”, especially among high risk communities, should be stepped up.

Family planning and antenatal consultations are not only good opportunities for promoting dual protection, but also for investigating the presence of HIV or other STIs. Particular care needs to be taken in investigating the possibility of high risk behaviours in either the woman or her partner

and in informing the woman of the availability of VCT services.

The BPEHS therefore, will promote regular inquiries about STI symptoms at antenatal, family planning and general outpatient clinics, and the use of the Syndromic method of STI management.

The table below summarises interventions that will be carried out at the five standard levels of care, taking into consideration the cadre of staff available at each level.

Table 11: HIV/AIDS and Sexually transmitted infections

Interventions and Services Provided	Community	MCHP	CHP	CHC	Hospital
Awareness and sensitization activities promoting "ABC"	Yes	Yes	Yes	Yes	Yes
Promotion and distribution of condoms	Yes	Yes	Yes	Yes	Yes
Awareness and sensitization about VCT	Yes	Yes	Yes	Yes	Yes
VCT services	No	Yes	Yes *	Yes	Yes
Supervision of ARV therapy, including home-based care	Yes	Yes	Yes	Yes	Yes * *
Treatment of opportunistic infections	No	No	Yes	Yes	Yes
Supervision of Cotrimoxazole and /or Isoniazid Preventive	No	No	Yes	Yes	Yes
Awareness and sensitization of pregnant mothers to VCT for Prevention of Mother To Child Transmission (PMTCT) services.	Yes	Yes	Yes	Yes	Yes
VCT for PMTCT services	No	Yes	Yes	Yes	Yes
PMTCT services and follow up.	Yes***	Yes	Yes	Yes	Yes * *
Post-exposure Prophylaxis (PEP)	No	No	No	Yes	Yes
Syndromic management of STIs at antenatal, family planning and general outpatient	No	Yes	Yes	Yes	Yes
RPR test for syphilis at antenatal clinics	No	Yes	Yes	Yes	Yes

* HIV Counselling and Testing services (including VCT) will be expanded in a phased manner to include all PHUs.

* * ART and PMTCT services will be expanded to hospitals.

7.4. Adolescent Health

The health needs of adolescents are not being met. Teenage pregnancies are common as a result of early onset of sexual activities and early marriage which is still common in parts of the country. Many of the teenage mothers are only 12-14 years old and are at risk of numerous complications associated with pregnancy. Attendance at antenatal care may, however, actually be lower than usual for these young women.

A multi sectoral and long term approach is needed to reduce the number of teenage pregnancies, (Family Planning, Health Promotion, Life Skills Education, Advocacy against early marriage, etc) but in the meantime, health service providers can help to ensure that pregnant adolescents do get the health care that they need.

Unmarried adolescents are more likely to engage in unprotected sex, which can result in pregnancy or sexually transmitted infections (STIs), including human immunodeficiency virus (HIV). Many adolescent pregnancies are unwanted and these contribute to the growing number of induced unsafe abortions. As a result of the conflict between societal values and people's behaviours and the disapproving attitudes of parents and service providers, adolescents are frequently barred from reproductive health services and may end up in worse situations.

Many of the pregnancies and STIs among adolescents arise because of ignorance, peer pressure as well as lack of access to services. Understanding of even the basic physiology of the menstrual cycle, sex and fertilization is very poor. Consequently, many young people do not know the risks of pregnancy at different stages of the cycle or that one act of intercourse is enough to make a woman pregnant.

The Basic Package of Essential services will encourage all efforts to educate young people about these matters, and will teach health staff to have a more considerate and patient attitude towards young people who are seeking help for reproductive health.

The second important area of education for adolescents is family life skills. This education helps young people to discuss the nature of relationships between men and women and the responsibilities they have to each other. It distinguishes between rape and seduction and helps young people to understand that a woman can say "No" to sex. It teaches young people to say "No" to sex in an effective way that does not provoke a violent response.

7.5 Child Health

The Sierra Leone DHS (2008) states that the under-five mortality rate stands at 140 and infant mortality is 89 per thousand live Births. The immediate causes of childhood deaths are malaria, pneumonia, diarrhoea and conditions of the new-born such as asphyxia, prematurity and sepsis. Underlying these deaths is the problem of malnutrition. Malaria tops the disease burden chart (25%) closely followed by acute respiratory infections (20%) and diarrhoea (19%) while malnutrition is an underlying cause for 46% of childhood deaths(Child Health Policy 2007).

Contributing to the excess deaths is the intensity of the transmission of *falciparum* malaria among children and pregnant women and the breakdown of both immunization services and treatment services for children as a result of the war. The Basic Package of Essential services includes the Integrated Management of Neonatal and Childhood Illnesses (IMNCI), which is a strategy designed to address these problems together with the Expanded Programme on Immunisation (EPI).

7.6 Expanded Programme on Immunisation

The Expanded Programme on Immunisation) aims at reducing infant and child death and disability by preventing children from being infected with the ten major childhood vaccine preventable diseases, namely: Tuberculosis, Pertussis, Tetanus, Diphtheria, Poliomyelitis, Measles, Yellow fever, Hepatitis B, Heamophilus influenza and Pneumococcal pneumonia. The Programme also forms a solid base for the delivery of other high impact, evidence based and cost effective interventions such as de-worming, LLINS, vitamin A and the promotion of Health Education messages.

Provision of services in static clinics has not yielded the desired coverage for set interventions. Building staff capacity in terms of training, logistics and motivation and scaling up of services to reach people where they live and work is essential. Hard to reach communities must be targeted by the Health care delivery personnel by way of outreach activities on a weekly basis. Out-reach services include routine immunisation as well as other child survival and development interventions.

The target population for the EPI services in Sierra Leone includes all children under the age of one year and women of child bearing age (15-49 years).

In 2002 The EPI Programme received support from the Global Alliance for Vaccine and Immunisation (GAVI) for strengthening of immunisation services. Thereafter, support has been received for introduction of Yellow Fever vaccine and Pentavalent vaccine (2006). The GAVI support has facilitated an increase in immunisation coverage rate through strengthening of the cold chain system and payment of outreach allowances. Solar powered cold chain equipments are presently functional in about 80% of health facilities countrywide. As of December 2008, according to a routine report, the fully immunised coverage for children under one year was 76 % compared to 2007 when it was 64%. Apart from routine immunisation and out-reach efforts at community level, supplemental immunisation activities, have complemented routine immunisation activities to achieve the present coverage.

A recently concluded study (2008 SLDHS) indicates that 39.8% of children age 12-23 months received all recommended vaccinations and 30.5% were vaccinated by 12 months of age. BCG coverage among children aged 12-23 months was nearly 82%. Coverage levels were also high for first DPT and Polio, 77% and 76% respectively.
The dropout rate between the first and third doses of DPT and Polio is 17% and 26% respectively. The proportion of children who received the measles vaccines is 60%.

The table below summarises the EPI interventions that will be carried out at the five standard levels of care, taking into consideration the cadre of staff available at each level.

Table 12: Expanded Programme on Immunization

Interventions and Services Provided	Community	MCHP	CHP/	CHC	Hospi-tal
IEC/BCC	Yes	Yes	Yes	Yes	Yes
Storage of vaccines	No	Yes	Yes	Yes	Yes
Routine and outreach immunisation	Social mobiliza-tion	Yes	Yes	Yes	Yes
Supplemental immunisation (and EPI plus)	Social mobiliza-tion	Yes	Yes	Yes	Yes
Mobile services to communities outside of facility catchment areas	Social mobiliza-tion	Yes	Yes	Yes	Yes
Surveillance and case reporting of Immunizable diseases	Yes	Yes	Yes	Yes	Yes
Reporting immunisation activities	Yes	Yes	Yes	Yes	Yes
Supervision of EPI activities	Yes	Yes	Yes	Yes	Yes

7.7 Integrated Management of Infant and Childhood Illness

The Integrated Management of Childhood Illness is a strategy that addresses all the main causes of childhood illnesses and death, recognizes that a child may actually be sick with more than one problem at the same time, and ensures that the occasion of a sickness consultation is not a missed opportunity to immunize the child or address a nutrition problem.

By observing specific symptoms or signs, a caretaker or health worker can distinguish between mild, moderate and severe illness in the child, and the health system is organized to manage each level of severity in appropriate ways.

The first and most important role is that of the caretaker recognizing that the child is sick and knowing when and where to go.

Teaching these skills to caretakers is one of the most important tasks of CHWs in the community. CHWs themselves should be taught to manage diarrhoea with some dehydration with both Oral Rehydration Therapy (using the low osmolarity salts) and the 14 day course of zinc tablets, which will reduce both the length and severity of the illness as well as provide some protection against further diarrhoea over the subsequent three months. In Sierra Leone at this time, CHWs are not being taught to treat pneumonia and malaria with antibiotics and anti-malarial. The MOHS is to develop a policy and an appropriate training program for CHWs to facilitate the inclusion of these activities in their work schedule. This will then significantly help reduce the potential time between onset of the illness and treatment.

In the meantime, the CHWs' task is to ensure that caretakers are aware of danger signs in their children and seek help at a health facility as soon as possible for these conditions. PHUs are intended to be able to manage children with moderate illness who do not need to be admitted to a facility.

Also important is an ORS corner or a place where the mother can be taught to give the ORT or medicine, learn when she should return for a check up and learn to recognize the danger signs which mean that the child needs extra attention.

Community Health Centres and district hospitals will have the staff and facilities to care for children with severe illness. This will usually involve admission for a few days to provide regular parenteral medication and necessary nursing care and help with diet and fluids.

One of the situations where valuable time is lost in caring for a very sick child is when the child is referred to a facility and both child and mother get lost in a long queue of mothers and children, most of whom do not need such urgent care. In busy hospital outpatient clinics, it is essential that a system of emergency triage of waiting children should identify those that are very sick and require urgent attention.

The table below summarises the IMCI interventions that will be carried out at the five standard levels of care taking into considerations the cadre of staff available at each level.

Table 13: Integrated Management of Infant and Childhood Illness

Interventions and Services Provided	Community	MCHP	CHP	CHC	Hospital
IEC/BCC on home care for the sick child, danger signs, completing treatment and	YES	Yes**	Yes	Yes	Yes
Management of severely ill child	NO.*	YES**	Yes	Yes	Yes
Emergency triage assessment and treatment	-NO	Yes **	Yes	Yes	Yes
Cough or cold	YES*	YES**	Teach home care & danger signs	Teach home care & danger signs	Teach home care & danger signs
Pneumonia	NO	Yes	Yes	Yes	Yes
Severe Pneumonia	Refer	First aid and refer	Yes	Yes	Yes
Ear infection	No	Yes	Yes	Yes	Yes
Diarrhoea with no dehydration	Teach home care & danger signs	Yes	Yes	Yes	Yes
Diarrhoea with some dehydration	No*	Yes	Yes	Yes	Yes
Diarrhoea with severe dehydration	No*	First aid & refer	Yes	Yes	Yes
Persistent diarrhoea or dysentery	No*	No**	Yes	Yes	Yes

Interventions and Services Provided	Community	MCHP	CHP	CHC	Hospital
Measles	No	Yes	Yes	Yes	Yes
Complicated measles	No	No**	Yes	Yes	Yes
Case management of child with fever/malaria	Yes	Yes	Yes	Yes	Yes
Management of severe mal-nutrition with complications	Yes**	Yes**	Yes**	Yes**	Yes
Management of severe mal-nutrition without complica-tions (Investigation and feed-	Yes**	Yes	Yes	Yes	Yes

*Recognise danger signs for urgent referral
** Give first dose of antimalarials/ antibiotic & refer urgently

7.8 Infant and young child nutrition

Nutritional status is the result of complex interactions between food consumption and the overall status of health and care practices. Poor nutritional status is one of the most important health and welfare problems facing Sierra Leone today and affects the most vulnerable groups: women and children. At the individual level, inadequate or inappropriate feeding patterns lead to malnutrition.

Infant and young child nutrition is an important but complex issue to address. Prevention of under -nutrition starts with the prevention of low birth weight by means of appropriate diet for the pregnant woman, avoidance of hard work in the third trimester, and prevention of malaria which improves placental function by intermittent preventive treatment in the second and third trimesters. Women are encouraged to initiate breastfeeding within the first 30 minutes after birth.

Growth monitoring is one of the key child survival strategies which help the health worker to identify children who are becoming malnourished, investigate the cause and take necessary action to prevent further deterioration. It must be encouraged at all levels.

Table 14: Infant and young child nutrition

Interventions and Services Provided	Community	MCHP	CHP	CHC	Hospital
Child Nutrition					
For pregnant women, Intermittent Preventive Treatment (IPT) of malaria to reduce incidence of low birth weight.	**	Yes	Yes	Yes	Yes
Promotion of early breast feeding and exclusive breast feeding for the first six months	Yes	Yes	Yes	Yes	Yes
Promotion of appropriate complementary feeding	Yes	Yes	Yes	Yes	Yes
Growth monitoring and nutrition counselling	-	Yes	Yes *	Yes *	Yes *
Vitamin supplementation to children 6 -59 months	* *	Yes	Yes	Yes	Yes
Identification of malnutrition	Yes	Yes	Yes (W/A)	Yes (W/A)	Yes (W/A)
Investigation & management of severe malnutrition	Ref	Ref	Ref	Ref	Yes

* * *Micronutrients and de-worming medicines are not normally distributed to children and pregnant women by community health workers, but this can be done by them very effectively and reliably. Such a program needs to be carefully planned, implemented and supervised with attention to recording on the mother or child's care card.*

Almost all (95%) of children under six months in Sierra Leone are breastfed and at age 12 to 15 months are still breast fed. Exclusive breast feeding is however not common. Only 11% of children less than 6 months are exclusively breast fed (DHS 2008).

For young children, the objective is to change social norms to promote exclusive breast feeding in the first six months, followed by introduction of adequate complementary foods at the necessary frequency during the day. The IMCI complements growth monitoring and promotion because it tells the health worker the specific action to take when a child's faltering growth is found to be related to any of the childhood illnesses. Growth monitoring is very important from 6-24 months when a child is being introduced to other foods in addition to breast milk because it tells whether the child is getting enough food and the right type to enable him or her grow well.

7.9 Communicable Diseases control

The impact of death of children under five from communicable diseases cannot be overestimated. Every year over 300,000 children die from communicable diseases and vaccine preventable diseases; Malaria, ARI, Diarrhoea and TB rank among the key priority communicable diseases in Sierra Leone.

7.9.1 Tuberculosis

TB is a major public health problem in Sierra Leone. The estimated incidence of all forms and smear positive cases are 517 per 100,000 and 230 per 100,000 respectively; and the prevalence of all cases is 977 per 100,000. The situation is being further complicated by the emergence of the dual epidemic of TB and HIV, each associated with higher prevalence of the other disease. 7,949 TB cases were screened for HIV, 920 (12%) were positive and 7,016 (88%) were negative (Survey Report on HIV prevalence among TB patients, October 2005)

The National Leprosy/Tuberculosis programme statistics recorded the following registered new cases during the years 2004 - 2008

Year	2004	2005	2006:	2007:	2008:
Cases	5,863	6,930	8,208	9,623	11,021

Health workers in Sierra Leone have observed that the estimated figures are far more than the total number of infected persons nationwide. Sierra Leone presently operates 84 diagnostic centres with HIV/AIDS facilities for testing and a recorded detection rate of 52%.

Control of tuberculosis is achieved by minimizing the period of time that cases of pulmonary tuberculosis are infective to their family and friends. This is accomplished through early detection and diagnosis of infective cases and then ensuring that they complete a course of multidrug therapy.

The National TB Program has been building up a network of health facilities across the country with the capacity to diagnose and manage the treatment of TB. Currently, there are 118 Dot Centres in (hospitals, health centres and a few clinics) that are competent to diagnose smear positive and most smear negative cases of TB and commence them on appropriate treatment. Complicated cases including those suspected of being drug-resistant are referred to the TB annexe in Freetown for management. Additional health centres (PHUs) are competent to supervise the intensive and continuation phases of treatment for people living in their catchment areas.

During the intensive phase, four drugs are taken under observation each day for two months. During the continuation phase, patients receive a month's supply of two medicines per day, and return monthly for re-supply for a total of six months. Re-examination of sputa at the end of each treatment phase ensures satisfactory results of treatment.

Table 15: Tuberculosis

Interventions and Services Provided	Community	MCHP	CHP	CHC	Hospital
IEC/BCC on spread of TB, recognition of symptoms	Yes	Yes	Yes	yes	Yes
BCG immunization of all newborns	No	Yes	Yes	yes	Yes
Identification of suspect cases	Yes	Yes	Yes	Yes	Yes
Collection of sputum and microscopy for AFBs	No	No	Yes (If diagnostic	Yes	Yes
Diagnosis of TB in children	No -	No Ref	No Refer	Yes	Yes
Registration and assignment to treatment regimen	No -	No	No	Yes	Yes
Supervision of continuation phase of DOTS	No -	No	Yes (if treatment	Yes	Yes
Sputum examination & Treatment review at end of intensive phase and	No -	No	Yes(If diagnostic centre)	Yes	Yes
Management of complications and suspected drug-	No -	No Refer	No Refer	Refer	If TB Unit is avail-
Screening of household members, especially of	-No	Yes	Yes	Yes	Yes

7.9.2 Malaria

Malaria is an enormous global health problem affecting mainly young children and pregnant women. It accounts for over 40% of outpatient morbidity.

Plasmodium falciparum is responsible for more than 90% of infections. Malaria infection during pregnancy poses substantial risk to the mother, her foetus and the neonate because the pregnant mother appears to be less capable of coping with and is more prone to severe infections. Malaria accounts for 70% of the 87% pregnant women that are anaemic in Sierra Leone. The anti-malaria drug policy promotes SP chemoprophylaxis in the second and third trimester.

Malaria is hyper-holo-endemic in Sierra Leone. It is the most common cause for attendance in health facility outpatient clinics and is the most important cause of death in young children. The high frequency of malaria morbidity and the free and easy availability of anti-malarials, especially Chloroquine, in the past have led to a severe situation of drug resistance.

Sierra Leone therefore now using combined therapy with Artesunate and Amodiaquine as the first line treatment of malaria. Adults will generally be treated only on the basis of a positive laboratory diagnosis with a blood smear or rapid test. However, the expectation of a very high prevalence of parasitemia among children under- five years means that they will be treated on clinical suspicion rather than with laboratory confirmation. The best strategy is to prevent transmission of malaria. This is achieved through use of insecticide treated bed nets (ITNs) by under- five year old children and pregnant women. The Ministry of Health and Sanitation is providing free long – lasting ITNs to as many pregnant women and under five children as possible. They are distributed through antenatal clinics, routine and special immunisation clinics and outreach services. Systematic house-to-house distribution by community malaria workers seeks to reach families that have not received ITNs through clinics.

Table 16: Malaria

Interventions and Services Provided	Community	MCHP	CHP	CHC	Hospital
Case management of malaria					
IEC/BCC on case recognition and management	Yes	Yes	Yes	Yes	Yes
Make presumptive clinical diagnosis in children under	Yes. Give first dose	Yes	Yes	Yes	Yes
Laboratory confirmation in adults and children over five	No	Yes	Yes	Yes	Yes
Give first time treatment (Artesunate & Amodiaquine)	Yes. Give first dose	Yes	Yes	Yes	Yes
For case management in pregnant women, give quinine in 1st trimester and Artesunate & Amodiaquine in	No	Yes	Yes	Yes	Yes
Recognize treatment failure after 48 hours, give second line drug (Quinine)	No.	Yes Recognize & refer	Yes Recognize & refer	Yes	Yes
Recognise & treat malaria in under five, give parenteral quinine, and manage convulsion, hypoglycaemia and high	No. Recognize & refer	*No. Give first dose and refer	*No. Give first dose and refer	Yes	Yes
For complicated malaria in adults, give parenteral Quinine or Artemether	No. Recognize & refer	No. Give first dose and refer	No. Give first dose and refer	Yes	Yes

Interventions and Services Provided	Community	MCHP	CHP	CHC	Hospital
Prevention of Malaria					
IEC/BCC on preventing malaria transmission	Yes	Yes	Yes	Yes	Yes
For pregnant women, Sulphadoxine/Pyrimethamine in 2nd and in 3rd trimesters for Intermittent Preventive Treat-	No *	Yes	Yes	Yes	Yes
Promote and distribute ITNs for under five children	Yes	Yes	Yes	Yes	Yes
Promote and distribute ITNs for pregnant women.	Yes	Yes	Yes	Yes	Yes

*Give first dose and refer

7.9.3 Control and management of other epidemic-prone diseases

The MOH&S in Sierra Leone has a system of surveillance and infectious disease control. The surveillance is based upon the combined efforts of volunteer "community focal points", most often herbalists and the staff of all health facilities who record and report monthly, the incidence of any of eight reportable diseases. These include: Acute Flaccid Paralysis (AFP), measles, acute watery diarrhoea (possibly cholera), bloody diarrhoea, meningitis, neonatal tetanus, yellow fever, and hemorrhagic fever (Lassa fever). These reports are passed through the DHMTs to the MOH&S, and responses are organized by the DHMTs, with assistance from the central MOH&S where appropriate. Case management for these and other important infectious diseases is available in health facilities.

The level of the health system to provide care will depend on the difficulties of management and the need for in-patient nursing care over several days.

Surveillance of infectious diseases and prompt intervention are very important where infectious diseases are the major causes of morbidity and mortality. This is particularly true for that set of diseases that have epidemic potential and for which there are effective and affordable public health interventions available.

Table17: Control and management of other diseases with epidemic potential

Interventions and Services Provided	Community	MCHP	CHP	CHC	Hospital
Epidemic Control					
Monthly reporting of Reportable Diseases*	Yes	Yes	Yes	Yes	Yes
Investigation of epidemics	No Social mobilization	Yes		Yes	District Health
Organize control of epidemics	Yes Social mobilization	Yes -		Yes -	District Health
Clinical management of infectious diseases					
Typhoid	No	No Refer	Refer	Yes	Yes
Meningitis	No	No Refer	Refer	Refer	Yes
Jaundice and Yellow Fever		Refer	Refer	Refer	Yes
Acute rheumatic fever		Refer	Refer	Refer	Yes
Hemorrhagic fever		Refer	Refer	Refer	Yes
Measles		Refer	Refer	Yes	Yes
Pertussis	No	No Refer	Refer	Yes	Yes
Acute watery diarrhoea and bloody diarrhoea	No	Yes	Yes	Yes	Yes
Neonatal tetanus	No	Refer	Refer	Refer	Yes
Acute flaccid paralysis		Refer	Refer	Refer	Yes

7.10 Mental Health

Any society inherits and generates its own particular burden of mental and emotional health problems. Most societies seem to have a fairly uniform prevalence of psychotic illness, but other mental health problems reflect the particular circumstances and social problems of each society. Post-conflict countries like Sierra Leone have a particular burden of depression and post traumatic stress disorders to manage.

Because health professionals trained in mental health are so scarce at this time, the mental health component of the BPEHS needs to concentrate on making the best use of those specialized skills. At the same time, it needs to develop and empower the non-professional resources available in communities to meet the majority of mental health needs that do not absolutely require the help of skilled professionals.

At present, the only psychiatric care unit in the country is the Psychiatric Hospital at Kissy, with only one trained psychiatrist. This facility has very few trained mental health nurses that can provide in-patient care for those that need stabilization on appropriate medications. Training will be offered to medical and nursing staff at district hospitals to enable them to manage mental health emergencies and to refer to the Psychiatric Hospital at Kissy those patients that cannot be stabi-

lized in a short period of time.

The district hospital staff will also maintain a register and supervise the home care of patients in that district needing long term medications. This will involve collaboration with staff of the PHUs or clinics closest to the homes of these patients. The staff of health centres and clinics play two important roles in the mental health care services of their communities, namely:

- Provide initial physical care and counselling, if required, when patients are brought to them with explicit or suspected mental health problems, decide whether there are mental health danger signs that indicate a need to refer the patient for medical assessment at the district hospital or a milder level problem that can be handled by the health worker and community helpers
- The second role is that of the social worker in establishing and managing a network of community resources (community leaders, pastors and imams, traditional healers and community associations) who can be called on to help different people with mental health or social problems.

PHU staff will need in-service training to develop these competencies:

Table 18: Mental Health interventions and services

Interventions and Services Provided	Community	MCHP	CHP	CHC	Hospital
Danger signs of acute mental health illness. Management and medication	Refer	Refer	Refer	Refer	Yes
Injury from domestic or other interpersonal violence. Provide care & initial counselling. Document injuries. Counsel attacker	Refer	Yes Refer to Social Worker	Yes Refer to Social Worker	Yes Refer to Social Worker	Yes Refer to Social Worker
Rape or other sexual assault. Rape exam	Refer	Yes Refer to SW	Yes Refer to SW	Yes Refer to SW	Yes Refer to SW
Anxiety or depressive state. Counsel. Refer to family or community resources	Yes	Yes	Yes	Yes	Yes
Psychosomatic symptoms: Recognize, counsel, refer as appropriate	-	Yes	Yes	Yes	Yes
Substance abuse. Counsel and refer to support person	Yes	Yes	Yes	Yes	Yes
Maintain register of people on long term medication for mental health condition or epilepsy. Arrange supply through nearest facility.	Yes	Yes	Yes	Yes	Yes
Supervise and supply medications for persons on long-term medication for mental health condition or epilepsy	Yes	Yes	Yes	Yes	Yes
Psychosocial & trauma counselling	Yes Refer to SW	Yes Refer to SW	Yes Refer to SW	Yes Refer to SW	Yes

7.11 Emergency Services

Emergency care services are required to save lives and prevent long term disability. The need arises from a wide range of both medical and surgical problems, and affects both adults and children. The first essentials at all levels of care are to maintain respiration and ensure adequate circulation.

In health facilities, maintaining respiration means clearing the airway of any solids or liquids blocking it and inserting an oral airway if necessary. Ambo bag ventilation may be necessary for a while. Ensuring an adequate circulation means stopping any haemorrhage and treating shock. These skills should be available in all health facilities.

The third skill that should be available at all levels is the management of seizures. After ensuring viability of life systems, most of the conditions that fall in this category require hospital care and, in many cases, they require referral to more specialized services in a secondary or tertiary hospital. At each stage, however, appropriate first aid can be provided to stabilize the patient, immobilize fractured bones, dress burns, give initial treatment against infections, or limit the potential effect of poisons. The availability of different services in district hospitals may vary depending on their geographic location. Those closer to more advanced hospitals may refer more than those that are located in distant regions of the country. In particular, the management of head injuries and acute abdominal trauma may need urgent intervention before it is possible to arrange transfer to a more advanced facility.

Table 20: Emergency health interventions and services

Interventions and Services Provided	Community	MCHP	CHP	CHC	Hospital
Manage Shock	Refer	Initiate and refer	Initiate and refer	Initiate and refer	Yes
Maintain patent airway and ventilate with ambo bag-breather when necessary	Yes	Yes	Yes	Yes	Yes
Tracheotomy	No	No	No	No	FA & Refer
Manage anaphylaxis	Refer	Yes	Yes	Yes	Yes
Manage seizures/ convulsions	FA & Refer	Yes	Yes	Yes	Yes
Bites and rabies	FA & Refer	FA & Refer	FA & Refer	FA & Refer	Yes
Poisoning	FA & Refer	FA & Refer	FA & Refer	FA & Refer	Yes
Snake bite	FA & Refer	FA & Refer	FA & Refer	FA & Refer	Yes
Cardiac arrest	No	FA & Refer	FA and Refer	CPR & refer	Yes
Head injury	FA & Refer	FA & Refer	FA & Refer	FA & Refer	Treat

7.12 Oral Health Care

The number and mix of health personnel required for optimal health care delivery has been a subject of concern to public health planners, training institutions, regulatory bodies, and professional associations. These stakeholders usually have different motivations including the existing and projected burden of disease, the available manpower and their distribution, the demand for services, the availability of resources for training, the need to ensure standards, and the welfare of practitioners.

In considering the numbers and mix of health professionals to be trained, the public health planner is concerned with inequities in the provision of health services and their consequent negative impact on health. Educators must ensure quality training in the face of shortages of both human and material resources. Regulatory bodies have to assure the community of high standards of practice. The professional associations which have the responsibility for promoting the welfare of their members are concerned about “undersupply” and “oversupply” of health professionals.
It is observed that major stakeholders in oral health services in Sierra Leone, namely, the Ministry of Health, the College of Medicine and Allied Health Sciences, and other health related NGO’s, **do not agree on the mix and number of oral health personnel to be produced for this country.** The authorities recommend a consensus based on national considerations and the need to improve the current mal-distribution of oral health personnel.

Sierra Leone’s close to 6 million people have only 12 dentists, 80% of whom are based in Freetown. In contrast, Australia, a developed country with a similar population like Sierra Leone, had 8,991 dentists in the year 2000 and it is projected that an additional 1,500 dentists would be needed by 2010 to meet the expected increase in demand for services due to an ageing population, changes in oral health and other factors. In Australia, the level of dental caries, the commonest oral disease, is low due to national fluoridation programmes. This demand would be for diagnostic, preventive, endodontic and crown and bridge services. The numbers of dental surgeons and hygienists are expected to increase, but numbers of dental therapists and prosthetists would decrease. What is worthy of note is that even in a developed country, oral health personnel with different levels of training and skills continue to be produced to meet the country's needs.

How many dentists and other oral health personnel are needed in Sierra Leone to ensure availability of oral health services throughout the country to tackle the backlog of untreated dental disease; to tackle new and emerging diseases; to provide ongoing care; to deal with a growing and ageing population; to provide preventive and specialist services; and to undertake training and administrative responsibilities? Can any aspect of the dentist's work be assigned to middle grade professionals? If so, what type of training is required and what should be the entry qualification for these personnel? How should the careers of such personnel be structured? What level of training would an increasingly sophisticated populace expect their oral health practitioners to have?

The serious shortage of oral health personnel in the country is not in doubt and many Sierra Leoneans continue to rely on the services of self-styled quack practitioners. The oral health of all Sierra Leoneans cannot be guaranteed as long as this situation persists. The major stakeholders need to build consensus and develop a viable manpower policy to train more personnel. The policy must take into consideration current shortages; future projections for population increases as

well as changes in population profile; changes in the economic status and expectations of the population; changes in the pattern of oral diseases; and changes in the demand for sophisticated treatments. We cannot continue to base our oral health planning on the assumption that our society will remain perpetually poor and deprived. It has been suggested that the level of awareness of and demand for oral health services is one of the most sensitive indicators of the level of development of any country. As our country progresses economically we must anticipate a growth in the demand for oral health services, provided by highly skilled practitioners.

The public sector currently may not be capable of absorbing all those to be trained, but that should not be the only determinant of the required manpower levels. Training should also cater for the needs of the private sector. In Australia, 86% of dentists are in private practice[2]. A paradigm shift towards the training of a new generation of business-oriented and enterprising oral health practitioners who are prepared to venture into private practice is therefore required. This will ease the pressure on government and permit it to tackle the problem of inequitable distribution of personnel by providing attractive incentive packages for those willing to work in remote rural communities.

For Sierra Leone to have an effective oral health policy, manpower planning should be comprehensive and must not be the preserve of any interest group but rather the product of collaboration between all the major stakeholders in the country.

Table 22: Oral health interventions and services

INTERVENTIONS AND SERVICES PROVIDED	COMMUNITY (TBAs, CDDs)	MCHP	CHP	CHC	DISTRICT HOSPITAL
Extraction	Recognize & Refer	Recognize & Refer	Recognize & Refer	Recognize & Refer	Yes
Fillings	Recognize & Refer	Recognize & Refer	Recognize & Refer	Recognize & Refer	Yes if facility available
Prophylaxis	Advise and Assist brushing	Advise	Advise	Advise	Yes
ART:		Refer	Refer	Refer	Yes
Tooth Brushing	Assist	Assist	Assist	Assist	Yes
Ameloblastoma	Refer	Refer	Refer	Refer	Yes
Minor surgery	Recognize and refer	Recognize and refer	Recognize and refer	Recognize and refer	Yes
Crowns and Bridges	Refer	Refer	Refer	Refer	Yes
Dentures	Recognize, & refer	Recognize & refer	Recognize & refer	Recognize & refer	Yes
Burkett lymphoma	Recognize & Refer	Recognize & Refer	Recognize & Refer	Recognize & Refer	If facilities available Yes
Dental injuries	Refer	Refer	Refer	Aid & Refer	Yes
School Mobile Clinic	Recognize & refer	Recognize & refer	Recognize & refer	Recognize & refer	Yes

7.13 Eye Care

There has been a significant increase in the provision of eye care in Sierra Leone. At least seven out of thirteen health districts have had eye care personnel for several years now. Earlier, this eye care was limited to an eye clinic within general services in Freetown.

In the early eighties, rural eye services were started at Lunsar by the Baptist Convention with a network of outreach services in the Northern Province. In the Eastern Province, the Royal Commonwealth Society for the Blind (RCSB), now Sight savers International, started services at Nixon Memorial Hospital, extending services to the Southern and Eastern Provinces.

Although there is no comprehensive data available of the prevalence and incidence of blindness and low vision in Sierra Leone, various publications by World Health Organization (WHO) sources or from agencies providing Eye care suggest that loss of sight from various causes is on the increase. In addition, the large number of blind persons found all over Sierra Leone provides a good picture of the state of people's eye sight.

Onchocerciasis constitutes a major threat to the sight of the people all over Sierra Leone, especially those living along the river basins. All the fast flowing rivers with which Sierra Leone is so richly blessed are breeding grounds for the vector simulum danosium or black fly that causes river blindness. Vitamin A deficiency and treatment by untrained doctors also accounts for a sizeable proportion of loss of sight, particularly in children. All of these conditions affecting people are preventable or can easily be cured if diagnosed and treated early. The major causes of blindness in Sierra Leone are avoidable; cataract by surgery and optical correction, Onchocerciasis by Ivermectin distribution, childhood blindness by immunization and prevention of malnutrition.

The goal of Eye Health Care is to ensure the eye health of the population and reduce the burden of visual impairment, blindness and eye disease by providing comprehensive community focused eye care services within the district through community based activities targeting major causes and special population groups in underserved and marginalized communities.

Table 21: Eye care Services

INTERVENTIONS AND SERVICES PROVIDED	COMMUNITY (TBAs, CDDs)	MCHP	CHP	CHC	HOSPITAL
Red Eye	Refer	Refer	Refer	Yes	Yes
Cataract	Recognize & Refer	Recognize & Refer	Recognize & Refer	Recognize & Refer	Yes if facility available
Onchocerciasis	Yes	Yes	Yes	Yes	Yes
Childhood Blindness:		Refer	Refer	Refer	Yes
- Measles	Refer	Refer	Refer	Yes	Yes
- Febrile Convulsions	Refer	Yes Refer	Yes Refer	Yes	Yes
- Vit. A Deficiency		Yes Refer	Yes Refer	Yes Refer	Yes
- Other causes	Refer	Refer	Refer	Refer	Yes
- Neonatal Conjunctivitis	Recognize, start & refer	Start & refer	Start & refer	Yes	Yes
Refractive Error & Low Vision	Recognize & Refer	Recognize & Refer	Recognize & Refer	Recognize & Refer	If facilities available Yes
Eye Injuries	Refer	Refer	Refer	Yes & Refer	Yes
IEC/BCC on Prevention of Blindness	Yes	Yes	Yes	Yes	Yes
Distribution of Vit..A Capsules	Yes	Yes	Yes	Yes	Yes
Distribution of Mectizan Tablets	Yes	Yes	Yes	Yes	Positive Oncho patients – Yes
Measurement of Visual Acuity	Yes & Refer if abnormal	Yes & Refer if abnormal	Yes & Refer if abnormal	Yes & Refer if abnormal	Yes if facilities are available
Glaucoma	Refer	Refer		Refer	Yes

7.14 ENT and Audiology Services

The National ENT and Audiology services, launched in February 2006, strive to conduct ear care and hearing services in the remote regions of the country. Over 50% of sufferers of hearing loss and related conditions are children and being a hidden disability, deafness and ear diseases attract very little recognition in comparison to other disabilities. The burden of deafness or hearing loss impacts not only the individual but also on the family, community and country.

Since most of the causes of deafness and other ear disorders are preventable, avoidable or curable, the identification of risk factors, early diagnosis, and early intervention in the care of hearing

and ear disorders could help reduce greatly the incidence of hearing loss especially in infants and school going children. The implementation of preventive measures would also significantly help reduce the burden of disease and conditions. Primary prevention consists mainly of early diagnosis and treatment of common ear ailments, community sensitization, surveillance and immunization against diseases that may lead to hearing loss.

The table below summarises the ENT and Audiology interventions that will be carried out at the five standard levels of care taking into consideration the cadre of staff available at each level.

Table 19: ENT and Audiology Services

Interventions and Services Provided	Community	MCHP	CHP	CHC	Hospital
Ear Wax	Refer	yes	Yes	Yes	Yes
Foreign bodies in the ear	Refer	Refer	Refer	Yes	Yes
Acute Otitis External	Refer	Yes /Refer	Yes /Refer	Yes	Yes
Acute Otitis Media	Refer	Refer	Yes /Refer	Yes/Refer	Yes
Chronic Otitis Media	Yes/Refer	Yes/Refer	Yes/Refer	Yes/Refer	Yes
Simple Test for hearing loss	Yes	Yes	Yes	Yes	Yes
Acute Rhinitis	Yes/Refer	Yes/Refer	Yes/Refer	Yes/Refer	Yes
Chronic Rhinitis	Refer	Yes/Refer	Yes/Refer	Yes/Refer	Yes
Regular outreach services	Yes	Yes	Yes	Yes	Yes
Aural toilet and wick insertion	Yes	Yes	Yes	Yes	Yes

7.15 Health Education

In a country where harmful traditional practices exist in combination with low literacy levels, the need for health information, education and behavioural change communication cannot be over emphasized. In Sierra Leone today there is need to focus the communities' attention on the many services provided by the health ministry and its numerous partners to improve their health and living conditions. There is still little awareness of risk factors that can lead to ill health such as tobacco smoking, the growing consumption of alcohol and drugs, especially amongst the young.

Since the advent of HIV/AIDS and the wide publicity it has received, only 17.2% of our women and 27.6% of the men have comprehensive knowledge of the infection in Sierra Leone; contraceptive prevalence rate remains low at 8% in the midst of a high fertility rate of 5.1% and low institutional deliveries of 24.6%; ingestion of contaminated foods and water still continues to kill our children and there is gross under utilization of ITNs (25.8%) by our under-five children who continue to die of malaria. (SLDHS2008)

The health education division is going to intensify its activities to create awareness amongst the communities about the range of preventive and curative services available, especially for new-borns, children, adolescents and women of childbearing age. It will also encourage communities to adopt good practices such as personal hygiene, exclusive breastfeeding, better nutrition, use of the ITNs and the appropriate and timely care-seeking behaviour for their children, the family members and the community. The division will conduct training for health staff to improve their performance, sensitivity and responsiveness to local attitudes, education and culture.

Table 23: Health Education Interventions and services

INTERVENTIONS AND SERVICES PROVIDED	COMMUNITY	MCHP	CHP	CHC	HOSPITAL
Develop and disseminate IEC/ BCC materials	Yes	Yes	Yes	Yes	Yes
Conduct radio discussion programmes	No	No	No	Yes	Yes
Air jingles in local languages	No	No	No	Yes	Yes
Conduct health talks	Yes	Yes	Yes	Yes	Yes
Community mobilization using Town Criers	Yes	Yes	Yes	Yes	No
Train health staff and community volunteers on IEC/BCC	Yes	Yes	Yes	Yes	Yes
Monitor and supervise IEC/BCC activities	Yes	Yes	Yes	Yes	Yes

7.16 Water, sanitation and Hygiene

Clean water and sanitation can contribute to reduction of the diarrhoeal disease burden in communities where contaminated water causes 90% of diarrhoeal cases among children. However, domestic hygiene, particularly food and hand hygiene, is the main determinant of endemic diarrhoeal disease rates and not drinking water quality (DCP2, chapter41, page 778).

Rather than quality, the quantity, continuity and convenience of water services is what reduces the incidence of diarrhoea by encouraging more hygienic behaviour with regard to personal care and food preparation. Even though water and sanitation infrastructure can be more expensive relative to other preventive measures and case management, better personal hygiene can interrupt the transmission of skin and eye infections (trachoma), reduce the incidence of water-based illnesses (schistosomiasis, guinea worm) and also reduce exposure to some water-related insect vectors (mosquitoes).

The table below summarises the Water, Sanitation and Hygiene interventions that will be carried out at the five standard levels of care taking into consideration the cadre of staff available at each level.

Table 24: Water, Sanitation and Hygiene Interventions and Services

INTERVENTIONS AND SERVICES PROVIDED	COMMUNITY	MCHP	CHP	CHC	HOSPTAL
Safe Drinking Water - maintenance of water sources, routine chlorination and safe storage of drinking water	Yes	Yes	Yes	Yes	Yes
Improved Sanitation - safe excreta disposal; discouraging open defecation and safe and appropriate refuse dis-	Yes	Yes	Yes	Yes	Yes
Hygiene Promotion - hand washing and personal hy-	Yes	Yes	Yes	Yes	Yes
Vector Control - draining all stagnated water, ensuring free-flowing drains, clearing of vegetation near homes, use of ITNs, etc.	Yes	Yes	Yes	Yes	Yes
Indoor Pollution - appropriate mitigation measures	Yes	Yes	Yes	Yes	Yes

1. **LABORATORY**	FORM	MCHP	CHP	CHC	Hospital
1.1 Haematology					
Haemoglobin			√	√	√
Haematocrit					√
Full blood count					√
Blood typing					√
Bleeding and clotting times					√
Erythrocyte sedimentation rate (ESR)					√
1.2 Microscopy					√
Malaria parasites		√	√	√	√
Urine microscopy			√	√	√
CSF cell count					√
Gram stain for discharges, pus				√	√
Sputum for acid fast bacilli (Ziehl Nielsen stain)			√	√	√
1.3 Bio-chemistry					√
Proteinuria & Glucosuria		√	√	√	√
RDT for malaria		√	√	√	√
Rapid pregnancy test		√	√	√	√
Serum bilirubin					√
Blood glucose			√	√	√
Rapid Plasmareagin (RPR) test for syphilis			√	√	√
HIV Rapid Test		√	√	√	√
Hepatitis B & C rapid tests				√	√
Reagents and CD counter					√
2. IMAGING SERVICES					
2.1 x-Ray					
Chest		-		-	√
Abdomen		-		-	√
Skeleton		-		-	√
2.2 Ultrasound					
Simple portable		-		-	√
2.3 Electrocardiograph					
Simple Portable					√

A. Essential Drugs for the BPEHS

1	ANAESTHETICS	FORM	MCHP	CHP	CHC	HOSPITAL
	Halothane	bottle				
	Ketamine Injection 50mg/ml	Vial				
	Thiopentone 1g	Vials				
	Suxamethonium Bromide 500mg	Vial				
	Lidocaine injection 2%	Vial		√	√	√
	Lidocaine injection 1%	Vial		√	√	√
	Lidocaine injection with epinephrine 2%	Vial			√	√
	Bupuvacaine 0.5% (spinal)	Vial/ Ampoule				
2	SEDATIVES AND TRANQUILIZ-ERS					
	Atropine 1mg/ml	Ampoule				
	Diazepam 5ml/ml	Ampoule			√	√
3	ANALGESICS, ANTIPYRETICS, NON-STEROIDAL ANTI-INFLAMMATORY MEDICINES					
	Non-opioids and non-steroidal anti-inflammatory analgesics		√			
	Diclofenac 25mg	Tabs	√	√	√	√
	Diclofenac 50mg	Tabs		√	√	√
	Diclofenac 75mg/2mls injection	Amp	√			
	Ibuprofen 200mg	Tabs	√	√	√	√
	Ibuprofen 400mg	Tabs	√	√	√	√
	Paracetamol 125mg/5ml	bottle	√	√	√	√
	Paracetamol 100mg	Tabs.	√	√	√	√
	Paracetamol 125mg	Supp.	√	√	√	√
	Paracetamol 500mg	Tablets	√	√	√	√
	Acetyl Salicylic Acid 75mg	Tabs	√	√	√	√
	Acetyl Salicylic Acid	Tabs		√	√	√
	Opioids analgesics					
	Morphine Sulphate 10mg/ml	Ampoule				
	Morphine 100mg	Tabs				
	Pethidine 50mg Inj	Amps				
	Tramadol 50mg	Caps				
	Tramadol inj 100mg	Amp				
	Penthazocine 1-2mg inj.	Amp				
	Phentanyl 100mcg	Amp				

No.	Drug	Form	MCHP	CHP	CHC	HOSPITAL
4	**Antiallergics and medicines used in anaphylaxis**		√			
	Chlorpheniramine 4mg	Tablets		√	√	√
	Dexamethasone 0.5mg	Tablets				
	Dexamethasone 4mg/ml	Injection				
	Epinephrine 1mg/ml	Ampoule				
	Hydrocortisone 100mg	Ampoule				
	Prednisolone 5mg	Tablets				
	Promethazine 25mg/ml	Amp	√			
	Promethazine 1mg/ml	Syrup		√	√	√
	Promethazine 25mg	Tabs			√	√
5	**Antidotes and other substances used in poisoning**					
	Naloxone 400mg/ml	Ampoule	√			
	Activated Charcoal 500mg	Tabs		√	√	√
6	**Anticonvulsants and Antiepileptic**					
	Diazepam 5mg/ml	Amp			√	√
	Magnesium Sulphate 50%	Ampoule	√	√	√	√
	Phenobarbital 100mg./ml	Ampoule	√	√	√	√
	Phenytoin 100mg	Tablets	√	√	√	√
7	**Anti-Infective Medicines**		√			
	Intestinal Antihelminthic		√			
	Mebendazole 500mg	Tablets	√	√	√	√
	Albendazole 400mg	Tabs	√	√	√	√
	Albendazole 200mg	Tabs	√	√	√	√
	Albendazole 400mg/10mls	Bottles	√	√	√	√
	Praziquantel 600mg	Tabs				
	Ivermectin 2mg	Tabs		√	√	√
	Antibacterial					
	Beta Lactam Medicines					
	Amoxycillin 125mg/ml	Suspn			√	√
	Amoxycillin 250mg	Tablets			√	√
	Amoxycillin 500mg	Tablets			√	√
	Ampicillin Cloxacillin 500mg	Caps		√	√	√
	Flucloxacillin 500mg	Caps		√	√	√
	Benzathine Benylpenicillin 2.4mu	Vial			√	√
	Benzyl Penicillin, 5mu, powder for infection	Vial	√			
	Procaine Penicillin 4mu	Vial				

No.	Drug	Form	MCHP	CHP	CHC	HOSPITAL
8	**Other Antibacterial**					
	Chloramphenicol 1g	Vial			√	√
	Chloramphenicol 250mg	Caps		√	√	√
	Ciprofloxacin 500mg	Tablets			√	√
	Ciprofloxacin 250mg	Vials				
	Co-trimoxazole 200+40mg/5ml	Susp.	√	√	√	√
	Co-trimoxazole 400 +80mg	Tablets		√	√	√
	Co-trimoxazole 100+20mg	Tablets			√	√
	Doxycycline 100mg	Caps/ Tabs				
	Erythromycin 500mg (as stearate)	Tablets		√	√	√
	Azithromycin 600mg	Caps	√			
	Gentamycin 40mg/ml	Amp.				
	Metronidazole 200mg	Tablets		√	√	√
	Metronidazole 250mg	Tabs		√	√	√
	Metronidazole 500mg/100mls	Vials				
.	**Antituberculosis medicines**		√			
	RHZT (DOTS) 400mg	Tablets	√	√	√	√
	EH (DOTS)	Tabs		√	√	√
	Streptomycin 1gm **	Vial	√			
9	**Antifungal Medicines**		√			
	Clotrimazole 100mg pessary	Pessary	√		√	√
	Clotrimazole 30g	Cream	√	√	√	√
	Ketocanazole 20mg	Tab	√			
.10	**Antiretroviral, subject to current NACP/STI protocols**		√			

NO	DRUG	FORM	MCHP	CHP	CHC	HOSPITAL
	Nucleoside reverse transcriptase inhibitors		√			
	Abacavir oral solution, 20mg.ml, 240ml	Solution	√			
	Dianosine 50mg	Tablets				
	Lamivudine + stavudine + nevirapine Tablets 150+30+200	Tablets		√	√	√
	Lamivudine + stavudine + nevirapine Tablets 30+150+200	Tablets		√	√	√
	Lamivudine + stavudine + nevirapine Tablets 40+150+200	Tablets		√	√	√
	Lamivudine + stavudine Tablets 150+30	Tablets		√	√	√
	Lamivudine + stavudine Tablets 30 + 150	Tablets		√	√	√
	Lamivudine oral solution, 10mg/ml, 100ml	Solution		√	√	√
	Lopinavir + Ritonavir 133.3mg + 33.3mg	Tablets				√
	Lopinavir + Ritonavir 200mg+50mg					√
	Lopinavir + Ritonavir oral solution 80+20	Caps				√
	Stavudine Cap 30mg	Tablets	√	√	√	√
	Zidovudine + stavudine + Abacavir Tablets 300 + 150+300	Tablets				√
	Zidovudine + stavudine + Abacavir Tablets 300 + 150+300	Tablets				√
	Zidovudine + stavudine + nevirapine Tablets 300+30+200	Tablets				√
	Zidovudine 300mg tablet	Tablets				√
	Zidovudine Cap 100mg	Caps				√
	Zidovudineoral solution, 10mg/ml, 100ml	Solution				√
11	**Non-nucleoside reverse transcriptase inhibitors**					
	Effavirenz 200mg	Caps				
	Effavirenz Tablets 600	Tablets				
	Nevirapine 200mg	Tablets				
	Nevirapine oral 10mg/ml	Suspension	√	√	√	√
	Nevirapine syrup, 10mg.ml	Solution	√	√	√	√

NO	DRUG	FORM	MCHP	CHP	CHC	HOSPITAL
12	**Protease inhibitors**					
	Indinavir 400	Tablets				√
	Nelfinavir 250mg	Tablets				√
	Nelfinavir powder 50mg	Injection				√
13	**Antimalarial medicines**					
	For curative treatment					
	Amodiaquine 153mg+Artesunate 50mg	Tablets	√	√	√	√
	Artesunate 20mg + Lumefan-trine120mg	Tablets	√	√	√	√
	Artemether 20mg/ml	Ampoule				√
	Artemether 80mg/ml	Ampoule				√
	Artemether 20mg	Supp.	√	√	√	√
	Artemether 40mg	Supp.		√	√	√
	Quinine Sulphate 100mg	Tablets		√	√	√
	Quinine Sulphate 300mg	Tablets		√	√	√
	Quinine Dihydrochloride 300mg/ml	Amp. 2ml				√
	Sulphadoxine/Pyrimethamine 500 + 25mg	Tablets	√	√		√
14	**Medicines Affecting the Blood**					
	Haematinics, Minerals and Vitamins					
	Ferrous salt 200mg + Folic acid 0.25mg	Tablets	√	√	√	√
	Ferrous sulphate 200mg coated (65mg iron)	Tablets	√	√	√	√
	Ferrous Fumarate 20mg/ml	Syrup	√	√	√	√
	Folic acid 5mg	Tablets	√	√	√	√
15	**Medicines affecting Coagulation**					
	Heparin 5000u/ml	Injection				√
	Phytomenadione (Vit KI) 1mg/ml	Ampoule	√	√	√	√
	Warfarin 3 mg	Tablets				√
16	**Plasma Substitutes**					
	Dextran 70.6% in sodium chloride 0.9%	Bag			√	√
	Haemacel 500ml	Bag			√	√

NO	DRUG	FORM	MCHP	CHP	CHC	HOSPITAL
17	**Cardiovascular Medicines**					
.	Antihypertensive Medicines					√
	Hydralazine 20mg	Tabs				√
	Propranolol 40mg	Tabs				√
	Nifedipine 20mg	Tabs				√
	Methyldopa 250mg	Tabs	√	√	√	√
	Methyldopa 500mg	Tabs	√	√	√	√
	Bendrofluazide 2.5mg	Tabs				√
	Bendrofluazide 5mg	Tabs				√
	Enalapril 5mg	Tabs				√
	Enalapril 10mg	Tabs				√
	Captopril 12.5mg	Tabs				√
	Captopril 25mg	Tabs				√
18	**Dermatological Medicines, (Topical)**					
	Whitfield's Ointment		√	√	√	√
	Gentian Violet powder	Solution	√		√	√
	Mercuro chrome	Solution	√	√	√	√
	Fusidic acid 2%	Tube	√	√	√	√
19	**Disinfectants and Antiseptics**					
.	Antiseptics					
	Alcohol disinfectant, isopropanal 70% + detergent	5 litre	√	√	√	√
	Chlorhexidine + Cetrimide 1.5% + 15%	Solution	√	√	√	√
	Chlorhexidine gluconate 5% 1 litre	Bottle	√	√	√	√
	Povidone Iodine 10%	Solution	√	√	√	√
	Disinfectants		√	√	√	
	Calcium Hypochlorite 70%	Solution	√	√	√	√
	Calcium Hypochlorite	Tablets	√	√	√	√
	Phenol Disinfectant	bottle	√	√	√	√
	Epsom Salts	packets	√	√	√	√
	Hydrogen Peroxide 3-6%	bottle	√	√	√	√
20	**Diuretics**					
	Frusemide 10mg/ml	Ampoule		√	√	√
	Frusemide 40mg	Tabs	√	√	√	√

NO	DRUG	FORM	MCHP	CHP	CHC	HOSPITAL
21	**Gastrointestinal Medicines**					
	Antacids and other antiulcer medicines					
	Magnesium trisilicate 500mg	Tablets	√	√		√
	Aluminium Hydroxide 500mg	Tabs	√	√		√
	Aluminium Hydroxide 500mg/10ml	bottle	√	√		√
	Sodium Citrate 0.3mol	bottle	√	√		√
	Loperamide 2mg	Caps				√
.	Antiemetic medicines					
	Promethazine 25mg	Tablets	√	√		√
	Promethazine 25mg/ml, 2ml	Ampoule			√	√
	Metochlopramide 10mg	Tabs	√	√		√
	Metochlopramide 10mg/ml	Amp			√	√
	Anti-inflammatory medicines					
	Anti-haemorrhoidal Ointment	Tube	√	√		√
	Anusol	supp	√	√		√
	Anusol	Tube	√	√		√
.	**Laxatives**					
	Bisacodyl 5mg	Tablets			√	√
	Liquid paraffin	bottle		√	√	√
	Medicines used in Diarrhoea					
	Oral Rehydration					
	Oral Rehydration Salt	Sachet	√	√		√
	Medicines used for Diarrhoea in children					
	Zinc Sulphate 20mg	Tablets	√	√		√
	Oral Rehydration Salt (Flavoured)	Sachets	√	√		√
22	**Contraceptives**					
.	Oral Hormonal Contraceptives - as per current recommendation of the Reproductive Health Division					
	Progesterone only pill	Tablets	√	√		√
	Combination pill	Tablets	√	√		√
	Injectables Hormonal Contraceptives					
	Medroxyprogesterone acetate 150mg depot	Injection		√	√	√
	Intrauterine Devices					
	Intra-uterine device	IUC		√	√	√
	Barrier Methods					
	Female condom	Pieces	√	√	√	√
	Male Condom	Pieces	√	√	√	√
	Implant Device	Pieces				√

NO	DRUG	FORM	MCHP	CHP	CHC	HOSPITAL
23	**Immunological**					
	Sera and Immunoglobulin					
	Tetanus Anti-toxins, Human 1,500u	Ampoule			√	√
	Vaccines					
	For Universal Immunization					
	BCG vaccine	Ampoule	√	√	√	√
	Pentavalent vaccine	Ampoule	√	√	√	√
	Measles vaccine	Ampoule	√	√	√	√
	Polio vaccine	Drops	√	√	√	√
	Tetanus toxoid	Ampoule	√	√	√	√
	For specific groups of individuals					
	Yellow Fever vaccine	Ampoule	√	√	√	√
24	**Ophthalmologic Preparations**					
	Anti-infective agents					
	Tetracycline 1% eye drops	Bottle	√	√	√	√
	Tetracycline 1% eye ointment	Tubes	√	√	√	√
	Chloramphenicol 1% eye drops	bottle	√	√	√	√
	Chloramphenicol 1% eye ointments	Tube	√	√	√	√
	Gentamycin 0.03% eye drops	bottle	√	√	√	√
	Timolol Maleate eye drops 0.25%	Bottle		√	√	√
	Timolol Maleate Eye Drops 0.5%	Bottle		√	√	√
	Hydro cortisone eye drops	Bottle		√	√	√
	Dexamethasone eye drops	Bottle		√	√	√
25	**Oxytoxics and antioxytocics**					
	Oxytoxics					
	Ergometrine 0.5%mg/ml	Amp		√	√	√
	Oxytocin 10i.u./ml	Ampoule	√	√	√	√
	Antioxytocics					
	Salbutamol 2mg	Tablets		√	√	√
	Salbutamol 4mg	Tablets		√	√	√
	Salbutamol 0.5mg/ml	Amp				√
	Oxytocin/Ergometrine (Syntometrine) 5units/500mcg /ml injection	Amp		√	√	√
26	**Psychotherapeutic Medicines**					
	Medicines used in Psychotic disorders					
	Chlorpromazine 25mg	Tablets	√	√	√	√
	Chlorpromazine 100mg	Tablets	√	√	√	√
	Chlorpromazine 5mg/ml	Syrup	√	√	√	√
	Chlorpromazine 25mg/ml	Ampoule		√	√	√
	Medicines used in depressive disorders					
	Amitryptyline 25mg	Tablets		√	√	√
	Imipramine 25mg	Tablets		√	√	√

NO	DRUG	FORM	MCHP	CHP	CHC	HOSPITAL
27	**Solutions correcting water, electrolyte and acid-base disturbances**					
	Parenteral					
	Dextrose 50% conc.	Vial			√	√
	Dextrose 5% (500ml)	Bag		√	√	√
	Dextrose 5% (1000ml)	Bag		√	√	√
	Normal saline 0.9% NaCl 500ml	Bag		√	√	√
	Normal saline 0.9% NaCl 1000ml	Bag		√	√	√
	Ringer's Lactate 500ml	Bag		√	√	√
	Half strength Ringer's Lactate 500ml	Bag		√	√	√
	Ringer's Lactate 1000ml	Bag		√	√	√
	Half strength Ringer's Lactate 1000ml	Bag		√	√	√
	Haemacel 500ml	Bag			√	√
	Manitol 10% 1000ml	Bag				√
	Manitol 20% 1000ml	Bag				√
	Miscellaneous					
	Water for injection 10ml	Am-poule		√	√	√
	Distilled water	Bottle	√	√	√	√
	Lubricating jelly	Tube		√	√	√
28	**Vitamins and Minerals**					
	Calcium gluconate 100mg/ml, 10ml	Am-poule			√	√
	Multivitamin	Tablets	√	√	√	√
	Multivitamin syrup	bottle	√	√	√	√
	Vitamin E 400 iu	Capsule			√	√
	Ferrous sulphate 200mg	Tablet	√	√	√	√
	Ferrous sulphate syrup	Bottle	√	√	√	√
	Folic acid 5mg	Tablet	√	√	√	√
	Ferrous sulphate/folic acid	Tablet	√	√	√	√
	Retinol (Vit. A) 200,000 iu.	Capsule	√	√	√	√
	Retinol (Vit. A), 50,000 iu.	Capsule	√	√	√	√

10. Equipment

NO	EQUIPMENT	MCHP	CHP	CHC	HOSPITAL
1	**NON-MEDICAL EQUIPMENT**				
1.1.	**Administration**				
	Office furniture	√	√	√	√
	Office equipment	√	√	√	√
1.2.	**Electricity**				
	Emergency lights (including back-up for operation				√
	theatre, midwifery and laboratory)				
1.3	Solar	√	√		√
1.4	Generator				√
1.3.	**Water supply**				
	Water source for drinking water	√	√		√
	Storage tank	√	√		√
	Water purification chemicals or filter	√	√		√
	Hand-washing sinks and taps or bowls on stands in all areas	√	√		√
1.4.	**Waste disposal**				
	Incinerator or burial pit	√	√	√	√
	Septic tanks	√	√	√	√
	Drainage system	√	√	√	√
	Sanitation facilities for patients	√	√	√	√
	Rubbish bins in all rooms	√	√	√	√
	Sharps containers in all treatment areas	√	√	√	√
	Buckets for contaminated waste in all treatment areas	√	√	√	√
	Protective boots and utility gloves	√	√	√	√
1.5	Safety				
	Fire extinguisher	√	√		√
1.6	**Vehicle**				
	Vehicle, 4-wheel drive				√
	Ambulance, 4-wheel drive				√
	Mortuary Van				√
	Motor bikes	√	√		√
1.7	Communication set (VHF, Mobile phone)	√	√		√
1.8	**Medical stores**				
	Refrigerator (solar powered)				
	Generator				
	Computer and its accessories		√		√
	Computer printer		√		√
	Photo copier				
	Cool boxes and vaccine carriers	√	√	√	√
	Shelves	√	√	√	√
	Inventory control tools	√	√	√	√
	Lockable medicine cupboards in treatment areas	√	√	√	√

NO	EQUIPMENT	MCHP	CHP	CHC	HOSPITAL
1.9	**Kitchen**				
	Cooking stove	√	√	√	√
	Cooking pots and utensils	√	√	√	√
	Food trolley				√
	Plates, cups and cutlery				√
	Refrigerator				√
	Washing and drying area facilities				√
	Shelves and storage	√	√		√
1.10.	**Laundry**				
	Washing and rinsing equipment/bowls	√	√		√
	Detergent/soap	√	√	√	√
	Water heater		-		√
	Iron	√	√	√	√
1.11.	**Housekeeping**				
	Brooms, brushes and mops	√	√	√	√
	Buckets for contaminated waste in all treatment areas	√	√	√	√
	Soap and disinfectant	√	√	√	√
2	**MEDICAL EQUIPMENT**				
2.1	**All Outpatient Clinic Rooms**				
	Desk and chairs	√	√		√
	Examination table or bed	√	√		√
	Light source	√	√		√
	Hand washing facilities	√	√		√
	Receptacle for soiled pads, dressings, etc	√	√		√
	Container for sharps disposal	√	√		√
	Wall clock with second hand, torch with extra batteries	√	√		√
	Instrument sterilizer	√	√		√
	Jar for forceps	√	√		√
2.2.	**Women's Reproductive Health Room**				
	Examination table	√	√	√	√
	BP machine and stethoscope	√	√	√	√
	Thermometer	√	√	√	√
	Foetal Stethoscope	√	√	√	√
	Weighing scale	√	√	√	√
	Height measure	√	√	√	√
	Speculum and vaginal examination kit	√	√	√	√
	Contraceptive supplies	√	√	√	√
	Syringes and needles	√	√	√	√
	MVA syringe and canulas	X	√	√	√
	IUCD insertion set	√	√	√	√
	Examination gloves	√	√	√	√
	IEC/BCC flip charts, posters and models	√	√	√	√
	Register	√	√	√	√
	Home-Based Mothers' cards	√	√	√	√
	Immunization cards	√	√	√	√
	Family Planning cards	√	√	√	√

NO	EQUIPMENT	MCHP	CHP	CHC	HOSPITAL
2.3.	**Child Health Clinic Room**			√	
	Baby scales	√	√	√	√
	Hanging scales	√	√	√	√
	Height measure/measuring board	√	√	√	√
	Register	√	√	√	√
	Road to Health cards	√	√	√	√
2.4.	**Expanded Programme on Immunization room**				
	Refrigerator	√	√	√	√
	Temperature monitoring charts	√	√	√	√
	Cold boxes and icepacks	√	√	√	√
	Syringes, needles and swabs	√	√	√	√
	Registers	√	√	√	√
	Safety box	√	√	√	√
	A.D. syringes	√	√	√	√
	Voltage Stabilizers				√
	Air conditioners				√
	Computers and accessories				√
	Photocopier				√
	Standby generator				√
	Vaccine labels and thermometers	√	√	√	√
	Protective clothing and gloves				√
2.5.	**Delivery Room**				
	Delivery bed and bed linen	√	√		√
	Curtains if more than one bed	√	√		√
	Work surface near bed for newborn resuscitation	√	√		√
	Instrument trolley	√	√		√
	Tray with routine & emergency drugs, syringes and needles	√	√		√
	BP machine and stethoscope	√	√		√
	Thermometer	√	√		√
	Foetal stethoscope	√	√		√
	Urinary catheter and collection bag	√	√		√
	Partograph charts	√	√		√
	Latex gloves and protective clothing	√	√		√
	Cleaning delivery kit and cord ties	√	√		√
	Towel and blankets for newborn	√	√		√
	Mucus extractor bulb	√	√		√
	Ambu resuscitator and mask (adult)	√	√		√

NO	EQUIPMENT	MCHP	CHP	CHC	HOSPITAL
	Ambu resuscitator and mask (paediatric)	√	√		√
	Oropharyngeal airways, various sizes	√	√		√
	Baby scales	√	√		√
	Vacuum extractor set		√		√
	Suturing set	√	√		√
	Assorted sutures				
	I.V. giving sets and canulas. Infusion bottles	√	√		√
2.6.	**Inpatient wards**				
	Beds, washable mattresses and linen	√	√		√
	Patient trolley on wheels	√	√		√
	Dressing trolley/Medicine trolley	√	√		√
	Urinals and bedpans	√	√		√
	I.V. stands	√	√		√
	Basic examination equipment	√	√		√
	Medicine storage cabinet	√	√		√
2.7	**Treatment Room (Accident & Emergency)**				
	Examination table	√	√		√
	Stool, adjustable height	√	√		√
	Instrument/dressing trolley	√	√		√
	Instrument tray	√	√		√
	Wound dressing set	√	√		√
	Suturing set	√	√		√
	Sterile gloves	√	√		√
	Syringes and needles	√	√		√
	Dressings	√	√		√
	I.V. stands	√	√		√
	Ambu resuscitation set with adult and child masks	√	√		√
	POP Instruments set				√
	Oral airways: various sizes	√	√		√
	Splints and slings	√	√		√
	Plaster bandages for casts				√
	Gauze	√	√		√
	Cotton wool	√	√		√
	Suturing Materials	√	√		√

NO	EQUIPMENT	MCHP	CHP	CHC	HOSPITAL
2.8	**Operating theatre**				
	Hand washing/scrubbing facilities				√
	Universal operating table				√
	Mobile operating light				√
	Stool, adjustable height				√
	Patient trolley on wheels				√
	I.V. stand				√
	Instrument trolley				√
	Instrument tray				√
	Syringes and needles				√
	POP				√
	POP instruments				√
	Dressings (gauze, cotton wool, plaster etc)	-			X
	I.V. giving sets and canulas	-			√
	Portable suction machine	-			√
	Anaesthetic trolley/machine	-			√
	Sphygmomanometer and stethoscope	-			√
	General Surgery Instrument Set				√
	Ambu resuscitation set with adult and child masks	-			√
	Oral airways: various sizes	-			√
	Laryngoscope set	-			√
	Operating drapes	-			√
	Dressing Drums				√
	Instrument Drums				√
	Protective hats, aprons and gowns	-			√
	Sterile gloves	-			√
	Caesarean/hysterectomy set	-			√
	Laparotomy set	-			√
	Tubal ligation set	-			√
	Dilatation and curettage set	-			√
	Tracheotomy set	-			√
	Chest drain tubes and under water seal bottles	-			√
	Cardio Monitor				√
	Oxy Pulsymeter				√
	Sterilizer	-			√
	Instrument cupboard	-			√

NO	EQUIPMENT	MCHP	CHP	CHC	HOSPITAL
2.9	**Laboratory**				
	Microscope (light) and emersion oil	√	√	√	√
	Electrical microscope and emersion oil			√	√
	Hand centrifuge	√	√	√	√
	Electrical centrifuge				√
	Haemoglobin meter	√	√	√	√
	Haematocrit centrifuge	-			√
	White cell differential counter	-			√
	Timer	√	√	√	√
	Laboratory scale and weights	√	√	√	√
	Slide rack	√	√	√	√
	Staining jars	√	√	√	√
	Variable micro Pipettes and stand		√	√	√
	Spirit lamp	√	√	√	√
	Measuring jars, beakers, test tubes	√	√	√	√
	Microscope slides & cover slips	√	√	√	√
	Specimen collection cups, tubes and capillary tubes	√	√	√	√
	Reagents, stains and test kits as appropriate (see table 11)	√	√	√	√
	Haematological analysers				√
	Chemical analysers				√
	Deep freezers				√
	Refrigerators			√	√
	Bacteriological flow-hoods				√
	Water distillers			√	√
	Autoclaves and sterilizers			√	√
	Spectro-photometer			√	√
	colorimeter			√	√
	Standby generator			√	√
2.9.1	**Blood transfusion services**				
	Blood Bags (450ml)				
	Blood Bags (, 250ml)				√
	Paediatric blood giving set				√
	Adult blood giving set				√
	Solar blood refrigerator				√
	Consumables (cotton wools, syringes etc)				√
	ABO and D grouping sera				√
	HIV rapid test				√
	Hepatitis B rapid test				√
	Hepatitis C rapid test				√
	Test for syphilis (TPHA, RPR)				√
	Anti human globulin				√
	LISS (Low Ironic Strength Solution)				√
	Carrier boxes (for 2-3 units of blood)				√
	Scales for weighing blood				√
	haemoglobin meters				√

NO	EQUIPMENT	MCHP	CHP	CHC	HOSPITAL
2.10.	**Imaging Services**				
	X-Ray machine (fixed or portable)	-			√
	X-Ray developing machine and darkroom equipment	-			√
	X-Ray protective materials (lead aprons and walls)	-			√
	Wall viewer	-			√
	Voltage stabilizer for X-Ray machine	-			√
	Ultrasound machine, small portable	-			√
	EKG machine, 12 lead small portable	-			√

Participants List for the Preparation of the Basic Package for Essential Health Services held at the Wusum Hotel in Makeni on the 22nd -23rd August, 2009.

NO	NAME	DESIGNATION
1	Sheiku T. Koroma	Minister of Health and Sanitation
2	Dr. K. S. Daoh	Chief Medical Officer
3	Dr. A.L. Seisay	Director, Primary Health Care
4	Dr. SAS Kargbo	Director, Reproductive & Child Health
5	Dr. Magnus Ken Gborie	Director of Planning and Information
6	Dr. Duramani Conteh	Director, Hospital & Laboratory Services
7	Bassie S. R. Turay	Director, Drugs and Medical Supplies
8	Dr. D.A. Bash-Taqi	Director, Post Graduate Studies, Non-Communicable Diseases and Research
9	J. B. Moiwo	Deputy Director, Drugs and Medical Supplies
10	Dr. G. A. J. George	Medical Superintendent, Kissy Mental Hospital
11	Dr. A .A. Sandi	Manager Human Resources
12	Dr. A.H.Wurie	Manager, Disease Surveillance
13	Sylvelta Scott	Manager, National Nutrition Programme
14	Dr. Michael M. Koroma	Administrator, PCM Hospital and Head, Dept of Anaesthesia
15	Salu Hemore	Manager, Health Education
16	Dr. Ngozi Kennedy	Manager, School and Adolescent Health
17	Dr. Momodu Sesay	Programme Manager, HIV/AIDS
18	Kadi Yillah	Manager Safe Blood Services
19	Raymond B. Scott	Manager Laboratory Services
20	Yayah Conteh	Donor/ NGO Officer
21	Dr. Lynda Foray	WHO
22	Dr. Jarrie Kabba-Kebbay	UNFPA
23	Dr. Samuel Abu Pratt	UNICEF
24	Phyllis Ocran	Procurement Specialist, UNICEF
25	Dr. S. J. Smith	District Medical Officer, Western Area
26	Dr. Samuel Keitell	District Medical Officer, Tonkolili
27	Dr. S. Sesay	District Medical Officer, Bombali
28	Dr. Ibrahim Bundu	Medical Superintendent, Makeni Govt. Hospital
29	Dr. S.k. Sdiqie	Senior Specialist Gynecologist PCM Hospital
30	Dr. Joseph Eden-Hotah	Dean COMAHS
31	Dr. Joan Shepherd	Principal, National School of Midwifery
32	Sr. Pity F. Kanu	Health Sister, RCH

33	Sr. Mary Fullah	Health Sister, Western Area
34	Sr. Fatmata Deen	District Health Sister, Bombali
35	Sr. Hawa Daramy	District Health Sister, Kenema
36	Patrick Trye	Asst. Medical-MSF
37	Dr. Ezekiel Mubway	Save the Children, UK
38	Dr. Heidi Jalloh-Vos	Medical Research Centre
39	Joseph Abu	Logistics Officer, CH/ EPI Programme
40	Margaret Mannah	Health Sister PMC Hospital
41	Saidu Bangura	Public Health Officer, RCH
42	Mohamed Jalloh	IT Adviser DPI
43	Fatmata Lansana	Health Sister, School and Adolescent Health Programme
44	John Turay	Principal Sanitary Engineer
45	Mabinty Tarawally	Health Sister, Child Health
46	Alimany Kamara	M&E Officer, RH
47	Safiatu Agness Foday	Health Sister, RH
48	Fatmata B. Manasaray	Deputy Chief Nursing Officer, MOHS
49	Wilshire Johnson	Chairman, Pharmacy Board
50	Joseph S. Bangura	Pharmacist
51	Joseph L. Kamara	Data Manager, RCHP
52	Denis Rucyaha	Management Information System, RCHP
53	James V. Morseray	Technical Staff
54	Haja Marie Bangura	Secretary
55	Momodu Sesay	M&E Officer, RCH
56	Musu Langley	Secretary
57	Alimany Kamara	Support Staff