

BASIC PACKAGE OF HEALTH AND SOCIAL WELFARE SERVICES FOR LIBERIA

Ministry of Health and Social Welfare
Republic of Liberia



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MATERNAL AND NEWBORN HEALTH
CHILD HEALTH
REPRODUCTIVE AND ADOLESCENT HEALTH
COMMUNICABLE DISEASE CONTROL
MENTAL HEALTH
EMERGENCY CARE



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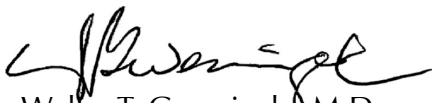
FOREWORD

After more than twenty years of civil unrest and violent conflict in Liberia, peace has been restored, a democratically elected government is in place, and Liberians are wholeheartedly ready to move forward as a united country. This bright new atmosphere in Liberia gives us the opportunity to pursue recovery and promote development. Equitable access to quality health care is a key component of Liberia's future. Health care cannot be a privilege of only the rich and powerful. Improving the Liberian people's health and well-being by creating equitable access to quality health care will serve not only humanitarian, but also political and economic purposes.

Implementing this Basic Package of Health Services (BPHS) will be a key step in the pursuit of our vision: a nation with not only improved health, but also equal access to health care. By attaining this goal, Liberia will become an international model of post-conflict recovery in the health field. This is not only the intention of the Ministry of Health and Social Welfare; we share this objective with individuals and organizations across the field of international development.

The BPHS is the cornerstone of Liberia's national health care delivery strategy. Two distinct ideas have guided the development of the BPHS. First, the health system must be based on the principles of primary health care. Second, the management of services should be progressively decentralized. The components of the BPHS have been severely prioritized, and the services that are retained are directly linked to the principal policy goals laid out by the Liberian government. The Ministry's objective in implementing the BPHS is to structure and jumpstart a health care delivery system for all Liberians. The BPHS includes essential preventative and curative care services, and indicates the care that is to be provided at each level of the system, from the village health worker to major referral hospitals.

Implementation of the BPHS will progress with an open-minded approach. This is a time of uncertainty for Liberia, but also one of unprecedented opportunity. We will encourage informed risk-taking and experimentation as we move forward with the Basic Package, and we will need careful evaluation and adjustment of the BPHS in order to ensure the services offered meet the needs of the Liberian people. The Ministry of Health and Social Welfare will periodically evaluate the health care delivery system throughout the Republic of Liberia to determine the quality of both health care services and health care management at the community, health facility, county, and national levels. As the health system improves, a wider range of services will be offered in such a way as to ensure universal access to essential health services throughout Liberia.



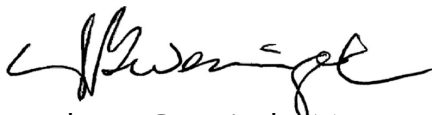
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Again, I very much appreciate the dedication of all the partners who have supported the development of the BPHS. I look forward to continuing to work with these and other individuals and organizations as we strive towards our common goal of improving the quality and equity of health care in Liberia.



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PART ONE - INTRODUCTION

The health system of Liberia has been devastated by years of war. Reconstruction and rehabilitation will take years. Financial and human resources, at present, are extremely limited, yet there are positive aspects to the current situation as well. With a new, democratically-elected government in place, this is a time of tremendous energy and renewed commitment. The constraints of what was, even before the war, an overly bureaucratic and poorly functioning health system have been removed. Now, thoughtful creativity and innovative experimentation, combined with careful analysis and learning from the post-conflict experiences of other countries can help build a new health system that will be capable of greatly increasing access to and utilization of important services. Eventually, it will have a measurable impact on the health status of the Liberian people.

Without question, the challenges are daunting. Perhaps greatest among these is how to balance the need to proceed with great deliberation in order to avoid repeating the mistakes of others while moving quickly to produce a 'peace dividend' that will contribute in the short-term to stabilizing the still fragile peace and to legitimizing the nascent democracy. National development requires economic growth, both on the macro- and micro- scales, and the creation of employment opportunities for youth and those who support families. It also needs re-development of the education sector, especially at the primary and secondary levels. These will require sustained commitment and investment over the medium to long term. However, with the proper organization of the health system and an efficient use of financial resources that will hopefully become available, major improvements in the health sector can be achieved within a few years. The resultant improvements in people's health and wellbeing will serve not only humanitarian, but political and economic purposes as well.

The goal of the health policy of the Government of Liberia is *to improve the health status of an increasing number of citizens, on an equal basis, through expanded access to effective basic health care, backed by adequate referral services and resources*. The Ministry of Health and Social Welfare (MOHSW) knows that, given its current severe constraints, it cannot do all things at the same time. Accordingly, it has decided to make a Basic Package of Health Services (BPHS) the cornerstone of the national health plan. By carefully prioritizing the services it will offer in the near future, it plans to be able to guarantee their availability to each and every Liberian who seeks health services at Ministry of Health facilities. The Ministry of Health also expects that non-government and faith-based health institutions will adopt the Basic Package as their guide to the provision of health care to the populations they serve.

This Basic Package has been developed with two distinct strategies in mind:

- first, that the health system should be fundamentally based on the principles of primary health care, with an emphasis on making services available at the peripheral levels of the health system; and



- Second that the management of health services should be progressively decentralized, so that the responsibility for implementing them rests at the County level, rather than in the national capital.

This document presents details of the initial Basic Package of Health Services adopted by the MOHSW. It has important implications for the process of rebuilding the health services. It will affect the re-building of the physical infrastructure of the health system, the development of its human resources, and the reorganization of its management structure. Of course, the BPHS will change with time. As the health system improves its ability to implement those services currently in the BPHS, a wider array of programs and services can then be added at each level. What is presented here is the result of a difficult process of prioritization and the services that have been retained are those that are most directly linked to the principal policy objectives that have been laid out by the Government.



PART TWO - PURPOSE OF THE BPHS

In keeping with the above, the Basic Package of Health Services presented here serves two basic purposes: 1) to describe a standardized package of services that will be implemented at each of the five levels of the Liberian health system;¹ and 2) in accordance with the stated policy of decentralization, to promote a (re)distribution of health services in a way that ensures that there will be universal access to essential health services throughout Liberia.²

The BPHS as detailed in this document serves six distinct purposes:

- It identifies the services that the MOHSW guarantees will be available to every Liberian citizen. Other services may be available as the result of global initiatives, vertical programs, or private donations but they should be added to, not substituted for, the services contained in the BPHS.
- It implies that a minimum set of health staff with appropriate skills will be present at each of the facility levels
- It gives guidance for the content of training programs 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 a way that it can be costed out to give an idea of the financial resources that will be required for service provision
- It provides a basis for preparation of operational plans (see previous footnote)

¹ The BPHS described in this document relates primarily (but not exclusively) to out-patient services; it will be complemented by a different package of essential services for hospitals.

² Ensuring equity in Liberia implies that the implementation of the BPHS will give priority to areas where few, if any, services are currently available. These underserved areas have yet to be designated by the Government – in this sense, the National Health Plan to which this document contributes is a “strategic plan”, but not an operational plan that would detail the geographical and chronological “roll-out” of the BPHS.

PART THREE - CRITERIA FOR INCLUSION OF HEALTH ACTIVITIES IN THE BPHS

The MOHSW applies four criteria to all of the services suggested for the BPHS:

- Their potential contribution to reducing the burden of morbidity and mortality in Liberia (considering not only their epidemiological burden, but the social and economic burden as well)
- the availability of interventions that have been demonstrated to be safe and effective
- the feasibility of implementing those interventions given Liberia's current resources and constraints
- the potential for sustaining the activity in the medium- to long-term

The BPHS for Liberia was developed by consensus after a series of vigorous discussions held at the highest levels of the MOHSW. Few quantitative data about Liberia were available to be applied to the selection of health priorities and, for many areas, agreement was not unanimous. The current version of the BPHS is severely prioritized. Several major areas of concern, even those of particular concern in the post-conflict environment such as mental health, were either excluded for the time being, or have been accorded lesser priority because they do not sufficiently satisfy the four selection criteria.



PART FOUR - PROGRAM AREAS AND COMPONENTS

The BPHS addresses six national health priority areas. It is these areas that the MOHSW has decided to focus on during the next five years (2007-2011). It has identified those services that are most critically needed to improve the health status of the Liberian population, especially its most vulnerable groups, in the short- to medium-term. The intention is to implement the BPHS 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 BPHS to its target population. For most facilities, becoming fully functional will be a gradual process. The BPHS implementation plan will define the series of programs and activities that will be necessary to address the needs of infrastructure, human resources, equipment and supplies, and management required for the system to become fully functional.

The Basic Package of Health Services for Liberia consists of the following:

Maternal and Newborn Health

- Antenatal care
- Labor and delivery care
- Emergency obstetric care
- Postpartum care
- Newborn care
- Family Planning

Child Health

- Expanded Program on Immunization
- Integrated management of childhood illnesses
- Infant and young child feeding

Reproductive and Adolescent Health

- Family planning
- Sexually transmitted infections
- Adolescent Health

Communicable Disease Control

- Control of STI/HIV/AIDS
- Control of tuberculosis
- Control of malaria
- Control and management of other diseases with epidemic potential

Mental Health

Emergency Care



PART FIVE - IMPLEMENTING THE BASIC PACKAGE OF HEALTH SERVICES

Because the BPHS emphasizes 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 impossible for the Ministry of Health to provide services to the whole of the Liberian population by itself. For this reason, the Government is giving considerable attention to working out ways whereby the private, not-for-profit sector can become a responsible partner in BPHS implementation.

First, it is important to recognize that the publication of the BPHS as the government's policy and strategy for health care services does provide the health NGO sector with a clear statement of national priorities. It is expected that the NGO sector will apply the BPHS guidelines to its own services and programs for two reasons: first because it is the statement of government's national policy for health services in Liberia, and second, because it carries in itself the authority of evidence-based interventions, to be implemented in a way that is compatible with the resources of the country at this time, to meet the needs of the population as best understood in the absence of much solid information about the health status of the population. Implementation of the BPHS is going to be a learning exercise. Information collected during its implementation will 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 NGO sector is invited to be a partner in that implementation and learning process.

In other post-conflict settings, different forms of performance-based contracting have been applied with generally good results. In Liberia, it may be appropriate to pursue different mechanisms for BPHS 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.



PART SIX - CONSTRAINTS TO THE IMPLEMENTATION OF THE BPHS

Although each one of the components included in this Basic Package of Health Services seems quite modest, achieving the full provision of the entire range of service in these programmatic areas in a short period of time has proven to be a huge challenge in most post-conflict countries. A considerable number of constraints exist which will have to be overcome if rapid progress is to be made in a sustainable way.

The first constraint stems from the way the BPHS was developed. As mentioned above, there was no systematic decision-making process involving all stakeholders, based on locally-available evidence. Instead, consensus was sought among a centrally-located group of leaders and experts. The next steps, prior to implementation, should be as participatory and as inclusive as possible. At this stage, there are two obvious groups of stakeholders that should be involved in discussing the principles and implementation of the BPHS. First is the health staff of the MOH county health services. A series of meetings is proposed to solicit the input of the peripheral health staff that will be called upon to work within the confines of the BPHS. Secondly, given the importance of the United Nations agencies, including UNMIL, the donors, and the NGOs to the continued growth of the Liberian health system, open meetings should be held to present to and discuss with them both the theoretical and the practical considerations in the design of the BPHS. A final version of the BPHS may take considerable time to develop.

The lack of information on the health status of the population, on material and human resources, and the outputs of different programs is a major constraint. Little is documented in Liberia about the extent of private providers or the availability of drugs on the commercial marketplace. Even in the public sector, the distribution of health resources and the condition of health facilities is a matter of conjecture. A series of surveys and/or other data collection activities needs to be conducted over the course of the next year or so, and the BPHS can be modified and adapted as a function of the findings.

It is much too soon to tell how the impact of fourteen years of war will affect the re-development of the health system. The solidity of the peace process and future economic prospects are unknown. The current government is struggling against enormous hurdles to improve the macro-economic situation in Liberia, but the incredibly burdensome level of debt has the potential to cripple its efforts. Although the Government is committed to meeting the Abuja guidelines calling for 15% of the national budget to be devoted to the health sector, even this will be grossly insufficient to finance widespread implementation of the BPHS at the current level of spending. The state of impoverishment of the population, with more than 50% earning less than \$0.50 per day, precludes the recovery of any reasonable degree of health sector costs from the consumer. In fact, the Minister of Health, following the President's lead, has decreed a suspension of user fees for the foreseeable future, in order to encourage the utilization of what health



services are currently available. Liberia will certainly be dependent on large amounts of foreign assistance for many years to come, but the willingness of the donors to provide the necessary support is far from assured.

In addition, it is clear that a whole generation of Liberians have had only very limited possibilities of education. Job opportunities have been and continue to be scarce, and the pursuit of sustainable livelihoods is elusive. These factors will combine to make the training and deployment of health workers, especially to rural areas, quite challenging.

As is usually the case, the health sector in post-conflict Liberia is fragmented by vertical programs and global initiatives, and its attempts to implement local priority programs are in real danger of being further distorted.³ There has been little standardization, or expressions of interest in pursuing uniform policies within the health sector, by the many agencies, public and private, that are currently providing services under an 'emergency' mandate. Furthermore, and importantly, while the MOHSW recognizing that it will not have the ability to deliver services to the population for many years to come and has expressed a willingness to function in a strictly managerial role, allowing private organizations to be responsible for service delivery, it does not have appropriate skills at the present time to do so. Building the capacity of the public sector to develop policy, coordinate the many players charged with implementing that policy, and monitoring the service delivery should be of the highest priority of donors to the health sector.

All this said, the development of the Basic Package of Health Services is a formidable achievement by the fledgling Ministry of Health and Social Welfare. It will serve as an organizational and operational tool for many other aspects of policy development and planning. Next steps, in addition to those mentioned above, include the development of a plan for human resources training and deployment, an essential list of drugs, vaccines, and supplies, a system of monitoring and evaluation that will enable periodic review of programs in light of their objectives, and the building of management skills within the Ministry.

The implementation of the BPHS, which has proven so important in other post-conflict environments, will benefit from an open-minded approach. Mistakes will certainly be made by all parties concerned, donors and MOHSW alike – these should be tolerated and lessons learned from them. In fact, risk-taking and experimentation, at least on a limited scale, should be strongly encouraged. This is a time of uncertainty for the Liberian sector, but one of unprecedented opportunity as well. What the Government hopes to achieve, at least for the time being, is reasonably spelled out in the narrative and charts presented below. The problem of how to achieve it will only be solved through the process of discovery that will take place over the next few years.

³ It is difficult, if not impossible, for the MOHSW to not take advantage of what resources might be made available to it, as conditional as they might be.



PART SEVEN - LEVELS OF DELIVERY OF THE BPHS

The first set of tables presented below gives details of the services provided for each of the programmatic areas in the BPHS. In addition, it indicates the level of the health care system at which those activities and services should be offered.⁴ 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.

7.1 Community-Based Health Activities

The MOHSW 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 at a health facility to the appropriate place. Community health workers (including traditional birth attendants) 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, have been trained to do many different things in various parts of the world. Their activities can be divided into four main categories:

- Promotion of healthier life-styles and environmental control,
- Promotion of appropriate use of health services:
 - Preventive health services like antenatal care, vaccinations and family planning
 - Curative services at a health facility when people become sick.
- Providing more accessible preventive and curative services in the community
- Providing a link between the community and the formal health system and being an advocate for the community.

In Liberia, CHWs have been trained at different times to do all of these things. Some have been recruited by a vertical program for only one type of activity, related to one health problem. Others are trained to do a mixture of activities. As a way to promote community participation, some programs have also recruited community health advocates or 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 BPHS

⁴ The five levels of the primary health care system in Liberia are considered to be: the community, the clinic (first-level facility), the health center, the County Hospital (in-patient care) and the referral hospital (of which one, John F. Kennedy Memorial Hospital is officially designated, although there is a plan to designate certain of the County Hospitals as Regional Referral Centers).

implementation plan. In the meantime, preliminary decisions are implicit in three areas of the BPHS:

1. Although there is currently no formal policy adopted in regard to this level of health worker, it is clear that CHWs will not be on the government payroll. Instead, again in keeping with the ideas of decentralization and participation, communities will develop their own mechanisms for selecting, compensating, and overseeing the work of this cadre of health personnel.
2. 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. 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. In Liberia, however, the decision is that, at least until a level of CHWs is developed with greater competence than currently exists, antibiotics will not be available within the community. Similarly, although chloroquine has long been available at the community level, the adoption of artemisinin combination therapy for the treatment of malaria will be controlled and will be available only at the facility level. In the meantime, CHWs will have an important role in maintaining community awareness of the importance of malaria and pneumonia as causes of child death, teaching them the danger signs to recognize, and encouraging early visits to a health facility.
3. The debate with regard to traditional midwives (TMs) is still open. On the one hand, evidence supports the argument that TMs do not make a substantial contribution to the reduction of maternal mortality, which depends to a large extent on the ability to provide emergency obstetric care. However, there is also recognition that when TMs have been encouraged to build a working relationship with health facility staff, the rates of antenatal attendance and referrals of complications have increased. In addition, there is a growing sense that care of the newborn can be vastly improved, even at the community level, by providing TMs or CHWs with minimal skills. While policy regarding this area needs further development, the BPHS recognizes that in the foreseeable future the majority of deliveries will continue to take place in the community under the care of traditional midwives. It therefore promotes collaboration between health facility staff, CHWs and the TMs in all aspects of both maternal and newborn care. As more evidence becomes available, appropriate modification to the BPHS will be made.

7.2 The BPHS in Health Facilities

The BPHS 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 for their primary catchment area. This applies equally to hospitals, health centers and clinics. The effective catchment area is thought to be an area with a diameter of about ten kilometers round the facility. Depending on the population density, those populations vary between about 3,500 and 12,000.

The clinic is the basic unit of the health system, and it is believed that there are about 300 of them functional at present. It is a small facility, often with no laboratory or beds, although some do have a laboratory and up to five beds. The clinic is intended to have two professional staff, a nurse and a midwife (See Table 1.), although there may only be a licensed practical nurse and trained traditional midwives (TTMs) in some cases at present. The working hours are from 8.00am to 4.00pm, so the beds are only used for observation. Anyone requiring further supervised care needs to be referred to the nearest health center or hospital. Some deliveries may be done at the clinic by the midwife, but this activity is constrained by the availability of the midwife and the working hours of the clinic.

Secondary care is provided at health centers and the county hospitals. Both types of facilities are open 24 hours, and the staff is usually organized in two shifts in order to provide appropriate medical, midwifery and nursing cover at all times. This makes it possible for more severe medical and pediatric cases to be cared for and for basic emergency obstetric care (BEOC) to be provided at both types of facilities. Health centers, therefore, in addition to providing primary care to their immediate catchment area, also provide secondary medical care to a population of between 25,000 and 40,000 from the catchment areas of four to five clinics. To do this they will have a minimum of eight professional staff (See Table 1.) as well as supporting staff. There will be up to 40 beds and a basic laboratory. A health center does not provide any surgical services beyond very minor procedures.

The county hospital provides primary care, secondary medical care and BEOC to a similar size of population as the health center, but it also provides general surgical and surgical obstetric care to the whole county, an average population of about 200,000. To manage this, it will have an operating theatre, a more extensive laboratory with blood transfusion services, a basic X-Ray machine and small ultrasound. There will be more than 50 beds, with a permanent capacity for intensive care. The hospital is staffed with doctors, and as long as there is a scarcity of doctors, they will be concentrated in hospitals in order to maintain the level and capacity of secondary services.



MOHSW

Table 1 Minimum Staffing for Clinics, Health Centers, and Hospitals

	Health Clinic	Health Center	Hospital with <100 beds	Hospital with >100 beds
Officer in Charge	1 (PA, N/M, or RN)	1 (PA, N/M, or RN)	1 (MD)	1 (MD)
Hospital Administrator			1	1
Nursing Director			1	1
Physician Assistant		2	3	7
Registered Nurse		1	10	20
Nurse Aide	1	1	12	24
Certified Midwife	1	4	6	10
Nurse Midwife			1	2
Pharmacist			0	1
Dispenser	1	1	4	4
Anesthetist			1	5
OR Techs			6	12
Lab Technician		1	2	4
Lab Assistants				
Lab Aide			2	2
Environmental Tech.		1	1	1
Social Worker		1	1	1
Xray Tech			1	1
Physiotherapist			1	1
Recorder/HIS	1	1	6	6
Security	1 (Security/Cleaner)	1 (Security/Cleaner)	12	12
Housekeeping			12	17
Laundry			2	5
Dietary			3	6
Maintenance			4	6
Total	6	14	93	149



PART EIGHT - THE BASIC PACKAGE: INTERVENTIONS AND SERVICES PROVIDED

8.1 Maternal and Newborn Care

Liberia like many African countries in Sub-Saharan Africa has very high maternal and neonatal mortality. The maternal mortality ratio is estimated at 578/100,000 live births, meaning that each year almost 1000 women die from pregnancy-related causes. The neonatal mortality rate is estimated at 66 per thousand live births. Therefore, about 11,000 newborns are dying within the first month of life, and most of them are dead within the first week. Access to skilled maternal care is very low. About seventy - five percent of births occur outside the health facilities and unskilled birth attendants perform about 80 percent of all deliveries. Also contributing to those high mortality rates is the high total fertility rate, estimated as 6.2. High fertility rates continue to be supported by traditional cultural values, and contraceptive use is low, at 12.6 percent.

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. The literacy rate for persons over fifteen years is 58%, but for women, it is only 42%. Discrimination against the girl child is common, and the incidence of gender-based violence is high.

8.1.1 Antenatal Care

Antenatal care appears to be valued by women in Liberia. Although the institutional delivery rate is still very low, especially in rural areas, there appears to be a high attendance rate of women at antenatal care, at least from communities that have easy access to health facilities. Three to four visits between the end of the first trimester and term are recommended. These are generally adequate to monitor the progress of labor 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 anemia with iron, folic acid and antihelminthic treatment. They also provide an opportunity to talk with the mother about diet and staying healthy during pregnancy, and to help the family make appropriate decisions about where she should deliver and the necessary preparations for delivering either at home or at a health facility. All pregnant mothers will have a home-based mother's record card on which all relevant information is recorded.

Collaboration with village health committees, the traditional midwives and any community health workers in the communities is important. They can reinforce the importance of antenatal care and even personally bring women for their first visits or those with early signs of complications. 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. In communities that are far



from the facility, from which it is difficult to make even four antenatal visits, the traditional midwives and community health workers can be taught to distribute the micronutrient pills and antimalarials for Intermittent Preventive Treatment, and ensure that someone literate in the community is able to record all medications given on the mother's card.

8.1.2 Supervision of Labor and Childbirth

Until the number of certified midwives increases significantly, it will be difficult to increase the proportion of deliveries supervised by a skilled attendant. Hospitals and health centers with 24 hour staffing should be encouraged to promote greater use for deliveries. However, midwives working in rural clinics may be able to do some deliveries, but should concentrate on supporting and supervising the Trained Traditional Midwives in their catchment area to promote clean deliveries, improved newborn care, and recognition of both maternal and newborn danger signs and early referral. Following the same principle of early detection of complications, all deliveries in health facilities should be monitored using the partograph.

8.1.3 Emergency Obstetric Care

Where reductions in maternal mortality have been achieved, they have been so by the provision of emergency obstetric care (EmOC) for the five main complications of pregnancy and childbirth: obstetric hemorrhage, eclampsia, obstructed labor, puerperal sepsis and the complications of incomplete and unsafe abortions. EmOC is divided into two categories: Basic EmOC and Comprehensive EmOC (See Table 8.1).

Table 8.1 Basic and Comprehensive Emergency Obstetric Care

Basic EmOC Functions	Comprehensive EmOC Functions
Performed in a health center without the need for an operating theater	Requires an operating theater and is performed in county hospitals
IV/IM Antibiotics IV/IM Oxytoxics IV/IM Anticonvulsants Manual removal of placenta Assisted vaginal delivery Removal of retained products of conception	All six Basic EmOC functions plus: Cesarean Section Blood Transfusion

All EmOC should be as accessible as possible, but the provision of the different EmOC skills at clinics, health centers or the county hospital will depend upon a balance between the urgency of the intervention and the levels of skills and facilities required. In Liberia at this time, the midwife in a clinic will be expected to manage postpartum hemorrhage and retained placenta; and she will provide initial treatment and refer cases of eclampsia, puerperal sepsis, complicated abortion and prolonged labor. At the health center, where more deliveries



provide the midwives with more experience, they will be able to do assisted vaginal deliveries and manage more cases of eclampsia (especially if labor is advanced) and puerperal sepsis. County hospitals will be expected to provide comprehensive EmOC for all complications including cesarean section for obstructed labor, blood transfusion and the management of complicated abortions.

8.1.4 Postpartum Care

The postpartum period can be a difficult time for the mother and she needs social and medical support. It is a time when eclampsia, puerperal sepsis and secondary hemorrhage may all be life-threatening. Anemia is common as a result of the pregnancy and the blood-loss at delivery. In addition, there may be a variety of other more minor complaints that require advice or management. The mother's condition should be checked by the midwife immediately after delivery. She should also be seen at the end of the first week by the midwife or the traditional midwife to assess the mother's general condition, the presence of anemia, and the condition of her uterus and breasts. Iron and folic acid will be given to all postpartum mothers to ensure recovery of hemoglobin, and vitamin A is given to the mother to benefit the baby through the breast milk. This is also the best time to discuss with the mother her plans for breast feeding, contraception and birth spacing.

8.1.5 Care of the Newborn

Three aspects of immediate newborn care can make a significant difference to newborn survival rates: keeping the baby dry and warm, cutting and caring for the cord in a clean way, and resuscitating the baby who is not breathing well. These skills will be taught to both certified and traditional midwives.

A contributing factor to many neonatal deaths is low birth weight. These are a mix of premature and small-for-dates babies. The important thing for both types is to keep them warm and provide frequent feeds. Problems mostly arise with very low birth weight babies (less than 1500 gms). They and their mothers should be referred to the county 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.

8.2 Reproductive and Adolescent Health

8.2.1 Family Planning

Birth spacing of less than 24 months compared with spacing of 36 months carries with it greater risks of fetal, infant and childhood death and of both low birth weight and childhood undernutrition. 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%. Maternal health in Liberia is probably affected less by poor birth spacing than the large numbers of teenage pregnancies and high order pregnancies and births associated with the high total fertility rate (6.2). Both



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teenage pregnancies and pregnancies greater than five (multiparus) carry much greater risks than second to fifth pregnancies.

The promotion of an optimal birth spacing of 36 months helps child and maternal survival in several ways. First it ensures that the older children have the opportunity of two full years of breast feeding before the subsequent pregnancy, and by three years 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 Liberia, 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 is 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.

8.2.2 Sexually Transmitted Infections

HIV/AIDS and Sexually Transmitted Infections (STIs) are thought to be increasingly prevalent in Liberia (see section 8.4.1). 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 Gonorrhea 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.

In general, the presence or the risk of infection does not affect the use of any contraceptives. The exception is the need to avoid a new insertion of an intrauterine device or surgical sterilization procedures if an STI is suspected or demonstrated. Infection with an STI does not require the removal of an intrauterine device. However, in situations where there is a risk of infection because of the previous behavior of one or other of the partners, a male or female condom should always be used, in addition to another contraceptive if necessary. The need for effective contraception and for protection from infection with HIV or another STI means the promotion of “dual protection”, especially among high risk communities.

Family planning and antenatal consultations are not only good opportunities for promoting dual protection, but also for investigating the presence of HIV or another STI. Particular care needs to be taken in investigating the possibility of



high risk behaviors in either the woman or her partner and in informing the woman of the availability of VCT services.

8.2.3 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, but attendance at antenatal care may actually be lower than usual for these young women. A multisectoral and long term approach is needed to reduce the number of teenage pregnancies, but in the meantime, trained traditional midwives and community health workers 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 behaviors, 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 as well as lack of access to services. Understanding of even the basic physiology of the menstrual cycle, sex and fertilization is very poor, so that 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 BPHS 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 with 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". It teaches young women to say "No" in an effective way that does not provoke a violent response.

8.3 Child Health

Each year in Liberia, almost 40,000 children die before reaching their fifth birthday. 26,000 of them die before reaching the age of one year and 11,000 before reaching the age of one month. The death rates are among the worst in the world. The immediate causes of death are the same as elsewhere: malaria, pneumonia, diarrhea and measles, and underlying these infectious disease deaths is the prevalent problem of malnutrition. 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 BPHS strategy for children confronts each of these three problems as well as that of malnutrition.

The malaria strategy is described in the section on Malaria (8.4.3)

8.3.1 Expanded Program on Immunization

The Expanded Program on Immunization includes the common set of vaccines against Tuberculosis, Diphtheria, Pertussis, Tetanus, Polio and Measles with the addition of Yellow Fever, and pentavalent vaccine to be introduced in 2008.. In 2004, at the end of the war, DPT3 coverage was about 30% and Measles about 40%. Since then improvements in coverage have been achieved through a combination of routine immunization activities and Supplemental Immunization Activities (SIAs). Routine immunization services are provided in the child health clinics at all health facilities. Monthly outreach activities from the health facility target specific communities that are towards the margin of the catchment area and from where people come to the clinic less frequently. Communities that fall between the catchment areas of health facilities are reached on a quarterly basis by mobile units organized by the county health office EPI unit. Supplemental Immunization Activities include National Immunization Days and other special outreach efforts at community level to improve the coverage of particular vaccines in parts of the country where it is notably low. Community support for both routine immunization and SIAs is necessary, and requires both education and explanation about the importance of immunizations as well as cooperation with communities in the timing and organization of specific outreach activities.

8.3.2 Integrated Management of Childhood Illness

The Integrated Management of Childhood Illness is an approach to the management of childhood illness that addresses all the main causes of childhood illness 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 diarrhea 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 diarrhea over the subsequent three months. In Liberia at this time, CHWs are not being taught to treat pneumonia and malaria with antibiotics and antimalarials. Once a CHW policy is established and an appropriate training program developed, these may be included in the work of the CHW, and will then significantly 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.

Clinics are intended to be able to manage children with moderate illness who do not need to be admitted to a facility. 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. Health centers and county 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 the diet and fluids. One of the situations where valuable time is lost in caring for a very sick child is when referred to a facility and the child and his mother get lost in a long queue of mothers and children, most of whom do not need such urgent care. Especially in busy hospital outpatient clinics, a system of emergency triage of waiting children should identify those that are very sick and require urgent attention.

8.3.3 Infant and Young Child Nutrition

Infant and young child nutrition is an important but complex issue to address. Prevention of undernutrition 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 malarial reduction of placental function by intermittent preventive treatment in the second and third trimesters. For young children, the objective is to change social norms to promote exclusive breast feeding in the first six months, followed by introduction of appropriate weaning foods at the necessary frequency during the day.

Growth monitoring was once a common feature of child health clinics in Liberia. Very little growth monitoring now takes place. A decision to reintroduce it involves a commitment to do so in a way that commits health workers to accurate weighing and charting of the weight, followed by counseling of mothers of children whose weight is faltering in such a way that the mother goes away with an action plan that is feasible and the motivation to implement it. Given the need to complete the introduction of IMCI and improve other programs that have clear impacts, the introduction of growth monitoring will wait for a careful reconsideration of the different strategies with which to approach the problems of child nutrition. Meanwhile, facilities or programs that are already doing growth monitoring should not stop or be discouraged.

8.4 Communicable Disease Control

8.4.1 HIV/AIDS and Sexually Transmitted Infections

A consensus estimate puts the prevalence of HIV/AIDS among the adult population in Liberia at 5.2% in a population of 3.5 million people. Greater Monrovia that has a third of the nation's population has a rate of 9.5% and the greatest HIV disease burden. However, counties in the southeast that border Cote d'Ivoire may have an even higher HIV rate (10% – 15%).



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A vigorous public awareness program emphasizes the “ABC” approach to sexual relations and is complemented by efforts to promote and provide easy access to condoms for those who need them. The other public campaign is to raise awareness of the possibilities for voluntary confidential testing for HIV.

Actual testing is available in only 29 centers at present, but the numbers of centers are being increased. Also increasing are the numbers of facilities where treatment with ARVs is offered. Initially there were four centers, but now there are ten. In a similar way, Prevention of Mother to Child Transmission (PMTCT) service is currently available at five centers but expected to be expanded to ten centers over the next two years.

The other important strategy for reducing the risk of transmission is the recognition and treatment of sexually transmitted diseases. The risk of transmission is increased both to and from the person with an STI, whether that STI is a genital ulcer or a urethral, cervical or vaginal discharge. The BPHS, therefore, promotes regular inquiries about STI symptoms at antenatal, family planning and general outpatient clinics, and the use of the syndromic method of STI management.

Since the introduction of the syndromic method in 2005, reports of STIs have greatly increased, and it is clear that genital infections are highly prevalent. However, there is little information anecdotal or otherwise to indicate whether or not syphilis is a problem among the population. This is important, not so much for the application of syndromic management, but to decide on a policy for screening of antenatal women with RPR tests for syphilis, both so the mother can be treated and the child prevented from getting congenital syphilis.

8.4.2 Tuberculosis

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.

TB is a major public health problem in Liberia. The estimated incidence of all forms and smear positive cases are 310 per 100,000 and 132 per 100,000 respectively; 87% of all smear positive cases were in the productive age group of 15 – 54 years. The situation is being further complicated by the emergence of the dual epidemic of TB and HIV, each associated with higher prevalences of the other disease. The estimated case detection rate for smear positive cases increased from 29% in 2000 to 51% in 2005. The target for 2010 is to reach a 70% case detection rate. The rate of completed treatment for smear positive cases in 2004 was less than 75%. The target for 2010 is to increase that to 85%.

The National TB Program has been building up a network of health facilities across the country that has the capacity to diagnose and manage the treatment of TB. Currently, there are about 100 facilities (hospitals, health centers 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 annex in Monrovia for management. An additional 100 health facilities (clinics) 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.

8.4.3 Malaria

Malaria is hyper-holoendemic in Liberia. 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 easy availability of antimalarials, especially chloroquine, in the past have led to a severe situation of drug resistance. As a result, Liberia is using combined therapy with Artesunate and Amodiaquin as the first line treatment of malaria, but doing so only in health facilities in order to try and control its use and prevent the development of resistance to it through careless misuse. CHWs are, therefore, not yet being trained to treat malaria at community level, but rather to encourage early referral of suspected cases to a health facility.

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. Severe or complicated cases in either adults or children require parenteral Quinine or Artemether and immediate referral to the nearest hospital or health center for inpatient care.

In pregnancy, *falciparum* malaria is an important cause of severe illness and the death of both mother and fetus. Malaria parasitisation of the placenta, especially in first and second pregnancies, is also an important contributor (8% – 14%) to low birth weight and between 3%-8% of infant mortality as a result. Suppression of infection through Intermittent Preventive Treatment with Sulphadoxine and Pyramethamine early in the second and third trimester has proven to reduce these risks considerably, and is therefore given routinely to all pregnant women.

The best strategy is to prevent transmission of malaria. This is achieved through use of insecticide treated bed nets (ITNs) by under five children and pregnant women. Trials of their use by young children have demonstrated a 20% reduction in all-cause childhood deaths and about a 50% decline in clinical episodes. Their use by pregnant women has led to a 47% reduction in anemia caused by malaria and a 28% reduction in low birth weight. With these results as incentives, the Ministry of Health is providing free long-lasting ITNs to as many pregnant women and under five children as possible. They are distributed through antenatal clinics and both routine and special immunization clinics and



outreach. Systematic house-to-house distribution by community malaria workers seeks to reach families that have not received ITNs through clinics.

8.4.4 Control and Management of Other Diseases with Epidemic Potential

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 to control them.

The MOHSW in Liberia 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 diarrhea (possibly cholera), bloody diarrhea, meningitis, neonatal tetanus, yellow fever, and hemorrhagic fever (Lassa fever). These reports are passed through the county health offices to the MOHSW, and responses are organized by the county health offices, with assistance from the central MOHSW as appropriate.

Case management for these and other important infectious diseases is available in health facilities. The level of the health system to provide that care will reflect the difficulties of management and the need for in-patient nursing care over several days.

8.5 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 Liberia 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 BPHS 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 Grant Clinic in Monrovia. This has a psychiatrist and trained mental health nurses that can manage in-patient care for those that need stabilization on appropriate medications. Training will be offered to medical and nursing staff at county hospitals to enable them to manage mental health emergencies and to refer to Grant Clinic those patients that cannot be stabilized in a short period of time. The county hospital staff will also maintain a register and supervise the home care of

patients in that county needing long term medications. This will involve collaboration with staff of the health centers or clinics closest to the homes of these patients.

The paramedical and social welfare staff at health centers and clinics together have two important roles in the mental health care of their communities. First, when paramedical staff have patients brought to them with explicit or suspected mental health problems, they need to provide initial physical care, if required, and counseling. They then need to decide whether there are mental health danger signs that indicate a need to refer the patient for medical assessment at the county hospital or a milder level of problem that can be handled by the social worker and community helpers. Paramedical staff will need in-service training to develop these competencies. The second role is that of the social worker in establishing and managing a network of community resources (community leaders, pastors and immams, traditional healers and community associations) who can be called on to help different people with mental health or social problems.

8.6 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. Ambu bag ventilation may be necessary for a while. Ensuring an adequate circulation means stopping any hemorrhage and treating shock. These skills also 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 come in this category require hospital care, and in many cases they require referral to more specialized services in an advanced 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 county 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 abdomens and abdominal trauma may need urgent intervention before it is possible to arrange transfer to a more advanced facility.



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PART NINE - THE BASIC PACKAGE: TABLES WITH INTERVENTIONS AND SERVICES PROVIDED

9.1 Maternal and Newborn Care

Table 9.1.1 Antenatal Care

Interventions and Services Provided	Community TTM & CHW	Clinic	Health Center	County Hospital
Routine care				
Diagnose pregnancy (Clinical diagnosis)	Yes	Yes	Yes	Yes
Screen for high risk, including short height (<5 ft)	Yes	Yes	Yes	Yes
Monitor growth of fetus (Height of fundus)	Yes	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
Give intermittent preventive treatment for falciparum malaria	**	Yes	Yes	Yes
Give Mebendazole for deworming	**	Yes	Yes	Yes
Screen for and manage pre-eclampsia or hypertension	No	Yes. Refer for delivery	Yes. Refer for delivery	Yes
Screen for and manage severe pre-eclampsia or hypertension	No	Refer immediately	Refer immediately	Yes
Screen for and treat anemia	No	Yes	Yes (lab)	Yes (lab)
Manage severe anemia (<7gm/dl) with symptoms OR in last trimester	Refer	Refer	Refer	Yes
Screen (RPR) and manage syphilis and partner	No	Yes	Yes	Yes
VCT for HIV	No	(Yes)	Yes	Yes
Feel for malpresentation or twins	Refer	Refer	Refer	Yes
IEC/BCC on the importance of antenatal care, especially for teenage mothers and high parity women.	Yes	Yes	Yes	Yes
IEC/BCC on diet and rest during pregnancy and lactation	Yes	Yes	Yes	Yes
IEC/BCC: birth preparedness and danger signs; safe home delivery; family planning.	Yes	Yes	Yes	Yes
Promote and provide ITNs for pregnant women	Yes	Yes	Yes	Yes
Manage complications of pregnancy				
Manage threatened or complete abortion	Refer	Yes	Yes	Yes
Manage incomplete abortion (Manual Vacuum Aspiration)	Refer	Yes	Yes	Yes
Manage complicated abortion	Refer	Refer	Refer	Yes
Manage ectopic pregnancy	Refer	Refer	Refer	Yes
Manage urinary tract infection	Refer	Yes	Yes	Yes
Manage fever / malaria (Rapid diagnostic test)	Refer	Yes	Yes	Yes
Manage vaginal discharge (syndromic method) and partner	Refer	Yes	Yes	Yes
No fetal movements	Refer	Refer	Refer	Yes
Ruptured membranes, not in labor	Refer	Refer	Refer	Yes

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



Table 9.1.2 Labor and Delivery Care

Interventions and Services Provided	Community	Clinic	Health Center	County Hospital
Assess and monitor progress in labor/Recognize delay	Refer if laboring >12 hours	Partograph/Refer	Partograph/Refer	Partograph/Manage
Conduct a clean delivery of the baby	Yes	Yes	Yes	Yes
Active management of third stage of labor (Oxytocin and controlled cord traction)	No	Yes	Yes	Yes
Episiotomy and repair of tears	Refer	Yes	Yes	Yes
Breech delivery	Recognize & refer	Yes	Yes	Yes
Transverse lie	Refer	Refer	Refer	Yes
Vacuum extraction	No	No	Yes	Yes
Induction of labor	No	No	No	Yes
Cesarean section	No	No	No	Yes
Antepartum hemorrhage	Recognize & refer	Resuscitate and refer	Resuscitate and refer	Yes
Treat shock	Refer	Yes	Yes	Yes
Give blood transfusion	No	No	No	Yes
Bimanual compression of uterus	Yes	Yes	Yes	Yes
Manual removal of retained placenta	Recognize & refer	Yes	Yes	Yes
Manage convulsions or unconsciousness: eclampsia	Recognize & refer	Fist aid (Diazepam) & refer	Fist aid (Magnesium sulfate) & refer	Yes
Manage convulsions or unconsciousness with fever: malaria / sepsis	Recognize & refer	First aid and refer	First aid and refer	Yes
PMTCT	Refer	Refer	Refer	Yes

Table 9.1.3 Postpartum Care

Interventions and Services Provided	Community	Clinic	Health Center	County Hospital
Immediate postpartum care:				
Monitor general condition/vital signs, state of uterine contraction and vaginal bleeding	Yes	Yes	Yes	Yes
At end of first week and during puerperium				
Give postpartum vitamin A	**	Yes	Yes	Yes
Give prophylactic iron and folic acid	**	Yes	Yes	Yes
Detect and manage puerperal sepsis	Recognize & refer	First aid (Ampicillin), refer	First aid (Ampicillin), refer	Yes
Detect and manage anemia	Refer	Yes, refer anemia with symptoms	Yes, refer anemia with symptoms	Yes
Detect and manage urinary tract infection	-	Yes	Yes	Yes
Manage nipple or breast pain	First aid & refer	Yes	Yes	Yes
Manage constipation, hemorrhoids and other symptomatic problems	Yes	Yes	Yes	Yes
Counsel on birth spacing	Yes	Yes	Yes	Yes

Table 9.1.4 Newborn Care

Interventions and Services Provided	Community	Clinic	Health Center	County Hospital
Immediate care				
Routine: keep dry & warm, clear airway if necessary, cord care, put to mother's breast	Yes	Yes	Yes	Yes
Resuscitate baby not breathing well.	Yes	Yes	Yes	Yes
Tetracycline eye ointment to prevent <i>ophthalmia neonatorum</i>	Yes	Yes	Yes	Yes
PMTCT – newborn management	-	-	-	Yes
During first month				
Manage low birth weight (LBW) baby (1500gms – 2500gms)	Refer	If feeding difficulty >3 days: refer.	Yes	Yes
Manage very LBW baby (<1500gms) or <32 weeks gestation	Refer immediately	Refer immediately	Refer immediately	Yes
Manage neonatal jaundice	Yes	Yes	Yes	Yes
Counsel and support mother on breastfeeding	Yes	Yes	Yes	Yes
Give newborn immunizations	Refer	Yes	Yes	Yes
Treat skin pustules or cord infection	Refer	Yes	Yes	Yes
Treat neonatal sepsis/severe skin or cord infection	Refer	First treatment and refer	Yes	Yes
Neonatal tetanus	Refer	Refer	Refer	Yes



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9.2 Reproductive and Adolescent Health

Table 9.2.1 Reproductive and Adolescent Health

Interventions and Services Provided	Community	Clinic	Health Center	County Hospital
IEC/BCC on birth spacing and family planning	Yes	Yes	Yes	Yes
Counsel on informed choice	Yes	Yes	Yes	Yes
Distribute male & female condoms and explain their use	Yes	Yes	Yes	Yes
Distribute OCPs and explain their use	Yes	Yes	Yes	Yes
Administer DMPA and explain its use	No	Yes	Yes	Yes
Insert & remove IUD and explain its use	No	Yes	Yes	Yes
Insert & remove Norplant®	No	No	Yes	Yes
Permanent surgical methods	Refer	Refer	Refer	Yes
Syndromic management of STIs for men	No	Yes	Yes	Yes
Syndromic management of STIs for women	No	Yes	Yes	Yes
Voluntary Confidential Testing for HIV	No	Refer	Yes	Yes
Infertility counseling	Yes	Yes	Yes	Yes
Supportive services to adolescents seeking advice and care	Yes	(Yes)	(Yes)	(Yes)
Education of adolescents on reproductive health	Yes	(Yes)	(Yes)	(Yes)
Education of adolescents on family life skills	Yes	(Yes)	(Yes)	(Yes)

9.3 Child Health

Table 9.3.1 Expanded Program on Immunization (EPI)

Interventions and Services Provided	Community	Clinic	Health Center	County Hospital
IEC/BCC	Yes	Yes	Yes	Yes
Storage of vaccines	No	Yes	Yes	Yes
Routine and outreach immunization	Social mobilization	Yes	Yes	Yes
Supplemental immunization (and EPI plus)	Social mobilization	Yes	Yes	Yes
Mobile services to communities outside of facility catchment areas	Social mobilization	-	-	County health department
Surveillance and case reporting of immunizable diseases	Yes	Yes	Yes	Yes
Reporting immunization activities	-	Yes	Yes	Yes
Supervision of EPI activities	-	-	-	County health department

Table 9.3.2 Integrated Management of Childhood Illnesses

Interventions and Services Provided	Community	Clinic	Health Center	County Hospital
IEC/BCC on home care for the sick child, danger signs, completing treatment and follow up.	Yes	Yes	Yes	Yes
Management of severely ill child	Teach danger signs	First aid & refer	Yes	Yes
Emergency triage assessment and treatment	-	Yes & refer	Yes	Yes
Cough or cold	Teach home care & danger signs	Teach home care & danger signs	Teach home care & danger signs	Teach home care & danger signs
Pneumonia	Refer	Yes	Yes	Yes
Severe pneumonia	Refer	First aid & refer	Yes	Yes
Ear infection	Refer	Yes	Yes	Yes
Diarrhea with no dehydration	Teach home care & danger signs	Yes	Yes	Yes
Diarrhea with some dehydration	Teach home care & refer	Yes	Yes	Yes
Diarrhea with severe dehydration	Teach home care & refer	First aid & refer	Yes	Yes
Persistent diarrhea or dysentery	Teach home care & refer	Yes	Yes	Yes
Measles	Teach home care & refer	Yes	Yes	Yes
Complicated measles	Teach home care & refer	First Aid & refer	Yes	Yes
Case management of child with fever/malaria	Teach home care & refer	Yes	Yes	Yes
Management of severe malnutrition (Investigation and feeding)	Refer	First aid & refer	First aid & refer	Yes

Table 9.3.3 Infant and Young Child Nutrition

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

* Growth monitoring has proven difficult and time-consuming to do effectively. It is not considered a first priority for implementation at this time. Facilities that are already doing it are encouraged to continue it with due attention to accuracy of recording on the weight chart and care in counseling the mother.

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



9.4 Communicable Diseases Control

Table 9.4.1 HIV/AIDS and Sexually Transmitted Infections

Interventions and Services Provided	Community TTM & CHW	Clinic	Health Center	County Hospital
Awareness and sensitization activities promoting "ABC".	Yes	Yes	Yes	Yes
Promotion and distribution of condoms	Yes	Yes	Yes	Yes
Awareness and sensitization about VCT	Yes	Yes	Yes	Yes
VCT services	No	Yes*	Yes	Yes
Supervision of ARV therapy, including home-based care	No	No	No	Yes**
Treatment of opportunistic infections	No	No	Yes	Yes
Supervision of Cotrimoxazole and/or Isoniazid Preventive Therapies	No	No	Yes	Yes
Awareness and sensitization of pregnant mothers to VCT for Prevention of Mother To Child Transmission (PMTCT) services.	Yes	Yes	Yes	Yes
VCT for PMTCT services	No	No	Yes	Yes
PMTCT services and follow up.	No	No	No	Yes**
Post-exposure Prophylaxis (PEP)	No	No	No	Yes
Syndromic management of STIs at antenatal, family planning and general outpatient clinics (Without microscope).	No	Yes	Yes	Yes
Syndromic management of STIs at antenatal, family planning and general outpatient clinics (With microscope).	No	No	Yes	Yes
RPR test for syphilis at antenatal clinics.	No	Yes	Yes	Yes

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

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



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Table 9.4.2 Tuberculosis

Interventions and Services Provided	Community CHWs	Clinic	Health Center	County Hospital
IEC/BCC on spread of TB, recognition of symptoms and case management.	Yes	Yes	Yes	Yes
BCG immunization of all newborns	Social mobilization	Yes	Yes	Yes
Identification of suspect cases	Yes	Yes	Yes	Yes
Collection of sputums and microscopy for AFBs	No	(If diagnostic center)	Yes	Yes
Diagnosis of TB in sputum negative cases	-	(If diagnostic center)	Yes	Yes
Diagnosis of TB in children	-	Refer	Yes	Yes
Registration and assignment to treatment regimen	-	(If diagnostic center)	Yes	Yes
Supervision of intensive phase of DOTS	-	(If treatment center)	Yes	Yes
Supervision of continuation phase of DOTS	-	(If treatment center)	Yes	Yes
Sputum examination & treatment review at end of intensive phase and continuation phase.	-	(If diagnostic center)	Yes	Yes
Management of complications and suspected drug-resistant cases	-	Refer	Refer	If TB Unit is available)
Screening of household members, especially of children with TB.	-	Yes	Yes	Yes

* Hospitals, health centers and a few clinics function as both Diagnostic and Treatment Centers (About 100 centers in early 2007).

** An additional 100 clinics function as Treatment Centers, but not yet as Diagnostic Centers. The remaining clinics are not yet included in the TB program.

Table 9.4.3 Malaria

Interventions and Services Provided	Community CHWs	Clinic	Health Center	County Hospital
Case management of malaria				
IEC/BCC on case recognition and management	Yes	Yes	Yes	Yes
Make presumptive clinical diagnosis in children under five years	Recognize & refer	Yes	Yes	Yes
Laboratory confirmation in adults and children over five years	No	Yes	Yes	Yes
Give first line treatment (Artesunate & Amodiaquine)	No	Yes	Yes	Yes
For case management in pregnant women, give quinine in 1 st trimester and Artesunate & Amodiaquine in 2 nd & 3 rd	No	Yes	Yes	Yes
Recognize treatment failure after 48 hours, give second line drug (Quinine)	Recognize & refer	Yes	Yes	Yes
For severe, complicated malaria in under fives, give parenteral quinine, and manage convulsions, hypoglycemia and high fever.	Recognize & refer	First dose and refer	Yes	Yes
For complicated malaria in adults, give parenteral quinine or Artemether	Recognize & refer	First dose and refer	Yes	Yes
Prevention of Malaria				
IEC/BCC on preventing malaria transmission	Yes	Yes	Yes	Yes
For pregnant women, Sulphadoxine/pyrimethamine in 2 nd and in 3 rd trimesters for Intermittent Preventive Treatment (IPT).	**	Yes	Yes	Yes
Promote and distribute ITNs for under five children	Yes	Yes	Yes	Yes
Promote and distribute ITNs for pregnant women	Yes	Yes	Yes	Yes



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Table 9.4.4 Control and Management of Other Diseases with Epidemic Potential

Interventions and Services Provided	Community Focal Points & CHWs	Clinic	Health Center	County Hospital
Epidemic control				
Monthly reporting of Reportable Diseases*	Yes	Yes	Yes	Yes
Investigation of epidemics	Social mobilization	Yes	Yes	County Health Office
Organize control of epidemics	Social mobilization	-	-	County Health Office
Clinical management of infectious diseases				
Typhoid		Refer	Yes	Yes
Meningitis		Refer	Refer	Yes
Jaundice and Yellow Fever		Refer	Refer	Yes
Acute rheumatic fever		Refer	Refer	Yes
Hemorrhagic fever		Refer	Refer	Yes
Measles		Refer	Yes	Yes
Pertussis		Refer	Yes	Yes
Acute watery diarrhea and bloody diarrhea		Yes	Yes	Yes
Neonatal tetanus		Refer	Refer	Yes
Acute flaccid paralysis		Refer	Refer	Yes

* The eight Reportable Diseases include: Acute Flaccid Paralysis (AFP), measles, acute watery diarrhea (possibly cholera), bloody diarrhea, meningitis, neonatal tetanus, yellow fever, hemorrhagic fever (Lassa fever).

9.5 Mental Health

Table 9.5.1 Mental Health

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

9.6 Emergency Care

Table 9.6.1 Emergency Care

Interventions and Services Provided	Community CHWs	Clinic	Health Center	County Hospital
Manage shock	No	Yes	Yes	Yes
Maintain airways and ambubag-breathe as necessary	No	Yes	Yes	Yes
Tracheotomy	No	No	No	FA & Refer
Manage anaphylaxis	Refer	Yes	Yes	Yes
Manage seizures/convulsions	FA & Refer	Yes	Yes	Yes
Bites and rabies	FA & Refer	FA & Refer	FA & Refer	Yes
Poisoning by mouth	FA & Refer	FA & Refer	FA & Refer	Yes
Snake bite	FA & Refer	FA & Refer	FA & Refer	Yes
Cardiac arrest	No	CPR & refer	CPR & refer	Yes
Head injury	FA & Refer	FA & Refer	FA & Refer	FA & Refer
Status asthmaticus	No	No	Yes	Yes
Epistaxis	FA & Refer	Yes	Yes	Yes
Foreign body in ear or nose	Refer	Refer	Yes	Yes
Eye injury	FA & Refer	FA & Refer	FA & Refer	Yes
Eye infection	FA & Refer	Yes	Yes	Yes
Burns	FA & Refer	FA & Refer	Yes	Yes
Sexual assault	No	Yes	Yes	Yes
Wound and soft tissues injuries	FA & Refer	Yes	Yes	Yes
Pneumothorax and hemothorax	Refer	Refer	Refer	Yes
Abdominal trauma or acute abdomen	Refer	FA & Refer	FA & Refer	Yes
Closed fractures and dislocations of upper limb	FA & Refer	FA & Refer	Yes	Yes
Closed fractures of lower limb	FA & Refer	FA & Refer	FA & Refer	FA & Refer
Open fractures	FA & Refer	FA & Refer	FA & Refer	FA & Refer
Spinal injuries or Pelvic fractures	FA & Refer	FA & Refer	FA & Refer	FA & Refer
Multiple injuries	FA & Refer	FA & Refer	FA & Refer	FA & Refer



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9.8 Drugs and Equipment

Table 9.8.1 Essential Drugs for the BPHS

Drug	Form	CHW	Clinic	H.C.	C. Hosp
1. Anesthetics					
General anesthetics					
Halothane	Inh				√
Ketamine injection 50mg/ml	Vial				√
Local anesthetics					
Lidocaine injection (plain) 2%	Vial		√	√	√
Lidocaine injection (plain) 1%	Vial		√	√	√
Lidocaine injection with epinephrine 2%	Vial				√
Lidocaine injection, spinal (with glucose) 5%+7.5%	Ampoule				√
Preoperative medication and sedation for short term procedures					
Atropine 1mg/ml	Ampoule				√
Diazepam 5mg/ml	Ampoule		√	√	√
Morphine Sulphate 10mg / ml	Ampoule				√
2. Analgesics, Antipyretics, Non-steroidal Anti-Inflammatory Medicines					
Non-opioids and non-steroidal anti-inflammatory analgesics					
Indometacin 25ml injection	Ampoule				√
Paracetamol 125mg/5ml	Elixir		√	√	√
Paracetamol 100mg	Supposit.		√	√	√
Paracetamol 500mg	Tablets		√	√	√
Opioid analgesics					
Morphine Sulphate or Hydrochloride 10mg / ml	Injection				√
3. Antiallergics and medicines used in anaphylaxis					
Chlorpheniramine 4mg	Tablets			√	√
Dexamethasone 0.5 mg	Tablets				√
Dexamethasone 4mg/ml	Injection				√
Epinephrine 1mg/ml	Ampoule				√
Hydrocortisone 100mg	Ampoule				√
Prednisolone 5mg	Tablets				√
Promethazine 25mg/ml	Injection		√	√	√
Promethazine 1mg / ml	Syrup		√	√	√
4. Antidotes and other substances used in poisoning					
Naloxone 400mcg / 1ml	Ampoule				√
5. Anticonvulsants and Antiepileptics					
Diazepam 5mg/ml	Amp,2ml		√	√	√
Magnesium Sulphate 50%	Ampoule			√	√
Phenobarbital 100mg/ml	Ampoule				√
Phenytoin 100mg	Tablets			√	√
6. Anti-Infective Medicines					
6.1 Intestinal antihelminthics					
Mebendazole 500mg	Tablets	√	√	√	√
6.2 Antibacterials					
6.2.1. Beta Lactam Medicines					
Amoxycillin 125mg/ml	Susp		√	√	√
Amoxycillin 250mg	Tablets		√	√	√
Amoxycillin 500mg	Tablets		√	√	√
Ampicillin 1 g, im/iv, powder for injection	Vial		√	√	√
Benzathine Benzylpenicillin 2.4mu	Vial		√	√	√
Benzyl Penicillin, 5 mu, powder for injection	Vial		√	√	√
6.2.2 Other Antibacterials					
Chloramphenicol 1g	Vial		√	√	√
Ciprofloxacin 500mg	Tablets		√	√	√
Co-trimoxazole 200+40mg/5ml	Susp		√	√	√



Drug	Form	CHW	Clinic	H.C.	C. Hosp
Co-trimoxazole 400+80mg	Tablets		√	√	√
Co-trimoxazole 100+20mg	Tablets		√	√	√
Doxycycline 100mg	Caps/Tabs		√	√	√
Erythromycin 500mg (as stearate)	Tablets		√	√	√
Gentamycin 40mg/ml	Amp. 2ml		√	√	√
Metronidazole 200/250mg	Tablets		√	√	√
6.2.3 Antituberculosis medicines					
Ethambutol 400mg	Tablets		√	√	√
Isoniazid 30mg	Tablets		√	√	√
Isoniazid 100mg	Tablets		√	√	√
Isoniazid 300mg	Tablets		√	√	√
Pyrazinamide 150mg	Tablets		√	√	√
Pyrazinamide 500mg	Tablets		√	√	√
Rifampicin 60mg	Tablets		√	√	√
Rifampicin 150mg	Tablets		√	√	√
Rifampicin 300mg	Tablets		√	√	√
Rifampicin 20mg/ml	Syrup		√	√	√
Streptomycin 1gm **	Vial				√
6.3 Antifungal Medicines					
Clotrimazole 100mg pessary	Pessary		√	√	√
6.4 Antiretrovirals, subject to current NACP/STI protocols					
6.4.1 Nucleoside reverse transcriptase inhibitors					
Abacavir oral solution, 20mg/ml, 240ml	Solution				√
Didanosine 150mg	Tablets				√
Didanosine 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 133.3+33.4	Tablets				√
Lopinavir + Ritonavir oral solution 80+20	Solution				√
Stavudine Cap 30mg	Capsules				√
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 Tablets	Tablets				√
Zidovudine Cap 100mg	Capsules				√
Zidovudine oral solution, 10mg/ml, 100ml	Solution				√
6.4.2 Non-nucleoside reverse transcriptase inhibitors					
Effavirenz 200mg	Caps				√
Effavirenz Tablets 600	Tablets				√
Nevirapine 200	Tablets				√
Nevirapine oral suspn, 10mg/ml	Solution				√
Nevirapine Syrup, 10mg/ml	Solution				√
6.4.3 Protease inhibitors					
Indinavir 400	Tablets				√
Nelfinavir 250mg	Tablets				√
Nelfinavir powder 50mg	Injection				√
6.5 Antimalarial medicines					
6.5.1 For curative treatment					
Amodiaquine 153mg+Artesunate 50mg	Tablets		√	√	√
Artemether 20mg/ml	Ampoule		√	√	√
Artemether 80mg/ml.	Vial		√	√	√
Quinine Sulphate 200mg	Tablets		√	√	√
Quinine Dihydrochloride 300mg/ml	Amp. 2ml		√	√	√
Quinine Sulphate 300mg	Tablets			√	√

** Streptomycin should be strictly reserved for use as an antituberculosis treatment

Drug	Form	CHW	Clinic	H.C.	C. Hosp
Sulphadoxine/pyrimethamine 500 + 25mg	Tablets	√	√	√	√
6.5.2 For prophylaxis					
Doxycycline 100mg	Caps/Tab			√	√
7. Medicines Affecting the Blood					
7.1 Antianaemia Medicines					
Ferrous salt 200mg + Folic acid 0.25mg	Tablets	√	√	√	√
Ferrous sulphate 200mg coated (65mg iron)	Tablets		√	√	√
Ferrous Fumarate 20mg/ml	Syrup		√	√	√
Folic acid 5mg	Tablets		√	√	√
7.2 Medicines affecting Coagulation					
Heparin 5000u/ml	Injection				√
Phytomenadione (Vit K1) 1mg/ml	Ampoule				√
Warfarin 3 mg	Tablets				√
8. Plasma Substitutes					
Dextran 70 6% in sodium chloride 0.9%	Bag				√
Haemacel 500ml	Bag				√
9. Cardiovascular Medicines					
9.1 Antihypertensive Medicines					
Hydralazine 20mg	Injection				√
Propranolol 40mg	Tablets				√
10. Dermatological Medicines, (Topical)					
10.1 Anti-infective medicines					
Gentian Violet powder	Solution		√	√	√
11. Disinfectants and Antiseptics					
11.1 Antiseptics					
Alcohol disinfectant , isopropanol 70% + detergent	5 litre		√	√	√
Chlorhexidine + Cetrinide 1.5%+15%	Solution		√	√	√
Chlorhexidine gluconate 5% 1 liter	Bottle		√	√	√
Povidone Iodine 10%	Solution		√	√	√
11.2 Disinfectants					
Calcium Hypochlorite 70%	Solution Tablets		√	√	√
12. Diuretics					
Furosemide 10mg/ml	Ampoule				√
13. Gastrointestinal Medicines					
13.1 Antacids and other antiulcer medicines					
Magnesium trisilicate 500mg	Tablets		√	√	√
13.2 Antiemetic medicines					
Promethazine 25mg	Tablets		√	√	√
Promethazine 25mg/ml, 2ml	Ampoule		√	√	√
13.3 Anti-inflammatory medicines					
Anti-hemorrhoidal Ointment	Ointment				√
13.4 Laxatives					
Bisacodyl 5mg	Tablets			√	√
13.5 Medicines used in Diarrhea					
13.5.1 Oral rehydration					
Oral Rehydration Salt	Sachet	√	√	√	√
13.5.2 Medicines used for Diarrhea in children					
Zinc Sulphate 20mg	Tablets		√	√	√
14 Contraceptives					
14.1 Oral Hormonal Contraceptives - as per current recommendation of the Reproductive Health Division					
Progesterone only pill	Tablets	√	√	√	√
Combination pill	Tablets	√	√	√	√

Drug	Form	CHW	Clinic	H.C.	C. Hosp
14.2 Injectable Hormonal Contraceptives					
Medroxyprogesterone acetate 150mg depot	Injection		√	√	√
14.3 Intrauterine Devices					
Intra-uterine device	IUD		√	√	√
14.4 Barrier Methods					
Female condom	Pieces	√	√	√	√
Male condom	Pieces	√	√	√	√
15. Immunologicals					
15.1 Sera and Immunoglobulins					
Tetanus Anti-toxin, Human 1,500u	Ampoule				√
15.2 Vaccines					
15.2.1 For Universal Immunization					
BCG vaccine	Ampoule		√	√	√
DPT vaccine	Ampoule		√	√	√
Measles vaccine	Ampoule		√	√	√
Polio vaccine	Drops		√	√	√
Tetanus toxoid	Ampoule		√	√	√
15.2.2 For Specific groups of individuals					
Yellow Fever vaccine	Ampoule		√	√	√
16. Ophthalmological Preparations					
16.1 Anti-infective agents					
Tetracycline 1% eye	Ointment		√	√	√
17. Oxytocics and antioxytocics					
17.1 Oxytocics					
Ergometrine 0.5mg/ml	Injection		√	√	√
Oxytocin 10 i.u. /ml	Ampoule		√	√	√
17.2 Antioxytocics					
Salbutamol 2mg	Tablets			√	√
Salbutamol 0.5mg/ml	Injection				√
18. Psychotherapeutic Medicines					
18.1 Medicines used in Psychotic disorders					
Chlorpromazine 25mg	Tablets				√
Chlorpromazine 100mg	Tablets				√
Chlorpromazine 5mg/ml	Syrup				√
Chlorpromazine 25mg/ml	Ampoule				√
18.2 Medicines used in depressive disorders					
Amitriptyline 25mg	Tablets				√
Imipramine 25mg	Tablets				√
19. Solutions correcting water, electrolyte and acid-base disturbances					
19.1 Parenteral					
Dextrose 50% conc.	Vial		√	√	√
Dextrose 5%	Bag		√	√	√
Normal Saline 0.9% NaCl 500ml	Bag		√	√	√
Ringer's Lactate 500ml	Bag		√	√	√
Half strength Ringer's Lactate 500ml	Bag		√	√	√
19.2 Miscellaneous					
Water for injection 10ml	Ampoule		√	√	√
Lubricating jelly	Tube		√	√	√
20. Vitamins and Minerals					
Calcium gluconate 100 mg/ml, 10 ml	Ampoule			√	√
Multivitamin	Tablets	√	√	√	√
Retinol (Vit. A) 200,000 i.u.	Capsules	√	√	√	√
Retinol (vitamin A), 50.000 IU	Capsules	√	√	√	√



Table 9.8.2 Diagnostic Services

1. LABORATORY	Clinic	Health Center	County Hospital
1.1 Hematology			
Hemoglobin	(X)	X	X
Hematocrit			X
Full blood count			X
Blood typing and cross matching			X
Bleeding and clotting times			X
Erythrocyte sedimentation rate (ESR)			X
1.2 Microscopy			
Malaria parasites	X	X	X
Urine microscopy		X	X
CSF cell count			X
Gram stain for discharges, pus		X	X
Sputum for acid fast bacilli (Ziehl Nielsen stain)	(X)	(X)	X
1.3 Clinical chemistry			
Proteinuria & glucosuria	X	X	X
RDT for malaria	X	X	X
Rapid pregnancy test		X	X
Serum bilirubin			X
Blood glucose			X
Rapid Plasmareagin (RPR) test for syphilis	X	X	X
HIV Rapid Test		X	X
Hepatitis B & C rapid tests			X
2. IMAGING SERVICES			
2.1 X-Ray			
Chest	-	-	X
Abdomen	-	-	X
Skeleton	-	-	X
2.2 Ultrasound			
Simple portable	-	-	X
2.3 Electrocardiograph			
Simple Portable			X



Table 9.8.3 Equipment and Supplies

	CLINIC	HEALTH CENTER	COUNTY HOSPITAL
1. NON-MEDICAL EQUIPMENT			
1.1 Administration			
Office furniture	X	X	X
Office equipment	X	X	X
1.2 Electricity			
Emergency lights (including back-up for operating theatre, midwifery and laboratory)	(X)	X	X
1.3 Water supply			
Water source for drinking water	X	X	X
Storage tank	X	X	X
Water purification chemicals or filter	X	X	X
Hand-washing sinks and taps or bowls on stands in all areas	X	X	X
1.4 Waste disposal			
Incinerator or burial pit	X	X	X
Septic tanks	-	X	X
Drainage system	-	X	X
Sanitation facilities for patients	X	X	X
Rubbish bins in all rooms	X	X	X
Sharps containers in all treatment areas	X	X	X
Buckets for contaminated waste in all treatment areas	X	X	X
Protective boots and utility gloves	X	X	X
1.5 Safety			
Fire extinguisher	X	X	X
1.6 Vehicle			
Vehicle, 4-wheel drive	-	-	X
Ambulance, 4-wheel drive	-	X	X
1.7 Medical stores			
Refrigerator	X	X	X
Cool boxes and vaccine carriers	X	X	X
Shelves and stock cards	X	X	X
Lockable medicine cupboards in treatment areas	-	X	X
1.8 Kitchen			
Cooking stove	-	X	X
Cooking pots and utensils	-	X	X
Plates, cups and cutlery	-	X	X
Refrigerator	-		X
Washing and drying area facilities	-	X	X
Shelves and storage	-	X	X
1.9 Laundry			
Washing and rinsing equipment / bowls	-	X	X
Detergent/soap	-	X	X
Water heater	-	X	X
Iron	-	X	X
1.10 Housekeeping -			
Brooms, brushes and mops	X	X	X
Buckets	X	X	X
Soap and disinfectant	X	X	X

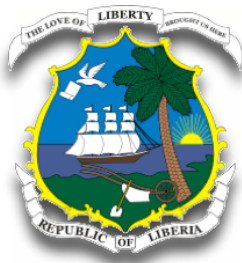


	CLINIC	HEALTH CENTER	COUNTY HOSPITAL
2. MEDICAL EQUIPMENT			
2.1 All Outpatient Clinic Rooms			
Desk and chairs	X	X	X
Examination table or bed	X	X	X
Light source	X	X	X
Hand washing facilities	X	X	X
Receptacle for soiled pads, dressings, etc	X	X	X
Container for sharps disposal	X	X	X
Wall clock with second hand, torch with extra batteries	X	X	X
Instrument sterilizer	X	X	X
Jar for forceps	X	X	X
2.2 Women's Reproductive Health Room			
Examination table			
BP machine and stethoscope	X	X	X
Thermometer	X	X	X
Fetal stethoscope	X	X	X
Weighing scale	X	X	X
Height measure	X	X	X
Tape measure	X	X	X
Speculum and vaginal examination kit	X	X	X
Contraceptive supplies	X	X	X
Syringes and needles	X	X	X
MVA syringe and canulas	X	X	X
IUCD insertion set	X	X	X
Examination gloves	X	X	X
IEC/BCC flip charts, posters and models	X	X	X
Register	X	X	X
Home-based Mothers' cards	X	X	X
Immunization cards	X	X	X
Family Planning cards	X	X	X
2.3 Child Health Clinic Room			
Baby scales	X	X	X
Hanging scales	X	X	X
Height measure / measuring board	-	X	X
Register	X	X	X
Road to Health cards	X	X	X
2.4 Expanded Program on Immunization Room			
Refrigerator	X	X	X
Temperature monitoring charts	X	X	X
Cold box	X	X	X
Syringes, needles and swabs	X	X	X
2.5 Delivery Room			
Delivery bed and bed linen	X	X	X
Curtains if more than one bed	-	X	X
Work surface near bed for newborn resuscitation	X	X	X
Instrument trolley	X	X	X
Tray with routine & emergency drugs, syringes and needles	X	X	X
BP machine and stethoscope	X	X	X

	CLINIC	HEALTH CENTER	COUNTY HOSPITAL
2.5 Delivery Room (cont.)			
Thermometer	X	X	X
Fetal stethoscope	X	X	X
Urinary catheter and collection bag	X	X	X
Partograph charts	X	X	X
Latex gloves and protective clothing	X	X	X
Clean delivery kit and cord ties	X	X	X
Towel and blankets for newborn	X	X	X
Mucus extractor	X	X	X
Self-inflating bag and mask – adult & neonatal size	X	X	X
Oral airways, various sizes	X	X	X
Baby scales	X	X	X
Vacuum extractor set.	-	X	X
Suturing set	X	X	X
I.V. giving sets and canulas. Infusion bottles.	X	X	X
2.6 Inpatient wards			
Beds, washable mattresses and linen	X	X	X
Patient trolley on wheels	X	X	X
Dressing trolley / Medicine trolley	X	X	X
Urinals and bedpans	X	X	X
I.V. stands	X	X	X
Basic examination equipment	X	X	X
Medicine storage cabinet	-	X	X
2.7 Treatment Room			
Examination table	X	X	X
Stool, adjustable height	X	X	X
Instrument / dressing trolley	X	X	X
Instrument tray	X	X	X
Wound dressing set	X	X	X
Suturing set	X	X	X
Sterile gloves	X	X	X
Syringes and needles	X	X	X
Dressings	X	X	X
I.V. stand	X	X	X
Ambu resuscitation set with adult and child masks	X	X	X
Oral airways: various sizes	X	X	X
Splints and slings	X	X	X
Plaster bandages for casts	-	-	X
2.8 Operating theatre			
Hand washing / scrubbing facilities	-	-	X
Universal operating table	-	-	X
Mobile operating light	-	-	X
Stool, adjustable height	-	-	X
Patient trolley on wheels	-	-	X
I.V. stand	-	-	X
Instrument trolley	-	-	X
Instrument tray	-	-	X
Syringes and needles	-	-	X



	CLINIC	HEALTH CENTER	COUNTY HOSPITAL
2.8 Operating theatre (cont.)			
Dressings	-	-	X
I.V. giving sets and canulas	-	-	X
Portable suction machine	-	-	X
Anesthetic trolley / machine	-	-	X
Sphygmomanometer and stethoscope	-	-	X
Ambu resuscitation set with adult and child masks	-	-	X
Oral airways: various sizes			X
Laryngoscope set	-	-	X
Operating drapes	-	-	X
Protective hats, aprons and gowns	-	-	X
Sterile gloves	-	-	X
Cesarean / hysterectomy set	-	-	X
Laparotomy set	-	-	X
Tubal ligation set	-	-	X
Dilatation and curettage set	-	-	X
Tracheotomy set	-	-	X
Chest drain tubes and under water seal bottles	-	-	X
Sterilizer	-	-	X
Instrument cupboard	-	-	X
2.9 Laboratory			
Microscope and lens oil	(X)	X	X
Hand centrifuge	(X)	X	X
Electrical centrifuge	-	-	X
Hemoglobinometer	(X)	X	X
Hematocrit centrifuge	-	-	X
White cell differential counter	-	-	X
Timer	X	X	X
Laboratory scale and weights	X	X	X
Slide rack	X	X	X
Stain jars	X	X	X
Pipettes and stand	X	X	X
Spirit lamp	X	X	X
Measuring jars, beakers, test tubes	X	X	X
Microscope slides & cover slips	X	X	X
Specimen collection cups, tubes and capillary tubes	X	X	X
Reagents, stains and test kits as appropriate (See Table 11)	X	X	X
2.10 Imaging Services			
X-Ray machine (fixed or portable)	-	-	X
X-Ray developing machine and darkroom equipment	-	-	X
X-Ray protective materials (lead aprons and walls)	-	-	X
Wall viewer	-	-	X
Voltage stabilizer for X-Ray machine	-	-	X
Ultrasound machine, small portable.	-	-	X
EKG machine , small portable	-	-	X



Comments and Questions may be sent to:

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