Republic Of Sierra Leone

Ministry Of Health and Sanitation

Reproductive and Child Health Directorate

Facility Improvement Team (FIT)

Assessment Report

Options

November 2015

Acknowledgement

The Reproductive and Child Health Directorate (RCHD) of the Ministry of Health and Sanitation (MoHS) acknowledges Options Consultancy Services, for supporting this assessment through its DFID funded Partnership Management, Evaluation and Learning (PMEL) project. The assessment would hardly have been possible without the cooperation of our health facility in-charges and other staff in peripheral health units (PHUs) who provided the data on which this report is based. Many thanks are extended to the Options and MoHS drivers who professionally moved around with the assessors throughout the time of data collection.

As a ministry, we expect our partners, local councils and line ministries to partner with us in addressing the gaps identified in all the facilities towards our combined effort in providing EmONC compliant facilities; which are vital to providing quality services for the vulnerable women and children in Sierra Leone.

It is my hope that, this report will be vital in informing the planning of programmes by partners, DHMTs and other stakeholders.

Dr. Santigie Sesay
Director-Reproductive & Child Health
MoHS

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Acronyms

BEmONC	Basic Emergency Obstetric and Newborn Care
CEmONC	Comprehensive Emergency Obstetric and Newborn Care
CHA	Community Health Assistant
CHC	Community Health Centre
CHO	Community Health Officer
C/S	Caesarean Section
DHMT	District Health Management Team
DHS	District Health Sister
DRC	Democratic Republic of Congo
EmONC	Emergency Obstetric and Newborn Care
FIT	Facility Improvement Team
FSB	Fresh Still Birth
HBB	Helping Babes Breathe
HIV	Human Immunodeficiency Virus
M&E	Monitoring and Evaluation
MCHA	Maternal and Child Health Aide
MgSO4	Magnesium Sulphate
MNCH	Maternal Newborn and Child Health
MoHS	Ministry of Health and Sanitation
MSB	Macerated Still Birth
MVA	Manual Vacuum Aspirator
MVE	Manual Vacuum Extractor
NGO	Non-Governmental Organization
PCMH	Princess Christian Memorial Hospital
PDA	Personal Digital Assistant
PHU	Peripheral Health Unit
PMEL	Partnership Management, Evaluation & Learning
RCHD	Reproductive and Child Health Directorate
SRN	State Registered Nurse
SECHN	State Enrolled Community Health Nurse
WASH	Water, Sanitation and Hygiene
WATSAN	Water and Sanitation
WHO	World Health Organization

Executive Summary

THE Facility Improvement Team (FIT) assessment was undertaken in November 2015 by the Ministry of Health & Sanitation (MOHS), with funding from Options Consultancy Services, a DFID-funded programme. The aim of the assessment was to determine the availability of seven standards that are needed to be present in health facilities for quality Emergency Obstetrics and Newborn Care (EmONC) services for the reduction of maternal and newborn mortality and morbidity. These standards called enablers are: - Water and Sanitation, Electricity, Referrals, Equipment for special procedures, Blood storage and Laboratory, Staffing, Drugs and Supplies.

A total of seventy-eight (78) health facilities were assessed. These include thirteen (13) public hospitals (CEmONCs) and sixty-five (65) Community Health Centres (BEmONCs).

Main findings for the seven enablers assessed in the CEmONC and BEmONC facilities are as follows:

Enablers	No. of facilities that met Green criteria	
	CEmONC(n=13)	BEmONC(n=65)
Water and Sanitation	7(54%)	17(26%)
Electricity	12 (92%)	41 (63%)
Referrals	12 (92%)	41 (63%)
Equipment for Special Procedures	1 (8%)	10 (15%)
Blood Storage and Laboratory	7 (54%)	20 (30%)
Staffing	5 (38%)	18 (28%)
Drugs and Supplies	5 (38%)	8 (12%)

Overall, there is progress in the performance of the health facilities towards the achievement of EmONC status as compared to the June 2015 assessment. Unlike the June 2015 assessment where no facility was certified as EmONC compliant, one CEmONC facility (Pujehun Government Hospital) met all criteria and is thus regarded as EmONC compliant for the November 2015 assessment as per set standards. The least ranked CEmONC is Bonthe Government Hospital. Among the BEmONCs, Kenema district is ranked highest for all enablers and Bonthe district ranked least.

With regards to specific enablers, some improvements were observed in the November, 2015 assessment compared to the June 2015 assessment.

In the area of water and sanitation (WATSAN), some progress was seen among CEmONCs and BEmONCs. Seven (7) CEmONCs are rated GREEN with six rated YELLOW. In the BEmONCs, seventeen (17) facilities are rated GREEN, twenty (20) rated YELLOW and twenty-six (26) rated AMBER. Only two (2) facilities are rated RED.

Electricity and Referral enablers were very encouraging for both CEmONCs and BEmONCs. Most CEmONCs and BEmONCs had at least one source of power supply.

There are challenges with blood storage and laboratory and equipment for special procedures in both CEmONCs and BEmONCs. In terms of blood storage and laboratory, only 7 CEmONCs and 20 BEmONCs are compliant. Availability of equipment in CEmONC facilities needs drastic

improvement. Only Pujehun maternity is compliant but there is some progress in the BEmONCs with ten (10) facilities scoring GREEN and fifty-one (51) scoring YELLOW.

A total of five (5) CEmONCs met the staffing requirement for three categories of staff which include: - Doctors, Midwives and Nurses. There are more doctors in PCMH than the Regional/District referral hospitals. Bonthe Government Hospital has the least number of health workers closely followed by Koidu and Moyamba Government Hospitals.

There is a marked improvement in terms of the number of midwives. However, six more midwives are needed in CEmONC facilities to achieve the required number of 52 (ie 4 per hospital). Bonthe and Magburaka hospitals need 2 midwives each, whilst Kabala and Moyamba hospitals need 1 midwife each to achieve the desired number in the maternity ward.

Similar progress was observed in terms of staff in the BEmONC facilities, especially in the number of Community Health Officers (CHOs) and Midwives. A total of 68 CHOs were available at the time of the assessment exceeding the required number of 65(i.e. 1 CHO per CHC). However this number is not evenly distributed as some health facilities had more CHOs than others. BEmONCs with no CHOs are Bendu and Yoni CHCs in Bonthe, Batkanu CHC in Bombali and Ngalu CHC in Bo districts.

Sixty-four (64) midwives were available in BEmONCs out of the 65 required in total (i.e. 1 Midwife per CHC). However, they are also not evenly distributed. BEmONCs in the Western Area and Bo have more midwives than the other districts. Facilities that need 1 midwife each are Yoni CHC in Bonthe, Zimmi CHC in Pujehun, Yele CHC in Tonkolili districts and Hastings CHC in Western Area Rural.
Overall, the Maternal and Child Health Aides(MCH Aides) and the State Enrolled Community Health Nurses (SECHNs) have the highest staffing gap in the BEmONCs.

The availability of key drugs is still a challenge in CEmONCs and BEmONCs. Only 5 CEmONC facilities met the criteria (PCMH, Pujehun, Moyamba, Kailahun and Kambia). A similar achievement is also observed in the BEmONCs with only 8 (12%) out of the 65 facilities compliant.

Recommendations

1. Facility Improvement Team assessment should be conducted more frequently quarterly to keep DHMTs, Local Councils and partners on their toes in taking appropriate actions to address gaps in health facilities
2. The RCHD to be supported to conduct regular supportive supervision as part of follow up on actions agreed with health facility in-charges.
3. DHMT/District council and NGOs should take greater effort in addressing gaps identified in CEmONC and BEmONC facilities to improve quality service delivery.
4. The MoHS and partners should increase availability of key maternal health medicines, supplies, and equipment (such as delivery kits, manual vacuum extractors (MVEs) & manual vacuum aspirators (MVAs)) for EmONC services.
5. The Directorate of Drugs and Medical Supplies should increase availability of misoprostol to Health facilities and distribute guidelines, protocols, and standards on misoprostol for PPH
6. The RCHD should coordinate the conduct of refresher trainings for all Health Care providers on EmONC
7. The MoHS should build public and private partnerships to address challenges in drug supply chain management.
8. The MoHS should improve referral system by pre-positioning ambulances in hard to reach areas and ensure first line care before referral, care during transfer, appropriate and preferential treatment for referred cases at referral facilities.

9. The MoHS through the Directorate of Hospital and Laboratory Services should train existing laboratory assistants in the BEmONC facilities and equip laboratories to carry out basic haematology, microscopy and biochemistry.
10. The Government should ensure safe supply of blood and blood products at national and district level, especially for saving lives of mothers who need comprehensive EmONC services because of pregnancy-related haemorrhage, severe anaemia, or abortions
11. The MoHS and its partners to put in place motivating mechanism for midwives and other staff posted to BEmONC facilities such as proper accommodation
12. The MoHS especially the RCH Directorate should be involved in the design, construction or rehabilitation of health facilities to ensure they meet the standards set for the seven enablers for each of the three levels of health facilities
13. The RCH Programme should consider the use of technology (possible mobile health) in the conduct of FIT assessment. This will reduce paper use, reduce errors in data collection and also facilitate speedy analysis and reporting.
14. The MoHS should focus on ensuring the availability of resources in all the 65 BEmONC and 13 CEmONC facilities to attain the desired EmONC status for improved service delivery instead of constructing new ones.
15. Some of the issues identified in the FIT gap analysis can be addressed at the health facility level. Therefore health facility staff should judiciously utilize Performance Based Financing incentive for minor repairs and other issues which do not require huge cost instead of waiting for the DHMT and District Council.
16. Options Consultancy should build the capacity of the RCH team to undertake FIT data inputting and analysis to reduce errors made by external data analyst.

1.0 Background

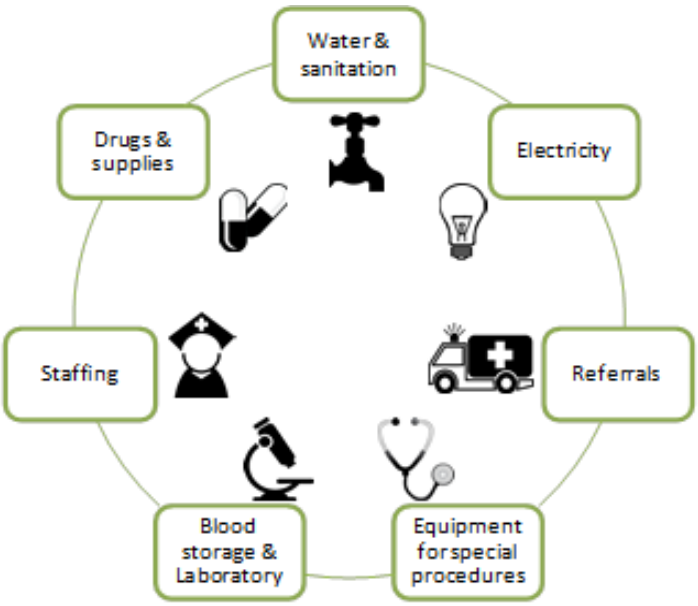
MATERNAL mortality in Sierra Leone remains among the highest in the world. The country is among the six high burden countries for maternal death, along with Afghanistan, the Democratic Republic of Congo (DRC), India, Nigeria and Pakistan, which collectively account for roughly 50 percent of all maternal deaths worldwide. To mitigate the problem of the widespread maternal deaths, seven signal functions are essential for the delivery of basic emergency obstetric and newborn care (BEmONC) and nine for the delivery of comprehensive emergency obstetric and newborn care (CEmONC). The identified signal functions for BEmONC are: administration of parenteral antibiotics, oxytocic drugs, anti-convulsants for Pre-Eclampsia /Eclampsia, manual removal of placenta, removal of retained placenta, newborn resuscitation and assisted vaginal delivery. Two additional signal functions—safe blood transfusion and surgery (i.e. caesarean delivery)—constitute the package for CEmONC. Health facilities need to be adequately equipped to successfully perform theses signal functions. In the context of Sierra Leone, the health system recognises seven factors known as enablers which are regarded as critical to enhance the performance of signal functions. A facility becomes BEmONC compliant if it has the capacity to perform all of the seven basic functions routinely, and CEmONC compliant if it has the capacity to perform all nine functions routinely. EmONC services if widely accessed and properly used, could significantly reduce preventable deaths among women and children.

A key strategy for improving maternal health in Sierra Leone is the long-term goal to equip all hospitals and community health centres (CHCs) with the inputs required to provide quality EmONC services. As a first step, the government is focusing on equipping 13 public hospitals (one for each of the 13 health districts) and 65 community health centres - five in each of the health districts to provide CEmONC and BEmONC services respectively. This report is based on findings from the facility improvement team (FIT) assessment conducted in November/December, 2015. The assessment was supported by Options Consultancy Services through its DFID-funded Partnership Management, Evaluation and Learning(PMEL) function of the ''Improving Reproductive, Maternal and Newborn Health (IRMNH) programme.

The FIT Assessment

The FIT assessment exercise is the system used for tracking the progress made by the selected facilities towards certification as EmONC compliant and was adopted in November 2010. Facilities are scored on seven sets of criteria, known as enablers, which need to be met in order to achieve the relevant status, which are shown in the Figure 1. A summary of findings of facilities assessed in their progress towards achieving EmONC status and the scoring mechanism using a traffic light system and tracker scores are presented on each of the FIT scorecards for CEmONCs and BEmONCs (see Annex 1 & 2).

Figure 1: Seven FIT Enablers



Purpose

This assessment seeks to determine the availability of conditions (water and sanitation facilities, electricity, referrals, blood and laboratory services equipment, drugs including emergency drugs -Oxytocin, MgSO4, calcium gluconate, ampicillin, gentamycin and staff) to enhance the provision of emergency obstetric and newborn care (EmONC) to promote safe and clean deliveries within hospitals and primary health care facilities in Sierra Leone. Data from the assessment will be disseminated to MoHS partners for planning, DHMTs and PHUs for decision making and advocacy.

2.0 Methodology

A QUANTITATIVE methodology was adopted for the assessment of facility readiness to perform EmONC.

2.1 Data Collection Tools – Well-structured questionnaires for BEmONC and CEmONC facilities were adopted for the assessment. The tools are long standing versions of previous FIT assessments. Both versions of the BEmONC and CEmONC tools are similar; however, the CEmONC tool differs slightly in terms of blood and laboratory services, equipment and staffing requirements.

2.2 Data Collection Calendar – Data was collected over a period of 12 days including travel to and from the field. Data collection was conducted from 17th to 28th November 2015.

2.3 The Assessment Team – The assessment was conducted by seven teams of experienced health personnel with background in maternal, newborn and child health. For further enhancement of data quality, three supervisors provided technical field oversight. These included the Director Reproductive and Child Health (RCH), the Options Team Leader, and the Options Monitoring and Evaluation Coordinator.

2.4 Orientation Meeting - A one - day orientation meeting was organized to review and update the data collection tools. The objective of the orientation meeting was to make amendments on the tools where necessary and afford assessors the opportunity to further familiarise themselves with the tools. The orientation ended with administrative arrangements including planning of movement and logistics.

2.5 Data Collection – Three team members including two health professionals from national and a District M&E Officer or District Health Sister (DHS) from each of the 13 districts conducted the assessment which included data collection supportive supervision in each of the selected facilities**.** Except for the team assigned to the Western Area which covered only one district, the provincial teams each covered two districts. Teams spent six days to assess 1 CEmONC and 5 BEmONC facilities in each district. They spent one full day at each Health facility to administer questionnaires, check through inventory of medicines, supplies, vaccines and mentor staff on key lifesaving interventions. Some of the key skills that staff were mentored on included use of the three bucket system for decontamination of equipment, sterilization using the autoclave and Helping Babies Breathe (HBB) or resuscitation of non-breathing baby. At the end of the six days in each district, exit meetings between the FIT assessors and district stakeholders (DHMT, District Council and NGOs) were held to discuss report of the previous assessment and gaps identified in the current assessment to find solutions to address gaps.

2.6 Data Validation: Data collected by the various teams were validated by the RCH Team in the office post data collection**.** This was to ensure the data is free from all errors before entering into the data base for analysis.

2.7 Data Entry: Data management (entry, quality check and analysis) was done by an experienced database consultant and an entry clerk recruited by Options Consultancy Services. Issues identified by the RCH Team in the final data sets were reported to Consultant for rectification.

2.8 Analysis: The consultant carried out the analysis using Microsoft excel and SPSS. Data for this report is presented in the form of tables, graphs and charts.

3.0 Findings

THE results of the FIT assessment are presented in the form of ranking of facility performance towards achieving emergency obstetric and newborn care (EmONC) status. Ranking is done using the scorecards for CEmONC and BEmONC facilities. The scorecard is colour coded Green, Yellow, Amber and Red indicating facility performance in each enabler. A facility is coded Green on a particular enabler when **all** the set criteria for that enabler are met, Yellow when **most** of the criteria are met, Amber when criteria are **partially** met and Red when **none** of the criteria are met. Table 1 below illustrates the criteria used for rating.

Table 1: Criteria for Rating

Performance Rating	Score	Facility has:
Green	4	Met all criteria
Yellow	3	Mostly met criteria
Amber	2	Partially met criteria
Red	1	Not met criteria

3.1 FIT Trend Analysis 2010-2015

THIS is an overview of the performance of CEmONC and BEmONC facilities assessed since the introduction of the FIT assessment model in November, 2010. Figure 2 and 3 below show CEmONC and BEmONC achievement trends from 2010 to 2015.

Figure 2: CEmONC Trend 2010 - 2015

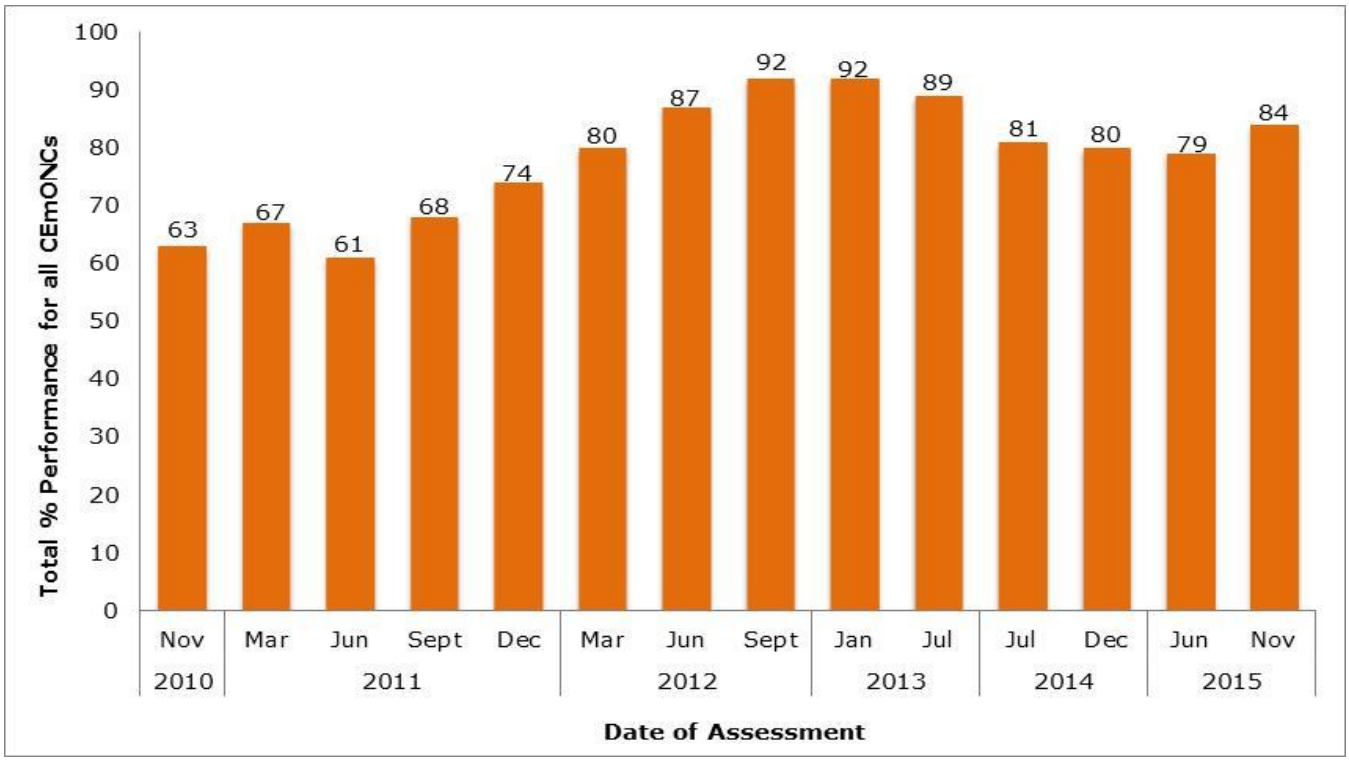
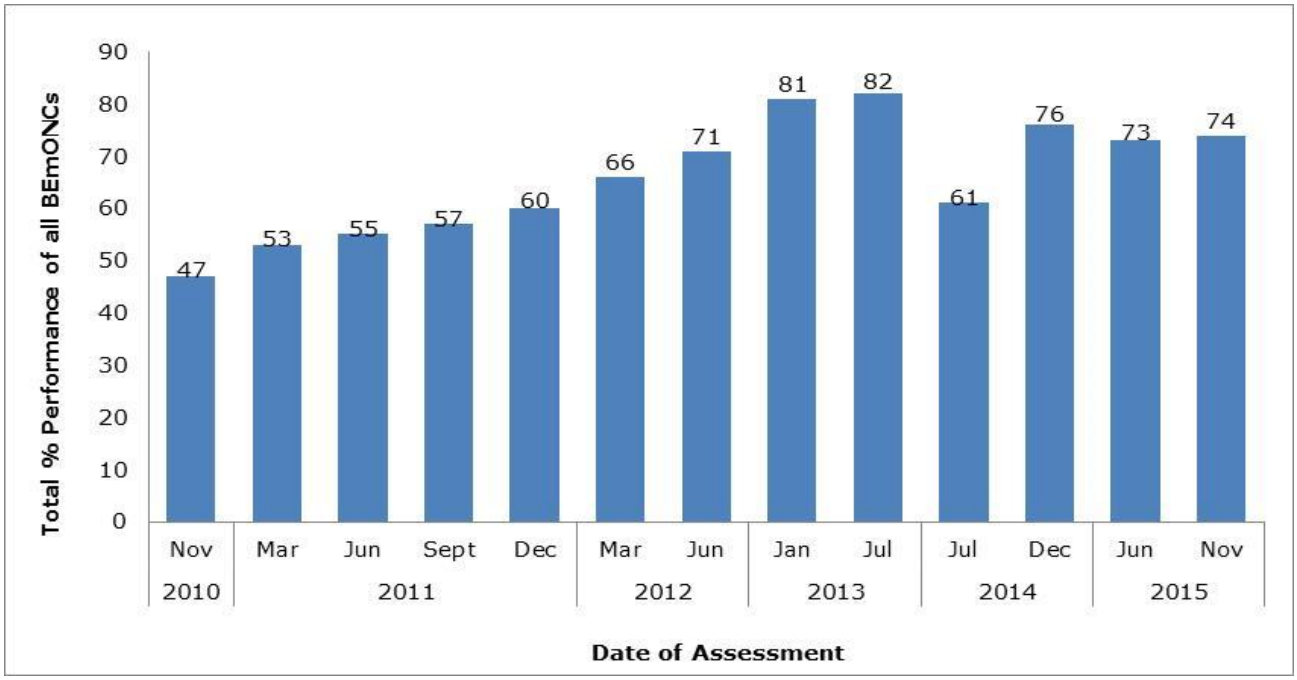


Figure 3: BEmONC Trend 2010 - 2015

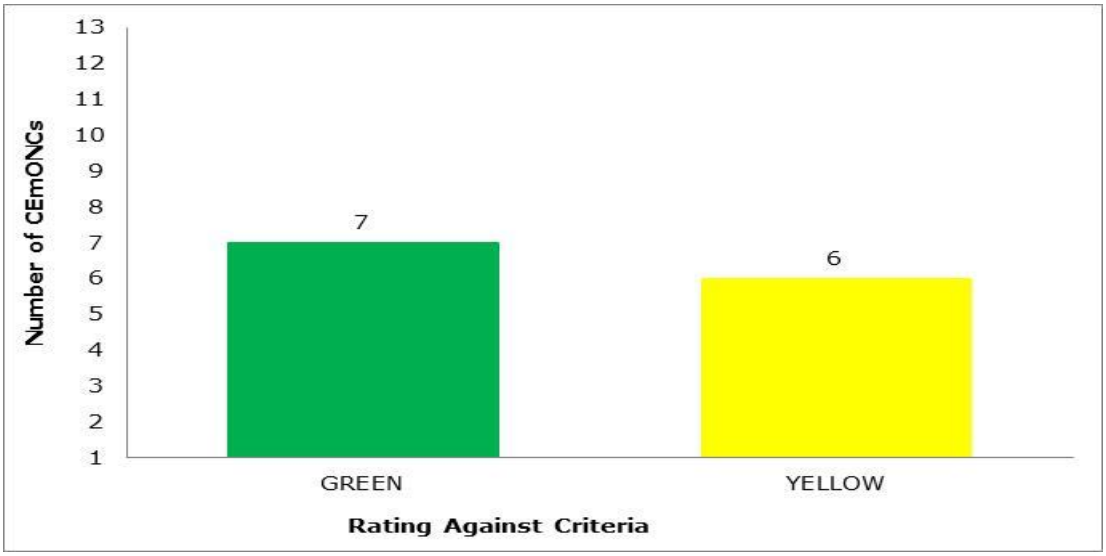


3.2 Water and Sanitation

ADEQUATE water, sanitation and hygiene (WASH) are essential components of providing basic health care services. The availability of WASH in health care facilities is critical for the prevention of infections and spread of disease, protection of staff and patients, and upholds the dignity of vulnerable populations including pregnant women and the newborn. Studies have reported that health care associated infections affect hundreds of millions of patients every year, with 15% of patients estimated to develop one or more infections during a hospital stay (Allegranzi et al., 2011). Poor hygiene which includes no or inadequate hand washing before and after contact with patients or after using the toilet is a key contributor. Hand washing with soap is therefore advocated by the FIT process as an important practice to reduce transmission of infections in health care settings.

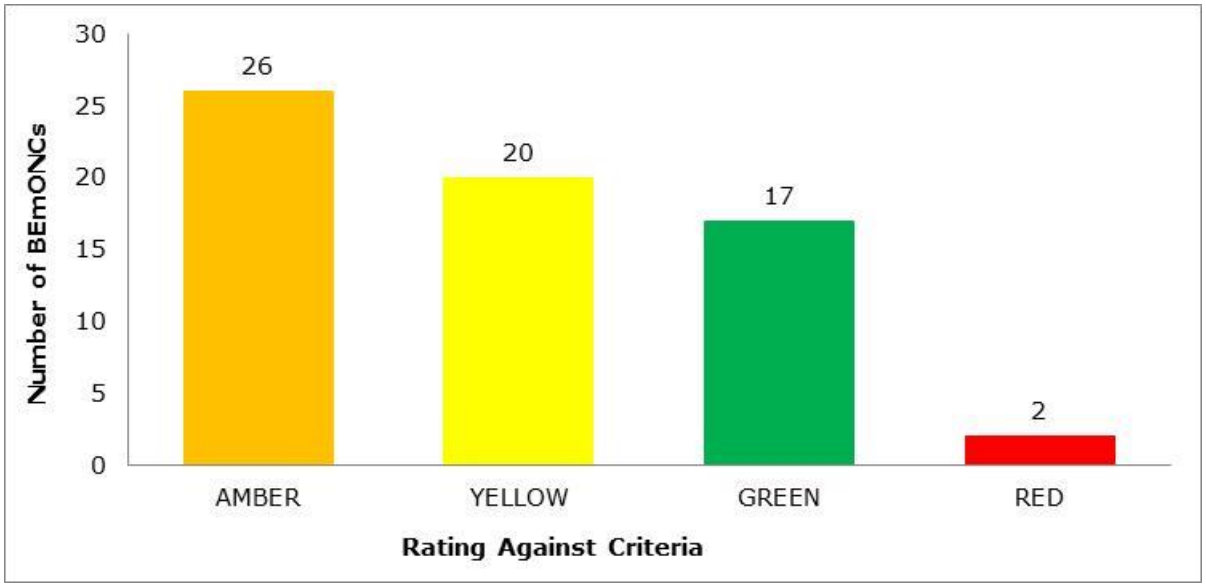
Figure 4 below shows that only seven out of the 13 CEmONC facilities (53.8%) are rated GREEN having safe drinking water, piped water into the labour ward, theatre and toilet. Also, there are waste collection bins and incinerators for final disposal of waste. The remaining 6 hospitals met most of the criteria and therefore rated YELLOW.

Figure 4: **Status of CEmONC in WATSAN**



The essential function of health care facilities also includes the promotion of hygiene. Figure 5 below shows that 17 out of 65 facilities (26.1%) scored GREEN, 20 out of 65 (30.7%) scored YELLOW, 26 out of 65 (40%) scored AMBER and two out of 65 (3.0%) scored RED respectively. The main challenge with this enabler in the BEmONCs is the lack of piped water supply into the labour ward and toilet. The BEmONC facilities that scored RED are Regent in Western Rural Area and Makali in Tonkolili District.

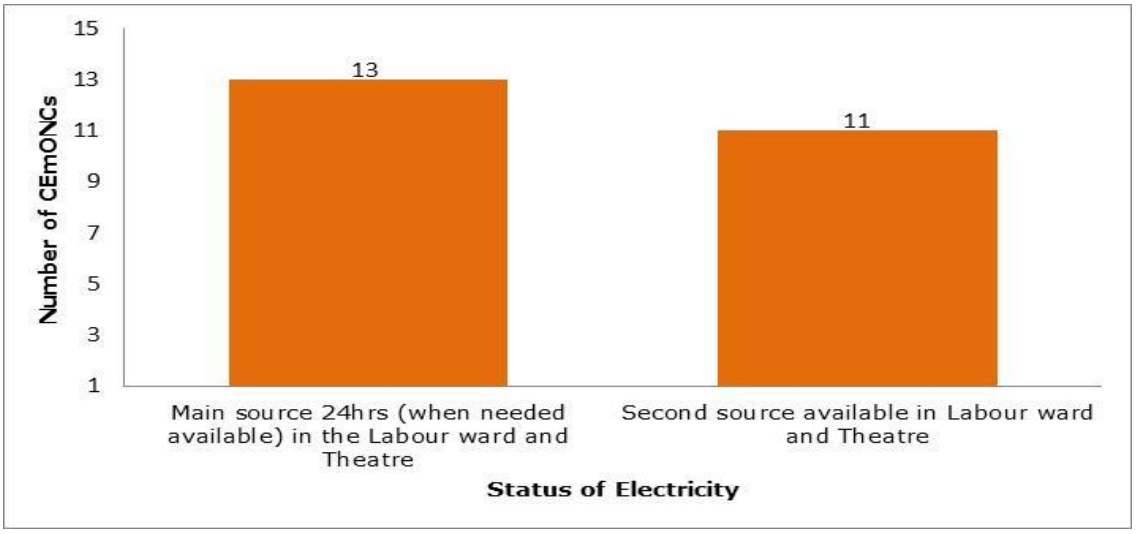
Figure 5: Status of BEmONCs in WATSAN



3.3 Electricity

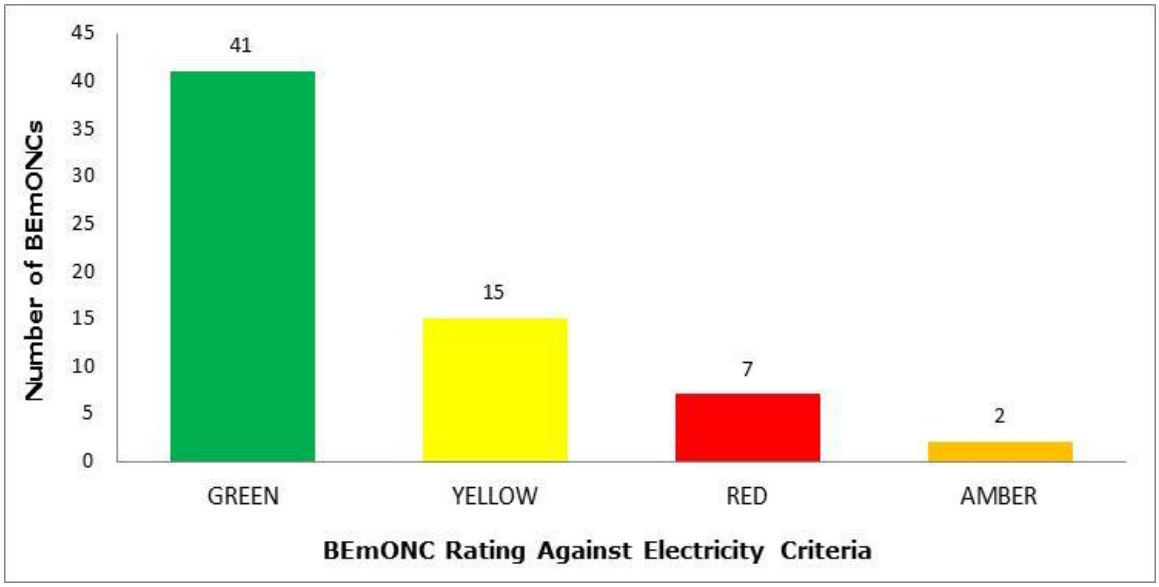
THE main sources of power supply for CEmONCs are the national grid and solar or generator respectively. Results from this assessment showed that all CEmONCs (100%) and 89.20% of BEmONCs have at least one source of electricity supply. Figure 6 below shows that 11 out of 13 CEmONCs (84.6%) were electricity complaint (GREEN). In other words, this proportion of CEmONCs has a main power source and a backup generator when needed in the Labour ward and Theatre. Magburaka and Makeni hospitals in Tonkolili and Bombali Districts did not have a backup power source and therefore rated YELLOW. Uninterrupted power supply is needed in CEmONCs for the conduct of surgical operations and the maintenance of a cold chain to keep vaccines and blood within recommended temperatures. The availability of a second power source is thus critical.

Figure 6: Status of Electricity Supply in CEmONC Facilities



In BEmONCs, solar is the desired source of power as most of the facilities are located in rural areas that are not serviced by the national grid. Figure 7 below shows that 41 out of 65 BEmONCs (63.1%) are electricity compliant (GREEN) having: a) a main power source that is available 24 hours or when needed, b) a second source of power and c) electricity in the labour room. At least 15 BEmONCs (23.1%) were rated YELLOW satisfying only two of the three requirements. Two out of the 65 BEmONCs (3.1%) rated AMBER, meeting only one of the criteria and 7 BEmONCs (10.8%) did not have any power source and hence rated RED. In most of the facilities where there is no electricity, respondents reported resorting to other sources of light such as flashlights and mobile phones when conducting deliveries at night which could be a recipe for unsafe and unclean deliveries.

Figure 7: Status of Electricity Supply in BEmONC Facilities



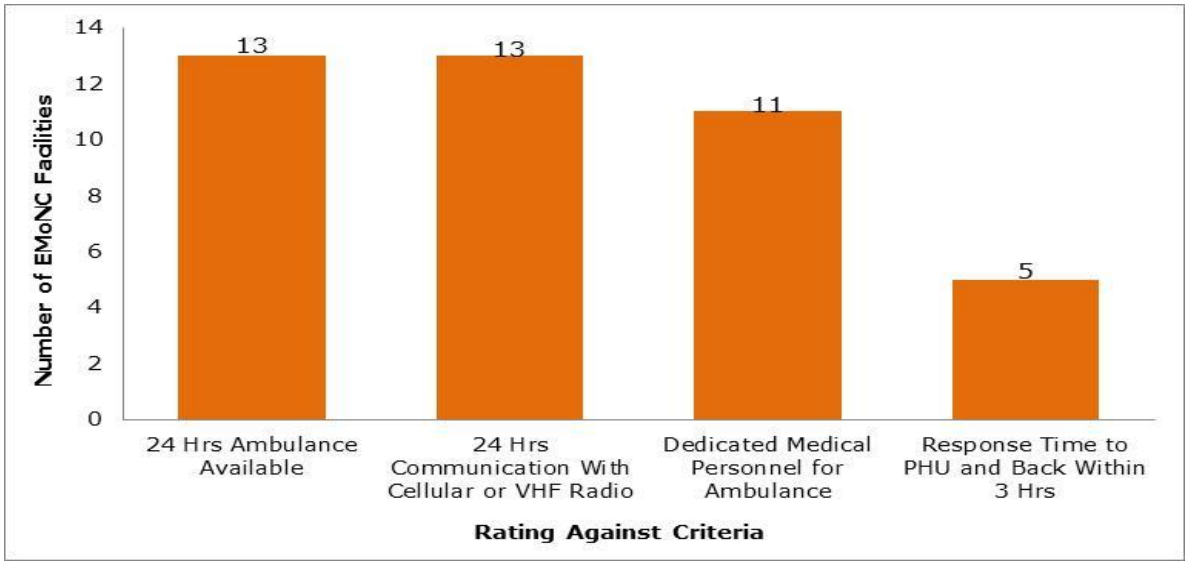
In terms of district performance, three districts out of 13 (Kenema, Koinadugu and Western Area) had all five BEmONCs electricity compliant, while two out of 13 (Kailahun and Kono) had four BEmONCs compliant for electricity. A total of 6 facilities (Binkolo CHC in Bombali, Jembeh CHC in Bo, Jojoima CHC in Kailahun, Masiaka CHC in Port Loko, Gambia CHC and Tihun CHC in Bonthe and Kombayendeh in Kono Districts) had no power source at the time of visit.

3.4 Referrals

EFFECTIVE referral services are critical for the provision of EmONC services to save lives. Studies have shown that reduction in maternal mortality and morbidity is hardly possible without an effective referral system for obstetric complications (Murray ET, al, 2001). In the FIT assessment, referral is rated by the availability of 24 hr Ambulance service, less than 3 hours response time to facility back to hospital and communications with cellular or VHF radio.

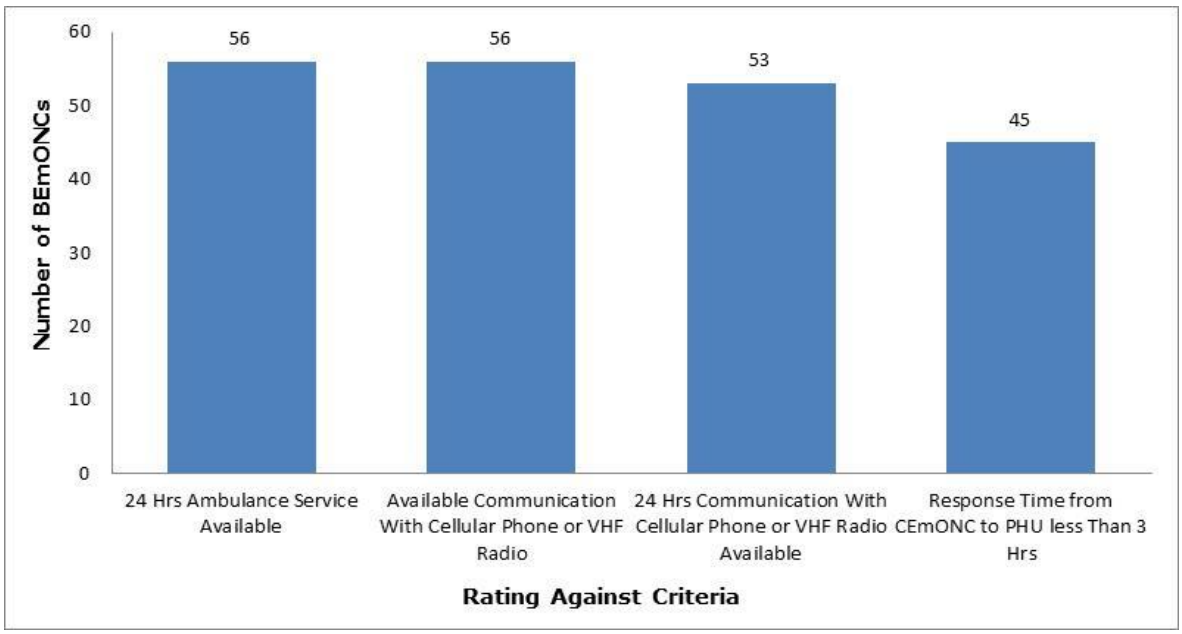
Findings from the November 2015 FIT assessment suggest all 13 CEmONCs (100%) have a 24 hour ambulance service among which 11 (84.6 %) reported that the ambulance is always accompanied by medical personnel during referrals from BEmONCs to CEmONCs. All CEmONCs reportedly have a designated phone line for communication but only four CEmONCs (Bo, Koidu, Magburaka and PortLoko Government Hospitals) met the response time of 3 hours for emergency referrals as shown in Figure 8.

Figure 8: Status of Referral in CEmONCs



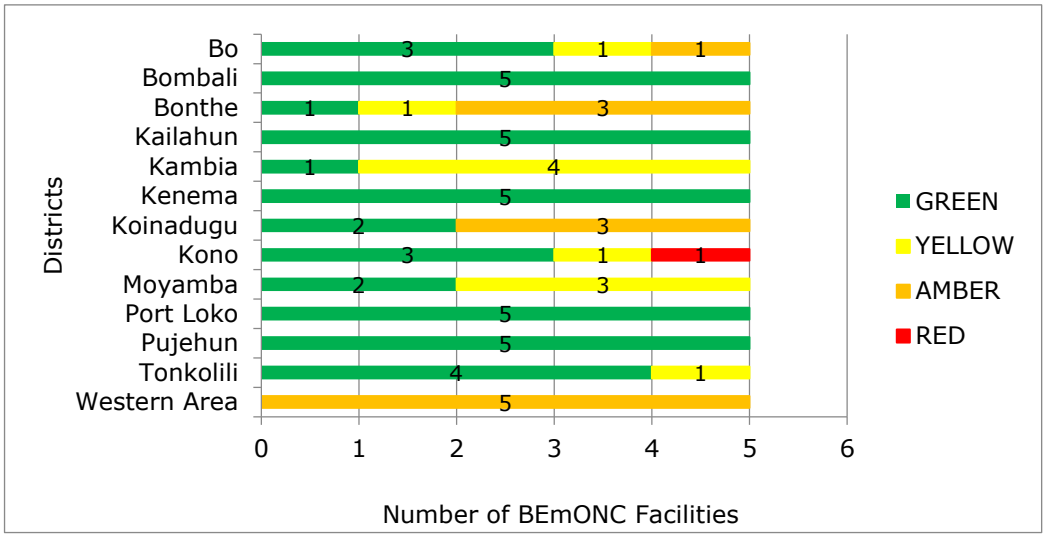
In BEmONCs, 56 out of 65 facilities (86.2 %) reported access to a 24 hours ambulance service and 45 of the facilities (69.2%) reported that ambulance response is within three hours. In addition, 56 out of 65 (86.2%) reported having cellular phone for reporting emergency referrals with 53 out of 65 (81.5%) reporting 24 hour communication available when needed to call an ambulance for emergencies.

Figure 9: Status of Referral in BEmONCs



In terms of district achievement, all BEmONCs in Pujehun, Port Loko, Kenema and Kailahun districts are compliant for this enabler. Four in Tonkolili and three each in Bo and Kono also achieved GREEN. Four facilities in Kambia and three in Moyamba were rated YELLOW. All BEmONCs in Western Area, three each in Bonthe and Koinadugu are rated AMBER. Kangama CHC in Kono district is the only facility rated RED in this enabler.

Figure 10: Status of Referral in the BEmONCs by District

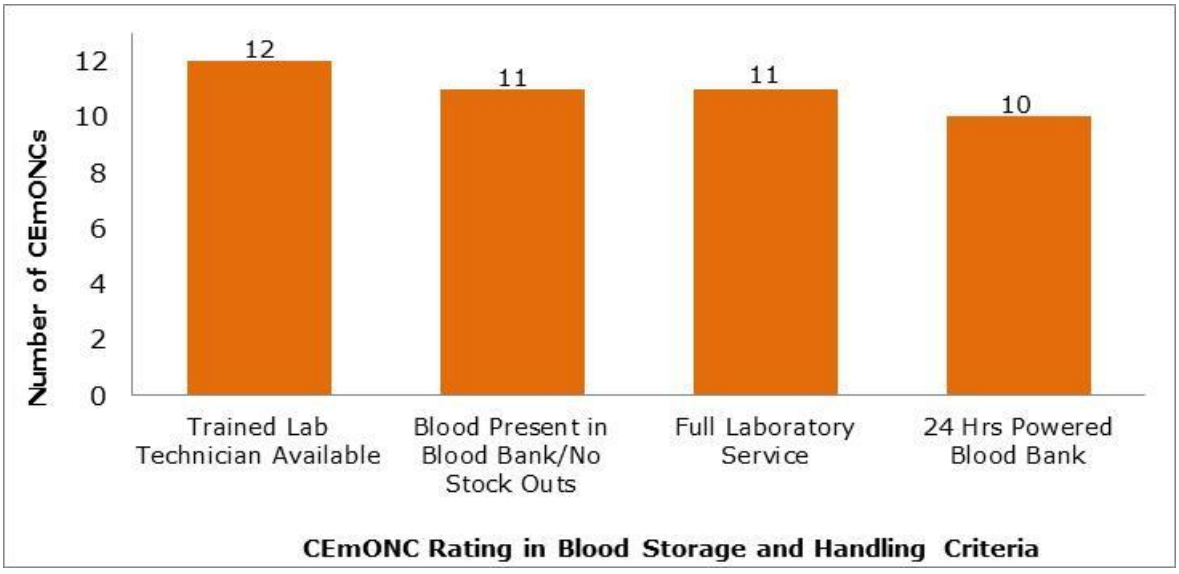


These findings call for the attention of policy makers and key stakeholders delivering Reproductive, Newborn and Child Health Services to implement an effective referral system. An urgent improvement in referral system such as pre-positioning of ambulances to reduce response time and ensure first line care before referral, care during transfer, appropriate and preferential treatment to referred cases at referral facilities and at all levels is critical.

3.5 Blood Storage and Laboratory Services

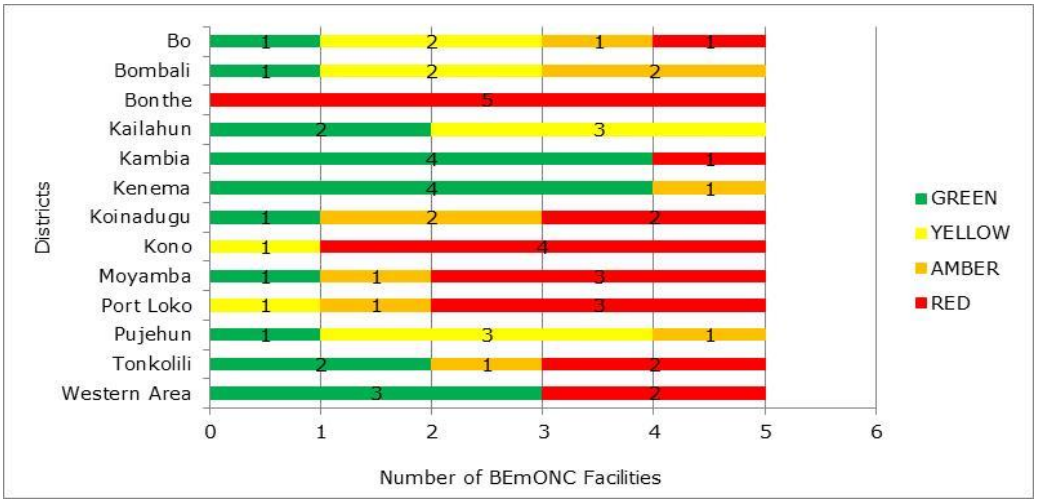
BLOOD is a vital healthcare resource used in a broad range of hospital procedures such as accidents, emergency obstetric services, and other surgeries. Because of the unpredictable nature of obstetric haemorrhage, blood transfusion has been identified as one of the key life-saving functions that should be available in healthcare facilities providing comprehensive emergency obstetric care. In the FIT assessment, four parameters are used to rate laboratory and blood handling for CEmONC facilities: a) the availability of 24hrs powered blood bank, b) presence of blood in the blood bank and/or no reported stock out for the past three months c) full laboratory service and d) trained Lab Technician available 24hrs daily. Seven (7) hospitals (Pujehun, Kenema, Magburaka, Kabala, Koidu, Makeni and Kailahun) met all criteria and scored GREEN. Bonthe Hospital has the greatest challenge with blood storage and handling and therefore scored RED.

Figure 11: Blood Handling in CEmONC Facilities



In the BEmONCs, two parameters are used to rate the laboratory which are: a) availability of a functional laboratory and b) a trained Laboratory Assistant/Technician to perform haematology, microscopy and biochemistry. Only 20 facilities (30.8%) achieved GREEN with Kambia and Kenema districts having four (4) BEmONCs each rated GREEN. Twenty-three (35.4%) BEmONCs scored RED in laboratory services. Bonthe was the only district that had all of the BEmONCs rated RED. Other poor performing districts in this enabler are Kono with four facilities, Moyamba and Port Loko each with three facilities rated RED as shown in Figure 12.

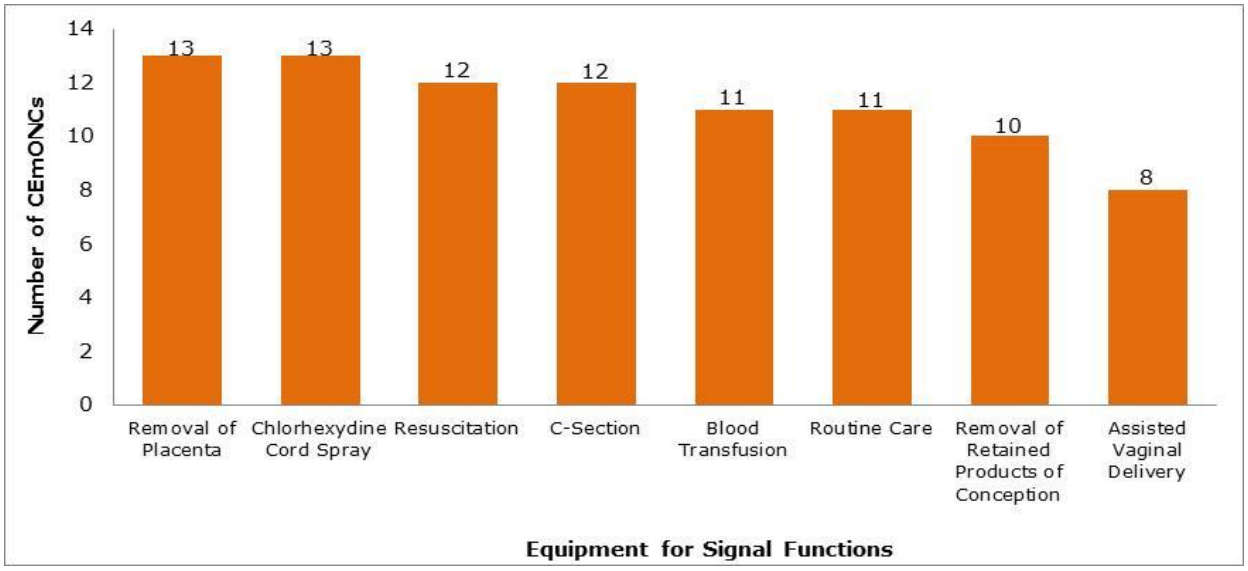
Figure 12: Status of Laboratory in BEmONC Facilities.



3.6 Equipment for Special Procedures

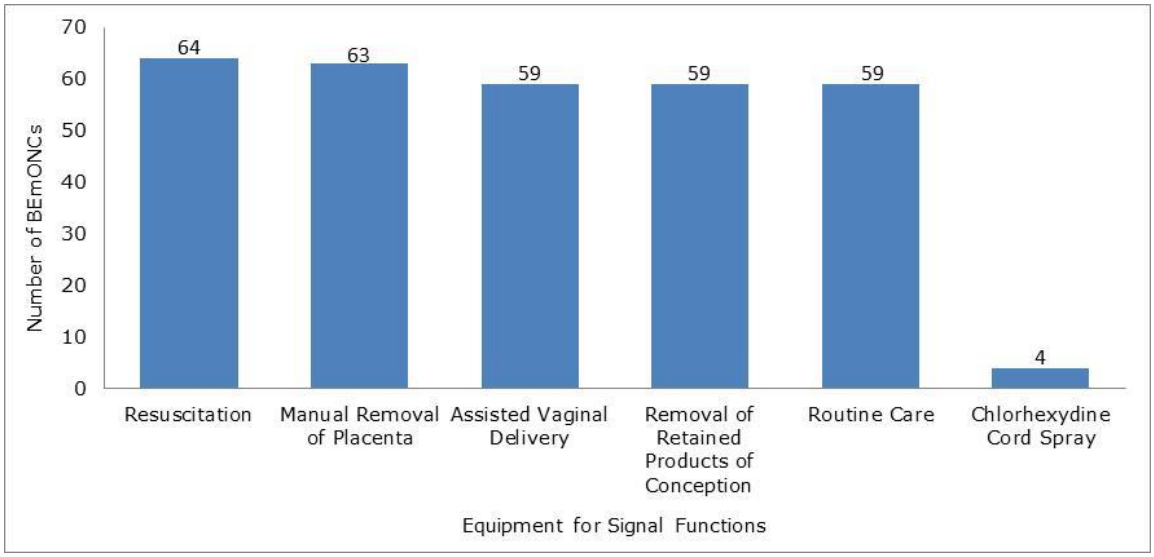
QUALITY services are contingent upon availability of medical equipment needed at all service delivery points in health facilities. During the November 2015 FIT assessment, hospitals and CHCs were assessed for the availability of key equipment and staff capacity to perform key life-saving procedures. The status of CEmONCs was assessed against eight criteria including: Assisted Vaginal Delivery, Removal of placenta, Resuscitation, C-Section, Blood Transfusion, Routine care, Removal of retained product of conception and Cord care. As shown in Figure 13, only Pujehun Government Hospital had all the required equipment and competent staff to perform life-saving interventions. Most CEmONC facilities had competent staff but the greatest challenge was the non-availability of equipment to perform such procedures as assisted vaginal delivery.

Figure 13: Proportion of CEmONCs with Equipment to Perform Special and Routine Procedures



The status of BEmONCs in this enabler is assessed against six criteria which include availability of equipment to perform: Assisted Vaginal Delivery, Manual removal of placenta, Resuscitation, Removal of retained products of conception, Routine care and Cord care as shown in Figure 14. Almost all facilities have equipment to support performance of crucial procedures with the exception of Chlorhexydine Cord Spray for cord care. Only four (6%) facilities had the spray.

Figure 14: Proportion of BEmONCs with Equipment to Perform Special and Routine Procedures



3.7 Staffing

THE provision of adequate and quality EmONC services is vital for reducing maternal deaths and improving women's health in general. However, this can be achieved if mothers have access to facilities with skilled attendants supported by adequate equipment, supplies and drugs. With the current policy of increasing institutional delivery in Sierra Leone efforts should be made to ensure that quality services are provided especially in rural areas. This should imply amongst other things, that skilled attendants are adequately available and accessible to women for early recognition of complications during pregnancy, labour and delivery and the postpartum period to enable timely intervention.

In Sierra Leone, according to the Basic Package of Essential Health Services and the Standard Operation Procedure Manual of the MoHS, there are prescribed category and number of skilled staff that should be available at each level of the health care delivery system for effective provision of quality MNCH services. Results from the November 2015 FIT Assessment showed that, only 5 (38%) CEmONC facilities (PCMH, Makeni, Bo, Pujehun and Portloko Government Hospitals) achieved staffing requirement for the three cadres – Doctors, Midwives and SRN/SECHN

Table 2 shows the distribution of health staff in the facilities assessed as at November 2015. Results show, there are more doctors in PCMH located in Freetown than the other Regional/District referral hospitals. Bonthe, Kabala and Kambia Government Hospitals need a medical doctor each to satisfy the required number.

Table 2: Staff Distribution in CEmONC Facilities

Staff Status in CEmONC Facilities									
	Doctors			Midwives			SECHN/SRN		
District	Req	Avail	Gap	Req	Avail	Gap	Req	Avail	Gap
Bo Government Hospital	2	2	**0**	4	4	**0**	10	22	0
Bonthe Government Hospital	2	1	**1**	4	2	**2**	10	9	1
Kabala Government Hospital	2	1	**1**	4	4	**0**	10	14	0
Kailahun Government Hospital	2	2	**0**	4	3	**1**	10	23	0
Kambia Government Hospital	2	1	**1**	4	6	**0**	10	14	0
Kenema Government Hospital	2	2	**0**	4	8	**0**	10	141	0
Koidu Government Hospital	2	2	**0**	4	4	**0**	10	6	4
Magburaka Government Hospital	2	4	**0**	4	2	**2**	10	13	0
Makeni Government Hospital	2	3	**0**	4	6	**0**	10	37	0
Moyamba Government Hospital	2	2	**0**	4	3	**1**	10	11	0
PCMH	2	13	**0**	4	6	**0**	10	19	0
Port Loko Government Hospital	2	2	**0**	4	5	**0**	10	10	0
Pujehun Government Hospital	2	2	**0**	4	5	**0**	10	10	0
Total	***26***	***37***	***3***	***52***	***58***	***6***	***130***	***329***	***5***

In terms of the availability of midwives, Bonthe and Magburaka hospitals need 2 more midwives each, while Kailahun and Moyamba hospitals need 1 more midwife each to achieve the desired number in the maternity section. In total, 6 more midwives are needed in CEmONC facilities to achieve the required number of 52 in all hospitals.

SECHNs/SRNs appear to be evenly distributed across districts except in Koidu and Bonthe Government Hospitals which are short of four and one trained staff respectively. The overall staffing gap is 14 including three medical doctors, six midwives and fine SECHNs/SRNs. This shows a progress in staffing compared to the results in the June 2015 assessment which had a gap of 25 including two medical doctors, fourteen midwives and nine SECHNs/SRNs.

In the BEmONCs, a similar progress is observed with staffing especially for Community Health Officers (CHOs) and Midwives. The required number of CHOs was exceeded by two as there were 68 CHOs out of the 65 required in BEmONCs (i.e. 1 CHO per CHC). However this number is not evenly distributed as some health facilities had no CHOs while others had more than the minimum required. BEmONCs with no CHOs as at November, 2015 were Bendu and Yoni in Bonthe, Batkanu in Bombali and Ngalu in Bo districts.

Conversely the minimum number of midwives was found to be short by one as there were 64 midwives available in BEmONCs out of the 65 required in total. The results from this assessment show that midwives are relatively evenly distributed across districts except in the Western Area which had two more midwives than required. Four BEmONCs require one midwife each. These facilities are: Yoni CHC in Bonthe, Zimmi CHC in Pujehun, Yele CHC in Tonkolili district and Hastings CHC in Western Area Rural.

Staff distribution among SECHNs showed a very large inequity in terms of staff allocation with Western Area having 56 SECHNs while Kono had none in all 5 BEmONC facilities. Other districts which have been short-changed in terms of SECHN distribution were Bonthe (requiring 6), Koinadugu (requiring (7), Kailahun, Pujehun and Tonkolili (requiring 2 each), Kambia (requiring 9), Bombali (requiring 3) and Moyamba (requiring 5).

MCH Aides showed the largest gaps with facilities meeting only about half of the required number in all BEmONCs. Overall, there were 98 MCH Aides distributed in all BEmONCs with an outstanding total of 97 staff (49.7%) needed to fill the gap.

In general, there has been an improvement with the availability of required staff in BEmONC facilities. There should however be a special focus on improving staff welfare including accommodation to promote and sustain these gains.

Table 4: Staff Distribution in BEmONC Facilities

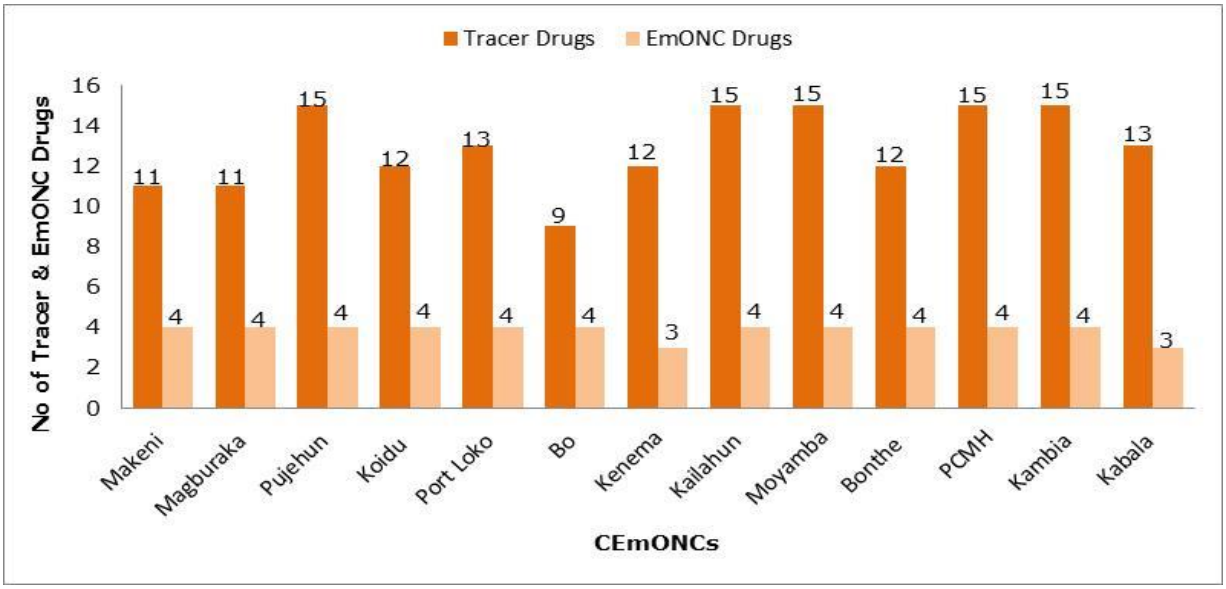
Staff Status in BEmONC Facilities												
District	**CHO**			**Midwives**			**SECHN/CHA**			**MCHAides**		
	Req	**Avail**	**Gap**	**Req**	**Avail**	**Gap**	**Req**	**Avail**	**Gap**	**Req**	**Avail**	**Gap**
Bo	5	6	**0**	5	5	**0**	10	15	**0**	15	10	**5**
Bonthe	5	3	**2**	5	4	**1**	10	4	**6**	15	3	**12**
Koinadugu	5	5	**0**	5	5	**0**	10	3	**7**	15	4	**11**
Kailahun	5	5	**0**	5	5	**0**	10	8	**2**	15	8	**7**
Kambia	5	5	**0**	5	5	**0**	10	1	**9**	15	7	**8**
Kenema	5	5	**0**	5	5	**0**	10	10	**0**	15	7	**8**
Kono	5	5	**0**	5	5	**0**	10	0	**10**	15	6	**9**
Tonkolili	5	5	**0**	5	4	**1**	10	8	**2**	15	6	**9**
Bombali	5	4	**1**	5	5	**0**	10	7	**3**	15	4	**11**
Moyamba	5	5	**0**	5	5	**0**	10	5	**5**	15	9	**6**
Western Area	5	10	**0**	5	7	**0**	10	54	**0**	15	15	**0**
Port Loko	5	5	**0**	5	5	**0**	10	12	**0**	15	9	**6**
Pujehun	5	5	**0**	5	4	**1**	10	8	**2**	15	10	**5**
Total	***65***	***68***	***3***	***65***	***64***	***3***	***130***	***135***	***46***	***195***	***98***	***97***

3.8 Drugs and Supplies

ACCESS to essential medicines is vital for the smooth functioning of the health system. Essential Medicine as defined by the World Health Organization (WHO) are those drugs that satisfy the health care needs of the majority of the population; they should therefore be available at all times in adequate amounts (WHO,2012). In Sierra Leone, fifteen products have been identified to be needed and made available within the context of a functioning health system at all times in adequate amounts and appropriate storage. These are monitored as tracers which is an indicator of quality in terms of the availability of drugs. In addition to these, there are four lifesaving EmONC drugs: Calcium gluconate, anticonvulsants, parenteral antibiotics and oxytocics. The criteria for assessing drugs and supplies are the availability of 3 and 2 months' supply of the 15 tracer drugs, EmONC drugs plus the presence of appropriate storage facilities and cold chain storage of oxytocic drugs for CEmONCs and BEmONCs respectively.

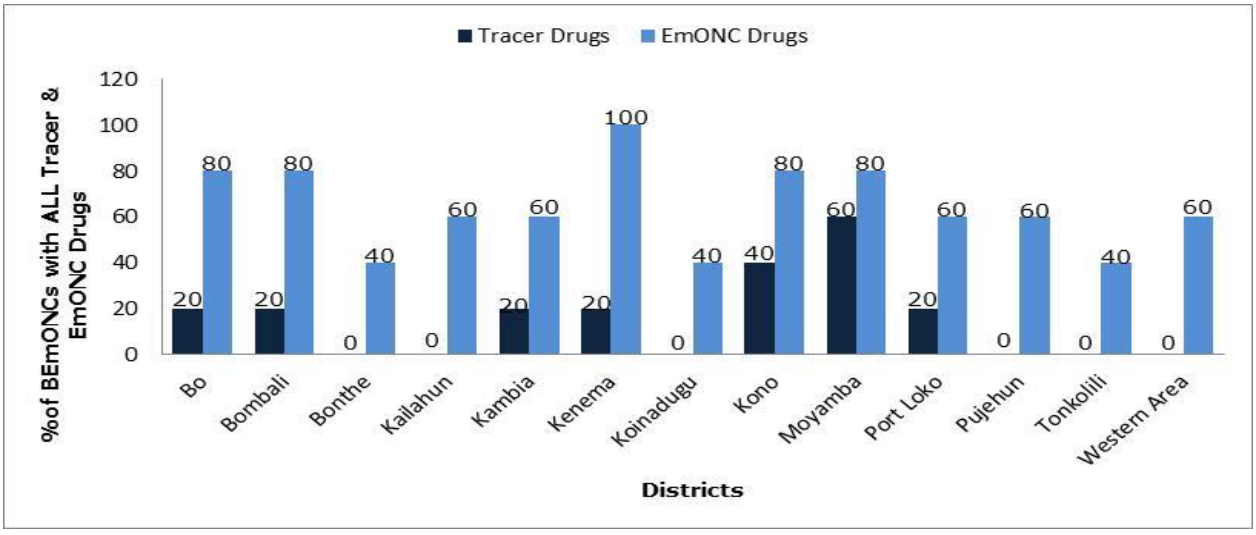
Findings from the assessment indicate that only 5 (38%) CEmONC facilities met the criteria for this enabler (PCMH, Pujehun, Moyamba, Kailahun and Kambia).

Figure 15: Number of Tracer and EmONC Drugs in CEmONCs



A similar achievement was observed in the BEmONCs with only 8 (12%) out of the 65 facilities that were compliant for this enabler. The facilities included Barmoi Munu in Kambia, Gandorhun and Sewafe in Kono, Jembeh in Bo, Rotifunk and Moyamba Junction in Moyamba, Levuma in Kenema and Kagbere in Bombali districts. Facilities that achieved red in this enabler are Sumbuya in Bo, Makali in Tonkolili, Kombayendeh in Kono districts and Hastings in the Western Area rural.

Figure 16: Percentage of BEmONCs Meeting Drugs Criteria



Obtaining drugs and supplies for EmONC in health facilities is still a challenge, despite their importance in the provision of quality EmONC. This contributes to poor quality maternal and child health services and consequently maternal deaths (Yeager, 2012). It is estimated that almost 99% of all maternal deaths occur in developing countries and these are mostly in women living in rural areas (WHO, 2012). Improving the drug supply chain management system will help to promote accountability and transparency in handling drugs and supplies and subsequently improve stock-out of drugs in facilities. The drugs which are mostly unavailable in the facilities are Ferous Sulphate and Folic Acid (Fefol) and Nevirapine.

3.9 Expanded

3.9.1 Deliveries in Health Facilities

Figure 17: Normal Deliveries and C-Sections in CEmONCs (July-November 2015)

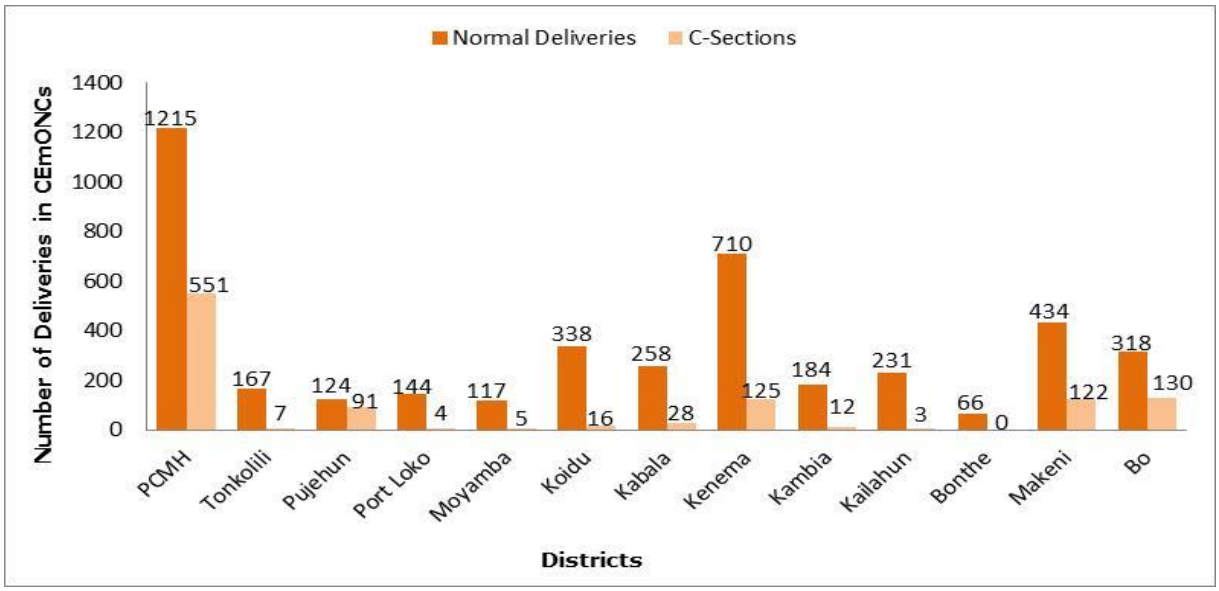


Figure 17 shows that PCMH had the highest caesarean sections followed by Bo, Kenema and Makeni all recording over 100 C-Sections over a five month period. This may probably due to the fact that PCMH is the only tertiary referral hospital for obstetrics in the Western Area, while Bo, Kenema and Makeni are the regional hospitals – the last points of call at the regional level. Pujehun hospital also has a high case load of caesarean section. This may be due to the fact that complicated cases from other districts in the Southern Region are referred to Pujehun due to the user friendliness of the Pujehun Maternity Hospital which has been greatly improved by the international NGO called Doctors with Africa.

Figure 18: Comparison of Deliveries b/w CEmONCs and BEmONCs (July – November 2015)

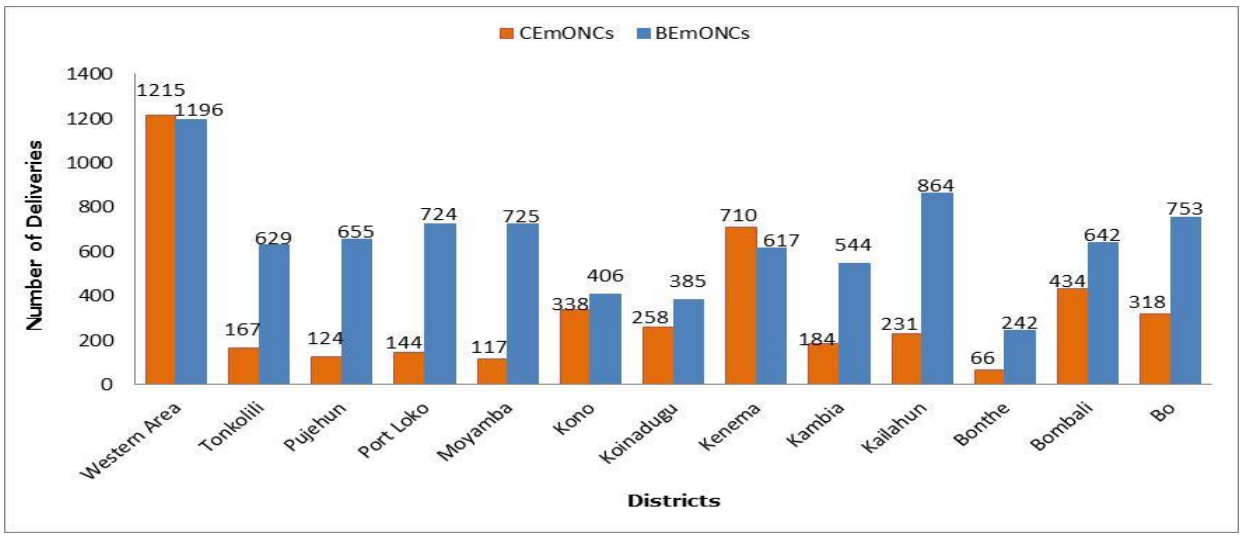


Figure 18 shows the picture of deliveries compared between CEmONCs and BEmONCs. Generally, there were more deliveries in BEmONCs than CEmONCs except for Western Area and Kenema Districts. Deliveries were also high in Bo, Moyamba and PortLoko districts. The high number of deliveries in BEmONCs may be attributed to the high number of skilled

attendants available now in BEmONCs who can handle normal deliveries while complicated cases are referred. This explains why caesarean section was high in hospitals.

3.9.2 Still Births

THE World Health Organisation defines still births as a baby born with no signs of life at or after 28 weeks' of gestation. It is an indicator to determine quality of care and rates usually correlate with access to maternal healthcare. Some causes of stillbirth include child birth complications, foetal growth restriction, post-term pregnancy and maternal infections in pregnancy such as malaria, syphilis and HIV. Data on still birth (Fresh and Macerated) combined for CEmONCs and BEmONCs collected for all districts for the period December 2014 to October 2015 indicated high rates in Western Area (34%), Kambia (13%), Tonkolili (8%), Kenema (8%) and Kailahun (7%).

Figure 19: Percentage of Still Births in CEmONCs and BEmONCs Combined (Dec 2014 – Oct 2015)

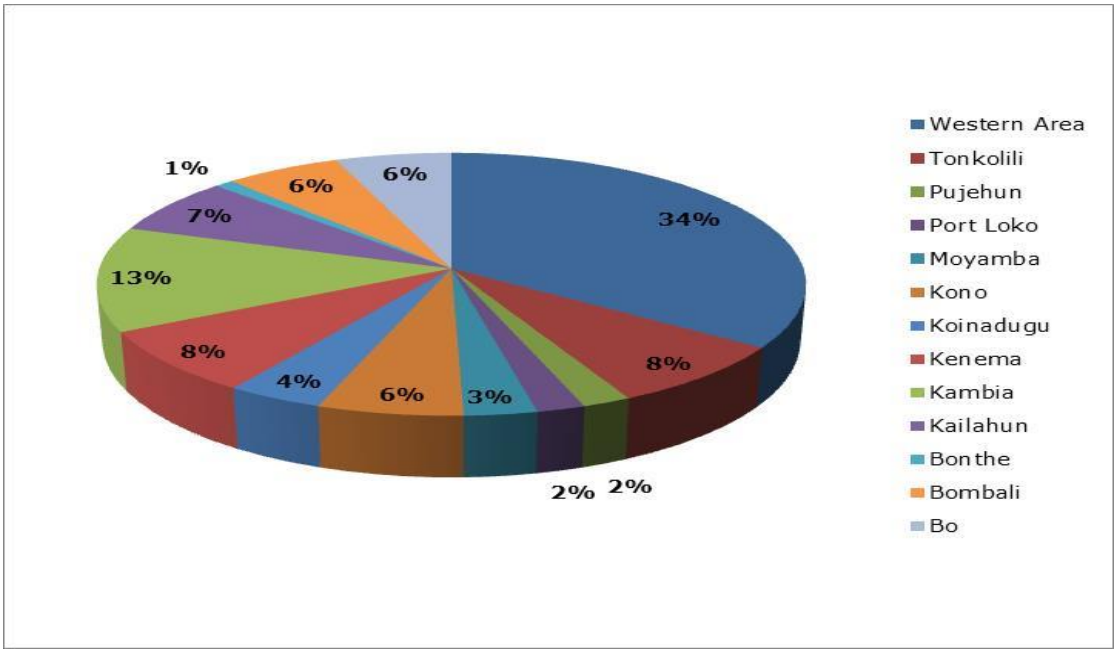
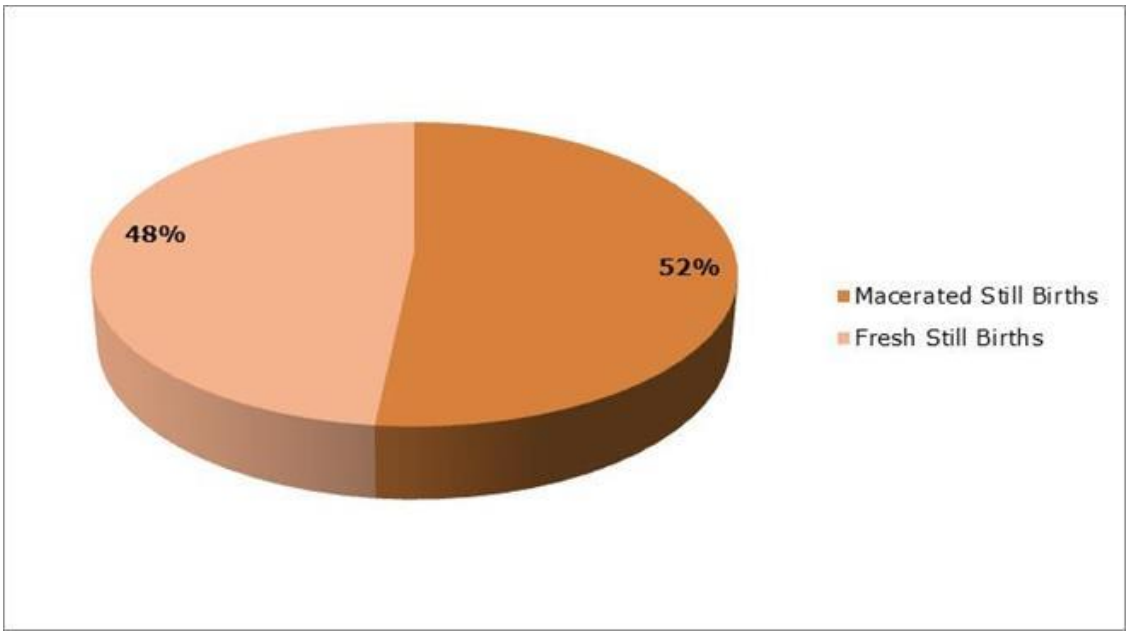


Figure 20: Comparison between FSB and MSB



There were 832 recorded cases of still births across the facilities assessed. The proportion of macerated still births (52%) is almost equal to fresh still births (48%). Bonthe was the only district with no reported case of still birth in all the facilities assessed. The high rate of fresh still births raises questions about the quality of care and access to maternal health services from health facilities.

4.0 Recommendations

- Facility Improvement Team assessment should be conducted more frequently quarterly to keep DHMTs, Local Councils and partners on their toes in taking appropriate actions to address gaps in health facilities
- The RCHD to be supported to conduct regular supportive supervision as part of follow up on actions agreed with health facility in-charges.
- DHMT/District council and NGOs should take greater effort in addressing gaps identified in CEmONC and BEmONC facilities to improve quality service delivery.
- The MoHS and partners should increase availability of key maternal health medicines, supplies, and equipment (such as delivery kits, manual vacuum extractors (MVEs) & manual vacuum aspirators (MVAs)) for EmONC services.
- The Directorate of Drugs and Medical Supplies should increase availability of misoprostol to Health facilities and distribute guidelines, protocols, and standards on misoprostol for PPH
- The RCHD should coordinate the conduct of refresher trainings for all Health Care providers on EmONC
- The MoHS should build public and private partnerships to address challenges in drug supply chain management.
- The MoHS should improve referral system by pre-positioning ambulances in hard to reach areas and ensure first line care before referral, care during transfer, appropriate and preferential treatment for referred cases at referral facilities.
- The MoHS through the Directorate of Hospital and Laboratory Services should train existing laboratory assistants in BEmONC facilities and equip laboratories to carry out basic haematology, microscopy and biochemistry.
- The Government should ensure safe supply of blood and blood products at national and district level, especially for saving lives of mothers who need comprehensive EmONC services because of pregnancy-related haemorrhage, severe anaemia, or abortions
- The MoHS and its partners to put in place motivating mechanism for midwives and other staff posted to BEmONC facilities such as proper accommodation
- The MoHS especially the RCH Directorate should be involved in the design, construction or rehabilitation of health facilities to ensure they meet the standards set for the seven enablers for each of the three levels of health facilities
- The RCH Programme should consider the use of technology (possible mobile health) in the conduct of FIT assessment. This will reduce paper use, reduce errors in data collection and also facilitate speedy analysis and reporting.
- The MoHS should focus on ensuring the availability of resources in all the 65 BEmONC and 13 CEmONC facilities to attain the desired EmONC status for improved service delivery instead of constructing new ones.
- Some of the issues identified in the FIT gap analysis can be addressed at the health facility level. Therefore health facility staff should judiciously utilize Performance Based Financing incentive for minor repairs and other issues which do not require huge cost instead of waiting for the DHMT and District Council.
- Options Consultancy should build the capacity of the RCH team to undertake FIT data inputting and analysis to reduce errors made by external data analyst.

5.0 References

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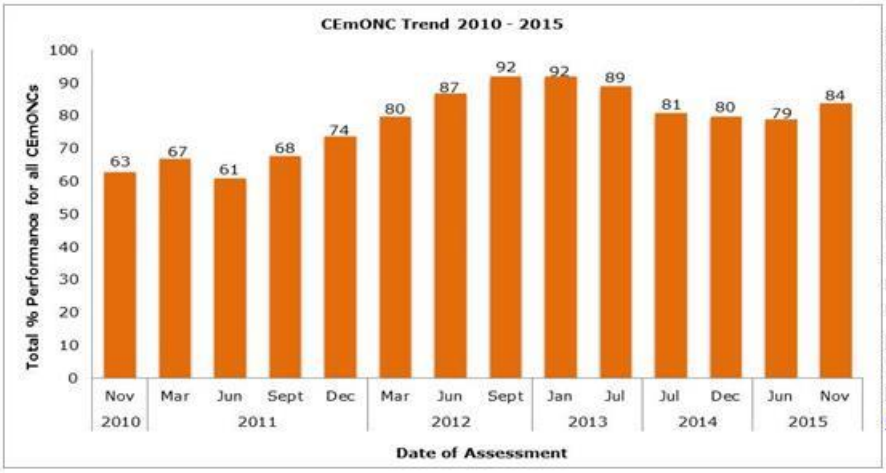
Annex 1: November 2015 CEmONC Ranking

Progress of selected Government Hospitals in achieving comprehensive emergency obstetric & neonatal care (CEmONC) status, November 2015

The Facility Improvement Team (FIT) assessments score selected health facilities, including Government Hospitals, on their readiness to provide quality EmONC based on whether they meet certain criteria for each of seven enablers ranging from water and sanitation to essential drugs. See over page for the details of these criteria. The criteria for a hospital is different to a community health centre (CHC) because hospitals are expected to perform complicated deliveries that need instrumental or operative procedures. Each facility is scored using the same traffic light colour system for each enabler as described on the scorecard for hospitals.

Performance rating	Score	Facility has:
Green	4	Met all criteria
Yellow	3	Mostly met criteria
Orange	2	Partially met criteria
Red	1	Not met criteria



Each facility is given an overall score. The image to the left shows the progress for all hospitals since the FIT assessments started based on the total scores of all enablers of the hospitals together (and expressed as a percentage).

See below for more details of how each hospital performed for each enabler using the traffic light rating and how each hospital ranked among all the hospitals assessed under the FIT.

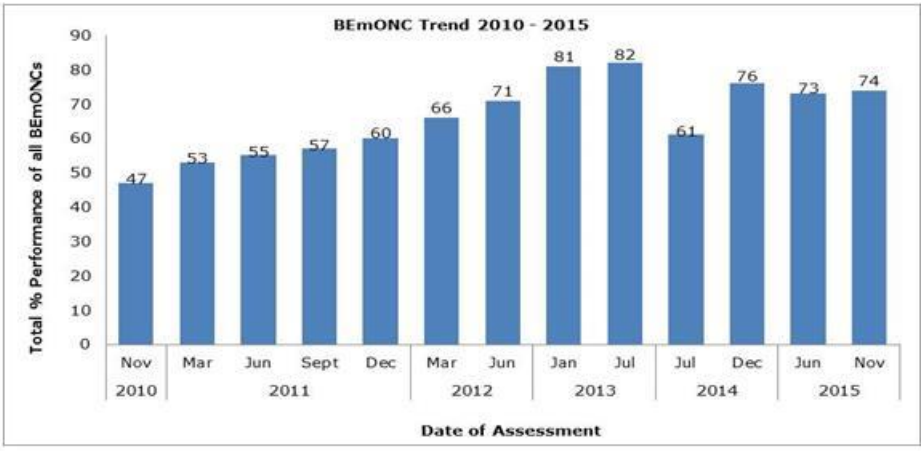
For more details, contact Dr. Santigie Sesay, Director, Reproductive & Child Health, MoHS Sierra Leone: sanniesay@gmail.com

FACILITY PERFORMANCE AGAINST ENABLERS	Ranking	Water & Sanitation	Electricity	Referrals	Equipment	Blood & Laboratory	Staffing	Drugs
Pujehun Govt. Hospital	1st							
Kailahun Govt. Hospital	2nd							
Makeni Govt. Hosp	3rd							
Koidu Govt. Hospital	4th							
PCM Hospital	4th							
Kenema Govt. Hospital	4th							
Kambia Govt. Hospital	4th							
Kabala Govt. Hospital	4th							
Moyamba Govt Hospital	4th							
Bo Govt. Hospital	10th							
Port Loko Govt. Hospital	10th							
Magbaruka Govt. Hospital	12th							
Bonthe Govt. Hospital	13th							

ENABLER	CRITERIA TO ACHIEVE GREEN STATUS FOR HOSPITALS
 Water & Sanitation	Water supply needs to be: • Safe (i.e. drinkable) • Piped and available in labour room, theatre toilet • Available 24 hours a day • Effectively drained from the facility • Functional hand washing facilities available in the labour ward, theatre & toilet Waste disposal: • Incinerator available • Waste bins for dry and wet waste with cover • Functional autoclave
 Electricity	Main source: Solar, Generator or Central Power that is available 24 hours daily, when needed Second source: available in labour room and operating theatre (minimum)
 Referrals	Transportation: • Availability of functional Ambulance 24 hours daily • Response time to PHU and back within 3 hours. • Dedicated medical personnel to accompany ambulance Communication: • Communications with cellular phone or VHF radio • 24 hour availability of communication
 Equipment for special procedures	Availability of functional equipment for the following procedures: • Assisted vaginal delivery • Manual removal of placenta • Resuscitation • Caesarean section • Blood Transfusion • Routine care • Removal of retained product of conception.
 Blood storage & handling & laboratory	Facility needs to have: • 24 hour powered blood bank (central power, generator, solar) • Blood present in the blood bank and / or no stock out for the past three months • Full laboratory service • Trained Lab Technician available 24 hours daily.
 Staffing	Staff to include at least: • 2 Doctors able to perform caesarean section (operative delivery) • 4 Midwives • 10 SRN/ SECHN • 2 Pharmacist / Technician / Assistant • 2 Lab Technician • 1 Nurse Anaesthetist • 5 Porters and/or Cleaners • 2 Ambulance drivers Plus Staff able to perform all procedures: manual vacuum extraction, removal of placenta, removal of products of conception, resuscitation.
 Drugs	At least a Three month supply of: • All 16 tracer drugs plus IV/IM ampicillin, gentamycin and calcium gluconate; • At least three months' supply of all Tracer consumables (e.g. syringes, cannulae, gloves, sutures) • Appropriate Storage facilities: separate room, cold room, off-ground, locked.

Annex 2: November 2015 BEmONC Ranking
Progress of selected Government Hospitals in achieving basic emergency obstetric & neonatal care (BEmONC) status, November 2015

The Facility Improvement Team (FIT) assessments score selected health facilities, including Community Health Centres (CHCs), on their readiness to provide quality EmONC based on whether they meet certain criteria (see back) for each of seven enablers ranging from water and sanitation to essential drugs. The criteria for a CHC is different to a hospital because CHCs are not expected to perform complicated deliveries that need instrumental or operative procedures. Each facility is scored using the same traffic light colour system for each enabler as described on the scorecard for hospitals.



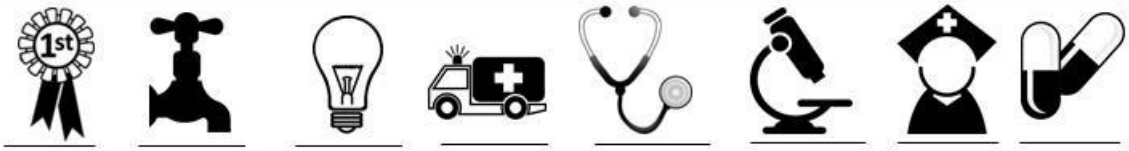
	Performance rating	Score	Facility has:
	Green	4	Met all criteria
	Yellow	3	Mostly met criteria
	Orange	2	Partially met criteria
	Red	1	Not met criteria

Each facility is given an overall score. The image above shows the progress since the FIT assessments started based on the total scores of all enablers of the CHCs together and expressed as a percentage. Data from September 2012 are excluded as only 26 facilities that fell under the President's Performance Contract were assessed in the rainy season.

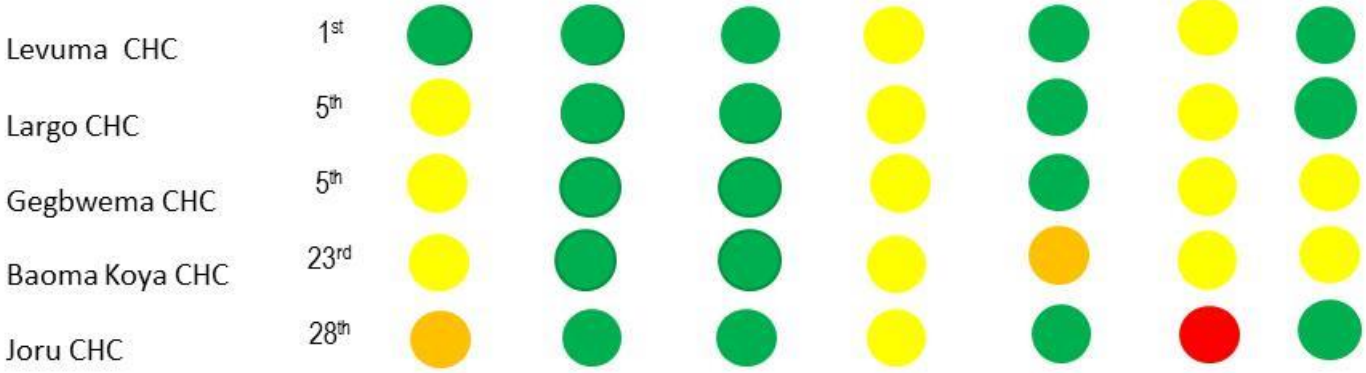
See below for more details of how each CHC performed for each enabler using the traffic light rating and how each CHC ranked among all the CHCs assessed under FIT.

For more details, contact Dr. Santigie Sesay, Director, Reproductive & Child Health, MoHS Sierra Leone; sanniesay@gmail.com

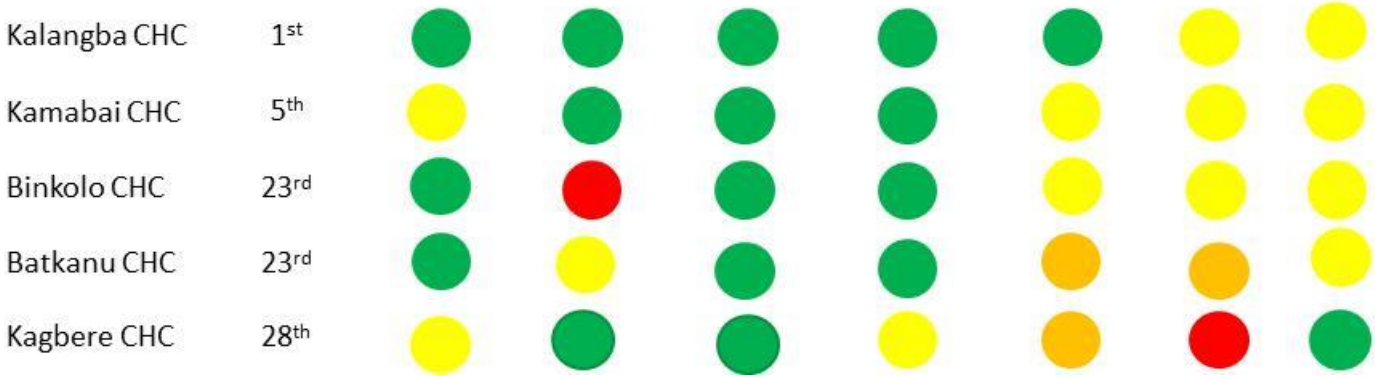
FACILITY PERFORMANCE AGAINST ENABLERS



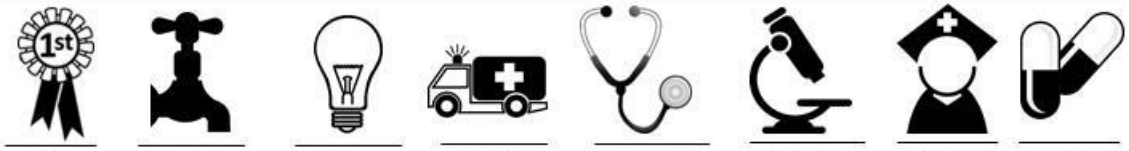
Kenema District, ranked **1st** among all districts (overall score 83.5%)



Bombali District, ranked **2nd** among all districts (overall score 82.0%)



FACILITY PERFORMANCE AGAINST ENABLERS



Kailahun District, ranked **3rd** among all districts (overall score 81.0%)

Daru CHC	5th	
Koindu CHC	12th	
Pendembu CHC	12th	
Buedu CHC	12th	
Jojoima CHC	28th	

Pujehun, ranked joint **4th** among all districts (overall score 75.7%)

Gbondapi CHC	12th	
Bumpe Peri CHC	28th	
Potoru CHC	28th	
Zimmi CHC	28th	
Sahn Malen CHC	40th	

Port Loko District, ranked joint **5th** among all districts (overall score 73.5%)

Petifu CHC	23rd	
Masiaka CHC	28th	
Mange CHC	40th	
Lunsar CHC	40th	
Rogbere CHC	40th	

Kambia ranked joint **5th** among all districts (overall score 73.5%)

Barmoi Munu CHC	3rd	
Mapotolo CHC	28th	
Mambolo CHC	12th	
Kukuna CHC	12th	
Kamasassa CHC	12th	

FACILITY PERFORMANCE AGAINST ENABLERS

Koinadugu District, ranked **7th** among all districts (overall score 72.8%)

Sinkunia CHC	5th							
Krubula CHC	40th							
Yiffin CHC	47th							
Mongo Bendugu CHC	47th							
Kondembaia CHC	40th							

Moyamba District, ranked **7th** among all districts (overall score 72.8%)

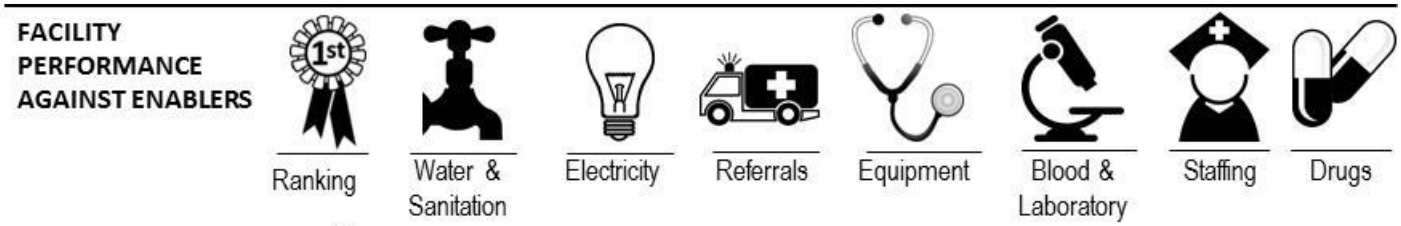
Rotifunk CHC	3rd							
Moyamba Junction CHC	12th							
Taiama CHC	47th							
Gbangbatuk CHC	51st							
Shenge CHC	56th							

Western Area ranked **9th** among all districts (overall score 71.4%)

Ross Road CHC	5th							
Waterloo CHC	12th							
Regent CHC	28th							
Goderich CHC	56th							
Hastings CHC	56th							

Tonkolili District, ranked **10th** among all districts (overall score 70.7%)

Bumbuna CHC	5th							
Hinistas CHC	23rd							
Masingbi CHC	28th							
Yele CHC	46th							
Makali CHC	65th							



Bo District, ranked **11th** among all districts (overall score 70.0%)

Jembe CHC	12th							
Koribondo CHC	12th							
Dambala CHC	56th							
Sumbuya CHC	51st							
Ngalu CHC	62nd							

Kono District, ranked **12th** among all districts (overall score 69.3%)

Gandorhun CHC	12th							
Sewafe CHC	23rd							
Kayima CHC	21st							
Kombayendeh CHc	54th							
Kangama CHC	63rd							

Bonthe District , ranked **13th** among all districts (overall score 57.9%)

Madina CHC	51st							
Gambia CHC	54th							
Tihun CHC	56th							
Yoni CHC	56th							
Benducha CHC	63rd							

ENABLER	CRITERIA TO ACHIEVE GREEN STATUS FOR COMMUNITY HEALTH CENTRES
 Water & Sanitation	Water supply needs to be: • Safe (i.e. drinkable) • Piped and available in labour room, theatre toilet • Available 24 hours a day • Effectively drained from the facility • Functional hand washing facilities available in the labour ward, theatre & toilet Waste disposal: • Incinerator available • Waste bins for dry and wet waste with cover • Functional autoclave
 Electricity	Main source: Solar, Generator or Central Power that is available 24 hours daily, when needed Second source: available in labour room (minimum)
 Referrals	Transportation: • Availability of functional Ambulance 24 hours daily • Response time to CHC to hospital and back within 3 hours. Communication: • Communications with cellular phone or VHF radio • 24 hour availability of communication
 Equipment for special procedures	Availability of functional equipment for the following procedures: • Assisted vaginal delivery • Manual removal of placenta • Resuscitation • Routine care • Removal of retained product of conception.
 Blood storage & handling & laboratory	Facility needs to have: • Full laboratory service • Trained Lab Technician available 24 hours daily.
 Staffing	Staff to include at least: • 1 CHO • 1 Midwives • 2 SECHN/ CHA • 3 MCHA • 1 Lab Technician/ assistant • 1 Porter/or Cleaner Plus Staff able to perform all procedures: manual vacuum extraction, removal of placenta, removal of products of conception, resuscitation.
 Drugs	At least a Three month supply of: • All 16 tracer drugs plus IV/IM ampicillin, gentamycin and calcium gluconate; • At least three months' supply of all Tracer consumables (e.g. syringes, cannulae, gloves, sutures) • Appropriate Storage facilities: separate room, cold room, off-ground, locked. • Oxytoxics kept in cold chain