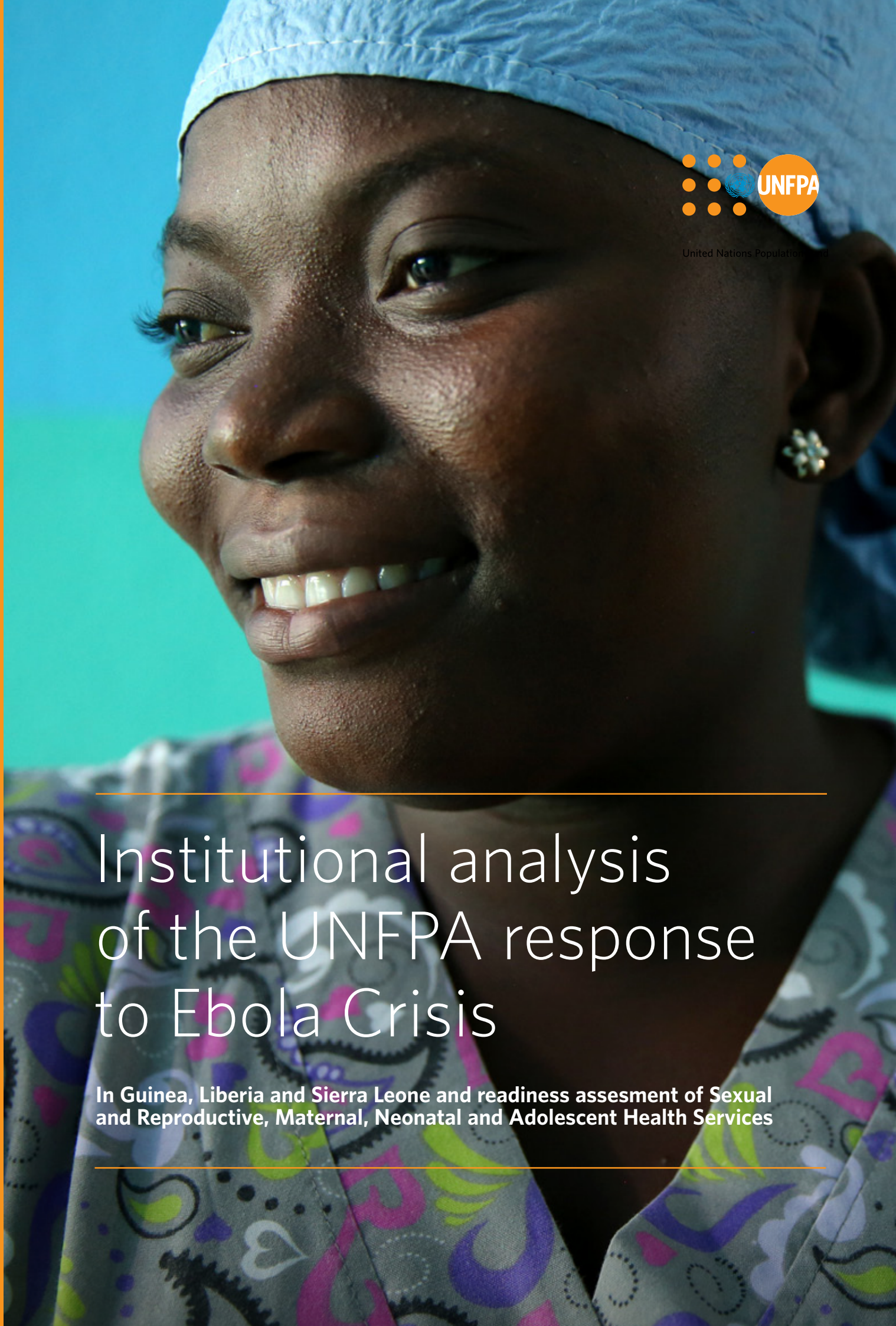

United Nations Population Fund

Institutional analysis of the UNFPA response to Ebola Crisis

In Guinea, Liberia and Sierra Leone and readiness assesment of Sexual and Reproductive, Maternal, Neonatal and Adolescent Health Services

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United Nations Population Fund

Abbreviation and acronyms

AAL: Action Aid Liberia
AMDD: Averting Maternal Death and Disability Programme
ANC: Antenatal Care
APA: Administrative Posting Area
ASRO: Arab States Regional Office
BEmONC: Basic Emergency Obstetric and Neonatal Care
CCTFA: County Contact Tracing Field Associates
CDC: Centre for Disease Control
CERF: Coordination of Emergency Recovery Fund
CHTs: County Health Teams
CO: Country Office
CPD: Country Programme Development
CPDs: Country Programme Documents
CSOs: Civil Society Organization
CTE: Contact Tracing Efforts
DCTFA: District Contact Tracing Associates
DERCS: District Ebola Response Committees
DFID: Department for International Development
DRC: Democratic Republic of Congo
ECOWAS: Economic Community of West African States
EmONC: Emergency Obstetric and Neonatal Care
ETU: Ebola Treatment Units
EVD: Ebola Virus Disease
FP: Family Planning
FTPs: Fast Track Policies and Procedures
GBV: Gender-based Violence
GDP: Gross Domestic Product
GERC: Global Ebola Response Coalition
GHC: Global Health Cluster
KC: Kangaroo Care
KP: Kangaroo Practice
HF: Health Facility
HFAC: Health for All Coalition
HQ: Headquarters
IASC: Inter-Agency Standing Committee
ICSC: International Civil Service Commissioner
IEC: Information Education and Communication
IHR: International Health Regulations
IMS: Incident Management System
IPC: Infection Prevention Control
ITs: Information Technologies
M&E: Monitoring and Evaluation
MDG: Millennium Development Goals
MDSR: Maternal Deaths Surveillance and Response
MH: Maternal Health
MISP: Minimum Initial Service Package
MNBHS: Maternal and Newborn Health Services
MNCH: Maternal and Neonatal Care Health
MoH: Ministry of Health
MoHS: Ministry of Health and Sanitation
MSF: Médecin sans Frontière
NERC: National Ebola Response Centre
NGO: Non-Governmental Organization
NIMS: National Incident Management Systems
OCHA: Office of Humanitarian Coordination Affairs
OFL: Office of the First Lady
OSCs: One Stop Centres
PD: Programme Directorate
PHEIC: Public Health Emergency of International Concern
PHU: Primary Health Unit
PMTCT: Prevention of Mother to Child Contamination Treatment
PPAL: Planned Parenthood Association of Liberia
PPE: Personal Protection Equipment
R&R: Rest and Recuperation
RDT: Regional Directors Team
RH: Reproductive Health
SGBV: Sexual and Gender-based Violence
SIDA: Swedish International Development Agency
SOPs: Standard Operating Procedures
SRH: Sexual Reproductive Health
SRMNAH: Sexual and Reproductive Maternal Neonatal and Adolescent Health
SRMNH: Sexual Reproductive Maternal and Newborn Health
STI: Sexually Transmitted Infection
TBA: Traditional Birth Attendant
TTMs: Train Traditional Midwives
UNCT: United Nations Country Team
UNDAF: United National Development Assistance Framework
UNFPA: United Nations Population Fund
UNICEF: United Nations Children's Funds
UNMEER: United Nations Mission for Ebola Emergency Response
UNOPS: United Nations Office for Project Services
UNV: United Nations Volunteer
WB: World Bank
WCARO: West Central Africa Regional Office
WHO: World Health Organization

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0 Executive summary

Introduction

This assessment was requested by the three post-Ebola countries and commissioned by UNFPA West and Central Africa Regional Office (WCARO). It analysed UNFPA's institutional response to the 2014-15 Ebola outbreak in Sierra Leone, Guinea and Liberia and conducted a readiness assessment for sexual and reproductive, maternal, neonatal and adolescent health services at the border areas between these three countries. The assessment was undertaken between July and August 2016.

The assessment's specific objectives were to:

- Document UNFPA's strategic decisions and catalytic interventions in the response, in order to draw lessons and determine the way forward in case of future outbreak and/or any similar health crisis – as well as inform recovery phase contributions.
- Assess access to integrated sexual and reproductive maternal, neonatal and adolescent health (SRMNAH) at cross border areas of Guinea, Liberia and Sierra Leone.
- Assess the availability, distribution, use and quality of services for integrated SRMNAH in general and emergency obstetric and neonatal care (EmONC) in particular.
- Suggest corrective actions regarding access to SRMNAH services and EmONC services in the context of strengthening the health system to adequately respond to emergencies/crisis at the cross borders of the three countries.

This assessment was undertaken through desk review, key informant interviews, Ebola-affected individuals' testimonies and health facility assessment, using EmONC tools. The evaluation team interviewed UNFPA staff in the three country offices and at the regional and headquarter offices, other UN Agencies, UNFPA partners, donors, field teams (including contact tracers), health management teams, health workers and local leaders.

Testimonies of Ebola Virus Disease (EVD) survivors were also collected. While at country offices and in the field, the team observed the commodities, equipment and measures put in place for contact tracing and infection prevention control, as well as crucial logistics such as bicycles, motorbikes and ambulances.

SRMNAH services' readiness was assessed using data from various registers (for example, delivery ward, operating theatre, obstetric ward) for quantitative performance. Population data on the catchment area was collected to estimate expected deliveries and level of utilization of the services. Existing literature, guidelines and reports were also scrutinized. Data were also collected through field visits for direct observation, face-to-face interviews with UNFPA staff, local authorities and health workers, and questionnaires or modules adapted from the WCARO model and the Averting Maternal Death and Disability Programme (comprising nine modules).

Findings

The analysis of the UNFPA institutional response to the EVD outbreak found:

1. UNFPA HQ placed UNFPA at the centre of international decision making by participating in strategic meetings in New York and using this information to improve internal decisions. The HQ also coordinated the decision on whether and how UNFPA should respond to the outbreak.
2. The UNFPA response was more coordinated because of a decentralization of the decision-making process to regional level, closer to the affected countries. The regional office regularly consulted and communicated with country offices to monitor and review the rapidly evolving situation.
3. The WCARO office, despite being newly established with limited staff and resources to meet country office demands, provided an improved regional coordination to the response. It participated in the Regional Directors team meetings on EVD response, established a steering committee on EVD and chaired an Ebola Cell to review progress of the UNFPA response. It also conducted political advocacy to encourage and support the African Union and ECOWAS to take leadership of the response.
4. The provision of human and financial support was not adequate. The huge need at country level could not be met despite the deployment of technical experts to Guinea, Liberia and Sierra Leone and financial support from the OCHA-CERF and WCARO Emergency Fund. Country offices also complemented financial resources with in-country resource mobilization.
5. UNFPA maintained regional visibility in the response. It seconded a staff member to the United Nations Mission for Ebola Emergency Response (UNMEER) and successfully presented a case to lead contact tracing. It also participated in key UNMEER meetings.

6. Capacity limitations impacted on the UNFPA response. UNFPA is a lean organization and does not have the human and financial capacity of some of the larger UN Agencies. Hence, UNFPA could not deploy a large contingent of international staff and travel restrictions in the region further limited the support provided.

7. Emergency response policies contributed to the effectiveness of UNFPA's response. For instance, the reprogramming policy was applied to redirect resources and commence contact tracing in time; fast track policies provided flexibility to recruit staff and procure required supplies on time; and the project advance payment policy enabled country offices to manage funds and make payments to field teams despite non-existent banking services. However, the surge policy did not work as well as anticipated and few staff volunteered to be deployed to the EVD countries.

8. The three country offices were not adequately prepared to respond to an emergency. The outbreak underlined the need to mainstream and cascade emergency preparedness and response plans. They are in place but not sufficiently understood at country level.

9. There was a well managed, effective and visible UNFPA response at country level. The three countries offices led contact tracing, which has been credited as making a significant contribution to preventing transmission of the virus. Other responses included ensuring continuity of maternal, sexual reproductive, and sexual and gender-based violence services during the crisis. Most of the health facilities closed during the crisis and UNFPA deployed various measures to ensure service continuity, including re-opening of the facilities.

10. Communication was a key component of the UNFPA response although it was limited by inadequate human and financial resources. Information was shared internally through situation reports and externally through various channels including social media, websites and presentation of reports in key meetings. UNFPA was also part of the national communication teams that developed messages to increase awareness and health change behaviour among communities.

11. UNFPA's coordination and cooperation with partners, including civil society and government, was greatly appreciated by the three countries' governments. Its response was coordinated and delivered within each government's EVD response structure. The organization also contracted civil society organizations to support contact tracing.

12. UNFPA continues to play a key role in the recovery phase. The organization is a key partner of governments in developing the health sector recovery plan and ensuring sexual and reproductive and maternal health services are 'built back better' using lessons learnt. UNFPA is working closely with government in assessing health service needs and developing strategies to build a resilient health system.

13. The assessment of the readiness of the SRMNAH services found that health facilities lack some basic and pertinent infection control and hygiene facilities as well as equipment. These include lack of sanitation facilities such as toilets, safe water sources and reliable power supplies. The facilities do not have adequate staff and existing staff are not effectively trained. As a result they are unable to use some of the equipment in the facilities. Management at the facilities is poor with substandard quality services monitoring; limited evidence of data-driven decision making; and non-collection of some critical data sets, which are not being included in registers.

Conclusions

The analysis derived the following key conclusions:

Conclusions on the analysis of UNFPA institutional response to EVD

I. UNFPA's role as a lead agency for contact tracing was critical in contributing to stopping EVD transmission. This role was well recognized and appreciated by governments in the three countries. UNFPA should now make a decision as to whether contact tracing is mainstreamed as part of its role during health emergencies.

II. UNFPA priority populations were most affected during the EVD outbreak. This calls for UNFPA to be better prepared to ensure service continuity for these groups in emergencies.

III. The EVD outbreak underscored the frontline role of communities in responding to emergencies. Emergency preparedness needs to include strengthening community health systems to ensure community structures are well trained and linked to the public health system.

IV. The UNFPA response to Ebola at regional and international level revealed the importance of being at the centre of high-level decision making processes.

V. The EVD outbreak provided an opportunity for UNFPA to test its emergency plans and policies and to learn lessons. The lessons learnt should be applied to improve its emergency preparedness.

VI. Most staff interviewed felt UNFPA is not emergency oriented and preparedness for emergency response is not adequate. They noted the need for UNFPA to be better prepared for future emergencies.

VII. The Ebola response brought out the need for UNFPA to respond in a unified manner at all levels (country, regional and headquarters).

Conclusions on the SRMNAH services readiness assessment

I. The assessment revealed a number of good practices with targeted support from UNFPA during and after the outbreak. The cross border areas of Guinea, Liberia and Sierra Leone are well covered in integrated SRMNAH services. However, a relative physical and geographical barrier exists and can explain maternal and newborn deaths related to 'second delay'[1].

II. Infrastructure was not always adequate but mostly in a non-medical sense, including space, running water, electricity and communications means (for example, poor roads and no working telephone).

III. Human resources remain a major issue and all health facilities are understaffed. UNFPA is addressing this by supporting training and financially supporting health ministries to hire midwives.

IV. Re-examining UNFPA investments could be worthwhile. Community activities such as maternal death and disability monitoring are essential but other approaches such as focusing on referrals to CEmONC hospitals could potentially have a quick impact on the 'third delay'[2]. Health centres should be mentored by district hospitals, under the responsibility of the country authority. The first and second delays are mainly community and administration related, while the third is mostly health system related. This approach is also supported by the overall high (more than one percent) maternal mortality in the region.

1. Delay in reaching care due to: distance to health centres and hospitals; availability of and cost of transportation; poor roads and infrastructure, geography (for example, mountainous terrain, rivers). (Thaddeus and Maine)

2. Delay in receiving adequate health care due to: poor facilities and lack of medical supplies;, inadequately trained and poorly motivated medical staff; inadequate referral systems. (Thaddeus and Maine)

Recommendations

The following recommendations are drawn from the views of those interviewed, as well as analysis of the findings.

Recommendations for strengthening UNFPA institutional emergency preparedness and response

I. Improve decision-making and communication during emergencies by establishing fast-tracked decision making processes for senior leadership at country, regional and headquarter levels that can be activated in times of emergency.

II. Strengthen emergency coordination mechanisms by designating a full-time coordinator to focus on the UNFPA response for each specific emergency.

III. Establish logistics capability to complement existing procurement and supplies capacity. The focus should be on efficient movement of supplies to the front line during emergencies.

IV. Strengthen emergency preparedness at country level by considering the following recommendations:

- Disseminate existing emergency plans and guidelines to country offices to ensure they are prepared.
- Build the emergency response capacity of UNFPA partners such as NGOs.
- Conduct a mapping of potential partners at country level and build partnerships with the identified organizations.
- Develop country contingency plans.
- Conduct periodic emergency response simulations to assess the level of preparedness.

V. Strengthen UNFPA surge by considering the following actions:

- Review policies for activation and deployment of staff on the surge roster to ensure clarity on the role of line managers; replacement or back up for the positions of deployed staff; and medical care, evacuation, security and remuneration.
- Periodically train staff on the surge to build and refresh their skills in emergency response.
- Establish a deployment strategy to pair experienced with less-experienced staff during an emergency response.
- Invest in building partnerships with other organizations so that UNFPA's internal surge can be boosted by an external surge to overcome the issue of UNFPA's lean structure.

VI. Integrate emergency preparedness and response in programming by considering the following actions:

- Develop a tool for assessing the core capacities for emergency preparedness for maternal health and sexual reproductive health service delivery and sexual and gender-based violence at country level.
- Apply this tool to conduct emergency preparedness assessments to identify capacity gaps at country level.
- Based on the gaps identified, integrate relevant capacity building into UNFPA programming.

VII. Strengthen staff capacity in emergency response by considering the following actions:

- Ensure new staff in selected positions have an emergency background by integrating knowledge, skills and experience in emergency response into staff recruitment process.

— Develop and implement an emergency response skills development programme for staff. Develop a resource mobilization strategy for emergency preparedness and response in times of peace.

Recommendations for SRMNAH service improvement

Maternal mortality ratio as a proxy indicator for quality of care can help design changes for improvement. To provide adequate SRMNAH quality care services, there is a need for accurate data, corresponding planning and process indicators as well as adequate input (well-trained and motivated staff, adequate equipment, ethical staff attitudes and evaluation).

The following recommendations are

1. Maintain leadership in SRMNAH at national level and beyond.
2. Support the MoH to get standardized norms for health facilities and continuous improvement culture.
3. Ensure equipment based on the essential package required for each level.
4. Health facility accreditation system to monitor and improve quality of services.
5. Make inventory of missing services and react accordingly.
6. Support planning for resources for health, along with medical education institutions.
7. Prioritize investments in upgrading CEmONC health facilities for high impact.
8. Participate in publishable research.

1 Introduction

1.1 Background

The 2014-15 Ebola Virus Disease (EVD) outbreak in West Africa was the largest, most complex outbreak since the virus was first discovered in 1976. There were more cases and deaths in this outbreak than all others combined. The outbreak started in Guinea then spread across land borders to Sierra Leone and Liberia. It later reached Nigeria, Senegal and Mali. The most severely affected countries - Guinea, Liberia and Sierra Leone - have very weak health systems, a lack of human and infrastructural resources and have only recently emerged from long periods of conflict and instability.

The World Health Organization (WHO) declared the situation a Public Health Emergency of International Concern (PHEIC) on 8 August 2014[3]. The United Nations established the first-ever UN emergency health mission on 19 September 2014. The United Nations Mission for Ebola Emergency Response (UNMEER) played a critical role in scaling up the response on the ground and establishing unity of purpose among responders in support of nationally-led efforts[4]. The Global Ebola Response Coalition (GERC) was also established as a diverse group with the common purpose of ending the outbreak and providing strategic coordination of the response. The GERC included representatives of the most affected countries, bilateral and multilateral donors, non-governmental organizations (NGOs) and UN agencies and foundations. The United Nations Population Fund (UNFPA) was an active member of the GERC.

As of 16 March 2016, there had been a total of up to 28,603 reported confirmed, probable and suspected cases of EVD in Guinea, Liberia, and Sierra Leone, with 11,301 reported deaths[5].

UNFPA, alongside other organizations, was involved from the start of the outbreak, initially in the response and later as part of the recovery phase. UNFPA country offices (COs)

3. http://who.int/csr/disease/ebola/faq-ebola/en/

4. http://ebolaresponse.un.org/un-mission-ebola-emergency-response-unmeer

5. http://apps.who.int/ebola/current-situation/ebola-situation-report-2-september-2015 and http://apps.who.int/ebola/ebola-situation-reports

quickly committed to leading contact tracing efforts, supporting community engagement and awareness, and maintaining the continuity of sexual and reproductive health services.

They also actively participated in the design of the recovery programme, putting young people and women's issues at the core of the agenda and an emphasis on rebuilding resilient health systems with sexual and reproductive health as an entry point.

At the regional level, WCARO provided financial, technical, programmatic and human resources. It gave logistics support to the affected countries including swiftly mobilizing personal protection equipment (PPE) from unaffected countries in the region to assist those affected. The Programme Directorate (PD) quickly provided financial support to support data analysis, while the headquarters (HQ) provided overall strategic support and guidance as well as advocacy and technical support.

Although several documentations were made at country, regional and global level on the impact of EVD on women's and adolescent girls' health and lives and on the economy, and although several evaluations of the EVD response have been conducted, there is also a need to document within UNFPA the rationale and contexts of its own leadership and teams in the three countries. This is to:

I. understand the strategic decisions,

II. document the catalytic interventions, and

III. provide lessons and a way forward for UNFPA preparedness and management of similar crises in the future.

1.2 Objectives

The objectives of this analysis were to:

- Document UNFPA's strategic decisions and catalytic interventions in the response, in order to draw lessons and determine the way forward in case of a future outbreak and/or any similar health crisis. It also outlines the organization's contribution to the recovery phase. This documentation focused on institutional policies, strategies and activities implemented in response to the EVD outbreak. It also looked at innovations, perceptions of partners, communication and UNFPA involvement in the recovery stage.
- Assess access (availability and usage) to integrated SRMNAH at the cross border areas of Guinea, Liberia and Sierra Leone.
- Assess the availability, distribution, use and quality of services for integrated SRMNAH in general, and EmONC in particular.

- Suggest corrective actions regarding access to SRMNAH services and EmONC services in the context of strengthening the health system to adequately respond to emergencies and/or crisis at the cross borders of the three countries.

1.3 Methodology

This analysis was undertaken through desk review, key informant interviews, collecting testimonies of individuals affected by Ebola, and health facility assessment using the standardized EmONC tool. The team held consultations with WCARO and country focal persons during the preparatory stage to harmonize expectations and understanding of the assessment objectives and methodology.

This was followed by an initial review of documents relevant to the assessment. The evaluation team developed an inception report which detailed the preliminary findings from the documents review, methodology, data collection tools and fieldwork plan.

The institutional and EmONC assessments were carried out concurrently. The team undertook mission to each of the countries: Sierra Leone and Guinea from 31 July to 6 August 2016; WCARO in Dakar from 7 to 17 August 2016; and Liberia from 24 to 30 August 2016.

At the country level, the evaluation team conducted in-depth key informant interviews. The team interviewed UNFPA CO staff, other UN agencies and UNFPA partners, including ministries of health and in-country donors who funded the UNFPA response to Ebola.

The team visited counties and districts to interview contact-tracing coordinators and tracers, health management teams, health workers and to assess health facilities for maternal and neonatal care health (MNCH) services. The team also met and collected testimonies of some EVD survivors.

While at COs and in the field, the team observed the commodities, equipment and measures put in place for contact tracing and infection prevention control (IPC) as well as crucial logistics such as bicycles, motorbikes and ambulances.
The SRMNAH component assessed the capacity of cross border health facilities, used by nationals of various countries, to provide women and newborns with the care needed during pregnancy, childbirth or the postpartum period. For this component of the assessment, the UNFPA staff at country and regional offices, administrative authorities, health workers and Ebola survivors were also interviewed.

Other data sources included various registers (for example, delivery ward, operating theatre, obstetric ward) for quantitative performance; collecting population data on the catchment area to estimate expected deliveries and level of service utilization; and existing literature, guidelines and reports.

Data was collected during field visits via direct observation, face-to-face interviews with UNFPA staff, local authorities and health workers, and questionnaires or modules adapted from WCARO model and AMDD (comprising nine modules).

The questionnaires administered covered the following areas: identification of facility and infrastructure; human resources; essential drugs and equipment and supplies; EmONC signal functions and other essential services; partograph review, provider knowledge and competency for maternal and newborn care; caesarean delivery review (where applicable); and maternal death review.

The concept of the 'three delays', as defined by Thaddeus and Maine's article[6], was applied in reviewing the causes of maternal deaths:

1. Delay in decision to seek care due to: low status of women; poor understanding of complications and risk factors in pregnancy and when to seek medical help; previous poor experience of health care; acceptance of maternal death; financial implications.
2. Delay in reaching care due to: distance to health centres and hospitals; availability of and cost of transportation; poor roads and infrastructure, geography (for example, mountainous terrain, rivers).
3. Delay in receiving adequate health care due to: poor facilities and lack of medical supplies; inadequately trained and poorly motivated medical staff; inadequate referral systems.

6. Thaddeus S, Maine D. Too far to walk: maternal mortality in context. Soc Sci Med. 1994 Apr;38(8):1091-110.

At the regional level, interviews were held with WCARO and headquarters staff. Senior officers at UNFPA headquarters, former UNFPA staff at regional and country level who had moved to other duty stations, and staff seconded to COs as part of the surge, were interviewed electronically.

1.4 Structure of the report

Chapter 2 of this report explores the broad context in which UNFPA responded to the Ebola outbreak. It covers the health systems of these countries prior to the outbreak, the national responses structures and strategies put in place and the overall UN coordination mechanism established for the response. The review seeks to lay the groundwork for understanding the relevance of the UNFPA response.

Chapter 3 discusses the UNFPA institutional framework for responding to emergencies and how these were applied. Elements discussed include decision making and coordination of the response, emergency policies and procedures, as well as emergency strategies and plans.

Chapter 4, **5** and **6** describe the UNFPA response strategies and activities in Liberia, Sierra Leone and Guinea. This section provides details of the support UNFPA provided in each country, the overall achievements and challenges. This section also identifies the innovations adopted by UNFPA that can be scaled up or replicated in different situations.

Chapter 7 identifies UNFPA's contribution to the countries' recovery efforts and proposed improvements to its recovery phase response contribution.

Chapter 8 discusses the communication activities during the response and how communication can be leveraged for advocacy and resource mobilization; reviews the contribution of UNFPA partners to the response, their achievements and lessons; and outlines the perceptions of partners towards the UNFPA response.

Chapter 9 presents the findings of the EmONC assessment, focusing on the critical areas of MNCH services, including availability of key service elements such as human resources, drugs, infrastructure and service quality.

Chapter 10 is a synthesis of conclusions from the response, the recovery phase and provision of MNCH services, and the recommendations for UNFPA preparedness and response to future health emergencies.

Chapter 11 outlines the recommendations for institutional emergency preparedness and strengthening of SRMNAH services.

2 Context

2.1 General health profile prior to Ebola outbreak

Ebola was first identified in the Democratic Republic of Congo (DRC) and Sudan in 1976 and named after the Ebola River in northern Congo. It is a zoonotic disease transmitted from animals to people. Since 1976, there have been 20 EVD outbreaks in 12 countries, causing 1,548 deaths prior to the 2014-15 West Africa EVD outbreak[7]. This recent outbreak in West Africa, with its first case notified in March 2014, was the largest and most complex ever witnessed. There were more cases and deaths than in all others combined. There were an estimated 28,638 confirmed, probable and suspected cases, with 11,316 deaths as of 20 January 2018[8].

Prior to the outbreak, Guinea, Liberia and Sierra Leone were already performing poorly in key health indicators. They had high poverty levels, had not met the Millennium Development Goal (MDG) indicators (especially for maternal and child health) and maternal health service coverage was relatively low. The outbreak could have made the health indicators worse, as service delivery was negatively affected. Performance against the key demographic and health indicators is shown below.

7. Ebola Virus Disease, Centers for Disease Control and Prevention, 2015. Available at http:www.cdc/gov/vhf/ebola/index.html

8. Transmission dynamics of Ebola virus diseases and intervention effectiveness in Sierra Leone, Li-Qun Fang et.al, 2016

Table1: Performance against the key demographic and health indicators

Demographic and health indicators	Year	Guinea	Sierra Leone	Liberia
Total population (millions)	2012	11.451	5.979	4.19
Percentage of population living under USD 1 a day (absolute poverty)	2012	43.3	—	83.8
Life expectancy at birth (years)	2012	58.0	46.0	62.0
Adult mortality (probability of dying between age 15 and 60 years per 1000 population)	2012	291.0	435.0	263.0
Maternal mortality ratio (per 100,000 live births)	2013	650.0	1,100.0	640.0
Under five mortality rate (deaths per 1,000 live births)	2013	302.0	482.0	213.0
Infant mortality rate (probability of dying between birth and one year, per 1000 live births)	2013	65.0	107.0	54.0
Contraceptive use (6%)	2013	6.0	17.0	11.0
Unmet need for family planning (%)	2013	22.0	27.0	36.0
Women aged 20-24 married before age 18 (%)	2013	52.0	44.0	38.0
Total fertility rate	2012	5.0	5.0	5.0
Births attended by skilled health personnel (%)	2013	45.0	61.0	61.0
Antenatal care coverage at least one visit (%)	2013	85.0	91.0	96.0

Source: WHO Africa Observatory

The EVD outbreak was fought within a weak governance and health systems infrastructure. WHO's minimum expected spending on primary health care per person per year is USD 44. All the three countries affected by EVD outbreak spent considerably less than this amount. Expenditure per person per year on health is USD 9 for Guinea, USD 16 for Sierra Leone and USD 20 for Liberia. Out-of-pocket expenditure as a proportion of total health funding was estimated at 66 per cent for Guinea, 76 per cent for Sierra Leone and 21 per cent for Liberia[9].

9. A Wake-up-call lessons from Ebola for the world's health systems, Save the Children. http://www.savethechildren.org.uk/sites/default/files/images/A-Wake-Up.Call.pdf

Table 2: Health financing and health workforce in Guinea, Liberia and Sierra Leone

Health systems selected indicators	Year	Guinea	Sierra Leone	Liberia
Health financing				
General government expenditure on health as a percentage of GDP	2012	1.77	2.5	4.6
General government expenditure on health as a percentage of total expenditure on health	2012	28.14	16.6	29.8
External resources for health as a percentage of total expenditure on health	2012	10,3	13.2	34.6
Out-of-pocket expenditure as a percentage of total expenditure on health	2012	66.6	76.2	21.2
Health workforce				
Physicians density (per 1000 population)*	2005/2010/2008	0.1	0.02	0.0
Nursing and midwifery density (per 1000 population)	2005	0.5	0.17	0.3
Community and traditional health workers density (per 1000 population)	2005	0.018	0.02	0.0

* Guinea data is for 2005, Sierra Leone data is for 2010, and 2008 for Liberia
Source: WHO Africa Observatory

Prior to the outbreak, the three countries had not invested adequately in health systems and relied more on external resources and out-of-pocket expenditure. The health workforce was also not adequate. For instance, Guinea had only one health worker per 1,597 people and one public health institute with limited capacity. Liberia had one health worker per 3,472 people. Sierra Leone had one health worker per 5,319 people and 10,917 nurses and midwives[10]. The density of cadres (midwives, nurses and community health workers) that provide maternal and reproductive health services was also inadequate.

10. World Bank, Health expenditure, total (% of GDP) By country data.

The three countries' supply chain management for health products is hampered by poor road infrastructure (especially to rural areas), unsuitable storage, limited warehousing and poor inventory management, leading to frequent stock outs. Community engagement and linkage to health service delivery systems was weak. There were limited IPC commodities and generally poor quality of care. Laboratory and diagnostic services were limited in scope. When the EVD outbreak struck, a laboratory network had to be rapidly established for timely case identification. In short, the weak health system limited the capacity to respond in a timely, comprehensive and effective manner.

2.2 National responses to Ebola

Guinea notified WHO of the rapidly evolving EVD outbreak on 21 March 2014. The disease subsequently spread to neighbouring Liberia and Sierra Leone. Liberia formally declared an outbreak on 30 March 2014 while the first case of EVD in Sierra Leone was reported on 25 May 2014. After that there was an accelerated increase of cases reaching a total of 763 cases by 29 June 2014[11].

11. Strategy for accelerated response to Ebola outbreak in West Africa June-December 2014, WHO.

WHO's Regional Office for Africa convened a ministerial meeting for countries and partners in West Africa on 2 and 3 July 2014 to reach consensus on how to stop transmission. This meeting developed an overarching 'Strategy for Accelerated Response to Ebola Outbreak in West Africa'. The response to Ebola in Liberia, Sierra Leone and Guinea was anchored on this strategy. It had two goals: to stop transmission of EVD in the affected countries and to prevent the spread to neighbouring countries.

The strategy focused on three pillars: (i) immediate outbreak response interventions; (ii) enhanced coordination and collaboration; and (iii) scaling up of human and financial resource mobilization. Guided by this strategy, each of the three countries developed national response plans and coordination structures to meet their local conditions.

The Sierra Leone response was coordinated by the National Ebola Response Centre (NERC), which provided strategic leadership by working closely with the Ministry of Health and Sanitation (MoHS), other government bodies and international partners. NERC set up pillars responsible for technical aspects of the response. These included child protection and psychosocial support, case management, communications, logistics, safe burials, social mobilization, surveillance, coordination and food security. At district level, District Ebola Response Centres (DERC) were established to coordinate local responses. The DERCs coordinated all response operations and activities in the district.

Guinea and Liberia set up an Incident Management System (IMS) at the national and decentralized levels to coordinate the response. The IMS was led by an incident manager devoted to the EVD outbreak and had clear authority, accountability and structured working groups. IMS working groups established included case management, contract tracing, safe burials, surveillance, laboratory and social mobilization. The working groups were co-chaired by international partners.

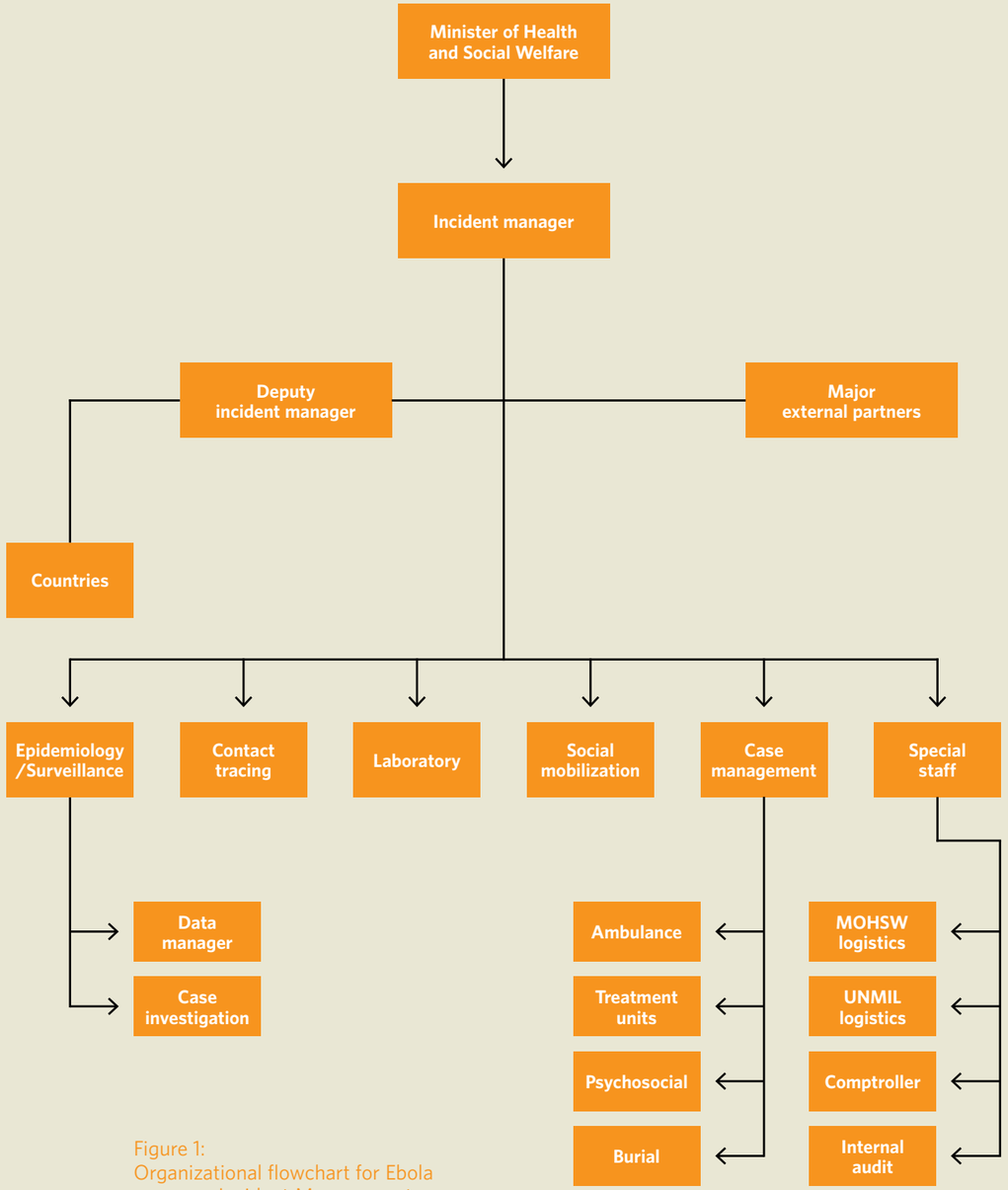


Figure 1:
Organizational flowchart for Ebola response Incident Management System, Liberia Ministry of Health and Social Welfare, August 2014.

The national response in the three countries adopted interlinked approaches to respond to the outbreak. The key approaches included:

I. contract tracing and active case finding of all persons who may have had contact with infected persons;

II. prompt identification and quarantine or isolation of infected persons to stop spread of the disease;

III. treatment and care of infected persons;

IV. safe burials of dead bodies of infected persons;

V. social mobilization and community engagement to support behaviour change;

VI. expansion of treatment infrastructure to increase survival rates; and

VII. ensuring safe health facilities and all other public places by implementing and providing IPC commodities including personal preventive equipment (PPEs).

The UNFPA response to Ebola was implemented within this institutional and implementation framework. This means that UNFPA had to collaborate and coordinate its activities with other partners within the institutions set up by governments and used the approaches already adopted by the countries to respond.

2.3 UN Coordination mechanism

The response of UN agencies, including UNFPA, was coordinated within the context of UNMEER. This mission was set up on 19 September 2014. It was the first ever UN mission set up specifically for a health emergency. UNMEER coordinated the responses of all UN agencies and also supported the three governments to respond effectively. It set up a regional coordination centre in Accra, Ghana, as well as in-country coordination mechanisms at the national and decentralized levels. Individual agencies provided reports on their responses to UNMEER for progress review and to inform decision making. Within this context, UNFPA collaborated with other UN agencies.

3 UNFPA institutional framework to respond to potential ebola or any other humanitarian crisis

UNFPA responded to the EVD outbreak within the following institutional context:

I. the UN response was coordinated within the UNMEER institutional framework ;

II. WCARO was newly established with few staff ;

III. the UN suspended the United National Development Assistance Framework (UNDAF) in the affected countries and UN agencies reprogrammed resources and capacities to support the EVD response ;

IV. UNFPA responded to the outbreak within a resource-constrained context ;

V. this was the first time UNFPA was involved in a complex health emergency ; and

VI. travel restrictions put in place in various countries in the region, including Senegal where WCARO is located, affected movement of staff - including no readmission to travelers from affected countries.

3.1 UNFPA Institutional Response

UNFPA headquarters strategic decision making and support

UNFPA headquarters was involved in intense discussions from the initial stages of the EVD outbreak. The HQ participated in the discussions that took place within the UN in the New York headquarters and was able to share, as well as receive, information on the overall UN response to the disease. Participation at this level was instrumental in having first hand and timely information that assisted in making internal decisions on UNFPA's response.

The HQ coordinated the discussion on whether UNFPA needed to be involved at all and, if it was to be involved, what could be its response. The advice of the COs to have UNFPA involved and to lead on contact tracing was discussed extensively before being accepted.

It also decided UNFPA must make every effort to ensure continuity of maternal and sexual reproductive health services.

The HQ also played a key role in fast tracking approvals for fast track procedures, as well as the use of financial management involving direct payments in areas with no banking services. The HQ was kept informed of the UNFPA response through reports and regular virtual meetings with the regional and COs.

The downside of the HQ response, observed by countries, was the limited in-country visits of the HQ staff to support country level staff and also gain firsthand knowledge of the context in which they operated and the challenges they faced. Countries also observed that some of the decisions on issues such as surge deployment took longer than expected, leading to delays in deployment.

Decentralized decision making and authority

The nature of the response to EVD evolved rapidly as partners learnt lessons. As a result, UNFPA delegated the decision making and coordination of the EVD response to WCARO. The regional office engaged with other UN agencies and partners, and also made decisions in consultations with COs. Decisions were made rapidly through telephone or electronic consultations between the HQ, regional office and senior staff in the COs. This facilitated a rapid response by COs.

Regional visibility and being at the centre of the response

UNFPA maintained regional visibility and positioned itself at the centre of the EVD response through the following measures:

I. secondment of a member of staff to the UNMEER secretariat in Accra, Ghana. The staff member contributed to the overall coordination of the UN response and also strengthened UNFPA's visibility and its link to UNMEER through regular communication;

II. presentation of a business case to UNMEER on the rational for contact tracing and the need for restoration of maternal health services. UNMEER adopted this business case and consolidated UNFPA's lead role in contact tracing during the EVD response; and

III. participation of the WCARO director and CO directors in UNMEER regional meetings to provide updates on the UNFPA response and contribute to the decision-making process.

Regional level coordination of the UNFPA response

The WCARO office was being set up at the time of the EVD outbreak. It had few staff and limited resources at the time. However, the office made efforts to respond to the outbreak within its capacity limitations. It played a key role in coordination of the response at the regional level. Specific coordination efforts were as follows:

I. participation in the regional directors team (RDT) meeting. Members of the RDT were directors of UN agencies with regional offices in Dakar, Senegal. The RDT met to review the response to the outbreak and the regional level response needed;

II. establishment of a steering committee on Ebola with the WCARO director as the focal person. He convened an Ebola cell, chaired a crisis meeting on Ebola and reviewed progress on the outbreak and the UNFPA response every week; and

III. conducted political level advocacy with other UN agencies. This advocacy was carried out at the highest political level at ECOWAS and the African Union to encourage these regional bodies to take leadership and ownership of the fight against Ebola. This advocacy led to ECOWAS mobilizing and deploying volunteers in the response as well as the activation of the Mano River Midwifery project.

Contribution to human and financial capacity of country level

The WCARO facilitated the deployment of technical experts to Sierra Leone, Guinea and Liberia COs. One humanitarian emergency expert was deployed to Liberia through negotiation with the UNFPA office in South Africa; three experts (drawn from Congo, Asia and former WHO staff) were deployed to Guinea, while one epidemiologist expert was recruited and deployed to Sierra Leone.

The regional office guided COs on reprogramming to direct funds to critical areas of the response. It also provided technical expertise that coordinated the three countries to set up a regional midwifery project, under the auspices of Manu River Union. WCARO ensured the project was well structured and consistent in its approaches and implementation. The project was funded by the Japanese Government. Guinea received USD 830,000, Liberia USD 380,000 and Sierra Leone USD 900,000. The project supported the recruitment of national and international midwives, and the procurement of equipment and supplies for maternal health.

The regional office further provided financial resources from the CERF and UNFPA Emergency Fund to the COs in the affected countries, as shown below.

Table 3: Financial resources from the CERF and UNFPA Emergency Fund, allocated by regional office

WCARO Funds to Country Offices (USD)			
Country Office	**OCHA-CERF**	**WCARO Emergency Fund**	**Total**
Guinea	500,257	102,982	603,239
Sierra Leone	—	89,900	89,900
Liberia	—	291,000	291,000
Total	**500,257**	**483,882**	**984,139**

Knowledge exchange, learning and strengthening country collaboration

UNFPA, through its regional office, convened knowledge exchange, learning and collaboration meetings to improve its country level responses.

I. financial management: WCARO organized a meeting in Accra to explore financial management options given the inadequate coverage of banking services in the three countries. Participants included representatives from UNFPA HQ, regional office and the operations managers from the three most affected COs. As a result of this meeting, provisions were made for COs to make cash payments to the contact tracing teams;

II. contact tracing: WCARO convened a regional workshop for technical officers from the three countries to share knowledge on contact tracing. The three countries adopted good practices and tools in contract tracing; and

III. maternal and sexual health services recovery: The regional office was involved in the regional conference on recovery, transition and reintegration of survivors of Ebola and addressing the stigma and discrimination these people faced.

Strong leadership for UNFPA response at country level

At country level, leadership played a key role in shaping the UNFPA response. The country level leadership engaged at a political and policy level to gain the acceptance of governments for UNFPA to take a lead role in contact tracing. This role placed UNFPA at the heart of the response in each country at national and local levels.

Capacity limitations at regional and headquarter levels

UNFPA is a lean organization that does not have financial and human resources capacity comparable to the large UN agencies. As a result, during the EVD outbreak UNFPA did not deploy a large contingent of international staff compared to other UN agencies. HQ and regional offices did not have adequate staff to support countries and participated more through regular consultations with the COs. Travel restrictions also contributed to minimum movement of staff from the regional office to the affected countries. These factors partly determined the extent to which headquarters and the regional offices supported the COs.

Due to these limitations, COs responded to the outbreak using local capacities and financial resources mobilized locally, in addition to the funds from the regional level. Each office developed strategies and partnerships appropriate to the local context.

3.2 UNFPA policy framework

The application of the reprogramming, fast track, financial management, surge and security policies during the EVD outbreak was analysed. The following are the key findings:

Reprogramming policy

The three countries applied the reprogramming policy to re-allocate funds to the EVD response. This policy allowed the COs to commit funds to meet the requests from the governments on time and commence contact tracing within a short period. The COs allocated funds to the response at the initial stages, before resources had been received from donors, UNMEER and WCARO, among other sources. The ability to make funds available and commence the response immediately was recognized by governments in the three countries and helped establish UNFPA's credentials as a flexible and emergency-oriented agency at country level.

Fast track policies and procedures

Fast track policies facilitated the flexibility and responsiveness of UNFPA to the outbreak. Using these policies, the period for recruiting staff, procuring goods and services and processing payments was drastically shortened.

The fast track policies were applied in each of the countries as follows:

I. the Liberia CO operationalized the procurement fast track policies and procedures (FTPs) to purchase vehicles, motorcycles, bicycles, laptops and other IT accessories, reproductive and maternal health commodities. For instance, vehicles were delivered in two months instead of the usual six month to one year timeline. Human resources FTPS were also used in recruiting national staff to be county coordinators;

II. the Sierra Leone CO activated financial management, human resources and procurement FTPs. The CO fast tracked recruited of a contact tracing technical advisor and 14 district contact tracing associates (DCTFA) as well as the deployment of these staff to districts. Procurement FTPs were used to purchase goods including vehicles, motorbikes, laptops, modems, PPEs and IPC materials, within a short period;

III. the Guinea CO activated the use of FTPs at the beginning of March 2015 and used these policies to procure goods for the response, which included vehicles, computers, mobile phones and the services of NGOs and other professionals; and

IV. financial management FTPs were activated through UNDP, which manages UNFPA payments. UNDP processed payments in a timely manner and no delays were reported by the three COs. The field staff observed that they were usually paid their incentives on time.

The FTPs significantly reduced time for various processes and made the response relatively timely. However, management staff in the three countries had not been trained on the FTPs prior to the EVD outbreak and had to go through a learning curve to be able to apply them. Some of the managers had experience in using these policies from previous duty stations, especially those who had worked in countries with emergency operations such as Yemen and Sudan.

Project cash advance payment policy

The project cash advance payment policy - activated as a last option - facilitated payment to field teams due to the lack of banking services in rural areas. In Sierra Leone, payment was initially done through mobile companies but this method was abandoned due to poor telephone network coverage. A cash payment method was adopted which involved UNFPA staff moving cash to pay staff in the field. This presented a huge security risk and UNFPA had to arrange with Sierra Leone police to safeguard its staff. In Liberia, the field team was paid using NGO partners. The partners moved cash to the field, paid the contact tracing team and accounted for the funds to UNFPA.

The Ebola response highlighted challenges in fast track procedures, such as delegation of authority and timely payment of suppliers. UNFPA is reviewing the project cash advance policy based on lessons learnt so as to strengthen accountability procedures.

Given that inadequate banking system coverage is not unique to these three countries, UNFPA has joined the Finance and Budgeting Network - a common treasury working group comprised mainly of UN agencies – to review banking services across the world.

UNFPA is also considering other ways to increase flexibility and accountability while reducing financial risks during emergencies. These include setting up small emergency funds to allow operations to commence immediately at the onset of an emergency; a humanitarian resource fund which can be lent out on the basis of an agreement signed with donors; utilizing long term agreements established between other UN agencies and banking service providers; and the WFP voucher system used as a credit for people to access food items.

Surge Policy

The surge was not effectively activated during the EVD outbreak. Very few staff on the surge roster volunteered for deployment. This was partly attributed to fear of the disease as well as unclear deployment policies. It also took a long time to make decisions on staff deployment. For instance, the negotiations and deployment of international staff to Guinea and Liberia meant staff did not arrive in the affected countries until December 2014. In addition, the deployed staff were not replaced at their duty stations and were forced to function in dual capacity while on mission. Other issues that emerged were the lack of clarity on staff remuneration while on mission, supervision arrangements, evacuation procedures and protection of staff in the emergency situation. It was observed that some of the UN agencies deployed large numbers of international staff to support their COs. However, UNFPA does not have adequate staff on its roster to be deployed during complex emergencies.

UNFPA Staff Security

The Ebola outbreak had unprecedented security and safety challenges for UNFPA staff as well as the entire UN personnel. Both physical and health security concerns of staff and UN assets were present. On health security, UNFPA COs took immediate steps to educate staff on EVD infection and prevention measures. The UN clinic conducted regular education sessions for staff on Ebola prevention. IPC procedures were put in place in the UNFPA office, as was the case with all UN offices. This included mandatory hand washing and use of sanitizers; limiting contact; taking temperature readings; offering transport to staff from home to office and back; requiring staff to report any cases of Ebola infection in their families or household; and ensuring those affected worked from home. The UNFPA response exposed staff to Ebola infection in the field as well. Staff were required to exercise the IPC practices at all times while in the field.

Physical security of staff, and UN assets associated with EVD, included the sometimes violent reactions of community members to responders, cash payments to contact tracers and large deployment of UNFPA vehicles for field operations. UNFPA enlisted the services of the police to provide security during cash payments.

Ebola was seen as a health emergency and security personnel were advised that they had no role at the initial stages. There was a lack of trust among staff because nobody knew exactly who colleagues had been in contact with outside office hours. In some instances, staff refused to use office bathroom facilities for fear of being infected. There was a case where a UN staff family member died in a UN clinic in Sierra Leone and other staff refused to use the facility.

Security experts raised concerns on inadequate security preparedness and contingency planning. There was inadequate psychosocial support for staff at the frontline of the response who were permanently exposed to and feared possible infection. For example, staff witnessed the bodies of Ebola victims on their way to the office, while those deployed to the field interacted with, and in some cases were part of, the burial teams. They also spent time interacting with Ebola survivors and families that had lost members to the disease.

The International Civil Service Commissioner (ICSC) initial entitlement conditions such as rest and recuperation (R&R), hazard pay, as well as a designation of administrative posting area (APA) for R&R, were not applied during the EVD outbreak. The cancellation of commercial flights to and from the affected countries and travel restrictions in other countries in the region affected R&R procedures.

Continued education of staff about health emergencies, how to reduce or prevent infections and seek prompt medical care is a key priority. Awareness of the multidimensional nature of security in health emergencies (physical, health, psychosocial) is another important lesson. There is a need for clear procedures on prevention of infection among staff, even as they assist communities. Psychosocial rehabilitation and counselling is an ever present need for staff. Regular information sharing to update staff at country, regional and HQ on critical issues such as border closures, disruptions of road and air transport is also important for proper planning and managing expectations on the support that each level can provide.

UNFPA emergency strategy and minimum preparedness actions

The organizational emergency strategy and minimum preparedness actions (MPAs) documents are available on-line and a few senior staff have downloaded and reviewed them, while middle-level staff have limited knowledge of existence of these documents. Before the outbreak, country programme documents (CPDs) did not have a humanitarian response component. COs started incorporating an emergency response component in these documents only after the EVD experience.

UNFPA emergency strategies and plans have not been operationalized effectively. The strategies are not mainstreamed in the organization and the resource need for effective emergency response has not been estimated. Most staff observed that UNFPA has not achieved an adequate level of institutional emergency preparedness.

4 UNFPA Liberia response to EVD outbreak

The key strategies and activities of the UNFPA Liberia response were as follows:

4.1 Support to coordination of the national response to Ebola

UNFPA was a member of the National Incident Management Systems (N-IMS) and actively participated in response planning and progress review, and provided updates on contact tracing. UNFPA made a presentation to the N-IMS on the 'impact and implications of EVD on sexual health of affected populations' which dispelled rumours and suggested areas of research. UNFPA also participated in epi-surveillance and social mobilization committee meetings. At county level, UNFPA was represented in the County Incident Management System (IMS) by the County Contact Tracing Field Associates (CCTFA) to ensure effective coordination of contact tracing with other pillars of the response.

4.2 Contact tracing

Lead agency for contact tracing in Liberia: UNFPA was the lead agency for contact tracing in Liberia, as part of the overall EVD surveillance. Learning from UNFPA Sierra Leone, Liberia UNFPA CO conceptualized, recruited, trained and managed contact tracing in six counties (Grand Cape Mount, Gbarpolu, Bomi, Lofa, Nimba and Bong).

Coordination of contact tracing: A National Technical Committee on Contact Tracing was set up under the Assistance Minister for Statistics at MoH&SW and comprised UNFPA and all partners supporting contact tracing, active case finding and related social mobilization. This committee received data from contact tracing and monitored progress daily.

Human resources capacity: UNFPA deployed a team of six core staff with drivers and six CCTFA to support the Country Health Management Team (CHMT) in contact tracing. A total of 70 supervisors, 30 district monitors and 3,065 contact tracers were deployed in the six counties.

Training of contact tracing team: The contact tracing team was trained using standard operating procedures (SOPs). Training was cascaded, starting with the CCTFA, who in turn trained the supervisors, monitors and the tracing team. UNFPA conducted this training in partnership with WHO and the MoH&SW.

Provision of equipment and supplies: UNFPA provided the contact tracing team and the CHTs with vehicles, motorcycles, bicycles, computers, identification jackets, boots, laptops, printers, photocopiers and other IT accessories to support transport, data management, reporting and general communication. They were also provided with PPE and commodities to protect the team from infection.

Payment of incentives: Incentive payment was a key component for effective team operations. Liberia has limited banking services in rural areas and telephone coverage is also weak. The CO used agency arrangements to pay incentives to the contact tracing team. National NGOs (Africare, Planned Parenthood Association of Liberia and Action Aid Liberia) were contracted to pay contact tracing at an agreed commission. The NGOs were required to verify the list of the contact tracing team before payment was done.

Management of the contact tracing process: The contact tracing process started with case investigation through which a contact list was drawn and contacts tracers were then assigned contacts to visit on a daily basis. Given the high fatality rate, especially at the height of the epidemic, the tracers combined contact tracing with active case search, to identify any cases of patients hidden by families and those that may not be on the contact list. The tracers reported symptomatic cases to supervisors who alerted the CHTs for isolation and further investigation. Contact tracers also monitored quarantined homes and supported supervisors and CHTs in tracing missing persons. The tracers submitted daily reports to the CHTs and the CHTs submitted daily reports to the national surveillance pillar, as well as to UNFPA.

4.3 Provision of healthcare services for pregnant women in the context of the EVD outbreak

Support to traditional birth attendants (TBA) and trained traditional midwives (TTM) for safe deliveries: Given that pregnant women constitute a key priority group for UNFPA, the Liberia office's immediate response was to launch a regional appeal for maternal health commodities and PPEs. WCARO provided funding support (about USD 37,000) while UNFPA offices in the region supplied commodities such as gynaecological gloves. The initial supplies were delivered to the TBA and TTMs to support safe deliveries.

Re-opening of health facilities: UNFPA undertook a rapid assessment of open health facilities and equipped them with PPEs and delivery kits to encourage them to remain open. Using funding from SIDA, UNFPA increased maternal health supplies to other health facilities to encourage them to reopen. It also provided incentives to health workers, TBAs and

TTMs. Traditional leaders were involved in encouraging pregnant women to deliver at the health facilities and fined any TBA or TTM found guilty of conducting deliveries outside of them. The government supply chain was overwhelmed with Ebola commodities so UNFPA delivered delivery kits directly to the health facilities. UNFPA supported the MoH to use radio messages to give a list of open health facilities and encourage women to deliver at the facilities.

Maternal health commodity supplies: Using funding from SIDA, UNFPA procured and distributed to 12 out of the 15 counties: 299 boxes of reproductive health (RH) kits, including gender-based violence (GBV) treatment kits (kit 3); clean delivery kits (Kit 2 A and B); sexually transmitted infection treatment kits (Kit 5); clinical delivery assistance drug and disposable equipment (Kit 6A); and the management of complication of miscarriage kit (Kit 6B). UNFPA also procured and distributed to these counties RH equipment and PPE supplies including the following: 1,000 pairs of surgical gloves; 3,000 surgical gowns; 5,000 face shields; 33,000 obstetric/gynaecological (OB/GYN) gloves; 90 heavy duty aprons for midwives; 10 delivery beds; 35 examination beds; 400 sphygmomanometers; 300 stethoscopes; 250 fetal scopes; 75 infra thermometers; 25 examination lights; 100 delivery sets; and 15 instrument trolleys. These supplies helped ensure health facilities remained open to provide quality care to pregnant women and women of childbearing age. UNFPA procured one vehicle and recruited a driver to distribute commodities and monitor need.

Figure 2

Old and new delivery bed at Mendikorma Clinic, Lofa (Source: UNFPA Project Report)

4.4 Support for reduction of exposure to Ebola among health workers and service providers to encourage reopening of health facilities

UNFPA supported the reopening of maternity wings of hospitals and clinics by procuring and distributing PPE for health workers and IPC materials and hygiene supplies. This included buckets for hand washing, boots, aprons, hand sanitizers, chlorine and sprayers as well as training on the triage of patients, the use and disposal of PPEs and importance of proper hand washing. UNFPA also provided facilities with IEC materials on Ebola prevention and supported them in setting up hand washing stations.

4.5 Capacity strengthening for treatment and care services for survivors of sexual violence in health facilities and one stop centres

There was a heightened level of sexual violence during the EVD outbreak, with 1,323 cases reported in 2014 and 1,804 cases in 2015. The table below shows the sexual gender-based violence (SGBV) cases per selected health facilities covered by UNFPA.

Table 4: Sexual gender based violence data 2015 summary (total of all cases monthly per facility)

Facility	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Tot.	%
Hope for women	29	15	40	26	25	20	21	15	25	13	11	16	256	14.2
Jdj	24	26	27	30	32	42	34	26	39	40	49	23	392	21.7
Redemption	19	15	16	25	16	25	16	30	17	22	21	20	242	13.4
Bomi	2	2	4	4	2	7	0	3	3	4	3	5	39	2.2
C.b. Dunbar	4	8	5	4	14	8	6	4	9	7	1	2	72	3.9
Phebe	3	7	5	5	3	4	6	3	6	6	2	2	52	2.9
Duport road	36	32	35	36	32	35	31	29	32	56	36	37	427	23.7
Star of the sea	14	16	21	9	13	13	15	14	11	13	17	10	168	9.3
Rennie	5	6	0	10	14	0	10	9	9	9	11	5	88	4.9
Martha Tubman	8	3	4	1	1	6	3	3	1	3	2	3	38	2.1
River Gee	0	2	3	0	1	1	3	0	0	3	4	6	23	1.3
Grand Bassa	0	0	0	0	0	0	0	1	0	2	0	4	7	0.4
Total	144	134	160	150	147	161	145	136	152	178	157	133	1804	100

UNFPA trained all service providers (health workers, police and social workers) at 11 SGBV one stop centres (OSCs) on IPC, adequate use and disposal of PPE and triaging of patients. It also provided them with infection control and hygiene materials, PPEs, drugs and supplies, to enable them to continue attending to SGBV survivors. Transportation and communication incentives were also provided to all OSC staff, including psychosocial workers, police offices and cleaners, to ensure regular presence and availability of services. A total of 3,127 SGBV survivors were attended to between 1 January 2014 and 31 December 2015, while a total of 447 survivors were served between January and March 2016.

4.6 Increased awareness on linkage of Ebola to sexual and reproductive health and provision of reproductive health services

UNFPA used the following strategies to ensure women and adolescents had access to reproductive health services and were aware of the linkage between Ebola and sexual reproductive health (SRH), as well as ensure pregnant women and SGBV survivors had access to services.

SRH commodity supply through market places: Prior to the EVD outbreak, UNFPA had set up SRH supply points at main local markets to reach out to women and girls. During the outbreak, these centres remained open and saw a marked increase of women, girls and men seeking reproductive health commodities. UNFPA increased SRH supplies to these centres to meet the increased demand.

Youth Friendly Centres: As at the market supply points, youth centres, which had been set up prior to the outbreak to serve adolescent SRH needs, saw increased use by women and men and UNFPA again responded by providing additional SRH commodity supplies and information kits.

Community observatory: UNFPA established a GBV observatory and community gate keepers (religious, traditional, women and youth leaders) who were trained on IPC, awareness creation on proper hand washing and safe burial practices. They were also given the responsibility to serve as early warning and alert groups in their communities, by following-up on new arrivals in the community, tracing the sick, pregnant women and rape survivors, so that they could be directed to available services. UNFPA supported GBV in 10 counties and 21 districts to strengthen the referral pathway for survivors of SGBV.

Local communication channels: Traditional animators and traditional dance and drama groups were supported to tour six counties (Grand Cape Mount, Bomi, Montserrado, Margibi, Nimba and Lofa) to create awareness in local languages on Ebola and SGBV prevention, safe burial practices and the importance of going to hospital when you feel sick. UNFPA, in collaboration with the MoH health promotion unit and Ebola messaging committee, developed IEC materials used in a mass awareness campaign on the possible sexual transmission of Ebola, using print and electronic media. Radio messages were aired in local vernaculars, including English.

4.7 Provision of dignity kits to Ebola survivors

Survivors of Ebola lost all their household and personal items when they were taken to Ebola treatment units (ETUs). Their household materials were sprayed with chlorine, if not burned. The survivors returned home to a life of neglect and stigmatization by community members and, in some cases, their own family members. The situation made survivors very vulnerable, particularly women and adolescent girls. UNFPA procured and distributed 5,000 dignity kits to female survivors of the EVD, SGBV and Ebola widows. The distribution was done in Bomi, Cape Mount, Margibi, Bong, Lofa, Nimba and Montserrado counties.

5 UNFPA Sierra Leone response to EVD outbreak

The key strategies and activities of the UNFPA Sierra Leone response were as follows:

5.1 Leadership and the technical advice to government

UNFPA provided leadership and technical advice to the Government of Sierra Leone at the outset and over the course of the outbreak. UNFPA, in collaboration with other UN agencies, worked closely with government and other partners in planning the response, developing and reviewing response strategies as the outbreak evolved. UNFPA participated in the NERC meetings and was a co-lead for the surveillance pillar.

5.2 Contact tracing

Leadership for adoption of the contract tracing strategy: When the EVD outbreak struck, the UNFPA country representative advised the Government of Sierra Leone to embark on contact tracing as a measure for early case identification and as an entry point for controlling EVD. The Government adopted this strategy and tasked UNFPA with kick starting the process in Kailahun district, where the first case was detected. At this time, no one envisaged the scale and intensity of contact tracing that would eventually be mounted in the country.

Designated agency for contact tracing: UNFPA was formally designated by the Government of Sierra Leone, United National Country Team (UNCT), UNMEER and NERC to lead in contact tracing training, provision of incentives and operations. In January 2015, WHO became the technical lead for contact tracing while UNFPA remained the operational lead.

Provision of human resources capacity for contracting tracing: UNFPA Sierra Leone made available initial funding of USD 50,000 from its programme funds and deployed staff to commence the contact tracing process. Within a short period, the geographical scope for contact tracing increased with the spread of the EVD across several districts. Staff were overwhelmed and UNFPA needed to increase its human resources. A decision was made, in consultation with WCARO and HQ, to recruit and deploy additional staff. The CO recruited a field epidemiologist to develop a detailed contact tracing plan and lead the exercise. Based on this plan, UNFPA recruited and deployed 14 district contract tracing monitors (DCTMs). Six hundred supervisors and about 5,000 contact tracers were deployed at the height of the epidemic. UNFPA, in collaboration with MoHS, trained the entire contact tracing team.

Provision of equipment for contract tracing: UNFPA supplied the MoHS with 50 motorcycles; 13 computers, printers and uninterruptable power supply devices; 149 GPS devices to assist surveillance; and provided laptops and modems for internet connection and transport to UNFPA DCTMs. In addition, the contact tracing team was provided with mobile phones connected to a closed user group for easy and accountable communication.

Payment of incentives to contract tracing team: Payment of incentives to a large number of people across all district with non-existent banking services presented a challenge. UNFPA HQ approved the use of project advance payment (PAP) rules, which are often applied as a last option. This initially enabled the CO to pay incentives using mobile telephone companies. This method was then abandoned due to poor telephone network coverage which led to delays in payment. UNFPA opted to make direct cash payments to the contact tracing team. This involved UNFPA staff moving cash to the field to pay the tracing team monthly exposing staff to huge security and accountability risks. UNFPA received assistance from the Sierra Leone police who guarded staff at the payment centres to ensure their safety.

Management of contact tracing operations: Contact tracing was a labour intensive and time-consuming exercise. Contact tracers visited the contacts based on a list drawn by an epidemiology team. Identified symptomatic cases were immediately reported to the district team of health workers. The monitors then visited and transferred the individual to a holding centre to await diagnosis results. If the case was confirmed, the individual was transferred to a treatment centre. The tracing team also monitored quarantined homes and reported on any missing persons. The district monitors, supervisors and tracers supported the process for tracking missing persons. The tracers followed up over 100,000 cases by the end of the outbreak. Contact tracers submitted reports to the district team for onward submission to the national level. The DCTMs maintained regular electronic transmission of contact tracing data from their respective districts to the MOHS division of disease prevention and control, which was in charge of surveillance.

Establishment of a monitoring system for contact tracing: UNFPA contracted the civil society organization Health for All Coalition (HFAC) to monitor the contract tracing exercise. HFAC monitored: (i) contact tracers visits to contacts assigned to them; (ii) number of times per day the contact tracers visited assigned contacts, against the benchmark of four times; (iii) the time it took for a symptomatic to be transferred to a holding centre, against the benchmark of one hour; (iv) contact tracers visits to quarantined homes; and (v) tracing of missing persons.

5.3 UNFPA seconded staff to UNMEER

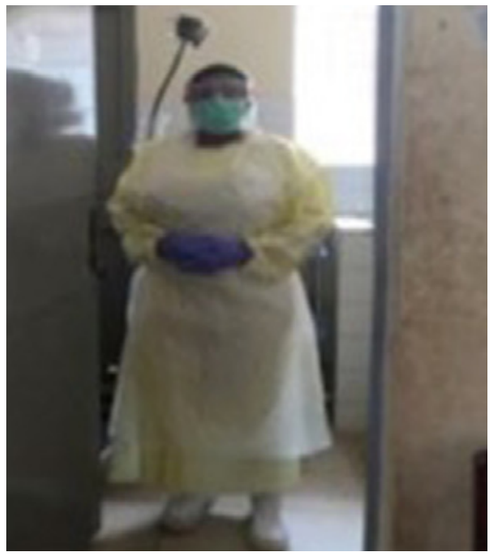
UNFPA Sierra Leone seconded one member of staff to serve as the UNMEER field crisis manager, at UNMEER Moyamba District, Sierra Leone. This staff member provided support to the DERC in coordinating field activities; assessing operational needs and plans; implementing work plans; and ensuring coherence between district actors as well as between national and district Ebola crisis response efforts. This mission started in November 2014 and ended in June 2016.

5.4 UNFPA response to maternal health needs

The initial focus of government and partners on the EVD outbreak negatively impacted on the continuity of other health services including SRMNH. However, UNFPA Liberia continued to focus on critical interventions to prevent maternal deaths and to address SRMNH needs. The CO carried out the following activities:

Supply of commodities: Initiated procurement of maternal health kits and IPC equipment and consumables, including maternity gowns, disposal aprons, masks, clogs and gynaecological gloves distributed to maternal health units; and sustained the supply of family planning (FP) commodities and essential RH drugs.

Figure 3



a PPE wearing

b UNFPA Representative visiting a maternity ward in Kenema (Sierra-Leone)

Refocusing of programmes: Reassessment of its programme for all its implementing partners and identifying ways in which RH/FP activities could continue to reach women and girls. Implementers resumed family planning mobile clinics during the last quarter of 2014, after IPC measures had been put in place.

Advocacy for maternal health: Maintained focus of government and partners on the impact of EVD on RH services throughout the outbreak period. UNFPA engaged the Office of the First Lady (OFL) to seek traditional and religious leaders' support for the restoration of maternal services. The First Lady also conducted high profile openings of health facilities to regain the trust of women, including Kenema and Princes Christian Memorial Hospitals.

Provision of technical assistance: UNFPA provided technical assistance to MoHS to design a reproductive health impact mitigation strategy to prevent EVD-related maternal deaths. The strategy was presented to NERC, WHO and donors but implementation was delayed due to budgetary constraints. UNFPA secured funding for phase one activities, including identification of 51 frontline facilities for upgrading to provide RMNH services; assessment of 51 facilities for rehabilitation; development of IPC protocols for MH services; deployment of local and international health workers; strengthening outreach services and upgrading facilities for adolescent girls and youth friendly centres; engagement with HFAC to monitor essential RH drugs at service delivery points; and support to the National AIDS Secretariat to provide counselling and distribute condoms to Ebola survivors at the treatment centres.

5.5 UNFPA response to sexual reproductive health and gender-based violence needs

Advocacy: UNFPA convened partners in the protection sector to evaluate the impact of Ebola on adolescent girls and explore immediate solutions. This was followed by a series of meetings, organized jointly with the National Secretariat for the Reduction of Teenage Pregnancy and the Ministry of Social Welfare, Gender and Children Affairs (MoSWGCA), leading to the development of a strategy for adolescent girls.

Technical, financial and operational support: UNFPA provided technical, financial and operational support to MoSWGCA to coordinate case management of vulnerable groups during the outbreak. Similar support was provided to the MoHS adolescent and school health unit to support health workers within their facilities, ensure availability of commodities and mentoring of health workers.

Refocusing UNFPA implementing partners: Reprogrammed UNFPA-supported interventions of 11 implementing partners and integrated the new context created by the outbreak. Priority was given to maintaining the provision of adolescent and youth friendly SRH services at PHU level.

Protection of women and girls from GBV: The activities supported by UNFPA included:

I. Training of 102 youth community volunteers in 51 communities to inform and empower adolescents and young people with specific focus on adolescent girls. The volunteers' tasks included educating communities about EVD and SRH, prevention of GBV and referrals of GBV cases to health facilities.

II. Established a safe space in Kono for victims/survivors of SGBV. 140 SGBV survivors were aided financially to access medical care, transportation, maintenance fee and filing respective court maintenance documents. 1,102 cases were followed up and referred to health facilities and the justice system by UNFPA implementing partners.

III. Mobilized community-level male networks to raise awareness on prevention of SGBV and supported referral in three EVD hotspot districts.

IV. Conducted a survey on pregnant girls in selected chiefdoms and identified 1,037 pregnant girls. UNFPA successfully advocated to the Government of Sierra Leone to help these girls to receive education on core school subjects outside of the formal school setting, as well as SRH information and services. UNFPA provided operational, financial and technical support to this initiative.

V. In collaboration with UNICEF and DFID, conceptualized and established 'Protection Desks'[12] in all districts in the country.

12. A Protection Desk is one of the clusters in a humanitarian situation, with key responsibilities to guarantee gender equity and equal rights for minorities and children.

6 UNFPA Guinea response to EVD outbreak

The key strategies and activities of the UNFPA Guinea response were as follows:

6.1 Capacity building

UNFPA deployed substantial human and physical resources to the Ebola response. Human resources included: two epidemiologists deployed to the national coordination unit, and one pharmaceutical logistician and two senior UNV midwives from its international staff. National staff included 68 midwives, 50 technical health workers, 784 community health workers, 1,200 leaders of youth associations, 4 national UNV M&E experts, 1 consultant expert in communication and 5 UNFPA staff deployed to the field in Labe, Kankan and Nzerekore.

Physical resources deployed included: 1 vehicle and 1 computer for the surveillance section within the coordination unit; 25 smart phones for communication; 1,000 bicycles, 120 motorcycles, 9 ambulances and 5 vehicles given to the provincial health facilities to reach out to the community. Two additional vehicles for supervision given to the MoH at the central level, installation of solar panels in 5 prefectures' health centres and 5 communes, and donation of delivery kits to health facilities for maternal services.

6.2 Support for social and community mobilization to control and stop the EVD outbreak

Community engagement was critical in addressing cultural practices and changing health behaviour that partly contributed to the infection. UNFPA supported social and community mobilization interventions by empowering community groups and disseminating information.

Two gender NGOs[13] were engaged to train youth and women groups and conduct community mobilization. Surveillance committees were established in villages and town sections

13. Guinea Association for Family Health (AGBEF) and Espoir Sante

in the prefectures of Gueckedou, Faranah, Kankan, Macenta and Nzerekore, to mobilize communities to identify and report Ebola cases. Community health workers and members of village committees were equipped with mobile phones to facilitate communication. UNFPA also supported a socio- anthropological study on community behaviour in relation to Ebola, in order to understand the underlying factors influencing the community's perceptions and hostility to the response to this disease.

The study uncovered, among other things,, how continued female genital mutilation (FGM), treatment of dead pregnant women's bodies as well as overall handling of dead bodies, constituted fertile ground for disease transmission.

As a result of these interventions, 100 village committees were set up, mass communication tools, house-to-house visits and storytelling were carried out, to raise awareness on Ebola prevention. About 40 youth association leaders were trained on culture and peace building and included in the social mobilization activities, to help reduce community hostility towards emergency responders. Women leaders were trained on Ebola prevention practices in public places, such as mosques and market places. An estimated 424,780 youth were trained in Conakry on how to change community disbelief on the reality of the illness. Flyers, radio spots and television drama, as well as the skills of traditional communicators, were used to draw maximum attention to EVD prevention and control.

6.3 Lead agency for contract tracing and linking cases to care

As in Liberia and Sierra Leone, UNFPA played a lead role in contact tracing in Guinea. The CO representative played a key role carving a niche for UNFPA in contact tracing. The CO participated in the epidemiological surveillance activities in the national surveillance unit and in all prefectures including Conakry, Dubreka, Coyah, Forecariah and Boffa. It also participated in sensitization campaigns and strengthened community-based surveillance in Sikhourou, Forecariah, Coyah, Dubreka and Boffa and supported the production of epidemic surveillance guidelines and reports.

UNFPA supported the recruitment of community health workers and supervisors to coengage contact tracing. It also purchased mobile phones to facilitate communication and provided logistical support, including vehicles and ambulances. 784 community health workers were recruited and trained for contact tracing. In addition, 1,200 youths were involved in the fight against Ebola.

UNFPA collaborated with Columbia University to introduce the use of its CommCare software in contact tracing. This software was developed by the university to facilitate health data collected prior to the outbreak. It ensured timely data transmission from the field, collation and review at district level, as well as timely transmission to the national level. More than one third (9/26) of the prefectures affected by EVD used CommCare for contact tracing. More than 80 per cent (8784/10609) of Ebola contacts were followed and integrated into the system.

6.4 Continuity of maternal services in the context of Ebola

Communities avoided health facilities because of the culturally insensitive messages aired at the onset of the outbreak (for instance, that no one survives Ebola). UNFPA ensured continuity of maternal services through the recruitment of midwives, purchase of equipment and medical equipment and emergency kits. UNFPA provided 68 midwives to the 34 health facilities that continued to provide EmONC services, within the framework of the Mano River Union. These midwives also visited pregnant women in their homes for antenatal consultations and to conduct safe deliveries.

6.5 Ebola infection control at health facilities

At the onset of the EVD outbreak, health workers were increasing transmission by treating patients using very little personal protective measures. UNFPA supported IPC measures through the provision of IPC and PPE kits. This drastically reduced Ebola-related casualties among health workers.

6.6 Psychosocial support provided to 600 Ebola survivors

Ebola survivors were stigmatized and lost most of their household items during their stay at the ETUs. UNFPA supplied 2,000 dignity kits to survivors as well as hygiene kits and food to families of Ebola victims. The socio-economic needs of widows were assessed and they were supported to develop income-generating activities. A total of 120 widows were trained on communication and micro-project management in Kindia and Nzerekore. Continued surveillance remains in place through an informal cordon around the EVD survivors, so as to ensure total healing and reintegration within the community.

7 Readiness assessment of sexual and reproductive maternal, neonatal and adolescent health services

The EmONC and other SRH services in health facilities in Guinea, Liberia and Sierra Leone border areas were assessed. This section presents the findings.

7.1 Coverage of EmONC and other SRH services

a. Existence of BEmONC and CEmONC facilities

The first obstetric service indicator is the existence of SRMNAH facilities. According to the design and evaluation of maternal mortality programmes, there should be at least four basic emergency obstetric and neonatal care (BEmONC) and one comprehensive emergency obstetric and neonatal care (CEmONC) facilities in a given area with 500,000 inhabitants.

Table 5 below reveals that health facilities coverage is adequate. For example, in Guinea, the county of Nzerekore with a population of 398,118 has two CEmONCs. In Liberia and Sierra Leone, coverage seems even better. However, these estimates do not take into consideration other access barriers such as financial or cultural and in some cases physical (for example, climate related) barriers. A health centre may not be far in terms of distance, but if there is a big river and no bridge, then access is compromised.

Table 5: Characteristics of assessed cross border health facilities in Guinea, Liberia and Sierra Leone

Country	Border towns	Name of Health Facility	Services provided	Total Population[14/15]
Guinea	Macenta	Hôpital préfectoral de Macenta	CEmONC* FP*	298,282
	Nzerekore	Hôpital préfectoral de Nzerekore	CEmONC FP	398,118
	Gueckedou	Centre de santé de Tekoulo	CEmONC FP	291,823
	Forecariah	Centre de santé Maferinya	BEmONC* FP	244,649
Liberia	Foya Boma	Foya Boma Health Center	CEmONC FP	15,742
	Foya Tengai	Foya Tengai Clinic	BEmONC FP	5,049
	Worsongai	Worsonga Clinic	BEmONC FP	3,694
	Sorlumba	Sorlumba Clinic	BEmONC FP	12,792
	Mendekorma	Mendekorma Clinic	BEmONC FP	5,321
Sierra Leone	Kailahun	Kailahun Government Hospital	CEmONC FP	92,905
	Pendembu	Pendembu Community Health Centre	BEmONC FP	13,575
	Daru	Daru Community Health Centre	BEmONC FP	17,288
	Jojoima	Jojoima Community Health Centre	BEmONC FP	13,185

*CEmONC: Comprehensive Emergency Obstetric and Newborn Care
*FP: family planning
*BEmONC: Basic Emergency Obstetric and Newborn Care

b. Geographical distribution of EmONC facilities

The geographical distribution was found to be adequate and referrals from BEmONC to CEmONC operate smoothly, without charging patients transportation fees. The main barriers remain poor communication with no operating radios and a lack of facility-based telephones to call ambulance services. In addition, there are bad roads in all three countries, especially during the rainy season. For example, to reach Kailahun hospital from the main road, it takes two hours to drive just 30 km. It takes four to five hours for an ambulance to do a round trip

14. Recensement Général de la Population et de l'Habitation de Guinée, 2014

15. Liberia EmONC assessment, 2016

7.2 Proportion of all births in basic and comprehensive EmONC facilities

Expected delivery calculations are population based. In a given population, three to four per cent equals the estimated pregnancy number per year. This assessment used four per cent. Coverage in table 6 below has been calculated as the proportion of observed deliveries among the expected deliveries. The utilization of maternity services is based on such estimated figures.

Table 6: Expected versus observed births and type of delivery by health facility

Country	Health facility	Expected monthly deliveries (4%)[16]	Observed institutional monthly births n (%)				
			Coverage (t%)	Spontaneous	Assisted	Caesarean rate (%)	
						Hospital based	Catchment area based
Guinea	Macenta	994	90 (9)	38	16(18)	(40)	(4)
	Nzerekore	1327	216 (16)	136	12 (6)	(31)	(5)
	Gueckedou	972	54 (6)	54	0 (0)	NA	NA
	Forecariah	816	31 (4)	31	0 (0)	NA	NA
Liberia	Foya Tengai	16	11 (69)	11	0 (0)	NA	NA
	Sorlumba	42	24 (57)	24	0 (0)	NA	NA
	Mendicorma	36	12 (33)	12	0 (0)	NA	NA
	Foya Borma	52	47 (90)	47	0 (0)	(34)	(30)
	Worsongai	12	12 (100)	12	0 (0)	NA	NA
Sierra Leone	Kailahun	310	50 (16)	31	4 (8)	(30)	(5)
	Pendembu	46	24 (52)	24	0 (0)	NA	NA
	Daru	57	28 (49)	28	0 (0)	NA	NA
	Jojoima	44	35 (80)	35	0 (0)	NA	NA

The rate of caesarean section in a given population should be between five and fifteen per cent. Below five per cent is considered to reflect unmet need. Beyond fifteen per cent suggests too many caesarean sections. The rate of caesarean section in health facilities varies according to the experience of surgeons, the indications and sometimes the desire of the patient.

16. Measuring Health and Disability, Manual for WHO Disability Assessment Schedule WHODAS 2.0, WHO 2010.

7.3 Individual health facility EmONC utilization

The minimum threshold of maternity service utilization for a good coverage is at 90%.

Table 7: Health facilities utilization

Country	Location/ Health facility	Expected monthly deliveries[17]	Observed monthly deliveries[18]	Global maternity service utilization in %[19]	Caesarean section population coverage in %
Guinea	Macenta	994	90	9	4 (low)
	Nzerekore	1327	216	16	5(normal)
	Gueckedou	972	54	6	NA[20]
	Forecariah	816	31	4	NA
Liberia	Foya Tengai	16	11	69	NA
	Sorlumba	42	24	57	NA
	Mendicorma	36	12	33	NA
	Foya Borma	52	47	90	30 (high)
	Worsongai	12	12	100	NA
Sierra Leone	Kailahun	310	50	16	5 (normal)
	Pendembu	46	24	52	NA
	Daru	57	28	49	NA
	Jojoima	44	35	80	NA

Table 7 shows adequate coverage of maternity service utilization in just two locations in Liberia, Foya Borma and Worsongai, with coverage of 90 per cent and 100 per cent respectively. Other sites in the country show maternity coverage ranging between 33 per cent and 69 per cent. The situation in the other two countries, particularly Guinea, is alarming. In Guinea, all the sites visited caused great concern, as maternity service utilization coverage is extremely low with a marginal maximum of 16 per cent in Nzerekore, falling to as low as just 4 per cent in Forecariah.

The situation in Sierra Leone is relatively better than in Guinea even though none of the visited sites reached the threshold of 90 per cent. The maternity service utilization coverage reached a high of 80 per cent in Jojoima but falls to a low of 16 per cent in Kailahun.

17. Extracted from Table 6 above.

18. Extracted from health facilities registers.

19. Calculated as the proportion of "Observed monthly deliveries" by the "Expected monthly deliveries".

20. No caesarian in these health facilities.

While there is a need for further in-depth assessment to identify and address the root causes of this weak maternity service utilization in post-Ebola countries, it can be hypothesized that they include population-related issues (for example, migration) or health service issues (for example, weak health systems and the population's lack of trust in the quality of services at health facilities).

Table 7 also provides the coverage for caesarean sections where practiced. In a given population of pregnant women at term or near term, it is expected that a range of 5 to 15% among them will undergo caesarean sections. A rate below 5% corresponds to missed opportunity for caesarean section, and a rate above 15% corresponds to an unnecessary excess of caesarean section. Caesarian sections were practised in 4 out of the 13 health facilities visited. Of these, two were carrying out the expected number of caesarean sections, one too few and the fourth too many.

Table 8: Health facilities utilization by country

Country	Expected monthly deliveries	Observed monthly deliveries[18]	Global maternity service utilization in %[19]	Caesarean section population coverage in %
Guinea	4,109	391	9	5
Liberia	158	106	67	30
Sierra Leone	147	87	49	5
Total or means	4,414	584	42	13

Table 8 summarizes the findings by country. It shows that maternity service utilization in Guinea is very low compared to the other two countries and that while the caesarean section rate is high in Liberia (30 per cent) it is low in the other two countries (5 per cent in each). A qualitative study/assessment is required to understand and identify the reasons for a higher rate of caesarean sections in Liberia.

7.4 Emergency obstetric and neonatal care availability by type of health facility

The availability of the nine signal functions at health facilities was assessed using questionnaires and direct observation. These signal functions are:

1. Administer parenteral antibiotics
2. Administer uterotonic drugs

3. Administer anticonvulsants
4. Perform manual removal of placenta
5. Perform removal of retained products
6. Perform vaginal assisted delivery
7. Perform newborn resuscitation
8. Perform obstetric surgery
9. Perform blood transfusion

Scores between zero and 100 were allocated according to the following criteria:

I. existence of proof of the signal availability and performance in the last three months: 100;

II. existence of signal function activities but incomplete availability of equipment (for example, lack of misoprostol): 50;

III. existence of material but inconsistence proof of its use (for example, resuscitation masks for newborns were present but were not always used when needed): 25; and

IV. signal function was supposed to be performed but never done despite the presence of equipment (for example, vacuum extraction): 0.

Table 9: Signal functions service availability scoring

21. Not applicable.

Country	Type of HF	Emergency Obstetric and neonatal functions availability in %									Overall rating by HF (%)
		1	2	3	4	5	6	7	8	9	
Guinea	Macenta	100	50	100	100	100	100	50	100	100	89
	Nzerekore	100	50	100	100	100	100	50	100	100	89
	Health centers	100	50	100	100	0	0	25	NA[21]	NA	54
Liberia	Foya Borma	100	50	100	100	100	100	50	100	100	89
	Health centers	100	50	100	100	0	0	25	NA	NA	54
Sierra Leone	Kailahun	100	50	100	100	100	100	50	100	100	89
	Health centers	100	50	100	100	0	0	25	NA	NA	54
Overall rating by function (72%)		100	50	100	100	57	57	39	NA	NA	74

From table 9 above, signal functions average availability by type of service is 72% (mean of "overall rating by function"). The signal functions average availability by health facility is 74% (mean of "overall rating by HF"). No health facility provides all the signal functions they should be – but there are none which are failing completely. Current gaps are 28% and 26% respectively.

a. Signal Function 1: Administer parenteral antibiotics

All heath facilities are currently offering that service and no stock out was identified.

b. Administer uterotonic drugs

While oxytocine is available and used, misoprostol was not. It was suggested health workers feared misusing the drug. However, given the power needs for storing oxytocine, misoprostol would be a very convenient alternative.

c. Administer anticonvulsants

All heath facilities are currently offering this service and no stock out was found. Diazepam and magnesium sulfate and even calcium gluconate was available.

d. Perform manual removal of placenta

According to interviews, all heath facilities are currently offering this service. Proof of verification was not easy to find.

e. Perform removal of retained products

Most health facilities staff have been trained to perform manual vacuum aspiration. However, practical experience is lacking and the procedure is not done. In many centres, material was available but staff did not know where it was stored.

f. Perform vaginal assisted delivery

Apart from the district hospital, vaginal assisted deliveries are not performed. Equipment has been supplied by UNFPA but still not used. Reason given was lack of training.

g. Perform newborn resuscitation

None of the health facilities were performing newborn resuscitation exactly as it should be done. Equipment with bag and mask was available but most of the time was not used. Many staff were unable to handle the mask correctly. In addition, only Nzerekore hospital had a dedicated newborn unit.

Another practice missing from newborn care is the Kangaroo practice or Kangaroo Care (KC)[22]. This is a cost effective alternative to putting low-birthweight infants in an incubator. It consists of skin-to-skin contact between infant and parent, improving their bond by avoiding a prolonged separation and naturally stimulating the production of breast milk. However KC is rarely practiced in the three countries (two out of 13 health facilities).

22. Kangaroo care originated in Colombia in 1978. In developing countries, KC has been shown to reduce mortality, severe illness, infection, hypothermia and length of hospital stay.

h. Perform obstetric surgery

All the district hospitals were able to perform caesarean sections. While the number of caesarean sections seems to be around 30 per cent of total deliveries, Macenta hospital seems to use more invasive procedures than other centres. This could be the result of its task-shifting practice which sees non-medical doctors performing caesarean sections.

Table 10: Obstetric surgery practice

Health facility	Monthly delivery performance in the hospitals n (%)			
	Total deliveries	Spontaneous	Assisted	Caesarean
Macenta	90	38 (42)	16 (18)	36 (40)
Nzerekore	216	136 (62)	12 (6)	67 (31)
Foya Borma	47	30 (63)	1 (2)	16 (34)
Kailahun	50	31 (62)	4 (8)	15 (30)
Total	403	235 (58)	33 (8)	134 (33)

Annual expected deliveries were calculated as four per cent of the total population. The monthly estimation is this sum divided by 12.

Monthly expected complications represent 15 per cent of the monthly expected deliveries.

Met need is the proportion of all women with complications who came to health facilities. The difference between the number of expected women with complications and number of observed women with complications serves to estimate unmet need.

Table 11: Hospital utilization and unmet needs for obstetrical complications

Country	Monthly expected deliveries	Monthly expected complications (15%)	Observed complications (caesarean and assisted)	Met need	Unmet needs for obstetrical complications	
				%	Number	%
Guinea	4,109	617	131	21	486	79
Liberia	158	24	17	71	7	29
Sierra Leone	310	47	19	40	28	60
Total	4,577	688	167	-	521	-

During the assessment, no women with obstetric complications (assisted vaginal deliveries or caesarean sections) were seen at the health centres observed. According to the table, 8 out of 10 women who needed assistance in Guinea did not attend a health centre, 3 out of 10 in Liberia and 9 out of 10 in Sierra Leone.

In other words, district hospitals are failing to cover 100 per cent of women who need medical attention during pregnancy and birth.

i. Perform blood transfusion

This procedure was performed in the district hospitals but only total blood could be given and supply was patchy. The patient's family or friends often needed to give blood themselves.

7.5 Quality of services

Indirect variables were used to assess quality of services. Some of them contribute as input for quality (for example, equipment); others contribute to assess quality as output (for example, case fatality rate in maternity).

Equipment

The assessment found that not all necessary equipment is available. However, in some health centres, the equipment was available but was not used. This was the case for the vacuum extractor in some health centres, as well as the mask and warmer machine for newborn resuscitation. While for the warmer machine there can be a problem with the electricity supply, the other procedures for newborn resuscitation are not practised due to a lack of training.

Table 12: Availability of selected clinical tools and equipment for peri-partum surveillance and interventions

Health facility	Maternal and fetal surveillance and intervention								New born surveillance and intervention			
	Ultrasound machine		Partograph		Cardio-tocograph		Vacuum extractor		Bag and Mask		Warmer machine	
	Exists	WP	Exists	WP	Exists	WP	Exists	WP	Exists	WP	Exists	WP
Macenta	n	n	y	n	n	n	y	y	y	y	y	n
Nzerekore	n	n	y	n	n	n	y	y	y	y	y	y
Gueckedou	n	n	y	y/n	n	n	y	n	y	n	n	n
Forecariah	n	n	y	y	n	n	y	n	n	n	y	n
Foya Tengai	n	n	y	n	n	n	y	n	y	n	n	n
Sorlumba	n	n	y	n	n	n	y	n	y	n	n	n
Mendicorma	n	n	y	n	n	n	y	n	y	n	n	n
Foya Borma	n	n	y	n	n	n	y	n	y	n	y	y
Worsongai	n	n	y	n	n	n	n	n	?	?	n	n
Kailahun	n	n	y	n	n	n	y	y	y	y	y	n
Pendembu	n	n	y	n	n	n	y	n	y	n	y	n
Daru	n	n	y	n	n	n	y	n	y	n	y	n
Jojoima	n	n	y	n	n	n	y	n	y	n	n	n

*WP= well practiced.
*y/n= pertinent questions asked.
*y= yes.
*n= no.
Red corresponds to the absence of the practice and the equipment.
Yellow corresponds to the absence of the practice in spite of the presence of equipment.
Green corresponds to the existence of the practice and the equipment.

a. Ultrasound

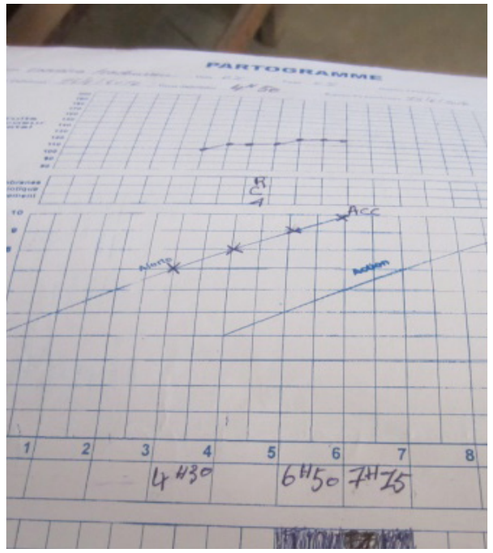
None of the health facilities was equipped with a single ultrasound machine despite being useful tools in maternities. Short specific training can be given to midwives to enable them to make quick simple diagnosis. During labour, ultrasound examination can help detect fetal heartbeat where doubt persists, can detect malpresentation and help early referral process.

b. *Partograph*

Partograph was used everywhere. However, except in two health facilities (in Guinea), the assessors suspected they were not being used correctly. They saw partographs which had been filled in later and adjusted, with dilation following the alert line all the time.

During the field mission, one midwife in Guinea admitted she did not know how to fill it in and was delighted to receive training.

Figure 4:



a Partograph a postiori adjusted to fit (wrong practice)

b Discussion on how to correctly fill in the partographmaternity ward in Kenema (Sierra-Leone)

c. *Cardiotocograph*

None of the health facilities visited had a cardiotocograph (electronic fetal monitor).

This machine monitors fetal heart rate and uterine contractions, during pregnancy and birth. The signal is both audible through a microphone place against the mother's abdominal wall and readable through a printer. It can show if the baby is in distress and is used both for healthcare and for teaching processes.

d. *Vacuum extractor*

All hospitals and health centres supported by UNFPA were equipped with vacuum extractor tools. However, none of the health centres were using them, citing a lack of training and/or confidence.

e. *Bag and mask*

Bag and masks were available however, health centres were not using them. When asked to show the equipment, either it took time to find them or they had never been unpacked. In five health centres, the midwives were not even using them correctly (for example: failing to cover both nose and mouth by the mask).

f. *Newborn warmer machine*

Newborn warmer machines are not used in maternities. Where they exist, either they are not used because of weak electricity power, or are in intensive care units, separated from the maternity unit (for example: Nzerekore hospital). In Liberia, blankets are correctly used to play the same role.

g. *Case fatality rate*

The assessment found that maternal mortality cases are higher than they should be (less than one per cent, according to a WHO report[23]) for existing health facilities to qualify as quality EmOnC service providers.

Assessing quality is rather more complex than assessing quantitative performance. However, case fatality rates in the four hospitals illustrate the gaps. Data on maternal mortality are only available for district hospital fatalities. For Guinea (Nzerekore and Macenta) and Sierra Leone (Kailahun), quality was assessed using women who died during or after caesarean section procedure. For Liberia (Foya Borma), those data were not available and newborn deaths were used instead.

23. World Health Organization, Indicators to Monitor Maternal Health Goals: Report of a Technical Working Group, Geneva, 8-12 November 1993, Geneva, 1994.

Table 13: Characteristics of assessed health facilities and their quality performance

Country	Total deliveries	Caesarean n (%)	Fatality Maternal cases	
			Number	%
Macenta	50	15 (40)	5 in 6 months	6
Nzerekore	216	67 (31)	10 in 6 months	2.5
Foya Borma	47	16 (34)	5 in 6 months	5
Kailahun	50	15 (30)	10 in 7 months	9

7.6 Facilities and infrastructure

During the assessment, a series of issues related to infrastructure were raised. Some issues are linked to a lack of space, others are linked to a lack of equipment. Examples include: a lack of space dedicated to reproductive health and EmONC facilities, no alternative power source, no working telephone, a lack of latrines and clean water.

In most health facilities in Liberia and in some in Guinea and Sierra Leone, there was no tap water - a big concern for infection control. In all the health facilities visited, toilets were a big issue and pit latrines were common. Pumping water by hand was common practice, with tap water the exception. In such conditions, hygiene is seriously compromised.

Electricity was also a common problem meaning a lot of equipment was not used due to lack of reliable power: for example, the autoclave in Kailahun and fridge in Pendembu.

Table 14: State of infrastructure with selected functions

Country	Border towns	Space dedicated to reproductive health, EmONC	Alternative reliable source of electricity	Working telephone in facility	Adequate toilets	Adequate source of water
Guinea	Macenta	y	y	n	n	y
	Nzerekore	y	y	y	n	y
	Gueckedou	n	n	n	n	n
	Forecariah	y	n	n	n	n
Liberia	Foya Boma	y	n	n	n	n
	Foya Tengai	y	n	n	n	n
	Worsongai	n	n	n	n	n
	Sorlumba	y	n	n	n	n
	Mendicorma	n	n	n	n	n
Sierra Leone	Kailahun	y	n	y	n	y
	Pendembu	y	n	n	n	n
	Daru	n	n	n	n	n
	Jojoima	y	n	n	n	n

The predominant red colour in table 14 indicates there is still large gap in infrastructure equipment.

Figure 5

a Well-designed fridge for transfusion products not in use because of lack of power

b Surgical light underpowered

UNFPA has supplied solar energy equipment everywhere which is helpful, but it is often not powerful enough to make some equipment function adequately.

Table 15: Human resources deployment and gaps

Health facilities	Expected staffing according to GHC core indicators 2009	Current staffing	Staffing Gaps n (%)	
			n	%
Macenta	657	13	-644	98
Nzerekore	876	23	-853	97
Gueckedou	643	4	-639	99
Forecariah	539	2	-537	99
Foya Tengai	35	2	-33	94
Sorlumba	12	2	-10	83

Health facilities	Expected staffing according to GHC core indicators 2009	Current staffing	Staffing Gaps n (%)	
			n	%
Mendicorma	12	2	-10	83
Foya Borma	35	36	+1	-3
Worsongai	9	2	-7	78
Kailahun	TBD	9	TBD	?
Pendembu	30	2	-28	93
Daru	38	10	-28	74
Jojoima	29	7	-22	76

According to the Global Health Cluster (GHC) core indicators 2009, at least 22 full time staff should be available per 10,000 population, especially in case of crisis. Table 15 above shows the huge gap between current health staffing and expected ones. The average staffing gap is 81 per cent.

In addition, many deliveries are assisted by non-qualified staff called maternal and child health aids (see figure 6).

Figure 6: Scan from a registry showing that "MCH Aide" assisted deliveries

Table 16: Data source currently updated

Health facility	Quality of data registers and sources							
	Labour and delivery	Operating theatre	Maternal/ new born death	Antenatal consulta-tion	Postnatal consulta-tion	Post-abortum care	PMTCT	Family planning
Macenta	y	y	n	na	y	n	n	y
Nzerekore	y	y	n	na	y	n	n	y
Gueckedou	y	na	n	y	y	n	n	y
Forecariah	y	na	n	y	Y	n	n	y
Foya Tengai	y	na	n	y	y	n	n	y
Sorlumba	y	na	n	y	y	n	n	y
Mendicorma	y	na	n	y	y	n	n	y
Foya Borma	y	y	y	na	y	n	n	y
Worsongai	y	na	n	y	y	n	n	y
Kailahun	y	y	y	na	Y	y	n	y
Pendembu	y	na	n	y	y	n	n	y
Daru	y	na	n	y	y	n	n	y
Jojoima	y	na	y	y	Y	n	n	y

In all health facilities visited, registers were updated. However some categories of data were recorded in the same register, making them very difficult to isolate. For example: maternal and newborn deaths were both recorded in the delivery register. Though prevention of mother to child transmission practices (PMTCT) are currently implemented, records are combined with the antenatal care register and are not isolated from other data.

Figure 6 shows a register where stillbirths are in the same register as the livebirths ('*Mort-né maceré*'). Health workers should have a specific register where additional information can be mentioned: for example, how and when the stillbirth was detected, the diagnosis and any specific actions taken.

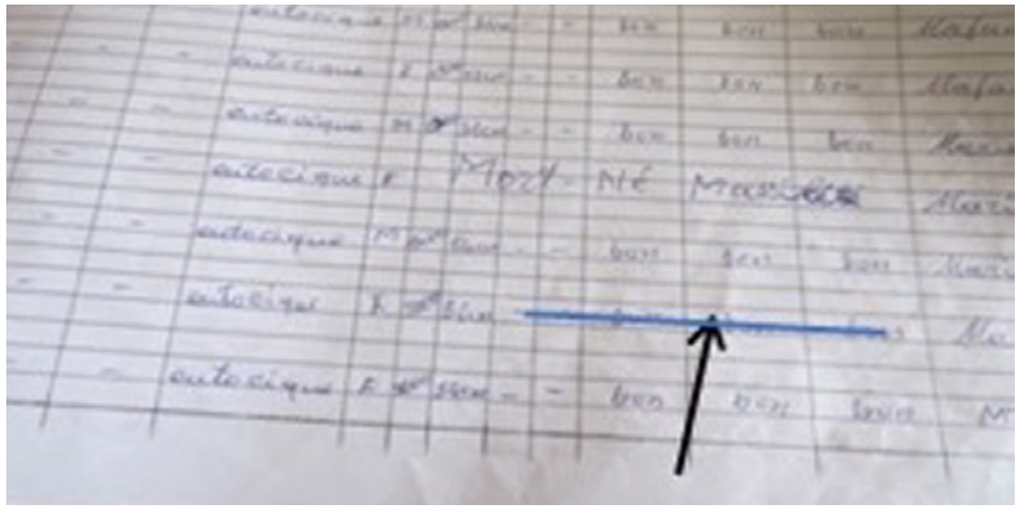


Figure 7: Stillbirths and livebirths are in the same register

In Liberia, an additional referrals register was added. This would be a good idea for other health centres as it serves as a tracer for:

- Establishing the real catchment area for health institutions by documenting who referred the patient
- Monitoring the change in condition of the referred patient at arrival compared to condition at departure from referral centre
- Sending feedback to the referral centre
- Assessing reasons for referral by centres
- Preparing tailored capacity building, adapted for each referral centre.

7.7 Discussion

1. Limitations and strengths of the assessment on reproductive health and maternal and newborn health

Limitations:
Because this assessment was a cross-sectional description of the health facilities, findings do not reflect changes that occurred over time. Through interviews, it was clear that UNFPA has increased its investment in equipping, staffing (Guinea) and training for

SRMNH. However, it was not possible to know why beneficiaries were not using health facilities' services. Low utilization can be community related, health system related, or both, as stated in some regional publications[24].

Due to a limited number of complicated cases, it was not possible to proceed to statistical analysis. However, the majority of the deaths were a result of direct obstetric complications: frequently haemorrhage and sepsis.

Strengths:
Field visits by the peer investigators (the leading investigator was a UNFPA staff member from another UNFPA region) were a very good approach: technical clarifications were initiated where needed; improvement in some practices were suggested and agreed on. For example, partographs are used in all health facilities but, probably due to lack of continuous training and mentoring, it was usually completed after the birth and adjusted to fit. It was worrying to observe that apart from two health facilities out of 13, dilation of the cervix was adjusted backwards.

A study into vacuum extraction in eastern Africa showed some health workers would not use it without the option of a caesarean section[25]. This reserve highlights the necessity to make sure proper training is given, until health workers have mastered the technique. It is suggested that a focus should be made on referral hospitals, rather than trying to train health workers at all health facilities.

2. Good practices and areas for improvement

Good practices:
The assessment identified a number of good practices:

I. Contact tracing leadership:
Interviews with UNFPA staff and UN system colleagues revealed that the role of UNFPA in tracing Ebola contacts has been recognized and appreciated in all three countries. Community-based initiatives should be supported and even expanded to deal with SMRNAH issues in their community.

II. Fever screening and hand washing:
Screening for fever and hand washing have become a respected practice, whether in the airport or the health centre. Innovative and cheap technologies for hand washing have been developed. Figure 7 shows a hand washing station between the toilets and the maternity unit, set up and then retained after the EVD crisis. All facilities are now equipped with similar devices to improve hygiene. The remaining problem is they use non-running water and are probably not as clean as they should be. This device uses pedals to allow hand washing without touching.

24. Investment plan for building a resilient health system in Liberia 2015 to 2021 in response to Ebola Virus Disease outbreak of 2014-2015

25. L. Pearson, R. Shoo. Availability and use of emergency obstetric services: Kenya, Rwanda, Southern Sudan, and Uganda. International Journal of Gynaecology and Obstetrics (2005) 88, 208—215

Figure 8

a Hand washing station using pedals (health centre in Guinea)

b – Simple hand washing machine (Liberia)

III. Availability of drugs for maternal and newborn health including family planning methods.

IV. Apart from the lack of misoprostol (not imported) and corticosteroids for managing premature babies, the essential drugs for reproductive, maternal and newborn health were available. The evaluation team identified no stock out. This is to the credit of UNFPA who is the main sponsor.

V. Task shifting in Guinea:
Obstetric surgery was performed both by medical doctors and non-doctors. In a big country with a shortage of qualified health personnel, training non-doctors to per form emergency obstetric surgery is a very good approach. However, the analysis team did not evaluate how the task shifting process is regulated. The good practice should ensure the non-medical doctors have enough competencies to decide when a caesarean section is necessary.

UNPA Support for health staffing:
UNFPA support has allowed health ministries to hire hundreds of midwives to work in health facilities. The assessors recommend that UNFPA now becomes involved in formal curriculum training.

Quality data initiatives:
The Ebola outbreak has been an opportunity for UNFPA to work closely with other organizations, for example using the 'commcare' software for monitoring and evaluation in Guinea[26]. This software consists of an informatics system using mobile health application and business intelligence. The system allows for real-time identification of contacts and contact tracers through timestamps and collection of GPS points while collecting data. As of 30 April 2015, 210 contact tracers in five prefectures were actively using the mobile system to collectively monitor 9,162 contacts.

Areas for improvemen:
Infrastructure remains a big issue and may be responsible for substandard quality health services.

26. Jilian A Sacks, Elizabeth Zehe, Cindil Redick, Alhoussaine Bah, Kai Cowger, Mamady Camara,Aboubacar Diallo, Abdel Nasser Iro Gigo, Ranu S Dhillon, Anne Liu. Introduction of Mobile Health Tools to Support Ebola Surveillance and Contact Tracing in Guinea. Global health: Science and Practice.

Figure 9

a Impassable road leading to 'second delay'

b Plumbing poorly maintained

Human resources need to be drastically improved. The aim would be for a ratio of trained health workers to population of 22 to 10,000. This is the minimum number of personnel required to deal with a disaster situation.

Other improvements: see table 17 next page.

Table 17: Selected areas for improvement and suggested solutions

Area	Rationale/ Inconvenience	Suggested Solutions	Responsibility		Criticality		
			Advocacy	Sponsor	High	Medium	Low
Infrastructure							
Too small for SRMNH services	Lack of privacy for patients	Expand	MoH/ UNFPA	MoH		×	
Lack of fence for many health centers	No control of hygiene and risk of infections with free access of animals	Protect premises	MoH/ UNFPA	MoH	×		
Pit latrines or squat toilets,	Urine splatter and non-access for handicapped persons	Toilet seats	MoH/ UNFPA	MoH	×		
Unsafe water sources	Risk of infection	Tap water	MoH/ UNFPA	MoH	×		
Laundry for hospital bed sheets and staff shirts	Risk of infection	Washing machines	UNFPA	MoH/ UNFPA	×		
Electricity supply and maintenance	Cross cutting low quality services (lab, clinic, storage, safety)	Connection to the national electricity supplier or have maintenance of existing generator	MoH/ UNFPA	MoH/ UNFPA	×		
Human resources and SRMNAH services delivery							
Staff competency	Substandard quality services or no services	Involvement in curriculum review. Train and retain.	UNFPA	MoH/ UNFPA	×		
Rights and protection	Health workers infected or affected by diseases and family not protected (assurance)	Immunize health workers and get professional assurance	UNFPA	MoH/ UNFPA		×	
Value for money of equipment supplied by UNFPA	Unused equipment (example vacuum extraction)	Training as needed and evaluation of impact for every investment	UNFPA	MoH/ UNFPA	×		
UNFPA SRMNAH's Investment	Too scattered investments	Focus on CEmONC and not BEmONC for more impact	UNFPA	UNFPA	×	×	
Quality services monitoring and evaluation	Lack of clear standards	Establish accreditation for health facilities and continuous medical education for health workers	UNFPA/ MoH	UNFPA	×	×	

Area	Rationale/ Inconvenience	Suggested Solutions	Responsibility		Criticality		
			Advocacy	Sponsor	High	Medium	Low
Screening for ANC services	Missed opportunities for mother to child transmissions of infectious diseases	Screen pregnant women and expectant fathers for HIV, syphilis and hepatitis B&C	UNFPA	UNFPA	×		
Quality data collection and management							
Data not collected or not used	Empiric (not evidence-based) decision making in health facilities	Help health personnel to interpret data	UNFPA/ MoH	UNFPA	×	×	
Innovations	UNFPA wrongly unrecognized in scientific publications despite contributions	Participate in research and co-publish	UNFPA	UNFPA	×	×	×
	Ebola survivors follow up	Participate in such research especially on reproductive health aspects	UNFPA	UNFPA			
Add new information for M&E	Service performance and quality assurance can be refined	Include 'near misses' or survivors of obstetric complications	UNFPA/ MoH	UNFPA	×	×	
Standardize maternal death review and response	Lack of inter-country comparability of data	Have the same registers across the region	UNFPA	UNFPA		×	
	Role of non-medical underlying causes of maternal deaths underestimated (communication tools: for example, roads, telephone)	Include the 'three delays' concept in both maternal deaths and near misses	MoH/ UNFPA	UNFPA	×	×	
Issues related to abortion	Lack of information	Have a register for Post Abortion Care (PAC) and use Manual Vacuum Aspiration (MVA) and misoprostol	UNFPA	MoH/ UNFPA	×	×	

8 UNFPA role in the recovery phase

The Liberia, Sierra Leone and Guinea COs are supporting their respective governments to implement health sector recovery programmes. The aim of the recovery plans is to build a resilient health system that restores the gains lost in the outbreak, ensure health security and reinstate community trust in health facilities and services. UNFPA ensured that health sector recovery plans mainstreamed adolescents, youth and maternal health services.

At the regional level, the regional director's visit to the three countries played a catalytic role in the organization of (i) a high level meeting on the Manor River Post Ebola Youth Initiative on the margins of the International Conference on Ebola Recovery (New York, July 2015); (ii) the high level ministerial dialogue on the Mano River Midwifery Response focusing on 'Building Resilience and Supporting Recovery through Integrated and Strengthened Midwifery' on the margins of the International Conference on Africa's fight against Ebola (Malabo, July 2015); (iii) the sub-regional meeting on Youth Empowerment and Demographic Dividend; and (iv) the writing up of the concept note of the Mano River Youth and Demographic Dividend Initiative.

At country level, UNFPA COs in each of the three countries have aligned their recovery strategies with the national plans. The COs are also in the process of mobilizing funds to support their post recovery plans. However, it was observed that in each of the three countries, there has been a high turnover of senior staff involved in the response to Ebola, leaving behind national staff to bridge the UNFPA emergency to recovery phase.

The following are the specific recovery interventions in each of the three countries:

I. Liberia: The CO is supporting the Government to restore maternal services. The office has funding from the Mano River recovery response to provide human resources, equipment and commodities for maternal health. The CO has contracted non-profit health organization Jhpiego as an implementing partner for a component of this initiative, focusing on midwifery training and deployment to health facilities. In supporting health systems strengthening, UNFPA has renovated three hospitals and deployed 60 health workers to facilities. The CO is also in the process of recruiting international and national midwives to support restoration and improvement of maternal health.

II. Sierra Leone: The CO is supporting the Government to implement its six to nine month and 10 to 24 month recovery plans. It is supporting health systems strengthening in relation to MNCH and SRH. In this regard, it has renovated the maternal services wings of health facilities. So far 10 health facilities have been renovated and midwives have been deployed under the Mano River Union programme. UNFPA is supporting about 18,000 schoolgirls who got pregnant during the EVD outbreak. The support involves keeping the girls in special schools and caring for their babies. Support is also provided to MoH&SW to assess health facility capacity to provide EmONC – to prepare them for opening or for expanding their services. The CO is also supporting MoH&SW to conduct maternal deaths surveillance and response (MDSR).

III. Guinea: The CO is focusing on restoring and rebuilding maternal and child health and reproductive health services. With funding from the Mano River Project, it is training and deploying midwives as well as supplying equipment and commodities to health facilities. It is also supporting a restoration of reproductive health services throughout the country. The evaluation team visited some border health facilities newly rehabilitated by UNOPS, with EU funding and equipped by UNFPA. It is believed that such collaborative initiatives could be emulated elsewhere in the country, especially in border areas, to the benefit of cross border populations.

Going forward, UNFPA can exploit the following opportunities to strengthen its position in the post Ebola recovery phase.

I. Use of community systems to strengthen maternal health services: community leaders, religious leaders, community health workers, TBAs, and youth and women groups played a key role in social and community mobilization in the fights against Ebola. There is an opportunity for UNFPA to mainstream these structures to increase ANC attendance, deliveries of pregnant women at health facilities and scale up access to SRH services.

II. Contract tracing teams: The contact tracing teams are a resource that can be utilized by adapting contract-tracing methodology to conduct maternal deaths surveillance.

III. Building local partnerships: The Ebola response provided an opportunity for COs to work closer with county administrations, especially the health teams. Leading contact tracing also brought UNFPA closer to communities. There is an opportunity to establish strong partnerships at a local level and strengthen UNFPA's community strategy.

IV. Regional programming: In view of the commonalities of the maternal and sexual and reproductive health issues in the three countries, UNFPA should consider developing a programme aligned to each country's recovery plan. The WCARO office can play a technical and facilitating role replicating the process for developing the Mano River Midwifery project.

V. Impact of Ebola on pregnant women and families: Several family members and pregnant women died during Ebola (whether from Ebola or other causes). UNFPA as a lead agency in contact tracing has access to the data in the three countries. Given its expertise in data management and analysis, UNFPA could assist governments to mine this data to focus recovery efforts at community level. For instance, in Guinea, the CommCare database has the contacts of the affected families. There are also cases of missing persons who are not in the database.

VI. The EVD outbreak has been an opportunity for the respective countries to receive huge quantities of medical supplies, motor vehicles, motor bikes and bicycles especially for contact tracing and epidemiological surveillance. An appropriate control on the use of these items can formidably strengthen the countries' recovery capacity.

9 Innovations, communication and partnerships

9.1 Innovations

The following are Ebola response interventions that can be considered as innovations:

Liberia

Maintaining maternity services: The strategy of providing maternity equipment to TBAs and TTMs to maintain maternity services and ensure safe deliveries when health facilities closed, could be considered an innovation. This approach provided life-saving services to pregnant women in difficult circumstances. This was possible because of the TBAs and TTMs infrastructure that UNFPA had built prior to the outbreak. This infrastructure proved useful during the emergency.

Scaling up reproductive health services: UNFPA was able to scale up reproductive health services using community-based structures established pre Ebola. These were the SRH service points established in markets places and the youth friendly services. The innovation is the ability to adjust to new circumstances and continue to maintain continuous services to the population. During the outbreak, UNFPA used these two points to provide SRH and family planning commodities to women and men. There was an increase in the number of men and women who sought services from these centres.

Guinea

Use of mobile technology: This is an IT solution that was previously used for data collection and utilization in the health sector at large. It was adapted to manage contact tracing. Using this technology, UNFPA avoided double counting of contact persons, and ensured timely monitoring, timely reporting, speedy ways of getting information on each contact identified – early, timely and active case identification were the most useful gains of CommCare.

Before CommCare, the Guinea CO provided cellular phones to key players in the EVD response. This allowed quick reporting of raw and broad data and enhanced coordination.

In view of the widespread community hostility to EVD responders, as well as disbelief in any government-related initiative to inform them on the disease, UNFPA funded a socio-anthropological study in the endemic zones. The findings of this study largely enlightened responders on the do's and don'ts of the response process and will remain a key guide for future responses.

Sierra Leone

In Sierra Leone, the most important innovation was securing a role for UNFPA as lead contact tracer. This strategy was new and unprecedented for an institution that had not previously been involved in responding to a complex emergency of such magnitude.

Finally, involving the Mano River Union very early in the response can also be seen as an innovation. This involvement started during the outbreak, and is now key to the recovery period.

9.2 Communication and advocacy

During the Ebola response, communication played a key role internally in sharing information, updating all levels of the organization and supporting decision making. Externally, it allowed formation sharing with national and international audiences. It was also an effective tool in raising awareness, changing attitudes and behaviour that contributed to stopping Ebola transmission. For instance in Guinea, the rapid recognition of the disease and public declaration by the Head of State allowed an equally rapid intervention of the CO, as well as initiating cross borders linkages with UNFPA COs in neighbouring countries.

Liberia Country Office communication activities

UNFPA communicated to its internal audience (WCARO and HQ, among others) by producing regular technical briefs, as well as weekly situation reports for the RO and HQ. Dispatches and/or stories capturing UNFPA's interventions were drafted and submitted to RO and HQ where they were posted on their respective websites.

At country level, the communication unit developed documentaries, drafted articles and took photographs on the EVD outbreak and response activities and posted these on the website as well as social media platforms.

As part of UNFPA's response communication activities, health promotion materials were produced and disseminated including: brochures, posters, radio messages, video documentaries highlighting the plight of female Ebola survivors and their families. Various platforms including websites, social media as well as traditional media (radio and television) and community structures were used to distribute or disseminate these materials.

Sierra Leone Country Office communication activities

Communication was a key component of the UNFPA response in Sierra Leone. UNFPA Sierra Leone has a communication unit of two staff members – the communication officer and a communication assistant. The unit is under the population and development cluster and its functioning cuts across all clusters and programmes. During the EVD outbreak, the communication unit led the UNFPA communication effort. Its aim was to document and communicate UNFPA response activities. This was done using the following strategies:

Online communication: Articles and photos of the UNFPA activities were placed on the UNFPA country website. Articles, photos and a documentary on UNFPA activities were also posted on social media (Facebook, Twitter and YouTube). The online platform targeted donors and the international community.

Publishing data or reports on the epidemic: UNFPA communications staff were part of the UN communication group that published situation reports biweekly. The team was also part of the national communication group which published daily reports.

Branding and UNFPA visibility: The communication team implemented the UNFPA one voice policy, which involves ensuring uniform branding of UNFPA across all activities. They reviewed and approved the use of UNFPA brand/logo on merchandise and other commodities procured either directly by UNFPA or by partners funded by UNFPA.

Message developed: UNFPA was one of the agencies that NERC worked with to develop messages on Ebola. This involved developing and implementing messages. Some of the messages were on ambulance services, emergence telephone line, safe burials and IPC. Messages were refined as the situation changed and they aimed at raising public awareness on EVD prevention and control. Messages included radio jingles, discussion programmes involving professional and community leaders, and use of megaphones at community level.

Guinea Country Office communication activities

UNFPA in Guinea focused its communication activities at the community level. It had a more robust communication response compared to Sierra Leone and Liberia.

UNFPA communication capacity: Two communication experts were recruited and participated regularly in National Communication Unit meetings.

Social and community mobilization: Social and community mobilization was done through mass communication using the media and interpersonal communication, home visits and educational talks. 340 youths were trained on culture and peace consolidation, which allowed them to be involved in social mobilization at national level to fight resistance and community violence against Ebola.

Women leaders were also sensitized on Ebola prevention and given hygiene kits to distribute in public places such as mosques, markets and bus/public transport terminals. In Conakry, 234,780 youths were trained on prevention modes and the fight against resistance of Ebola. Five hundred talks were undertaken in 33 prefectures by 100 traditional healers, hunters and griots. UNFPA put 132 village committees in place to facilitate community engagement and social mobilization.

Use of IEC materials: Posters were designed for health facilities and other public places (bus terminus, markets) t-shirts were used to spread awareness on Ebola prevention, written in six languages, using the skills of traditional communicators and Ebola survivors.

Use of media: Popular theatres were used. Fifteen plays on Ebola were developed through popular theatre. Twelve television programmes were developed on 'Stop Ebola' in six national languages using traditional communicators and Ebola survivors. One hundred major professionals and another 100 members of the network of traditional communicators and 70 traditional healers, and 50 journalists were trained so that they had the right knowledge and information to inform people nationally and locally.

The CO also communicated internally and internationally using the website and posting articles and photos in social media. It also contributed to the country situation reports.

Regional office and HQ communication

The regional office used the reports received from countries to develop fact sheets that were posted on the websites, provide updates during regional coordination meetings at Dakar, Senegal, and UNMEER meetings in Accra, and to engage with COs on the progress in response to the EVD outbreak.

The communication experts from the HQ and WCARO visited the three countries in 2015 and documented the UNFPA response activities, challenges and achievements. This mission developed a fact sheet on the context, challenges, lessons, partners and next steps for the UNFPA EVD response; posted stories on WCARO Facebook page and Twitter; posted stories on WCARO's website and developed a publication summarizing the UNFPA response.

Communication challenges

Communication in the three countries faced similar challenges. The human resources capacity of UNFPA COs could not meet the demand for effective communication in the face of such a complex emergency. Liberia had one communication staff while Sierra Leone had two staff, who were expected to undertake fieldwork and develop situation reports in a timely manner.

Funding for communication activities was limited. Some of the communication tools required substantial funding such as developing documentaries or using electronic and print media. Communication activities should be included among intervention activities and should be costed as stand-alone, to avoid being overshadowed by other activities.

In addition, at the onset of the disease, there was little distinction between job descriptions. All staff were involved in almost all aspects of the response and there was very little time for individuals to concentrate on their usual work.

Knowledge on Ebola was limited at the start of the crisis and there were limited skills in risk communication. However, communication staff and other technical staff learnt quickly and adapted as the crisis progressed. Due to the fast pace of the crisis, messages were developed spontaneously.

Communication also includes visits of international media to the frontline. The fear of contamination drastically limited the number of such visits and must be recognized as a big challenge to communication.

Use of communication for advocacy and resource mobilization

During the crisis, communication supported establishing UNFPA as the lead agency in contact tracing within UNMEER context, as well as with the governments in the three countries. UNFPA was able to demonstrate its leadership and flexibility in conducting contact tracing by providing timely updates on the response on the ground. Communication also supported advocacy work by providing information that was disseminated to local leaders to enable them educate their communities.

The lessons out of this crisis on how communication can be used for advocacy and resource mobilization are as follows:

I. Communicating the impact of an emergency on pregnant women, adolescents and youth can be powerful messages for mobilization of international resources. This can focus the international community's attention on a crisis within a crisis.

II. Advocating to governments of affected countries to focus on pregnant women, adolescents and youth, by demonstrating the impact of an emergency on these groups. The governments can integrate the needs of these groups within its overall emergency response plan and invest more on addressing their needs.

III. Communicating data/evidence on the impact of emergencies on pregnant women, adolescents and youth to other agencies or partners who have the capacity and resources to meet the needs of these groups in an emergency.

IV. Using communication to support local advocacy aimed at involving local leaders and groups in responding to an emergency. This type of advocacy can be used to mobilize community structures into action.

V. Communicating data/evidence from monitoring the impact of an emergency on these groups, to sustain government and other partners' interest and focus on them. The data can be presented in fact sheets, documentaries, photographs, testimonies and presentations in relevant fora.

9.3 Partnerships

Regional level

At the regional level, there was a revitalization of the partnership between UNFPA and Mano River Union Secretariat leading to the mobilization of midwives, to support delivery of maternal health services in the three countries during the Ebola crisis. UNFPA also worked in partnership with other regional UN agencies such as UNDP to conduct political advocacy for regional bodies including the African Union and ECOWAS, to take a lead in the response.

UNFPA Liberia partners

UNFPA Liberia implementing partners included Africare, Planned Parenthood Association of Liberia and Action Aid Liberia.

UNFPA contracted Africare in January 2016 to conduct community engagement and restoration of maternal and reproductive health services. Africare monitored contact tracing and ensured accountability. The organization trained and verified the contact tracers and paid them incentives; sensitized community leaders to ensure they understood how to prevent EVD infection; and generated community ownership. The organization renovated 20 health facilities and made modifications to provide a well-equipped maternal services wing, in order to restore maternal and reproductive health services. Africare total funding was USD 2 million.

Action Aid Liberia (AAL) had a partnership agreement with UNFPA to strengthen the gender capacity of national structures and policies. During the crisis, UNFPA extended the agreement to have AAL integrate gender into the Ebola response. AAL supported the CHTs in the districts with training, providing logistical support, awareness on Ebola prevention, payment of the tracer team and providing reports to UNFPA. AAL verified the tracers, field monitors and supervisors and paid their incentives. AAL also paid the local authorities and youth groups to conduct awareness on Ebola prevention and treatment and other health issues. AAL also supported the CHTs to hold coordination meetings to review progress, challenges and come up with solutions.

Planned Parenthood Association of Liberia (PPAL) contributed to the continuity of SRH services by providing SRH commodities in the market places and youth friendly centres. During the outbreak, there was an increase in the number of men and women who visited these sites to seek SRH services and UNFPA, through this implementing partner, supplied commodities to these centres.

UNFPA Sierra Leone partners

UNFPA in Sierra Leone supported the National Ebola Response Committee (NERC) and the MoH&SW to deliver the Ebola response. UNFPA aligned its activities as much as possible to the national response plan. At the national level, UNFPA (with other UN agencies) provided leadership and technical advice to the NERC and also participated in the relevant NERC sub-committees, such as surveillance pillar and contact tracing sub-pillar. At the district level, UNFPA coordinators supported the District Ebola Response Committees (DERCS) and their structures to conduct contact tracing and ensure coordination with other teams such as quarantine, referral and treatment teams. The contact tracing team provided daily reports to the DHTs under the NERC.

UNFPA contracted Health for All Coalition (HFAC), a NGO with a countrywide network of community health monitors, to monitor contact tracing focusing on: (i) contact tracers visits to contacts daily; (ii) number of contacts visited daily and the frequency of the visits; (ii) identification of symptomatic cases; (iii) transfer of cases from households/communities to holding centres; (iv) monitoring of quarantined households to ensure contact tracers were visiting houses and also providing expected supplies; and (v) missing persons were reported and traced. Using its monitors' networks with the local community, HFAC assisted in building community trust in the tracing team to minimize resistance. HFAC is currently monitoring the services (education, counselling and child care) provided to over 15,000 girls who became pregnant during the EVD outbreak.

UNFPA Guinea Partners

In Guinea, UNFPA engaged two gender NGOs to train youth and women groups on Ebola prevention and control. These NGOs also conducted social mobilizations by reaching out to traditional leaders, religious leaders and traditional communicators. They were also instrumental in setting up village committees and sensitizing community members.

Partnership with the University of Columbia was crucial in developing the CommCare software that has helped so much in stopping the spread of the disease. In addition to the actual developing of the software, training of software users has been a key activity undertaken by the University. Trainees included prefecture coordinators, actual contact tracers as well as central authorities in charge of final data control and use.

The Government of Guinea was a key partner to the response team, hence the reduced number of other partners used by agencies.

Partners' contribution to the achievements, good practices and lessons

The strategy of using implementing partners amplifies UNFPA capacity and ensures services reach a wider geographical area. UNFPA engaged partners with whom they had an on-going relationship, knowing they already had knowledge of UNFPA strategies and processes. This made it easier for them to work together.

The partners also enabled UNFPA implement the response to Ebola as follows:

Managing staff security risk: Partners in Sierra Leone were instrumental in paying incentives to the tracing team. This reduced the direct risk that UNFPA staff could have faced if they were to make these payments. When UNFPA Sierra Leone and Guinea used staff to make payments, they had to bear the physical security risk of carrying cash to the field and exposure to Ebola infection.

Leveraging partners' strengths: UNFPA also leveraged the strengths of their partners to implement the response. In Liberia, each partner disseminated information on Ebola prevention alongside payment of incentives. For instance, Action Aid Liberia integrated gender into the response and reached out to women and youth.

Contact tracing monitoring: In Sierra Leone, UNFPA worked with HFAC which contributed to ensuring accountability and integrity of the tracing exercise. They conducted independent monitoring and supervision to ensure contact tracers were making the visits as expected. This approach demonstrated good practice in ensuring accountability in contact tracing.

Social and community mobilization: In Guinea, UNFPA use of female partners for social mobilization enabled the CO to deliver a successful Ebola sensitization intervention that reached critical members of the community and contributed to change of attitudes and behaviour. Social mobilization requires in-depth knowledge and adequate time spent in the community. The two CSOs engaged in Guinea contributed to this aspect of the response because of their tradition of working with women and have been instrumental in stopping the spread of Ebola.

Partners' appreciation and perceptions of UNPFA response

All partners consulted gave positive and encouraging perceptions of the UNFPA response in the three countries.

The three governments also expressed great appreciation of UNFPA's work . In all three countries, UNFPA responded immediately to the government request for resources at the onset of the outbreak. It provided resources and staff at a time when funding was limited. Further, government partners (MoHs) acknowledged the bold and strong leadership of UNFPA. The country leaders for UNFPA proposed contact tracing as a key strategy for combating the EVD outbreak when there was limited information about the disease and offered to step into the 'unknown' to deliver what turned out to be a huge task. Governments in the three countries awarded UNFPA certificates of recognition and appreciation for its contribution.

In all three countries, UNFPA partners noted the speedy way in which UNFPA reached agreements and signed contracts. Funds disbursement was also made in a timely manner. Partners in Liberia who were involved in payment of contact tracing team observed that funds disbursement was on time.

Other UN agencies recognized the role UNFPA played during Ebola. They observed that UNFPA was able to come forward with funds and staff at a time when the response strategy was not clear and the funding was limited. They also observed that UNFPA successfully delivered the huge task of contact tracing, despite the scope and intensity not initially being anticipated. UN agencies also observed UNFPA's collaboration to ensure UN delivered as one. UNFPA was part of the coordination meetings at the UN which reviewed progress in the EVD response.

10 Conclusions

The following are the key conclusions derived from the UNFPA institutional response to the EVD outbreak:

10.1 Institutional analysis

UNFPA's role as a lead agency for contact tracing was critical in contributing to stopping EVD transmission. This role was well recognized and appreciated by governments in the three countries and it has positioned UNFPA as a key government partner in the recovery phase. However, UNFPA needs to make a decision as to whether contact tracing should be mainstreamed as part of its role/mandate during health emergencies.

UNFPA priority populations – pregnant women, adolescents and the youth – were most affected during the EVD outbreak. They had difficulties accessing maternal and SRH services. About 18,000 women got pregnant in Sierra Leone during the EVD outbreak and there was an increase in sexual and gender violence cases recorded. This calls for UNFPA to be better prepared to ensure service continuity for these groups in emergencies.

The EVD outbreak underscored the frontline role of communities in responding to emergencies. Emergency preparedness needs to include strengthening community health systems to ensure community structures are well trained and linked to the public health system. Building trust of communities in the public health system should be a central part of community health systems strengthening.

The UNFPA response to Ebola at regional and international level revealed the importance of being at the centre of high-level decision making processes. UNFPA's participation at high-level decision making at both international and regional levels resulted in the recognition of its role in the response and facilitated its resource mobilization efforts.

The crisis provided an opportunity for UNFPA to test its emergency plans and policies and to learn lessons. The fast track and financial management policies enabled UNFPA to respond to a rapidly evolving health emergency in a flexible and timely manner. On the other hand, the surge policy did not work well as few staff were deployed while the level of preparedness at country level was limited, partly because the organizational emergency plans had not been cascaded to that level.

Most of the staff observed that UNFPA is currently not emergency oriented and preparedness for emergency response is not adequate. They noted the need for UNFPA to be better prepared for future emergencies.

The response to the EVD outbreak also brought out the need for UNFPA to respond in a unified manner at all levels (country, regional and headquarters), working seamlessly to support the UNFPA response. This includes streamlined decision making and communication processes as well as timely delivery of resources to where they are needed.

10.2 Sexual and reproductive health, maternal, neonatal and adolescent health services readiness assessment

The assessment revealed a number of good practices taking place with the support of UNFPA both during and after the outbreak. The cross border areas of Guinea, Liberia and Sierra Leone are well covered by integrated SRMNAH services. There were no financial barriers identified for access. Relative physical/geographical barriers exist and can explain maternal and newborn deaths related to second delay. The Mano River Midwifery Response contributed to the provision of maternal health services in the cross border areas by mobilizing the three countries to ensure availability of maternal health services in health facilities in the area.

Infrastructure was not always adequate, but improvement needed is mostly non-medical including space, running water, electricity and communications means (roads and working telephones). Lack of running water and a lack of alternative sources of electricity were also common. These two functions are essential as they serve as cross cutting quality service drivers.

UNFPA has also widely equipped health centres with solar energy (electricity) systems but maintenance is needed for their optimal utilization and the power they supply is often inadequate. In addition, medical equipment, commodities and tools (vacuum extractor, manual vacuum aspiration, warmer machine and mask for new born resuscitation) have been supplied by UNFPA but remain untouched in health centres because health workers lack the confidence to use them.

Human resources remain a big issue. All health facilities are understaffed. Staffing issues and staff competence was recognized by UNFPA which supports training and allocates

financial support to MoH to hire midwives. UNFPA with MoH should participate in planning for human resources for health. It should involve curriculum development and accreditation of both university and health facilities.

For UNFPA, investing differently may be worthwhile. While maintaining community activities such as maternal death and disability monitoring, there could be a quick impact by focusing on CEmONC referral hospitals in regards to eliminating the 'third delay'.

Health centres should be mentored by cascade by district hospitals, under the responsibility of country authority. The first and second delay are mainly community and administration related, while the third is mostly health system related. This approach is also supported by the overall high (more than one percent) maternal mortality in the region. In short, UNFPA should concentrate on referral hospitals as a priority before improving health centres.

11 Recommendations

The following recommendations are derived from the views of people interviewed and the key findings of the assessment. The recommendations are in two parts – recommendations for strengthening UNFPA emergency preparedness and recommendations for improvement of SRMNAH services.

11.1 Recommendations for strengthening institutional emergency preparedness and response

I. Improve decision making and communication during emergencies: Establish a fast tracked decision making process at senior leadership level at country, regional and headquarters that can be activated in times of emergency. Such a mechanism is needed to promptly establish the nature of the emergency, reach a decision on UNFPA response and ensure UNFPA gets to the table at the highest level of the response.

II. Strengthen emergency coordination mechanism: Learning from other UN agencies, UNFPA should consider designating a coordinator for a specific emergency who will be tasked to focus on the UNFPA response full time. Such a coordinator should be given adequate mandate and access to required resources to effectively coordinate the emergency.

III. Establish logistics capability: Moving commodities to the frontline during emergencies can be a complex exercise, as witnessed during the EVD outbreak. Logistics capacity is needed to complement existing procurement and supplies capacity. The focus of logistics should be on efficient movement of supplies to the front line during emergencies. The logistics expert could work with the World Food Programme and UNICEF. This capability can be developed during 'peace time' as part of emergency preparedness.

IV. Strengthen emergency preparedness at country level by considering the following recommendations:

- Disseminate existing emergency plans and guidelines to COs to ensure every country office is prepared.
- Build the capacity of UNFPA partners such as NGOs on emergency response.
- Conduct a mapping of potential partners at country level and build partnerships with the identified organizations.
- Develop country contingency plans.
- Conduct emergency response simulations to periodically assess the level of preparedness.

V. Strengthen UNFPA surge by considering the following actions:

- Review the policies for activation and deployment of staff on the surge roster to ensure clarity on the role of line managers, replacement or back up for the positions of deployed staff, medical, evacuation, security and remuneration.
- Train staff on the surge periodically to build and refresh their skills in emergency response.
- Establish a deployment strategy whereby staff with extensive emergency situation experience can be paired with those with less experience during an emergency response.
- Given that UNFPA is a lean organization, consider establishing external surge to complement the internal surge. This could be achieved through investing in partnerships with other organizations such as the Danish Refugee Council, Red Heart Australia, International Federation of the Red Cross/Red Crescent among others. Experts on the external surge should be trained by UNFPA to provide surge capacity in areas relevant to the UNFPA mandate.

VI. Integrate emergency preparedness and response in programming by considering the following actions:

- Develop a tool for assessing the core capacities for emergency preparedness for maternal health and SRH service delivery and sexual and gender violence at country level. UNFPA could learn from the Joint External Evaluation tool developed by WHO.
- Apply this tool to conduct emergency preparedness assessments to identify capacity gaps at country level.
- Based on the gaps identified, integrate relevant capacity building into UNFPA programming.

VII. Strengthen staff capacity in emergency response by considering the following actions:

- Integrate knowledge, skills and experience in emergency response into staff recruitment process for selected positions, to ensure new staff recruited into the organization have an emergency background.
- Develop and implement an emergency response skills development programme for staff.

VIII. Develop a strategy for resource mobilization for emergency preparedness and response in time of peace.

11.2 Recommendations for sexual and reproductive, maternal health, neonatal and adolescent health service improvement

Changes for improvement can be designed using the maternal mortality ratio as a proxy indicator for quality of care. To have adequate quality SRMNAH services, there is a need for accurate data, proper planning and process indicators consisting of adequate input (well trained and motivated staff, adequate equipment, ethical staff attitudes and evaluation).

The recommendations are:

1. Maintain leadership in SRMNAH at national level and beyond.
2. Support the MoH to get standardized norms for health facilities and a continuous improvement culture.
3. Provide equipment based on the essential package required for each level.
4. Establish a health facility accreditation system to monitor and improve quality of services.
5. Make an inventory of missing services and react accordingly.
6. Support planning for health resources, along with medical education institutions.
7. Leverage the Mano River Midwifery Response initiative to scale up SRMNAH services in the cross border area.
8. Prioritize investments in upgrading health facilities that implement CEmONC for high impact (specifically, district hospital before health centres).
9. Participate in publishable research.

Table 18: Recommendations to UNFPA

UNFPA strategy	Purpose	Activity	Who in UNFPA?	Priority	
				High (within 3 months)	Low (within a year)
Maintain the leadership in SRMNH at national level and beyond	Keep comparable advantage	Provide SRMNH supplies and related commodities	Regional and country office	×	
Support the MoH to get standardized norms for health facilities and continuous improvement culture	Ensure quality improvement process	Initiate interactive meetings with MoH to evaluate and update norms based on evidence	Country office and regional office (M&E and MH, RH tech adviser)	×	
		Carry out a baseline study for all health facilities and plan for improvement		×	
Provide equipment based on the essential package required for each level	Ensure match between equipment and expected service delivery	Make regular inventory based on an operational checklist	Country office (RH, MH)	×	
		Check regularly how useful each equipment is	Country and regional offices (M&E)	×	×
		Train all health providers in CEmONC, CTG and ultrasound	Regional and country office (RH, MH)	×	
Initiate health facility accreditation system to monitor and improve quality of services	Ensure objective evaluation of quality services and team building	Train the staff as a team on quality care and services	Regional office (RH, MH and M&E) with an external consultant company	×	×
		Create a unit of quality in all health facilities	Country office	×	
		Write policies and procedures	Country office	×	
		Register for accreditation system and accept external evaluator	Country office		×
Make inventory of missing services and react accordingly	Monitoring essential package performance	Check list and registers of all expected services	Country office (M&E)		×
		Analyse reports monthly	Country office (M&E and RH, MH)	×	

UNFPA strategy	Purpose	Activity	Who in UNFPA?	Priority	
				High (within 3 months)	Low (within a year)
Be involved in planning for resources for health along with medical education institutions	Ensure long term and sustainable human resources for health	Initiate discussion on curriculum review and update	Regional and country office		×
Prioritize investments in upgrading health facilities that implement CEmONC for high impact.	Ensure visibility and effectiveness innovative strategies	Make inventory of health facilities that can implement CEmONC (at least 2 for 500,000 populations)	Regional director and country representative	×	×
		Train health workers at 2 levels: providers and trainers	Regional and country offices RH,MH	×	×
		Monitor and evaluate quality of services using both impact and process indicators	Regional and country offices M&E and RH, MH	×	×
		Train and practice ultrasound, CTG and newborn resuscitation	Regional and country offices M&E and RH, MH	×	×
		Implement Kangaroo practice	Regional and country offices RH, MH		×
Community linkage		Train community mobilisers on pregnancy risks and birth preparedness	Country offices RH, MH		×
Promote research	Generation of evidence-based data	Participate in publishable research	Regional and country offices	×	×

Table 19: List of people interviewed

Name	Position	Organization / Town
Liberia		
Ibrahim Sesay	Technical Specialist, Reproductive Health	UNFPA Office, Monrovia
Woibah Suwo	Ebola and mission focal person	UNFPA Office, Monrovia
Shelly Wright	National Programme Officer, SRH	UNFPA Office, Monrovia
Elham Elamin	Operation manager	UNFPA Office, Monrovia
Brian J. Kironde	International Programme Specialist	UNFPA Office, Monrovia
Wose Gobeh	National Programme Officer, Reproductive Health	UNFPA Office, Monrovia
Maybe Lawrence	Programme Officer, adolescents and youth	UNFPA Office, Monrovia
Elisabeth Johnson	Programme Manager	Action Aid
Marion Subah	Maternal and Child Survival Programme	Jhpiego
Ernree Bee-Neeplo	Programme Manager	Planned Parenthood Association of Liberia
Ernest GAIE	Country Director	Africare
Dr Fazulu Haque	Deputy Country Representative	UNICEF
Dr Kamrul Islam	Chief of Child Survival and Development	UNICEF, Liberia
Quenuah R. Kuoh	Field coordinator	UNFPA
Antenna, Sinje		UNFPA Office, Monrovia
Kaikai Konney	Town Chief	Porkpa, Dambala
Varlee Camara	Community Health Officer	Porkpa, Dambala
Jonathan Ndzi	Humanitarian Specialist deployed to Liberia	UNFPA ESARO
Esther Bemah	Midwife	Worsongai Clinic
Alhaji Koroma		Worsongai Clinic
Rebecca Tamba	Midwife	Sorlumba Clinic
R.Amara S.Blama	Midwife	Sorlumba Clinic
Annie Kpehe	Registered nurse	Mendicorma Clinic
Abednego B. Flingai	Registered midwife	Mendicorma Clinic
J. Elijah Cooper (sister)	Registered nurse	Foya Tangai Clinic
Sienal N.Korzebal	Registered nurse	Foya Tangai Clinic
Mamai K. Hallie	Midwife	Foya Borma Hospital
Victoria K. Falkornia	Midwife	Foya Borma Hospital
Gayflor Koruah		Foya Borma Hospital
Andrew Rwema	Medical director	Foya Borma Hospital
Guinea		
Cheik Fall	UNFPA Country Representative	UNFPA Office, Conakry
Dr Adekambi Edwige	Former UNFPA Country Representative	UNFPA
Dr. Aboubakar Cisse	UNFPA Deputy Representative	UNFPA Office, Conakry
Somda Jules	UNDSS Local Security Assistant	UNFPA Office, Conakry
Dr Zanga Tuho	Ebola Response Coordinator	UNFPA Office, Conakry
Dr Sakoba Keita	Former Ebola Coordinator	UNFPA Office, Conakry
Dr Pepe Bilivogui	Chief of Mission	National Health Security Agency
Dr Konate	Director	Guinea Central Pharmacy
Dr Mamady Camara	Country Director	Millennium Promise
Mrs Seraphine WAKANA	UN Resident Coordinator	UN
Theonest Ganza	Crisis and Recovery Specialist	RC Office, UN
Achille GUERNOU	Chairperson, Ebola Survivors Association, Conakry	
Ms Constance WARIBA	Senior Midwife	Mano River Union
Dr Kissi Keita	Head, UNFPA field office	UNFPA , Nzerekore
Mr Delamou	Local Security Assistant	UNFPA, Nzerekore
	Prefecture Ebola focal person	Nzerekore
	Department health director	MoH; Nzerekore
	Rural community and leaders	MoH; Koule
	Rural community and leaders	Kouankan
	Prefecture Ebola Coordinator	Macenta
	The Ebola logistics team	Macenta
	Director, Macenta General Hospital and MRU midwives	Macenta
	The Prefecture Ebola Response Coordinator	

Name	Position	Organization / Town
Dr Harouna Djingarey	WHO Deputy Representative	WHO
Jean-Claude Kpoghomori	Chef Centre de Santé	Gekedou
Fackumba Mara	Sage-Femme Maitresse	Gekedou
Yousouf Bah	Sage-Femme Maitresse	Gekedou
Manty Traoré	Sage-Femme Maitresse	Gekedou
Keita Kissi	Medecin chef du sous Bureau UNFPA Nzerekore	Nzerekore
Paul Saa Yaradouno	Médecin chef de service	Nzerekore
Mabana Konate	Sage-Femme Maitresse Adjointe	Nzerekore
Homo Patrice Goumou CCS	Chef Centre de Santé	Foreriah/Farmoriah
Soumah M'mah	Sage-Femme/UNFPA	Foreriah/Farmoriah
FofanaMaïmouna	Sage-Femme Fonctionnaire	Hôpital Macenta
Manigna Mara	Sage-Femme UNFPA	Hôpital Macenta
Dr Lansana Kourouane Camara	Department Health Director	Forecariah
	Regional Comcare technician	Forecariah
	Rural Health Centre Director and team	Faramoriah
Sierra Leone		
Bannet Ndyanabangi	Former Country Representative	UNFPA
Dr. James Mugume	EVD Surveillance Specialist	UNFPA Sierra Leone Office
Abu Tara Wallie Bakar	Admin/Finance Associate	UNFPA Sierra Leone Office
Abdulahi Kamara	Driver	UNFPA Sierra Leone Office
Mohamed Sesay	Driver	UNFPA Sierra Leone Office
Kamara	Assistant Representative	UNFPA Sierra Leone Office
Francis Smart	Reproductive Health Specialist	UNFPA Sierra Leone Office
Mustapha Sesay	Communication Officer	UNFPA Sierra Leone Office
Dikson	Country Representative	UNFPA Sierra Leone Office
Augustine B. Vandy	Chief Community Health Centre	Jojoima
Victoriah Mammah	Midwife	Pendembu
Bockamie M. Manoh		Pendembu

Name	Position	Organization / Town
Alpha Salia	Chief of Community Health Centre	Daru
Massah Moijerah	Community health center worker	Daru
Samuel Passaquoi	Medical superintendent	Kailahun hospital
Mahon Susan Charles	Matrone Midwife	Kailahun hospital
Mary Roberts	Human Resources Associate	UNFPA Sierra Leone Office
Mr Geoff Wiffin	UNICEF Representative	UNICEF
Philip Dive	UN Resident Coordinator Office	UN Sierra Leone
Mr. Sudipto Mukerji	UNDP Country Director	UNDP Sierra Leone
Mrs Kiyomi Koroma	JICA	JICA Sierra Leone
Mr Parminda Bra	Donor	World Bank
Sandy Jambawai	Donor	African Development Bank
Rosaline Kargbo	Contact monitor	UNFPA
Dr. Amara Jambai	Chief Medical Officer	Ministry of Health
Dr. Foday Dafae	Disease Prevention and Control	Ministry of Health
Roseline Karabo	Contract Tracing Monitor	UNFPA
Fodey Lamini Kamara	Contact Tracer	UNFPA
Judith Kunyila	Officer deployed to UNIMEER, Accra	West and Central Africa Regional Office
WCARO		
Mabingue Ngom	Regional Director	West and Central Africa Regional Office
Beatrice Mutali	Deputy Regional Director	West and Central Africa Regional Office
Fenosoa Ratsimanetrimanana	Family Planning Advisor	West and Central Africa Regional Office
Judicael ELIDJE	Team Leader - Humanitarian and Fragile Context Unit	West and Central Africa Regional Office
Jocelyn Fenard	Mano River Union Project	West and Central Africa Regional Office
Habibatou Mamadou dite Haby Gologo	Media Specialist	West and Central Africa Regional Office
Holly White	Human Resources	West and Central Africa Regional Office
Adolphe Simbo	Senior Security Advisor	West and Central Africa Regional Office

Name	Position	Organization / Town
UNFPA HQ		
Benoit Kalasa	Director, Technical Division (Former Director, WCARO)	UNFPA HQ
Andrew Saberton	Chief Finance Office	UNFPA HQ
Henia Dakkak	Humanitarian and Fragile Context Unit	UNFPA HQ
Wilma Doedens	Technical Advisor Sexual and Reproductive Health	Humanitarian and Fragile Contexts Branch, UNFPA - Geneva

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