



World Health
Organization

WHO LIBERIA

2016 Annual Report

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Dorothy Kiyai receiving an award honoring her late mother, Dr. Anne Deborah Atai-Omoruto, a courageous leader in the fight against Ebola, from President Ellen Johnson Sirleaf. Dr. Anne Atai was a member of the WHO Ebola surge team to Liberia during the period July - December 2014.

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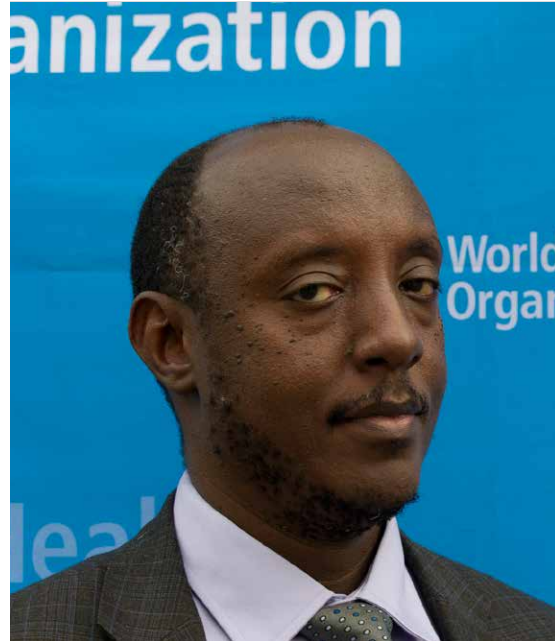
Acronyms

ACCEL	Academic Consortium Combating Ebola in Liberia	CHD	Community Health Department
ACTS	Artemisinin-based Combination Therapy	CHSS	Community based Health Services Supervisors
AFRO	Regional Office for Africa	DHIS	District Health Management Information System
AIDS	Acquired Immunodeficiency Syndrome	DPT	Diphtheria Pertussis Tetanus
ANC	Antenatal Care	DR TB	Drug Resistant Tuberculosis
AMR	Antimicrobial Resistance	EERP	Ebola Emergency Response Project
ART	Antiretroviral Therapy	ELBC	Liberia Broadcasting System
AS	Artesunate	ELWA	Eternal Love Winning Africa
AVW	African Vaccination Week	EPR	Epidemic Preparedness and Response
b(OPV)	Bivalent Oral Polio Vaccine	ePMDS+	Electronic Performance Management and Development System
CD4	Cluster of Differentiation 4	ETU	Ebola Treatment Unit
CDC	US Centers for Disease Control and Prevention	EU LUX	European Union Luxembourg
CHAI	Clinton Health Access Initiative	EVD	Ebola Virus Disease
		FIND	Foundation for Innovative Diagnostics

GAVI	Global Alliance for Vaccines and Immunization	MNDSR	Newborn Death Surveillance and Response Mechanism
gCHVs	general Community Health Volunteers	mhGAP	Mental Health Gap Action Program
GDP	Gross Domestic Product	MHPSS	Mental Health and Psychosocial Social Support
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria	MIS	Malaria Indicator Survey
GLAAS	Global Assessment and Analysis for Sanitation and Drinking Water	MORSS	Minimum Operating Residential Security System
GLRA	German Leprosy and Relief Association	MRU	Mano River Union
GOL	Government of Liberia	NAC	National AIDS Commission
GSM	Global Management System	NCD	Non Communicable Diseases
HIV	Human Immunodeficiency Virus	NHA	National Health Accounts
HR	Human Resource	NLTCP	National Leprosy and Tuberculosis Control Program
IDSR	Integrated Disease Surveillance and Response	NRL	National Reference Laboratory
IHR	International Health Regulations (2005)	NTD	Neglected Tropical Diseases
IOM	International Organization for Immigration	OFDA	Office of US Foreign Disaster Assistance
IPC	Infection Prevention and Control	PIH	Partners in Health
IPT	Intermittent Presumptive Treatment	PLHIV	Persons Living with HIV
JEE	Joint External Evaluation	PMI	US President Malaria Initiative
KPI	Key Performance Indicators	PSM	Procurement and Supply Management
LDHS	Liberia Demographic Health Survey	rGLC	Regional Green Light Committee
LISGIS	Liberia Institute of Statistics and Geo-Information Services	RRTs	Rapid Response Teams
LLIN	Long Lasting Insecticidal Nets	SARA	Service Availability and Readiness Assessment
LOA	Letters of Agreement	SDGs	Sustainable Development Goals
MDR-TB	Multi Drug Resistant - Tuberculosis	TB	Tuberculosis

t(OPV)	Trivalent Oral Polio Vaccine
TTMs	Trained Traditional Midwives
UN	United Nations
UNDP	United Nations Development Program
UNDSS	United Nations Department of Safety and Security
UNHCR	United Nations High Commission for Refugees
UNICEF	United Nations Children Fund
USAID	United States Agency for International Development
WAHO	West African Health Organization
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization

Foreword



In 2016, the World Health Organization Liberia Country office working in close association with the Government of Liberia and partners made significant progress on a range of issues. The work of the office was guided by a shift from the Ebola Virus Disease (EVD) emergency response mode to building a resilient health system across the nation.

Key areas of collaboration include designing a response to the increasing burden of non-communicable diseases; improving the monitoring and evaluation of all WHO activities in Liberia with an emphasis on verifiable results; enhancing coordination with other UN agencies and international organizations active in Liberia to ensure harmonization of programming.

This year marked the beginning of the WHO biennium 2016-2017 action plan; this annual report highlights WHO's key achievements in 2016 in six areas of work:

- Communicable Diseases Control;
- Non-Communicable Diseases Control;
- Promoting Health through the Life Course;
- Strengthening Health Systems;
- Emergency Preparedness, Surveillance and Response; and
- Corporate Services and Enabling Functions.

It also documents the extraordinary efforts by a broad coalition of government ministries, municipalities, international agencies, community groups, women's organizations, religious and traditional leaders, media, private sector and

donors towards restoration and improving health indicators.

The successful interruption of Ebola transmission in Liberia, and WHO's Declaration in June 2016 that the outbreak no longer constituted a public health emergency of international concern, led to accelerated efforts to rebuild the health system across the country. WHO has therefore invested resources into supporting the implementation of the country's Investment Plan for Building a Resilient Health System (2015-2021). This is in tandem with the National Health Policy and Plan (2011- 2021).

In 2016 WHO worked with the Ministry of Health to devise means to better monitor the implementation of the Sustainable Development Goals which require society-wide actions to address the social determinants of health.

Since 2010 no case of polio has been reported in the country; keeping this status is a top priority of the government and all stakeholders. The Ministry of Health with support from WHO, UNICEF, USAID, The Bill and Melinda Gates Foundation, Rotary International and other partners conducted four

rounds of polio vaccination reaching 945,464 children under five years of age achieving 95% coverage according to the independent monitoring report.

In 2016 two new vaccines were introduced in Liberia: the Rotavirus vaccine for children under five, and the Human Papillomavirus Vaccine (HPV) vaccine for girls aged 10. In total 14,291 (100% coverage) of girls aged 10 years were vaccinated as part of the HPV vaccine demonstration project in Nimba and Bong counties.

One of the important lessons learned from the EVD epidemic is the critical role that community engagement and social mobilization play in enhancing overall public health objectives. WHO in Liberia will therefore work with the Ministry of Health to step up collaboration with community groups targeting hard-to-reach populations, and the urban poor.

While there has been significant progress with respect to many health priorities, there have also been setbacks that require a recommitment of efforts and resources by the Government of Liberia and by the international community. In particular, maternal mortality in Liberia is estimated at 1,072

per 100,000 live births. The Government of Liberia is committed to improving maternal and newborn health and to reversing the alarming rising trend of maternal deaths.

In 2016 WHO supported the Ministry of Health to track and monitor expenditures, making use of the National Health Accounts (NHA).

During the period under review, WHO Country Office coordinated technical support for priority activities in Liberia from WHO Inter-country Team for West Africa, WHO Regional Office and WHO Headquarters. WHO staff worked very closely with counterparts from the Government of Liberia as

well as from partner agencies. On behalf of the World Health Organization I want to express my deep appreciation to the Government of the Republic of Liberia for providing a conducive environment that allows partners to make a contribution to health services delivery. We all share the common goal of building a stronger health system that will guarantee a higher quality of life for all citizens of Liberia.



Dr. Alex Gasasira

WHO Country Representative



Liberia Demographic and Health Indicators

Liberia is located in West Africa, borders with Sierra Leone to the west, Guinea to the north, and Ivory Coast to the east.

It covers an area of 111,369 square kilometers. Liberia is a low income country with a GDP per capita of US\$ 495 in 2013 which declined due to the EVD crisis in 2014-2015.

The country is divided into 15 political sub divisions called counties and five regions.

- Total Population 4.2 million people
- Life expectancy – 59.1 years (2010 UNDP)
- Under Five Mortality 94/1,000 live births
- Infant Mortality Rate 22/1,000 live births
- Maternal Mortality Rate 1072/100,000
- Neonatal Mortality Rate 38/1,000 (LDHS 2013).
- HIV prevalence rate among adults aged 15-49 is 1.9 % (LDHS 2013)
- TB prevalence is 326 per 100,000 population
- 64% of children under 1 year receive DPT3/Penta-3 vaccination
- 39% of pregnant mothers are receiving IPT 2
- 55% of pregnant mothers are attending four antenatal care (ANC) visits

Map showing WHO presence in all 15 counties



Background

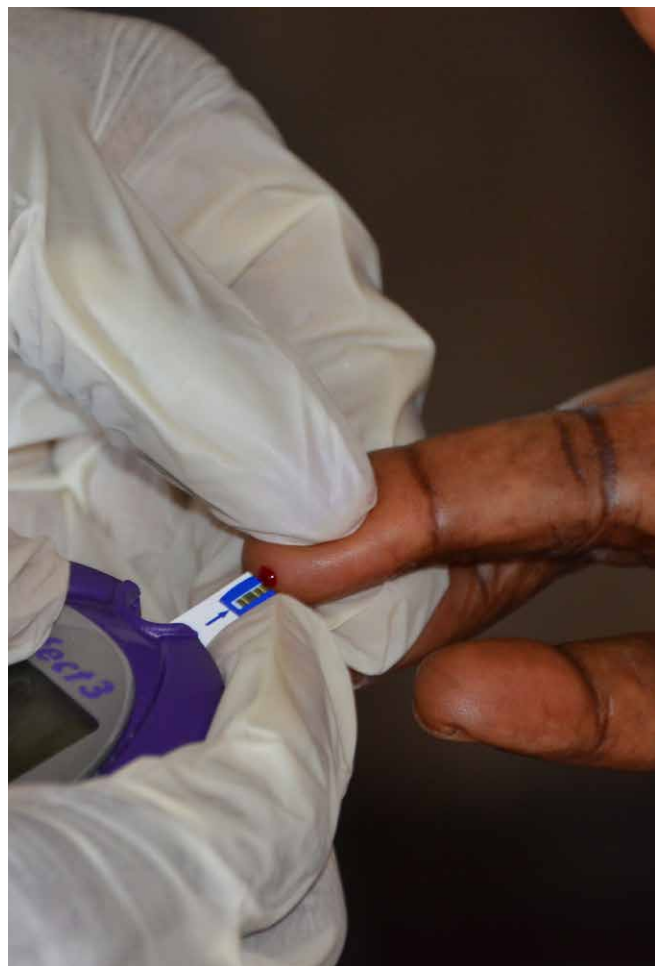
Following the EVD outbreak of 2014-2015, the Government of Liberia embarked on a recovery program and identified key priorities and strategies that were elaborated in its Investment Plan for Building a Resilient Health System (2015-2021) to foster restoration and recover momentum. These include building a fit-for-purpose productive and motivated health workforce, re-engineering the health infrastructure to conform to the population's needs, and strengthening the epidemic preparedness, surveillance and response system.

The World Health Organization and partners in Liberia have been supporting the Ministry of Health to operationalize the Investment Plan for Building a Resilient Health System (2015-2021) and to scale up its rollout nationwide.

For WHO, 2016 marked the beginning of the 2016/2017 biennium and the domestication of the Africa Health Transformation Program that was introduced by the WHO Regional Director Dr Matshidiso Moeti; its aim is to foster "pro-results" values of excellence, team work, accountability,

integrity, equity, innovation and openness. Accordingly, the WHO country office in Liberia aligned its 2016 plan of action with the priorities of the Government of Liberia (GOL) and with the broader goal of doing everything in its power to accomplish the Sustainable Development Goals (SDGs) by 2030. Ever cognizant of the need to account to its donors for the resources that they have invested, WHO Liberia has taken steps to improve the transparency and accountability of its work. The aim is to be more efficient, effective and responsive in meeting the health priorities of the nation.

This annual report presents WHO's major achievements and challenges in support of the Government of Liberia in 2016 in six categories of work: Communicable Diseases Control; Non-Communicable Diseases Control; Promoting Health through the Life-Course; Strengthening Health Systems; Emergency Preparedness, Surveillance and Response; and Corporate Services and Enabling Functions.





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Communicable Diseases

With respect to communicable diseases including HIV, tuberculosis (TB) and malaria, the challenges are significant but Liberia is making progress. According to the latest World Malaria Report published by the WHO, malaria-related deaths for Liberia in 2016 dropped by 25% over two years; the country recorded a 33% reduction in new malaria cases from 2010 through 2015.

Tuberculosis remains a significant threat to public health across Liberia; the collective effort to control the disease experienced a setback during the 2014-2015 EVD outbreak. Accordingly, WHO has dedicated additional resources to getting the program back on track.

HIV and AIDS

In 2016 efforts by the Government of Liberia and its partners to strengthen HIV prevention, diagnosis and management intensified as health systems regained momentum following the 2014-2015 EVD outbreak. The UN agencies' contribution to the national response to HIV was coordinated through

the UN Joint Team on HIV and AIDS, including technical and financial support for the National AIDS Commission (NAC). As part of the Global Fund grant application, the quantification of HIV products for one year was undertaken with support from an external Procurement and Supply Management (PSM) consultant provided by WHO. Option B+, through which all pregnant women across Liberia living with HIV are offered life-long Antiretroviral Therapy (ART) regardless of their CD4 count, was introduced in more than 350 health facilities, which represents 50% of the total health facilities in the country. The goal is to expand Option B+ as existing facilities are strengthened and additional resources are mobilized for the prevention of mother-to-child transmission of HIV.

A Catch Up Plan 2017-2020 for accelerating the HIV response was developed to mobilize resources, focusing on Montserrado, Margibi, and Grand Bassa Counties, each of which has a 2.7% HIV prevalence rate, compared to 1.9% nationwide. More than 11,400 Persons Living with HIV (PLHIV) in Liberia are currently enrolled in care and support programs; more than 8,400 Persons Living with HIV are receiving Antiretroviral Therapy (ART). The number of ART sites across Liberia increased from 54 to 103 by the end of December 2016.

Tuberculosis

Liberia's National Leprosy and TB Control Program (NLTCP) was launched in 1989 under the Department of Preventive Health Services of the Ministry of Health and Social Welfare; it is led by a manager who is supported by three deputy program managers and technical officers at the national level, and by focal persons in each of the 15 counties. The NTLCP collaborates with its partners through a technical working group that includes BRAC, Partners in Health, USAID, WHO and others.

TB notification in Liberia declined from 8,132 cases in 2012 to 3,691 cases in 2014 with a slight increase in 2015 to 5,849 cases (58.4%). A total of 7,119 patients in Liberia were diagnosed with TB in 2016 including 857 children; 77% of these were successfully treated. Currently 43% of TB cases nation-wide remain undiagnosed, contributing to the continuous transmission of the disease and increasing the risk of complications for those who are affected. To address this challenge, a comprehensive TB Situational Analysis for the period 2013-2015 was conducted; this activity was a follow-up to the TB Epidemiological Review that was carried out in September 2015 through WHO-CDC collaboration. Technical support was provided to hire critically needed staff.

In March 2016, Liberia revised the National Tuberculosis Infection Control Guidelines for Health Facilities, Congregate Settings and Households and subsequently developed a National TB Infection Prevention and Control Plan to be supported by the Global Fund. The enhanced awareness of the critical importance of infection prevention and control (IPC) measures during the EVD epidemic translated into strengthening of IPC practices and standards in the TB Program and across the health system in general.

The burden of Drug Resistant Tuberculosis (DR-TB) in Liberia remains low compared to other countries but its actual magnitude is unknown. There is no routine DR-TB surveillance data available and the country has never conducted a national drug resistance survey. A total of 11 Multidrug-Resistant Tuberculosis (MDR-TB) cases were diagnosed during the last quarter of 2016, with 54 such cases receiving treatment. The MDR Expansion Plan aims to achieve universal access to diagnosis and to treat 80% of DR-TB cases in Liberia by the end of 2018.



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A Regional Green Light Committee (rGLC) mission from the WHO Regional Office for Africa (AFRO) comprised of experts from Nigeria, Sierra Leone and Tanzania was undertaken in September 2016 to assess Liberia's performance in managing Multi Drug Resistant (MDR)-TB cases, and to make specific recommendations to improve the MDR-TB Program including the adoption of the nine-month MDR-TB regimen. The Green Light Committee was originally established by WHO and its partners in 2000 in light of the recognition that lack of access to second-line anti-tuberculosis drugs (partly as a result of their high price) was a major obstacle to MDR-TB treatment. Annual rGLC assessment is a standard requirement for all national TB programs treating MDR-TB cases.

Partners in the Ministry of Health's TB program include the Academic Consortium Combatting Ebola in Liberia (ACCEL), BRAC, The US Centers for Disease Control and Prevention (CDC), Foundation for Innovative Diagnostics (FIND), German Leprosy and Relief Association (GLRA), Partners in Health (PIH), United States Agency for International Development (USAID) and WHO. In 2016 the Uganda Medical and Molecular Laboratories agreed to provide technical support to the TB laboratory program of the National Tuberculosis Program of the Ministry of Health.

Malaria

Malaria remains a priority program for the country, and for the region. In West Africa 355 million people were reported to be at risk for malaria in 2015, and 297 million were reported to be at high risk. The current prevalence of malaria in Liberia is 28%, a significant improvement from 66% in 2005 and 32% in 2009. Malaria is endemic in the country, with year-round transmission and the entire population at risk. In 2016 the Liberia Malaria Prevention and Control Strategy focused on strengthening malaria case management and community based systems for malaria control. Throughout the year 1.2 million malaria cases were treated with the recommended antimalarial therapy (83% ACTs – Artemisinin-based Combination Therapy) and 17% Artesunate (AS) Intra-Muscular injection and Quinine tablets.

One of the most cost-effective methods to reduce the incidence of malaria is the use of long lasting insecticidal nets (LLIN). The systematic distribution of LLINs – accompanied by practical information on how to use and maintain them through community engagement--has been at the core of the WHO guidance on malaria prevention since 2007. An

advantage of long lasting insecticidal nets over traditional bed nets is that they are made with material that has insecticide incorporated within the fibers; LLINs are therefore highly resistant and don't need to be retreated each year. In 2016 up to 103,892 pregnant women across Liberia received LLINs and instruction on their use at their first Antenatal Care (ANC) attendance.

The Ministry of Health of Liberia with support from the US President's Malaria Initiative (PMI), the Centers for Disease Control and Prevention (CDC), the Liberia Institute of Statistics and Geo-Information Services (LISGIS) and WHO conducted the 4th National Malaria Indicator Survey (MIS) in 2016. The goal was to document the progress achieved in reducing the incidence of malaria since 2011, and to provide data on key malaria indicators, such as mosquito net ownership, effective treatment with Artemisinin-based Combination Therapy (ACT), and the prevalence of malaria among children under five years of age. In collaboration with WHO, the Ministry of Health and partners developed the Therapeutic Efficacy Monitoring Protocol for assessing antimalarial medicines that are commonly used in Liberia.



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Members of the WHO Liberia team returning from a wellness training session.

Prevention and Control of Non-Communicable Diseases

Non-Communicable Diseases (NCDs) are diseases of long duration and generally slow progression, with cardiovascular diseases (heart attacks and stroke), cancers, chronic respiratory diseases (chronic obstructive pulmonary disease and asthma) and diabetes as the four main types. Non-Communicable diseases are increasingly becoming a public health concern in Liberia and accounted for 34 % of mortality in 2012.

The four greatest risk factors for the major Non-Communicable Diseases - tobacco use, physical inactivity, harmful use of alcohol and unhealthy diets – are common in Liberia. However, relatively inexpensive interventions to reduce or control NCDs risk factors are not adequately implemented. In particular, social mobilization and community engagement activities need to be stepped up to warn of the dangers associated with tobacco and alcohol use, to promote the benefits of staying active and the importance of screening for high blood pressure and elevated blood glucose levels.

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In 2016 WHO in partnership with the Ministry of Health developed a multi-sectoral policy and plan to address NCDs, and to galvanize support from other ministries, partners and civil society. In 2017 WHO will support the Government of Liberia's agenda for NCD prevention and treatment, with a focus on actively engaging communities and their leaders in an effort to promote a healthy lifestyle.

More than one billion people are affected by Neglected Tropical Diseases (NTDs) globally, 40% of whom are in Africa. Neglected Tropical Diseases disproportionately affect the most vulnerable and poorest communities and accordingly constitute a top priority for WHO in the Region. Supported by WHO, the Government of Liberia in 2016 took steps to address NTDs including Onchocerciasis, Lymphatic filariasis, Buruli ulcer, Schistosomiasis, and Soil-transmitted helminthiasis. In particular, the Ministry of Health with support from WHO and partners developed a Master Plan for Neglected Tropical Diseases (NTDs) 2016-2020 which is designed to enhance government and community ownership, and to build sustainable partnerships to improve program performance at all levels.

In October 2016 Liberia in collaboration with the WHO and its partners hosted the 9th Mano River Union Sub Regional Conference on NTDs. The four Mano River Union (MRU) countries - Cote D'Ivoire, Guinea, Liberia and Sierra Leone- made specific recommendations at the conference to accelerate control of NTDs. The need to strengthen collaboration in NTD eradication among the participating countries was recommended. In addition, in 2016 Liberia hosted Burkina Faso, Cote D'Ivoire, Guinea, Mali, Niger and Sierra Leone with support from WHO, West African Health Organization (WAHO) and IOM for a cross-border collaboration meeting on surveillance to improve the management of public health emergencies, including Malaria and NTDs.

The goal of Liberia's NTDs program, which has been in place for more than ten years, is to reduce the burden of NTDs through an integrated control strategy. Targets include the elimination of Lymphatic filariasis as a public health problem by 2020, and Onchocerciasis by 2025. Schistosomiasis, Soil-transmitted helminth infections and Buruli ulcer were selected for treatment; in total 445 health workers and 8,649 Community Directed Distributors across 11 counties were trained.



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Despite intense efforts the elimination of Leprosy by attaining a prevalence level of less than one case per 10,000 population by 2015 has not been achieved, and the disease was reported in all 15 counties of Liberia in 2016.

In 2016 WHO in partnership with the Ministry of Health conducted NTD Mass Drug Administration

for Lymphatic filariasis and Onchocerciasis in 12 counties reaching 1,785,305 people; this resulted in a geographical and therapeutic coverage of 99% and 83% respectively. In addition, WHO in partnership with the Ministry of Health in 2016 provided 1,600,000 tablets of praziquantel, 70,500 tablets of ivermectin and 2,208,000 tablets of albendazole for Mass Drug Administration, as well

as the recommended drugs for the treatment of Schistosomiasis, Buruli ulcer and Leprosy.

- The target is to eliminate Lymphatic filariasis as a public health problem by 2020 and Onchocerciasis by 2025
- 334,667 people out of 420,029 (81% therapeutic coverage) were treated for Schistosomiasis in three counties in 2016
- 1,785,305 people were treated through Mass Drug Administration, resulting in a geographical and therapeutic coverage of 99% and 84% respectively
- WHO provided 1,600,000 tablets of praziquantel; 70,500 of ivermectin; 2,208,000 of albendazole, as well as the recommended drugs for the treatment of Schistosomiasis, Buruli ulcer and Leprosy.

Mental Health and Psychosocial Support

It is estimated that one in four people in any low-income country has a mental illness. In Liberia given the cumulative psychological impact of a decade long civil conflict that killed at least 500,000 people across the country, and the trauma of the recent Ebola outbreak, the need for support for mental distress cannot be over

emphasized. Mental health services have become more essential to address the increasing number of people reporting mild to moderate and chronic mental disorders, and psychosocial distress symptoms.

The Government of Liberia has prioritized the provision of mental health services in-line with the Essential package of health services and has taken initial steps to address the severe shortage of mental health clinicians and social workers in the country.

Specifically, WHO, USAID, the Carter Center, International Rescue Committee and Partners in Health are helping to strengthen mental health services, and to equip health workers across the country with the fundamental skills required to provide front-line care for people with mental illness, including children and adolescents.

WHO with support from USAID in 2016 introduced a package of evidence-based Mental Health and Psychosocial Support (MHPSS) interventions designed for EVD-affected communities across Liberia. In addition, WHO reviewed and updated the mental health training curriculum for mental health workers, and strengthened routine

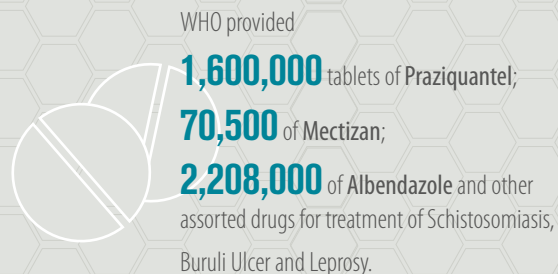
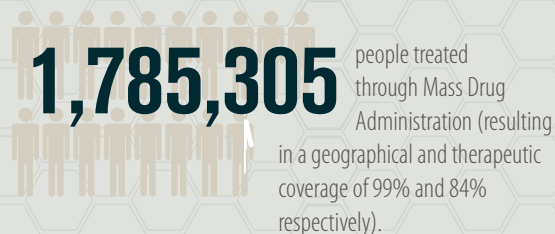
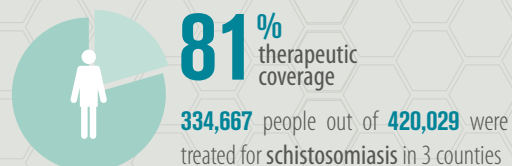
motoring through the District Health Management Information System (DHIS) aimed at improving access to mental health services in all 15 counties.

With support from the WHO, the Ministry of Health has trained 463 primary health care workers in the WHO Mental Health Gap Action Program (mhGAP) which aims to expand access to mental health services in lower income countries; they will be based in nine of Liberia's 14 counties. The goal is to scale-up the availability of services for the management and treatment of mental disorders such as psychosis, depression, epilepsy and substance use disorders.

WHO in collaboration with mental health partners in 2016 provided technical support to the Ministry of Health to review and develop the Mental Health Policy and Strategic Plan (2016-2021) and printed 2000 copies of the finalized document for country-wide dissemination.

Ebola survivors and their family members, crematoria workers and children who have been orphaned on account of EVD will likely require counselling and support for years to come. A community healing dialogue carried out by the Community Health Department of the Ministry of Health has reduced stigma and provided a modicum of emotional support for 41 crematoria workers, 1725 survivors and families who were affected by EVD in Liberia; the impact of the program was evaluated by a local university with support from USAID and WHO.

To eliminate Lymphatic Filariasis as a Public Health Problem by **2020** and Onchocerciasis by **2025**





Promoting Health Through the Life-Course

Maternal and Newborn Health

Liberia is among countries with the highest maternal and infant mortality rates in the world. Maternal mortality is estimated at 1,072 per 100,000 live births, a significant increase from 578 per 100,000 live births in 2000. Similarly, neonatal mortality and post-neonatal mortality in 2013 were estimated at 26 and 54 deaths per 1,000 live births respectively. These high rates are attributable to a range of factors including limited access to Emergency Obstetric and Neonatal Care (EmONC) at critical times to address major health problems for women such as haemorrhage obstructed labor, sepsis and eclampsia.

The Government of Liberia is committed to improving maternal and newborn health and reversing the alarming rising trend of maternal deaths. It is estimated that currently four out of every 10 women in Liberia give birth at home

without a skilled birth attendant, increasing their risk of dying due to complications. According to the Ministry of Health, the main causes of maternal death in Liberia are haemorrhage (25%), hypertension (16%),

unsafe abortion (10%); and sepsis (10%) while indirect causes such as anemia account for 29%. The high teenage pregnancy rate (31%) with its associated complications also contributes to the high maternal mortality in Liberia. For pregnant mothers who live more than five kilometers from the nearest health facility, long travel times deter them from seeking health care. In addition, the limited number of midwives (412 as per the National Human Resource Policy and Plan, 2011 - 2021), especially in rural health facilities, impedes efforts to reduce maternal and newborn mortality.

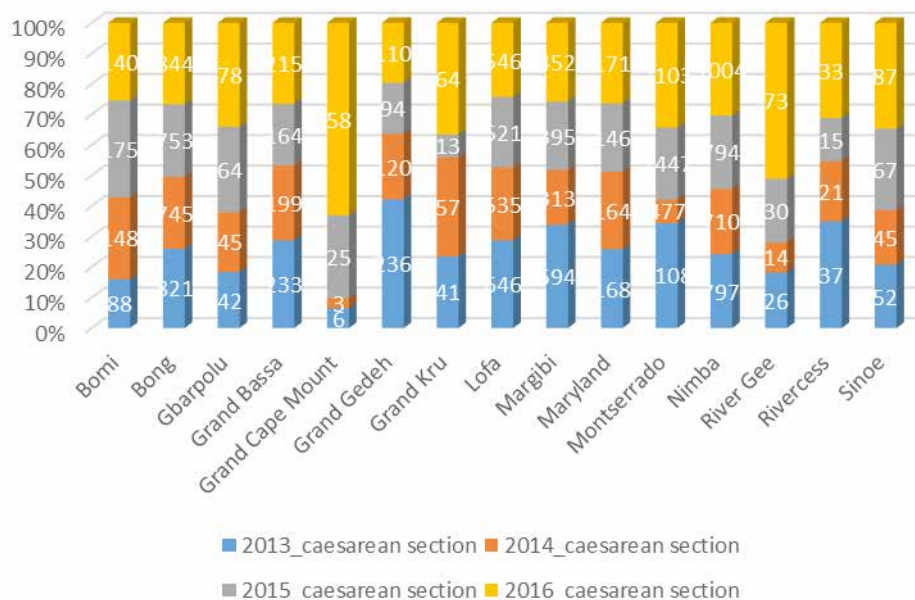
Key interventions to date have focused on the provision of vital medical equipment including delivery sets, Cesarean Section sets, Sterile packs, Anesthesia machines, Ultrasound machines, blood pressure monitoring equipment, fetoscopes, laboratory equipment and supplies, blood giving sets, episiotomy sets, and various lifesaving commodities. In addition, measures have been taken to strengthen the referral system for pregnant women, provide adolescent-friendly health services, reactivate a functioning maternal and newborn death surveillance and response system, review county-specific reproductive, maternal, newborn, child, and adolescent health (RMNCAH) services, and establish maternal waiting homes to improve access to skilled delivery care.

WHO in collaboration with its partners in Liberia provided technical and financial support to the Ministry of Health with the aim of accelerating the restoration of essential reproductive, maternal, newborn, child and adolescent health services after the EVD outbreak of 2014 - 2015.

Some of the key program achievements through WHO's support for Reproductive, Maternal, Child and Adolescent Health include the following:

- Construction of six maternal waiting homes for poor and vulnerable pregnant women in rural areas in Rivercess, Grand Kru, Grand Cape Mount, Gbarpolu, Maryland and River Gee Counties to promote facility-based deliveries by skilled birth attendants and the clinical care of potential emergency obstetric and newborn complications. This was carried out with support from the Swedish International Development Agency (SIDA) and the H6 Partnership comprised of WHO, UNICEF, UNFPA, UN Women, UNAIDS and the World Bank;
- Provision of three additional ambulances for Rivercess, Grand Cape Mount and Gbarpolu Counties, bringing the total number to six to support the referral of obstetric and newborn emergency cases;

Carsarean section conducted by county, 2013-2016



- Trained Traditional Midwives (175 in Grand Kru, Maryland and River Gee Counties) have been empowered with skills and materials to support their work in making home visits to pregnant women in their communities. The Trained Traditional Midwives advise pregnant mothers on the advantages of seeking good quality health care during their pregnancy, delivery and

the postpartum periods. Additionally, 100 Trained Traditional Midwives were oriented and issued the necessary materials to support their work in the three additional counties – Rivercess, Grand Cape Mount and Gbarpolu.

- Maternal and newborn deaths are now notifiable events; WHO intervened by strengthening the Maternal and Newborn

- Death Surveillance and Response (MNDSR) mechanism. MNDSR was further improved by carrying out rapid needs assessments in six counties, the results of which led to the development of a MNDSR operational plan and training module, and the revision of the death review tools including a protocol and questionnaire with a list of key responsible persons/institutions at the national, county, health facility and community levels;
- WHO worked with the Ministry of Health, and in partnership with UNFPA, UNICEF and other stakeholders, to revise three and to develop two additional standards for adolescent-friendly health services;
 - WHO supported Emergency Obstetric and Neonatal Care by providing financial assistance to hire and motivate nine nurse anesthetists: three at two county hospitals, two in Fishtown Hospital in River Gee County and one at JJ Dossen Hospital in Maryland County. These nurse anesthetists provide crucial care for women with obstetric and newborn complications, and with other health concerns. Their services have led to the mitigation of morbidity and mortality from health complications and emergencies; and



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- WHO donated essential medical equipment and supplies including laboratory equipment, Ultrasound, anesthesia, lab reagents, gloves, catheters, suction machines, and x-ray machines with the aim of improving the provision of services in selected health facilities, including hospitals, clinics and health centers in Rivercess, Grand Kru, Maryland, River Gee, Grand Cape Mount, Gbarpolu, Montserrado, Margibi and Grand Gedeh Counties.

Maternal and Newborn Health



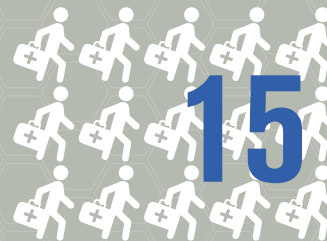
6 Maternal waiting homes constructed to promote facility based deliveries by skilled attendants and clinical care of potential EmONC complications.



6 ambulances provided to strengthen referral of obstetric and newborn emergencies.

WHO donated essential medical equipment and supplies to improve service provision in selected health facilities countrywide.

Epidemic Preparedness, Surveillance and Response



15 Rapid Response teams were established and simulation exercise done to ensure preparedness.



Electronic diseases early warning system (eDEWS) launched and piloted in 75 health facilities in Montserrado, Bomi, Gbarpolu and Grand Bassa.

Over 192 radio talk show programs on several health issues and alerts were aired reaching an estimate of 3 million people in all the fifteen counties.

Expanded Program on Immunization:

WHO in Liberia has worked with a wide range of dedicated partners, including WHO, USAID, UNICEF, GAVI, civil society organizations and community groups to improve access to lifesaving vaccines across the country. As part of the restoration of health services following the devastating EVD epidemic of 2014-15, routine immunization services were strengthened through capacity building and intensified service delivery including stepped-up outreach programs. The aim was to vaccinate over 90% of children against key preventable diseases. To achieve this target, the national Expanded Program on Immunization (EPI) and its partners prioritised a range of key interventions to increase routine immunization coverage and to improve infrastructure, thereby reducing deaths, disability and preventing disease outbreaks. In addition, social mobilization and community engagement were harnessed to promote the benefits of immunization, with a focus on hard-to-reach and isolated communities. Liberia was honoured to host the regional launch of the 6th African Vaccination Week on April 24th 2016 in Nimba County, which contributed to raising awareness nation-wide about the importance of immunization.

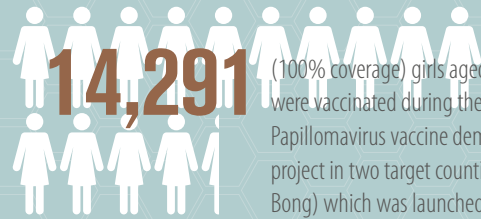
This year saw the introduction of two new vaccines in Liberia: The Rotavirus vaccine for children under five, and the Human Papillomavirus Vaccine (HPV) vaccine for adolescent girls aged 10. In total 14,291 (100% coverage) of girls aged 10 years were vaccinated as part of the HPV vaccine demonstration project in Nimba and Bong counties.

An important development in 2016 was Liberia's participation in a carefully choreographed global switch from using trivalent to bivalent oral polio vaccine as part of the Global Polio Eradication Global Action Plan. The new vaccine will continue to protect infants from poliovirus types 1 and 3 while withdrawing the type 2 component, thereby lessening risks of vaccine-derived poliovirus. This is a major achievement in accelerating the Polio Eradication Initiative and the Polio End Game Strategy.

Since 2010, no case of polio has been reported in Liberia; keeping this status is a top priority of the Government of Liberia and the international community. The Ministry of Health with support from its partners in 2016 carried out a series of mass polio campaigns to contribute to

maintaining the polio-free status of the nation, and to the coordinated global effort of eradicating poliomyelitis. The Ministry of Health in tandem with WHO, UNICEF, USAID, The Bill and Melinda Gates Foundation, Rotary International and other partners conducted four rounds of polio vaccination reaching 945,464 children under five years of age. Two of the campaigns were integrated with other high-impact interventions including Vitamin A supplementation and deworming. WHO provided technical and financial support for the four rounds and assisted with planning, training of vaccinators, monitoring, supervision and logistics. As a result of the four rounds, the target of 95% polio immunization national coverage was achieved according to post-campaign independent monitoring data.

Building on this success, WHO will continue to work closely with the Ministry of Health to improve the coverage of routine immunization services and to step up surveillance for vaccine-preventable diseases. The support of County Health Teams, community elders, the media, civil society groups, religious and traditional leaders across Liberia will remain essential to ensure that every child in every community across the nation is reached with lifesaving vaccines.



(100% coverage) girls aged 10 years were vaccinated during the Human Papillomavirus vaccine demonstration project in two target counties (Nimba and Bong) which was launched in April, 2016.



95%

of children targeted for polio vaccine reached during each of the four rounds of Oral Polio Campaigns as indicated by independent monitoring data.

WHO provided technical and financial support for the four Oral Polio Campaign rounds worth approximately 2.1 million dollars, and assisted with planning, training of vaccinators, monitoring, supervision and logistics.

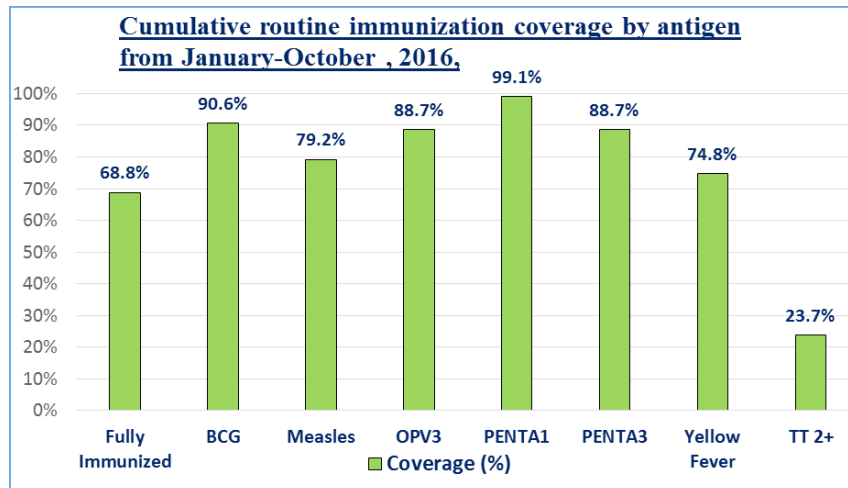
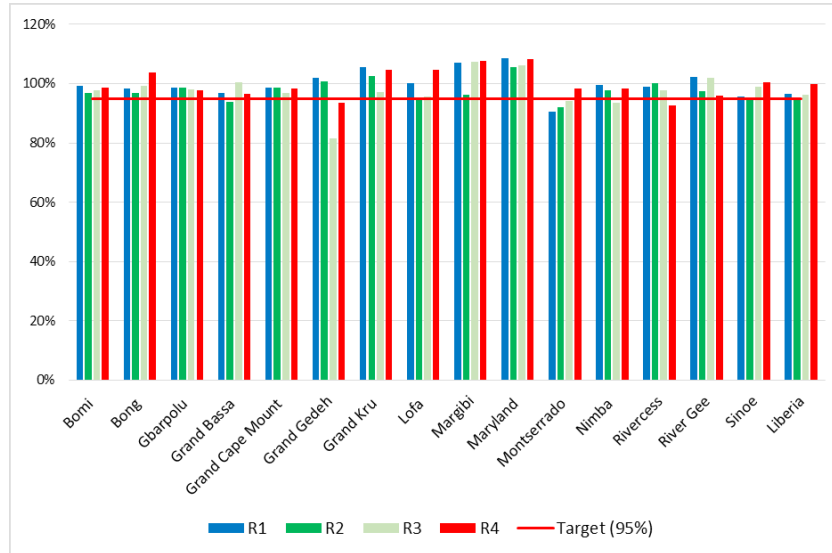
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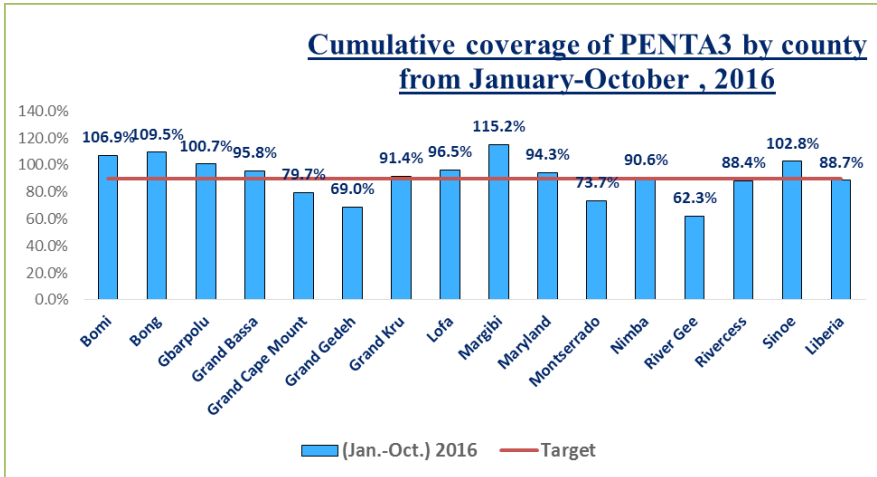


2 new vaccines were introduced as part of the Global vaccine plan. Rotavirus vaccine for children under five and HPV vaccine for adolescent girls aged 10 in 2 counties.

Ministry of Health successfully switched from trivalent Oral Polio Vaccine (tOPV) to bivalent Oral Polio Vaccine (bOPV) in May 2016. A requirement of the Global Polio Eradication Global Action Plan.

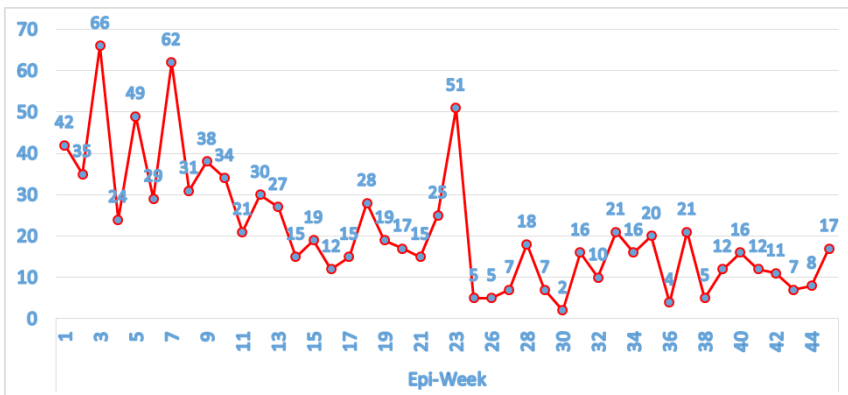
Administrative coverage of the four rounds of polio campaign conducted in 2016





- Sporadic outbreaks of measles continued to be reported in 2016, especially during the first quarter of the year. Support was provided to respond to these outbreaks while efforts continued to be focused on Expanded Program on Immunization (EPI) performance. The frequency and magnitude of the outbreaks diminished considerably by the second half of the year as indicated in the graph below.

Trends in number of suspected measles cases reported by Epi week as of week 45, 2016





WHO / P. Glee



WHO / Luwaga L.

Water Sanitation and Hygiene

WHO in 2016 worked in partnership with UNICEF to support the Ministry of Health's efforts to improve water, sanitation and hygiene (WASH) in many health care facilities across Liberia. Specifically, WHO helped the Ministry of Health to initiate and lead the implementation of the 2016/2017 Global Assessment and Analysis for Sanitation and Drinking-Water (GLAAS) which is to be published in the GLAAS 2017 Report.

Over the course of the year 12 health facilities in five counties were assessed with respect to the impact of the 2015 county-level WASH training of trainers' program. Immediate follow-up actions included 12 WASH teams being established, 30 health workers from 12 health facilities being instructed in proper medical waste management procedures including chlorine use and hand hygiene, and 10 officers-in-charge being mentored in health facility management for improved WASH standards and practices.

WHO regularly enters into partnerships with leading academic institutions. An example in 2016 was WHO providing funding and technical support for the University of Liberia to conduct a baseline assessment of the quality of sachet water being marketed by a private company in Paynesville with the overall goal of developing national water quality guidelines and standards.

Social Determinants of Health: Health Promotion and Disease Prevention

WHO and its partners in Liberia helped the Health Promotion Division of the Ministry of Health to strengthen its capacity in line with the Regional Strategy for Health Promotion in Africa. A milestone in 2016 was the launch by the Ministry of Health of the National Policy and Strategic Plan on Health Promotion (2016-2021), which followed a thorough review and consultation process in which WHO played a catalytic role.

WHO in 2016 provided extensive support for key health promotion activities relating to immunization campaigns, maternal and child health priorities, preventing and treating communicable and non-communicable diseases, as well as the importance of antenatal care and institutional deliveries. In all of WHO's health promotion activities community engagement and social mobilization strategies were harnessed to "get out the word", with important roles being played by traditional and religious leaders, the media, youth clubs, sports organizations, women's networks, service organizations such as Lions and Rotary clubs, and the private sector.

Radio remains one of the most effective forms of media to propagate health promotion messages among the general public in Liberia, and played a key role in helping the nation to "Get to Zero" during the EVD epidemic. Radio is especially useful when attempting to reach populations in remote locations where the supply of electricity

is irregular, and where national newspapers are not easily available. WHO in 2016 supported the Ministry of Health Communication Unit to partner with Liberia Broadcasting System-ELBC and the OK FM radio station to keep the public informed and updated about key health programs being undertaken through a total of 192 interactive radio talk show programs. This effort complimented UNICEF's support for 30 community radio stations in different counties to disseminate health promotion and child protection messages. Furthermore, WHO helped to train journalists and reporters from community radio stations in all 15 counties of Liberia on how best to report on disease outbreaks and on practical measures that can be taken by the public to protect themselves.

WHO in 2016 participated in the commemoration of World Health Day, World Malaria Day, World Diabetes Day, African Vaccination Week, Blood Donor Day, World AIDs Day, and World TB Day. WHO supported the development, printing and dissemination of a wide range of health promotion materials, both print and electronic, covering a range of issues, including Cholera, Buruli ulcer and IDSR priority diseases. In addition, WHO supported a situation analysis of broadcast media health programming by the Ministry of Health with the aim of ensuring its maximum utilization in support of Liberia's Investment Plan for a Resilient Health System.



Health Systems Strengthening

The effectiveness of any nation's health system depends on a range of factors including a sound health plan, evidence-based policies, trained and resourceful health workers, reliable information and logistics systems, continuous support from communities and their leaders, a well-maintained infrastructure, strategic partnerships with ministries and donors, a dependable supply of medicines and appropriate technology, and adequate financial resources.

The Ministry of Health of Liberia with support from WHO and a wide range of partners in 2016 took steps to implement the Investment Plan for Building a Resilient Health System. Strengthening the national health system involved coordinated actions on the part of many parties, including community groups and civil society organizations. The WHO at the country level worked hand-in-hand with the Ministry of Health and its partners to ensure effective implementation of all programs through enhanced coherence and complementarity, minimizing the duplication of efforts and the waste of valuable resources. The year was characterized by close cooperation and collaboration between WHO, the Ministry of Health and all development partners active in the health sector in Liberia, building on the solidarity between

these parties that was witnessed during the Ebola crisis, and that contributed in so many ways to ‘Getting to Zero’.

WHO’s efforts to strengthen Liberia’s health systems in 2016 included the following:

1. WHO worked in tandem with the Ministry of Health and its implementing partners on the specific priorities set out in Liberia’s Investment Plan for Building a Resilient Health System, addressing health security and stepping up the delivery of essential services in remote and hard-to-reach communities, including among the urban poor. WHO collaborated with the Ministry of Health and its partners in developing an evidence-based integrated annual operational plan with the aim of translating health sector policy into concrete actions that respond to demonstrated district and community health priorities and capacity building.
2. Through its convening role and supported by the EU-LUX-WHO universal coverage partnership,

WHO promoted a policy dialogue between the Ministry of Health and its development partners to increase alignment and harmonization of health sector programming and more efficient use of scarce resources. This policy dialogue enhanced governance and helped to build trust among all parties, and to foster transparency and accountability.

3. With the aim of attaining the Universal Health Coverage Partnership objectives and delivery of people-centred health services, WHO supported the development of policies and strategies to improve community health service delivery and to support the important contribution of community health workers across Liberia. The Ministry of Health with technical support from WHO and its development partners trained and equipped new teams of community health workers with the tools and expertise that they need to deliver basic services in challenging environments, including in communities without electricity or basic infrastructure.

Deliberation of issues:

- *Coordination among all actors is essential for effective implementation of the Investment Plan for Building a Resilient Health System*
- *Build on the solidarity between parties that was witnessed during the Ebola crisis, and that contributed to “Getting to Zero.”*



WHO / P. Glee

4. With the aim of improving transparency and accountability to its donors, WHO enhanced the technical capacity of the Ministry of Health to track and monitor expenditures, and institutionalization of the National Health Accounts (NHA) system. NHA provides verifiable evidence to monitor trends in health spending for both the public and private sectors, covering different health care activities, providers, diseases, population groups and regions in a country. Information derived from

the NHA can be used to make financial projections of a country's health system requirements, and to compare its own experiences with those of other countries.

5. WHO provided the necessary technical and financial support to the Ministry of Health for the production of accurate and reliable information on priority health system strengthening investments and the status of delivery of health services, as well as its use at annual joint review and partner coordination meetings, and for the

development of operational plans and the allocation of resources as part of the regular planning cycles.

6. Liberia through the collaborative support and engagement of WHO, the Global Fund and GAVI produced and published a report on the quality of health service delivery across the country as the nation rebuilt and restored normal services in the wake of the devastating EVD epidemic of 2014-2015. This involved the generation of evidence on quality of health service delivery at different tiers of the health system; it adapted and used the standard health facility assessment tools, the service availability and readiness assessment (SARA).
7. The WHO technically supported the Ministry of Health to update and revise the 2011 National Standard Treatment Guidelines and Essential Medicines List within the context of the country's current disease burden and priorities.

Health Systems



Health facility assessment using the WHO standard tool of service availability and readiness assessment (SARA) and Quality of care for service delivery successfully conducted in **701** health facilities.

A Joint External Evaluation to assess the country's capacity to implement the International Health Regulations was successfully completed and recommendations are being implemented.



Mental Health



1725 survivors and families reached through Community Healing Dialogue- impacted their lives and helped them to reintegrate in their communities.

Over **500** frontline health workers were trained in delivery of mental health services throughout the country



Men's Health Screening (WHO and partners supported MOH to provide EVD survivor's clinical care through Men's health screening program)

- **727** Cumulative enrolment on Men's Health Screening Program (MHSP):
- **79 %** (577/727) graduated and
- **1114** counselling sessions.



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WHO CONNECTS US ALL

SINGLE BLOOD BAG SYSTEM 250 ML
Needle size **B+**
sterile, non-calcium chloride solution

For collection of 250 ml of blood

Lot: **RAC-1033**
Lot: **21-6-1**
Exp: **26-07-**

1. Do not use if there is any visible damage to the bag or if the bag is leaking or swollen.
2. Do not use if the expiration date has passed.
3. Do not use if the bag is contaminated or if the bag is damaged.
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Emergency Preparedness, Surveillance and Response

Tempered by the recent experience of an epidemic that killed 4810 people across Liberia, the Ministry of Health in collaboration with WHO and other partners in 2016 on a priority basis increased capacity at all levels to identify, prepare for, prevent and respond to health security emergencies, especially epidemic outbreaks. In accordance with the Investment Plan for Building a Resilient Health System, the Government of Liberia in 2016 took important steps to strengthen its national disease surveillance system guided by the Integrated Disease Surveillance and Response (IDSR) Strategy, in line with the International Health Regulations (IHR 2005).

Liberia first declared the end of Ebola human-to-human transmission on 9th May 2015, but the virus re-emerged three times in the country thereafter. Throughout 2016 WHO worked in tandem with the Ministry of Health and its partners to maintain vigilance and reduce response times when a further outbreak was

declared. The improved coordination of the key stakeholders resulted in the successful containment of the last flare up of EVD in April 2016; the final cases were a woman who had been exposed to the EVD virus in Guinea and who then travelled to Monrovia, with her two children, who subsequently became infected.

The response by the Government of Liberia to the last flare up involved initiating emergency measures and preventing further transmission of the virus by isolating the cases, prompt identification and monitoring of contacts, refresher training to health workers on infection prevention and control (IPC), and stepping up social mobilization activities at the community level. WHO again declared Liberia free of human-to-human transmission of the Ebola virus on 9th June 2016, and no case has been reported since that date. However, WHO and its international partners have repeatedly cautioned that vigilance must be maintained: while the last outbreak of EVD was rapidly and efficiently controlled, the episode reminded public health officials that there remains a risk of re-introduction of the virus to Liberia. Throughout 2016 preparedness activities and training sessions were conducted to ensure that the nation was ready to respond to flare ups, including management of IPC-compliant isolation and treatment facilities.

As part of the effort to enhance surveillance and early detection, the Ministry of Health revised the National Guidelines for Integrated Disease Surveillance and Response (IDSR). The Ministry of Health's stepped-up surveillance system was able to prevent, detect, and promptly respond

to a number of public health events, including new cases of Lassa Fever, Measles, Pertussis, and Meningitis. With the generous support of partners and donors, WHO trained over 141 front-line health workers at the county and national levels in Integrated Disease Surveillance and Response procedures; in addition, 100 County and District Surveillance Officers were trained in field epidemiology.

To strengthen advance preparedness and response capacity, the National Epidemic Preparedness and Response (EPR) Plan was finalised and integrated into respective county operational plans, counties updated their Epidemic Preparedness and Response (EPR) plans and county and district Rapid Response Teams (RRTs) were established, trained (792 participants in total), and tested through simulations.

The African Development Bank, the Office of U.S. Foreign Disaster Assistance (OFDA) and the World Bank enhanced Liberia's disease surveillance and response system through the donation of 17 four-wheel drive vehicles, 190 motorcycles, 100 desktops, 120 laptops, 100 printers, 136 high-frequency radios, 100 desks, 600 chairs and eight diarrheal disease kits. This consignment was procured by the World Health Organization



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through a competitive process and handed over to the Minister of Health, Dr. Bernice Dahn, in February 2016.

Sierra Leone in 2016 experience an EVD outbreak flare up when a new case of EVD was confirmed in Tonkolili District of the country. WHO Liberia in response deployed two experienced epidemiologists to Sierra Leone to assist

with containment; in total 131 contacts were monitored across four districts of the country. In addition, WHO Liberia deployed one technical officer in support of a cholera outbreak response in Ethiopia.

WHO country and regional offices along with partners provided technical support to the Ministry of Health to conduct an integrated risk

assessment of public health threats in Liberia; this process informed the Joint External Evaluation (JEE) to assess the country's core capacities for implementation of the International Health Regulations (IHR 2005).

As part of the World Bank's Ebola Emergency Response Project (EERP), WHO supervised the installation of clinical equipment in seven hospitals and x-ray services in six hospitals across the country.

Case Management

During the Montserrado County EVD outbreak in April 2016, WHO supported the MOH Ebola Treatment Unit (ETU) in caring for approximately 10 suspect, and two confirmed EVD cases who received ZMAPP and survived.

Additionally, WHO supported the transition from EVD case management to maintaining isolation and management capacity; in the first half of 2016 WHO provided technical, financial and logistical support for the ELWA Ebola Treatment Unit in Monrovia; from August 2016, the facility was placed on stand-by (only to be activated if/when EVD case is confirmed).

Quality Management, including Infection Prevention and Control

In collaboration with partners WHO supported the Ministry of Health's Quality Healthcare Management Unit (QMU) in developing the National Health Quality Strategy and Operational Plan. Infection prevention and control (IPC) practices were strengthened through supportive supervision and monitoring of all 750 plus facilities; this included adherence to IPC standards, including hand hygiene. For the first time in Liberia hand hygiene audits were undertaken in 10 of 15 county referral facilities; hand hygiene compliance was wide-ranging - from 20% to 86%.

Within the realm of quality management lies quality improvement; one project established to address this issue was the Twinning Partnership Initiative (TPI) between Telleweyon Memorial Hospital in Lofa County and Nagasaki University Hospital in Japan.



Over

14,913

health care workers were trained to

strengthen Infection Prevention Control countrywide were trained through a collaborative process to deliver Safe and Quality health services.

A large grid of 130 small icons, each representing a healthcare worker in a uniform holding a clipboard, arranged in 10 rows and 13 columns.

130

clinicians trained on Ebola survivor case management.

Ebola Survivors

EVD Survivors medical issues can be wide ranging, including neurological, ear and eye complaints, as well mental health issues such as depression; for those Survivors who lost all their immediate family members, the psychological burden is especially heavy. According to the Ministry of Health, EVD Survivors need and deserve high quality medical and psychosocial support.

A milestone for the Ministry of Health and WHO was the release of the 2016 EVD Survivors Care and Support Strategic Policy and Framework which aims to improve their clinical and mental health care; to oversee this an EVD Survivors Secretariat was established. In addition, the Liberia Ebola Survivors Clinical Care Guidance was disseminated through orientation of 130 clinicians at two regional workshops.

To mitigate transmission of persistent Ebola virus, WHO in collaboration with the US Centers for Disease Control and Prevention (CDC) continued to support the Ministry of Health's Men's Health Screening Program (MHSP) which assesses for the persistence



of the Ebola virus in the semen of Ebola Survivors. In total 727 men were enrolled in the program, with 1114 counselling sessions on safe sexual practices and contraception. The maximum duration between the discharge date from an Ebola Treatment Unit and the last positive test for the presence of the Ebola virus was 25 months; a paper reporting the results of the program was subsequently published in *Lancet Global Health*.

- 727 Ebola Survivors enrolled in the Men's Health Screening Program
- 1114 counselling sessions were conducted, including safe sexual practices and contraception
- Maximum time between the discharge date from ETU and the last positive test for the presence of the Ebola virus was 25 months

Laboratory: Improving Laboratory Diagnostic Capacity

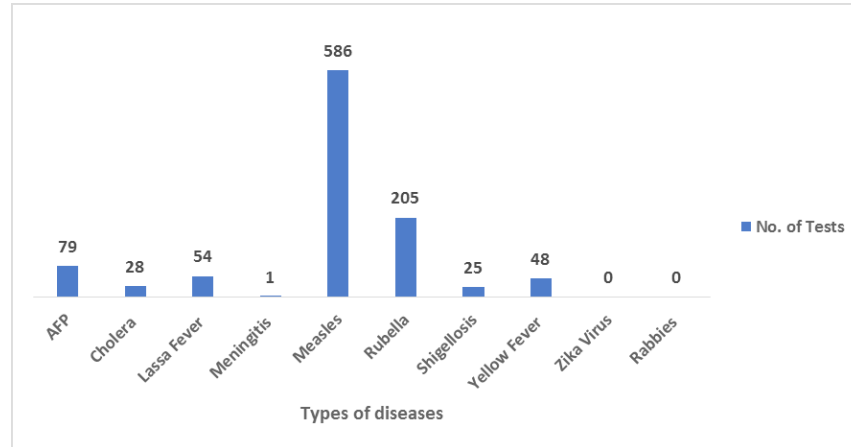
Effective disease surveillance and response depends on the availability of a well-coordinated and adequately equipped and staffed network of laboratories. The laboratory diagnostic capacity in Liberia historically has been very limited, with no antimicrobial resistance (AMR) surveillance or laboratory quality management systems in place. To address these shortcomings, WHO has worked closely with the Ministry of Health and its partners to strengthen and reinstate diagnostic services, and to improve laboratory testing capacity. Specifically, steps have been taken to improve the quality, availability and analysis of laboratory data in Monrovia.

In 2016 WHO provided laboratory support to the Ministry of Health to expand diagnostic capacity for Integrated Disease Surveillance and Response (IDSR) so that testing for Measles, Rubella, Yellow Fever, Cholera, Shigellosis, and Meningitis could be carried out at the Liberia National Reference Laboratory (NRL) in Monrovia. In addition, in 2016

WHO assisted the Ministry of Health so that it could reinstate AMR surveillance through drug susceptibility testing of all isolated strains at the Liberia National Reference Laboratory as part of its continuing efforts to improve International Health Regulations (IHR) core capacities. The IHR are an international legal instrument binding on 196 countries across the globe, including all the Member States of WHO. Their aim is to help the international community to prevent and respond to acute public health risks that have the potential to cross borders and threaten people worldwide.

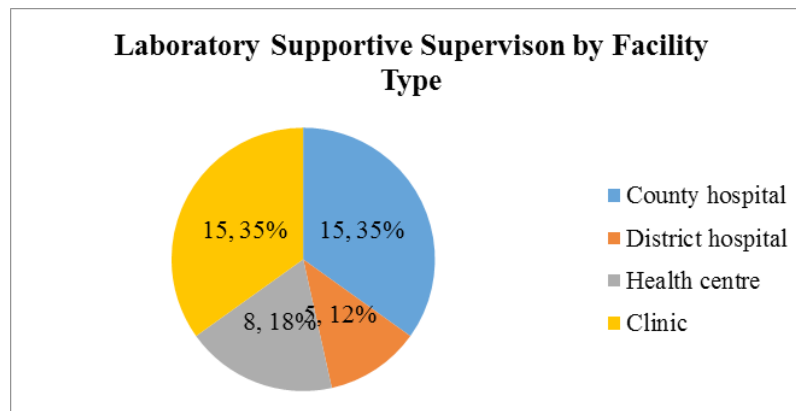
WHO in 2016 provided a specimen referral service for use by the Ministry of Health to Sierra Leone for Lassa Fever, to Senegal for Zika, and to the Ivory Coast for Acute Flaccid Paralysis, which is the gold standard for detecting cases of poliomyelitis.

The number of tests conducted has increased and the EVD testing capacity has been maintained.



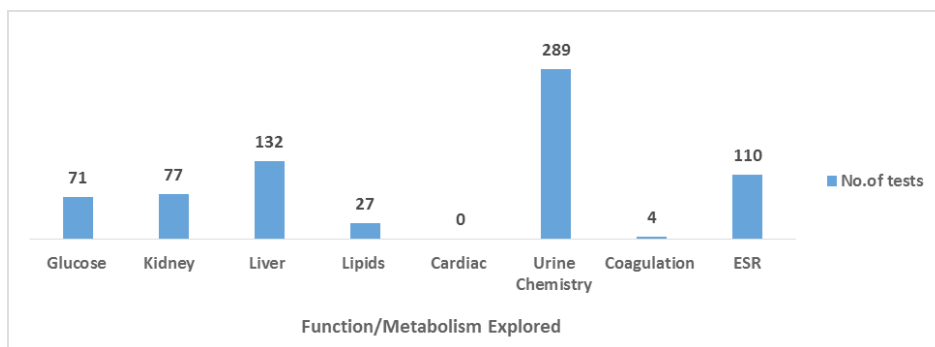
WHO in 2016 conducted post-EVD clinical lab supportive supervision and specimen collection monitoring in all 15 counties at 43 facilities located in 38 health districts of Liberia. GeneXpert machines were installed in various parts of the country to improve early detection and treatment of TB. In addition, WHO facilitated the integration

of testing for HIV, TB and Ebola in collaboration with the Foundation for Innovative Diagnostics (FIND), the Academic Consortium Combating Ebola in Liberia (ACCEL), the Clinton Health Access Initiative (CHAI), and the Global Fund to fight AIDS, Tuberculosis and Malaria (GFATM).



In addition, in 2016 WHO updated the Ministry of Health's Laboratory Policy, drafted a five-year laboratory strategic plan (2016-2021) and conducted a laboratory standardization workshop in collaboration with the Ministry of Health. Through an Ebola Emergency Response Project (EERP) World Bank grant, WHO worked with

counterparts at the Ministry of Health to upgrade their clinical laboratory capacity in three county hospital laboratories through the implementation of chemistry and hematology testing. A total of 710 chemistry and hematology tests were performed between November and December of 2016.



Further to this, through the course of the year WHO supported molecular training for 20 laboratory technicians in collaboration with the Defense Threat Reduction Agency, which is the official Combat Support Agency within the United States Department of Defense for countering weapons of mass destruction. In 2016 WHO trained 11 laboratory personnel in bacteriology

in collaboration with the Academic Consortium Combating Ebola in Liberia (ACCEL), and provided laboratory supportive supervision training for the 15 county diagnostic officers of the Ministry of Health.



LABORATORY

Through the Ebola Emergency Response Project (EERP) World Bank grant – upgraded chemistry tests and haematology for an improved management of patients resulting in a total of **710** clinical and Haematology tests done in 2016.



Laboratory diagnostic capacity increased – **1,026** specimens of priority public health diseases tested.



Supported molecular training for **20** lab technicians in collaboration with DTRA

Country-wide laboratory supportive supervision conducted.

11 laboratory personnel trained in bacteriology testing in collaboration with ACCEL.





WHO / P. Glee



WHO / Dr. Mardia Stone



Corporate Services and Enabling Functions

Finance and Operations

The Finance and Operations team at WHO Liberia plays a critical role in ensuring a supportive environment that enables staff to deliver on all their responsibilities and commitments. The Finance and Operations Team in 2016 ensured proper implementation of financial procedures, systems and internal controls according to Global Management System (GSM) instructions and WHO rules.

In addition, the Finance and Operations team handled disbursement of funds for program activities, tracked expenditures and facilitated the timely payment and transfer of operational funds to the Ministry of Health for field activities. Administrative and financial support was provided to the WHO teams active in all 15 counties. The E-Imprest system was carefully managed; end-month closure reports were prepared and submitted to the WHO Regional Office for Africa on a monthly basis within the allocated deadlines.

Transparency, Accountability and Risk Management

Transparency, accountability and risk management are priorities of the WHO Reform Agenda; in 2016 WHO in Liberia took steps to enhance transparency and accountability, and to reduce risks to the Organization and its donors. Mechanisms are in place to ensure that reporting and accountability requirements are met on a timely basis. Procurement procedures have been reviewed to ensure that they conform to UN standards. The procurement Key Performance Indicator (KPI) of carrying out evaluations of current suppliers' performance was achieved in 2016.

During the course of the year the Procurement Unit processed over 100 requests for existing programs, and for the Ministry of Health and partners in accordance with WHO procurement rules and guidelines. In addition, the Procurement Unit processed more than 400 purchase orders, with the largest for a total of US\$ 2,556,610. Letters of Agreement (LOA) culminated in contracts for the construction of six maternal waiting homes in Grand Cape Mount, Gbarpolu, River Gee, Maryland, Grand Kru and Rivercess Counties.

With the support of the WHO Regional Office for Africa, the Procurement Unit obtained approval to piggyback on a Long Term Agreement (LTA) for vehicle maintenance with UNDP, for security with UNHCR, and for building maintenance and the provision of fuel with UNICEF. On account of economies of scale, these LTA's with other UN agencies improve the efficiency of the contracting process and translate into lower operating costs for WHO.

Security

In 2016 there was a marked improvement in the timely reporting of 18 security incidents to the UN Department of Safety and Security (UNDSS) in Monrovia within 24 hours; the WHO Liberia security KPI was accordingly met. The WHO Security Unit assisted six drivers who were involved in traffic accidents by immediately informing UNDSS, police authorities and insurance company, as well as by taking appropriate action. Assistance was accorded to seven WHO staff members who had items stolen during the year. All UNDSS security advisories relating to demonstrations, hazardous road conditions, or locations to be avoided were disseminated among WHO national and international personnel.

The Security Unit also worked closely with UNDSS to ensure that accurate records were maintained with details related to the location of accommodation of WHO international personnel, and ensured that the Minimum Operating Residential Security Standards (MORSS) were being met.

Human Resources

The WHO Country Office in 2016 benefitted from the appointment of a Human Resources Officer, who in support of the WHO Regional Office for Africa's Transformation Agenda has enhanced the office's efficiency, transparency and accountability. Throughout the year the Human Resources team played an instrumental role in facilitating WHO Liberia's transition from an emergency to recovery mode. This included timely staffing of the relevant areas most specifically Health Systems Strengthening, exploring cost-effective types of contracts for United Nations Volunteers, effective segregation of roles for members of the administrative teams working at national level in Monrovia and in the 15 field offices across the country, advising on managing redundancy and separations in accordance with the rules and regulations, and establishing a roster for the 84 WHO drivers.



WHO / Dr. Mardia Stone

With respect to performance evaluation, compliance with the Enhanced Electronic Performance Management and Development system (EpmDs+) by WHO Liberia personnel has steadily increased. In addition, 100% of 70 Special Service Agreement achievement reports were completed in 2016 through human resources workshops, training sessions and sharing of guidelines.

The WHO Liberia Human Resources (HR) team throughout 2016 provided consistently high levels of support for the 200 personnel based at the national office in Monrovia and at the 15 county offices.



Photo / WHO



WHO / P. Glee



Conclusion

This report has highlighted key achievements and progress made in the implementation of the different categories of work in-line with Transformation Agenda of the African Region, including efforts to improve efficiency, compliance and accountability in operations, and to enhance human resource capacity in the Country Office.

WHO is committed to continue supporting the Government of Liberia through the Ministry of Health and partners to strengthen the health care service delivery as well as capacity for disaster risk management and responding to possible emerging and re-emerging public health emergencies including new health threats.

During the period under review, the country office has made progress in building and strengthening local staff capacity as the number of international staff is gradually being reduced. This is aimed at enhancing continuity and sustainability in the execution of the country program.

Lessons learnt during the implementation of the 2016 work plan, will be used to strengthen the 2017 country office plan.



Corrections!

Question #10.
Is a sentence better with he
the subject? Usually, it is
to be precise

Grade 10 English
L. 10 p. 151

Grade 11 Math 30UP

vol — mood PASS

(15) Explain
Start @ 10:14
Stop @ 11:14

Computer

Resource Mobilization and Summary of 2016 Expenditures

Source of Funding

- African Development Bank Group
- Bill & Melinda Gates Foundation
- US Centers for Disease Control and Prevention (CDC), United States of America
- Department for International Development (DFID), United Kingdom
- Department of Foreign Affairs, Trade and Development (DFATD), Canada
- DG for International Cooperation and Development (DEVCO), European Commission
- European Commission
- GAVI: Global Alliance for Vaccines and Immunization
- GlaxoSmithKline (GSK)
- Johnson and Johnson Family of Companies Contribution Fund, Inc.
- Ministry of Foreign Affairs, Netherlands
- National Philanthropic Trust (NPT)
- Norwegian Agency for Development Cooperation (NORAD)
- Rotary International
- The World Bank
- The Government of Liberia
- UNDP - Multi Donor Trust Fund (MDTF)
- United Kingdom of Great Britain and Northern Ireland
- United Nations Foundation
- United Nations Population Fund (UNFPA)
- United States Agency for International Development (USAID)
- WHO-Assessed Contributions
- Various Donors



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