DOCTORS WITH AFRICA
CUAMM

NCDs IN SIERRA LEONE

Sierra Leone's healthcare system is **one of the world's most fragile**, and is essentially still being reconstructed after the massive devastation it suffered during the 1991-2002 civil war. Moreover, the process of reconstruction and strengthening of the health system has been hampered by a number of shocks, such as the 2014 Ebola virus disease outbreak and the Covid-19 pandemic. These shocks strongly undermined the provision of healthcare services by diverting significant resources to contrast the emerging crises.
Presently, Sierra Leone still suffers chronic shortage of specialized human capital and human resources for health, financial resources as well as infrastructure.
In addition to the extremely high rates of maternal and infant mortality, **the burden of non-communicable diseases (NCDs) has grown significantly** in recent years, determining a double burden. According to World Health Organization data (WHO, 2021), every year more than 15 million people die prematurely from NCDs, with 85% of deaths occurring in low- and middle- income countries (LMICs). It has been estimated that chronic diseases will cause more deaths than communicable diseases by 2030, including in Africa.
Additionally, chronic (especially co-morbid) patients are costlier to manage for health systems and suffer significant financial losses themselves due to inability to work for periods of time and costs they may incur to access and receive care.

Accordingly, prevention and treatment of NCDs, including in LMICs, is comprised in the health-related targets of the Sustainable Development Goals (SDGs) Agenda.
Sierra Leone has not been sitting still: the MoHS recently adopted an "NCDs Strategic Plan 2020-2024", which also reports **NCDs contributing to 41% of mortality** in the Country, corresponding to an estimated 29,700 related deaths every year. There are many reasons why the rate of NCDs is so high in the Country. Among others, a widespread **lack of awareness** among patients, regarding diseases and risk factors – particularly diabetes; a severe **shortage of medicines**, along with **only 11% of public health facilities providing diabetes services,**[1] and health inequities, with services available more in urban (34%) than in rural facilities (7%). Additionally, the country suffers from high rates of chronic childhood malnutrition (as well as pockets of severe malnutrition), which has been found to contribute to the development of NCDs in adulthood (Lancet Maternal and Child Nutrition Series, 2013).

1 Service Availability and Readiness Assessment (SARA) Survey, 2017.

foto ©Nicola Berti

CUAMM INTERVENTION IN FREETOWN AND WESTERN AREA

Gestational Mellitus Diabetes (GDM) is a serious condition for pregnant women, increasing the risk of complications during pregnancy and childbirth. Women with GDM and their children are exposed to a higher risk of developing hypertension, obesity and type 2 diabetes in the future. CUAMM data shows that GDM diagnosed among women attending antenatal care (ANC) stands at 12% in urban Freetown and 3% in rural Pujehun.
Between 2017-2019, thanks to the financial support of the World Diabetes Foundation, CUAMM designed and delivered a project at Princess Christian Maternity Hospital (PCMH) in Freetown to pilot the **integration of GDM screening, diagnosis and management services within the ANC services.** In particular, the pilot set up a dedicated **integrated diabetes screening (IDS) clinic** at the **PCMH** plus 17 other IDS clinics in **peripheral health units (PHUs)** in the Western Area. A **referral system** from the PHUs to PCMH's IDS clinic was also established for all GDM positive cases, an **IDS Protocol** introduced, and **awareness-raising activities** were promoted. Furthermore, to address the dire lack of epidemiological data on GDM, a **dedicated database** was set up. The pilot project was instrumental towards the **integration of GDM services within the national Maternal, Newborn and Child Health (MNCH) program** and other related interventions. Finally, CUAMM promoted **operational research** on diabetes in pregnancy.
All the activities were carried out in close collaboration with the MoHS, the NCD and RMNCAH Directorates, the District Health Management Teams (DHMTs), and the College of Medicine and Allied Health Sciences (COMAHS).

KEY ACHIEVEMENTS (2017-2019)

14,231
women screened in IDS Clinic at PCMH

4,296
women screened in IDS Clinic in PHUs

76,447
women reached with information on GDM and related services through awareness raising campaigns

EXTENSION OF THE INTERVENTION TO PUJEHUN

A follow-on project (2021-2023) **extended GDM screening services** to rural and peripheral areas in Pujehun district, a region with over 234,000 inhabitants. The service was introduced in **Pujehun hospital** and **5 BeMONC** (Basic Emergency Obstetric and Newborn Care) centres in its catchment area.
Main activities:

- **Training of MoHS personnel** on GDM and data collection, along with **on-the-job training** through the constant presence of a specialist to strengthen the quality of healthcare services;
- Promotion of **nutritional education activities**;
- **Follow-up** of cases at risk of hyperglycemia in pregnancy (HIP);
- **Advocacy** at MoHS on GDM prevention, screening and management in government policies and strategies for non-communicable diseases.

17,682
women
screened for GDM (against an initial target of **10,933**)

ONGOING ACTIVITIES: PEN-PLUS PROJECT

Since September 2022, CUAMM is also supported by the NCDI Poverty Network to introduce the **PEN-Plus model of care** at Pujehun Government Hospital, in strong collaboration with the local health authorities and with Partners in Health (PIH), which implements similar activities in Kono District. PEN-Plus is an integrated care delivery strategy focused on **increasing accessibility and quality of services** for type 1 diabetes (T1D), rheumatic heart disease (RHD), sickle cell disease (DCD) and other severe NCDs affecting poor rural and peri-urban communities in LMICs. PEN-Plus entails **decentralizing lifesaving care services for severe NCDs** (that are usually available only in referral hospitals) to first level rural hospitals, and equipping available mid-level providers – such as nurses, clinical officers and health officers – with the skills needed to provide integrated chronic care services including diagnosis, symptom management, and referral for surgical and other speciality care when needed. The PEN Plus strategy builds on the **cost-effective WHO's package** of essential NCD interventions (PEN) for primary health care in low resource settings.

foto ©Nicola Berti

Conditions addressed in PEN Plus clinics

Discipline	Example of conditions
Cardiovascular	**Rheumatic heart disease**, heart failure, severe uncontrolled hypertension, ischemic heart disease, thromboembolic disease
Endocrine	**Type 1 diabetes,** type 2 diabetes on insulin
Hematologic	**Sickle cell disease**
Respiratory	Severe chronic respiratory disease
Renal	Chronic kidney disease
Gastrointestinal	Chronic liver disease, cirrhosis
Neurologic	Severe uncontrolled epilepsy

CUAMM is committed to:

Guaranteeing **technical assistance** and **on the job training**, particularly developing guidelines and protocols for chronic conditions and mentoring health workers to aptly manage non-complex NCD conditions, and enabling the staff to identify critical patients with advanced NCD stages for referral

Providing essential **drugs and equipment**

Supporting **collection and analysis of data** concerning patients, promoting the sharing of results and good practices with local health authorities and partners

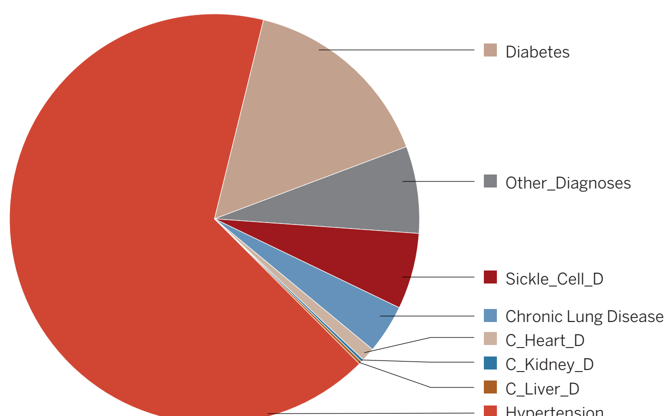
Raising awareness among the community on NCDs risk-factors, as well as the importance of accessing preventive, screening and treatment services

The intervention will adopt a step-wise approach to progressive decentralisation of services. targeting 5 selected **Community health centers (CHCs)**, whose staff will be trained and supported in providing follow-up services for patients affected by chronic diseases. The activity has already been set and will start shortly.

ACHIEVEMENTS SO FAR

- A **dedicated and equipped NCD clinic** to provide specialist consultations was established at Pujehun hospital;
- **Free screening services** are provided as well as further exams.
- **Consultations**, access to treatment services and **nutritional counselling** are guaranteed along with **follow-up visits**.

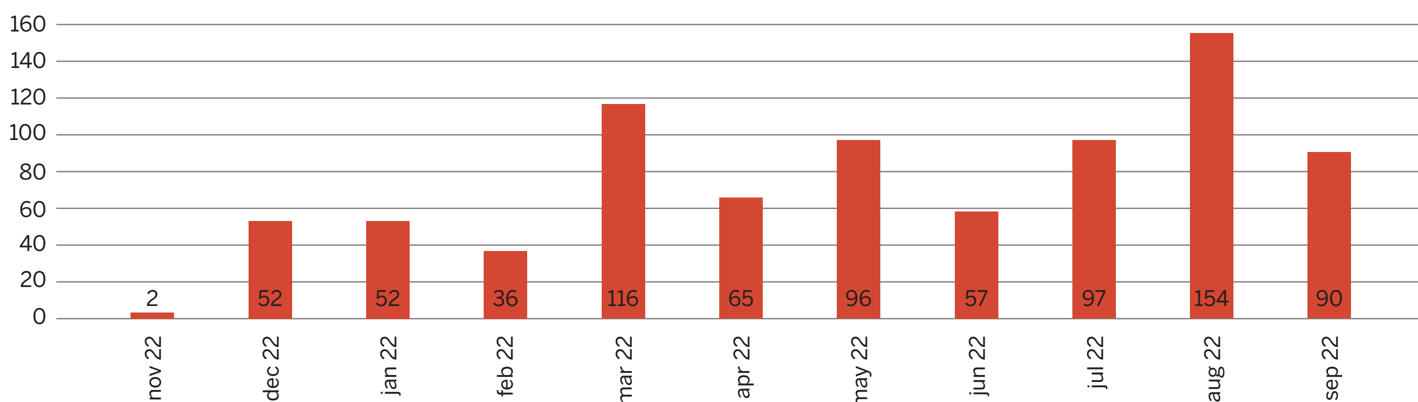
Total enrolled diseases



Value	Frequency	Percent
Hypertension	619	75,76
Diabetes	144	17,63
Other_Diagnoses	64	7,83
Sickle_Cell_D	56	6,85
ChronicLungDisease	36	4,41
C_Heart_D	10	1,22
C_Kidney_D	2	0,24
C_Liver_D	2	0,24

Denominator = 817

Monthly Enrollments



Total enrolled patients by disease and age range

DISEASE	0 - 5	6 - 17	18 - 44	45 - 64	65 <	TOTAL
C_Heart_D	0	0	2	2	1	**5**
C_Kidney_D	1	0	0	0	1	**2**
C_Liver_D	0	0	0	1	0	**1**
ChronicLungDisease	0	5	9	10	0	**24**
Diabetes	0	0	31	78	9	**118**
Hypertension	0	2	93	333	41	**469**
Other_Diagnoses	1	18	41	4	0	**64**
Sickle_Cell_D	8	26	18	1	0	**53**
TOTAL	**10**	**50**	**176**	**367**	**44**	**647**

Although these interventions allowed to make substantial headway to combat non communicable disease, Sierra Leone still has a long way to go to strengthen, expand and sustain quality care for NCD patients.
Many **challenges** remain including:

- Limited knowledge and practices among community members on healthy lifestyle;
- Shortage of specialised health workers at all levels;
- Limited access to quality health services for patients with NCDs;
- Lack/ non-functional basic equipment for diabetes and hypertension screening and check-up services;
- Inadequate patient data management/reporting;
- Fragile referral and follow-up system along the continuum of care;
- Lack of dedicated resources for NCDs.

THE WAY FORWARD

Despite the growing burden of NCDs, the number of partners working on NCDs care in Sierra Leone is still quite limited: these include CUAMM, COMAHS, Partners in Health (PIH) and a few others.
Since the beginning of its intervention, CUAMM has been working in **close collaboration with the national health care system** to strengthen health services, fostering their sustainability by supporting capacity building along the continuum of care and their integration within other relevant service platforms (e.g. RCH).
CUAMM actively contributes to the **development of NCDs treatment protocols and guidelines** and participates in the **technical working group at national level.** The NCD directorate, for instance, has recently approved the pilot of the *Protocol on Integrated Diabetes Screening* (October 2022) for GDM management in Freetown and Pujehun. The protocol was co-developed by CUAMM with the support of WDF and incorporates procedures for screening and follow-up at different levels (primary/secondary/tertiary facilities) during ANC/PNC visits.
CUAMM, therefore, intends to continue strengthening its commitment to preventing and fighting NCDs in Sierra Leone, in close coordination with partners. We plan to do so by scaling-up NCD care services, improving their coverage, accessibility, affordability and quality, and promoting a more **synergistic and comprehensive approach,** which **integrates diabetes and hypertension management with reproductive health and nutrition.**

Doctors with Africa CUAMM
Sierra Leone
Doctors with Africa CUAMM NGO
Coordination Office – Freetown
22, Wilkinson Road

t. 00232 79764880
sierraleone@cuamm.org