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Baseline Assessment of Non-Communicable Diseases (NCDs) for Refugee and Host Community in the East and Horn of Africa and Great Lakes Region: The context of Tanzania

Final Report

January 2025

Conducted by Lartech Africa

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Lartech Africa Limited

Baseline Assessment Consultant

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ACRONYMS AND SYMBOLS

α	alpha level
%	Percent
ACE	Angiotensin-converting enzyme
ANC	Ante-Natal Clinics
AUC	African Union Commission
Camps	Nyarugusu and Nduta
CAT	Content Analysis Technique
CCHP	Comprehensive Council Health Plan
CDC	enter for Disease Control
CHWs	Community Health Workers
CI	Confidence Interval
COPD	Chronic Obstructive Pulmonary Disease
CRD	Chronic Respiratory Disease
CSV	Comma Separated Values
DMO	District Medical Officer
ECG	Electrocardiogram
ECHO	Echocardiogram
EERG	External Evaluation Reference Group
FGDs	Focus Group Discussions
g	Grams
GIT	Gastrointestinal
HCF	Health Care Facilities
HH	Household
HIG	Humanitarian Intervention Guide
HSSP	Health Sector Strategic Plan
IBM	International Business Machines
IEC	Information, Education and Communication
IOM	Institute of Medicine
IRC	International Rescue Committee
KABP	Knowledge, Attitude, Belief and Practice
KAP	Knowledge, Attitude and Practice
KIIs	Key Informant Interviews
km	Kilometre
MhGAP	Mental Health Gap Action Programme
MHPSS	Mental Health and Psychosocial Support
MoH	Ministry of Health
MS	Microsoft
MSF	Médecins Sans Frontiers
MTI	Medical Teams International
N	Denominator
n	Numerator

NCDs	Non-Communicable Diseases
NGO	Non-Governmental Organization
NTDs	Neglected Tropical Diseases
no	Number
OJT	On Job Training
PAD	Peripheral artery disease
PHC	Primary Health Care
PPS	Probability Proportional to Size
PTSD	Post-Traumatic Stress Disorder
PWDs	People with Disabilities
RCH	Reproductive and Child Health
RMO	Regional Medical Officer
RNCDCo	Region NCD Coordinator
SD	Standard Deviation
SDG	Sustainable Development Goal
SoPs	Standard Operating Procedures
SPSS	Statistical Package for the Social Sciences
ToR	Terms of Reference
TRCS	Tanzania Red Cross Society
TV	Television
UN	United Nations
UNEG	United Nations Evaluation Group
UNHCR	United Nations High Commissioner for Refugees
WDF	World Diabetes Foundation
WFP	World Food Programme
WHO	World Health Organization

GLOSSARY

Asylum-seekers	People who are seeking international protection but whose claim for refugee status has not been determined
Baseline assessment	Is an analysis of the current situation to identify the starting points for a programme or project, setting benchmarks against which future progress can be assessed or comparisons made
Cardiovascular diseases	A group of disorders of the heart and blood vessels. They include peripheral arterial disease; and rheumatic heart disease.
Community health workers	A community health worker (CHW) is a frontline public health worker who is a trusted member or has a very good understanding of the community served. A CHW serves as a liaison between health and social services and the community to facilitate access to services and to improve the quality and cultural competence of service delivery.
Host community	The country of asylum and the local, regional, and national governmental, social and economic structures within which refugees live, which could be camps or urban settings.
Morbidity	The condition of suffering from a disease or medical condition.
Mortality	The number of deaths in a given area or period, or from a particular cause
Mental Health Gap Action Programme	The World Health Organization (WHO) action programme developed for countries with low and lower middle incomes for scaling up services for mental, neurological, and substance use disorders.
Non-communicable diseases	Non-infectious conditions that cannot be transmitted from one person to another
Post-traumatic stress disorder	A mental health condition that develops following a traumatic event characterized by intrusive thoughts about the incident, recurrent distress/anxiety, flashback and avoidance of similar situations.
Primary health care	A whole-of-society approach of health care that is provided in the community for people making an initial approach to a medical practitioner or clinic for advice or treatment.
Refugee	Someone who is unable or unwilling to return to their country of origin owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group, or political opinion
Refugee Camp	A plot of land temporarily made available to host refugees in temporary homes. UNHCR, host Governments and other humanitarian organizations provide essential services in refugee camps including food, sanitation, health, medicine and education. These camps are ideally located at least 50 km away from the nearest international border to deter camp raids and other attacks on its civilian occupants.
Secondary health care	Special treatment and support provided by doctors and other health professionals for patients who have been referred to them for specific expert care, most often provided in hospitals.
Tertiary health care	The level of healthcare above secondary care which is a highly specialized medical care, usually provided over an extended period of time, involving advanced and complex diagnostics, procedures and treatments performed by medical specialists in state-of-the-art facilities.

EXECUTIVE SUMMARY

Background

UNHCR aims to prevent Non-Communicable Diseases (NCDs) and reduce morbidity and mortality from the most significant NCDs by improving the quality of care, ensuring the rational use of medicine, and strengthening the clinical and community-based management of NCDs amongst refugees. It is for this reason that the UNHCR designed the ***UNHCR's Strengthened Response to NCDs Project*** which is being implemented in Burundi, Tanzania, and Sudan. The overall objective of the project in Tanzania is to enhance and expand the prevention, diagnosis and treatment of NCDs for refugees, asylum-seekers and the host community in Kigoma region.

The need for the baseline assessment was driven by the existence of a limited body of evidence on NCD prevention, diagnosis, and management in refugee settings. The baseline assessment was key in addressing the lack of data on refugees and NCDs by analysing current systems in place for NCD care or lack thereof in Tanzania. The assessment was also necessary for identifying key gaps in care and thus inform and guide the implementation of project activities.

This report presents the baseline assessment findings on NCDs for Refugees in Nyarugusu and Nduta refugee camps.

Objectives of the Assessment

The purpose of the baseline assessment was to provide baseline values on the status quo of NCD service provision by primary health care facilities offering services to refugees for project specific indicators that will inform design, prioritization and targeting of interventions. These values will be compared at endline to measure performance. Specifically, the assessment has: established benchmarks against which the project's progress and impact will be measured over the project life cycle and at the end of the period of implementation; identified needs and current NCD service provision and capacity gaps; and proposed solutions to further refine country plans in the project's key areas of prevention, diagnosis, and management.

Data Collection Methodology

Field data collection delayed for over five months due to the lengthy ethical approval process that was required in order to undertake the assessment of the host population. Data collection therefore started when implementation of some of the project activities had begun. The assessment was originally designed to cover both the refugee community and the host community. However, due to the cited limitation, the scope of the assessment was reduced to cover only refugee population in the targeted camps.

The baseline assessment utilized systematically integrated mixed methods consisting of both quantitative and qualitative data collection from both primary and secondary sources. Primary data was collected through household interviews, focus group discussions (FGD), assessment of health facilities, key informant interviews (KII) and administration of knowledge, attitude and practice (KAP) tool to Community Health Workers (CHWs). Secondary data was collected through review of relevant literature.

Field data collection was conducted over one month. Data collection in Nyarugusu was conducted from 5 to 14 June 2023 while data collection in Nduta was conducted from 19 to 23 June 2023. KIIs for both camps were undertaken from 26 to 30 June 2023. The assessment used the KoboCollect application for data collection. A total of 993 household interviews, 16 health facility assessments, 20 FGD, 40 KAP tests for CHWs and 8 KII were successfully completed.

The assessment was undertaken in strict conformance to safety, confidentiality and strong research ethics in line with UNHCR's ethical standards, United Nations Evaluation Group (UNEG) norms and standards, the UNEG Ethical Guidelines for Evaluation, the Code of Conduct for Evaluations in the

United Nations (UN) system, UNHCR Data Protection Policy, UNHCR Age, Gender and Diversity Policy and UNHCR Disability Inclusion Strategy. A detailed assessment methodology is discussed in chapter 2 of this report.

Summary of Findings and Discussions

The assessment findings are discussed in the following headings: behavioural risk factors and NCDs. A full analysis of the status of the indicators is presented as Appendix I in the form of a fact sheet matrix.

i) Behavioural Risk Factors

The overall prevalence of current tobacco use was **8.7% (95% CI: 7.0%-10.6%; n=86, N=993)** with significantly higher prevalence among males (14.7%) than females (2.9%). Majority (84.7%) of the current smokers started using tobacco products at a young age of 25 years and below (Males, 84.3%; Females, 85.5%). Cigarettes (58.8%) were the predominantly used tobacco products followed by snuff (15.5%), unprocessed tobacco (15.5%), hand-rolled (6.2%), cigars (3.1%) and water pipe/ shisha (1.0%). The assessment further found that **13.9% (95% CI: 11.8%-16.2%; n=138, N=993)** of the respondents consumed alcohol seven days preceding the assessment. On dietary risk factors, only **1.1% (95% CI: 0.6%-2.0%; n=11, N=993)** of the respondents ate a healthy diet. The assessment further found that **83.4% (95% CI: 80.9%-85.6%; n=828, N=993)** of the respondents engaged in adequate physical activity while 16.6% did not.

ii) Non-Communicable Diseases

Respondents Knowledge, Attitude and Practice on NCDs

About **71.4% (95% CI: 68.5%-74.2%; n=709, N=993)** of the respondents were aware of NCDs (Males, 74.4%; Females, 68.6%) with the source of knowledge mainly from families, friends or neighbours (43.7%), health facilities (37.7%), CHWs (5.2%), schools/ teachers (4.0%), radios (3.8%) and NGOs (3.5%) among others. The assessment established the attitude of the respondents on NCDs in respect to 8 statements[1] regarding NCDs and found that 68.6% (Males, 71.5%; Females, 65.8%) of the respondents agreed that NCDs give serious problems to the health of a person followed by 68.4% (Males, 72.3%; Females, 64.6%) who agreed that NCDs are serious diseases. More than half of the respondents (53.8%; Males, 61.5%; Females, 54.9%) on the other hand disagreed that they were at risk of getting NCDs. Regarding myths and misconceptions, **17.1% (95% CI: 14.8%-19.6%; n=170, N=993)** of the respondents were aware and believed in traditions, myths and misconceptions on NCDs. Furthermore, **33.3% (95% CI: 30.4%-36.4%; n=331, N=993)** of the respondents had been screened and tested for NCDs while **12.2% (95% CI: 10.2%-14.4%; n=121, N=993)** had been diagnosed with NCDs, mainly stroke (36.9%) heart attack (26.2%), asthma (10.8%), low blood pressure (10.8%), diabetes (8.4%) and epilepsy (3.1%) among other NCDs.

Health Seeking Behaviours among the Respondents

About 13.7% of the respondents sought for NCD services at a health facility in the last 12 months preceding the assessment. Among those who sought for NCD services, majority (55.9%) visited main hospital followed by health post (42.6%). About 40.4% of the respondents travelled less than 1 km to health facility to seek for NCD services while 6.1% were referred to high level facilities due to the nature of their illness. Inadequate drugs, poor services and long waiting hours before service delivery were cited as some of the barriers and/or challenges to good health seeking behaviours by the respondents.

NCD Services

Through KIIs, the assessment established that the Ministry of Health (MoH) was at the centre of health service provision through policy, coordination and trainings. The MoH had an NCD strategic plan which guided the provision of NCD services in the country. Refugees were however, not directly included in

[1] *(1) Is at risk of getting NCDs; (2) NCDs are serious diseases; (3) NCDs give serious problems to the health of a person; (4) NCDs can be prevented; (5) NCDs can be treated; (6) Too much sugar in diet could cause NCDs; (7) Too much salt or salty sauce in diet could cause NCDs; and (8) Physical inactivity causes NCDs*

the national health system. Only 2 (14.3%) assessed primary health care facilities provided care for priority NCDs (health post no 4 in Nyarugusu and Médecins Sans Frontiers (MSF) main hospital in Nduta which has an NCD clinic being run by Medical Teams International (MTI). The facilities provided a range of NCD services including mental health services, cancer screening services and chronic respiratory disease diagnosis and management services. The assessment found that all (100.0%) the assessed primary health care facilities experienced stock outs of tracer NCD medications in the last 30 days prior to the assessment. All the assessed primary health care facilities providing NCD services were stocked with metformin, and Angiotensin-converting enzyme (ACE) inhibitor, but lacked steroid inhalers.

The assessment found that 63.6% (n=14; N=22) of healthcare workers who provided NCD treatment at the time of the assessment had training on NCD management while 83.3% (n=5; N=6) had training on Mental Health Gap Action Programme (MhGAP). The trainings were a one-off activity conducted by UNHCR under the World Diabetes Foundation (WDF) project. The total number CHWs attached to the assessed facilities was 204 (Males, 108; Females, 96). The total population of concern in Kigoma region as at 31 August 2023 was 231,152 people[2]. The assessed health facilities served a total population of 439,292 people which implied that their coverage went beyond the refugee camps. Further analysis showed that the ratio of CHWs to served population was 1: 2,153 which was significantly higher than the recommended ratio of 1: 500 people, therefore, inadequate. The findings implied that the CHWs did not reach all the target population which was reflected in the proportion of respondents reached with NCD messaging by CHWs at 5.2%.

According to KIIs, the need for NCD services by refugees was high. The scope of needs included early diagnosis, general awareness and NCD commodities. Data held in the assessed facility databases reflected that a total of 4,618 NCD patients at the time of the assessment. About 124 (11.8%) and 274 (26.0%) of the NCD patients were referred for secondary and tertiary care, respectively. Furthermore, a total of 573 deaths were recorded in the assessed health facility databases within 12 months preceding the assessment out of which 87 (15.2%) were due to NCDs. Moreover, out of 204 deaths recorded in the assessed health facility databases within 30 days preceding the assessment, 12 (5.9%) were NCD related. About 645 persons with NCDs had received supplementary food rations within 6 months preceding assessment provided on a monthly basis by World Food Programme (WFP), HelpAge International, MTI and Tanzania Red Cross Society (TRCS). Additionally, out of all the consultations undertaken within 12 months preceding the assessment, 48,451 (7.1%) were cases of NCD.

The assessment found that there were different NCD strategies in place which including: (i) A strategic plan and an action plan for the prevention and control of non-communicable diseases (2016-2020), (ii) a national guideline and institutional framework which guides the provision of NCD services, (iii) undertaking activities of strengthening the health system by the MoH, (iv) conducting of quarterly meetings to discuss NCD situational analysis by the MoH, (v) inclusion of the NCD budget in the annual Comprehensive Council Health Plan (CCHP) without which no plan could be approved, (vi) conducting awareness on NCDs through mass campaigns, radio, television (TV) sessions and mass screening, (vii) active coordination at the district level, (viii) formation of jogging clubs at district level and (ix) nutritional advocacy on healthy and well-balanced diet.

Barriers to access and utilization of NCD services were categorised as either geographical[3], socio-economic[4], cultural[5] and organizational[6]. The cited organizational / institutional barriers included: inadequate funds that reflected in referral delays; high cost of providing NCD services; unavailability of medicine and medical supplies, and lack of knowledge among healthcare workers. Further, negative

[2] https://data2.unhcr.org/en/country/tza *(Reviewed on 27 September 2023)*
[3] *Physical accessibility and distance*
[4] *Demographic characteristics and well as economic status*
[5] *Existing community cultures*
[6] *Capacity of health facility, including services, staff, equipment and medicine*

perceptions on NCDs (such as NCDs are caused by witchcraft) and stigma were some of the cited cultural factors that hindered access and effective utilisation of NCD services.

Conclusions

The assessment has presented the values on the status quo of NCD service provision in the refugee camps. These values will be useful in guiding the design, prioritization and targeting of the UNHCR NCD project interventions and forms the basis for future performance measurements.

Based on the findings and discussions, the report concludes as follows:

Behavioural Risk Factors

i) The prevalence of tobacco and/ or alcohol use among the respondents was lower than the national tobacco and alcohol use prevalence. However, tobacco users were initiated to smoking at a young age of 25 years and below. This exposed them early in life to high nicotine intake, leading to high probability of contracting NCDs.
ii) The prevalence of health diet intake among the respondents was low which meant that all the respondents and by extension all households did not have a healthy diet hence, high vulnerability to risks factors for contracting NCDs.
iii) The prevalence of engagement in physical activity among the respondents was relatively high which made them less prone to NCDs.

KAP on NCDs

i) The level of NCD awareness among the respondents was relatively high with the main source of information being families, friends or neighbours and health facilities. About 3 in 10 respondents on the other hand were not aware of NCDs.
ii) A high proportion of the respondents agreed that NCDs gave serious problems to the health of a person and that NCDs were serious diseases. A small proportion (17.1%) of the respondents were aware and believed in traditions, myths and misconceptions on NCDs
iii) The rate of NCD screening and testing among the respondents was low. Majority of those who were screened and tested, were diagnosed with stroke and heart attack. NCD management was adequate and was done at individual level, health facility level and by CHWs.

Integration and Availability of Quality NCD Services

i) There was high level of engagement and strong ownership by the MoH on NCD prevention, diagnosis, and management through policy, coordination, training and awareness creation.
ii) The health response in Tanzania is guided by the Health Sector Strategic Plan (HSSP) 2021-2026, however, refugees are not directly included in the national health system.
iii) The availability of NCD services was scarce, with only three facilities offering NCD services namely Tanzania Red Cross Society Main Hospital in Nyarugusu, MTI Health Post no 4 in Nyarugusu, and MSF Main Hospital in Nduta which had an NCD clinic run by MTI. Shortage of medicine and diagnostic tests, and understaffing inhibited the smooth delivery of quality NCD services.

Institutional capacity and capacity of healthcare workers

i) Essential supplies and equipment for managing NCDs were inadequate and were unavailable in all the primary healthcare facilities within the last 30 days preceding the assessment. Shortage or lack of equipment and consumables were mentioned as barriers and/or challenges to provision of quality NCD services.

ii) The proportion of health workers trained on NCD management and MhGAP was relatively high. However, the proportion of CHWs trained on NCD was below average. Shortage or lack of trained healthcare workers to diagnose and manage NCD cases and inadequate number of CHWs to conduct the follow-ups were cited as key barriers and/or challenges to provision of quality NCD services.

Levels of needs, access and utilization of services by refugees

i) The need for NCD services among refugees was high. The scope of needs included early diagnosis, general awareness and access to NCD prevention and management commodities.
ii) The utilization of the available NCD services on the other hand was low and was manifested by the low proportion of the referred patients, and the proportion of NCD consultations. Also, some of the NCD patients used traditional medicine as a form of medication.

Inclusion, gender mainstreaming and accountability to affected populations

i) Refugees were not included or mainstreamed in the national health system.

Recommendations

To address the identified gaps from the assessment, the following are recommended:

Aspect	Recommendations
NCD Prevention	**Championing against tobacco use**: the assessment found that tobacco smokers were initiated to tobacco smoking at a very early age. The project should develop innovative approaches for advocating against tobacco use.
	Sustained advocacy, awareness creation and engagement of parents, caregivers, and faith leaders on their role in creating a healthy environment to support healthy lifestyle of children and their families, address issues that lead to NCDs and support practices that protect their families from being exposed to NCDs.
	Advocating for targeted initiatives with high impacts in reducing food insecurity through livelihoods and targeted food security programs This could include livelihoods-based interventions which will help the refugees secure adequate and sustainable income thus a reduction in food insecurity.
NCD Diagnosis	**Staffing**: The assessment advocates for additional staffing in the health facilities, specifically in the NCD unit.
	Support the equipping of health facilities with NCD equipment, diagnostic tests, and consumables to promote adequate and timely stocking of the health facilities.
NCD Management	**Establishment of peer support programs/ groups to provide community level support in response to the shortage of** CHWs to conduct follow-ups among patients to enhance support to the delivery of mental health services and complement the efforts of CHWs. The group participants can assist in conducting follow-ups, monitoring medication adherence, providing basic support, and referring clients to specialized mental health services as needed.
	Awareness creation on drug adherence to enhance good health seeking behaviours among the target population, there is need to counsel and educate the NCD clients on the importance of modern medicine and drug adherence before providing them with the medication.

Report Structure

The report is structured into four (4) chapters: Chapter 1 provides the background information, project description as well as the objectives of the baseline assessment. Chapter 2 provides the baseline assessment methodology. Chapter 3 presents the assessment findings and discussions. Chapter 4 provides a summary of conclusions and recommendations.

1.0 INTRODUCTION

1.1 Overview

This chapter discusses the project for which the baseline assessment was undertaken. It presents the current situation of NCDs among refugees in Tanzania, project description, project overall objective and target beneficiaries, the project response activities, justification. and the objectives of the baseline assessment.

1.2 Background Information

Refugees often endure deplorable conditions of social disconnection, displacement, isolation, famine, war, and overcrowding and are needy, vulnerable, and marginalized community. Many refugees, particularly those who have experienced trauma in war-torn countries, are extremely vulnerable to mental illnesses. They suffer a high rate of treatable or preventable social, physical, emotional, and health problems (including NCDs). Additionally, refugees have to deal with chronic stressors, such as socioeconomic disadvantage, isolation, hostility, violence, social prejudice, and the collapsed social support structures that may retard their recovery[7].

The health needs of refugees and migrants are adequately addressed in the global compact on refugees and the global compact for safe, orderly, and regular migration as well as the in the framework of priorities and guiding principles to promote the health of refugees and migrants. This framework aims to inform discussions among Member States and partners engaged in the development of the global compact on refugees and the global compact for safe, orderly and regular migration to ensure that the health aspects of refugees and migrants are adequately addressed; to serve as a foundation for the development of a draft global plan of action on the health of refugees and migrants, which was submitted to the Seventy-second World Health Assembly in 2019; and to provide a resource for consideration by Member States in addressing the health needs of refugees and migrants, in alignment with the Sustainable Development Goals (SDG) and other global and regional policy frameworks as appropriate to each country's context and priorities[8]. This section discusses the NCD context globally, regionally, and nationally.

1.2.1 Global Context

Non-communicable diseases are the leading cause of morbidity and mortality worldwide. NCDs vary but often include diabetes, cardiovascular disease (including hypertension, heart failure, strokes, chronic kidney disease), chronic lung disease (such as asthma and chronic obstructive pulmonary disease) and cancer[9].Refugees affected by NCDs face several challenges such as: interrupted care; and weakened and overburdened humanitarian and public health systems which are usually not adequately equipped for managing chronic conditions[10].

The global context of prevention and control of NCDs is anchored on the SDG Target 3.4 which aims at reducing by one third premature mortality from non-communicable diseases through prevention and treatment and promoting mental health and well-being[11]. Further, the WHO through the Global NCD Compact 2020–2030 aims to accelerate progress on the prevention and control of NCDs. It seeks to

[7] *Intrigues of Accessing Mental Health Services Among Urban Refugees Living in Kenya: The Case of Somali Refugees Living in Eastleigh, Nairobi, March 2018*
[8] *WHO, Promoting the health of refugees and migrants: Framework of Priorities and Guiding Principles to Promote the Health of Refugees and Migrants*
[9] *The sphere handbook, 2018*
[10] *UNHCR, 2021: Evaluation of the Caring for Refugees with NCDs Project*
[11] *https://www.who.int/data/gho/data/themes/topics/indicator-groups/indicator-group-details/GHO/sdg-target-3.4-noncommunicable-diseases-and-mental-health (Reviewed on 4 October 2024)*

ensure Member States adopt policies[12] and programmes that improve NCD outcomes and save the lives of people living with NCDs[13].

1.2.2 Regional Context

The burden of NCDs in the African region remains high. Sixteen countries in the region account for 15.9% of global cervical cancer mortality. Only 3% of the world's cancer treatment facilities are available in 22 sub-Saharan African countries, resulting in poor survival rates. Approximately 1 in 22 (24 million) adults aged 20-79 are living with diabetes in the Africa Region in 2021. There is also limited access to essential medicines and technologies for NCDs in primary health care (PHC) facilities. In addition, neglected tropical diseases (NTDs) affect approximately 1 billion people in tropical and subtropical regions with affected communities often struggling to access basic healthcare services. However, the global response to NTDs has led to near eradication and elimination of NTDs in parts of the region. Data remain scarce for many other NTDs, which require innovative and intensified surveillance[14].

Regionally, the context of prevention and control of NCDs is anchored in the Africa Center for Disease Control (CDC) Non-Communicable Diseases, Injuries Prevention and Control and Mental Health Promotion Strategy (2022-2026). The strategy recognises that Member States, the African Union Commission (AUC) and global institutions have set health goals to decrease the burden of diseases including NCDs, injuries and mental health on the continent. The strategy seeks to bring all these policies together in a set of strategic actions to support Member States in their implementation of activities for the prevention and control of NCDs, injuries and mental health promotion.

1.2.3 National Context

UNHCR's 2020 participatory assessment in Tanzania revealed a range of NCDs prevalent among refugees including diabetes, cardiovascular diseases, cancer, and respiratory diseases often accompanied by mental health conditions like depression, anxiety, and post-traumatic stress disorder (PTSD). Furthermore, associated risk factors for NCDs, such as tobacco use, harmful alcohol consumption, unhealthy diet, and physical inactivity, were closely linked to mental health disorders[15].

Many refugees just like other Tanzanians did not have access to basic NCDs services due to: low level of community and stakeholders awareness and knowledge, absence of multi-sectoral responses to the diseases, inadequate resources (human, infrastructures and funds), lack of legislations and/or enforcement mechanisms, poor NCD surveillance and monitoring and evaluation systems, poor governance and leadership, and low capacity of health service providers in terms of knowledge, skills and numbers, and pre-occupation with communicable diseases[16].

According to WHO, in 2022 the total number of deaths in Tanzania was 325,600. The percentage of death from NCDs in Tanzania stood at 34% (110,600 deaths) with the risk of premature death at 17%. In response to the burden of NCD, Tanzania developed a strategic action plan (2016-2020) to improve the quality of lives for all citizens by reducing the suffering, disease and death caused by NCDs. The plan focused on access to quality, sustainable and equitable services.[17]

Tanzania had developed national NCD targets and partially undertaken the risk factor survey, however, there was no accurate mortality data or national integrated NCD policy/strategy or action plan. Tanzania had fully achieved the development of guidelines for management of cancer, cardiovascular diseases,

[12] *Details on these policies can be found in WHO Global Action Plan for the Prevention and Control of NCDs, 2013-2020*
[13] *https://www.who.int/initiatives/global-noncommunicable-diseases-compact-2020- 2030#:~:text=The%20Global%20NCD%20Compact%202020%E2%80%932030%20aims%20to%20accelerate,save%20the%20lives%20of%20people%20living%20with%20NCDs*
[14] *WHO, Communicable and Non-Communicable Diseases in Africa in 2021/2022*
[15] *UNHCR, Refugee health: UNHCR's strengthened response to non-communicable diseases (NCDs) Integrated health services across settings of acute and protracted humanitarian crisis in Eastern African contexts, 2022-2024*
[16] *Ministry of Health, Community Development, Gender, Elderly and Children, A strategic and action plan for the prevention and control of NCDs, 2016-2020*
[17] *Ministry of Health, Community Development, Gender, Elderly and Children, A strategic and action plan for the prevention and control of NCDs, 2016-2020*

diabetes, and chronic respiratory disease. Further, Tanzania had developed public education and awareness campaigns on physical activity but had not provided drug therapy/counselling to prevent heart attacks and strokes[18]. In terms of policies and interventions to reduce alcohol consumption, Tanzania had partially achieved restrictions on physical availability.[19]

1.2.4 Inclusion, Gender Mainstreaming and Accountability to Affected Populations

Even if refugees are fully or partially included in national health policies, strategies, and systems, they may still face financial, administrative, geographic, language, gender, and social barriers to access services. Furthermore, national services may lack the capacity and be under-resourced and unable to meet the needs of the host population (even before the additional requirements of refugees). The Global Compact on Refugees (GCR) supports inclusion of refugees into national policies, strategies and plans and integration into national systems while emphasizing the importance of support to those systems. In this global public health strategy, UNHCR outlines how to work with and through national services to foster inclusion and integration of refugees whilst ensuring that immediate and ongoing needs are met[20].

Tanzania's first policy document, a government directive on refugee matters, was adopted in September 2003. The policy was developed putting into consideration the following: refugee admission procedures, refugee rights, treatment, and state obligation[21]. The Government of Tanzania launched the Comprehensive Refugee Response Framework (CRRF) in Tanzania in partnership with UN agencies, international financial institutions, humanitarian and development actors, members of civil society and academia. During the launch, the parties committed to work together to strengthen the protection and rights of refugees, support the greater inclusion of refugees within society and recognise and foster development opportunities for refugees and host communities[22].

1.3 Project Description

UNHCR aims to prevent NCDs and reduce morbidity and mortality from the most significant NCDs through improving the quality of care, ensuring the rational use of medicines, and strengthening the clinical and community-based management of NCDs amongst refugees. It is for this reason that the UNHCR designed a project titled: *UNHCR's Strengthened Response to Non-Communicable Diseases (NCDs) Integrated Health Services Across Settings of Acute and Protracted Humanitarian Crises in Eastern African Contexts, 2022-2024: Burundi, Tanzania, Sudan*[23].

The UNHCR's strengthened response to non-communicable diseases (NCDs) project is a three-year project (*running from 2022 to 2024*) aimed at improving the health and well-being of vulnerable refugees living in camps in line with to Sustainable Development Goal (SDG) 3.4[24]. The project will support the provision of NCD prevention and care services including, awareness-raising, medical consultations, NCD management support, provision of essential equipment and supplies, referrals, provision of food, and local health staff capacity building, as well as training of community health workers in Tanzania, Burundi, and Sudan[25].

The overall objective of the project in Tanzania is to enhance and expand the prevention, diagnosis, and treatment of NCDs for refugees, asylum-seekers, and the host community in Kigoma region by:

[18] *Providing drug therapy (including glycemic control of diabetes mellitus and control of hypertension using a total risk approach) and counselling to higher risk individuals has been identified as one of the most cost-effective measures to prevent heart attack and strokes*
[19] *WHO Non-Communicable Diseases Progress Monitor, 2022*
[20] *UNHCR, UNHCR Global Strategy for Public Health*
[21] *national organization for legal assistance (nola), msaada wa sheria: Refugee Status Determination and Refugee Rights in Tanzania*
[22] *https://reliefweb.int/report/united-republic-tanzania/government-tanzania-brings-together-whole-society-implement-landmark*
[23] *UNHCR. (2022). Baseline Assessment for NCDs, ToR*
[24] *Refugee health: UNHCR's strengthened response to non-communicable diseases (NCDs) Integrated health services across settings of acute and protracted humanitarian crisis in Eastern African contexts, 2022-2024*
[25] *UNHCR. (2022). Baseline Assessment for NCDs, ToR*

i) Building the capacity of local clinics and hospitals in the camps to scale up NCD services through procurement and provision of medical equipment, such as basic diagnostic tools and consumables;
ii) Providing capacity building to staff on NCDs as well as mental health and psychosocial support (MHPSS);
iii) Conducting community (public) awareness-raising activities as well as printing and dissemination of information, education and communication (IEC) material;
iv) Carrying out specialized consultation visits to camps (five days for each of the two camps) on a quarterly basis for clinical service and support provision, as well as continued capacity building of primary health care staff;
v) Providing supplementary food for displaced people suffering from NCDs and associated mental health problems primarily for diabetics; and
vi) Continuing advocacy with the government on inclusion of refugees into the national health system through engaging with relevant stakeholders.

Additional details on the project set out in the project document that can be accessed at UNHCR Baseline Assessment for NCDs Project Document.

1.4 Baseline Assessment

1.4.1 Justification

The justification for the baseline assessment was driven by the existence of a limited body of evidence on NCD prevention, diagnosis, and management in refugee settings. Data related to NCDs amongst the forcibly displaced is uneven and, at best, addresses broader settings such as low-income countries or humanitarian situations. The baseline assessment was key in addressing the lack of data on refugees and NCDs by analysing current systems in place for NCD care or lack thereof in Tanzania. The assessment was also necessary for identifying key gaps in care and thus inform and guide the implementation of project activities. The baseline findings will be used for monitoring and measurement of Project results during implementation and at endline.

1.4.2 Objectives

The baseline assessment was undertaken to provide values on the status quo of NCD service provision for project specific indicators to inform design, prioritization and targeting of interventions. The baseline assessment forms part of performance measurement at project evaluation.

Specifically, the assessment has:

i. Established benchmarks against which the project's progress and impact will be measured over the project life cycle and at the end of the period of implementation; and identified needs and current NCD service provision and capacity gaps; and
ii. Proposed solutions to further refine country plans in the project's key areas of prevention, diagnosis, and management.

2.0 METHODOLOGY

2.1 Overview

The baseline assessment utilised systematically integrated mixed methods of quantitative and qualitative approaches comprising both primary and secondary sources. Primary data was collected through household interviews, focus group discussions, assessment of health facilities, key informant interviews and administration of KAP tool to CHWs. Secondary data was collected through review of relevant literature reflected in the reference section. The sections below further detail the baseline assessment methodology.

2.2 Assessment Design

The assessment was originally designed to cover both the refugee community and the host community. However, due to limitations cited in section 2.10, the scope of the assessment was reduced to cover only refugee populations in the targeted camps.

2.3 Sampling

Sampling for household survey was based on the Probability Proportion to Size (PPS) sampling procedure using a two-stage cluster sampling method. The PPS was applied to a population of 207, 435 refugees (Nyarugusu, 130,399; Nduta, 77,036). The first stage involved the selection of 30 clusters, while the second stage involved the selection of 30 households from each cluster. The selection of 30 clusters and 30 households was informed by the Central Limit Theorem. Based on the 30 by 30 sampling approach, the assessment sampled a total of 900 households (Nyarugusu, 540; Nduta, 360) for the baseline assessment. The distribution of the sampled households in the selected camps is attached as Appendix II of this report.

For the FGDs, the baseline assessment targeted five categories of stakeholder groups (men, women, youth, CHWs and persons living with disability) in line with the ToR. Using the target beneficiary population and the hyper geometric distribution formula the assessment sampled a total of 20 FGDs (Nyarugusu, 10; Nduta, 10) who were consulted with through focus group discussions.

A total of 21 key informants were identified based on their knowledge of the assessment objectives and questions, their experience and job description. Based on reviewed documents and data provided by UNHCR, a total of 12 health facilities were sampled for mapping and assessment. Additional health facilities within the study sites that were offering services to refugees were also mapped and assessed during the assessment. Consequently, the study successfully assessed and mapped 16 health facilities within the project area.

2.4 Development of Data Collection Tools, Training and Pre-Test

2.4.1 Data Collection Tools

The assessment used both quantitative and qualitative data collection tools as further discussed below. These tools were reviewed by UNHCR before commencement of training. The comments received from the review were then incorporated to improve and finalise the tools.

2.4.1.1 Quantitative Tools

The following quantitative tools were used during the assessment:

a) **Household Questionnaire**: The tool was used to capture information on: the profile of the sampled refugees; level of needs, access and utilization of services by refugees; awareness and sensitization on NCD risks, lifestyle and well-being of the respondents; knowledge, attitude, belief and practice (KABP) on NCDs; and facilitators and barriers to health service utilization. The tool was administered to the household head or any household member above 18 years.

b) **Health Facility Mapping and Assessment Tool**: The tool was used to capture information on: health facility inventories with respect to NCD service provision, including equipment and medicine, structures, services provided, and staff and patients, and geo-location. This involved interviews

with the facility focal person, reviewing of facility databases, and observations. The tool was administered to the health facility focal person.

c) **KAP Tool for CHWs**: Was administered to CHWs to gauge their knowledge and practice regarding NCDs.

2.4.1.2 Qualitative Tools

The following qualitative tools were used during the assessment:

a) **Key Informant Interview Guide**: The tool was used to capture information on: the level of engagement and ownership of the MoH/local authorities in NCD prevention, diagnosis, and management and inclusion and integration of refugees in national systems; availability of NCD services; the capacity and quality of existing health systems to deliver quality NCD care to refugees; and availability and awareness of NCD strategies. The guide was administered to the key informants identified for the assessment.

b) **Focus Group Discussion Guide**: The tool was used to capture information on: NCD services; awareness and sensitization on NCD risks, health lifestyle and well-being; KAP on NCDs; and facilitators and barriers to health service utilization. The guide was administered to the community groups identified for the assessment.

2.4.2 Training of Research Assistants

The assessment applied a hybrid mode of training of both physical and virtual methods. A total of twenty-four (24) enumerators (Nyarugusu, 12; Nduta, 12) were trained virtually for two (2) days from 29-30 May 2023. Further, 12 translators from Nyarugusu were physically trained on 31 May to 1 June 2023 while another 12 translators from Nduta were trained on 15-16 June 2023. The trainings were undertaken by Lartech Africa in collaboration with MTI. Appendix IV of this report presents the training report.

2.4.3 Field Pre-test

After training, the tools were pre-tested for appropriateness and suitability. Pre-test for Nyarugusu Camp happened on 2 June 2023 while pre-test for Nduta camp happened on 17 June 2023. After each pre-test, the teams conducted feedback sessions for fine-tuning the tools and finalisation before commencement of data collection.

2.5 Data Collection

Field data collection was conducted over one month. Data collection in Nyarugusu was conducted from 5 to 14 June 2023 while data collection in Nduta was conducted from 19 to 23 June 2023. KIIs for both camps were undertaken from 26 to 30 June 2023. The assessment used the Kobo Collect platform for data collection. Table 2.1 presents a summary of the completed forms for each tool.

Table 2.1: Summary of the completed interviews for each tool

NO.	Data Collection Tools	Completed Interviews
1	Household Questionnaire	993
2	Health Facility Assessment Tool	16
3	KAP Tool	40
4	FGD Guide	20
5	KII Guide	8

The assessment consulted with 4 CHW groups through FGDs. Before the commencement of the FGD discussions with the CHWs, the FGD facilitators administered the KAP test to the CHWs to measure their level of knowledge and practice regarding NCDs. The test entailed NCD pictorials that the CHWs were expected to select from while the facilitators awarded the scores.

The assessment undertook a census of all the health facilities in the two camps. A total of 16 (Nyarugusu, 9; Nduta, 7) primary and secondary health facilities were assessed and mapped during the assessment. The distribution of the assessed health facilities is attached as Appendices II of this report. The assessment

also successfully completed a total of eight (8) KIIs with: UNHCR Public Health and Programme Management staff Tanzania, Kasulu District Medical Officer (DMO), Kibondo, Kigoma Region NCD Coordinator (RNCDCo), Kigoma Regional Medical Officer (RMO), health worker from Medical Teams Mental Health Clinic and Kasaka Mental Health Centre (Kigoma), and MTI representative.

2.6 Data Quality Assurance

To ensure quality of all the data collected, the following key measures were implemented;

i.) Comprehensive review of assessment instruments before commencement of data collection;
ii.) Thorough training of the assessment team undertaken by Lartech Africa in partnership with MTI;
iii.) Adequate pre-testing of all the tools;
iv.) Self-identification of disability status by the respondents;
v.) Use of mobile data collection platform programmed with logical controls;
vi.) Performance monitoring (back checks, spot-checks, accompaniments); and
vii.) Daily cross-checking of administered tools for accuracy, correctness, consistency, and completeness.

The household questionnaire for this assessment was lengthy and this could trigger respondent fatigue which would negatively impact on the data quality. To mitigate this, research assistants were well trained on the tool for easy understanding of its contents as well as on interviewing skills aimed at keeping the respondents alert and focused. Further, a pre-test to establish the estimated time of administering the questionnaire was undertaken. Based on this, enumerators clearly explained to the respondents the estimated time of engagement and interviews proceeded only upon consent based on the required information and time.

2.7 Data Management, Processing and Analysis

2.7.1 Data Management

Quantitative data management was undertaken on the Kobo Collect platform. Access to data held in the server for viewing, use and modification was restricted to authorized personnel only. At the end of each day, data was reviewed for accuracy and consistency and thereafter safely stored.

The FGD and KII data were captured on notebooks, later collated and transcribed. Data cleaning and verification was done both in the field and at the head office to ensure accuracy of the information.

2.7.2 Data Processing and Analysis

Data was analysed using a data analysis plan developed for each indicator. Before commencement of quantitative data processing, a rigorous data cleaning exercise on all the submitted forms was undertaken in MS Excel. This was done to ensure accuracy and consistency of the data.

Data processing was done using; Microsoft (MS) Excel, and International Business Machines (IBM) Statistical Package for the Social Sciences (SPSS) version 26 (v26). MS Excel was used to import comma separated values (CSV) data from the Kobo Collect server before being transferred into the SPSS. SPSS v26 was used to analyse data collected through household questionnaire, health facility assessment tool and KAP tool. All the quantitative data were analysed at a confidence interval (CI) of 95% and an alpha level (α) of 0.05.

Data analysis included computation of descriptive statistics such as frequencies and cross tabulations. Qualitative data collected through KIIs and FGDs was grouped into thematic areas and analysed using Content Analysis Technique (CAT). The results of the analysis have been used to compile this report.

2.8 Ethical Considerations

The assessment was undertaken in strict conformance to safety, confidentiality, and strong research ethics. The baseline assessment was guided by the UNHCR's ethical standards, UNEG norms and standards, the UNEG Ethical Guidelines for Evaluation, the Code of Conduct for Evaluations in the UN system, UNHCR Data Protection Policy, UNHCR Age, Gender and Diversity Policy and UNHCR Disability Inclusion Strategy.

The assessment team was trained on ethical considerations. Consent procedures were followed during the assessment, with oral informed consent obtained from the respondents during data collection. Only after consent was given, did the assessment proceed with interviews and/or discussions.

The assessment team informed the participants that their participation was voluntary and that the respondents were free to refuse to answer any question or withdraw altogether whenever they felt to. They were also informed that there was no monetary compensation for participating in the assessment. All the information collected through the assessment was treated with utmost confidentiality based on the principle of do-no-harm.

2.9 Study Governance

The study was governed by the following key principles to ensure its effectiveness, accountability, and inclusiveness.

i. **Competence**: For the assessment to be effective, we utilized sufficient expertise, resources, and tools to adequately respond to the objectives of the assessment.
ii. **Collaboration**: The study collaborated with UNHCR, GNK Multi Services, Burundi, health facilities, research assistants and other stakeholders during the implementation of the study activities.
iii. **Integrity**: One of the core values of Lartech Africa is to uphold integrity. All the study activities were undertaken with honesty, fairness and in a manner consistent with soundness of moral principles.
iv. **Transparency:** To ensure accountability, the study was undertaken in an open and candid manner in consultation with relevant players.
v. **Non- discrimination**: the study sampled a range of respondents irrespective of their race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth, or disability status.
vi. **Participation**: The study ensured that all involved parties actively participated in the study activities right from the inception to the dissemination phase.

2.10 Reporting and Dissemination

The assessment findings herein are the basis for discussions, conclusions and recommendations presented in this report. The findings of this report were presented to the UNHCR External Evaluation Reference Group (EERG) through a virtual stakeholders' validation conference on 22 November 2023. The meeting was attended by thirteen (13) participants including: UNHCR representatives, WDF representatives, WHO representatives and Consultant representatives. Comments and inputs from the validation meeting have been incorporated and integrated into this Final Report.

2.11 Challenges and Limitations

The assessment went on well without major hitches. However, the following challenges were encountered:

i.) **Delayed commencement of field data collection**: field data collection delayed for over five months. The delay was attributed to lengthy ethical approval process that was required in order to undertake the assessment of the host population. This challenge was addressed by limiting the scope of the assessment to refugee population in the camps.
ii.) **Potential of data contamination**: due to the delays sited in bullet (i) above, field data collection started when procurement of some of the project items had begun. While this did not affect the overall findings of the assessment, Nyarugusu Health Post no. 4 appeared to have had equipment in store procured by the project. Discussions with the Nyarugusu Health Post no. 4 staff established that the facility served as a camp store for other health facilities as well. At the time of the assessment, however, the distribution of these items had not been done to other facilities, therefore, the facility had a higher number of assessed items compared to other facilities. Areas of contamination identified in the baseline findings included the following indicators: number and percentage of healthcare workers providing NCD treatment who are trained on NCD management,

number and percentage of healthcare workers providing mental health treatment who are trained on mental health gap action programme (MhGAP) humanitarian intervention guide (HIG) and number and percentage of CHWs with training on NCDs. During the evaluation, the team queried the respondents more deeply on the status of these indicators before intervention activities.

3.0 FINDINGS AND DISCUSSIONS

3.1 Overview

This chapter presents the study findings. It discusses the assessment questions and matrix, respondents' profile; behavioural risk factors; KABP on NCDs; health seeking behaviours and NCD service provision. Data for the main study indicators have been disaggregated by sex of the respondents.

3.2 Questions and Baseline Assessment Matrix

Building on the objectives in Section 1.4.2 above, the baseline assessment answered the following key research questions under the identified thematic areas. These questions are further elaborated in the baseline study matrix (Appendix VIII).

No	Thematic Area	Key baseline questions
1	Integration, availability and quality of NCD services	• What is the level of engagement and ownership of the MoH/local authorities in NCD prevention, diagnosis, and management and the inclusion and integration of refugees in national systems? • What is the current availability of NCD services?
2	Institutional capacity and capacity of health care workers	• What is the capacity and quality of the existing health systems to deliver quality NCD care to refugees and hosts? • What is the scope of practice, coordination, guidelines/job aides, supplies, used by CHWs? • What is the current capacity of health staff (CHW and primary health professionals) to provide NCD care? • What is the presence of CHW, numbers, ratio / population, and their mode of functioning? • What is the current knowledge and capacity of CHWs to provide prevention and support to persons with NCDs?
3	Level of needs, access and utilization of services by refugees	• What is the proportion of refugees that need NCD services in each country in the areas of intervention? • What is the proportion of refugees that have access to quality NCD services in each country in the areas of intervention? • What are the barriers to access of NCD services? (E.g., financial, sociocultural)
4	Inclusion, gender mainstreaming and accountability to affected populations	• What are the strategies in place to ensure inclusion (age, gender and disability) and Accountability to Affected Populations (AAP)? • What is the level of awareness of strategies in place to ensure inclusion (gender, age, disability) and accountability to POCs on NCDs including prevention, self-care, and diet?

3.3 Respondents Profile

The profiles discussed hereunder relate to household respondents, institutions or health facilities and CHWs.

3.3.1 Household Respondents Profile

In order to understand the factors that affect the health status of refugees, data pertaining to their health status alone would not suffice. Data on demographic factors such as education, income, ability to understand the language in the host country and occupation, are also important. It is imperative to collect and synthesize this data so as to promote inter-sectoral action in safeguarding and promoting the health of refugees[26]. The baseline assessment collected demographic data of the household respondents on their relationship to the head of the household, sex, age, nationality, spoken languages, educational status and disability status as discussed below.

Females accounted for 51.6% of the respondents while males accounted for 48.4%. Majority (76.3%) of the respondents were heads of the household (HH) followed by those who were spouses to household

[26] *Collection and integration of data on refugee and migrant health in the WHO European Region. Copenhagen: WHO Regional Office for Europe; 2020. License: CC BY-NC-SA 3.0 IGO*

heads (14.5%). About 49.4% of the respondents were aged between 18 to 35 years (Males, 45.1%; Females, 53.5%) followed by those aged between 36-65 years at 46.1% (Males, 49.1%; Females, 43.4%). Less than a tenth (5.8%) of the respondents had some form of disability (Males, 6.4%; Females, 5.3%) as shown in Table 3.1. The main forms of disability were physical (52.5%) followed by visual (28.8%) and chronic (15.3%).

Table 3.1: Relationship of the respondent to the household head, age distribution and disability status of the respondents

Background Characteristics	Males		Females		Overall	
	Count (n)	%	Count (n)	%	Count (n)	%
Relationship to HH Head						
Head	413	85.9	345	67.4	758	76.3
Spouse	19	4.0	125	24.4	144	14.5
Others	49	10.2	42	8.3	91	9.2
Total	481	100.0	512	100.0	993	100.0
Age Group						
18 - 35	217	45.1	274	53.5	491	49.4
36 - 65	236	49.1	222	43.4	458	46.1
Above 65	28	5.8	16	3.1	44	4.4
Total	481	100.0	512	100.0	993	100.0
Disability						
Yes	31	6.4	27	5.3	58	5.8
No	450	93.6	485	94.7	935	94.2
Total	481	100.0	512	100.0	993	100.0

(Source: Baseline Assessment, Household Survey, 2023)

Regarding literacy[27], 75.5% of the respondents were literate (Males, 86.9%; Females, 64.8%) while 24.5% were illiterate (Males, 13.1%; Females, 35.2%). About 37.5% of the respondents had completed primary school education (Males, 36.2%; Females, 38.7%), 31.3% had completed secondary school education (Males, 39.1%; Females, 24.0%) while 22.3% had no formal education (Males, 13.3%; Females, 30.7%). Further, the assessment established that: majority (65.0%) of the respondents were married (Males, 71.7%; Females, 58.6%) while 32.8% (Males, 24.1%; Females, 41.0%) were cohabiting, widowed, never married, separated or divorced. Only 2.2% of the respondents failed to disclose their marital status (Males, 4.2%; Females, 0.4%) as shown in Table 3.2.

Table 3.2: Literacy, education level and marital status of the respondents

Background Characteristics	Males		Females		Overall	
	Count (n)	%	Count (n)	%	Count (n)	%
Literacy Level						
Yes	418	86.9	332	64.8	750	75.5
No	63	13.1	180	35.2	243	24.5
Total	481	100.0	512	100.0	993	100.0
Level of Education						
Primary school	174	36.2	198	38.7	372	37.5
Secondary School	188	39.1	123	24.0	311	31.3
No formal schooling	64	13.3	157	30.7	221	22.3
Others	55	11.5	34	6.6	89	8.9
Total	481	100.0	512	100.0	993	100.0
Marital Status						
Married	345	71.7	300	58.6	645	65.0
Cohabitation	50	10.4	39	7.6	89	9.0
Widowed	10	2.1	74	14.5	84	8.5
Never married	36	7.5	38	7.4	74	7.5
Separated	16	3.3	24	4.7	40	4.0
Others	24	5.0	37	7.2	61	6.1
Total	481	100.0	512	100.0	993	100.0

(Source: Baseline Assessment, Household Survey, 2023)

The biggest proportion (93.1%) of the respondents were Christians (Males, 92.1%; Females, 93.9%) followed by Muslims at 5.8% (Males, 6.2%; Females, 5.5%). With regard to the respondent's nationality,

[27] *The ability to read and write in any language*

the assessment found that 60.0% of the respondents were of Burundian nationality (Males, 61.7%; Females, 58.4%), and 39.5% were of Congolese nationality (Males, 38.0%; Females, 40.8%). The rest (0.5%) were of other nationalities including Tanzanians, Ugandans, and Rwandese. An assessment of the languages spoken by the respondents showed that 71.2% of the respondents spoke Swahili (Males, 37.7%; Females, 37.7%), 61.2% spoke Kirundi (Males, 29.6%; Females, 35.9%), while 19.2% spoke Kikongo (Males, 8.8%; Females, 11.9%) as shown in Table 3.3.

Table 3.3: Religion, Nationality and Languages spoken by the respondents

Background Characteristics	Males		Females		Overall	
	Count (n)	%	Count (n)	%	Count (n)	%
Religion						
Christian	443	92.1	481	93.9	924	93.1
Muslim	30	6.2	28	5.5	58	5.8
Others	8	1.7	3	0.6	11	1.1
Total	481	100.0	512	100.0	993	100.0
Nationality						
Burundian	297	61.7	299	58.4	596	60.0
Congolese	183	38.0	209	40.8	392	39.5
Others	1	0.2	4	0.8	5	0.5
Total	481	100.0	512	100.0	993	100.0
Language						
Swahili	394	81.4	313	61.5	707	71.2
Kirundi	308	63.6	300	58.9	608	61.2
Kongo	93	19.2	98	19.3	191	19.2
Kibembe	64	13.2	86	16.9	150	15.1
French	123	25.4	24	4.7	147	14.8
Others	61	12.6	11	2.2	72	7.2

(Source: Baseline Assessment, Household Survey, 2023)

3.3.2 Institutional / Health Facility Profile

An assessment of health facilities in the target camps was used to measure the availability of NCD services. The assessment successfully assessed and mapped a total of 16 health care facilities (HCF) (Primary HCFs, 14; Secondary HCFs, 2). Out of these facilities, only 3 offered NCD services namely Tanzania Red Cross Society Main Hospital in Nyarugusu, MTI Health Post no 4 in Nyarugusu, and MSF Main Hospital in Nduta which had an NCD clinic run by MTI. Table 3.4 presents the profile of the assessed health facilities.

Table 3.4: Profile of assessed health facilities

Camp	Level of health facility	Zone	Name of assessed health facility	Ownership of health facility	Services offered	Offers NCD services
Nyarugusu Camp	Secondary Care	Zone 3	Main Hospital	Tanzania Red Cross Society	Both In-Patient and Out-Patient	Yes
	Primary Care	Zone 7	Annex		Both In-Patient and Out-Patient	No
		Zone 7	Health Post no 2		Out-Patient Only	No
		Zone 1	Health Post no 1		Out-Patient Only	No
		Zone 2	Health Post no 3		Out-Patient Only	No
		Zone 9	Health Post no 5	Medical Teams International	Out-Patient Only	No
		Zone 9	Health Post no 7		Out-Patient Only	No
		Zone 10	RCH Heath Post N		Out-Patient Only	No
		Zone 8	Health Post no 4		Both In-Patient and Out-Patient	Yes
Nduta Camp	Secondary Care	Zone 4	Main Hospital	Private	In Patient Only	No
	Primary Care	Zone 13	Health Post no 5	Medical Teams International	Out-Patient Only	No
		Zone 4	Main Hospital	Médecins Sans Frontiers	Out-Patient Only	Yes
		Zone 12	Health post no 4	Tanzania Red Cross Society	Out-Patient Only	No
		Zone 1	Health post no 4		Out-Patient Only	No
		Zone 6	Health Post no 2		Out-Patient Only	No
		Zone 10	Health post no 6		Out-Patient Only	No

(Source: Health Facility Records, 2023)

The staffing requirements for these facilities differ from one level to another and are guided by the health sector staffing levels guideline which can be accessed at: The United Republic of Tanzania, Health Sector Staffing Levels Guideline. Table 3.55 below presents the staffing levels of the assessed health facilities. The assessed facilities met the required staffing levels described in the health sector staffing levels guideline based on the services offered.

Table 3.5: Staff composition of the assessed health facilities

Camp	Name of assessed health facility	Staff composition	
		Category	Number
Nyarugusu	Annex	Nurse(s)	39
		Clinical Officer	11
		Midwifery	32
		CHWs	23
		Laboratory Assistant	8
	Main Hospital	Doctor(s)	5
		Nurse(s)	29
		Midwifery	26
		Clinical Officer	14
		Psychiatrist	1
		Sonographer	1
	Health Post no 2	Clinical Officer	1
		Nurse(s)	1
		Pharmaceutical Technician	1
	Health Post no 1	Clinical Officer	2
		Incentive Officers	5
	Health Post no 3	Nurse(s)	1
		Clinical Officer	1
		Laboratory Assistant	1
	Health Post no 5	Nurse(s)	1
		CHWs	9
		Others (Laboratory Assistant and Pharmaceutical Technician)	3
	Health Post no 7	Nurse(s)	1
		Clinical Officer	1
		CHWs	6
	RCH Heath Post N	Doctor(s)	3
		Clinical Officer	1
		CHWs	25
		Midwifery	12
		Laboratory Technician	1
		Pharmaceutical Technician	1
	Health Post no 4	Doctor(s)	2
		Nurse(s)	37
		Clinical Officer	15
		CHWs	42
		Midwifery	33
Nduta	Health Post no 5	Doctor(s)	3
		Nurse(s)	9
		Clinical Officer	1
		CHWs	9
		Laboratory Technician	2
	Main Hospital	Doctor(s)	7
		Nurse(s)	40
		Clinical Officer	16
		CHWs	7
		Midwifery	22
		Psychosocial Support	4
		Others (Pharmaceutical Assistant, Laboratory Technician, Medical Translators and Registry Officers)	33
	Health post no 4	Nurse(s)	4
		Clinical Officer	4
		Pharmaceutical Technician	1
	Health post no 4	Nurse(s)	1
		Clinical Officer	4
		Midwifery	3
		Pharmaceutical Technician	1
	Health Post no 2	Nurse(s)	4
		Clinical Officer	4
		Pharmaceutical Assistant	1

Camp	Name of assessed health facility	Staff composition	
		Category	Number
	Health Post no 6	Clinical Officer	4
		Pharmaceutical Assistant	1
	Main Hospital	Doctor(s)	1
		Nurse(s)	5
		Clinical Officer	1
		Psychiatrist	1
		Laboratory Technician/ Pharmaceutical Technician	1

(Source: Health Facility Records, 2023)

3.3.3 Community Health Workers Profile

Community health workers are essential personnel in the health system. In Nyarugusu and Nduta refugee camps, the assessment found that they were focused on health promotions and education.

Out of the 16 assessed health facilities, 10 (Nyarugusu, 6; Nduta, 4) had a total of 204 CHWs (Males, 108; Females, 96) attached to them. Table 3.6 presents the number of CHWs in the assessed health facilities. On average, there are 18 CHWs per facility with more variability observed in Nyarugusu (SD, 16.7) than in Nduta (SD, 6.2).

Table 3.6: Number of CHWs in the assessed health facilities

Data Point	Camp		Overall
	Nyarugusu	Nduta	
Mean	22.2	12.8	18.0
Minimum	6.0	6.0	6.0
Maximum	48.0	18.0	48.0
Median	23.0	13.5	18.0
Standard Deviation (SD)	16.7	6.2	13.3

(Source: Health Facility Records, 2023)

They served a total population of 439,292 people against a population of 231,152 people[28] which implied that their coverage went beyond their target population. Further analysis showed that the ratio of CHWs to served population was 1: 2,153 which was significantly higher than the recommended CHW to population ratio of 1 CHWs per 500 people[29]. Table 3.77 presents the distribution of the CHWs in the assessed health facilities.

Table 3.7: Presence of community health workers (CHW), and numbers, ratio / population by camp

Name of Refugee Camp	Name of Health Facility	Total Number of CHWs			Population covered by facility	Ratio of CHWs to Population
		Overall	Male	Female		
Nyarugusu	Annex	23	14	9	31,542	1:1,371
	Main Hospital	48	20	28	132,000	1:2,750
	Health Post no 5	9	5	4	31,058	1:3,451
	Health Post no 7	6	2	4	22,288	1:3,715
	RCH Heath Post N	25	12	13	44,125	1:1,765
	Health Post no 4	42	17	25	68,462	1:1,630
Nduta	Health Post no 5	9	9	0	15,220	1:1,691
	Main Hospital	6	6	0	80,000	1:13,333
	Health Post no 4	18	10	8	8,719	1:484
	Health Post no 2	18	13	5	5,878	1:327
Overall		***204***	***108***	***96***	***439,292***	***1:2,153***

(Source: Health Facility Records, 2023)

All the facilities with CHWs had a definitive structure that outlined the position of the CHWs, the reporting channels and their scope of work.

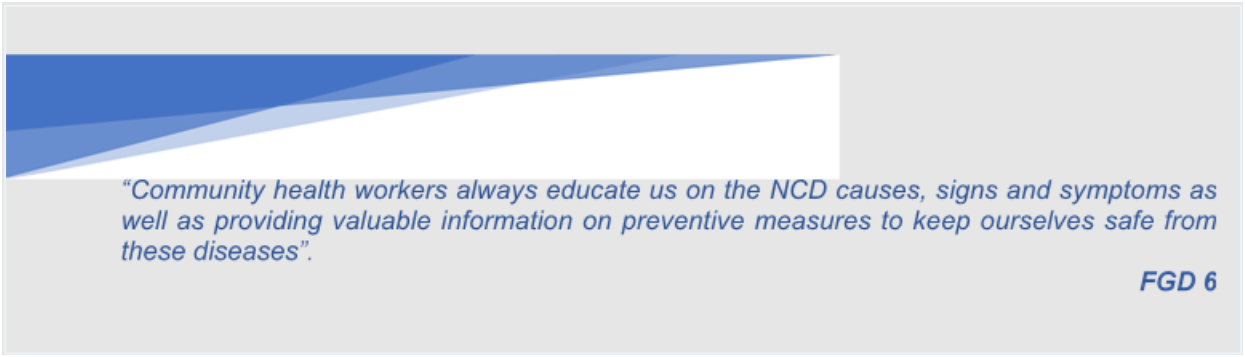
The CHWs undertook several roles including: mother and child care, outreaches and enrolment of new health cases, referrals, health education, hygiene sensitization, local coordination and home (follow-up)

[28] https://data2.unhcr.org/en/country/tza *(Reviewed on 27 September 2023)- The total population of concern in Kigoma region as at 31 August 2023*

[29] *UNICEF, 2014, Communities Care: Transforming Lives and Preventing Violence*

visits, interpersonal and relationship building, advocacy and supply or linkup of information between the health facility and the society. CHWs through FGDs cited; acting as a link between the health facility and community members, sensitizing the community on preventive measures, visiting pregnant mothers to educate them on the importance of ante-natal clinics (ANC) visits and undertaking follow up activities as some of their roles as CHWs. Excerpt 3.1 provides further illustration on the roles of CHWs.

Excerpt 3.1: Role of CHWs



(Source: Baseline Assessment, FGD Participants, 2023)

To carry out their work, the assessment found that the CHWs were equipped and provided with the following items

i.) Stationery (pen, working book, leaflets);
ii.) Safety gears (cap, raincoat, rain boots);
iii.) Guidelines on contraceptive use and mother and child care;
iv.) Guidelines on handling patients living with mental illness;
v.) Guidelines on client referral;
vi.) Guidelines on health education;
vii.) Guidelines on report writing; and
viii.) WHO guidance for community health workers strategic information and service monitoring.

3.4 Behavioural Risk Factors

NCDs are causally linked with four leading behavioural risk factors of: tobacco use, harmful use of alcohol, physical inactivity, and unhealthy diet. In turn, these behaviours can lead to the following four key metabolic/physiological changes: raised blood pressure, overweight/obesity, raised blood glucose, and raised blood lipids[30].

The baseline sought to assess tobacco and alcohol use, dietary risk factors and physical activity among the respondents. Assessment results on these behavioural risk factors will assist the project in the formulation, tracking and implementation of effective control interventions on these behaviours. The assessment findings on the individual respondents' behaviours regarding these factors are discussed in the sub sections below.

3.4.1 Tobacco and Alcohol Use

3.4.1.1 Tobacco Use

Tobacco use, including smoking and use of smokeless tobacco, is currently one of the leading global risk factors for illness and death from major NCDs. These illnesses and premature deaths are not only caused by the direct consumption of tobacco, but also exposure of non-smokers to second-hand smoke[31]. This section describes tobacco usage among respondents in the camps.

[30] *Noncommunicable diseases country profiles 2018. Geneva: World Health Organization; 2018. License: CC BY-NC-SA 3.0 IGO*
[31] *Non-communicable diseases country profiles 2018. Geneva: World Health Organization; 2018. License: CC BY-NC-SA 3.0 IGO*

(a). Prevalence of Tobacco Usage among the Respondents

The assessment found that the overall prevalence of current tobacco use was **8.7% (95% CI: 7.0%-10.6%; n=86, N=993)** with significantly higher prevalence among males (14.7%) than females (2.9%) as presented in Table 3.8. This proportion was lower than the national tobacco prevalence rate of 15.9%[32] and the global tobacco prevalence rate of 22.3%[33].

Table 3.8: Proportion of respondents currently using tobacco in the camps by sex

Currently using tobacco	Sex				Overall	
	Males		Females			
	Count (n)	%	Count (n)	%	Count (n)	%
Yes	71	14.7	15	2.9	86	8.7
No	413	85.3	494	97.1	907	91.3
Total	***484***	***100.0***	***509***	***100.0***	***993***	***100.0***

(Source: Baseline Assessment, Household Survey, 2023)

The assessment found that the individual respondents used a variety of tobacco products. The most common among the tobacco users was cigarettes (58.8%), snuff (15.5%), unprocessed tobacco (15.5%), hand-rolled (6.2%), cigars (3.1%) and water pipe/ shisha (1.0%).

Current tobacco users smoking frequency is presented in Table 3.9. Smoking frequency was categorized as either rarely, sometimes, often, or always. Overall, 58.1% smoked often (Males, 60.6%; Females, 46.7%), 26.7% smoked sometimes (Males, 29.6%; Females, 13.3%), 11.6% smoked always (Males, 9.9%; Females, 20.0%) and 3.5% smoked rarely (Males, 0.0%; Females, 20.0%).

Table 3.9: Smoking frequency of current smokers by sex

Frequency of using tobacco products	Sex				Overall	
	Males		Females			
	Count (n)	%	Count (n)	%	Count (n)	%
Rarely	0	0.0	3	20.0	3	3.5
Sometimes	21	29.6	2	13.3	23	26.7
Often	43	60.6	7	46.7	50	58.1
Always	7	9.9	3	20.0	10	11.6
Total	***71***	***100.0***	***15***	***100.0***	***86***	***100.0***

(Source: Baseline Assessment, Household Survey, 2023)

Smoking plays a large role in the body's ability to absorb and process nutrients, vitamins, and minerals. The nicotine in cigarettes affects the body's ability to maintain the proper level of nutrients and is more likely to drain vitamins and minerals within the body[34].

The assessment established that there was a significant correlation between prevalence of tobacco use and NCD prevalence. As the intake of tobacco increases, the likelihood of being diagnosed with NCD increases and vice versa (Pearson Chi-Square value of **0.001 at α=0.05**). Furthermore, the likelihood of being a tobacco smoker and being diagnosed with NCDs are moderately associated (Cramer's V value of 0.104) which means that people who smoke tobacco tend to have a high level of being diagnosed with NCD.

(b). Age of Smoking Initiation

Overall, majority (84.7%) of the smokers started using tobacco products at a younger age of 25 years and below (Males, 84.3%; Females, 85.5%) as shown in Table 3.10.

Table 3.10: Age of smoking initiation

Age started using tobacco products	Sex				Overall	
	Males		Females			
	Count (n)	%	Count (n)	%	Count (n)	%
Below 18	59	37.1	43	44.3	102	39.8
18 - 25	75	47.2	40	41.2	115	44.9
26 - 35	17	10.7	11	11.3	28	10.9

[32] *Government of The United Republic of Tanzania, May 2016. Ministry of Health, Community Development, Gender, Elderly and Children: Strategic and Action Plan for the Prevention and Control of Non-Communicable Diseases in Tanzania 2016 – 2020*
[33] *https://www.who.int/news-room/fact-sheets/detail/tobacco# (Reviewed on 05 December 2023)*
[34] *https://jamaicahospital.org/newsletter/how-smoking-affects-nutrition/ (Reviewed on 18 September 2023)*

Age started using tobacco products	Sex				Overall	
	Males		Females			
	Count (n)	%	Count (n)	%	Count (n)	%
36 - 45	6	3.8	2	2.1	8	3.1
Above 45	2	1.3	1	1.0	3	1.2
Total	***159***	***100.0***	***97***	***100.0***	***256***	***100.0***

(Source: Baseline Assessment, Household Survey, 2023)

3.4.1.2 Alcohol Consumption

Harmful use of alcohol is a major risk factor for premature deaths and disabilities in the world, and is known to cause heart diseases, cancers, liver diseases, and a range of mental and behavioural disorders[35]. The assessment found that **13.9% (95% CI: 11.8%-16.2%; n=138, N=993)** of the respondents had consumed alcohol within seven days preceding the assessment with a higher proportion being males (22.1%) compared to the females (6.1%) as shown in Table 3.11. This proportion was lower than the national figure of 29.4%[36].

Table 3.11: Proportion of respondents who consumed alcohol within 7 days preceding the assessment by sex

Consumed any alcohol	Sex				Overall	
	Males		Females			
	Count (n)	%	Count (n)	%	Count (n)	%
Yes	107	22.1	31	6.1	138	13.9
No	377	77.9	478	93.9	855	86.1
Total	***484***	***100.0***	***509***	***100.0***	***993***	***100.0***

(Source: Baseline Assessment, Household Survey, 2023)

The assessment found that only 5.1% of current alcohol drinkers had consumed alcohol for all the seven days preceding the assessment as shown in Table 3.12. Daily consumption of alcohol was slightly higher among the females (6.5%) than among the males (4.7%).

Table 3.12: Proportion of respondents who consumed alcohol daily for 7 days preceding the assessment by sex

Consumed alcohol daily for 7 days	Sex				Overall	
	Males		Females			
	Count (n)	%	Count (n)	%	Count (n)	%
Yes	5	4.7	2	6.5	7	5.1
No	102	95.3	29	93.5	131	94.9
Total	***107***	***100.0***	***31***	***100.0***	***138***	***100.0***

(Source: Baseline Assessment, Household Survey, 2023)

The assessment established that there was a significant correlation between prevalence of alcohol consumption and NCD prevalence. As the intake of alcohol increases, the likelihood of being diagnosed with NCD increases and vice versa (Pearson Chi-Square value of **0.002 at α=0.05**). Furthermore, the likelihood of being an alcohol consumer and being diagnosed with NCDs are weakly associated (Cramer's V value of **0.096**) which means that people who consume alcohol tend to have a high level of being diagnosed with NCD.

3.4.2 Prevalence of Tobacco and/ or Alcohol use among the Respondents

Table 3.13 shows a detailed analysis on the prevalence of tobacco and alcohol use among the respondents by sex, age, disability status and ethnicity. The prevalence of tobacco and/or alcohol use was **17.9% (95% CI: 15.6%-20.5%; n=178, N=993)** with a higher prevalence recorded among males (28.7%) compared to females (7.7%).

[35] *Non-communicable diseases country profiles 2018. Geneva: World Health Organization; 2018. License: CC BY-NC-SA 3.0 IGO*
[36] *Ministry of Health and Social Welfare and National Institute for Medical Research in Collaboration with World Health Organisation, 2013, Tanzania Steps Survey Report*

Table 3.13: Prevalence of tobacco and alcohol use among the respondents in camps by sex and background characteristics

Background Characteristics	Sex								Overall			
	Male				Female							
	Yes		No		Yes		No		Yes		No	
	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%
Age Group												
18 - 35	51	23.2	169	76.8	14	5.2	257	94.8	65	13.2	426	86.8
36 - 65	80	33.9	156	66.1	24	10.8	198	89.2	104	22.7	354	77.3
Above 65	8	28.6	20	71.4	1	6.3	15	93.8	9	20.5	35	79.5
Total	***139***	***28.7***	***345***	***71.3***	***39***	***7.7***	***470***	***92.3***	***178***	***17.9***	***815***	***82.1***
PWD												
Yes	10	32.3	21	67.7	1	3.7	26	96.3	11	19.0	47	81.0
No	129	28.5	324	71.5	38	7.9	444	92.1	167	17.9	768	82.1
Total	***139***	***28.7***	***345***	***71.3***	***39***	***7.7***	***470***	***92.3***	***178***	***17.9***	***815***	***82.1***
Ethnicity												
Burundian	89	29.9	209	70.1	29	9.7	269	90.3	118	19.8	478	80.2
Congolese	50	27.0	135	73.0	10	4.8	197	95.2	60	15.3	332	84.7
Others	0	0.0	1	100.0	0	0.0	4	100.0	0	0.0	5	100.0
Total	***139***	***28.7***	***345***	***71.3***	***39***	***7.7***	***470***	***92.3***	***178***	***17.9***	***815***	***82.1***

(Source: Baseline Assessment, Household Survey, 2023)

The assessment established that there was a significant correlation between prevalence of tobacco and/ or alcohol consumption and NCD prevalence. As the intake of tobacco and/ or alcohol increases, the likelihood of being diagnosed with NCD increases and vice versa (Pearson Chi-Square value of **0.000 at α=0.05**). Furthermore, the likelihood of being a tobacco smoker and/ or an alcohol consumer and being diagnosed with NCDs are moderately associated (Cramer's V value of **0.203**) which means that people who smoke tobacco and/ or consume alcohol tend to have a high level of being diagnosed with NCD.

3.4.3 Dietary Risk Factors

Poor quality diets are among the top 6 risk factors contributing to the global burden of disease. Specifically, the NCD burden is associated with diets low in fruits and vegetables, high in sodium, low in nuts and seeds, low in whole grains, and low in seafood-derived omega-3 fatty acids[37]. Excessive consumption of calorie dense foods containing high levels of saturated fats, trans-fatty acids, free sugars and/or salt either alone, or in combination with insufficient physical activity, contributes to obesity and diabetes, as well as other NCDs[38].

The assessment asked respondents questions on fruits and vegetable consumption, salt and sugar intake, and consumption of oils and fats at the household level. The findings are discussed hereunder.

3.4.3.1 Fruits and Vegetables Intake

The WHO recommends consumption of at least 400 grams of fruit and vegetables each day or five servings of 80 grams of fruits and vegetables per person per day[39]. Literature shows that consumption of fruits and vegetables within these recommendations lowers mortality and reduces risk of cardiovascular diseases (including heart disease and stroke), several common cancers (such as colorectal cancer, liver cancer and lung cancer), type 2 diabetes and chronic respiratory diseases (including asthma and chronic obstructive pulmonary disease)[40]. This section describes fruits and vegetables intake among respondents in the camps.

Table 3.14 shows that **87.0% (95% CI: 84.8%-89.0%; n=864, N=993)** of the respondents ate fruits and/or vegetables (Males, 85.5%; Females, 88.4%) any day within seven days preceding the assessment. The findings were higher than the national figure of 68.0%[41]. This high proportion was attributed to the availability

[37] *Non-Communicable Diseases, Diets and Nutrition 2018. United Nations System Standing Committee on Nutrition, May 2018*
[38] *Fiscal policies for diet and prevention of non-communicable diseases: technical meeting report, 5-6 May 2015. World Health Organization; 2015*
[39] *FAO. 2020. Fruit and vegetables – your dietary essentials. The International Year of Fruits and Vegetables, 2021, background paper*
[40] *Fruits and Vegetables: Essentials for a Healthy Diet, 2023. Non-Communicable Diseases Watch, Centre for Health Protection of the Department of Health, April 2023*
[41] *Ministry of Health and Social Welfare and National Institute for Medical Research in Collaboration with World Health Organisation, 2013, Tanzania Steps Survey Report*

of fruits and vegetables around the camps. Agricultural activities are the main sources of income in Kigoma Region. The major crops grown in the area include various fruits and vegetables, beans, cassava, rice, bananas, oil palm, coffee, and tobacco[42].

Table 3.14: Proportion of respondents who ate fruits and/ or vegetables in the past seven days by sex and background characteristics

Background Characteristics	Sex								Overall			
	Males				Females							
	Yes		No		Yes		No		Yes		No	
	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%
Age Group												
18 - 35	189	85.9	31	14.1	241	88.9	30	11.1	430	87.6	61	12.4
36 - 65	205	86.9	31	13.1	195	87.8	27	12.2	400	87.3	58	12.7
Above 65	20	71.4	8	28.6	14	87.5	2	12.5	34	77.3	10	22.7
Total	***414***	***85.5***	***70***	***14.5***	***450***	***88.4***	***59***	***11.6***	***864***	***87.0***	***129***	***13.0***
PWD												
Yes	26	83.9	5	16.1	25	92.6	2	7.4	51	87.9	7	12.1
No	388	85.7	65	14.3	425	88.2	57	11.8	813	87.0	122	13.0
Total	***414***	***85.5***	***70***	***14.5***	***450***	***88.4***	***59***	***11.6***	***864***	***87.0***	***129***	***13.0***
Ethnicity												
Burundian	240	80.5	58	19.5	245	82.2	53	17.8	485	81.4	111	18.6
Congolese	174	94.1	11	5.9	201	97.1	6	2.9	375	95.7	17	4.3
Others	0	0.0	1	100.0	4	100.0	0	0.0	4	50.0	1	50.0
Total	***414***	***85.5***	***70***	***14.5***	***450***	***88.4***	***59***	***11.6***	***864***	***87.0***	***129***	***13.0***

(Source: Baseline Assessment, Household Survey, 2023)

While the assessment did not measure the quantity of fruits or vegetables consumed, individual respondents who consumed fruits and vegetables throughout the week were deemed to have met the WHO definition of adequate intake of fruits and vegetables. The assessment findings presented in Table 3.15 shows that only **1.0% (95% CI: 0.5%-1.8%; n=10, N=993)** of the respondents attained adequate fruits and vegetables intake (Males, 0.6%; Females, 1.4%).

Table 3.15: Proportion of respondents achieving the recommended intake of fruits and vegetables by sex and background characteristics

Background Characteristics	Sex								Overall			
	Males				Females							
	Yes		No		Yes		No		Yes		No	
	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%
Age Group												
18 - 35	0	0.0	220	100.0	5	1.8	266	98.2	5	1.0	486	99.0
36 - 65	3	1.3	233	98.7	2	0.9	220	99.1	5	1.1	453	98.9
Above 65	0	0.0	28	100.0	0	0.0	16	100.0	0	0.0	44	100.0
Total	***3***	***0.6***	***481***	***99.4***	***7***	***1.4***	***502***	***98.6***	***10***	***1.0***	***983***	***99.0***
PWD												
Yes	3	0.7	450	99.3	5	1.0	477	99.0	8	0.9	927	99.1
No	0	0.0	31	100.0	2	7.4	25	92.6	2	3.4	56	96.6
Total	***3***	***0.7***	***450***	***99.3***	***5***	***1.0***	***477***	***99.0***	***8***	***0.9***	***927***	***99.1***
Ethnicity												
Burundian	1	0.3	297	99.7	1	0.3	297	99.7	2	0.3	594	99.7
Congolese	2	1.1	183	98.9	6	2.9	201	97.1	8	2.0	384	98.0
Others	0	0.0	1	100.0	0	0.0	4	100.0	0	0.0	5	100.0
Total	***3***	***0.6***	***481***	***99.4***	***7***	***1.4***	***502***	***98.6***	***10***	***1.0***	***983***	***99.0***

(Source: Baseline Assessment, Household Survey, 2023)

Further analysis as presented in Table 3.16 show that the respondents took fruits on an average of 2.3 days and vegetables on an average of 3.5 days during the 7 days preceding the assessment with slightly more variability observed in fruit intake (SD, 0.5) than vegetable intake (SD, 0.4).

Table 3.16: Mean number of days for fruits and vegetables consumption within seven days preceding the assessment

Data Point	Number of consumption days	
	Fruits	Vegetables
Mean	2.3	3.5
Median	2.0	3.0
Minimum	1	1
Maximum	7	7
Std. Deviation	0.5	0.4

[42] https://open.enabel.be/en/TZA/2157/p/sustainable-agriculture-kigoma-regional-project.html *(Reviewed on 24 September 2023)*

Data Point	Number of consumption days	
	Fruits	Vegetables
Number of respondents	218	588
CI	95%	95%

(Source: Baseline Assessment, Household Survey, 2023)

The most commonly grown fruits in Kigoma Region were bananas palm oil, mango, sugarcane, orange, pawpaw and guava[43]. This was reflected in the fruit consumption patterns in the camp. The assessment findings presented in Table 3.17 shows that banana was reported the most consumed fruit with a weighted average of 25.8% followed by oranges (20.0%), avocados (19.2%), guava (6.7%) and watermelon (6.3%) among others.

Table 3.17: Types of fruits consumed by the respondents

Fruits	Weight (%)	Rank
Banana	25.8	1
Orange	20.0	2
Avocados	19.2	3
Guavas	6.7	4
Watermelon	6.3	5
Lemon	4.4	6
Tree tomato	4.0	7
Pawpaw	4.0	8
Pineapple	3.1	9
Mango	2.7	10
Others	4.0	11
Total	***100.0***	

(Source: Baseline Assessment, Household Survey, 2023)

The most commonly grown vegetables in Kigoma Region were tomatoes, cabbages, onions, amaranths, egg plant and aubergine[44]. This was reflected in the vegetable consumption patterns in the camp. The assessment findings presented in Table 3.18 shows that traditional vegetables[45] were reported the most consumed vegetables with a weighted average of 37.4% followed by amaranth (23.3%), tomatoes (12.3%) onions (9.7%) and cabbages (9.2%) among others.

Table 3.18: Type of vegetables consumed by the respondents

Vegetables	Weight (%)	Rank
Traditional vegetables	37.4	1
Amaranth	23.3	2
Tomato	12.3	3
Onions	9.7	4
Cabbage	9.2	5
Pumpkin leaves	3.4	6
Kales (*Sukuma wiki*)	2.8	7
Others	2.0	8
Total	***100.0***	

(Source: Baseline Assessment, Household Survey, 2023)

3.4.3.2 High Dietary Salt Intake

High dietary salt intake is defined as additional of salt while eating or intake of food processed in high salt on a daily basis. Consumption of high dietary salt raises blood pressure and increases the risk of heart disease and stroke. According to the WHO (2018), the recommended daily intake of salt should be less than 5 grams per person per day.[46]. This section provides assessment findings on dietary salt intake among the respondents.

To obtain this proportion, the assessment considered respondents who always added salt on their food while preparing or eating it and/or consumed processed food high in salt. The prevalence of high dietary

[43] *United Republic of Tanzania, National Sample Census f Agriculture, 2002/2003, Volume Vp: Regional Report, Kigoma Region*
[44] *United Republic of Tanzania, National Sample Census f Agriculture, 2002/2003, Volume Vp: Regional Report, Kigoma Region*
[45] *Such as Kisamvu, Matembele and Mchicha*
[46] *Non-communicable diseases country profiles 2018. Geneva: World Health Organization; 2018*

salt intake among the respondents was found to be **8.2% (95% CI: 6.5%-10.0%; n=81, N=993)** with a slightly higher prevalence recorded among males (8.3%) than among the females (8.1%) as shown in Table 3.19.

Table 3.19: Prevalence of high dietary salt intake among the respondents in the camps by sex and background characteristics

Background Characteristics	Sex								Overall			
	Males				Females							
	Yes		No		Yes		No		Yes		No	
	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%
Age Group												
18 - 35	16	7.3	204	92.7	26	9.6	245	90.4	42	8.6	449	91.4
36 - 65	22	9.3	214	90.7	14	6.3	208	93.7	36	7.9	422	92.1
Above 65	2	7.1	26	92.9	1	6.3	15	93.8	3	6.8	41	93.2
Total	***40***	***8.3***	***444***	***91.7***	***41***	***8.1***	***468***	***91.9***	***81***	***8.2***	***912***	***91.8***
PWD												
Yes	4	12.9	27	87.1	2	7.4	25	92.6	6	10.3	52	89.7
No	36	7.9	417	92.1	39	8.1	443	91.9	75	8.0	860	92.0
Total	***40***	***8.3***	***444***	***91.7***	***41***	***8.1***	***468***	***91.9***	***81***	***8.2***	***912***	***91.8***
Ethnicity												
Burundian	29	9.7	269	90.3	20	6.7	278	93.3	49	8.2	547	91.8
Congolese	11	5.9	174	94.1	21	10.1	186	89.9	32	8.2	360	91.8
Others	0	0.0	1	100.0	0	0.0	4	100.0	0	0.0	5	100.0
Total	***40***	***8.3***	***444***	***91.7***	***41***	***8.1***	***468***	***91.9***	***81***	***8.2***	***912***	***91.8***

(Source: Baseline Assessment, Household Survey, 2023)

The low prevalence in high dietary salt intake among the respondents was attributed to their perception that it causes NCDs. The assessment findings presented in Table 3.20 shows that 58.5% of the respondents (Males, 61.4%; Females, 55.8%) perceived that high dietary salt intake causes NCDs while 41.5% of the respondents perceived otherwise (Males, 38.6%; Females, 44.2%).

Table 3.20: Perception of respondents on high dietary salt intake as a cause of NCDs by sex

High dietary salt intake can cause NCDs	Sex				Overall	
	Males		Females			
	Count (n)	%	Count (n)	%	Count (n)	%
Yes	297	61.4	284	55.8	581	58.5
No	187	38.6	225	44.2	412	41.5
Total	***484***	***100.0***	***509***	***100.0***	***993***	***100.0***

(Source: Baseline Assessment, Household Survey, 2023)

Further analysis established that high dietary salt intake was not significantly correlated with NCD prevalence (Pearson Chi-Square value of **0.450 at α=0.05**). However, the lack of correlation was weak (Cramer's V value of **0.024)**. This implies that the perception of the respondents may hold true or not.

3.4.3.3 High Dietary Sugar Intake

High dietary sugar intake is defined as consumption of processed foods including drinks high in sugar or addition of sugar to beverages already with sugar on a daily basis.

High dietary sugar intake[47] threatens the nutrient quality of diets by providing significant energy but without additional nutritional benefits, leading to unhealthy weight gain and increased risk of overweight, obesity and other NCDs. High dietary sugar intake can also lead to dental caries and its associated negative health impacts. The recommended sugar intake should be less than 10% of total energy intake which is equivalent to 50g (around 12 level teaspoons) per day (WHO, 2022) [48]. This section provides assessment findings on high dietary sugar intake among the respondents.

The assessment findings presented in Table 3.21 shows that the prevalence of high dietary sugar intake among the respondents was **26.0% (95% CI: 23.3%-28.8%; n=258, N=993)** with a higher prevalence recorded among males (30.2%) than among the females (22.0%).

[47] *Any sugar added to a food or drink*
[48] *Sugars Factsheet. World Health Organization, 2022*

Table 3.21: Prevalence of high dietary sugar intake among the respondents by sex and background characteristics

Background Characteristics	Sex								Overall			
	Males				Females							
	Yes		No		Yes		No		Yes		No	
	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%
Age Group												
18 - 35	76	34.5	144	65.5	67	24.7	204	75.3	143	29.1	348	70.9
36 - 65	61	25.8	175	74.2	41	18.5	181	81.5	102	22.3	356	77.7
Above 65	9	32.1	19	67.9	4	25.0	12	75.0	13	29.5	31	70.5
Total	***146***	***30.2***	***338***	***69.8***	***112***	***22.0***	***397***	***78.0***	***258***	***26.0***	***735***	***74.0***
Disability Status												
PWDs	7	22.6	24	77.4	9	33.3	18	66.7	16	27.6	42	72.4
Not PWDs	139	30.7	314	69.3	103	21.4	379	78.6	242	25.9	693	74.1
Total	***146***	***30.2***	***338***	***69.8***	***112***	***22.0***	***397***	***78.0***	***258***	***26.0***	***735***	***74.0***
Ethnicity												
Burundian	59	19.8	239	80.2	38	12.8	260	87.2	97	16.3	499	83.7
Congolese	87	47.0	98	53.0	71	34.3	136	65.7	158	40.3	234	59.7
Others	0	0.0	1	100.0	3	75.0	1	25.0	3	60.0	2	40.0
Total	***146***	***30.2***	***338***	***69.8***	***112***	***22.0***	***397***	***78.0***	***258***	***26.0***	***735***	***74.0***

(Source: Baseline Assessment, Household Survey, 2023)

The low prevalence of high dietary sugar intake was attributed to the perception of the respondents that it causes NCDs. The assessment findings presented in Table 3.22 shows that 59.3% of the respondents (Males, 64.3%; Females, 54.6%) perceived that high dietary sugar intake caused NCDs while 40.7% of the respondents (Males, 35.7%; Females, 45.4%) perceived otherwise.

Table 3.22: Perception of respondents on high dietary sugar intake as a cause of NCDs by sex

High dietary sugar intake can cause NCD	Sex				Overall	
	Males		Females			
	Count (n)	%	Count (n)	%	Count (n)	%
Yes	311	64.3	278	54.6	589	59.3
No	173	35.7	231	45.4	404	40.7
Total	***484***	***100.0***	***509***	***100.0***	***993***	***100.0***

(Source: Baseline Assessment, Household Survey, 2023)

Further analysis established that there was no significant correlation between high dietary sugar intake and prevalence of NCDs (Pearson Chi-Square value of **0.571 at α=0.05**). However, the disassociation was weak (Cramer's V value of **0.018)**. This implies that the perception of the respondents may hold true or not.

3.4.3.4 Dietary Fat and Oil

Dietary fat and oil include all the lipids in plant and animal tissues that are eaten as food. Dietary fats and oils are subdivided into classes of unsaturated, saturated, and trans-fats[49]. Literature indicates that excessive consumption of fats is unhealthy. Moreover, consumption of fats, especially industrially produced partially hydrogenated vegetable oils has been associated with an increased risk of heart disease, infertility, endometriosis, gallstones, Alzheimer's disease, diabetes, and some cancers[50]. The WHO recommends less than 30% of total energy intake from fats. Unsaturated fats[51] are preferable to saturated fats[52] and trans-fats of all kinds, including both industrially-produced trans-fats[53] and ruminant trans-fats[54]. It is suggested that the intake of saturated fats be reduced to less than 10% of total energy intake and trans-fats to less than 1% of total energy intake. In particular, industrially-produced trans-fats are not part of a healthy diet and should be avoided[55]. This section provides assessment findings on dietary fat and oil intake among the respondents.

[49] *Fats and fatty acids in human nutrition: report of an expert consultation. FAO Food and Nutrition Paper 91. Rome: Food and Agriculture Organization of the United Nations; 2010*

[50] *https://www.emro.who.int/noncommunicable-diseases/publications/questions-and-answers-on-reducing-fat-intake-to-prevent-and-control-noncommunicable-diseases-in-eastern-mediterranean-region.html (Reviewed on 11 July 2023)*

[51] *Found in fish, avocado and nuts, and in sunflower, soybean, canola and olive oils*

[52] *Found in fatty meat, butter, palm and coconut oil, cream, cheese, ghee and lard*

[53] *Found in baked and fried foods, and pre-packaged snacks and foods, such as frozen pizza, pies, cookies, biscuits, wafers, and cooking oils and spreads*

[54] *Found in meat and dairy foods from ruminant animals, such as cows, sheep, goats and camels*

[55] *https://www.who.int/news-room/fact-sheets/detail/healthy-diet (Reviewed on 26 August 2023)*

To obtain this proportion, respondents were asked the type of oil and fats they frequently used to prepare food in their homes. Based on the WHO recommendations stated above, respondents who frequently used unsaturated oils and fats or those who never used any oils and fats were considered as those who had met the defined recommendation. Accordingly, the assessment findings presented in Table 3.23 shows that only **3.0% (95% CI: 2.0%-4.3%; n=30, N=993)** of the respondents achieved the recommended intake of dietary oils and fats (Males, 2.9%; Females, 3.1%).

Table 3.23:Proportion of respondents achieving the recommended intake of dietary oils and fats by sex and background characteristics

Background Characteristics	Sex								Overall			
	Males				Females							
	Yes		No		Yes		No		Yes		No	
	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%
Age Group												
18 - 35	5	2.3	215	97.7	12	4.4	259	95.6	17	3.5	474	96.5
36 - 65	9	3.8	227	96.2	3	1.4	219	98.6	12	2.6	446	97.4
Above 65	0	0.0	28	100.0	1	6.3	15	93.8	1	2.3	43	97.7
Total	***14***	***2.9***	***470***	***97.1***	***16***	***3.1***	***493***	***96.9***	***30***	***3.0***	***963***	***97.0***
PWD												
Yes	2	6.5	29	93.5	2	7.4	25	92.6	4	6.9	54	93.1
No	12	2.6	441	97.4	14	2.9	468	97.1	26	2.8	909	97.2
Total	***14***	***2.9***	***470***	***97.1***	***16***	***3.1***	***493***	***96.9***	***30***	***3.0***	***963***	***97.0***
Ethnicity												
Burundian	7	2.3	291	97.7	2	0.7	296	99.3	9	1.5	587	98.5
Congolese	7	3.8	178	96.2	14	6.8	193	93.2	21	5.4	371	94.6
Others	0	0.0	1	100.0	0	0.0	4	100.0	0	0.0	5	100.0
Total	***14***	***2.9***	***470***	***97.1***	***16***	***3.1***	***493***	***96.9***	***30***	***3.0***	***963***	***97.0***

(Source: Baseline Assessment, Household Survey, 2023)

Literature shows that meals prepared away from home tend to have higher energy density, fat, and sodium, but lower in fruits, vegetables, whole grains, and protective nutrients such as dietary fibres and antioxidants. Although some restaurants provide high-quality foods, the dietary quality for meals away from home, especially from fast-food chains, is usually lower compared with meals cooked at home. As a result, frequently dining out has been reported to be related with increased risk of NCDs including obesity, diabetes, and biomarkers of other chronic diseases[56].

Figure 3.1 shows the distribution of respondents who consumed meals prepared away from home. A meal was defined as breakfast, lunch, or dinner. Overall, 16.9% of the respondents ate 1 to 5 meals away from home in an ideal week with a significant difference observed among the males (25.4%) compared to the females (9.0%).

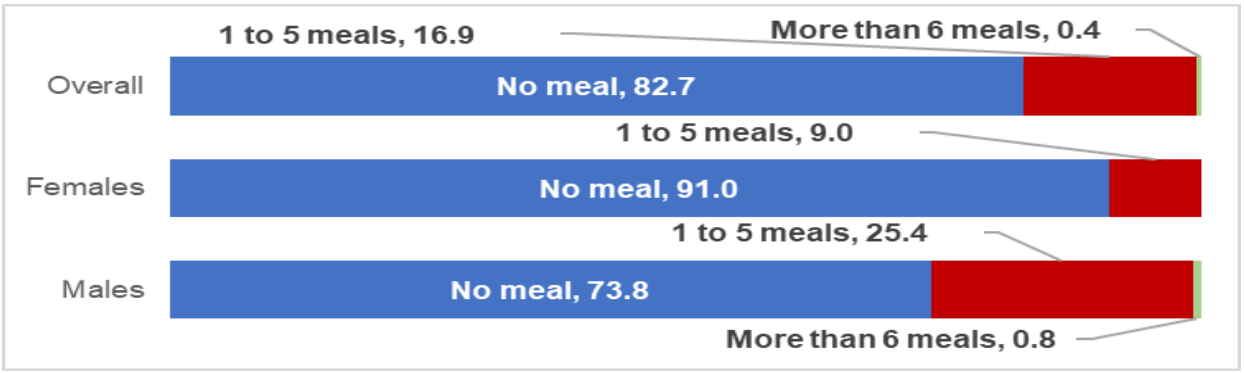


Figure 3.1: Number of meals eaten by the respondents away from home by sex

(Source: Baseline Assessment, Household Survey, 2023)

Further analysis indicated that there was no significant correlation between intake of dietary oils and fats and prevalence of NCDs (Pearson Chi-Square value of **0.058 at α=0.05**). However, the disassociation was weak (Cramer's V value of **0.060)**.

[56]*The Academy of Nutrition and Dietetics, MARCH 25, 2021, Association Between Frequency of Eating Away-From-Home Meals and Risk of All-Cause and Cause-Specific Mortality*

3.4.3.5 Prevalence of healthy diet intake among the respondents

According to the WHO, healthy diets are rich in fibre, fruit, vegetables, lentils, beans, nuts, and wholegrains. These diets are balanced, diverse and meet a person's macronutrient (protein, fat, carbohydrate, and fibre) and micronutrient (minerals and vitamins) needs depending on their stage of life. Generally, healthy diets contain: fat intake of less than 30% of total energy mainly from unsaturated fats, sugar intake of less than 10% of total energy, salt intake of less than 5g per day and fruit and vegetables intake at least 400g per day[57].

Accordingly, the assessment found that only **1.1% (95% CI: 0.6%-2.0%; n=11, N=993)** of the respondents ate a healthy diet with a high proportion being recorded among the males (1.4%) than among the females (0.8%) as shown in Table 3.24. The findings reflect that all the respondents and by extension all households did not consume a healthy diet. This is attributed to the fact that many refugees have limited access to livelihood opportunities and remain largely dependent on humanitarian assistance thus struggling to afford enough nutritious food.

Table 3.24: Prevalence of healthy diet intake among the respondents by sex and background characteristics

Background Characteristics	Sex								Overall			
	Males				Females							
	Yes		No		Yes		No		Yes		No	
	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%
Age Group												
18 - 35	3	1.4	217	98.6	3	1.1	268	98.9	6	1.2	485	98.8
36 - 65	3	1.3	233	98.7	1	0.5	221	99.5	4	0.9	454	99.1
Above 65	1	3.6	27	96.4	0	0.0	16	100.0	1	2.3	43	97.7
Total	***7***	***1.4***	***477***	***98.6***	***4***	***0.8***	***505***	***99.2***	***11***	***1.1***	***982***	***98.9***
PWD												
Yes	2	6.5	29	93.5	1	3.7	26	96.3	3	5.2	55	94.8
No	5	1.1	448	98.9	3	0.6	479	99.4	8	0.9	927	99.1
Total	***7***	***1.4***	***477***	***98.6***	***4***	***0.8***	***505***	***99.2***	***11***	***1.1***	***982***	***98.9***
Ethnicity												
Burundian	3	1.0	295	99.0	2	0.7	296	99.3	5	0.8	591	99.2
Congolese	4	2.2	181	97.8	2	1.0	205	99.0	6	1.5	386	98.5
Others	0	0.0	1	100.0	0	0.0	4	100.0	0	0.0	5	100.0
Total	***7***	***1.4***	***477***	***98.6***	***4***	***0.8***	***505***	***99.2***	***11***	***1.1***	***982***	***98.9***

(Source: Baseline Assessment, Household Survey, 2023)

Further analysis indicated that there was no significant correlation between healthy diet and prevalence of NCDs (Pearson Chi-Square value of **0.450 at α=0.05**). However, the disassociation was weak (Cramer's V value of **0.010)**.

3.4.4 Physical Activity

Physical activity is defined as any bodily movement produced by skeletal muscles that requires energy expenditure, including activities undertaken while working, playing, carrying out household chores, travelling, and engaging in recreational pursuits[58]. People with inadequate physical activity tend to have increased risks of NCD compared to those with adequate physical activity. Adults aged 18–64 years should do at least 150 minutes of moderate-intensity physical activity throughout the week, or do at least 75 minutes of vigorous-intensity physical activity throughout the week, or an equivalent combination of moderate- and vigorous-intensity activity. Adults aged 65 years and above should follow the recommendations of the 18-64 age group and in addition do varied multicomponent physical activity that emphasizes functional balance and strength training at moderate or greater intensity, on 3 or more days a week, to enhance functional capacity and to prevent falls[59]. This section provides an assessment of findings on levels of physical activity among the respondents.

Adequate physical activity in this assessment included: (i) work, leisure or sport activities that increased breathing or heart rate; and (ii) walking or cycling for at least 10 minutes. The assessment findings presented in Table 3.25 show that **83.4% (95% CI: 80.9%-85.6%; n=828, N=993)** of the respondents

[57] https://ncdalliance.org/why-ncds/risk-factors-prevention/unhealthy-diets-and-malnutrition *(Reviewed on 27 September 2023)*
[58] https://www.who.int/news-room/fact-sheets/detail/physical-activity *(Reviewed on 13 July 2023)*
[59] https://www.who.int/news-room/fact-sheets/detail/physical-activity *(Reviewed on 13 July 2023)*

engaged in adequate physical activity while 16.6% did not. The proportion of respondents who were physically active was higher than the global prevalence of 72.5%[60].

Table 3.25: Prevalence of engagement in physical activity among the respondents by sex and background characteristics

Background Characteristics	Sex								Overall			
	Males				Females							
	Yes		No		Yes		No		Yes		No	
	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%
Age Group												
18 - 35	205	93.2	15	6.8	226	83.4	45	16.6	431	87.8	60	12.2
36 - 65	200	84.7	36	15.3	173	77.9	49	22.1	373	81.4	85	18.6
Above 65	16	57.1	12	42.9	8	50.0	8	50.0	24	54.5	20	45.5
Total	***421***	***87.0***	***63***	***13.0***	***407***	***80.0***	***102***	***20.0***	***828***	***83.4***	***165***	***16.6***
PWD												
Yes	21	67.7	10	32.3	20	74.1	7	25.9	41	70.7	17	29.3
No	400	88.3	53	11.7	387	80.3	95	19.7	787	84.2	148	15.8
Total	***421***	***87.0***	***63***	***13.0***	***407***	***80.0***	***102***	***20.0***	***828***	***83.4***	***165***	***16.6***
Ethnicity												
Burundian	267	89.6	31	10.4	252	84.6	46	15.4	519	87.1	77	12.9
Congolese	153	82.7	32	17.3	152	73.4	55	26.6	305	77.8	87	22.2
Others	1	100.0	0	0.0	3	75.0	1	25.0	4	80.0	1	20.0
Total	***421***	***87.0***	***63***	***13.0***	***407***	***80.0***	***102***	***20.0***	***828***	***83.4***	***165***	***16.6***

(Source: Baseline Assessment, Household Survey, 2023)

Further analysis indicated that there was no significant correlation between engagement in physical activity and prevalence of NCDs (Pearson Chi-Square value of **0.072 at α=0.05**). However, the disassociation was weak (Cramer's V value of **0.057)**.

3.5 Knowledge, Attitude, Belief and Practice on NCDs

A knowledge, attitude, belief and practices (KABP) test was incorporated into the assessment to collect information on what is known, believed and practiced in relation to NCDs. Good understanding of KAPB enables appropriate programming of the interventions. This section presents the KAPB on NCDs.

3.5.1 Knowledge

The assessment defined knowledge as the respondents' awareness on NCDs. Accordingly, about **71.4% (95% CI: 68.5%-74.2%; n=709, N=993)** of the respondents were aware of NCDs (Males, 74.4%; Females, 68.6%) while 28.6% were not aware (Males, 25.6%; Females, 31.4%) as shown in Table 3.26. The findings reflected that the level of NCD awareness among the respondents was relatively high which was attributed to the awareness and education strategies employed by the government through mass campaign, radio, Television (TV) sessions and mass screening as discussed in section 3.4.3.5 of this report. Limited knowledge on NCD on the other hand was attributed to lack of participation in sensitization or awareness creation programmes (*as reflected in Table 3.53*) and illiteracy. This therefore, calls for sustained awareness creation on NCDs and encouragement of refugees to participate in the awareness creation forums.

Table 3.26: Proportion of respondents who are aware of NCDs by sex and background characteristics

Background Characteristics	Sex								Overall			
	Males				Females							
	Yes		No		Yes		No		Yes		No	
	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%
Age Group												
18 - 35	158	72.8	59	27.2	186	67.9	88	32.1	344	70.1	147	29.9
36 - 65	181	76.7	55	23.3	153	68.9	69	31.1	334	72.9	124	27.1
Above 65	19	67.9	9	32.1	12	75.0	4	25.0	31	70.5	13	29.5
Total	***358***	***74.4***	***123***	***25.6***	***351***	***68.6***	***161***	***31.4***	***709***	***71.4***	***284***	***28.6***
PWD												
Yes	26	83.9	5	16.1	21	77.8	6	22.2	47	81.0	11	19.0
No	332	73.8	118	26.2	330	68.0	155	32.0	662	70.8	273	29.2
Total	***358***	***74.4***	***123***	***25.6***	***351***	***68.6***	***161***	***31.4***	***709***	***71.4***	***284***	***28.6***
Ethnicity												
Burundian	221	74.4	76	25.6	217	72.6	82	27.4	438	73.5	158	26.5

[60] *Global status report on physical activity 2022. Geneva: World Health Organization; 2022*

Background Characteristics	Sex								Overall			
	Males				Females							
	Yes		No		Yes		No		Yes		No	
	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%
Congolese	137	74.9	46	25.1	133	63.6	76	36.4	270	68.9	122	31.1
Others	-	-	1	100.0	-	-	2	100.0	-	-	3	100.0
Total	***358***	***74.4***	***123***	***25.6***	***351***	***68.6***	***161***	***31.4***	***709***	***71.4***	***284***	***28.6***

(Source: Baseline Assessment, Household Survey, 2023)

The assessment established that education also affected the level of awareness on NCDs. The findings indicated that there was a significant correlation between education and knowledge on NCDs (Pearson Chi-Square value of **0.001 at α=0.05).** This means that people with some education were more likely to know about NCDs compared to those without education as shown in Table 3.26. However, the relationship was moderate (Cramer's V value of **0.154).**

Table 3.26: Relationship between level of education and NCD awareness

Level of education	Aware of NCD		
	Count	Expected Count	Likelihood (%)
No education	138	157.8	-12.5
Primary school	267	265.6	+0.5
Secondary School	239	222.1	+7.6

(Source: Baseline Assessment, Household Survey, 2023)

The assessment participants stated that they got information about NCDs mostly from families, friends or neighbours (43.7%) and health facilities (37.7%) among others as presented in Table 3.27. The assessment findings further suggested that while CHWs were potential sources of NCD information, their reach was low (5.2%). The low proportion is attributed to the large population coverage of each CHW (1 CHW: 2,153 people) as further discussed in section 3.2.3 of this report.

Table 3.27: Sources of information on NCDs

Information Source	Weight (%)	Rank
Friends/ family/ neighbours	43.7	1
Health facilities	37.7	2
CHWs	5.2	3
Schools/ teachers	4.0	4
Radio	3.8	5
NGO	3.5	6
Others[61]	2.1	7
Total	***100.0***	

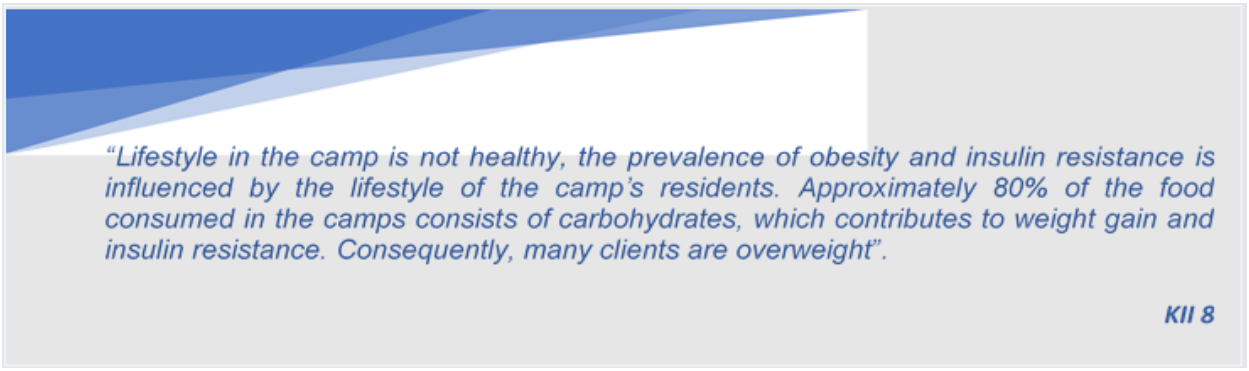
(Source: Baseline Assessment, Household Survey, 2023)

The assessment participants were aware of the following NCDs: diabetes mellitus, heart attack, high blood pressure, asthma, mental disorder, diabetes insipidus, prediabetes, breast cancer, epilepsy, stroke, coronary artery disease, lung cancer, cervical cancer, stomach cancer, stomach ulcers, disability, congenital heart disease, sickle cell, prostate cancer, blood cancer, cerebrovascular disease, bone pain, chronic obstructive pulmonary disease (COPD), hernia, gestational diabetes, occupational lung diseases, anaemia, colorectal cancer, peripheral artery disease (PAD), cystic fibrosis, chronic kidney disease, arthritis and erectile dysfunction disorder.

Well-known risk factors that lead to NCDs include poor diets like intake of foods rich in fat, salt and sugar; physical inactivity, consumption of tobacco, excessive use of alcohol, and stress. Respondents' knowledge on causes of NCDs were assessed. Findings from the household survey corroborated through FGDs and KIIs revealed that genetics, high blood pressure, allergies, shocking news, stress, old age; depression, and use of tobacco products (See Excerpt 3.2) were some of the contributing factors to the occurrence of NCDs.

[61] *Social media, seminars, television, religious institutions, newspapers and posters*

Excerpt 3.2: Causes of NCDs



(Source: Baseline Assessment, Key Informant, 2023)

3.5.2 Attitude

Attitude in this assessment was defined as feelings or perceptions of the respondents toward NCDs. The assessment evaluated the opinions of the respondents in respect to 8 statements regarding NCDs. Findings presented in Table 3.28 show that 68.6% (Males, 71.5%; Females, 65.8%) of the respondents agreed that NCDs give serious problems to the health of a person followed by 68.4% (Males, 72.3%; Females, 64.6%) who agreed that NCDs are serious diseases. More than half of the respondents (53.8%; Males, 61.5%; Females, 54.9%) on the other hand disagreed that they were at risk of getting NCDs.

Table 3.28: Attitude of respondents on NCDs

Attitude Statements	Sex								Overall			
	Males				Females							
	Yes		No		Yes		No		Yes		No	
	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%
Are at risk of getting NCDs	222	42.2	259	53.8	197	38.5	315	61.5	419	42.2	574	57.8
NCDs are serious diseases	348	72.3	133	27.7	331	64.6	181	35.4	679	68.4	314	31.6
NCDs give serious problems to the health of a person	344	71.5	137	28.5	337	65.8	175	34.2	681	68.6	312	31.4
NCDs can be prevented	261	54.3	220	45.7	221	43.2	291	56.8	482	48.5	511	51.5
NCDs can be treated	266	55.3	215	44.7	243	47.5	269	52.5	509	51.3	484	48.7
High dietary sugar intake can cause NCDs	310	64.4	171	35.6	279	54.5	233	45.5	589	59.3	404	40.7
High dietary salt intake can cause NCD	296	61.5	185	38.5	285	55.7	227	44.3	581	58.5	412	41.5
Physical inactivity causes NCDs	287	59.7	194	40.3	224	43.8	288	56.3	511	51.5	482	48.5

(Source: Baseline Assessment, Household Survey, 2023)

3.5.3 Beliefs

The assessment defined belief as what the respondents accepted, considered as true, or held as an opinion regarding NCDs. The findings presented in Table 3.29 shows that **17.1% (95% CI: 14.8%-19.6%; n=170, N=993)** of the respondents were aware and believed in traditions, myths, and misconceptions on NCDs.

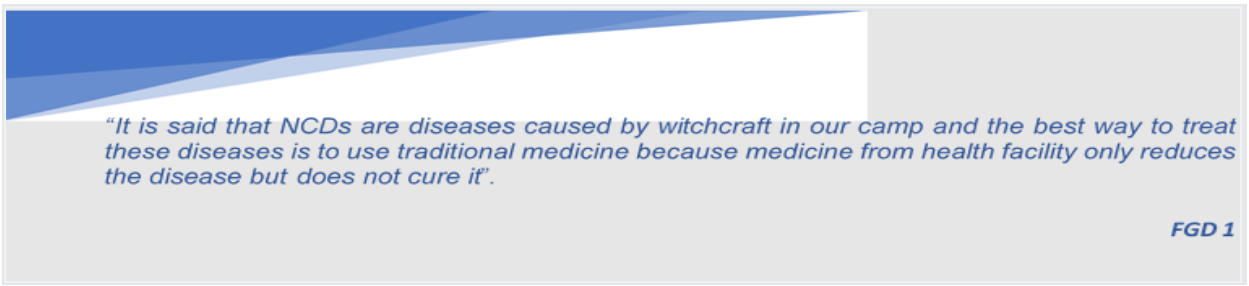
Table 3.29: Proportion of respondents aware and believe in traditions, myths and misconceptions about NCDs by sex and background characteristics

Background Characteristics	Sex								Overall			
	Males				Females							
	Yes		No		Yes		No		Yes		No	
	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%
Age Group												
18 - 35	36	16.4	184	83.6	52	19.2	219	80.8	88	17.9	403	82.1
36 - 65	44	18.6	192	81.4	28	12.6	194	87.4	72	15.7	386	84.3
Above 65	7	25.0	21	75.0	3	18.8	13	81.3	10	22.7	34	77.3
Total	***87***	***18.0***	***397***	***82.0***	***83***	***16.3***	***426***	***83.7***	***170***	***17.1***	***823***	***82.9***
PWDs												
Yes	9	29.0	22	71.0	5	18.5	22	81.5	14	24.1	44	75.9
No	78	17.2	375	82.8	78	16.2	404	83.8	156	16.7	779	83.3
Total	***87***	***18.0***	***397***	***82.0***	***83***	***16.3***	***426***	***83.7***	***170***	***17.1***	***823***	***82.9***
Ethnicity												
Burundian	42	14.1	256	85.9	44	14.8	254	85.2	86	14.4	510	85.6
Congolese	45	24.3	140	75.7	39	18.8	168	81.2	84	21.4	308	78.6
Others	0	0.0	1	100.0	0	0.0	4	100.0	0	0.0	5	100.0
Total	***87***	***18.0***	***397***	***82.0***	***83***	***16.3***	***426***	***83.7***	***170***	***17.1***	***823***	***82.9***

(Source: Baseline Assessment, Household Survey, 2023)

According to the household and FGD respondents, some respondents believe that those with NCDs were bewitched or cursed. Some respondents also held the belief that NCDs were for the rich, hereditary, untreatable, demonic and transmittable (communicable). For these reasons, these respondents believed that traditional medicine worked better (more effective) than modern medicine in the treatment of NCD. Excerpt 3.3 provides further illustration on some of the beliefs about NCDs.

Excerpt 3.3: FGD participants' comments on the cause and treatment of NCD



(Source: Baseline Assessment, FGD Participants, 2023)

Further analysis established that there was a significant correlation between people's beliefs and their attitude on NCD (Pearson Chi-Square value of **0.026 at α=0.05).** The relationship is strong (Cramer's V value of **0.710)** which implies that traditional beliefs influenced the people's attitude on NCD.

3.5.4 Practice

Practice in this assessment was defined as ways in which respondents demonstrated their knowledge, attitude, and beliefs through their actions. The actions included screening, testing, diagnosis, and management of NCDs.

(a). Screening and Testing

Screening refers to presumptive identification of unrecognized disease in an apparently healthy, asymptomatic population by means of tests, examinations or other procedures that can be applied rapidly and easily to the target population. The screening pathway involves: identification of the population for screening, invitation and information, testing, referral for screen positives and reporting of screen negative results, diagnosis, Intervention / treatment / follow-up and reporting of outcomes. For screening to be effective, each step of the pathway must be supported by substantial resources, including financial, human, and technological resources (WHO,2020)[62].

[62] *WHO 2020: Health Systems and Policy Analysis. Policy Brief 35. Screening: When is it appropriate and how can we get it right?*

The assessment sought to establish whether the respondents had ever been screened and tested for NCDs. The findings in Table 3.30 shows that **33.3% (95% CI: 30.4%-36.4%; n=331, N=993)** of the respondents had been screened and tested for NCDs. According to the assessment participants, screening services were offered during scheduled health visits, outreaches, and organized mass screening activities.

Table 3.30: Proportion of respondents screened or tested for NCDs by sex and background characteristics

Background Characteristics	Sex								Overall			
	Males				Females							
	Yes		No		Yes		No		Yes		No	
	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%
Age Group												
18 - 35	49	22.3	171	77.7	90	33.2	181	66.8	139	28.3	352	71.7
36 - 65	85	36.0	151	64.0	83	37.4	139	62.6	168	36.7	290	63.3
Above 65	12	42.9	16	57.1	12	75.0	4	25.0	24	54.5	20	45.5
Total	***146***	***30.2***	***338***	***69.8***	***185***	***36.3***	***324***	***63.7***	***331***	***33.3***	***662***	***66.7***
PWD												
Yes	13	41.9	18	58.1	14	51.9	13	48.1	27	46.6	31	53.4
No	133	29.4	320	70.6	171	35.5	311	64.5	304	32.5	631	67.5
Total	***146***	***30.2***	***338***	***69.8***	***185***	***36.3***	***324***	***63.7***	***331***	***33.3***	***662***	***66.7***
Ethnicity												
Burundian	88	29.5	210	70.5	103	34.6	195	65.4	191	32.0	405	68.0
Congolese	58	31.4	127	68.6	81	39.1	126	60.9	139	35.5	253	64.5
Others	0	0.0	1	100.0	1	25.0	3	75.0	1	20.0	4	80.0
Total	***146***	***30.2***	***338***	***69.8***	***185***	***36.3***	***324***	***63.7***	***331***	***33.3***	***662***	***66.7***

(Source: Baseline Assessment, Household Survey, 2023)

The assessment established that screening and testing was significantly correlated with the level of awareness (Pearson Chi-Square value of **0.000 at α=0.05**). The association was strong (Cramer's V value of **0.448**). The results imply that those who were aware of NCDs were more likely to get screened and/or tested than those who were not aware of NCDs.

(b). Diagnosis

Diagnosis is the process of determining the nature of a disease or disorder and distinguishing it from other possible conditions[63]. The assessment sought to establish the proportion of respondents who were diagnosed with NCDs. The findings presented in Table 3.31 shows that **12.2% (95% CI: 10.2%-14.4%; n=121, N=993)** of the respondents were diagnosed with NCDs. Accordingly, NCD prevalence was higher among the females (14.7%) than among the males (9.5%).

Table 3.31: Proportion of respondents diagnosed with NCDs by sex and background characteristics

Background Characteristics	Sex								Overall			
	Males				Females							
	Yes		No		Yes		No		Yes		No	
	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%
Age Group												
18 - 35	8	3.6	212	96.4	25	9.2	246	90.8	33	6.7	458	93.3
36 - 65	31	13.1	205	86.9	42	18.9	180	81.1	73	15.9	385	84.1
Above 65	7	25.0	21	75.0	8	50.0	8	50.0	15	34.1	29	65.9
Total	***46***	***9.5***	***438***	***90.5***	***75***	***14.7***	***434***	***85.3***	***121***	***12.2***	***872***	***87.8***
PWD												
Yes	6	19.4	25	80.6	6	22.2	21	77.8	12	20.7	46	79.3
No	40	8.8	413	91.2	69	14.3	413	85.7	109	11.7	826	88.3
Total	***46***	***9.5***	***438***	***90.5***	***75***	***14.7***	***434***	***85.3***	***121***	***12.2***	***872***	***87.8***
Ethnicity												
Burundian	30	10.1	268	89.9	38	12.8	260	87.2	68	11.4	528	88.6
Congolese	16	8.6	169	91.4	37	17.9	170	82.1	53	13.5	339	86.5
Others	0	0.0	1	100.0	0	0.0	4	100.0	0	0.0	5	100.0
Total	***46***	***9.5***	***438***	***90.5***	***75***	***14.7***	***434***	***85.3***	***121***	***12.2***	***872***	***87.8***

(Source: Baseline Assessment, Household Survey, 2023)

Further analysis from the household survey showed that most of the respondents reported to have been diagnosed with stroke (36.9%) followed by heart attack (26.2%) and asthma (10.8%) as shown in Table 3.32.

[63] *https://www.britannica.com/science/diagnosis (Reviewed on 16 October 2023)*

Table 3.32: Common types of NCD in the refugee camps as reported by HH respondents

Type of NCDs	Weight (%)	Rank
Stroke	36.9	1
Heart attack	26.2	2
Asthma	10.8	3
Low blood pressure	10.8	4
Diabetes (mellitus or insipidus)	8.4	5
Epilepsy	3.1	6
Others[64]	3.8	7
Total	***100.0***	

(Source: Baseline Assessment, Household Survey, 2023)

(c). Management

Management of NCDs includes detection, screening, treatment, and provision of access to palliative care for people in need[65]. To improve NCD management, an integrated approach is needed to coordinate and deliver care across the levels of the health system. The approach includes increasing primary care capacity and competencies to address multiple chronic conditions, and integration with other complementary programs to avoid missing opportunities for NCD diagnosis and management[66].

To manage the NCDs, 78.1% (Males, 64.1%; Females, 78.1%) of the individual respondents lived a healthy lifestyle which included eating a healthy diet and undertaking physical exercise as presented in Table 3.33.

Table 3.33: NCD management measures employed by the individual respondents

Management measures	Weight (%)			Rank
	Males	Females	Overall	
Living a healthy lifestyle	64.1	78.1	72.8	1
Staying away from allergens	15.4	12.5	13.6	2
Adherence to medication	15.4	7.8	10.7	3
Taking water to prevent dehydration	5.1	1.6	2.9	4
Total	100.0	100.0	100.0	

(Source: Baseline Assessment, Household Survey, 2023)

Further, the assessment found that while majority of the primary health care (PHC) facilities did not provide NCD services, where such services existed, it included management for chronic respiratory diseases, diabetes, and hypertension as shown in Table 3.42, Excerpt 3.5. NCD management by CHWs was limited to palliative care to NCD patients.

3.6 Health Seeking Behaviours

Proper understanding of health seeking behaviours can reduce delay to diagnosis, improve treatment compliance and improve health promotion strategies within the refugee camps. Health seeking behaviours is broadly classified into two approaches: health seeking behaviours (utilization of the formal systems) or health seeking behaviours (illness response). This assessment does not make a distinction of the two. The pathways to health seeking behaviour may introduce delays in seeking competent care and is therefore of practical relevance for policy development. Studies have shown that patients follow different pathways for different conditions relating predominantly to the role of the husband, social and cultural factors[67]. This might have implications for the project. The view is often that the desired health seeking behaviour is for an individual to respond to an illness episode by seeking first and foremost help from a trained allopathic doctor, in a formally recognized health care setting. However, as demonstrated in this section, for some illnesses, people preferred traditional medicine over modern medicine.

[64] *Coronary artery disease, Stomach Cancer, Chronic obstructive pulmonary disease (COPD), Mental disorder, Ulcers*
[65] *https://www.who.int/activities/management-of-noncommunicable-diseases (Reviewed on 27 August 2023)*
[66] *https://iris.paho.org/handle/10665.2/56328 (Reviewed on 17 October 2023)*
[67] *University of Manchester Health Systems Development Programme, A review of health seeking behaviour: problems and prospects*

3.6.1 Proportion of respondents who visited a health facility to seek for NCD services within 12 months preceding the assessment

Individual respondents were asked whether they had visited any health facility to seek for NCD services within 12 months preceding the assessment. The findings presented in Table 3.34 show that 13.7% of the respondents needed and sought for NCD services within this period.

Table 3.34: Proportion of respondents who visited a health facility to seek for NCD services within 12 months preceding the assessment by sex and background characteristics

Background Characteristics	Sex								Overall			
	Males				Females							
	Yes		No		Yes		No		Yes		No	
	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%
Age Group												
18 - 35	15	6.9	202	93.1	32	11.7	242	88.3	47	9.6	444	90.4
36 - 65	37	15.7	199	84.3	37	16.7	185	83.3	74	16.2	384	83.8
Above 65	9	32.1	19	67.9	6	37.5	10	62.5	15	34.1	29	65.9
Total	***61***	***12.7***	***420***	***87.3***	***75***	***14.6***	***437***	***85.4***	***136***	***13.7***	***857***	***86.3***
PWD												
Yes	9	29.0	22	71.0	6	22.2	21	77.8	15	25.9	43	74.1
No	52	11.6	398	88.4	69	14.2	416	85.8	121	12.9	814	87.1
Total	***61***	***12.7***	***420***	***87.3***	***75***	***14.6***	***437***	***85.4***	***136***	***13.7***	***857***	***86.3***
Ethnicity												
Burundian	35	11.8	262	88.2	43	14.4	256	85.6	78	13.1	518	86.9
Congolese	26	14.2	157	85.8	32	15.3	177	84.7	58	14.8	334	85.2
Others	0	0.0	1	100.0	0	0.0	4	100.0	0	0.0	5	100.0
Total	***61***	***12.7***	***420***	***87.3***	***75***	***14.6***	***437***	***85.4***	***136***	***13.7***	***857***	***86.3***

(Source: Baseline Assessment, Household Survey, 2023)

Further analysis on health seeking behaviour as presented in Table 3.35 showed that the decision to follow with a particular medical path was influenced by a variety of economic and socio-cultural factors. Assessment findings show that some of the respondents with heart attack, stroke, diabetes mellitus, asthma and low blood pressure used traditional medicine in addition to hospital medication as medication for these NCDs.

Table 3.35: Proportion of respondents with NCDs who visited a health facility and/or used traditional medicine in addition to hospital medication as medication for NCDs

Background Characteristics	Traditional medicine				Modern medicine			
	Yes		No		Yes		No	
	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%
Sex								
Male	7	15.2	39	84.8	25	27.3	21	72.7
Female	6	8.0	69	92.0	65	29.7	10	70.3
Type of NCDs								
Heart attack	2	5.9	32	94.1	21	61.8	13	38.2
Stroke	7	14.0	43	86.0	33	66.0	17	34.0
Coronary artery disease	0	0.0	1	100.0	0	0.0	1	100.0
Stomach Cancer	0	0.0	1	100.0	1	100.0	0	0.0
Diabetes insipidus	0	0.0	3	100.0	1	33.3	2	66.7
Diabetes mellitus	1	16.7	5	83.3	5	83.3	1	16.7
Chronic obstructive pulmonary disease (COPD)	0	0.0	1	100.0	1	100.0	0	0.0
Asthma	3	21.4	11	78.6	12	85.7	2	14.3
Mental illness	0	0.0	1	100.0	1	100.0	0	0.0
Low blood pressure	1	7.7	12	92.3	8	57.1	6	42.9
Epilepsy	0	0.0	4	100.0	3	75.0	1	25.0
Ulcers	0	0.0	1	100.0	0	0.0	1	100.0

(Source: Baseline Assessment, Household Survey, 2023)

3.6.2 Distance to the Health Facility

All refugees should have access to curative and preventive healthcare services, whether they live in refugee camps or out-of-camps. Distance to health facilities should be considered when health facilities are designed and constructed. At least one health facility should be within 5 km. of refugee locations (UNHCR,

2023)[68]. The assessment found that 95.6% of the respondents travelled at most 5km to a health facility to seek for NCD services as depicted in Figure 3.2.

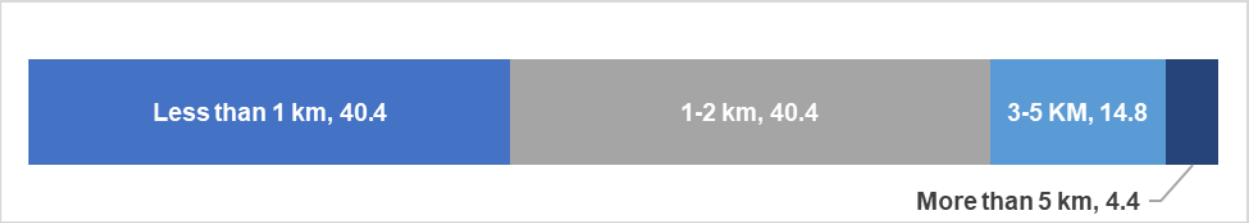


Figure 3.2: Average distance to a health facility

(Source: Baseline Assessment, Household Survey, 2023)

The findings suggest that nine in ten respondents travelled within the recommended distance of 5km to a health facility, which reflected good coverage. However, additional effort was required to reduce the distance to health facilities to within 5km for all.

3.6.3 Type of NCD Services sought by the Respondents

The WHO-recommends management of hypertension, diabetes, and other cardiovascular risk factors in primary care[69]. Table 3.36 shows the NCD services sought by the respondents who visited a health facility to seek for NCD services within 12 months preceding the assessment. Most of them were offered cardiovascular disease management (47.1%; Males, 47.5%; Females, 46.7%); drug dispensing (11.8%; Males, 9.8%; Females, 13.3%), diabetes management (10.3%; Males, 11.5%; Females, 9.3%), and chronic respiratory disease (CRD) diagnosis and/or management services (8.8%; Males, 6.6%; Females, 10.7%) which were adequate and within the WHO recommendations.

Table 3.36: Type of NCD services sought by the respondents

NCD Services	Sex		Overall	Rank
	Male	Female		
	%	%	%	
Cardiovascular disease management	47.5	46.7	47.1	1
Drug Dispensation	9.8	13.3	11.8	2
Diabetes management	11.5	9.3	10.3	3
Chronic respiratory disease (CRD) diagnosis and/or management services	6.6	10.7	8.8	4
Monitoring of blood pressure	6.6	8.0	7.4	5
Mental health services	3.3	2.7	2.9	6
General NCD screening services	3.3	2.7	2.9	7
Cancer screening services	1.6	1.3	1.5	8
Blood screening	3.3	0.0	1.5	9
Asthma screening	0.0	2.7	1.5	10
Stomach ulcers services	1.6	1.3	1.5	11
Epilepsy services	3.3	0.0	1.5	12
Nerve screening	0.0	1.3	0.7	13
Counselling services	1.6	0.0	0.7	14
Total	100.0	100.0	100.0	

(Source: Baseline Assessment, Household Survey, 2023)

3.6.4 Waiting time before receiving NCD services

Waiting time refers to the time a patient waits in the health facility before being seen by medical staff or health personnel. The Institute of Medicine (IOM) recommends that at least 90% of patients are seen by the medical staff within 30 minutes of their scheduled appointment time[70]. According to the assessment findings, only 10.2% of the clients were served within 30 minutes of the appointment time as shown in Figure 3.3. This reflected bad service time which was attributed to inadequate staffing (Section 3.4.3.3) and/ or inadequate equipment (Section 3.4.3.2).

[68] *UNHCR, 2023: Emergency Handbook, Primary health care coverage standard, 29 March 2023*
[69] *https://www.emro.who.int/noncommunicable-diseases/publications/questions-and-answers-on-management-of-noncommunicable-diseases-in-primary-health-care.html (Reviewed on 15 September 2023)*
[70] *https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3868129/ (Reviewed on 15 September 2023)*

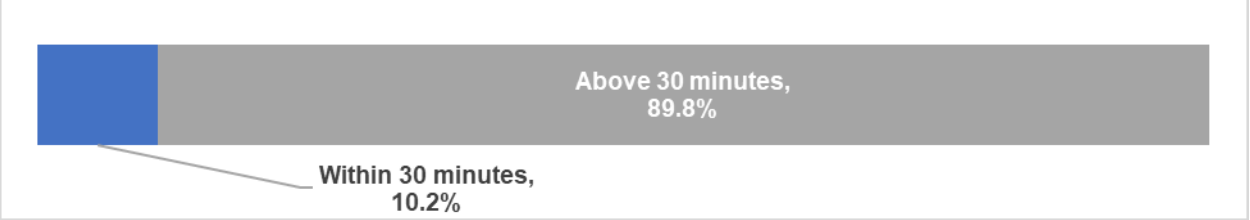


Figure 3.3: Waiting time to receiving NCD services

(Source: Baseline Assessment, Household Survey, 2023)

3.6.5 Number of times respondents visited the health facility within 12 months preceding the assessment

Follow-up care should be provided to all patients, but the required frequency may vary according to the disease stability on treatment, complexity, and risk of complications. Those with a poorly controlled NCD or recovering from an acute exacerbation may require weekly follow-up visits, whereas those with stable and controlled disease may only require quarterly biannual visits[71]. Table 3.37 shows the frequency to which the respondents visited a health facility to seek for NCD services. The median number of health facility visits was 2 which was adequate for those whose NCD was stable and controlled.

Table 3.37: Number of times respondents visited the health facility within 12 months preceding the assessment

Data Point	Overall
Mean	5
Median	2
Maximum	96
Standard Deviation	13

(Source: Baseline Assessment, Household Survey, 2023)

3.6.6 Level of satisfaction with services offered

Further analysis showed that, among the respondents who visited a health facility within 12 months preceding the assessment to seek for NCD services, 74.1% (Males, 66.7%; Females, 80.2%) were satisfied with the services they received while 25.9% (Males, 33.3%; Females, 19.8%) were not; as shown in Table 3.38.

Table 3.38: Proportion of respondents who visited a health facility within 12 months preceding the assessment to seek for NCD services who were satisfied by NCD services received by background characteristics

Background Characteristics	Sex								Overall			
	Males				Females							
	Yes		No		Yes		No		Yes		No	
	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%
Age Group												
18 - 35	13	76.5	4	23.5	32	86.5	5	13.5	45	83.3	9	16.7
36 - 65	25	62.5	15	37.5	27	71.1	11	28.9	52	66.7	26	33.3
Above 65	6	66.7	3	33.3	6	100.0	0	0.0	12	80.0	3	20.0
Total	44	66.7	22	33.3	65	80.2	16	19.8	109	74.1	38	25.9
PWD												
Yes	8	80.0	2	20.0	6	85.7	1	14.3	14	82.4	3	17.6
No	36	64.3	20	35.7	59	79.7	15	20.3	95	73.1	35	26.9
Total	***44***	***66.7***	***22***	***33.3***	***65***	***80.2***	***16***	***19.8***	***109***	***74.1***	***38***	***25.9***
Ethnicity												
Burundian	23	62.2	14	37.8	37	84.1	7	15.9	60	74.1	21	25.9
Congolese	21	72.4	8	27.6	28	75.7	9	24.3	49	74.2	17	25.8
Others	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Total	***44***	***66.7***	***22***	***33.3***	***65***	***80.2***	***16***	***19.8***	***109***	***74.1***	***38***	***25.9***

(Source: Baseline Assessment, Household Survey, 2023)

[71] *UNHCR, IRC and the Informal Inter-Agency Group on NCDs in Humanitarian Settings August 2020, Integrating Non-communicable Disease Care in Humanitarian Settings: An Operational Guide13*

The assessment gauged the level of satisfaction of respondents who were satisfied with the services offered using a five Linkert scale of much higher, higher, about the same, lower, and much lower. The findings as presented in Figure 3.4 shows that the level of satisfaction for most (53.2%) of the respondents was average.

Figure 3.4: Level of satisfaction of respondents with the services offered

(Source: Baseline Assessment, Household Survey, 2023)

Those who were dissatisfied with the services provided mainly cited inadequate drugs (42.1%) followed by long waiting times (21.1%), lack of improvement/ recovery (13.2%) and lack of technical know-how among the healthcare workers (13.2%) among other factors as shown in Table 3.39.

Table 3.39: Reasons for dissatisfaction with NCD services

Reasons for dissatisfaction	Weight (%)	Rank
Inadequate drugs	42.1	1
Long waiting hours before being served	21.1	2
Lack of positive change on the illness	13.2	3
Lack of technical know how among the healthcare workers	13.2	4
Non-friendly health staff	5.3	5
Lack of referral	2.6	6
Poor services	2.6	7
Total	***100.0***	

(Source: Baseline Assessment, Household Survey, 2023)

3.6.7 Referral to Other Health Facilities

Only 6.1% (Males, 7.6%; Females, 4.9%) of the respondents who sought for NCD services were referred as shown in Table 3.40. They were referred mainly to the main hospital (55.6%) and regional referral hospital (22.2%).

Table 3.40: Proportion of NCD patients who were referred to another facility

Background Characteristics	Sex								Overall			
	Males				Females							
	Yes		No		Yes		No		Yes		No	
	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%
Age Group												
18 - 35	2	11.8	15	88.2	1	2.7	36	97.3	3	5.6	51	94.4
36 - 65	1	2.5	39	97.5	3	7.9	35	92.1	4	5.1	74	94.9
Above 65	2	22.2	7	77.8	0	0.0	6	100.0	2	13.3	13	86.7
Total	5	7.6	61	92.4	4	4.9	77	95.1	9	6.1	138	93.9
PWD												
Yes	1	10.0	9	90.0	1	14.3	6	85.7	2	11.8	15	88.2
No	4	7.1	52	92.9	3	4.1	71	95.9	7	5.4	123	94.6
Total	5	7.6	61	92.4	4	4.9	77	95.1	9	6.1	138	93.9
Ethnicity												
Burundian	50.0	4	33	89.2	1	2.3	43	97.7	5	6.2	76	93.8
Congolese	42.4	1	28	96.6	3	8.1	34	91.9	4	6.1	62	93.9
Others	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Total	5	7.6	61	92.4	4	4.9	77	95.1	9	6.1	138	93.9

(Source: Baseline Assessment, Household Survey, 2023)

Referral facilities were mostly more than 5 km away (66.7%) or less than 1 km away (22.2%) as shown in Figure 3.5.

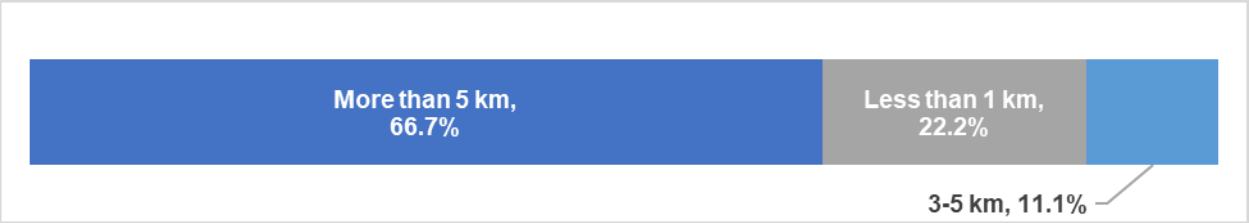


Figure 3.5: Average distance to a health referral facility

(Source: Baseline Assessment, Household Survey, 2023)

Before any referral, 44.4% of the clients waited for less than 6 hours, 33.3% waited for 6- 12 hours while 22.3% waited for more than 12 hours as shown Figure 3.6. Further analysis revealed that the referral expenses were borne by UNHCR.

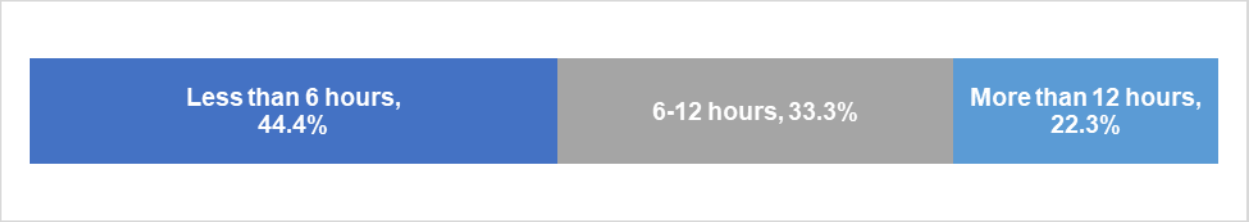


Figure 3.6: Waiting time for NCD referrals

(Source: Baseline Assessment, Household Survey, 2023)

3.6.8 Barriers to Good Health Seeking Behaviours

The assessment found that there were many barriers to good health seeking behaviours. The barriers were categorized as geographical[72], socioeconomic[73], cultural[74] and organizational[75] as shown in Table 3.41. Organizational barriers included inadequate drugs, inadequate equipment, lack of health service providers, long waiting hours before receiving services and poor-quality services while geographical barriers included long distance to health facilities.

Table 3.41: Barriers to health seeking behaviours

Category	Cited barrier
Organizational	• Inadequate drugs • Inadequate equipment • Lack of health service providers • Long waiting hours before receiving services • Poor quality services
Geographical	• Long distance to health facilities

(Source: Baseline Assessment, Household Survey and FGDs, 2023)

3.7 Integration and Availability of Quality NCD Services

Integrated health services, based on strong primary care and public health functions, directly contribute to a better distribution of health outcomes, enhanced well-being and quality of life, which in turn bring important economic, social, and individual benefits. Integrated care contributes to improved access to services, fewer unnecessary hospitalizations and readmissions, better adherence to treatment, increased patient satisfaction, health literacy and self-care, greater job satisfaction for health workers, and overall improved health outcomes. This sub section discusses the level of integration and availability of quality NCD services in the camps.

[72] *Physical accessibility and distance*
[73] *Demographic characteristics and well as economic status*
[74] *Existing community cultures*
[75] *Capacity of health facility, including services, staff, equipment and medicine*

3.7.1 Level of Engagement and Ownership of the MoH/Local Authorities in NCD Prevention, Diagnosis, and Management

Through KIIs, the assessment established that the MOH was at the centre of health service provision through policy, coordination, and trainings.

3.7.1.1 Policies Framework

The MoH had the NCD strategic plan which guided the provision of NCD services as well as the national NCD control and prevention program. The MoH supervised the implementation of the plan and program. The MoH also developed and circulated guidelines to regions and districts that outlined strategies for promoting healthy lifestyles, improving access to NCD services, and integrating NCD care into healthcare systems. They ensured that the health budget was included in the Comprehensive Council Health Plan (CCHP) for approval.

3.7.1.2 Coordination

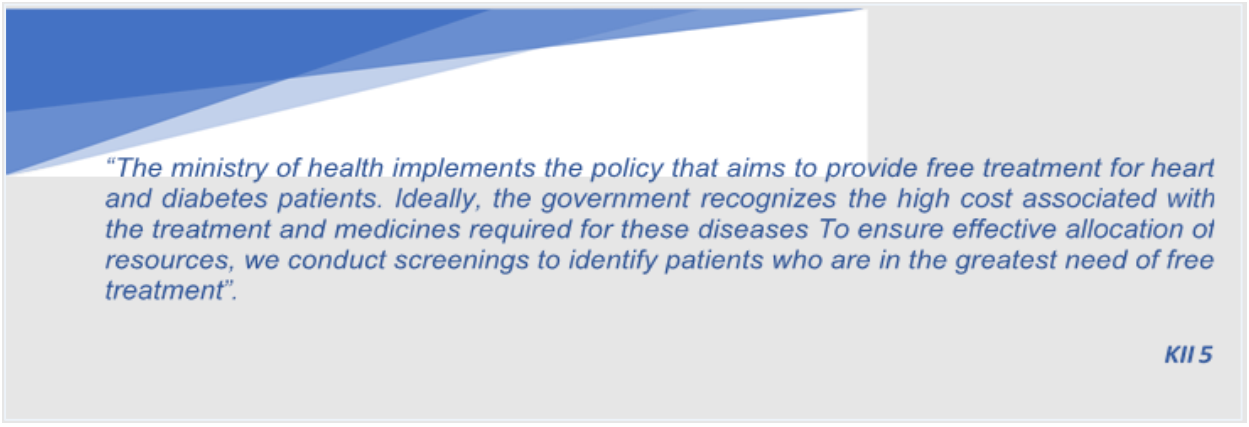
There was an NCD Coordinator at the ministry level who coordinated all training and issues related to NCDs. There were also NCD and mental health coordinators at each district hospital. Further, the MoH coordinated and oversaw the planning and implementation of NCD prevention and management programs and strengthening the health system through the establishment of regional referral hospitals. They undertook surveillance and detection of NCDs.

3.7.1.3 Trainings and Awareness Creation

The MoH was involved in launching public health campaigns aimed at: raising awareness on NCDs, their risk factors, and preventive measures; and promoting healthy behaviours and early detection of NCDs. These campaigns were undertaken through mass media, information, education, and communication (IEC) materials, and community outreach programs. Additionally, the MoH trained healthcare workers on palliative care, management of NCD and special counselling for NCD clients among other key areas. They also conducted several zoom meetings and orientations concerning NCDs with healthcare providers.

Excerpt 3.4 shows the involvement of MoH in NCD service provision in the region.

Excerpt 3.4: MoH involvement in NCD service provision



(Source: Baseline Assessment Key Informants, 2023)

3.7.2 Inclusion and Integration of Refugees in National Health Systems

The assessment found that the national system in Tanzania recognized the presence of refugees in the country, however, refugees were not directly included in the national health system as this was viewed as the role of UNHCR and other partners who provided health services in the camps. However, government

departments oversaw and monitored adherence of standard operating procedures (SoPs), guidelines, and regulations for quality control[76].

3.7.3 Availability of NCD Services

3.7.3.1 Number and Percentage of Primary Health Care Facilities Providing Care for Priority NCDs (Sphere and UNHCR RBM)

Out of the 14 primary health care facilities assessed, only 2 (14.3%) were providing care for priority NCDs as already discussed in section 3.2.2. The two health facilities were: Health Post no 4 in Nyarugusu, and Médecins Sans Frontiers main hospital in Nduta which has an NCD clinic being run by Medical Teams International (MTI)[77]. Appendix VI of this report presents the maps of the assessed health facilities in Nyarugusu and Nduta Camps.

These two facilities provided a range of NCD services including mental health services, cancer screening services and chronic respiratory disease diagnosis and management services as shown in Table 3.42 and further illustrated in Excerpt 3.5.

Table 3.42: NCD services offered by assessed health care facilities

Camp	Level of health facility	Name of assessed health facility	NCD service offered
Nyarugusu	Primary Care	Health Post no 4	• Chronic respiratory disease diagnosis and management services • Diabetes Management • Cardiovascular disease services • Hormone Treatment
Nduta	Primary Care	MTI clinic in MSF Main Hospital	• Mental Health Services • Chronic respiratory disease diagnosis and management services • Diabetes Management • Cardiovascular disease services • Epilepsy services • Sickle cell services

(Source: Health Facility Records, 2023)

Excerpt 3.5: NCD management services offered by MTI Clinic

(Source: Baseline Assessment Key Informants, 2023)

[76] *KII Findings, 2023*
[77] *MTI is UNHCR implementing partner (IP) for health in Tanzania*

3.8 Institutional Capacity and Capacity of Healthcare Workers

3.8.1 Institutional Capacity

The assessment defined institutional capacity as the ability of health facilities to deliver NCD care effectively to those who needed it when they needed it. The dimensions of capacity measured were staff adequacy, equipment adequacy, quality service provision and availability of medicine. The findings are discussed below.

3.8.1.1 Capacity and Quality of the Existing Health Systems to Deliver Quality NCD Care to Refugees and Hosts

Table 3.43 gives a summary of the equipment inventories of the primary health care facilities that provided NCD services at the time of the assessment.

Table 3.43: NCD equipment capacity of the assessed primary health care facilities in the refugee camps

Type of NCD	Equipment	Name of assessed health facility					
		Main Hospital, Nyarugusu Camp		Health Post no 4, Nyarugusu Camp		MTI clinic in MSF Main Hospital, Nduta Camp	
		Number available at the time of assessment	Number of days experienced Stock out within 30 days	Number available at the time of assessment	Number of days experienced Stock out within 30 days	Number available at the time of assessment	Number of days experienced Stock out within 30 days
Asthma	Pulse Oximeter	15	0	4	0	1	0
	Beclomethasone Inhaler	160	0	50	10	300	3
	Oxygen Inhaler	7	0	9	0	0	30
	Nebuliser	2	0	3	0	0	30
	Stethoscope	7	0	20	0	2	0
	Salbutamol Inhaler	0	30	70	10	189	0
Hypertension	Blood pressure apparatus	3	0	7	0	1	0
	Stethoscope	7	0	20	0	2	0
Diabetes	Blood Pressure Apparatus	3	0	20	0	1	0
	Intravenous Saline	0	7	261	0	15	0
	Renal Function Test Kit	0	30	1	0	100	0
	Infusion Kit for Intravenous Fluids	30	0	907	0	2	0
	Serum blood glucose meter	0	30	14	0	0	30
Heart failure	Adult Scale	3	0	5	0	3	0
	Blood pressure apparatus	3	0	20	0	1	0
	Stethoscope	7	0	20	0	2	0
	Ultrasound	2	0	1	0	0	30
Cancer	Intravenous (IV) lines	30	0	-	-	0	30
	Catheters	40	0	-	-	0	30
	Thermometer	10	0	-	-	0	30
Mental health	Thermometer	10	0	-	-	0	30
	Stethoscopes	7	0	-	-	1	0
	Sphygmomanometers	3	0	-	-	1	0

(Source: Health Facility Records, 2023)

Table 3.44 gives a summary of the consumable and medicine inventories of the primary health care facilities that provided NCD services at the time of the assessment. A detailed list of the assessed consumables and medicine is found in the health facility assessment tool in appendix III of this report.

Table 3.44: Available NCD consumables and medicine in the assessed health care facilities

Type of NCD	Consumables and medicine	Name of assessed health facility					
		Main Hospital, Nyarugusu Camp		Health Post no 4, Nyarugusu Camp		MTI clinic in MSF Main Hospital, Nduta Camp	
		Number available at the time of assessment	Number of days experienced Stock out within 30 days preceding the assessment	Number available at the time of assessment	Number of days experienced Stock out within 30 days preceding the assessment	Number available at the time of assessment	Number of days experienced Stock out within 30 days preceding the assessment
Asthma	Beclometasone	160	0	0	30	300	0
	Prednisolone	8000	0	17,200	0	8000	0

Type of NCD	Consumables and medicine	Name of assessed health facility					
		Main Hospital, Nyarugusu Camp		Health Post no 4, Nyarugusu Camp		MTI clinic in MSF Main Hospital, Nduta Camp	
		Number available at the time of assessment	Number of days experienced Stock out within 30 days preceding the assessment	Number available at the time of assessment	Number of days experienced Stock out within 30 days preceding the assessment	Number available at the time of assessment	Number of days experienced Stock out within 30 days preceding the assessment
	Hydrocortisone Injection	35	30	330	0	100	0
	Salbutamol	1100	0	3500	0	189	0
	Bronchodilators	0	30	0	30	189	0
	Steroid inhaler (PCI)	0	30	0	30	300	0
Hypertension	Calcium Channel Blocker	600	0	17,300	0	20,000	0
	Thiazide Diuretics	800	0	840	0	8000	0
	Ace Inhibitor	0	30	1800	0	6000	0
	Beta Blocker	0	30	6000	0	10,000	0
	Angiotensin II receptor blockers (ARBs)	0	30	16,410	0	9000	0
Diabetes	Insulin	0	30	0	30	0	30
	Metformin	9500	0	8300	0	15,000	0
	Glibenclamide	5000	0	10,600	0	12,000	0
Epilepsy	Diazepam Tablet	300	0	18	0	3000	0
	Phenobarbitone	9050	0	2030	0	15,000	0
	Carbamazepine	6500	0	2100	0	30,000	0
	Sodium valproate	700	0	800	0	0	30
Heart failure	Atenolol	700	0	6000	0	2000	0
	Captopril	0	30	800	0	30,000	0
	Furosemide	0	30	4700	0	5000	0
	Enalapril	5603	0	2370	20	0	30
	Spironolactone	0	30	1000	0	0	30
Pain care	Tramadol (tablet or injectable)	3456	0	14,000	0	0	30
	One non-opioid analgesic (paracetamol, ibuprofen, aspirin or diclofenac)	23468	0	113,000	0	5000	0
Cancer	Corticosteroids	30	0	-	-	0	30
Mental health	Beta blockers	6585	0	0	30	0	30
	Sodium valproate	2334	0	0	30	16,000	0
	Fluoxetine (prozac)	4563	0	0	30	3000	0
Chronic respiratory	Inhaled steroids	160	0	0	30	0	30
Hormone treatment	Pills or tablets	-	-	400	0	-	-

(Source: Health Facility Records, 2023)

3.8.1.2 Percentage of Primary Health Care Facilities with Stock Outs (>4d) of Tracer NCD Medications (metformin, Angiotensin-converting enzyme (ACE) inhibitor, steroid inhaler) within 30 days preceding the assessment

The assessment found that all the assessed primary health care facility (100.0%) experienced stock outs of tracer NCD medications in the last 30 days prior to the assessment as shown in Table 3.44. All the assessed primary health care facilities providing NCD services were stocked with metformin, and ACE inhibitor, but lacked steroid inhalers. This was one of the key barriers to provision of quality NCD services as already discussed in Section 3.4.2.1 above.

3.8.1.3 Percentage of Primary Health Care Facilities with Non-availability of Essential Supplies and Equipment for Managing NCDs within 30 days preceding the assessment

To establish this indicator, the assessment used the WHO package of essential noncommunicable (PEN) disease interventions for primary health care which provides protocols and tools needed for the detection, diagnosis, treatment and care of cardiovascular diseases, diabetes, and chronic respiratory diseases in primary health care. Based on this, the assessment established that all (100.0%) the assessed primary health care facilities lacked some of the essential supplies for management of cardiovascular diseases,

diabetes and chronic respiratory diseases within 30 days preceding the assessment as shown in Table 3.45.

Table 3.45: Availability of essential supplies and equipment for managing NCDs within 30 days preceding the assessment

Primary health care facility	Type of NCD	Equipment, Medicine and consumables	Available throughout 30 days preceding the assessment
Main Hospital, Nyarugusu Camp	Cardiovascular diseases	Blood pressure apparatus	Yes
		Calcium Channel Blocker	Yes
		Thiazide Diuretics	Yes
		Ace Inhibitor	No
		Beta Blocker	No
		Angiotensin II receptor blockers (ARBs)	No
	Diabetes	Serum blood glucose meter	No
		Metformin	Yes
	Chronic respiratory diseases	Salbutamol Inhaler	No
		Salbutamol	Yes
		Beclometasone	Yes
		Prednisolone	Yes
Health Post no 4, Nyarugusu Camp	Cardiovascular diseases	Blood pressure apparatus	Yes
		Calcium Channel Blocker	Yes
		Thiazide Diuretics	Yes
		Ace Inhibitor	Yes
		Beta Blocker	Yes
		Angiotensin II receptor blockers (ARBs)	Yes
	Diabetes	Serum blood glucose meter	Yes
		Metformin	Yes
	Chronic respiratory diseases	Salbutamol Inhaler	No
		Salbutamol	Yes
		Beclometasone	No
		Prednisolone	Yes
MTI clinic in MSF Main Hospital, Nduta Camp	Cardiovascular diseases	Blood pressure apparatus	Yes
		Calcium Channel Blocker	Yes
		Thiazide Diuretics	Yes
		Ace Inhibitor	Yes
		Beta Blocker	Yes
		Angiotensin II receptor blockers (ARBs)	Yes
	Diabetes	Serum blood glucose meter	No
		Metformin	Yes
	Chronic respiratory diseases	Salbutamol Inhaler	Yes
		Salbutamol	Yes
		Beclometasone	No
		Prednisolone	Yes

(Source: Health Facility Records, 2023)

3.8.2 Capacity of Healthcare Workers

Assessment findings on the capacity of healthcare workers providing NCD services collected during the assessment of health facilities is discussed hereunder.

3.8.2.1 Number and Percentage of Healthcare Workers Providing NCD Treatment who are Trained on NCD Management

The assessment sought to establish the proportion of healthcare workers who were providing NCD services and had additional training on NCD management. The findings presented in Table 3.46 show that out of the 22 healthcare workers who provided NCD services, 63.6% had had additional training on NCD management through induction workshops and/or on the job training (OJT). These trainings were provided by UNHCR under the WDF Project.

Table 3.46: Number and percentage of healthcare workers providing NCD treatment who are trained in NCD management by sex

Had additional training on NCDs Management	Sex				Overall	
	Males		Females			
	Count (n)	%	Count (n)	%	Count (n)	%
Yes	9	75.0	5	50.0	14	63.6
No	3	25.0	5	50.0	8	36.4
Total	**12**	**100.0**	**10**	**100.0**	**22**	**100.0**

(Source: Health Facility Records, 2023)

The assessment further established that the ratio of healthcare professionals providing NCD services to NCD patients was 1:210 which was within the recommended WHO ratio of 2.5 medical staff per 1000 people[78].

3.8.2.2 Number and Percentage of Healthcare Workers Providing Mental Health Treatment who are Trained on Mental Health Gap Action Programme (MhGAP) Humanitarian Intervention Guide (HIG)

Table 3.47 presents the findings on the number and percentage of healthcare workers providing mental health treatment who are trained in MhGAP. Accordingly, out of the 6 healthcare workers who were providing mental health services, 5 (83.3%) had been trained on MhGAP. The training was one-off and was undertaken by UNHCR under the WDF project.

Table 3.47: Number and percentage of healthcare workers providing mental health treatment who are trained on MhGAP

Trained on MhGAP	Count (n)	%
Yes	5	83.3
No	1	16.7
Total	***6***	***100.0***

(Source: Health Facility Records, 2023)

Case 3.1 and Case 3.2 presents the assessment findings on the availability of mental health services in the camps.

Case 3.1: Mental Health Clinic in Nduta

The MTI mental health clinic had 311 registered clients, most of whom were women because they were not ashamed of seeking for mental health support. Consultation visits per month ranged from 167 – 230 persons. The facility provided medical management and psychosocial support to mental health clients. Major mental health conditions reported at the clinic included mood disorders such as post-traumatic stress disorder (PTSD) and depression, which were prevalent among both men and women. The primary gap that the facility faced was the absence of follow-up services at the community level which affected the quality of services delivery. At the time of the assessment, the clinic was providing necessary medical interventions and treatment, but lacked a structured follow-up care for patients at community or household level.

(Source: Baseline Assessment Key Informants, 2023)

Case 3.2: Kasaka Mental Health Centre

The Kasaka Mental Health Clinic provided specialized mental health services to the residents of Kigoma and beyond, including individuals from other regions and occasionally neighbouring countries such as Congo and Burundi. Total consultations and referrals done by the facility in 2022 summed to 1200 persons with more than half of the clients being men. Stigmatization challenges hindered women from accessing mental health services as further illustrated in Excerpt 3.6.

[78] *https://databank.worldbank.org/metadataglossary/health-nutrition-and-population- statistics/series/SH.MED.PHYS.ZS (Reviewed on 27 September 2023)*

Excerpt 3.6: Socio-cultural factors surrounding women living with mental illness

Major mental health conditions reported at the clinic included epilepsy, acute psychosis, and bipolar disorder. The facility provided follow-up services/visits to discharged clients in collaboration with clinicians and social workers with the aim of monitoring the progress of patients, assessing the effectiveness of their treatment plans, and providing ongoing support as further illustrated in Excerpt 3.7. *These follow-ups involved medication management, psychological support, patient reintegration into their home environment, and educating families on managing people living with mental illness.*

Excerpt 3.7: Services undertaken by social workers

(Source: Baseline Assessment Key Informants, 2023)

3.8.2.3 Number and Percentage of CHWs with Training on NCDs

Effective provision of NCD services by the CHWs is dependent on their knowledge on NCDs. The baseline sought to assess the knowledge and practice towards NCD among CHWs in the camps as a step in identifying their potential role in community NCD prevention, diagnosis, and management. The findings indicated that out of the 204 CHWs attached to the assessed health facilities, 90 (44.1%) had been trained on NCDs as shown in Table 3.48. The trainings were undertaken by UNHCR, Tanzania Redcross Society (TRCS), International Rescue Committee (IRC) and MTI, and they covered issues of NCD prevention, mental illness, asthma and sickle cell.

Table 3.48: Number and percentage of CHWs who have received training on NCDs by sex

Trained on NCDs	Sex				Overall	
	Males		Females			
	Count (n)	%	Count (n)	%	Count (n)	%
Yes	37	34.3	53	55.2	90	44.1
No	71	65.7	43	44.8	114	55.9
Total	***108***	***100.0***	***96***	***100.0***	***204***	***100.0***

(Source: Health Facility Records, 2023)

During discussions with CHWs, they identified various challenges that affected their work. These challenges included, but not limited to inadequate tools; strong influence of traditional medicine, long waiting hours at health facilities and delays in disbursement of allowances.

3.9 Level of Needs, Access, and Utilization of Services by Refugees

3.9.1 Level of Need for NCD Health Services

The level of need for NCD services by refugees was high. The scope of needs included early diagnosis, general awareness and NCD commodities. From the consultations undertaken, the following specific needs were identified.

i.) Capacity building for the healthcare workers and CHWs for effective management of NCDs;
ii.) Provision of medical equipment and supplies;
iii.) Sustained awareness creation and sensitization on NCD services;
iv.) Staffing of facilities with specialists in NCDs to support in diagnosis, treatment and management;
v.) Integration of NCD services in all facilities; and
vi.) Inclusion of refugees in the national health system.

3.9.2 Level of Access of NCD Services

3.9.2.1 Total Number of NCD Patients (Clients) held in the facility database at the time of the assessment

At the time of the assessment, there were a total of 4,618 NCD patient records held in the assessed health facility databases. Male patients accounted for more than half of these patients at 51.4% (2,374) while female patients accounted for 48.6% (2,244). One hundred and ninety-eight (198) - 4.3% of these patients were living with disability[79].

3.9.2.2 Total Number and Percentage of Patients Referred for Secondary and Tertiary Care

The assessment found that the three health facilities that were providing NCD services had a standard referral procedure for chronic diseases, cardiovascular diseases, cancer, diabetes, violence, and mental disorder. Assessed health records showed that 1,054 NCD patients needed referral to either secondary or tertiary care within 12 months preceding the assessment. Out of these, 124 (11.8%) and 274 (26.0%) were referred for secondary and tertiary care respectively as further depicted in Table 3.49.

Table 3.49: Total number and percentage of patients referred for tertiary care

Background characteristics	Point of referral (N=1054)			
	Secondary care		Tertiary care	
	Count (n)	%	Count (n)	%
Males	44	4.2	126	12.0
Females	80	7.6	148	14.0
PWDs	13	1.2	23	2.2
Overall	124	11.8	274	26.0

(Source: Health Facility Records, 2023)

The age categories for the patients who were referred varied from 18 years to above 60 years. These patients had to wait for up to five or more days before being referred. UNHCR covered the expenses for the referrals.

3.9.2.3 Total Number of Deaths in NCD Patients

The findings presented in Table 3.50 shows that a total of 573 deaths were recorded within 12 months preceding the assessment at the assessed health facilities. Out of these, 87 (15.2%) were due to NCDs. Further analysis showed that the health facilities recorded 204 deaths over 30 days preceding the assessment. During this period, 12 (5.9%) of the deaths were due to NCDs.

[79] *(Source: Health Facility Records, 2023)*

Table 3.50: Total number of deaths in NCD patients within 12 months preceding the assessment

Deaths	Period			
	Last 30 days		Last 12 months	
	Count	%	Count	%
Total deaths due to NCDs	12	5.9	87	15.2
Total deaths recorded in the facility database	204	100.0	573	100.0

(Source: Health Facility Records, 2023)

3.9.2.4 Number of Persons with NCDs Receiving Supplementary Food Rations

Findings from KIIs revealed that a total of 645 persons with NCDs had received supplementary food rations within 6 months preceding the assessment. The food rations mainly targeted patients with diabetes, sickle cell, and gastrointestinal (GIT) cancer among other NCDs. Among the household respondents with NCDs who confirmed to have received these foods, 57.1% received maize flour as shown in Figure 3.7.

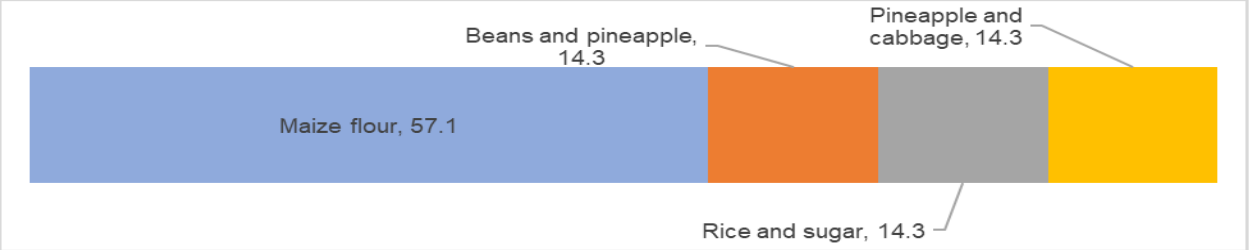


Figure 3.7: Type of supplementary food rations

(Source: Baseline Assessment, Household Survey, 2023)

These foods were being provided by World Food Programme (WFP), HelpAge International, MTI and TRCS monthly.

3.9.2.5 Total Number and Percentage of NCD Consultations within 12 Months Preceding the Assessment

Out of 680,528 consultation records held in the health facilities databases within 12 months preceding the assessment, 48,451 (7.1%) were NCD related as shown in Table 3.51.

Table 3.51: Total number and percentage of NCD consultations within 12 months preceding the assessment by sex

Sex	Total Number of NCD Consultations (n)	Total Number of Consultations (N)	Proportion of NCD consultations over the total consultations (%)
Males	18,515	288,447	6.4
Females	29,936	392,081	7.6
Overall	48,451	680,528	7.1

(Source: Baseline Assessment Key Informants, 2023)

3.9.2.6 Number of Consultation Visits in the Last 6 Months and 12 months preceding the assessment

Table 3.52 shows that 390,166 and 680,528 consultation visits to the assessed health facilities happened within 6 and 12 months preceding the assessment respectively. Majority of those who consulted were females (6 months, 229,476; 12 months, 392,081).

Table 3.52: Number of consultation visits within 6 and 12 months preceding the assessment

Sex	Total Number of Consultations (n)	
	6 months	12 months
Males	160,690	288,447
Females	229,476	392,081
Overall	390,166	680,528

(Source: Health Facility Records, 2023)

3.10 Inclusion, Gender Mainstreaming and Accountability to Affected Populations

As already discussed in section 3.4.3.1 (b) of this report, refugees were not included or mainstreamed in the national health system. This section, however, discusses the existing strategies for the management of NCDs in Tanzania.

3.10.1 Strategies in place for the management of NCDs in Tanzania

Study findings from key informants only revealed that there were different strategies in place for NCD management. They included:

i) A Strategic and Action Plan for the Prevention and Control of Non-Communicable Diseases (2016-2020) whose mission was to improve the quality of lives of all Tanzanians by reducing the suffering, disease and death caused by NCDs with focus on access to quality, sustainable and equitable services. The plan highlighted key areas including: institutional framework to coordinate NCD intervention and activities from district, region to national level, with each of these levels having a designated NCD Coordinator to coordinate and facilitate NCD activities; and preventive measures, that the health department focused on to identify people with NCD and those at risk. At the time of the assessment, the plan was still being implemented, but with limited funding and lack of disaggregated data as exemplified in Excerpt 3.8.

Excerpt 3.8: Implementation of the NCD strategic plan

> *"Although we have started implementing the strategy, we have been facing the challenge with funding and we don't have well disaggregated data and information regarding the immensity and distribution of NCDs within the country as well as the refugee camps. Since we don't have raw data, it is difficult to implement the strategy, because we don't know the situation and real needs of the community. So, we have decided to conduct a wider community screening from hamlet level. The information we obtain will serve as the baseline data for NCDs in the area".*
>
> **KII 2**

(Source: Baseline Assessment Key Informants, 2023)

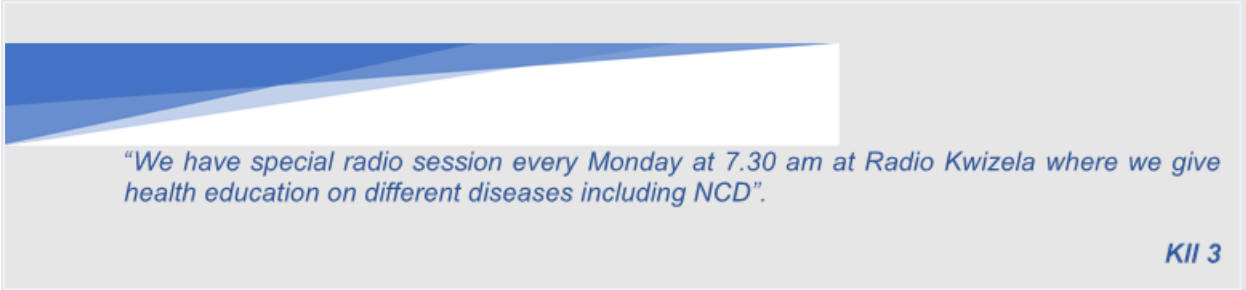
ii) A national guideline and institutional framework which guided the provision of NCD services. The framework/ guideline designates health centres and district hospitals to offer NCD basic service such as early diagnosis of disease and medication.
iii) The MoH was undertaking activities of strengthening the health system. The activities included improvement of infrastructure like building/ extension of NCD clinics, training healthcare workers and procurement of medicine and medical and/ or diagnostic equipment's.
iv) At district level, the MoH conducted quarterly meetings to discuss NCD situational analysis.
v) Inclusion of the NCD budget in the annual CCHP without which no plan could be approved (See Excerpt 3.9).

Excerpt 3.9: Inclusion of NCD interventions in health facility budgets

(Source: Baseline Assessment Key Informants, 2023)

vi) Conducting awareness on NCDs through mass campaign, radio (see Excerpt 3.10), Television (TV) sessions and mass screening. NCD radio messaging reached 3.8% of the respondents. Healthcare workers were involved in providing health education during these campaigns, which were some of the sources of information on NCDs mentioned by household respondents discussed in Section 3.4.1.1 of this report.

Excerpt 3.10: NCD awareness creation through radio programming



(Source: Baseline Assessment Key Informants, 2023)

vii) Active coordination at the district level. There was a designated district MHPSS focal person who coordinated all mental health engagements within the district.

viii) Formation of jogging clubs at district level aimed at improving the physical and mental well-being of people.

ix) Nutritional advocacy on healthy and well-balanced diet aimed at reducing obesity and other food related health conditions.

3.10.2 Awareness Creation and Advocacy Activities

Information collated from KIIs revealed that the MoH has been engaging in awareness creation and advocacy on NCDs.

3.10.2.1 Number of Refugees Reached with Awareness and Sensitization on NCD Risks, Health Lifestyle and Well-being

Table 3.53 shows that **12.0% (95% CI: 10.0%-14.2%; n=119, N=993)** respondents had been reached through awareness and sensitization activities on NCD risks, health lifestyle and well-being. The findings reflected that the awareness levels within the camps was low.

Table 3.53: Number and percentage of respondents reached with awareness and sensitization on NCD risks, health lifestyle and well-being by sex and background characteristics

Background Characteristics	Sex								Overall			
	Males				Females							
	Yes		No		Yes		No		Yes		No	
	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%
Age Group												
18 - 35	27	12.4	190	87.6	20	7.3	254	92.7	47	9.6	444	90.4
36 - 65	41	17.4	195	82.6	24	10.8	198	89.2	65	14.2	393	85.8
Above 65	5	17.9	23	82.1	2	12.5	14	87.5	7	15.9	37	84.1
Total	73	15.2	408	84.8	46	9.0	466	91.0	119	12.0	874	88.0
PWD												

Background Characteristics	Sex								Overall			
	Males				Females							
	Yes		No		Yes		No		Yes		No	
	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%	Count (n)	%
Yes	5	16.1	26	83.9	3	11.1	24	88.9	8	13.8	50	86.2
No	68	15.1	382	84.9	43	8.9	442	91.1	111	11.9	824	88.1
Total	73	15.2	408	84.8	46	9.0	466	91.0	119	12.0	874	88.0
Ethnicity												
Burundian	39	13.1	258	86.9	30	10.0	269	90.0	69	11.6	527	88.4
Congolese	0	0.0	0	0.0	0	0.0	2	100.0	0	0.0	2	100.0
Others	34	18.6	149	81.4	16	7.7	193	92.3	50	12.8	342	87.2
Total	73	15.2	408	84.8	46	9.0	466	91.0	119	12.0	874	88.0

(Source: Baseline Assessment, Household Survey, 2023)

3.10.2.2 Number of Advocacy Events

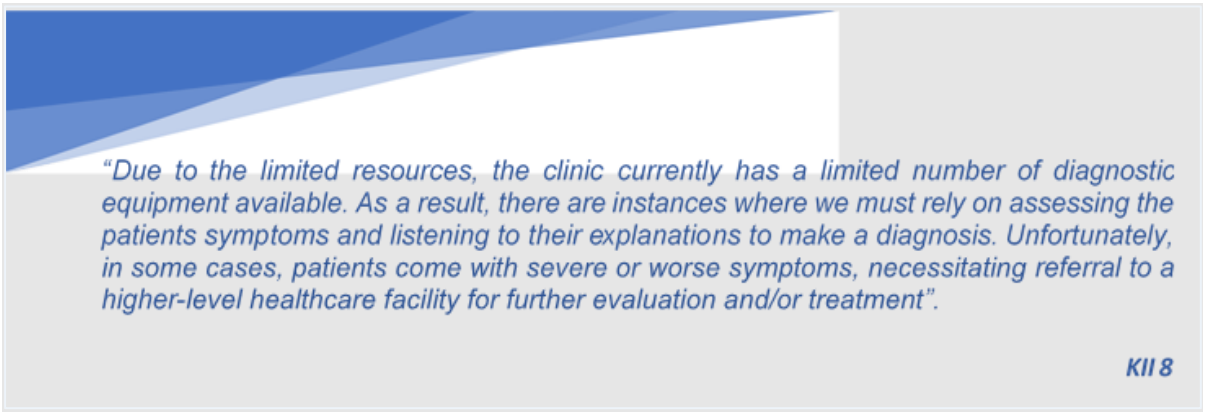
The assessment established through KIIs that a total of 7 advocacy events had been undertaken in the Kigoma Region within 6 months preceding the assessment.

3.11 Barriers to Provision of Quality NCD Services

Broadly, key informants revealed that the quality of NCD services varied significantly across the country due to the state of healthcare infrastructure, adequacy of trained healthcare professionals, geographic location, socioeconomic factors, and government policies. Specific challenges identified during the assessment were:

i.) Shortage or lack of diagnostic equipment for screening and testing. One of the primary healthcare facilities lacked adequate variety of diagnostic equipment e.g., Electrocardiogram (ECG), Echocardiogram (ECHO), and reagent for liver function tests to cater to the specific needs of each client as further presented Excerpt 3.11;

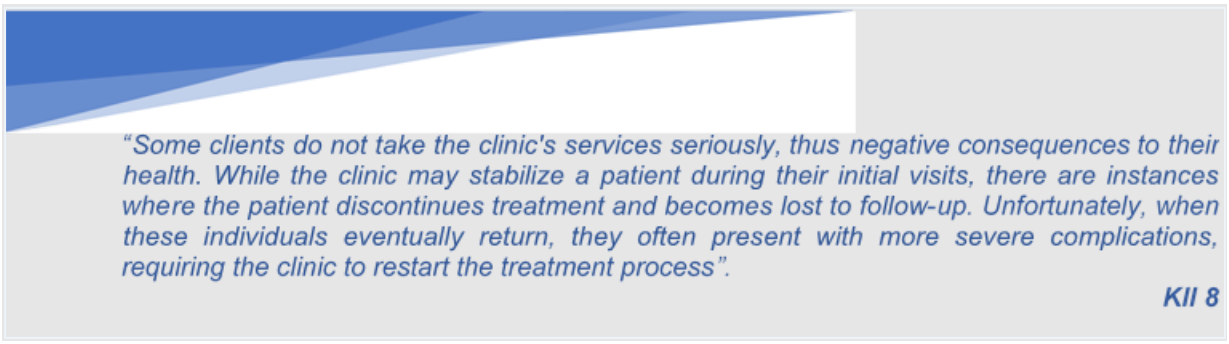
Excerpt 3.11: Coping mechanism for inadequate diagnostic equipment and reagents



(Source: Baseline Assessment Key Informants, 2023)

ii.) Shortage of medicine and medical supplies in the primary health care facilities;
iii.) Shortage or lack of trained healthcare workers to diagnose and manage NCD cases;
iv.) Limited or lack of knowledge on NCD management among the clients. Some of the patients refused to take prescribed medications or held beliefs in witchcraft as an alternative to medical treatment. Consequently, some clients opted for prayers instead of medication for their conditions;
v.) Default on treatment as illustrated in Excerpt 3.12;

Excerpt 3.12: Barrier to NCD service provision



(Source: Baseline Assessment Key Informants, 2023)

vi.) Lack of cooperation from relatives of patients and the falsification of residential addresses;
vii.) High medical costs for psychiatric medications posed significant financial burden for the facilities offering mental health services which hindered the acquisition of medicine for psychiatric illnesses;
viii.) Stigma surrounding mental health often prevented individuals from seeking help or discussing their struggles openly. It also hindered smooth delivery of mental health services to patients;
ix.) Inadequate number of CHWs to conduct the follow-ups. CHWs played a crucial role in bridging the gap between mental health professionals and clients through provision of support, monitoring progress and addressing any arising concerns. However, the number of CHWs was inadequate thereby hindering the continuity of care and effectiveness of the follow-up process;
x.) Beliefs and traditions limited data collection on mental health data as further illustrated in Excerpt 3.13;

Excerpt 3.13: Challenge of obtaining mental health data

(Source: Baseline Assessment Key Informants, 2023)

xi.) Delays in referral system due to shortage of funds to undertake more referrals to tertiary hospitals;
xii.) Insufficient funds to train staff, procure medical supplies and undertake outreaches; and
xiii.) Long distances to the health facilities.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

The assessment has presented the values on the status quo of NCD service provision in the refugee camps. These values will be useful in guiding the design, prioritization and targeting of the UNHCR NCD project interventions and forms the basis for future performance measurements.

Based on the findings and discussions, the report concludes as follows:

4.1.1 Behavioural Risk Factors

i) The prevalence of tobacco and/ or alcohol use among the respondents was lower than the national tobacco and alcohol use prevalence. However, tobacco users were initiated to smoking at a young age of 25 years and below. This exposed them early in life to high nicotine intake, leading to a high probability of contracting NCDs.

ii) The prevalence of healthy diet intake among the respondents was low which meant that all the respondents and by extension all households did not have a healthy diet leading to poor nutrition hence, high exposure to NCDs.

iii) The prevalence of engagement in physical activity among the respondents was relatively high which made them less prone to NCDs.

4.1.2 KAP on NCDs

i) The level of NCD awareness among the respondents was relatively high with the main source of information being families, friends or neighbours and health facilities. About 3 in 10 respondents on the other hand were not aware of NCDs.

ii) A high proportion of the respondents agreed that NCDs gave serious problems to the health of a person and that NCDs were serious diseases. A small proportion (17.1%) of the respondents were aware and believed in traditions, myths, and misconceptions on NCDs.

iii) The rate of NCD screening and testing among the respondents was low. Majority of those who were screened and tested, were diagnosed with stroke and heart attack. NCD management was adequate and was done at individual level, health facility level and by CHWs.

4.1.3 Integration and Availability of Quality NCD Services

i) There was high level of engagement and strong ownership by the MoH on NCD prevention, diagnosis, and management through policy, coordination, training, and awareness creation.

ii) The health response in Tanzania is guided by the Health Sector Strategic Plan (HSSP) 2021-2026, however, refugees are not directly included in the national health system.

iii) The availability of NCD services was scarce, with only two primary health care facilities providing NCD services out of the 14 assessed. Shortage of medicine and diagnostic tests, and understaffing inhibited the smooth delivery of quality NCD services.

4.1.4 Institutional capacity and capacity of healthcare workers

i) Essential supplies and equipment for managing NCDs were inadequate and were unavailable in all the primary healthcare facilities within the last 30 days preceding the assessment. Shortage or lack of equipment and consumables were mentioned as barriers and/or challenges to provision of quality NCD services.

ii) The proportion of health workers trained on NCD management and MhGAP was relatively high. However, the proportion of CHWs trained on NCD was below average. Shortage or lack of trained healthcare workers to diagnose and manage NCD cases and inadequate number of CHWs to

conduct the follow-ups were cited as key barriers and/or challenges to provision of quality NCD services.

4.1.5 Levels of needs, access, and utilization of services by refugees

i) The need of NCD services for refugees was high. The scope of needs included early diagnosis, general awareness and NCD commodities.

ii) The utilization of the available NCD services on the other hand was low and was manifested by the low proportion of the referred patients, and the proportion of NCD consultations. Also, some of the NCD patients used traditional medicine as a form of medication.

4.1.6 Inclusion, gender mainstreaming and accountability to affected populations

i) Refugees were not included or mainstreamed in the national health system.

4.2 Recommendations

To address the identified gaps from the assessment, the following are recommended:

Aspect	Recommendations
NCD Prevention	**Championing against tobacco use**: the assessment found that tobacco smokers were initiated to tobacco smoking at a very early age. The project should develop innovative approaches for advocating against tobacco use
	Sustained advocacy, awareness creation and engagement of parents, caregivers, and faith leaders on their role in creating a healthy environment to support healthy lifestyles for children and their families to address issues that lead to NCDs and support practices that protect their families from being exposed to NCDs.
	Advocating for targeted initiatives with high impacts in reducing food insecurity through livelihoods and targeted food security programs. This could include livelihoods-based interventions which will help the refugees secure adequate and sustainable income thus a reduction in food insecurity.
NCD Diagnosis	**Staffing**: The assessment advocates for additional staffing in the health facilities, specifically in the NCD unit.
	Support the equipping of health facilities with NCD equipment, diagnostic tests, and consumables to promote adequate and timely stocking of the health facilities.
NCD Management	**Establishment of peer support programs/ groups** to provide community level support in response to the shortage of CHWs in conducting follow-ups among patients therefore enhancing support for the delivery of mental health services that complement the efforts of CHWs. The group participants can assist in conducting follow-ups, monitoring medication adherence, providing basic support, and referring clients to specialized mental health services as needed.
	Awareness creation on drug adherence to enhance good health seeking behaviours among the target population, there is need to counsel and educate the NCD clients on the importance of modern medicine and drug adherence before providing them with the medication.

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APPENDICES

Appendix I: Fact Sheet	Appendix II: Sample Size in Tanzania	Appendix III: Data Collection Tools	Appendix IV: Training Report
Fact Sheet	Sample Size	Data Collection Tools	Training Report
Appendix V: Baseline Assessment ToR	**Appendix VI: Maps of Assessed Health facilities and Sampled Households**	**Appendix VII: List of Consulted Stakeholders**	**Appendix VIII: Baseline Assessment Matrix**
Terms of Reference	Maps	Stakeholders	Baseline Assessment Matrix