Cameroon NCDI Poverty Commission

2022 REPORT

MINSANTE World Health Organization CLINTON HEALTH ACCESS INITIATIVE UNDP Partners In Health NCD Synergies Program in Global NCDs and Social Change Harvard Medical School BWH CDC NCDAlliance

FOREWORD

Cameroon has the fastest growing economy in Central African (CEMAC) region with a vision of economic emergence by 2035. This high political ambition requires upgrading health standards amidst other key government priorities. To this end, the country has made significant progress towards increasing universal health coverage through expansion of primary health care services, constructing state-of-the arts regional hospital centers, upgrading key district hospitals into regional hospitals, and building a state-of-arts General Hospital in Garoua. Collectively, these investments have resulted into impressive gains in the health status of Cameroonians in basically all disease areas, including maternal, neonatal, childhood, nutritional and infectious diseases. However, efforts in controlling NCDs are yet to jointly result into a comparable outcome.

To address the rising burden of NCDs in the Country, the Ministry of Public Health in collaboration with the global Lancet Commission on Reframing NCDs and Injuries for the Poorest Billion (**The Lancet NCDI Poverty Commission**) established the Cameroon Non-Communicable Diseases and Injury (NCDI) Poverty Commission task force (**'NCDI taskforce")**. The taskforce had as mandate to evaluate Cameroon's experience in responding to the rising burden NCDIs in Cameroon. Specifically, the taskforce had to 1) review the epidemiologic situation of major NCDIs in the country from the perspective of policy, burden of disease, access to services, and financing, 2) identify cost-effective priority interventions and 3) recommend policy directions and financing mechanisms for expanding NCDI services.

The taskforce, under the leadership of Professor Samuel Kingue, commission chair and senior technical adviser to the minister of public health, worked through 2021 and 2022 to conduct an extensive literature review and consultations to gather diverse information on the burden of Cameroon's NCD burden and propose solutions to reduce mortality, morbidity, and poverty resulting from to NCDIs. This report highlights essential findings and recommendations made by the taskforce and doubles as baselines assessment and advocacy tool for services requiring investment.

Our sincere gratitude to the Center for Integration Science in Global Health Equity, Partners in Health (NCD Synergies) and the Program in Global NCDs and Social Change at the Harvard Medical School for the support they provided throughout this process. We equally acknowledge all commissioners, who were drawn from diverse sectors, including MOH, academia, and civil society for participated actively in this important national assignment. I implore all stakeholders to thoroughly peruse the document with the purpose of contributing to the alleviation of the NCDI burden in Cameroon. It is my wish that the recommendations contained in this report be jointly owned by the state, non-state actors, health actors and non-health actors whose continuous collaboration and support will be needed to achieve the health-related sustainable development goal. As the Ministry of Public Health, we acknowledge the opportunity for action described in this report and are strongly committed to engage our part.

Dr. MANAOUDA Malachie,
Minister of Public Health,

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CAMEROON NCDI POVERTY COMMISSION MEMBERS

Commission Chair

Pr. Kingue Samuel, Professor of Internal Medicine, Cardiology.

- Senior Technical Adviser to Honorable Minister of Public Health.
- Coordinator of the specialization cycle in Cardiology at the Faculty of Medicine and Biomedical Sciences of the University of Yaoundé I.
- Chief of Service, Cardiology Unit at the Yaoundé Reference Hospital.

Commission Co-Chair

Pr. Ndom Paul, Professor of Medical Oncology

- Executive Secretary; National Committee for the Fight Against Cancer.
- Coordinator of the specialization cycle in Medical Oncology at the Faculty of Medicine and Biomedical Sciences of the University of Yaoundé I.
- Former Chief of Service, Oncology Unit at the Yaoundé Reference Hospital.

Coordination

- **Dr. Yauba Saidu**, Country Director, Clinton Health Access Initiative (CHAI) Cameroon, Medical Advisor, Master in Vaccinology and Drug Development, University of Siena, Italy.
- **Dr. Hassan Ben Bachire**, Director of Health Promotion, Ministry of Public Health, Cameroon.
- **Dr. Aristide Stéphane Abah Abah,** Sub-Director of Non-Communicable Diseases, Department of Disease Control, Epidemics and Pandemics, Ministry of Public Health, Cameroon.

Commissioners

Prof. Sobngwi Eugene, Professor of Endocrinology, Director of Department for the Organization of Care and Health Technology, Ministry of Public Health, Cameroon.

Prof. Ongotsoyi Angelle Hermine epse Pondi, Professor of Pediatrics-Hemato-Oncology, Chief of Service, Pediatric Oncology Unit, Mother and Child Reference Hospital of the Chantal Biya Foundation, President of Cameroon Pediatric Oncology Group.

Prof. Bella Assumpta Lucienne, Professor of Opthalmology, Executive Secretary of the National Program for the fight against blindness. Medical Advisor of the Obstetrics and Gynecology Reference Hospital (HGOPY) Yaoundé, Cameroon.

Prof. Mapoure Njankou Yacouba, Professor of Neurology, Head of Department of Internal Medicine. Douala General Hospital, Cameroon.

Dr Yaba Dana Basile, Then Executive Secretary, Nation Committee for the Fight Against Illicit Drugs, Current Director of Pharmacy, Medicines, and Laboratory Equipment, Ministry of Public Health, Cameroon.

Dr. Françoise Ngo Sack, Blood Disorder Specialist (Hematologist), Senior Staff, Department of Disease Control, Epidemics and Pandemics, Ministry of Public Health, Cameroon.

Dr. Balkissou Adamou Dodo, Respiratory Disease Specialist (Pneumologist), Director of Garoua Regional Hospital, Ministry of Public Health, Cameroon.

Dr Bernard Mbarga Metogo, Senior Internist, Department for the Organization of Care and Health Technology, Ministry of Public Health, Cameroon.

Dr. Farida Haoua, Public Health Specialist, Department of Disease Control, Epidemics and Pandemics, Ministry of Public Health, Cameroon.

Dr Mapa Clarisse epse Eteme, Public Health Specialist, Department of Disease Control, Epidemics & Pandemics, Assistant Lecturer, Faculty of Biomedical Sciences, University of Dschang, Ministry of Higher Education, Cameroon.

Dr. Nathanael Chimi Chimi, Oral Health Specialist, Department of Disease Control, Epidemics and Pandemics, Ebolowa Regional Hospital Center, Ministry of Public Health, Cameroon.

Dr Essono Ada Justine, Deputy Permanent Secretary, National Committee for the Fight Against Cancer, Ministry of Public Health Cameroon.

Dr Mefire Yap Aicha, Heart Disease Specialist (Cardiologist), University of Yaoundé I - Teaching Hospital, Ministry of Public Health, Cameroon.

Dr. Aristide Nono Tomta, Kidney Disease Specialist (Nephrologist) at the Yaoundé General Hospital, Ministry of Public Health, Cameroon.

Dr Esson Mapoko Berthe Sabine, Medical Oncologist, National Committee for the fight against Cancer, Yaoundé Central Hospital, Assistant Lecturer, Faculty of Medicine & Biomedical Sciences, University of Yaoundé I, Cameroon.

Dr Sangong Sidney Ndickmuh Ngasa, Site Support Coordinator for HIV care, Bogo District Hospital, Ministry of Public Health, Cameroon.

Mr. Ferdinant M. Sonyuy, President & CEO, RADA | Secretary-General, Cameroon Civil Society NCD Alliance - CACSNA | Chair, Africa NCDs Network (ANN) Secretariat.

Dr Andreas Frambo, Program Manager, Non-Communicable Diseases, CHAI Cameroon, Secretary of Cameroon NCDI Poverty Commission.

Other Key Stakeholders

Dr. Kouame Euphrasie, Representative from United Nations Development Programme (UNDP) Cameroon Country Office.

Dr. Daphne B. Moffett, Representative from the US Centers for Disease Control & Prevention (CDC) Cameroon.

Dr Adama Ndir, Representative from the US Centers for Disease Control & Prevention (CDC) Cameroon.

Dr. Douba Emmanuel, Representative from the World Health Organization (WHO) Cameroon Country Office.

Dr Simnoue Danielle, Pediatrician, World Health Organization (WHO) Cameroon Country Office.

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ACRONYMS AND ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
ANPPA	Analysis of NCD Prevention Policies in Africa
APHRC	African Population and Health Research Centre
CBO	Community Based Organization
CDC	Centre for Disease Control and Prevention
CEMAC	Central African Economic and Monetary Community
CENAME	Nation Center for the Procurement of Essential Drugs and Medical Supplies
CENHIP	Cameroon Essential Non-Communicable Disease Health Intervention Project
CHAI	Clinton Health Access Initiative
CHP	Complementary Health Package
CKD	Chronic Kidney disease
CKI	Chronic Kidney Injuries
COPD	Chronic Obstructive Pulmonary Disease
CPC	Centre Pasteur du Cameroun
CSO	Civil Society Organization
CVD	Cardiovascular Disease
DALY	Disability Adjusted Life Years
DCP	Disease Control Priorities
DHC	District Health Committee
DLMEP	Department of Disease, Epidemics and Pandemic Control
FCFA	Franc of the Financial Community of Africa
FCTC	Framework Convention for Tobacco Control
GAVI	The Vaccine Alliance
GBD	Global Burden of Disease
GDP	Gross Domestic Product
GIT	Gastrointestinal Tract
HGOPY	Obstetrics and Gynecology Reference Hospital of Yaoundé

HIC	High Income Country
HIV	Human Immunodeficiency Virus
IDRC	International Development Research Centre
IHC	Integrated Health Centre
IHD	Ischemic Health Disease
IHME	Institute of Health Metrics and Evaluation
LMIC	Low- and Middle-Income Countries
MHP	Minimum Health Package
MSA	Multi-Sectoral Approaches
NCDI	Non-Communicable Diseases and Injuries
NCD	Non-Communicable Diseases
NGO	Non-Governmental Organization
NHDP	National Health Development Plan
NHL	Non-Hodgkin Lymphoma
OOP	Out of Pocket
PIH	Partners in Health
RDPH	Regional Delegation of Public Health
RLA	Regional and Local Authorities
SID	Sudden Infant Death Syndrome
STI	Sexually Transmitted Infection
THE	Total Health Expenditure
UHC	Universal Health Coverage
UNAIDS	United Nations Agency for International Development
UNDP	United Nations Development Program
UNICEF	United Nations Children's Fund
WFP	World Food Program
WHO	World Health Organization
WHS	World Health Survey
YLD	Years of Life with Disability
YLL	Years of Life Lost

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EXECUTIVE SUMMARY

Cameroon is experiencing an increase in the burden of non-communicable diseases and injuries (NCDIs). Indeed, 43% of all deaths in Cameroon are due to NCDIs. To address this escalating burden, the Ministry of Public Health (MOH) created a multidisciplinary taskforce to conduct a situational analysis on the burden of NCDIs, affecting the Cameroonian population. In addition to a comprehensive review of primary research conducted in the country, the, the commission leveraged both locally available data as well as data from the Global Burden of Disease (GBD) 2019 database, which was published in The Lancet in October 2020, to perform the situational analyses. This report describes the national burden of NCDIs, with a special focus on mortality and disability-adjusted life years (DALY) by age group and condition. Overall, NCDIs accounted for 35% while injuries accounted for 8% of annual mortality in Cameroon. Amongst them, cardiovascular diseases (29%), neoplasms (16%), diabetes and chronic kidney diseases (11%) represent over half (57%) of all annual NCDIs related deaths in Cameroon. A significant proportion of these deaths occur in people less 40 years old. Indeed, about a third (29%) of all deaths are due to NCDs in this age group. Furthermore, NCDs account for approximately 10% of all deaths in this age group

The DALYs due to NCDs and injuries has experienced a steady increase in Cameroon within the past three decades (i.e., between 1990 and 2019). Indeed, DALYs for this condition have risen by 10% and 5% respectively during this period. Approximately two thirds (61%) of DALYs are caused by NCDs different from the traditional big four NCDs[1], notably cardiovascular diseases, Cancers, Diabetes, and Respiratory diseases. A sizable proportion of this DALYs are liked to mental health disorders, neurological disorders, transport, and unintentional injuries amongst others and the burden is highest amongst people less than 40years old.

There is an overall assumption that most NCDIs are related to a set of metabolic and behavioral risk factors, including obesity, sedentary lifestyle, diet, smoking and alcohol misuse. However, in Cameroon, 51% of DALYS from NCDIs are not explained by these factors. Therefore, while public health interventions directed towards these lifestyle risk factors are of critical importance, there is a need to extend the agenda beyond these commonly believed risk factors. Other considerations, such as poverty-related and certain social factors must also be addressed as part of a complementary and broader prevention scheme.

With regards to expenditures and investments, out-of-pocket (OOP) spending accounts for about three quarters (73%) of expenditure per Capita of Total Health Expenditure (THE). In addition, government health expenditure as a percentage of GDP, represents only one third of the 15% target of the Abuja declaration. Furthermore, only 6% of disease prevention budget was allocated to non-communicable diseases (43% deaths) as opposed to 64% for communicable diseases. We did not find appropriate data to report on the total NCDI expenditure by source.

A total of 123 interventions for 49 priority conditions were recommended by the taskforce, following the use of "Fairchoices" Disease Control Priorities (DCP) Analytic Tool version 2.2. Conditions were prioritized using mortality, severity, disability, and equity while interventions were

[1] Cardiovascular diseases, Cancers, Diabetes and Respiratory diseases.

prioritized taking into consideration the DALY averted, baseline coverage of the intervention, annual population in need and specialists' opinion.

The findings of this work have be leveraged to develop recommendations for an integrated delivery of prioritized NCDI services. The plan is to formulate recommendations towards strengthening universal health coverage to target a given set of NCDIs. In addition, the commission intends to leverage this report to improve visibility of NCDIs and advocate for increased funding allocation for the prevention and control of NCDIs in Cameroon.

1. BACKGROUND AND POLICY CONTEXT

1.1. CAMEROON HEALTH SYSTEM

Cameroon is a coastline nation, strategically located at the crossroads of West and Central Africa. Its population is estimated at about 28 million inhabitants with a GDP per capita of 1,661.7 USD (1,2). About one quarter (24%) of Cameroonians survive below poverty line and over half (55%) of them reside in rural communities (3). Health economic indicators continue to trail as out of pocket (OOP) expenditure accounted for about three quarters (73%) of total health expenditure (THE). In 2019, THE per capita was estimated at 3.6% of the GDP (4).

Structurally, the Cameroon health system has pyramidal structure with three levels; **a central** level that is responsible for policy development, coordination, regulation, and supervision; an **intermediate** level that provides technical support and oversees health districts and regional coordination and regulation; **a peripheral** level that provides care at the marginal level of the health pyramid. The health system is made up of institutions for decision making and provision of specialized care at the central level, 10 regional delegations, overseeing 199 health districts and over six thousand health facilities.

The burden of infectious diseases in Cameroon is being dominated by Malaria, HIV/AIDS, and TB amongst others. The national prevalence of HIV is estimated at 4.3% amongst adults 15-49 years (7). Coupled to this high burden of infectious diseases, is an escalating morbi-mortality associated with non-communicable diseases and injuries (NCDIs), which are currently responsible for 43% of all deaths.[2]. To address the rising burden of both communicable diseases and NCDIs, in Cameroon, the government adopted two key policy documents notably, the **National Health Development Plan 2016-2020** and the **Health Sector Strategy 2016 – 2027**. These documents collectively define the government's political will towards improving the overall health system, with a special emphasis on rolling out universal health coverage and contributing to poverty eradication.

1.2. EFFORTS TO ADDRESS NCDIS IN CAMEROON

In 2014, six African countries[3], including Cameroon, participated in a survey to analyze NCDI prevention policies in Africa[4]. This analysis was funded by the International Development Research Centre (IDRC)[5] and conducted under the umbrella of the African Population and Health Research Centre (APHRC) and like many other African counterparts, Cameroon faces an uphill task in the prevention and control of NCDIs whose morbidity is mainly caused by cardiovascular diseases, neoplasms, diabetes, and chronic kidney diseases. Major healthcare stakeholders have traditionally invested significant resources in the prevention and control of infectious-communicable diseases like malaria, HIV, tuberculosis, and other tropical infections. However, frail efforts have so far

[2] Global Burden of Disease (GBD) 2019, available at Global Burden of Disease Compare | IHME Viz Hub (healthdata.org)

[3] Cameroon, Kenya, Malawi, Nigeria, South Africa, and Togo.

[4] Analysis of NCD Prevention Policies in Africa (ANPPA)"

[5] Juma PA, Mohamed SF, Wisdom J, Kyobutungi C, Oti S. Analysis of Non-communicable disease prevention policies in five Sub-Saharan African countries: Study protocol. Arch Public Health Arch Belg Sante Publique. 2016;74:25

been directed towards prevention and control of NCDs. As a result, the development and adoption of an integrated national strategy for NCD prevention and control is yet to be completed[6].

Figure 1: National NCDI Response Policies in Cameroon

Despite these challenges, several standalone policies have been formulated to address the major NCD risk factors (Fig 1) including "best buys" for tobacco use, harmful use of alcohol and sedentary living. Policies targeting unhealthy diets were hard to find even though reducing salt intake, preference for poly-unsaturated fats and raising awareness through mass media are common practices[7]. Notwithstanding, significant gaps in NCD Policy formulation and implementation still exists despite the various efforts that have been put in place by the government (Figure 2).

[6] Mapa-Tassou C, Bonono CR, Assah F, Ongolo-Zogo P, Sobngwi E, Mbanya JC. Analysis of non-communicable diseases prevention policies in Cameroon : Final report. déc 2017 [cité 14 sept 2022]; Disponible sur: https://idl-bnc-idrc.dspacedirect.org/handle/10625/57550

[7] Idem

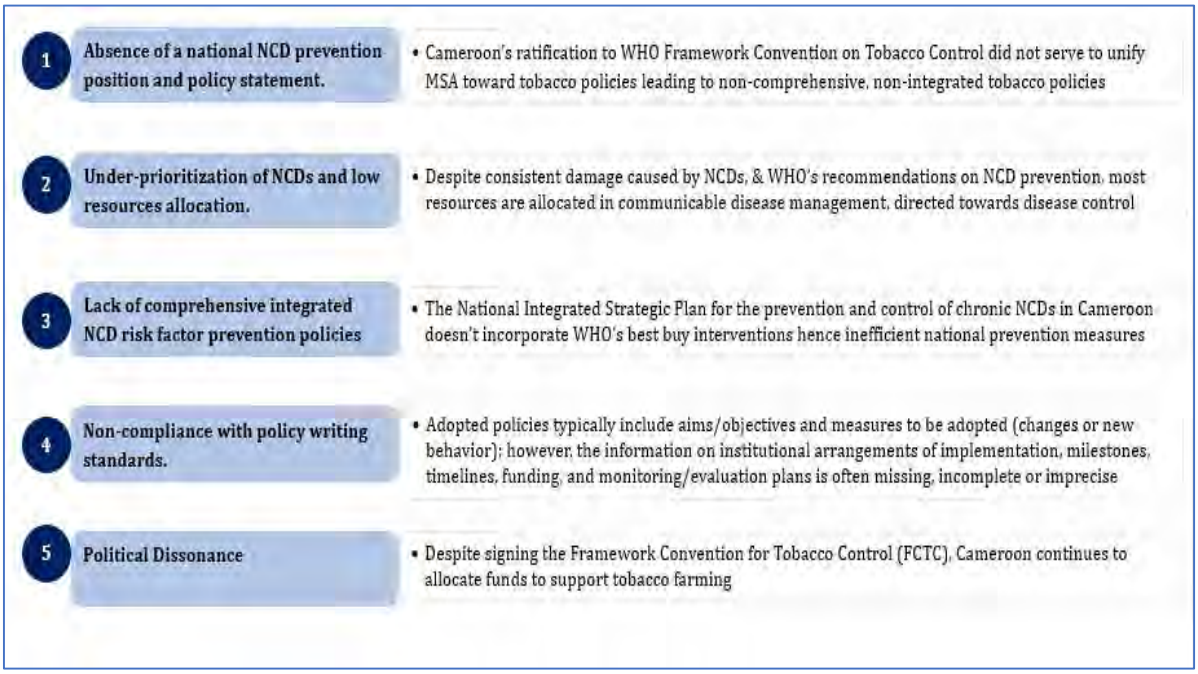

Figure 2: Gaps in NCD Policy Formulation and Implementation in Cameroon

1.3. THE NCDI POVERTY COMMISSION

1.3.1. THE GLOBAL COMMISSION

Established in 2015, the Lancet Commission on Reframing NCDs and Injuries for the Poorest Billion (The Lancet NCDI Poverty Commission) sought to address national and global goals for Universal health coverage (UHC) and sustainable development by tackling the burden of NCDI amongst the world's poorest billion[8]. This diversified score of NCDI specialists including researchers, clinicians, policy makers and advocates on a global scale had as mission to understand risk factors and burden of NCDIs and leverage that to develop evidence-based prioritized recommendations for expansion. In addition, the commission pursued opportunities for innovative financing towards NCDIs in low and low-middle income countries. To date, several countries have received support from the commission to develop national-level NCDI teams to lead these analyses and develop targeted national recommendations. Cameroon is one of the countries that recently received this support and proceeded to create a task force to lead the situational analysis and priority setting for NCDIs in the country.

[8] Lancet. The Lancet NCDI Poverty Commission [Internet]. The NCDI Poverty Network. 2016 [cité 14 sept 2022]. Disponible sur: http://www.ncdipoverty.org/lancet-commission

1.3.2. CAMEROON NCDI POVERTY TASKFORCE

The Cameroon NCDI Poverty Taskforce was established in February 2021 by the Honorable Minister of Public Health. The taskforce was made up of 22- NCDI experts drawn from various institutions including, policy makers, researchers, academia, clinical specialists, and public health professionals from civil society and non-governmental organizations.

The objective of the task force was to utilize existing data (both primary and secondary) to provide an overview of the burden of NCDIs in Cameroon. The burden focused on prevalence, age distribution, mortality, and morbidity, and e disability adjusted life years (DALY). In addition, the taskforce was expected to generate insights on the coverage, investments, and expenditures on NCDI services to inform NCDI policies, and resource prioritization for different stakeholders such as policymakers, clinicians, and advocates. Furthermore, the taskforce, together with key stakeholders, were mandated to formulate and prioritize cost-effective interventions for achieving Universal Health Coverage (UHC) in line with the national health sector strategy[9].

1.3.3. THE APPROACH OF THE CAMEROON NCDI POVERTY TASKFORCE

Following the endorsement of the national taskforce, the honorable minister of public health convened the inaugural meeting to enable members of the taskforce to familiarize themselves with the project's scope, objectives, and timelines. This meeting served as a gateway for defining the activities for different members, including the creation of sub-commissions with their terms of references. This included conduction a comprehensive situation analysis to determine coverage, investments, and expenditures on NCDI services in the country. Following this situational analysis, the taskforce engaged in a priority setting process, which culminated in the selection of impactful interventions to enhance NCD policy decision making in Cameroon. The above approach was essentially realized through several meetings by the members of the taskforce. In all meetings, participation was both physical virtual via a zoom link that was shared in advance by the global commission's secretariat. Pictures 1-3 were group photos of the commissioners' meetings.

[9] Stratégie Sectorielle de Santé 2016 - 2027 | MINSANTE

March 2021: Taskforce's Inaugural Meeting

Jan 2022: Taskforce's Situational Analysis Meeting

July 2022: Taskforces's Priority Setting Meeting

2. BURDEN OF NCDI IN CAMEROON

2.1. NATIONAL NCDI LITERATURE REVIEW

A systematic review of NCDI published literature was performed to identify the different study types on the subject, the diseases conditions, and the location. We considered studies published between January 1st, 2005, and August 31st, 2022. Over three thousand publications were identified amongst which 391 were included as illustrated in Figures 3 & 4. Overall, the findings indicate a significant dearth in research for all NCDI conditions, highlighting that NCD research among Cameroonians is mostly focused on neoplasms (101 articles) and cardiovascular disorders (94 articles).

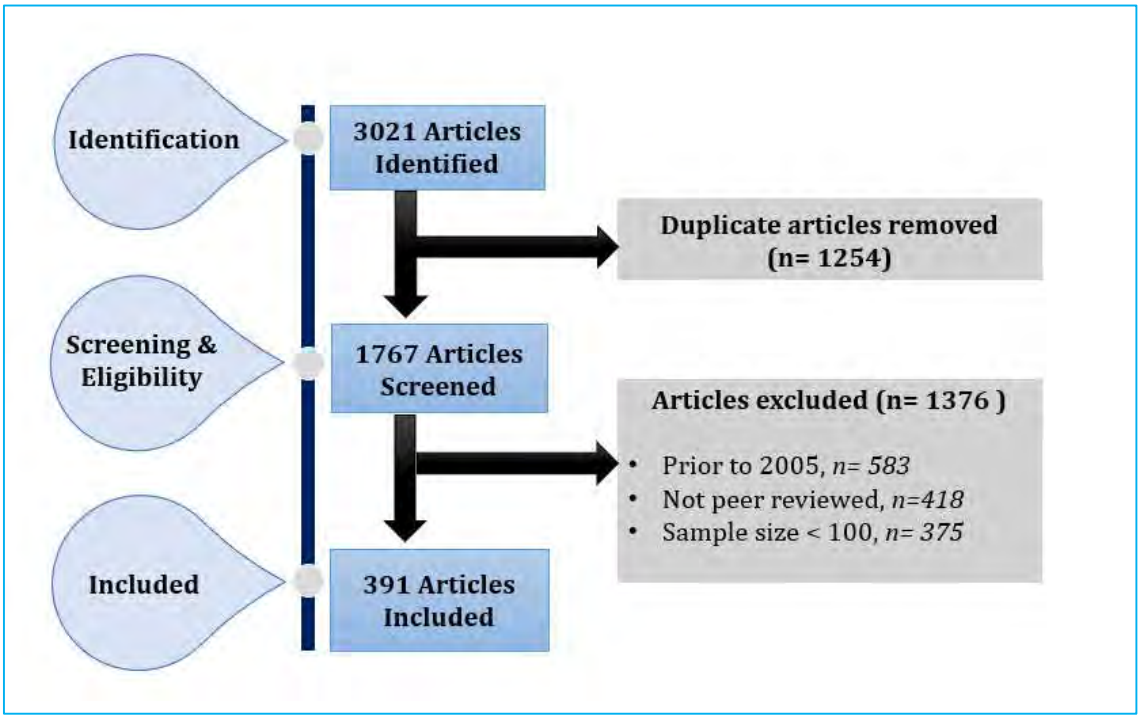

Figure 3: Flow chart showing number of articles identified, screened, excluded and included.

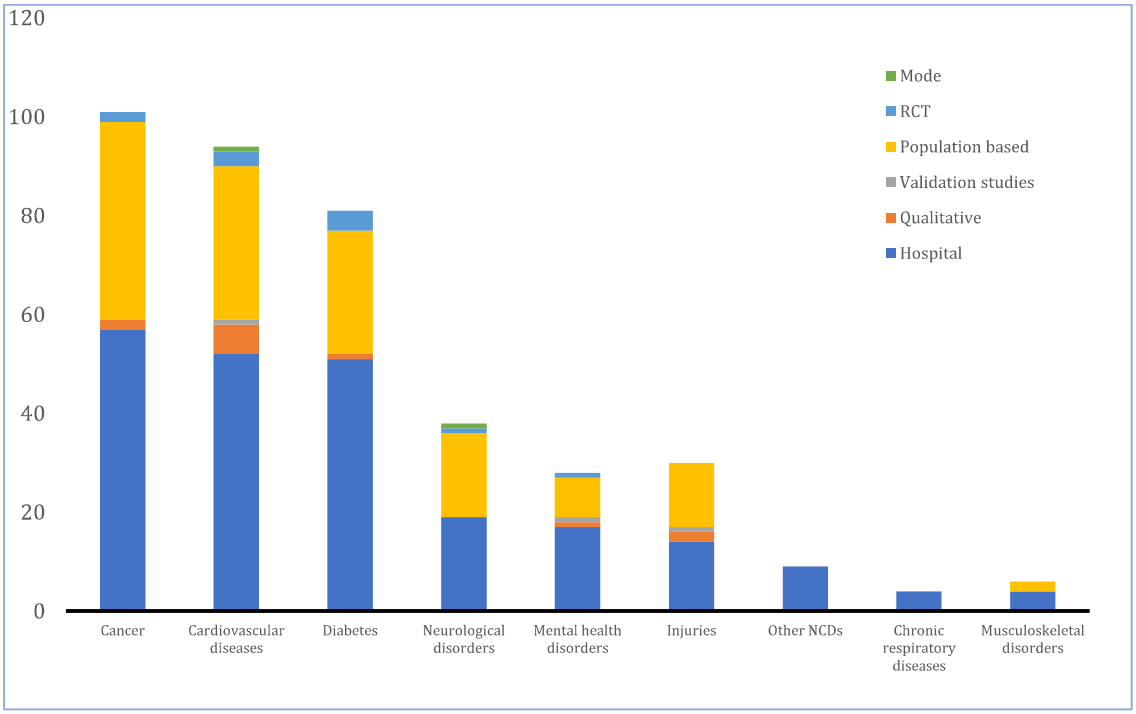

Figure 4: Types of NCDI articles in Cameroon published between Jan 1st 2005 & Aug 31st 2022

As illustrated in figure 5, there is a deficit in population studies and NCDI research conducted settings in Cameroon. Given this deficit, attempts to generalize findings from existing NCD studies may result into a statistical a statistical risk that run contrary to the realities of vulnerable population, especially the rural poor that constitutes over 40% of Cameroon's population[10]. Despite this significant representation, current publications do not reflect this situation as majority of research data are obtained from reference and district hospitals, which are often located in urban and semi-urban settings. Studies conducted in specialized hospitals are important, given the technical capacities in these institutions. However, their outcomes often misrepresent the real disease burden of NCDIs in the country because a significant proportion of people suffering from NCDIs resides in rural settings, with basically limited to no access to tertiary healthcare Thus, to comprehensively understand the real NCDI disease burden in Cameroon, research efforts must also target all settings where a significant proportion of the population resides, including rural and sometimes enclaved and hard to reach communities.

[10] World Bank. GDP per capita (current US$) - Cameroon | Data [Internet]. 2021 [cité 12 sept 2022]. Disponible sur: https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=CM

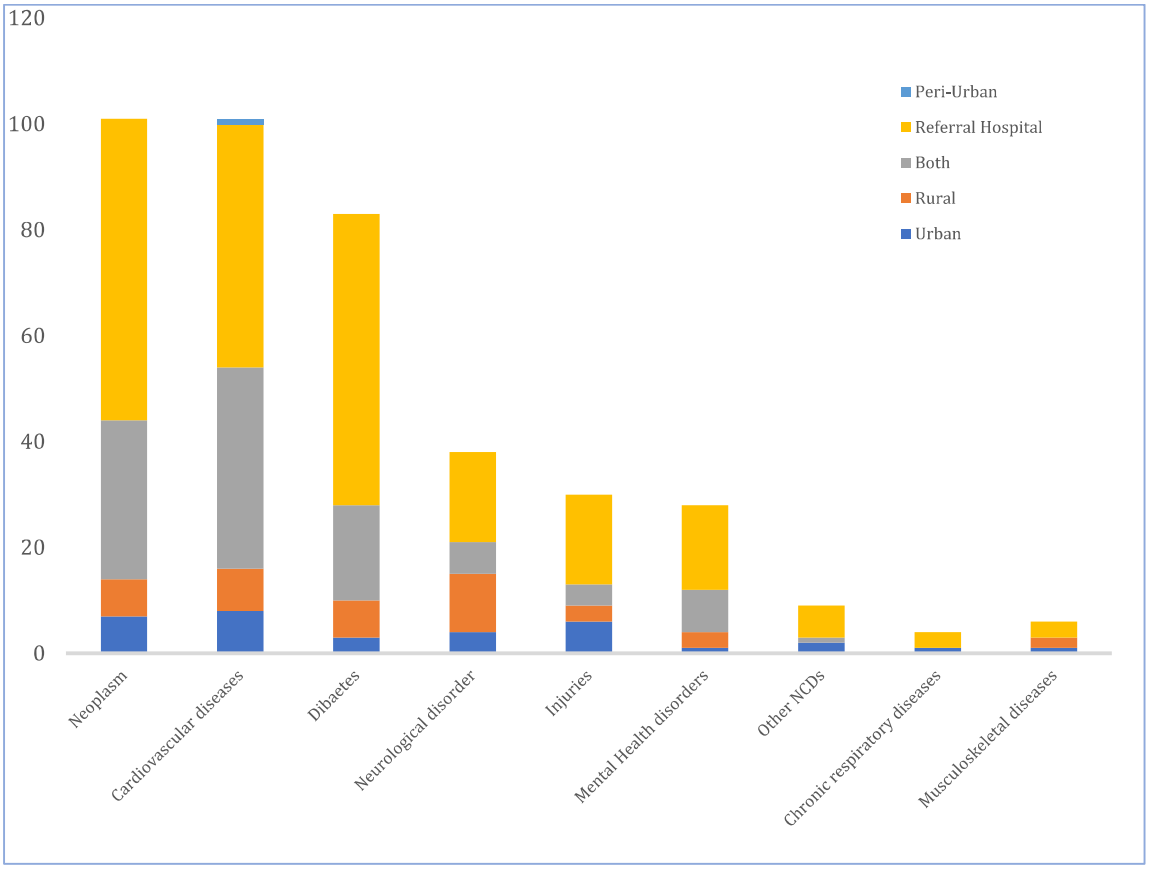

Figure 5:Geographical distribution of NCDI related publications in Cameroon between Jan 1st 2005 & Aug 31st 2022

2.2. GLOBAL BURDEN OF DISEASE (IHME, 2019)

The Global Burden of Disease (GBD) 2019 was published in *The Lancet* in October 2020. It is a comprehensive database that independently provides population estimates for 204 countries and territories using a standardized and replicable approach. It also provides a comprehensive update on fertility and migration and incorporates major data additions and improvements, and methodological refinements. To date, mortality and life expectancy estimates in the GBD 2019 data base has expanded to about 990 locations at a sufficiently detailed level for over of 360 disease and injury conditions. In addition, new risk factors (high and low non-optimal temperatures) and new risk-outcome pairs (n=54) have together been included. This has been possible with the input of over 5,000 collaborators from 152 countries.

In this report, the taskforce presents the GBD 2019 estimates of the NCDI disease burden in Cameroon, with focus on disability-adjusted life years (DALY) by age group and condition.

2.3. THE NCDI DISEASE BURDEN IN CAMEROON

2.3.1. MORTALITY

As illustrated in Figure 6, the combined proportion of annual deaths in Cameroon due to NCDIs is 43%, with NCDs and injuries accounting for 35% and 8% respectively. Amongst the several NCDI conditions responsible for this high burden, Cardiovascular diseases, Neoplasms, Diabetes and Chronic Kidney Diseases represent over half (57%) of all NCDI related deaths. Figure 7 shows the prominent NCDI causes of death in Cameroon.

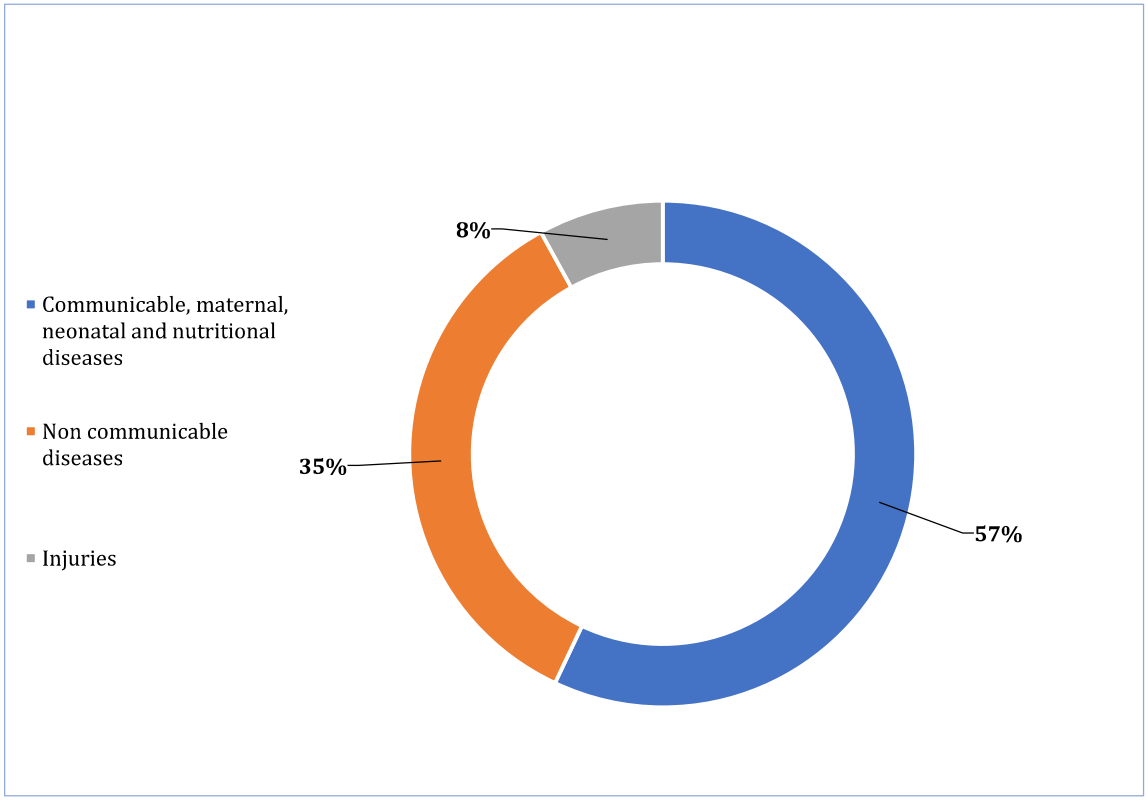

Figure 6: Mortality for major disease conditions in Cameroon for all age groups (GBD 2019)

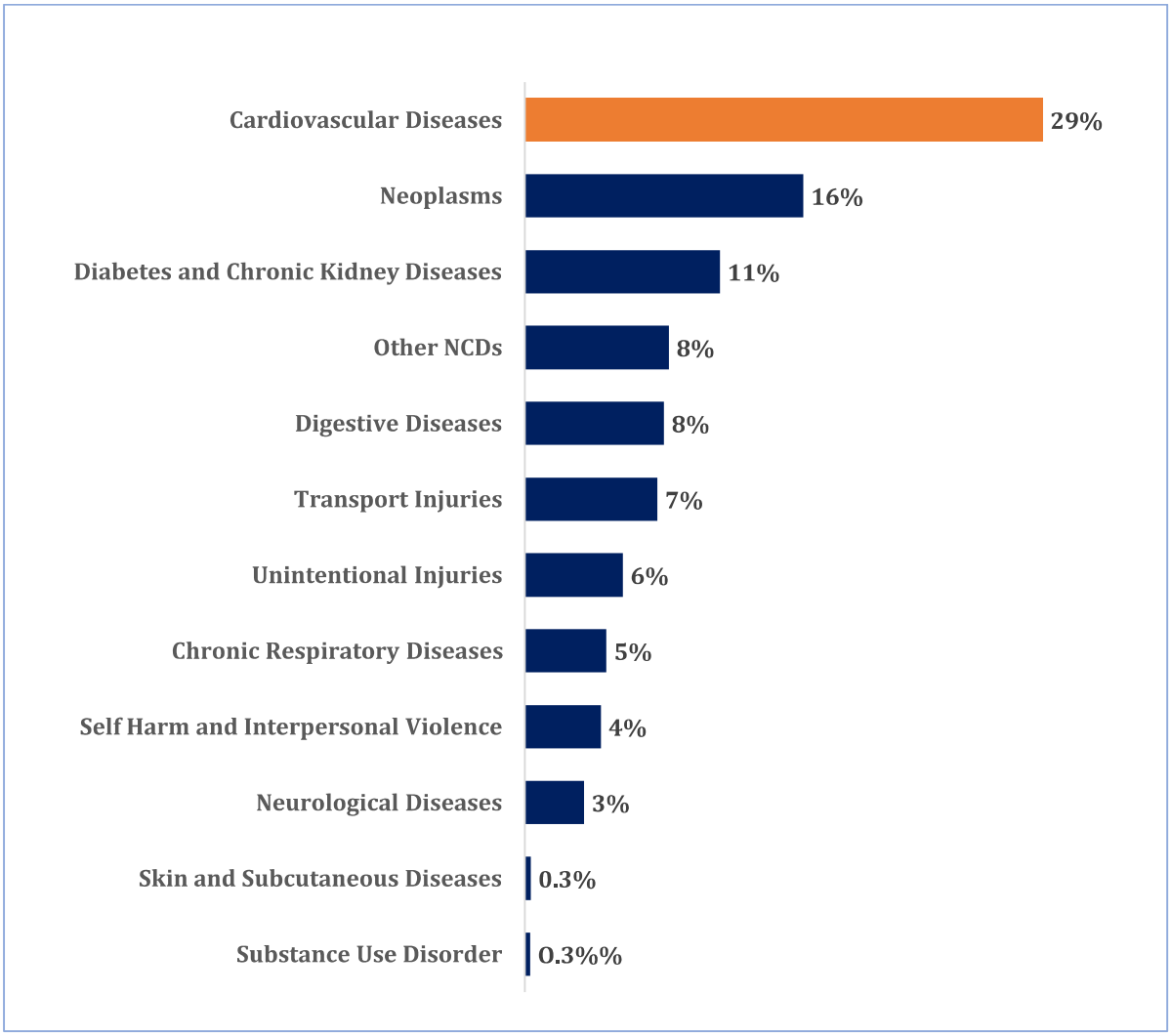

Figure 7: Causes of NCDI mortality in Cameroon (GBD 2019)

NB: Other NCDs include Congenital birth defects (53%), Hemoglobinopathies (17%), Gynecological disorders (15%), Hemolytic Anemias-Endocrine & metabolic disease-Blood and Immune System disorders (8%), Urinary disease and male infertility (4%), and sudden infant death syndrome (3%).

2.3.2. DALY

The burden due to communicable, maternal, neonatal, and nutritional diseases has witnessed a steady decline in DALYs since the early 90's. Indeed, the total DALYs for communicable, maternal, neonatal, and nutritional diseases has declined by 20% within 3 decades, reducing from 80% in 1990 to 60% in 2019. In contrast, the DALYs due to NCDs has witnessed a steady increase, since the early 90's, with an overall growth by 10%, rising from 20% in 1990 to 30% in 2019. Similarly, DALYs due to injuries has witnessed a continuous increase, rising from 5% in 1990 to 10% in 2019, representing a 5% increase in 3 decades. Figure 8 clearly shows the evolution of DALY for disease groups from 1990 to 2019.

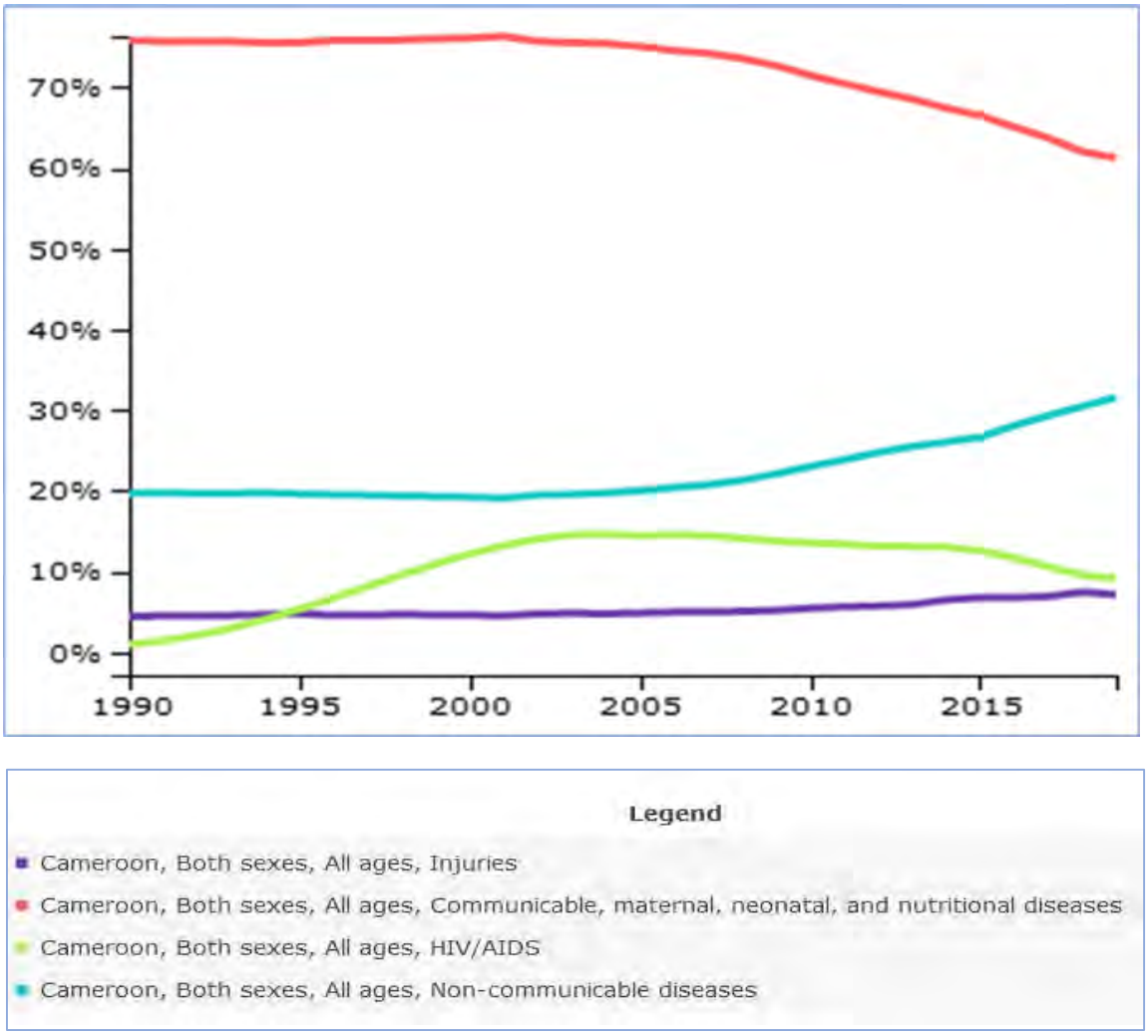

Figure 8: Evolution of DALY for communicable, non-communicable diseases, injuries, and HIV/AIDS between 1990 and 2019 in Cameroon (GBD 2019)

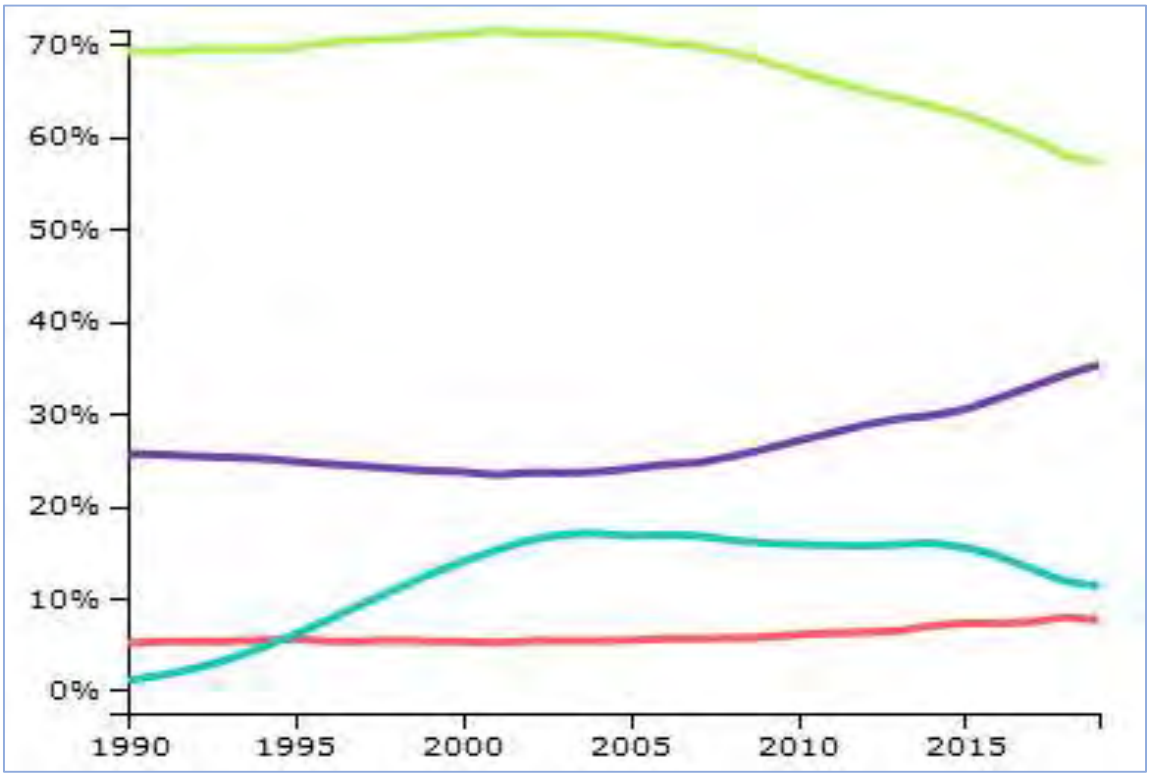

Figure 9: Evolution of mortality associated to communicable, non-communicable diseases, injuries, and HIV/AIDS between 1990 and 2019 in Cameroon (GBD 2019)

As illustrated in figure 10, focus has traditionally been on the "big four", with a gross neglect on the "non big four" NCDs, which account for nearly two thirds of national DALY due to NCDIs.

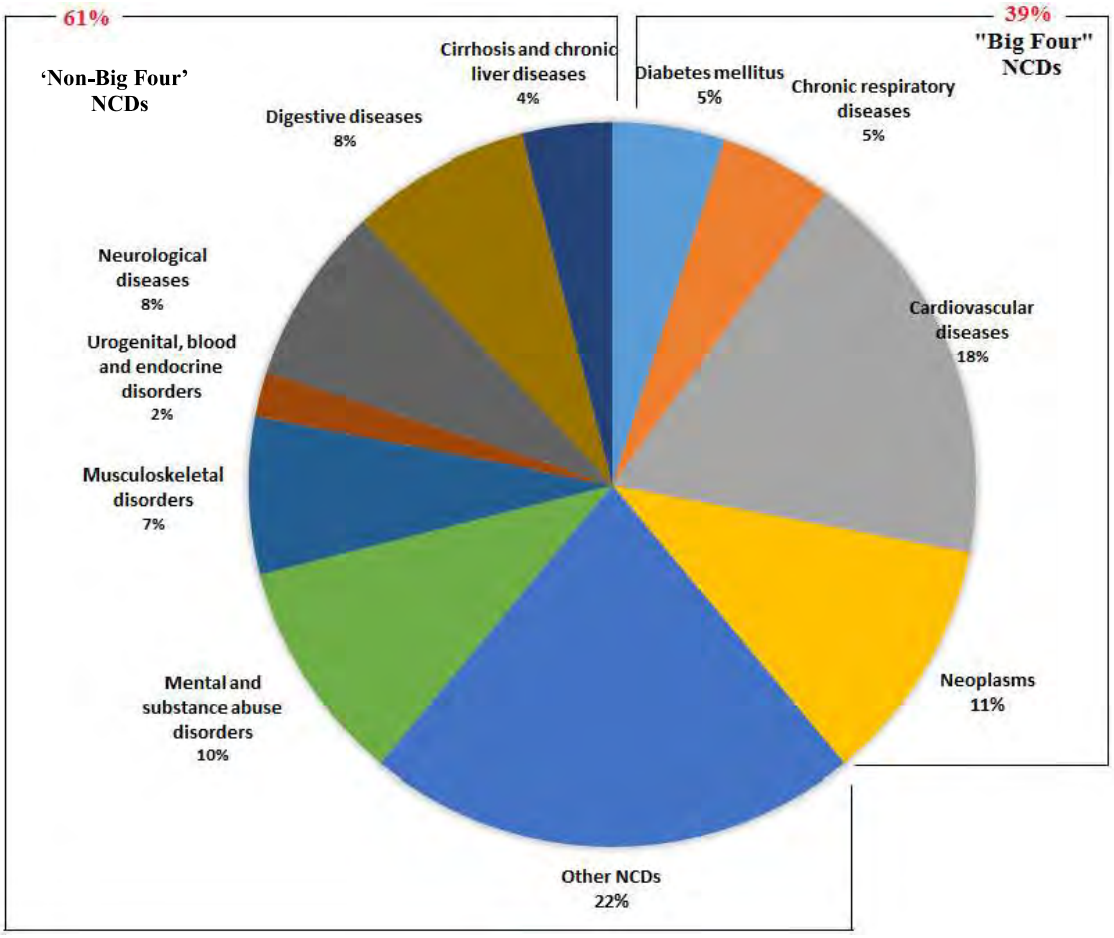

Figure 10: DALY burden attributed to NCDs in Cameroon in 2019, proportion attributed to the "big four" versus "Non-Big Four" NCDs (GBD 2019)

Injuries, just like other NCDs, are responsible for a significant proportion of DALY compared to individual "big four". Cumulatively, injuries (transport injuries, self-harm and interpersonal violence and unintentional injuries) contribute to approximately one fifth (19.27%) of the national NCDI DALY burden in Cameroon.

2.3.3. NCDI RELATED DALY

Age is the main non-modifiable risk factor for all NCDs. Figure 11 shows the proportion of NCDI DALY across age groups in Cameroon as per GBD 2019. Evidently, DALY steadily increases after the age of 40. However, below 40 years, several modifiable factors are responsible for the DALY change and that is the age range where there is need for sensible action. Figures 12 and 13. illustrates the trend in burden of key NCDIs with change in age.

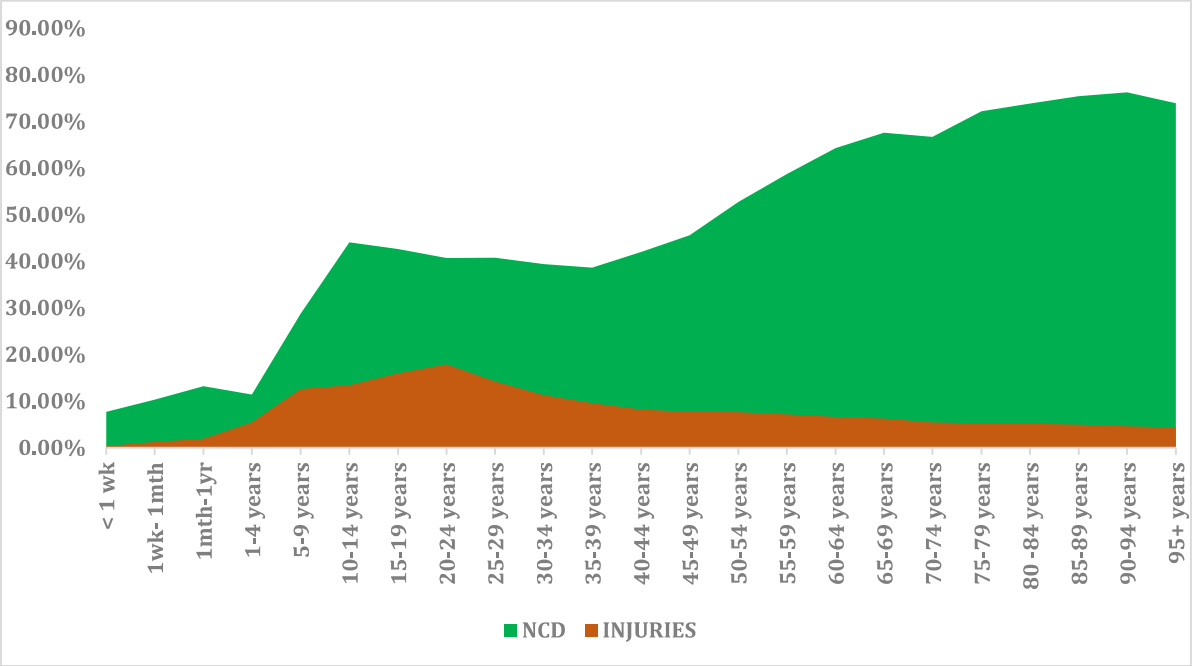

Figure 11: Proportion of NCD DALY by Age group in Cameroon (GBD, 2019)

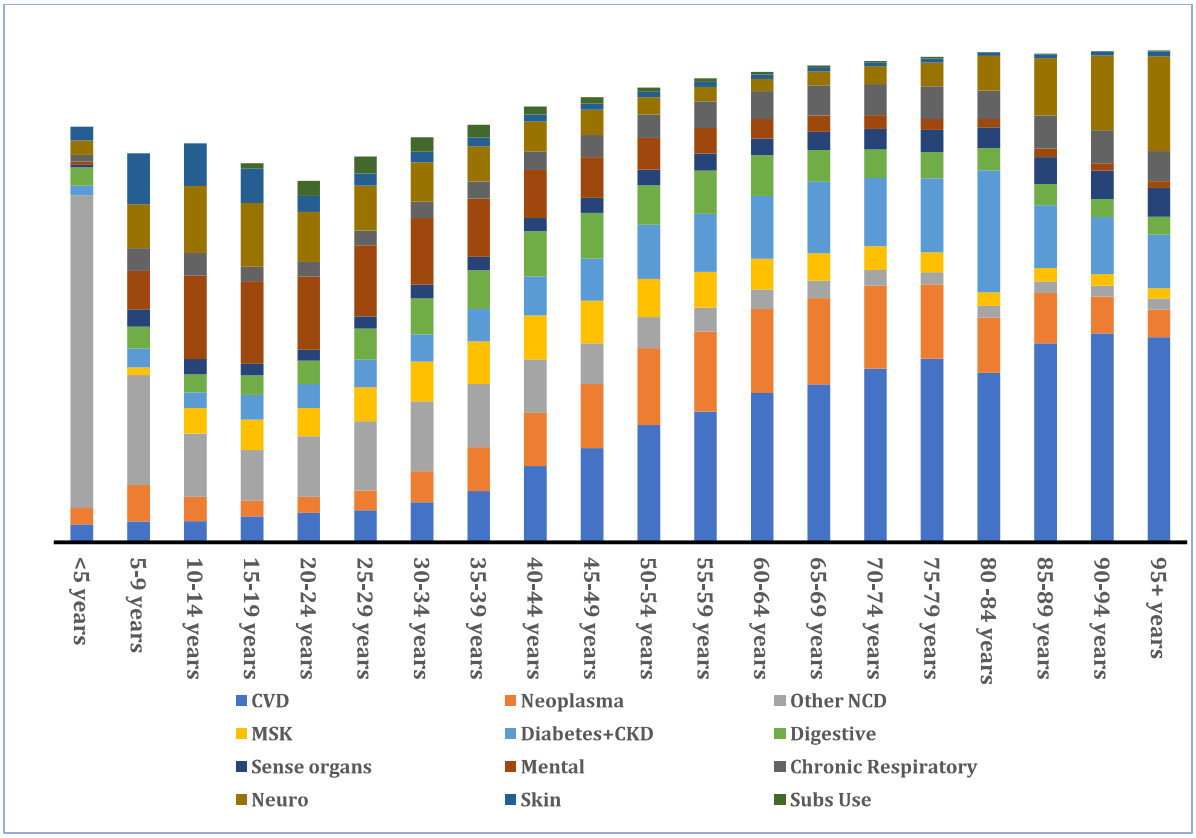

Figure 12: DALY by Age group and condition in Cameroon (GBD 2019)

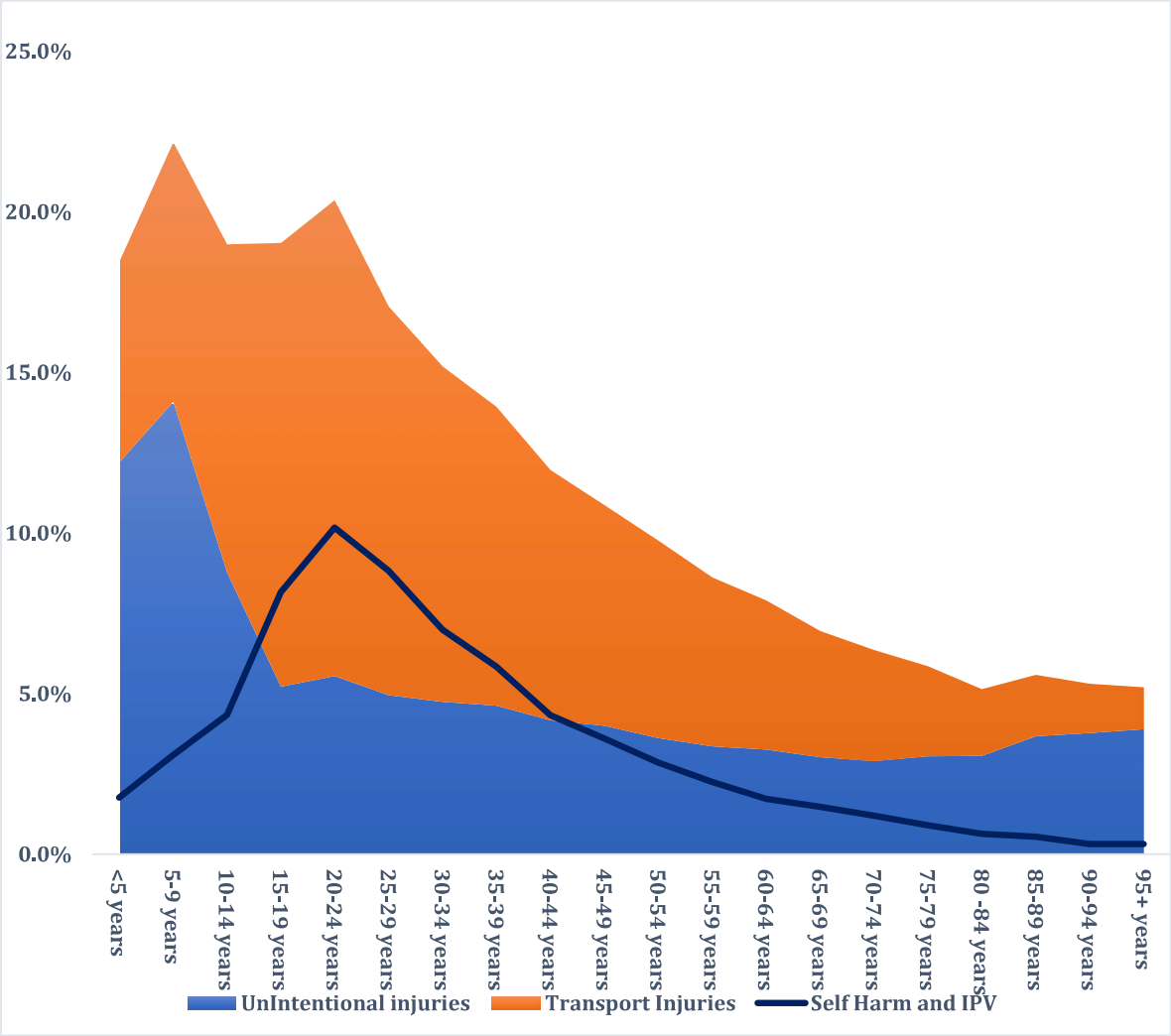

Figure 13: Injury related DALY by Age group and condition in Cameroon (GBD 2019)

It is thus important to understand and address the DALY for NCDIs people below 40 years, the most economically active age group of the population. Indeed, according to the GBD 2019 data base, 29% of all deaths are due to NCDs and 10% due to Injuries occur in this age group Apart from some selected NCDs[11], **Mental health, Transport injuries, Neurological disorders and Unintentional injuries** have the highest DALY burden in the under 40 age group. This is seen in Figure 14.

[11] Congenital birth defects, Hemoglobinopathies, Hemolytic anemias, Endocrine and metabolic disease, Blood and Immune System disorders, Urinary disease and male infertility, sudden infant death syndrome (SID).

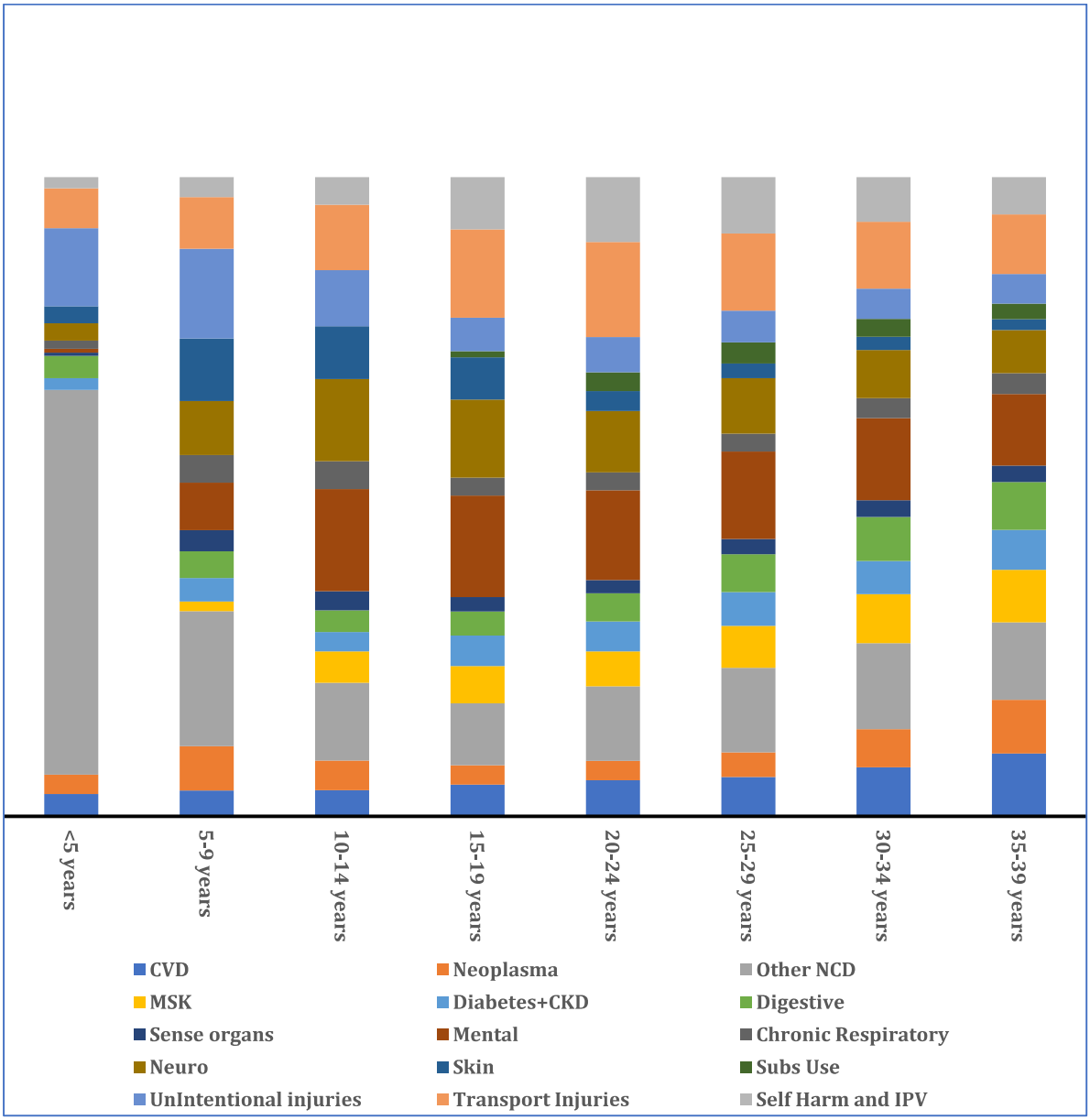

Figure 14: Proportion of DALY by under 40 Age group and condition in Cameroon (GBD 2019)

2.3.4. NCD BURDEN RELATIVE TO HIGH INCOME COUNTRIES (HICS)

As illustrated in Figure 15, there is massive inequity for key conditions such as sickle cell disorders, congenital heart anomalies, neural tube defects and low back pain. In addition, several conditions cause more DALY in Cameroon compared to HICs including, hemorrhagic stroke, epilepsy, hepatitis B induced chronic liver cirrhosis, chronic kidney disease, peptic ulcer disease, burns and interpersonal violence. In contrast, conditions such as ischemic heart diseases, ischemic stroke, esophageal cancers, diabetes, self-harm, NHL, bladder cancers, bipolar disorders and schizophrenia have higher DALYs in HICs than in Cameroon.