# TRACKING 100 CORE HEALTH INDICATORS FOR CAMEROOON IN 2017

Ministry of Public Heath

National Public Health Observatory

World Health Organization

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**Suggested quotation.** Tracking 100 Core Health Indicators for Cameroon in 2017.Yaounde:

**Source catalogue.** Available at the following addresses: http://apps.who.int/iris; http://onsp.minsante.com


HEALTH IN THE SDG ERA
3 GOOD HEALTH AND WELL-BEING
ENSURE HEALTHY LIVES AND PROMOTE WELL-BEING FOR ALL AT ALL AGES
1 NO POVERTY
PRIORITIZING THE HEALTH NEEDS OF THE POOR
2 ZERO HUNGER
ADDRESSING THE CAUSES AND CONSEQUENCES OF ALL FORMS OF MALNUTRITION
4 QUALITY EDUCATION
SUPPORTING HIGH-QUALITY EDUCATION FOR ALL TO IMPROVE HEALTH AND HEALTH EQUITY
5 GENDER EQUALITY
FIGHTING GENDER INEQUITIES, INCLUDING VIOLENCE AGAINST WOMEN
6 CLEAN WATER AND SANITATION
PREVENTING DISEASE THROUGH SAFE WATER AND SANITATION FOR ALL
7 AFFORDABLE AND CLEAN ENERGY
PROMOTING SUSTAINABLE ENERGY FOR HEALTHY HOMES AND LIVES
8 DECENT WORK AND ECONOMIC GROWTH
PROMOTING HEALTH EMPLOYMENT AS A DRIVER OF INCLUSIVE ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
PROMOTING NATIONAL R&D CAPACITY AND MANUFACTURING OF AFFORDABLE ESSENTIAL MEDICAL PRODUCTS
10 REDUCED INEQUALITIES
ENSURING EQUITABLE ACCESS TO HEALTH SERVICES THROUGH UNIVERSAL HEALTH COVERAGE BASED ON STRONGER PRIMARY CARE
11 SUSTAINABLE CITIES AND COMMUNITIES
FOSTERING HEALTHIER CITIES THROUGH URBAN PLANNING FOR CLEANER AIR AND SAFER AND MORE ACTIVE LIVING
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
PROMOTING RESPONSIBLE CONSUMPTION OF MEDICINES TO COMBAT ANTIBIOTIC RESISTANCE
13 CLIMATE ACTION
PROTECTING HEALTH FROM CLIMATE RISKS, AND PROMOTING HEALTH THROUGH LOW-CARBON DEVELOPMENT
14 LIFE BELOW WATER
SUPPORTING THE RESTORATION OF FISH STOCKS TO IMPROVE SAFE AND DIVERSIFIED HEALTHY DIETS
15 LIFE ON LAND
PROMOTING HEALTH AND PREVENTING DISEASE THROUGH HEALTHY NATURAL ENVIRONMENTS
16 PEACE AND JUSTICE
EMPOWERING STRONG LOCAL INSTITUTIONS TO DEVELOP, IMPLEMENT, MONITOR AND ACCOUNT FOR AMBITIOUS NATIONAL SDG RESPONSES
17 PARTNERSHIPS FOR THE GOALS
MOBILIZING PARTNERS TO MONITOR AND ATTAIN THE HEALTH-RELATED SDGs
World Health Organization
WWW.WHO.INT/SDGS
SUSTAINABLE DEVELOPMENT GOALS

# TABLE OF CONTENTS

# PREFACE
## of the Minister of Public health

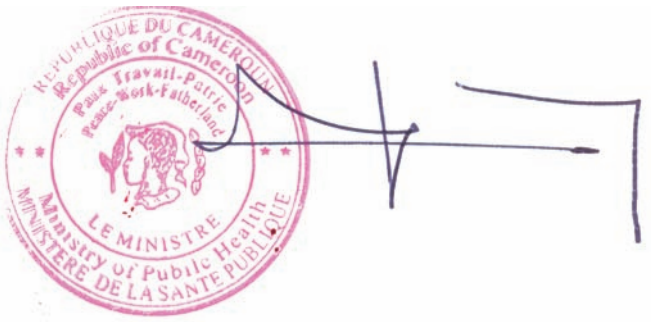
The first phase of the operational implementation of the development vision of Cameroon by 2035, which is translated in the Strategic Paper for Growth and Employment (SPGE), prescribed in one of its general objectives "the reduction of poverty to a socially acceptable level". This reduction of monetary poverty shall be accompanied by the implementation of the strategic choice upheld in the 2016-2027 Health Sector Strategy (HSS) spelled out as follows: "guaranty equitable and universal access to basic quality health services and care and to quality priority specialized care, with the full participation of the community and the involvement of other related sectors".

To ensure optimal monitoring-evaluation of those objectives, MINSANTE, with technical support from WHO, adopted in 2017 a reference list of 100 health indicators in Cameroon, in keeping with Sustainable Development Goals as well as new and emerging priorities like non-communicable diseases, universal health coverage and other issues related to the after-2015 development programme.

I am happy to put at the disposal of the public the document " tracking 100 core health Indicators for Cameroon in 2017" because it offers a framework for the analysis of the health situation of the country with key figures. Moreover, for some indicators, it gives an outlook of the level of implementation of activities towards Sustainable Development Goals (SDG).

Through four main groups of indicators, this document informs on recent values of the 100 Core Health indicators touching health problems and their determinants, as well as highly relevant analyses. Those analyses highlight major priorities which should serve as signpost on which each stakeholder should take inspiration and rely to pursue individual and collective actions aimed at a perennial improvement of the health and well-being of the cameroonian population.

**The Minister of Public Health**




**André Mama Fouda**

# A word from
## the Representative of WHO

The move from MDGs to SDGs, the recent deadly epidemics such as that of the Ebola virus as well as terrorist attacks and catastrophes compel us to set up functional, resilient and highly reactive health systems to favor sustainable development, anticipate and minimize risks and ensure better contribution to the protection of populations. To reach efficient results, convincing information should be used to produce necessary knowledge for decision making. Better still, the need is more strongly expressed in a context of monitoring of interventions related to Sustainable Development Goals (SDG), including universal health coverage.

Improving health information systems and increasing the impact of reliable and precise data are key factors in the realization of "The Transformation Agenda of the World Health Organization in the African Region". Therefore, the document "Tracking 100 Core Health Indicators for Cameroon in 2017" is a major tool for the monitoring of the health situation of the country, which should serve as reference for the monitoring of progress on objectives agreed upon at the international level.

This document is the result of harmonious work between WHO and the National Public Health Observatory (NPHO) with contributions and active collaboration from most of the Directorates and Programmes of the Ministry of Public Health. I hereby thank those who contributed to its drafting. I hope that everyone will find it a source of reference in useful health in Cameroon.

**The WHO Representative**

**Dr Phanuel Habimana**

# ABBREVIATIONS AND ACRONYMS

| | |
|---|---|
| AIDS | Acquired Immune Deficiency Syndrom |
| ART | Anti-Retroviral Treatment |
| ARV | Anti Retro Viral |
| BCG | Bacillus Calmette-Guerin |
| BUCREP | Central Bureau of Census and Population Studies |
| BUNEC | National Civil Status Registration Office |
| CDBP-H | Centre for the Development of Best Practices in Health |
| CHS | Cameroon Household Survey |
| DFADEP | Directorate of the Fight Against Diseases, Epidemics and Pandemics |
| DFH | Directorate of Family Health |
| DFRA | Directorate of Financial Resources and Assets |
| DHR | Directorate of Human Resources |
| DHS | Demographic and Health Survey |
| DOCHT | Directorate of the Organization of Care and Health Technology |
| DPML | Directorate of Pharmacy, Medicines and Laboratories |
| EONC | Emergency Obstetrical and Neonatal Care |
| EPI | Expanded Programme on Immunisation |
| FMBS | Faculty of Medicine and Biomedical Sciences |
| GDP | Gross Domestic Product |
| GPHC | General Population and Housing Census |
| HIU | Health Information Unit |
| HIV | Human Immunodeficiency Virus |
| HKI | Hellen Keller International |
| HNA | National Health Accounts |
| HORU | Health Operational Research Unit |
| HPTU | Health Personnel Trade Union |
| HPU | Health Promotion Unit |
| IDTR | Institute for Demographic Training and Research |
| LLINS | Long-Lasting Insecticide-treated Mosquito Bednets |
| MICS | Multiple Indicator Cluster Survey |
| MINADER | Ministry of Agriculture and Rural Development |
| MINAS | Ministry of Social Affairs |
| MINATD | Ministry of Territorial Administration and Decentralisation |
| MINESUP | Ministry of Higher Education |
| NCAP | National Committee for the Fight against AIDS |
| NHDP | National Health Development Plan |
| NMCP | National Malaria Control Programme |

| | |
|---|---|
| NPFC | National Programme for the Fight against Cancer |
| NPFLF | National Programme for the Fight against Leprosy and Framboesia |
| NPFT | National Programme for the Fight Against Tuberculosis |
| NRPO | National Radioprotection office |
| NTD | Neglected Tropical Diseases |
| PLA | People living with AIDS |
| RHHSC | Report on Health and the Health System in Cameroon |
| SIA | Supplementary Immunisation Activities |
| TS/ HSS | Technical Secretariat/ Health Sector Strategy |
| UNICEF | United Nations International Children's Emergency Fund |
| WB | World Bank |
| WHO | World Health Organization |

# EXECUTIVE SUMMARY

**The report "Tracking 100 Core Health Indicators for Cameroon in 2017"** was drafted on the basis of official reports and documents of the health and related sectors. It provides information on the evolution of the values of the 100 basic health indicators retained in 2016 by WHO and international partners and adopted by Cameroon in 2017, for the monitoring of the health of populations and the evaluation of the impact of health strategies and policies implemented. The report sets out to indicate the evolution of these health indicators in the country over the past years. After document review, the data was analysed and presented on graphs, grouped under 04 major headings, with specifications when possible on sex, place of residence and regional distribution. With specifications, when possible, based on sex, place of residence, and a regional distribution.

## Health status Indicators

In about 20 years, the mortality rate of children under five has gone from 144.1 in 1999 to 103 per 1000 live births in 2014. In 2015, it was estimated at 87.9 per1000 live births. In the meantime, the rate of neonatal mortality was estimated at 25.7 deaths per 1000 live births, whereas it stood at 33 per 1000 in 1991. Though maternal mortality seriously increased between 1991 and 2011, going from 511 to 782 deaths per 100,000 live births, it was estimated at 596 maternal deaths per 100,000 live birthsin 2015. Cardiovascular diseases, cancers, chronical respiratory diseases and diabetes were responsible for 22.4% deaths in Cameroon in 2015. The proportional (institutional) mortality of malaria dropped between 2013 and 2017 from 4351 to 3195 deaths, meaning a drop of 27. WHO estimated the suicide rate in Cameroon at 11.9 per 100,000 inhabitants in 2015 and the mortality rate from road traffic injuries at 27.6 per 100,000 in 2013. On another note, the prevalence of viral hepatitis B was at 11.9% in 2011, and AIDS affected about 660,000 people.

# Risk factors Indicators

The exclusive breastfeeding rate of infants from 0 to 5 months witnessed an increase, moving from 8.4% to 28.2% between 1991 and 2014. Also, between 2004 and 2011, the prevalence of anemia in children from 6 to 59 months declined from 68.3% to 60.3%.As risk factor for sexually transmitted infections, it is worth noting that the proportion of people having used the condom during the last sex with a high-risk partner stood at 49.5% for men and 43.1% for women in 2014. Access to potable water has been increasing considerably since 1998 (43.6%) and was estimated at 76.0% in 2015. In eight years (from 2008 to 2016) the total quantity of alcohol consumed per inhabitant aged 15 or more grew from 7.9 to 9.9 liters of ethanol. Similarly, an increase in the prevalence of intimate partner violence was noted from 26.1% to 32.7% between 2004 and 2014.

# Service coverage Indicators

An increase in the number of women aged 15 to 49 years having benefitted from at least four prenatal consultations was noticed, from 49% in 1991 to 58.8% in 2014. A slight increase in the percentage of births attended by skilled health personnel was also noticed during the same period, going from 63.8% to 64.7%. The percentage of children from 6 to 59 months having received vitamin A supplementation over the last six months went from 38% to 55.3% between 2004 and 2011. From a global or specific (per vaccine) perspective, immunization coverage has been increasing over the years. In 2014, the global (all vaccines) coverage stood at 75%, meaning 92% for BCG, 82% for pentavalent, 87% for poliomyelitis 3, and 86% for measles. As concerns the management of diseases, the percentage of confirmed cases of malaria who receive a first-line antimalarial treatment dropped from 38% in 2016 to 28.1% in 2017. In 2016, preventive chemotherapy coverage was at 83.60%, 64.63%, 81.81%, and 79.33%, respectively, for helminthiases, Schistosomiasis, Onchocerciasis and lymphatic filariasis.

# Health systems Indicators

Health service access in Cameroon in 2016 was at 2.19 health facilities per 10,000 inhabitants. In 2011, after the general census of health personnel in Cameroon, the density of health personnel stood at 1.90 per 1000 inhabitants. But according to estimates by WHO, this density dropped to 0.6 to 1000 in 2016. The percentage of children under 5 years whose birth was registered grew from 61.4% in 2011 to 66.1% in 2014. As concerns the funding of health, an evolution of the percentage of total current expenditure on health in relation to the Gross Domestic Product (GDP) from 4% to 5.4% was recorded; furthermore, in 2014, this percentage was estimated at 4.10% by WHO. In 2001, 21.5% of households were faced with catastrophic health expenditure. However, in 2007, this ratio dropped significantly to 8%.

# METHODOLOGY

The present document provides the most recent data on the indicators of the "reference list of Core Health indicators in Cameroon", based on availability of data, atleast the last three values of the indicators were presented and where possible, the regional, gender(male, female) and type of living environment (urban, rural ) distributions illustrated. This was presented through graphs. This is done through graphs and a description that permits to perceive the evolution of each indicator over a given period.

The document is organized into four (04) major groups of indicators:

I. **Health status indicators:** mortality by age and sex, morbidity, mortality by cause of death, fertility;
ii. **Risk factors Indicators:** nutrition, infections, non-communicable diseases, injuries, environment;
iii. **Service coverage indicators:** reproductive health and health of the mother and the child, immunization, HIV, tuberculosis, malaria, neglected tropical diseases, diagnosis and preventive care, mental health;
iv. **Health system indicators:** quality and security of care, access, health workforce, funding of health.

The methodology used is principally based on the process of (1) documentary research and (2) synthesis of data.

**(1) Documentary research:** The main sources of data used were annual reports and publications by the Programmes and Directorates of the MINSANTE. Other documents used included results of national surveys (CHS, DHS,DHS-MICS).

For each indicator,2017 was considered the year of reference, during the data collection process. The data collected was completed with data from previous years depending on their availability and reliability. In order to have recent data, the estimates of partners from the United Nations System and/or other valid sources were also taken into account. The link between that data and national data in graphs (progress curves) is established in doted lines.

**(2) Synthesis of data:** the data collected thanks to documentary sources was exploited in Microsoft Excel and Table software for the production of graphs. When it was possible, the indicator was presented by sex, region or residence. Similarly, during the successive meetings held for the validation of the document, an analytic summary was made for each indicator with approximation to the known average estimate for the African region.

The following main steps were used or adopted:

**(i)** Working sessions with the National Adviser for strategic information system at WHO, the Coordinator of the NPHO and the research team set up by the Consultant put at the disposal of WHO;

**(ii)** Identification of local data sources taken into account in the following order: surveys, publications done from surveys, administrative data with minimized risk of conflict of interest, and finally those that present a risk of conflict of interest;

**(iii)** Identification of the sources of international data: global and specialized international databases and/or those of the United Nations system, especially those of WHO, UNICEF, UNFPA, the World Bank, etc.

**(iv)** Framing of the structure of the document "Tracking 100 Core Health Indicators for Cameroon in 2017", relying on the reference model developed by WHO;

**(v)** Designing of data collection matrices on Excel spreadsheet and Table software, for the production of graphs and tables;

**(vi)** Extraction of data from the aforementioned sources;

**(vii)** Production of preliminary report

**(viii)** Review and finalization of the document during a participative workshop grouping different experts from MINSANTE;

**(ix)** Production of the final document for validation by the Scientific Committee and adoption by the NPHO;

**(x)** Dissemination of the final report by the NPHO.

***Limitations :***

For the drafting of the present document, numerous difficulties were faced:

- Differences of wording in the names of indicators in the different documents;
- Differences of unit of measurement of some indicators which should be expressed per 1000 or per 100,000 but which were usually evaluated in percentage;
- Most of the data on national surveys available are older than 3 years, meaning that they may not reflect the present situation of the country;
- Unavailability of values for some indicators, such as:
  - Perioperative mortality rate;
  - Obstetric and gynecological admissions owing to abortion
  - Service-specific availability and readiness (per 10,000 inhabitants)
  - Availability of essential medicines and commodities
  - Death registration coverage
  - Headcount ratio of impoverishment owing to health expenditure.


# COUNTRY PROFILE

# Geographical location

Cameroon is a Central African state, situated in the Gulf of Guinea. It spreads on a continental surface area of 475,650 Km2 and a maritime surface area of 9,600 Km2. It is limited to the north by Lake Chad, to the west by Nigeria, to the south by Congo, Gabon and Equatorial Guinea, to the east by the Central African Republic and to the northeast by Chad. The natural milieu of Cameroon is diversified and comprises three major natural regions:

(i) The The Southern Forestry Region, which is made up of the regions of the Centre, the East, the Littoral, the South and the Southwest. These regions are characterized by dense vegetation, a vast hydrographic network and a hot and humid climate with abundant rainfall;

(ii) The highlands of the West made up of the West and North West Regions, where the average altitude is above 1.100m, make up a region that is rich in volcanic soil which is favorable for the growth of coffee, garden crops, etc.

(iii) The sudano-Sahelian North, which covers the Adamawa, North and Far North Regions by the regions of Adamawa, North and Far North, is a savannah and steppe zone.


Source : Nation online project 2009.

# Administrative situation

Decree No. 2008/376 of 12th November 2008 on the administrative organization of Cameroon divided Cameroon into 10 regions, 58 divisions and 360 sub-divisions placed under the respective authority of Governors, Senior Divisional Officers and Divisional Officers. French and English are the official languages, which are spoken by 70% and 30% of the population, respectively.

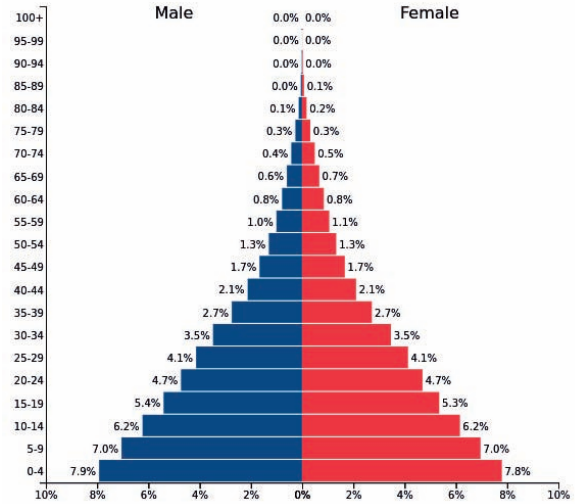
# Health breakdown

In 2016, the health map of Cameroon illustrated 10 regions, 189 health districts, 1800 health areas and approximately 5166 public and private health facilities spread throughout the national territory.

# Demographic situation

In terms of population, in 2017 the population of Cameroon was estimated at 24,253,757 inhabitants, spread over a surface area of 475,650km2 with an approximate population density a population density of 50 inhabitants per Km2. This population is essentially young; those below 15 years represent 48% of the whole population and those aged 65 and above 3.5%. The average annual growth rate of this population stands at 2.6% and the natality rate at 22.5%. About half of the population live in urban areas, with about 20% in the cities of Douala and Yaoundé. Cameroon has 240 ethnic groups which are divided into three major groups (Bantus, Semi-Bantus and Sudanese).

**Figure 1 :** Population pyramid of Cameroon in 2017




Source : PopulationPyramid.net

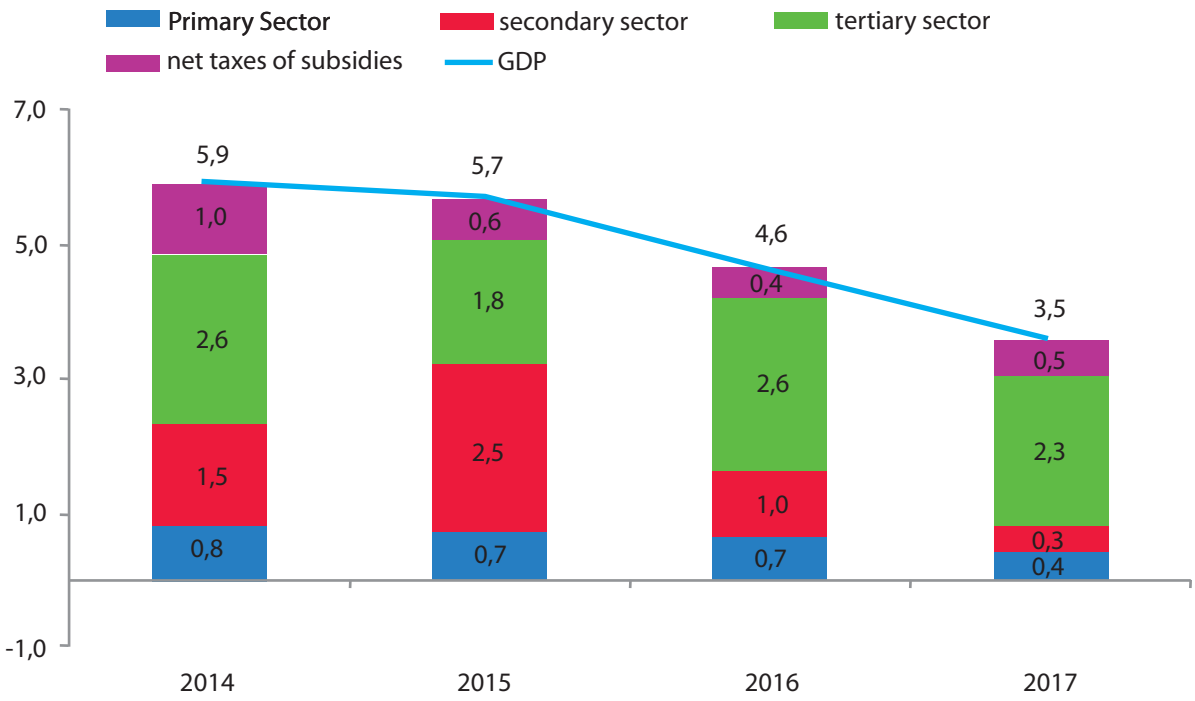
# Socioeconomic situation

The analysis of the evolution of the core poverty indicators of the CHS4 reveals that from the monetary (or objective) point of view, between 2001 and 2014, the incidence of poverty has reduced by 2.7 points, moving from 40.2% to 37.5%. This drop in the prevalence of poverty is a result of the recording of an average annual economic growth of 3.8% at the same time as the vitality of demographic growth, which stands around a yearly average of 2.6%. Moreover, the Far North and North regions are those in which the number of poor persons have been increasing regularly since 2001.

In the CEMAC Region, Cameroon is usually reffered to as the most diversified economy.

However, according to the IMF, "economic" growth is regressing, mainly because of the drop in petroleum production. For 2016, growth slightly dropped, from 4.7% to 4.5%". According to the 2016 report on the Human Development Index (HDI) published last March 21 by the United Nations Development Programme (UNDP), Cameroon finds itself in the category of countries with a poor human development level in the world. Indeed, the country occupies the 153rd position in the world, out of 188 countries studied, and is the 23rd country in Africa. Furthermore, Cameroon is 153rd out of 180 countries on the 2017 Corruption Perception Index established by Transparency International, and 166th out 190 economies in the last 2017 Doing Business Report on business regulation.

**Figure 2 :** Evolution of the GDP from 2014-2017 and the contribution of the activities of different sectors on the growth rate




Source : NIS, National Accounts 2017

# CHAP. 1 HEALTH STATUS INDICATORS

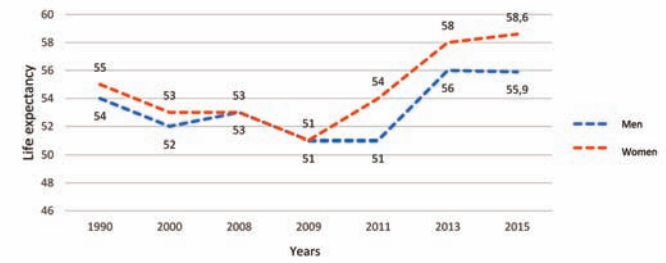
## A- MORTALITY BY AGE AND SEX

### 1- Life expectancy at birth (in years)

Life expectancy at birth expresses the number of years that a newborn could expect to live given the mortality rate by sex and age at the moment of his birth.

Estimated at 44.4 years in 1976, it grew to 54.8 years in 2005 and 57.3 in 2015. However, since 2011, a 2 to 3 year gap has been noticed in favor of women (Figure 3) (WHO, World Health Statistics 2016).

**Figure 3 :** Life expectancy at birth per sex in Cameroon from 1990 to 2015



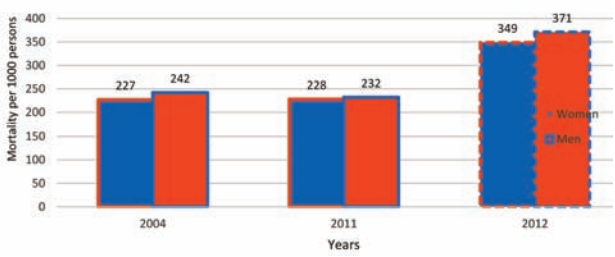

Source: WHO, World Health Statistics 2016

### 2- Adult mortality rate between 15 and 60 years of age

It is the probability for a person aged 15 to die before their 60th birthday.

This indicator is presently not monitored. WHO estimates stood at by the country. However, data from surveys on adult mortality for men and women between 15 and 50 years reveal a drop in mortality, which nevertheless remains higher for men than for women. The same difference between men and women was observed in the 2012 WHO estimates (Figure 4). Also, the mortality rate of the population (15-60 years) went up from 321/1000 in 1990 to 403/1000 in 2008 (World Bank, 2012 Report on Health and the Health System).

**Figure 4 :** Evolution of adult mortality rate between 15 and 60 years from 2004 to 2012



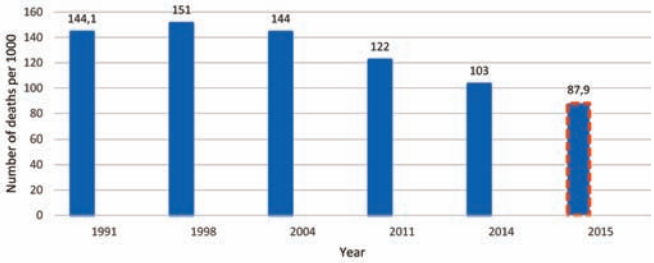

Source: NIS, DHS2004, DHS-MICS 2011 / WHO, World Health Statistics 2014

### 3- Under five mortality rate (per 1000 live births)

It is the probability for a child born in a specific place and a given year to die before reaching the age of five years.

The under-five mortality rate has dropped over the past decade, going from 144.1 to 103 deaths per 1000 live births between 2004 and 2014. In 2015, WHO estimates stood at 87.9 deaths per 1000 live births. Notwithstanding, Cameroon has not yet hit the target of 76 deaths per 1000 live births that is recommended by WHO.

**Figure 5 :** : Under-five mortality rate (per 1000 live births) from 1991 to 2015



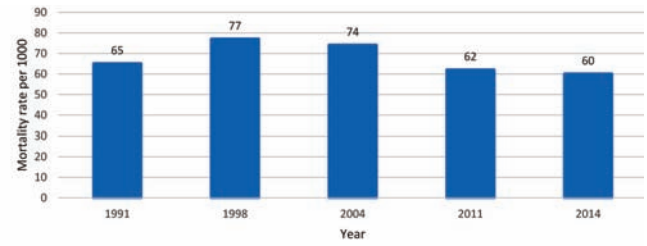

Source: NIS, DHS 1991 – 1998 - 2004, DHS-MICS 2011, MICS 2014 / WHO, World Health Statistics 2017

## 4- Infant mortality rate (per 1000 live births)

It is the probability for a child born in a specific place and in a given year to die before the age of one year.

A drop of 4 points was noticed in infant mortality between 1991 and 2014, with a peak of 77 deaths per 1000 live births in 1998 (Figure 6).

**Figure 6 :** Evolution of infant mortality (per 1000 live births) rate in Cameroon from 1991 to 2014



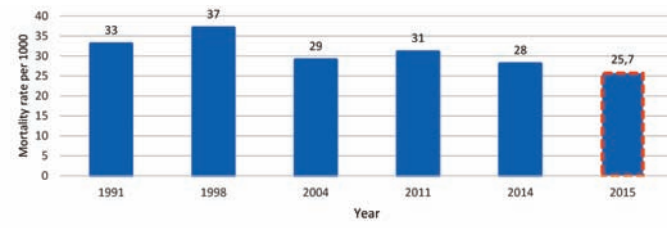

Sources : NIS, DHS 1991 -1998 – 2004, DHS-MICS 2011, MICS 2014

## 5- Neonatal mortality rate (per 1000 live births)

It is the probability for a child born in a specific place and in a given period or year to die within the first 28 days of life.

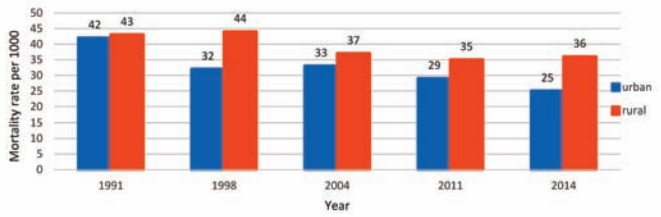
Neonatal mortality rate per 1000 in 1991 to 28 per 1000 in 2014. In 2015, it was estimated by WHO at 25.7 deaths per 1000 live births, against 28 in the African region (Figure 7). It was higher in rural areas than in urban areas during the same period (Figure 8).

**Figure 7 :** Evolution neonatal mortality rate (per 1000) from 1991 to 2015




Source: NIS, DHS 1991 – 1998 – 2004, DHS-MICS 2011, MICS 2014 / WHO, World statistics report 2017

**Figure 8 :** Evolution of neonatal mortality rate per place of living from 1991 to 2014




Source: NIS, DHS 1991 – 1998 – 2004, DHS-MICS 2011, MICS5, 2014

## 6-Stillbirth rate (per 1000 total births)

It is the number of stillbirths per 1000 births (live and stillborn babies).

In 2009, the rate of stillbirths was estimated at 26 per 1000 total births. (WHO, World Health Statistics 2011).

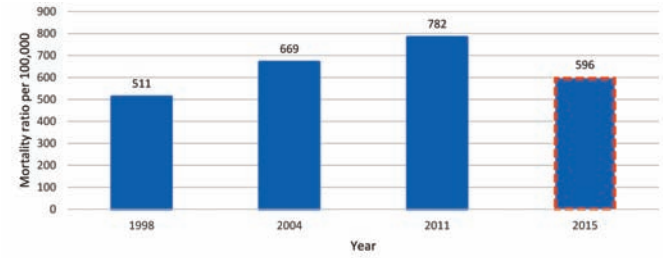
# B- MORTALITY BY CAUSE

## 7- Maternal mortality ratio (per 100,000 live births)

It is the number of women who die due to causes related to pregnancy or aggravated by pregnancy and provision of care of (excluding accidental or unforeseen causes), such deaths occuring during pregnancy or delivery or within 42 days after the end of the pregnancy, whatever the duration or type of pregnancy, expressed per 100,000 live births for a given period.

In Cameroon, the number of maternal deaths per 100,000 live births increased from 511 to 782 over the period 2004-2011. In 2005, it was estimated by WHO at 596 and 542 deaths per 100,000 live births living in Cameroon and Africa, respectively.

**Figure 9 :** Evolution of maternal mortality ratio in 1998, 2004 and 2011



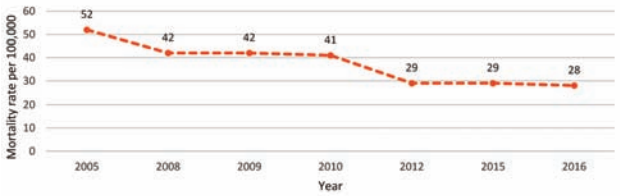

Source: NIS, DHS 1998 – 2004, DHS-MICS 2011 / WHO, World Statistics report 2017

## 8- Tuberculosis (TB) mortality rate (per 100,000 inhabitants)

It is the estimated number of deaths due to tuberculosis in a given year, expressed in rate per 100,000 inhabitants.

It is estimated that the tuberculosis mortality rate decreased from 52 per 100,000 in 2005 to 28 per 100,000 in 2016 (Figure 10).

**Figure 10 :** Evolution of the tuberculosis mortality rate from 2005 to 2016



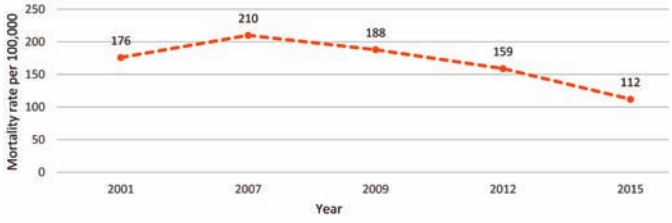

Source: WHO, Global Tuberculosis Report 2017.

## 9- HIV/AIDS-related mortality rate (per 100,000 inhabitants)

It is the estimated number of deaths of adults and children due to causes related to AIDS for a given year, expressed in rate per 100,000 inhabitants.

This indicator is presently not monitored by the country. However, according to WHO figures, a reduction of the AIDS-related mortality rate has been observed over the past years, moving from 210 per 100,000 inhabitants in 2007 to 112 per 100,000 inhabitants in 2015.

**Figure 11 :** Evolution of AIDS-related mortality rate (per 100,000 inhabitants) from 2001 to 2015



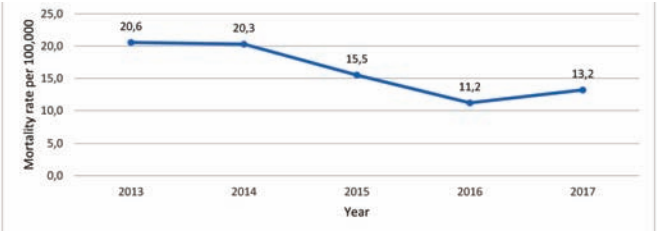

Source: WHO, World Health Statistics 2016

## 10- Malaria mortality rate (per 100,000 inhabitants)

It is the number of deaths of adults and children due to malaria for a given year, expressed in rate per 100,000 inhabitants.

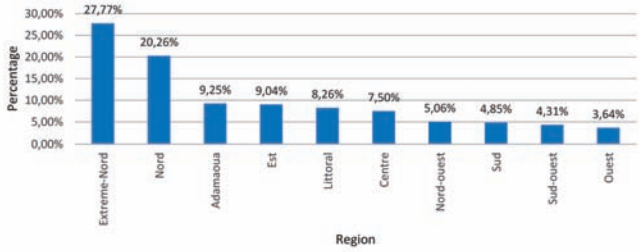
A relevant drop in the malaria mortality rate was noticed between 2014 and 2016. It went from 20.3 to 11.2 deaths per 100,000 inhabitants. Nevertheless, in 2017, a growth was noticed compared to 2016. This situation might have been related to the generalised shortage of antimalarial inputs in the second half of 2017 (Figure 12). It is worth noting that there was a great regional discrepancy in the percentage of malaria-related deaths (Figure 13).

**Figure 12 :** Malaria mortality rate (per 100,000) between 2013and 2017




Source : MINSANTE, Annual ReportNMCP 2013 – 2017

**Figure 13 :** Percentage of institutional malaria-related deaths per region in 2017



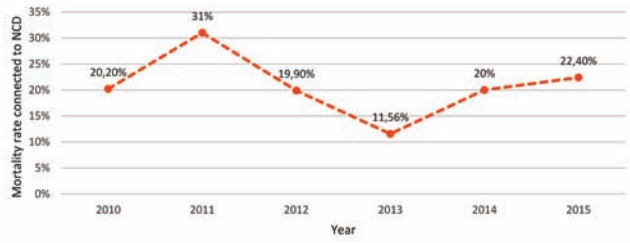

Source : MINSANTE, Annual Report NMCP 2017.

## 11- Mortality between 30 and 70 years of age from cardiovascular diseases, cancer, diseases or chronic respiratory diseases

It is the unconditional probability of dying between the ages of 30 and 70 of a cardiovascular disease, a cancer, diabetes or a chronical respiratory disease.

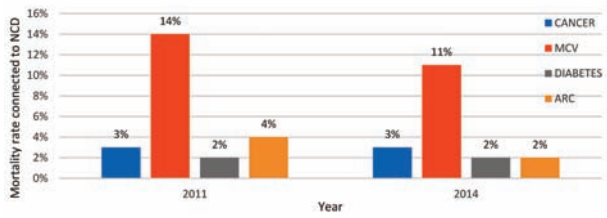
Since 2013, the mortality rate has been increasing. It went from 11.56% in 2013 to 22.4% in 2015 (Figure 14). According to 2011 and 2014 statistics, heart diseases outnumber cancers, diabetes and chronical respiratory diseases (Figure 15).

**Figure 14 :** Mortality between 30 and 70 years from non-communicable diseases (NCD) from 2011 to 2015




Source : WHO, Country profile for NCD 2016

**Figure 15 :** Mortality between 30 and 70 years from non-communicable diseases, per disease in 2011 and 2014




Source : WHO, Country profile for NCD 2016

## 12- Suicide rate (per 100,000 inhabitants)

It is the number of suicides reported for a population of 100,000 inhabitants over a given period (standardized per age).

This indicator is presently not monitored by the country. However, in 2015, it was estimated at 11.9 per 100,000 inhabitants (WHO, World Health Statistics 2017).

## 13- Mortality rate from road traffic injuries (per 100,000 inhabitants)

It is the number of deaths caused by deadly road traffic injuries per 100,000 inhabitants (standardized per age).

This indicator is presently not monitored by the country. Nevertheless, according to WHO, the mortality rate from road traffic accidents in Cameroon stood at 27.6 per 100,000 inhabitants in 2013 (WHO, World Health Statistics 2017).

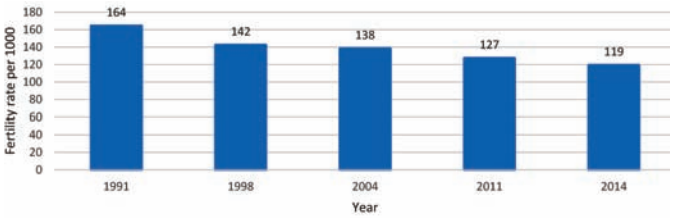
# C- FERTILITY

## 14 – Adolescent fertility rate (per 1000 girls aged 15 to 19 years)

It is the annual number of newborns whose mother is aged 15 to 19, per 100,000 women in this age bracket.

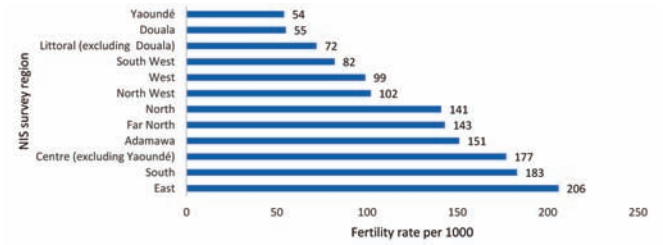
The fertility rate of adolescents has witnessed a drop over the past years. Indeed, it went from 164 per 1000 in 1991 to 119 per 1000 in 2014 (Figure 16). However, there are regional discrepancies: in 2014, the adolescent fertility rate was at 206 and 183 per 1000 in the East and the South, respectively, against 55 and 54 per 1000 in Douala and Yaoundé, respectively (Figure 17).

**Figure 16 :** Adolescent fertility rate (per 1000 girls) in Cameroon between 1991 and 2014




Source: NIS, DHS 1991-1998-2004, DHS-MICS 2011, MICS 2014.

**Figure 17 :** Adolescent fertility rate (per 1000 girls), per NIS survey region in 2014



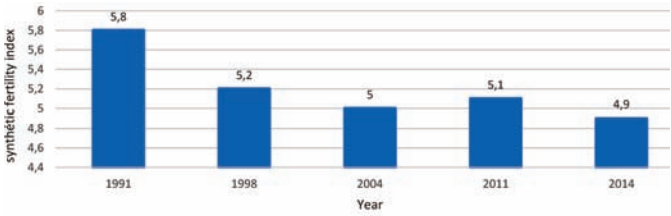

Source : NIS, MICS 2014.

## 15- Total fertility rate

It is the average number of children that a hypothetical cohort of women would deliver during their life if they were to live till the end of their reproductive period and if during that period they had a fertility rate in conformity with the fertility rate per age of that period.

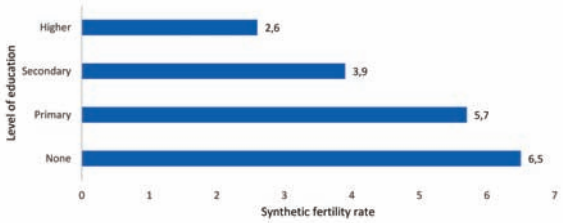
The total fertility spacing from 5.8 in 1991 to 4.9 in 2014 (Figure 18). However, this index was more important for rural women than for urban women and stood at 6.4 and 4, respectively, in 2011. Furthermore, this indicator varies considerably per level of education; it stands at 6.5 for women with no formal education against 2.6 for those having gone to university (Figure 19).

**Figure 18 :** Evolution of total fertility rate from 1991 to 2014




Sources : NIS, DHS 1991-1998-2004, DHS-MICS 2011, MICS 2014.

**Figure 19 :** Total fertility rate per level of education in 2014




Source: NIS, MICS 2014.

# D- MORBIDITY

## 16 - New cases of vaccine-preventable diseases

It is the number of confirmed new cases of vaccine-preventable diseases (VPD) included in the norms for the monitoring of some VPD recommended by WHO for surveillance reasons, and the number of VPD noted on the WHO-UNICEF form over a given period.

Data from the WHO / UNICEF Joint report Form 2014 to 2017 shows a decline in confirmed cases of vaccine-preventable diseases. However, efforts must be maintained to confirm this trend and move towards the eradication of the said diseases.

**Table 1:** Number of confirmed cases of vaccine preventable diseases from 2014 to 2017

| Disease | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|
| Diphteria | ND | ND | ND | ND |
| Measles | 831 | 1809 | 338 | 180 |
| Neonatal tetanus | 33 | 26 | 58 | 55 |
| Total Tetanus (neonatal and others) | 110 | 120 | 58 | 55 |
| Whooping cough | ND | ND | ND | ND |
| Yellow fever | 3 | 2 | 61 | 4 |
| Japanese encephalitis | ND | ND | ND | ND |
| Mumps | ND | ND | ND | ND |
| Rubella | 147 | 277 | 13 | 13 |
| Congenital rubella syndrom | ND | ND | ND | ND |

## 17- New cases of IHR and other notifiable diseases

It is the number of confirmed new cases of notifiable illnesses per year in the framework of IHR (immediate obligatory notification) and the number of new confirmed cases of other notifiable diseases (diseases that are likely to have an important impact on public health and can rapidly disseminate at international level) per year.

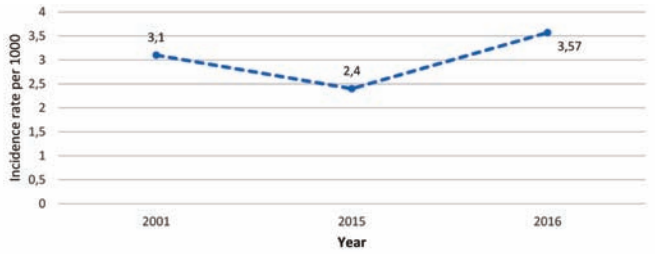
According to the data provided by the National IHR Focal Point, cases of monkey pox have been reported in 2016, as well as cases of meningitis in 2017. A centralized database is being developed for better results.

## 18 - HIV incidence rate (per 1000 inhabitants)

It is the number of new cases of HIV infection per 1000 uninfected inhabitants.

This indicator is presently not available in national data. However, according to WHO estimates, the HIV incidence rate which stood at 3.1 per 1000 in 2001, dropped to 2.4 per 1000 in 2015 and increased in 2016 to reach 3.57 per 1000 (Figure 19). In 2015, it was estimated in Africa at 2.72 per 1000 (WHO, World Health Statistics 2017).

**Figure 20 :** HIV incidence rate from 2001 to 2016



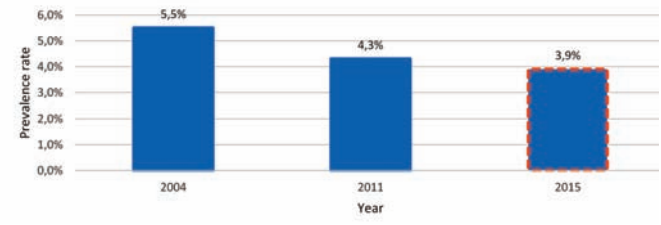

Source : WHO, World Health Statistics 2017.

## 19- HIV prevalence rate

It is the percentage of people living with HIV. Prevalence measures the frequency of an illness that exists within a well-defined population at a given moment.

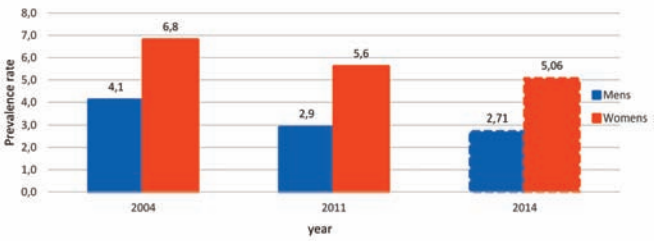
Over the past decade, the HIV prevalence rate has dropped, going from 5.5% in 2004 to 4.3% in 2011 (Figure 21). It was estimated at 3.9% in 2015 (NCAP, Spectrum 2015). Between 2004 and 2015, the HIV prevalence rate of women was always higher than that of men (Figure 22)

**Figure 21 :** HIV prevalence rate from 2004 to 2015



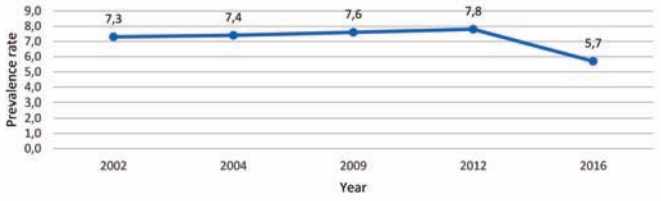

Sources : NIS, DHS 2004, DHS-MICS 2011 / CNLS, Spectrum 2015.

**Figure 22 :** HIV prevalence rate per sex in Cameroon in 2004, 2011 and 2014




Sources : NIS, DHS 2004, DHS-MICS 2011 / NCAP, Spectrum 2015

**Figure 23 :** HIV prevalence rate of pregnant women from 2002 to 2016




Sources : NIS, DHS 2004 / MINSANTE, HIV sentinel survey on pregnant women 2002-2016.

## 20- Hepatitis B surface antigen

It is the prevalence of hepatitis B virus surface antigen (Ag HBs), adjusted following the sampling plan.

The prevalence of hepatitis B was at 11.9% in Cameroon (Centre Pasteur du Cameroon, Preliminary report on the epidemiologic study of viral hepatitis B, C and Delta in Cameroon. Analysis of DHS IV samples, 2015).

## 21- Sexually transmitted infections (STIs) Incidence rate

It is the number of new cases of STIs declared (syndrome or etiology) over a given period (years).

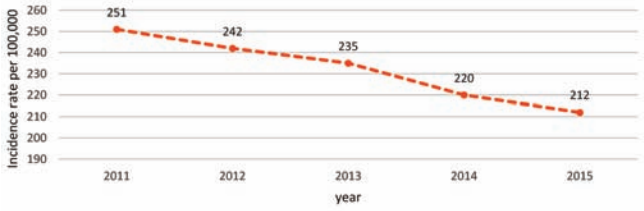
This indicator is presently not monitored by the country. Notwithstanding, according to DHS-MICS 4, the prevalence of STIs stood at 15.5 for women and 8.5 for men in 2011.

## 22- TB incidence rate (per 100,000 inhabitants)

It is the estimated number of new or relapse cases of tuberculosis (all possible forms, including in people infected with HIV) during a given year, expressed in rate per 100,000 inhabitants.

It is noticed that the tuberculosis incidence rate is dropping progressively from one year to the next. It dropped from 251 cases per 100,000 inhabitants in 2011 to 212 cases per 100,000 inhabitants in 2015.

**Figure 24 :** Evolution of the tuberculosis incidence rate from 2011 to 2015




Source : WHO, World Health statistics 2017

## 23- TB notification rate (per 100,000 inhabitants)

It is the number of notified new and relapse cases of tuberculosis in a given year per 100,000 inhabitants.

It is noticed that the tuberculosis notification rate is dropping progressively from one year to another and as it dropped from 126 cases per 100,000 inhabitants in 2011 to 117 cases per 100,000 inhabitants in 2016.

**Figure 25 :** Evolution of the tuberculosis notification rate (per 100,000) from 2011 to 2016

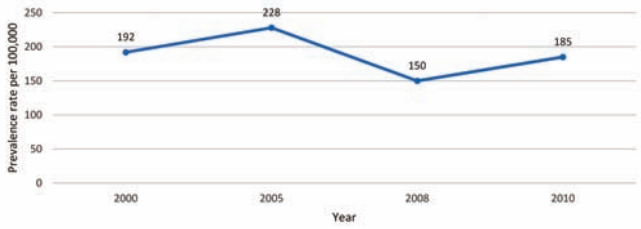

Source : MINSANTE, Report on the Activities of the NCFT 2016

## 24- TB prevalence rate (per 100,000 inhabitants)

It is the number of tuberculosis cases (all possible forms) in a population at a given moment (middle of the calendar year), expressed in rate per 100,000 inhabitants.

The prevalence of tuberculosis has undergone enormous fluctuations since the 2000s. It stood at 192 in 2000, then culminated at 228 in 2005, decreased to 150 in 2008 and rose to 185 in 2010.

**Figure 26 :** Evolution of the tuberculosis prevalence rate (per 100,000) in 2005, 2008 and 2010




Source : World Bank, RHHSC 2012.

## 25- Malaria parasite prevalence among children from 6 to 59 months

It is the percentage of children from 6 to 59 months who have been diagnosed with a malaria infection.

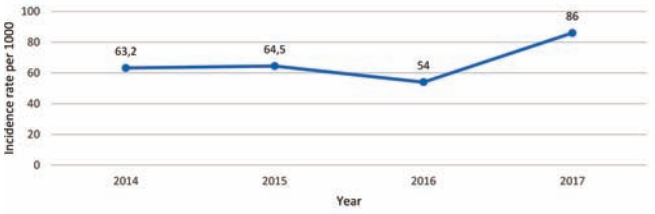
The malaria parasite prevalence in children from 6 to 59 months in Cameroon was at 30% in 2011 (NIS, DHS-MICS 2011).

## 26- Malaria incidence rate (per 1000 inhabitants)

It is the number of notified confirmed cases of malaria per 1000 people per year.

After rising from 63.2 to 64.5 per 1000 inhabitants between 2014 and 2015, the malaria incidence rate dropped to 54 per 1000 inhabitants in 2016, then went up in 2017 to 86 cases (Figure 27).

**Figure 27 :** Evolution of the malaria incidence rate (per 1000 inhabitants) between 2014 and 2017



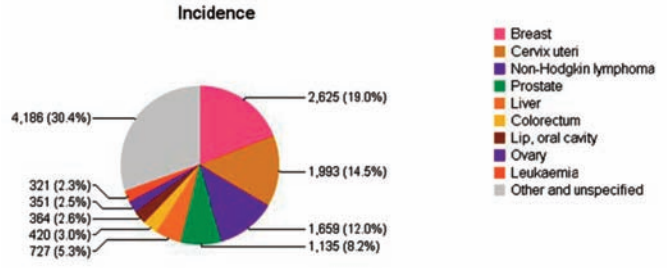

Source : MINSANTE, Annual Report NMCP 2014 -2017.

## 27- Cancer incidence by type of cancer (per 100,000 inhabitants)

It is the number of new cancer cases per localization/ specific type in the population per 100,000 inhabitants.

This indicator is presently not monitored by the country. However, according to the GLOBOCAN 2012 study (Estimated Cancer Incidence, Mortality and Prevalence Worldwide in 2012), the number of new Cancer cases increased between 2010 and 2012, moving from 12,000 to 14,000 cases. The incidence of the most frequent types of cancer in the population per 100,000 inhabitants is as follows: breast cancer (35.3), cervical cancer (30.0), lymphoma cancer (8.1), cancer of the prostate (23.0), and liver cancer (4.8). At the same time, it was observed in 2012 that the cancer of the breast was the most frequent in our context (19%), followed by the cervical cancer (14.5%), lymphomas (12%), the cancer of the prostrate (8.2%) and the liver cancer (5.3%).

**Figure 28 :** Cancer incidence in Cameroon in 2012




Source : WHO, GLOBOCAN 2012

# CHAP. 2 RISK FACTORS INDICATORS

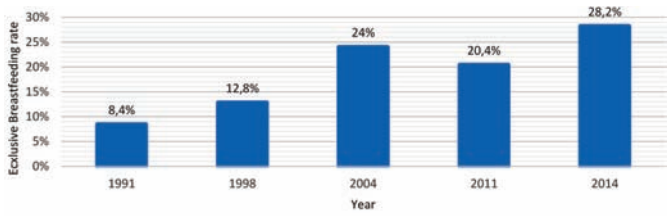
## E- NUTRITION

### 28- Exclusive breastfeeding rate from 0 to 5 months of age

It is the proportion of infants from 0 to 5 months (<6 months) who are fed exclusively with breast milk.

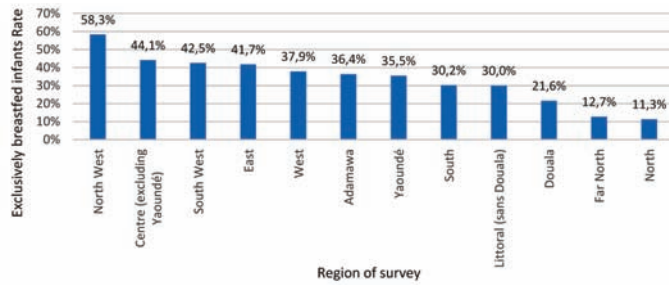
The exclusive breastfeeding of infants from 0 to 5 months witnessed an increase, moving from 8.4% to 24% from 1991 to 2004. After that, it declined to 20.4% in 2011 and increased again to 28.2% in 2014 (Figure 29). However, regional discrepancies exist. In 2014, a rate of 58.3% was recorded in the Northwest and 12.7% and 11.3% in the Far North and North, respectively (Figure 30).

**Figure 29 :** Evolution of the exclusive breastfeeding of infants from 1991 to 2014




Source: NIS, DHS 1991-1998-2004, DHS-MICS 2011,

**Figure 30 :** Regional distribution of the rate of infants below 5 months who were exclusively breastfed in 2014



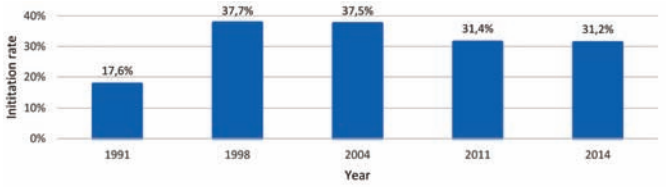

Source : NIS, MICS 2014

### 29- Early initiation of breastfeeding

It is the proportion of infants who were breastfed within the first hour after their birth for a given period.

Early breastfeeding went from 17.6% in 1991 to 31.2% in 2014. It levelled around 37% between 1998 and 2004. Nevertheless, in 2014, a rate of 33.4% and 29.7% were respectively noted for urban and rural areas.

**Figure 31 :** Evolution of precocious breastfeeding from 1991 to 2014



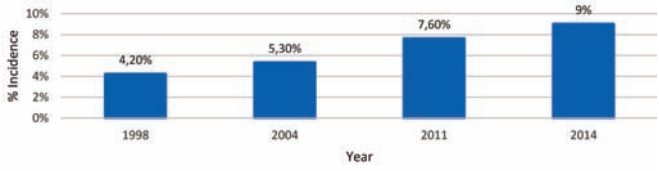

Source: NIS, DHS 1991 – 1998 – 2004, DHS-MICS 2011, MICS 2014

### 30- Incidence of low birth weight among new born

It is the percentage of live births for which the newborn weighs less than 2500 g.

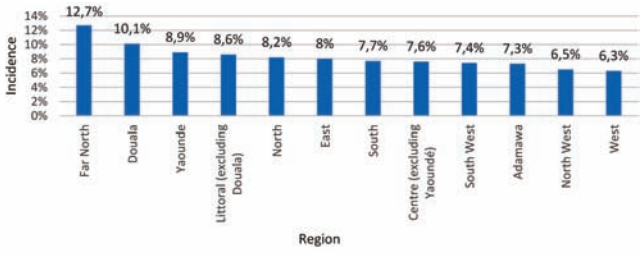
There was an increase in the incidence of low weight at birth for newly born babies, which went from 4.2% in 1998 to 9% in 2014 (Figure 32). However, regional discrepancies existed. In 2014, rates of 12.7 and 6.3 were recorded in the Far North and the West, respectively (Figure 33).

**Figure 32 :** Incidence of low birth weight among newborns (%) from 1998 to 2014




Source: NIS, DHS 1991 – 2004, DHS-MICS 2011, MICS 2014

**Figure 33 :** Incidence of low birth weight among newborns (5 %) per region in 2014



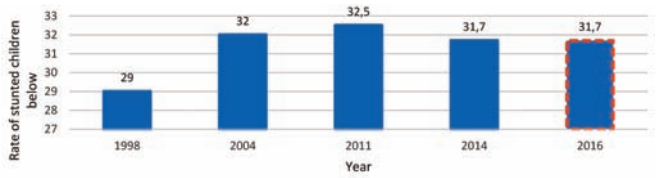

Source : NIS, MICS 2014.

## 31- Children under five years who are stunted (moderate or acute)

It is the percentage of children from 0 to 59 months who are stunted (moderate or severe)[1].

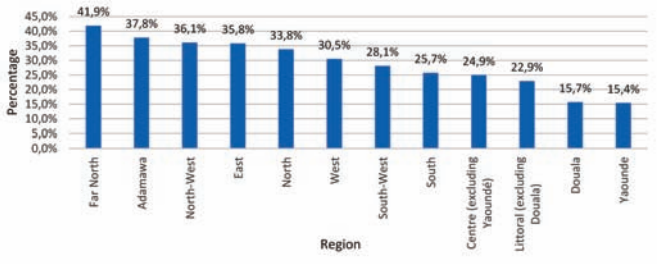
A growth in the percentage of stunted children below 5 years is observed. It went from 29% in 1998 to 31.7% in 2014, with a peak at 32.5% in 2011, according to national surveys (Figure 34). In 2016, WHO estimated this percentage at 31.7% in Cameroon against 33.5% in Africa (WHO, World Health Statistics 2017). However, regional discrepancies exist. In 2014, proportions of 41.9% in the Far North and 37.8% in the Adamawa, against 15.7% and 15.4%, respectively, in Douala and Yaoundé, were recorded (Figure 35).

**Figure 34 :** Evolution of the rate of stunted children below five years from 1998 to 2016




Source : NIS, DHS 1998 – 2004, DHS-MICS 2011, MICS 2014 / WHO, World Health Statistics 2017.

**Figure 35 :** Evolution of the rate of stunted children below 5 years per region in 2014



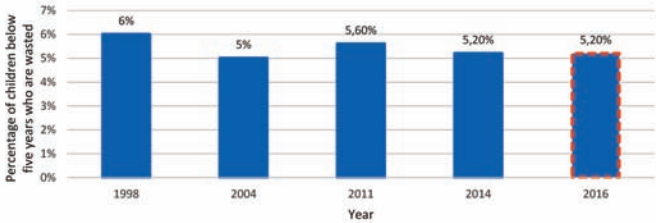

Source : NIS, MICS 2014.

## 32- Children under five years who are wasted (moderate or severe)

It is the percentage of children from 0 to 59 months who are wasted (moderate or severe)[2].

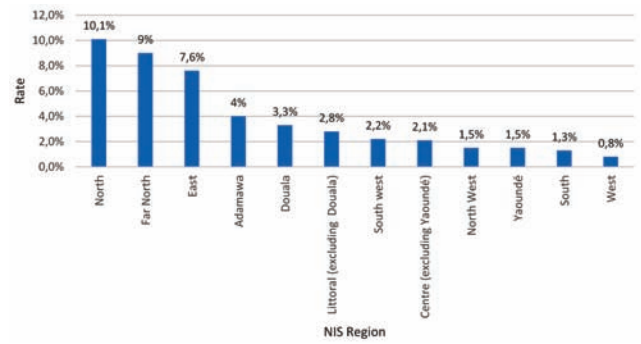
The nutritional state of children has improved lightly in Cameroon. Indeed, between 1998 and 2004, a drop in the proportion of cases of wasted children from 6% to 5% was recorded. However, this rate went up again from 2011, and stood at 5.6%, then 5.2% in 2014 (Figure 34). In 2016, WHO estimated this percentage at 5.2% in Cameroon against 7.4% in Africa (WHO, World Health Statistics 2017). Nevertheless, regional discrepancies exist. In 2004, proportions of 10.1% in the North and 9% in the Far North were recorded, against 1.5% in Yaoundé and the Northwest and 1.3% in the south.

**Figure 36 :** Evolution of the percentage of children under five years who are wasted between 1998 and 2016




Sources : NIS, DHS 1998 – 2004, DHS-MICS 2011, MICS 2014 / WHO, World Health Statistics 2017

**Figure 37 :** Evolution of the percentage of children below five years who are wasted per region in 2014




Source : NIS, MICS 2014.

[1]moderate: children whose height is inferior to the mean of WHO norms for the child's growth – 2 sample standard deviations; severe: children whose height for age is inferior to the mean of WHO norms for the child's growth – 3 sample standard deviations

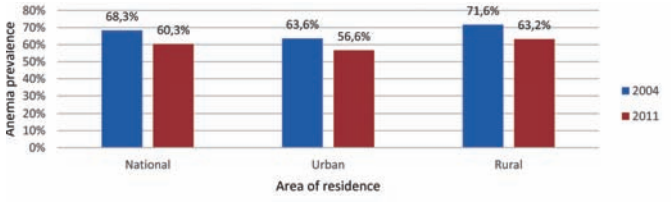
[2] moderate: children whose weight is inferior to the average of WHO child growth norms - 2 sample standard deviations; a: children whose height for height is inferior to the mean of WHO norms for the child's growth – 3 sample standard deviations

## 33- Anemia prevalence in children from 6 to 59 months

It is the percentage of children from 6 to 59 months with an hemoglobin level below 110g/l, adjusted by altitude.

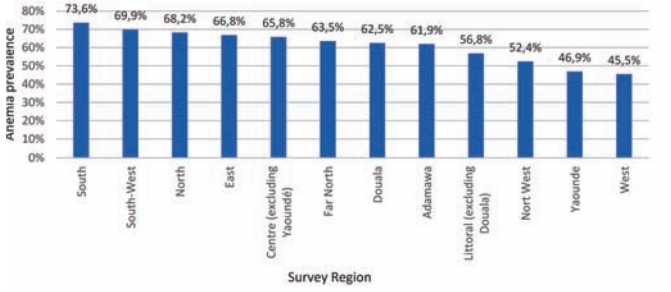
Anemia prevalence in children from 6 to 59 months went from 68.3% in 2004 to 60.3% in 2011. It is worth noting that it was still high in rural areas than in urban areas with 63.2% and 56.6%, respectively, in 2011 (Figure 38). However, regional discrepancies exist. In 2011, proportions of 73.6% in the South and 69.9% in the Southwest against 46.9% in Yaoundé and 45.5% in the West were recorded (Figure 39).

**Figure 38 :** Evolution of anemia prevalence (in %) among children from 6 to 59 months in 2004 and 2011




Source: INIS, EDS 2004, EDS-MICS 2011.

**Figure 39 :** Evolution of anemia prevalence (in %) among children from 6 to 59 months per region in 2011



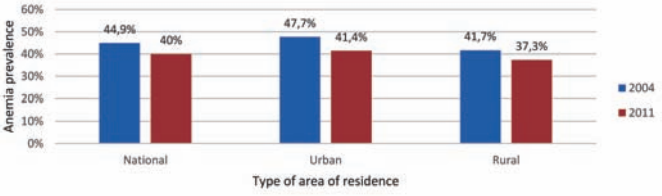

Source : NIS, EDS-MICS 2011.

## 34- Anemia prevalence in women of reproductive age

It is the percentage of women aged 15 to 49 years having an hemoglobin level lower than 120 g/l for non-pregnant or breastfeeding women, and 100 g/l for pregnant women, adjusted by altitude and tobacco consumption.

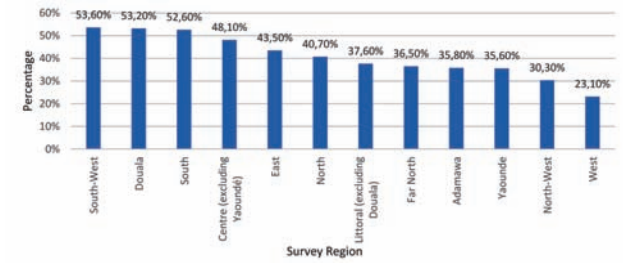
Anemia prevalence among women of reproductive age has dropped, from 68.3% in 2004 to 60.3% in 2011. It is worth noting that it is always higher in urban than in rural areas, with 41.4% and 37.3%, respectively, in 2011 (Figure 40). However, regional discrepancies exist. In 2011, proportions of 53.6% in the Southwest and 53.2% in Douala were recorded, against 23.1% in the West and 30.3% in the Northwest (Figure 41).

**Figure 40 :** Evolution of anemia prevalence among women of reproductive age in 2004 and 2011




Source: NIS, DHS 2004, DHS-MICS 2011.

**Figure 41 :** Evolution of anemia prevalence among women of reproductive age per region in 2011




Source: NIS, EDS 2004, EDS-MICS 2011.

# F- INFECTIONS

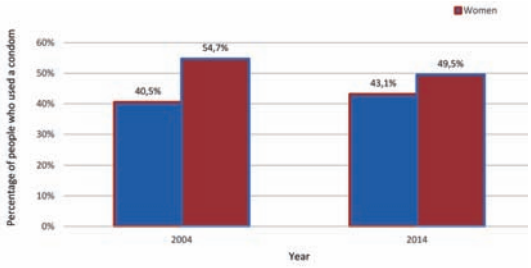
## 35- Condom use at last sex with high risk partner

It is the percentage of people having declared that they used a condom at the last sex with a high-risk partner[3]. For injection drug users, the number of needles used per user and per year is also measured.

In 2004, 54.7% of men and 40.5% of women used a condom at their last sex with a high risk partner. In 2014, this rate dropped for men and stood at 49.5%,but increased for women to 43.1% (Figure 42).

[3]women and men who had sex with more than one partner during the last 12 months; sex workers with the most recent client; men having anal sex with other men; injection drug users who declare that they used a condom at their last sex

**Figure 42 :** Evolution of people having used a condom at their last sex with a high-risk partner per sex between 2004 and 2014




Source : NIS, MICS 2014.

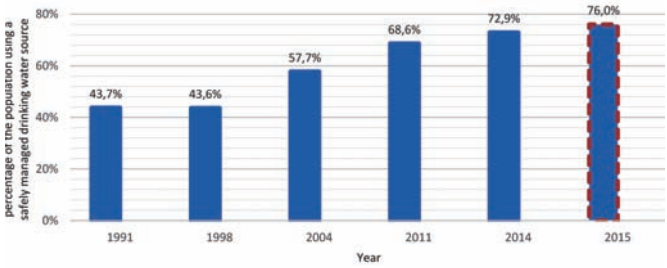
## G- ENVIRONMENTAL RISK FACTORS

### 36- Population using safely managed drinking water services

Population using a basic drinking water supply source (pipe -water reaching the house, the yard or the plot; protected sources, rain water that is collected in containers) which is situated in a reachable place whenever needed; free from fecal contamination (and from contamination with priority chemicals) and/or regulated by a competent authority.

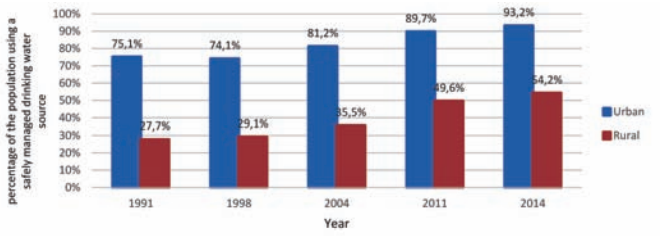
Between 1991 and 2014, a net improvement of the percentage of the population using safely managed drinking water services was noticed, as it went from 43.7% to 72.9%. Estimated at 76% in 2015 by WHO, this proportion was above the average proportion in Africa, which was rated at 68% in 2015 (WHO, World Health Statistics 2017). However, there was a great difference depending on the place of residence. Indeed, in urban areas, this proportion stood at 93.2% while it was at 54.2% in rural areas (Figure 44).

**Figure 43 :** Evolution of the percentage of the population using a safely managed drinking water source between 1991 and 2015




Sources : NIS, DHS 1991 – 1998 – 2004, DHS-MICS 2011, MICS 2014 / WHO, World Health Statistics 2017.

**Figure 44 :** Evolution per type of residence of the percentage of the population using a safely managed drinking water source that is managed in a safe manner between 1991 and 2014




Source: NIS, DHS 1991-1998-2004, DHS-MICS 2011, MICS 2014.

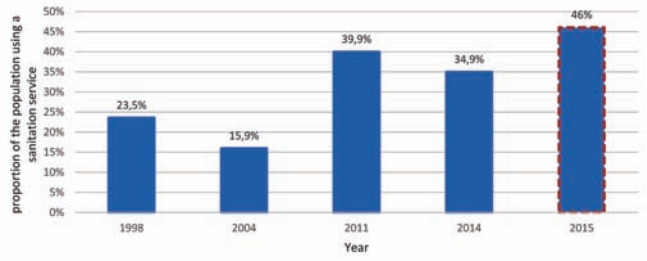
### 37- Population using a safely managed sanitation services

It is the population using a basic sanitation system that is not shared with other households, and whose excreta are stored in a safe manner on the spot or safely channeled to a determined safe disposal or treatment site, or are collected in a hygienic manner in sceptic tanks or latrines using a vacuum truck or similar equipment limiting human contact, then transported to a determined site.

The proportion of populations using a safely managed sanitation service has been fluctuating since 1998. There was a drop between 1998 (23.5%) and 2004 (15.9%), then an increase in 2011 (39.9%) followed by another drop in 2014 (34.9%). WHO estimated the figure at 46% in 2015 (Figure 44) against 32% in Africa.

However, regional discrepancies exist. In 2014, proportions of 57.9% in Douala and 57.2% in Yaoundé, against 25% in the South and 12.2% in the Far North, were recorded. Similarly, in rural areas, this proportion has always been below half of that of urban areas (Figure 46).

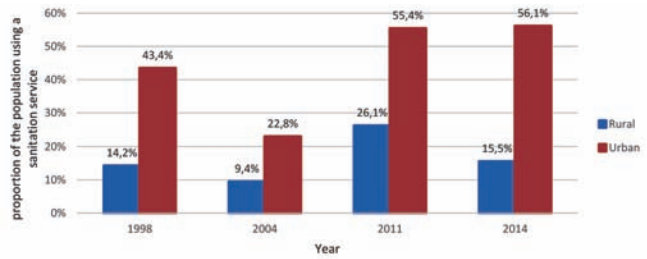
**Figure 45 :** Evolution of the proportion of the population using a safely managed sanitation service between 1991 and 2015




Source : NIS, DHS 1998 – 2004, DHS-MICS 2011, MICS 2014 / WHO, World Health Statistics 2017

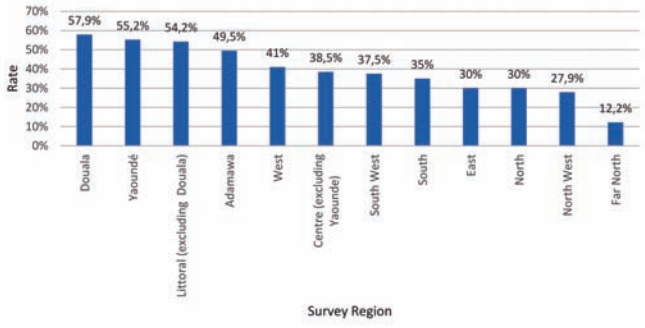
The place of residence seems to play an important role. It is now obvious that it has never gone beyond 35% in rural areas. Though it started dropping sharply in 1990 (65% in 1990 against 57.6% in 2014), the proportion of the population living in urban areas and having access to a safely managed sanitation service is still above 50%.

**Figure 46 :** Evolution of the proportion of the population using a safely managed sanitation service between 1991 and 2014 per place of residence




Source : INIS, DHS 1991 – 2011, MICS 2014.

**Figure 47 :** Evolution of the proportion of the population using a safely managed sanitation service per region in 2014



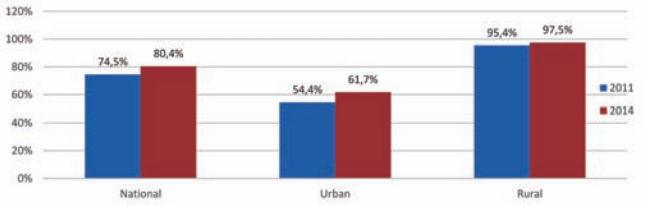

Source : MICS 2014.

## 38- Population using modern fuels for cooking / heating / lighting (within homes)

It is the percentage of households/ people using modern fuels and technologies for cooking / heating / lighting, according to recommendations presented in the WHO guidelines for indoor air quality and household fuel combustion.

The proportion of populations using modern fuels for cooking / heating / lighting within houses evolved between 2011 and 2014, moving from 74.5% to 80.4%.

**Figure 48 :** Evolution of the population using modern fuels from 2001 to 2014




Source : DHS 2011, MICS 2014.

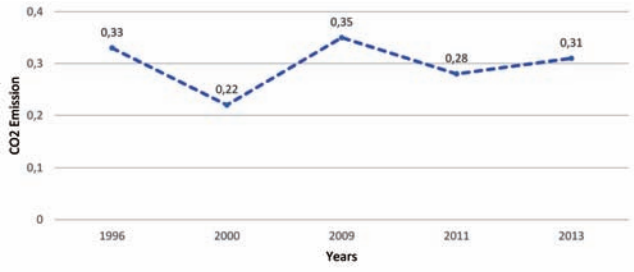
## 39- Air pollution level in cities ([µg/m³] of atmospheric particles)

It is the average annual concentration of particles whose diameter does not exceed 2.5 microns ($PM_{2.5}$) [µg/m³] (or does not exceed 10 microns [PM10] if PM2.5 is not available) in town.

This indicator is presently not available in national data. However, in 2014, the level of air pollution in cities in Cameroon was estimated by WHO at 64 µg/m³ for particles below 2.5 µm of diameter ($PM_{2.5}$) against an average of 37.4 µg/m³ in Africa (WHO, Ambiant Air Pollution: a Global Assessment of Exposure and Burden of Disease 2016).

Moreover, the level of CO2 emission per capita in town has been fluctuating since 1996. Indeed, a drop in the rate of air pollution was observed between 1996 (0.33 ([µg/m³]) and 2000 (0.22 [µg/m³]), then an increase was noticed in 2009 (0.35 [µg/m³]), followed by a new drop trend from 2011 (0.28 [µg/m³]), which reached 0.31 [µg/m³]) in 2013.

**Figure 49 :** Evolution of CO2 Emission (metric ton per capita from 1996 to 2013)




Source : World Bank, CO2 Emission per inhabitant 2016

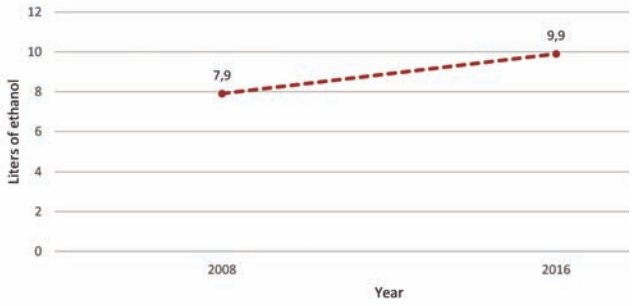
# H- NON COMMUNICABLE DISEASES

## 40 - Total alcohol per capita (age 15+ years) consumption

It is the total quantity of alcohol consumed per adult (aged 15 years and above) in a calendar year, in liters of pure alcohol (ethanol). The consumption of alcohol recorded refers to official statistics, while unrecorded consumption of alcohol refers to alcohol that is not taxed and is out of the reach of usual government control. In situations where the number of tourists per year is at least equal to that of inhabitants, consumption by tourists is also taken into account and deducted from the quantity of alcohol recorded per capita for the country.

This indicator is presently not available in national data. However, according to WHO estimates, the total consumption of alcohol per capita in Cameroon went from 7.9l to 9.9l of ethanol per capita between 2008 and 2016 (Figure 50), whereas in 2016, the average in Africa was 6l of ethanol per capita (WHO, World Statistics Report 2017).

**Figure 50 :** Evolution of the total quantity of alcohol consumed (in liters of ethanol) per capita in 2008 and 2016



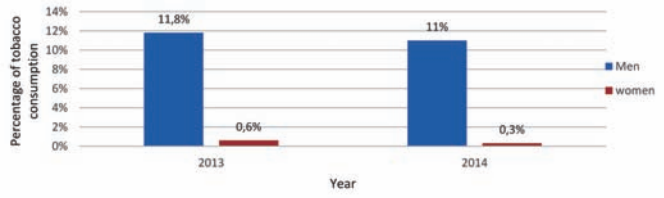

Source: OMS, World statistics report 2017

## 41- Tobacco use among persons aged 18+years

It is the prevalence of tobacco consumption by people aged 18 years and above standardized by age. "Smoking tobacco products" include the consumption of cigarette, bidis, cigars, cheroots, pipes, chichi (hookah, or water pipe), fine-cut smoking devices (rolling tobacco), krekets, and any other form of smoking tobacco.

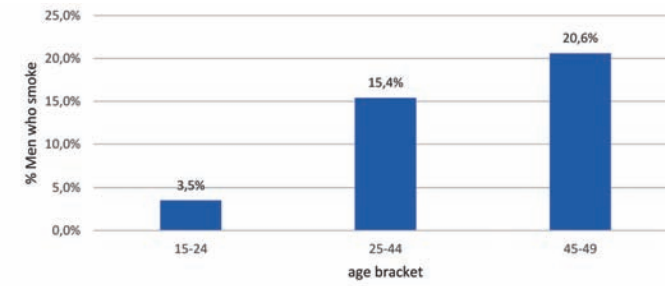
This indicator is presently not monitored by the country for the 18 years or more age bracket. However, for the 15 – 49 age bracket, the prevalence of the consumption of tobacco stood at 6% in 2013, meaning 11.8% for men and 0.6% for women (GATS Cameroon, 2013). In 2014, this prevalence witnessed a light drop both for men and for women (Figure 51).

**Figure 51 :** Evolution of the current consumption of tobacco per sex for people aged 15 to 49 years between 2013 and 2014




Source : NIS, GATS 2013, MICS 2014.

**Figure 52 :** Percentage of men who are current smokers per age bracket in 2014



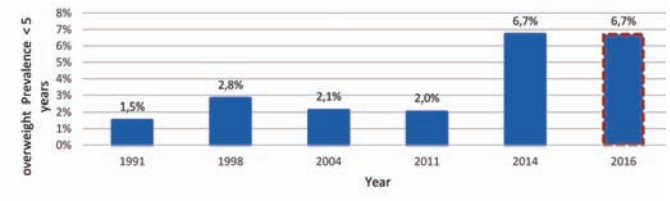

Source : NIS, MICS 2014.

## 42- Children aged under 5 years who are overweight

It is the prevalence in children from 0 to 59 months of a weight that is above the WHO average growth norms for children + 2 standard deviations.

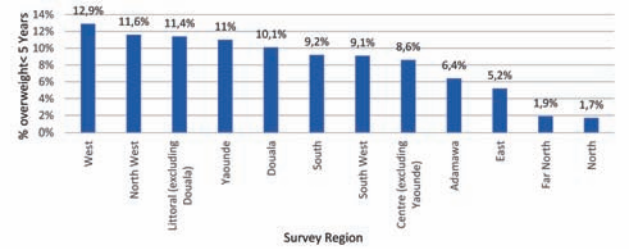
The proportion of children aged under five years who are overweight has evolved much since 1991. While between 1991 and 1998 there was an increase of that rate (1.5% to 2.8%), a drop was recorded between 1998 and 2011, moving from 2.8% to 2%, and then a considerable growth was recorded in 2014 (6.7%) (Figure 53). However, regional discrepancies existed in 2014. The West (12.9%) and the Northwest (11.6%) had the highest rates, as opposed to the Far North (1.9%) and the North (1.7%) which had the lowest rates. In 2016, the prevalence of overweight in children from 0 to 59 months was estimated at 6.7% in Cameroon against 4.1% in Africa (Figure 54).

**Figure 53 :** Evolution of the prevalence of children aged under five who are overweight from 1991 to 2016




Source: NIS, DHS 1991 – 1998 – 2004, DHS-MICS 2011, MICS 2014 / WHO, World Health Statistics 2017.

**Figure 54 :** Evolution of the prevalence of children under five who are overweight per region in 2014



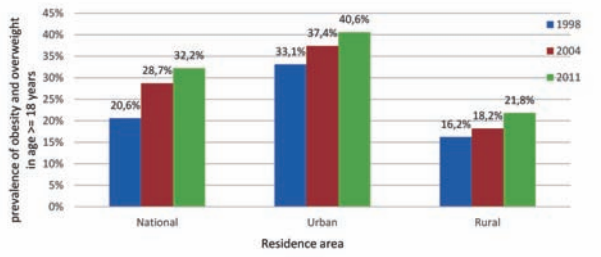

Source: NIS, MICS 2014

## 43- Overweight and obesity in adults, standardized by age

It is the percentage of adults (18 years or above) who are overweight (having by definition a BMI ≥25kg/m$^2$) or obese (having by definition a BMI ≥ 30 kg/m$^2$).

This indicator is presently not monitored by the country for the general population and is available only for women from 15 to 49 years. Indeed, according to national surveys, the prevalence of obesity and overweight in women from 15 to 49 years went from 20.6% in 1998 to 32.2% in 2011. This prevalence is almost twice as important in urban areas as in rural areas.

**Figure 55 :** Evolution of the prevalence of obesity and overweight in women from 15 to 49 years




Sources: NIS, DHS 1998-2004, DHS-MICS 2011

## 44- Raised blood pressure among adults

It is the prevalence of high blood pressure (defined as a systolic blood pressure ≥140 mmHG and/or a diastolic blood pressure ≥90mmHg in people aged 18 or more, standardized by age, and average systolic blood pressure.

This indicator is presently not monitored by the country. However, this prevalence was estimated by WHO at 22% in 2010 (WHO, Global Status Report on NCDs, 2014). It is worth noting that recent studies on a selective sample estimated that the prevalence of raised blood pressure in urban areas stood at 29.7% in 2015 (Kingue et al. 2015).The stress of the professional world and homes may be the cause of this situation. Men are more affected than women, with a rate of 39.6% against 34.2%.

## 45- Raised blood glucose / diabetes among adults

It is the prevalence of raised blood glucose level/ diabetes in people aged 18 or more or in people under treatment with hypoglycemic drugs (defined in people aged 18 or more as a value of fasting blood sugar ≥ 7.0 mmol/l (126 mg/dl) or the fact of being under treatment with hypoglycemic), standardized by age.

National data is not available for this indicator. However, this prevalence was estimated by WHO at 5.8% in 2010 (WHO, Global Status Report on NCDs, 2014). It is also worth noting that recent studies on a selective sample estimated the prevalence of diabetes in urban areas at 6.6% in 2015 (Kingue et al. 2015).

## 46- Salt intake

It is the sum of the quantity of sodium excreted in the urine sample of all respondents aged 18 years or more. The reference method used to estimate salt intake is the collection of 24-hour urine. However, other methods such as the punctual collection of urine or surveys on the frequency of consumption of food may be easier to implement at the level of the population.

The country does not have national data for this indicator. Nevertheless, according to an international study published in 2013, (Global, Regional and national Sodium Intakes in 1990 and 2010: a systematic analysis of 24 h urinary sodium excretion and dietary surveys worldwide), the quantity of salt in grams per day (g/d) for people aged 20 and more was estimated at 5.25 g/d in 1990 and at 5.30 g/d in 2010.

## 47- Insufficient physical activity among adults

It is the prevalence of lack of physical activities in people aged 18 or more, standardized by age (percentage of adults aged 18 or more who do not meet any one of the following criteria: 150 minutes of moderate physical activities every week; 75 minutes of intense physical activities per week; an equivalent combination of moderate and intense physical activities totaling at least 600 minutes of metabolic equivalent per week.

The country does not have national data for this indicator. However, this prevalence was estimated by WHO at 29.3% in 2010 (WHO, Global Status Report on NCDs, 2014)

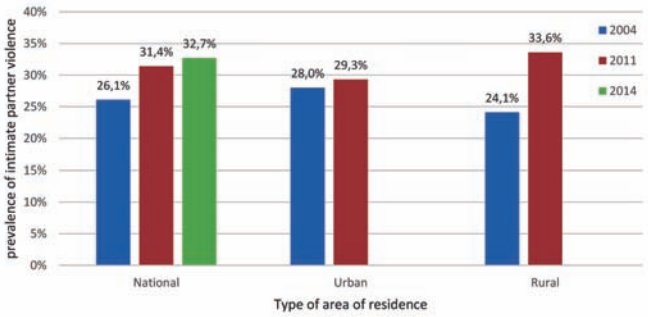
## I- INJURIES

### 48 - Intimate partner violence prevalence

It is the percentage of young girls and women aged 15 to 49 years currently living as a couple who have suffered physical and/or sexual violence from their present intimate partners over the last 12 months.

The prevalence of intimate partner violence increased between 2004 and 2014, moving from 26.1% to 32.7% (Figure 55). In 2011, this prevalence was higher in urban than in rural areas while the reverse had been observed 7 years earlier.

**Figure 56 :** Evolution of the prevalence of intimate partner violence between 2004 and 2014




Sources: NIS, DHS 2004, DHS-MICS 2011, MICS 2014.

# CHAP. 3 SERVICE COVERAGE INDICATORS

## J- REPRODUCTIVE,MATERNAL, NEWBORN, CHILD AND ADOLESCENT HEALTH

### 49- Demand for family planning satisfied with modern methods

It is the percentage of sexually active women of reproductive age (15 – 49 years) whose family planning needs are met using modern methods.

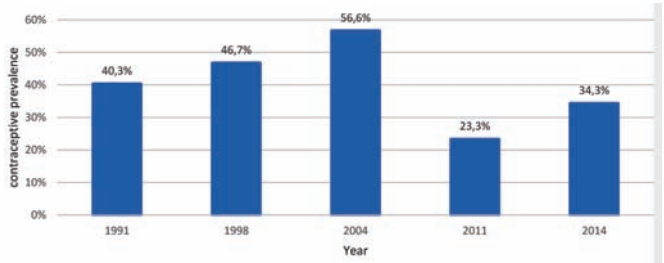
The indicator is available only for the year 2011 and stood at 40.1% (DHS-MICS 2011). However, in 2015, the percentage of family planning needs met using modern methods was estimated by WHO at 42.7% in Cameroon against 49.6% in Africa.

### 50- Contraceptive prevalence rate

It is the percentage of women from 15 to 49 years, married or not, who use or whose sexual partner currently uses at least one contraceptive method, whatever it may be.

For married women or those living as a couple, the rate of prevalence of contraception witnessed an increase between 1991 and 2004. Then it dropped by half between 2004 and 2011, moving from 56.6% to 23.3%. It increased thereafter and reached 34.3% in 2014 (Figure 57).

**Figure 57 :** Evolution of contraceptive prevalence rate



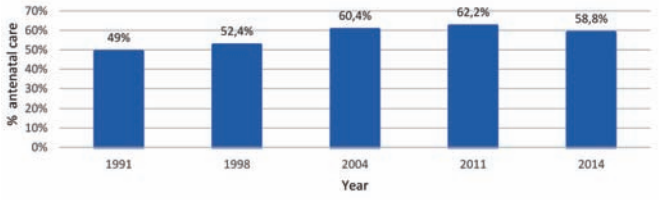

Sources : NIS, DHS 1991-1998-2004, DHS-MICS 2011, MICS 2014.

### 51- Antenatal care coverage – at least four consultations (%)

It is the percentage of women from 15 to 49 years having given birth to a live baby over a given period, who benefited from at least four antenatal consultations during their pregnancy.

An evolution of the indicator was noticed, as it went from 49% in 1991 to 58.8% in 2014.

**Figure 58 :** Evolution of antenatal care from 2004 to 2014



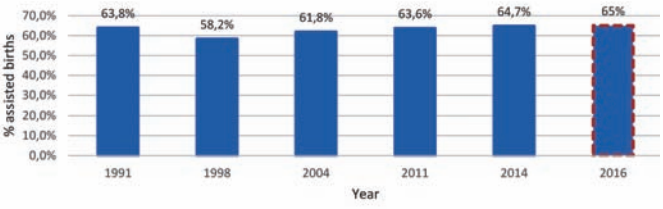

Sources : NIS, DHS 1991-1998-2004, DHS-MICS 2011, MICS 2014.

### 52- Births attended by skilled health personnel (%)

It is the percentage of live births assisted by skilled health personnel over a given period.

After a drop from 63.8% to 58.2% between 1991 and 1998, the percentage of live births assisted by a skilled health personnel increased to as much as 64.7% in 2014 (Figure 59). In 2016, this percentage was estimated at 65% for Cameroon against 53% for the WHO African region in 2016 (WHO, World Health Statistics 2017).

**Figure 59 :** Evolution of the percentage of births attended by skilled health personnel between 1991 and 2016



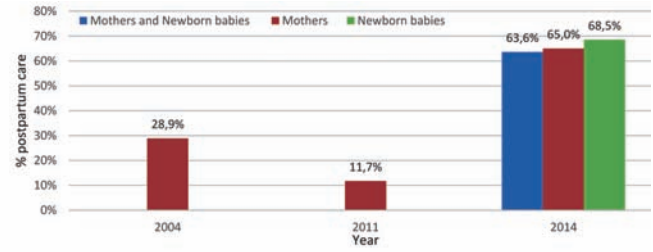

Sources: NIS, DHS 1991-1998-2004, DHS-MICS 2011, MICS 2014 / WHO, World Health Statistics 2017.

## 53- Postpartum care coverage

It is the percentage of mothers and newborns having received postpartum care during the two days following the birth (regardless of the place of delivery).

Newborn babies were not taken into account in the denominator until 2014 when calculating postpartum care coverage, which stood at 63.6% that year, with 65% of mothers and 68.5% of children having received postpartum care. On a different note, in 2004 and 2011, the percentage of mothers having received postpartum care was at 28.9% and 11.7%, respectively.

**Figure 60:** Evolution of postpartum care coverage between 2004 and 2014




Sources : NIS, DHS 2004, DHS-MICS 2011, MICS 2014

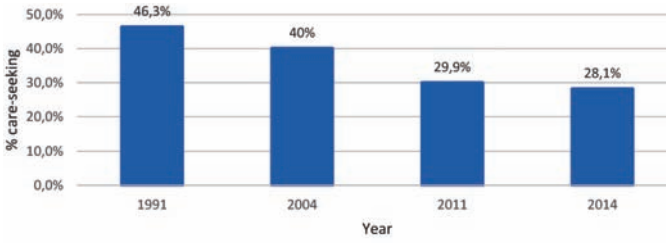
## 54- Care-seeking for symptoms of pneumonia

It is the percentage of children under 5 years who are suspected to have pneumonia (cough and respiratory difficulties NOT due to a problem of blocked nose or at the level of the chest) who were taken to a competent service provider in the two weeks that preceded the survey.

TThe proportion of children taken to a health care provider with suspected symptoms of pneumonia fluctuates. Between 1991 and 1998, a drop in health care demand was noticed, as it went from 46.3% to 32.8%.

This figure went up to 40% in 2004, then dropped again to 29.9% in 2011. In 2014, the figure further dropped to 28.1%.

**Figure 61 :** Evolution of care seeking for symptoms of pneumonia between 1991 and 2014




Sources : NIS, DHS 1991-2004, DHS-MICS 2011, MICS 2014.

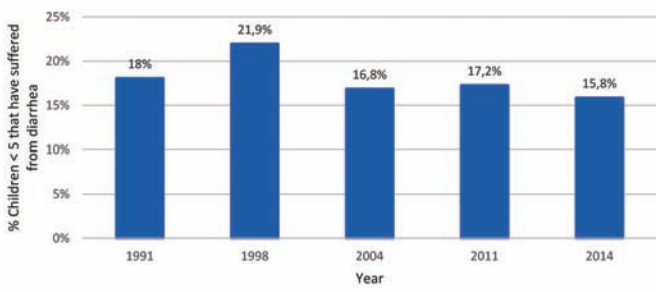
## 55- Children with diarrhea receiving oral rehydration solution (ORS)

It is the percentage of children under 5 years having had diarrhea over the past two weeks and who received an ORS (liquid prepared from ORS sachets or preconditioned ORS drink).

After an increase from 18% to 21.9% between 1991 and 1998, the percentage of children under five suffering from diarrhea and having received ORS dropped as low as 15.8% in 2014 (Figure 62).

Notwithstanding, there are regional discrepancies. In 2014, the figures stood at 43.6% in the Northwest, 33.5% in the Littoral excluding Douala, 12.1% in the West and 7.2% in the Far North.

**Figure 62 :** Evolution of the percentage of children with diarrhea receiving ORS from 1991 to 2014




Sources : NIS, DHS 1991-1998-2004, DHS-MICS 2011, MICS 2014.

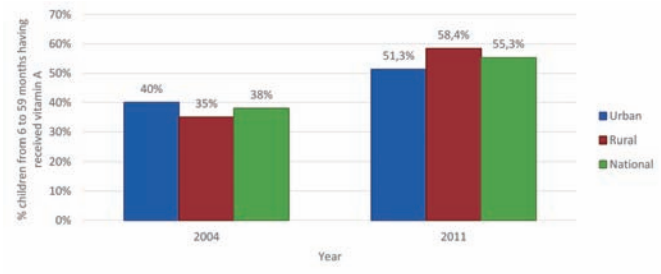
## 56- Vitamin A supplementation coverage among children from 6 to 59 months

It is the percentage of children from 6 to 59 months having received two doses of vitamin A adapted to their age during the last 12 months.

This indicator is available only for children from 6 to 59 months having received two doses of vitamin A during the last six months before the survey and not over the last 12 months as defined by the indicator.

Therefore, the proportion of children from 6 to 59 months having received two doses of vitamin A over the last six months before the survey was at 38% in 2004 and 55.3% in 2011, with discrepancies between rural and urban areas. In 2004, children living in urban areas were more covered than those living in rural areas. But this tendency was reversed in 2011 when those living in rural areas were better covered than those of urban areas.

**Figure 63 :** Evolution of the percentage of children from 6 to 59 months having received vitamin A supplementation during the six months preceding the survey between 2004 and 2011




Sources: NIS, DHS 2004, DHS-MICS 2011.

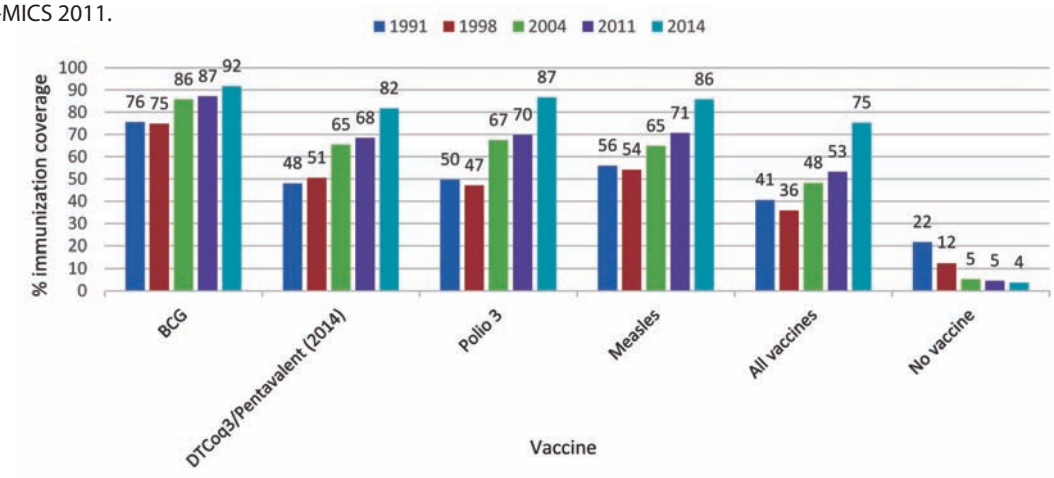
## K- IMMUNIZATION

## 57- Immunization coverage rate by vaccine for each vaccine in the national schedule

It is the percentage of the targeted population having received the last recommended dose of each vaccine recommended in the national schedule, per vaccine. This definition should include all vaccines provided in the systematic immunization program of a country (for example, Bacille de Calmette–Guerin (BCG); poliomyelitis, pneumococcal conjugate vaccine (PCV); rotavirus; vaccine against diphtheria and tetanus, whooping cough-hepatitis B-haemophilus influenza type B (DTC-HepN-Hib);measles (MCV); rubella; human papillomavirus (VPH); tetanus toxoid (TT); flu; and others determined by the national schedule).

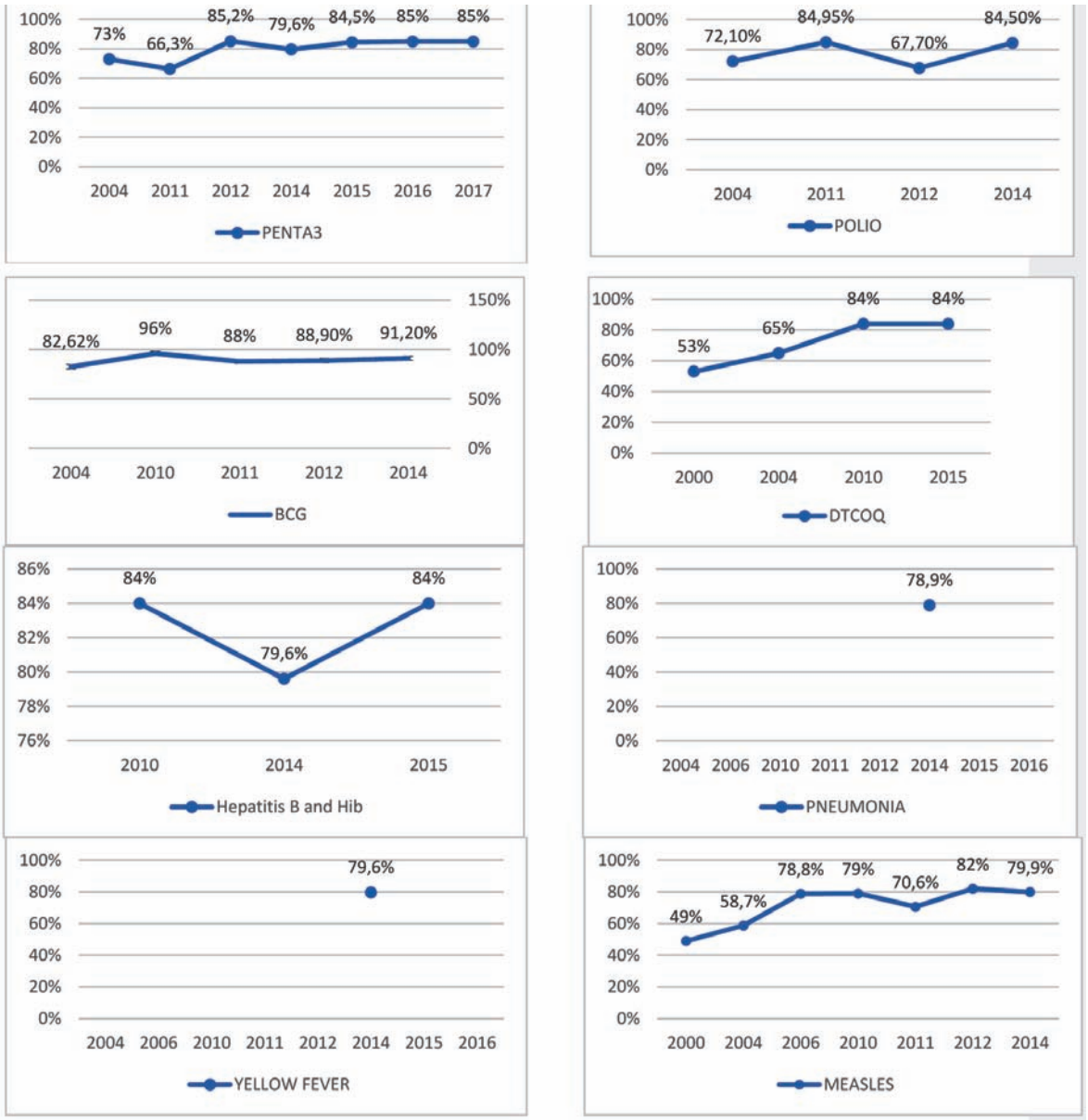
Generally, immunization coverage rate increased from 41% in 1991 to 75% in 2014 after a drop to 36% in 1998 (Figure 64).

**Figure 64 :** Evolution of immunization coverage for vaccines provided in the Expanded Program on Immunization between 1991 and 2014




Sources: NIS, DHS 1991-1998-2004, DHS-MICS 2011, MICS 2014.

**Figure 65 :** Trend of immunization coverage per vaccine




Source : MINSANTE, Report on Activities EPI 2000 - 2017

## L- HIV/TB

### 58- People living with HIV who have been diagnosed (%)

It is the percentage of people living with HIV who have been diagnosed.

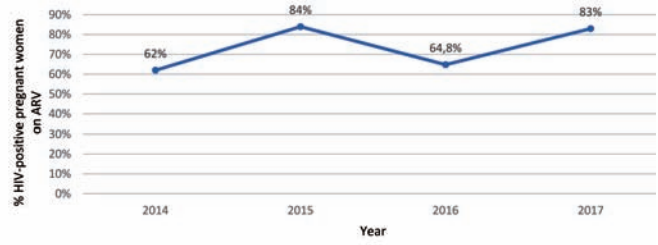
Of 561,107 people living with HIV estimated in 2017 (Spectrum 2017), 333,772 were tested HIV-positive, meaning 66.09% (Epidemiological bulletin on HIV infection in Cameroon, fourth quarter 2017).

### 59- Prevention of mother-to-child transmission

It is the percentage of pregnant women who are seropositive for HIV and who have received an antiretroviral treatment to reduce the risk of mother-to-child transmission during pregnancy and delivery.

The proportion of pregnant women put on ARV treatment has been fluctuating since 2014. A growth was observed between 2014 (62%) and 2015 (84%), but a drop to 64.8% was recorded in 2016. It went up again in 2017 and reached 83%.

**Figure 66 :** Evolution of the percentage of HIV-positive pregnant women who were put on ARV for the prevention of mother-to-child transmission from 2014 to 2017



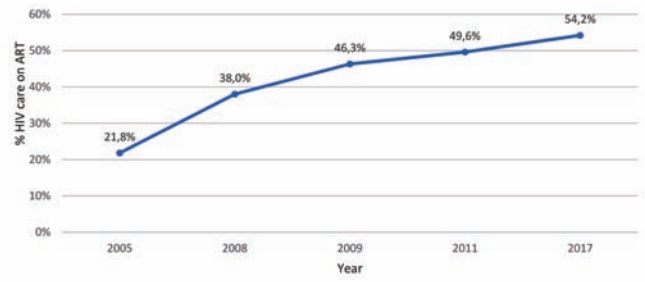

Source : MINSANTE, PMCT Progress report 2014 - 2017

## 60- HIV care coverage

It is the number and percentage of people living with HIV (PLHIV) who are currently receiving a treatment, represented by the fact of having been taken care of with at least one of the following methods during the period surveyed: clinical evaluation of the HIV infection following WHO clinical stages, or CD4 count, or viral load test, or subjection to ART.

This indicator is presently calculated only on the basis of data on subjection to ART at national level, because data concerning the other aspects of care are not informed. The percentage of PLHIV having received treatment against HIV infection went from 21.8% to 54.2% between 2005 and 2017.

**Figure 67 :** Evolution of HIV care coverage (subjection to ART) from 2005 to 2017



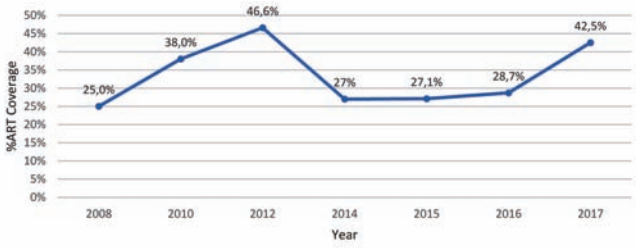

Source : MINSANTE, NCAP Annual Reports 2013 – 2014 – 2015 – 2016 – 2017

## 61- Antiretroviral Therapy (ART) coverage

It is the percentage of people living with HIV who are currently on ART compared to the total number of children and adults living with HIV.

Antiretroviral therapy coverage evolved in 3 phases between 2008 and 2017. There was an increase from 25% to 46.6% from 2008 to 2012, then a drop that took the figure as far down as 27% from 2012 to 2014, followed by a new increase between 2014 and 2017 when an antiretroviral therapy coverage rate of 42.5% was reached.

**Figure 68 :** Evolution of antiretroviral therapy coverage from 2008 to 2017



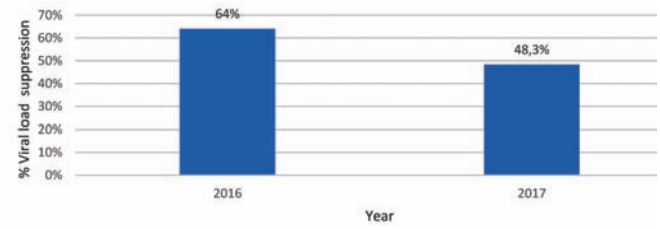

Source : MINSANTE, NCAP Annual Reports 2008 – 2017

## 62- HIV viral load suppression

It is the percentage of people under ART who show signs of suppression of viral load (level of viral load ≤1000 copies/ml).

The percentage of people under ART and having a viral load ≤1000 copies/ml in relation to the number of people who were infected stood at 64% in 2016 against 48.3 in 2017.

**Figure 69 :** Evolution of the HIV viral load suppression between 2016 and 2017




Source : MINSANTE, NCAP Annual Report 2016 – 2017

## 63- TB preventive therapy for HIV-positive people newly enrolled in HIV care

It is the number of patients having started a treatment against a latent tuberculosis infection, expressed in percentage of the total number of people newly enrolled in an HIV care programme during a given period.

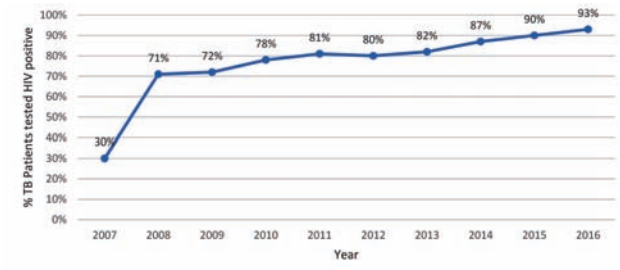
This indicator is presently not monitored by the country. However, data on HIV-positive patients having received a tuberculosis preventive therapy (not necessarily newly enrolled in an HIV care programme) exist and vary from 38% to 34% between 2013 and 2016.

## 64- HIV test results for registered new and relapseTB patients

It is the number of newly infected and relapse tuberculosis patients for whom an HIV diagnostic test result has been registered, expressed in percentage of the number of patients recorded over a given period.

A progressive evolution of the knowledge of HIV test results of tuberculosis patients was noticed from 2007 to 2016 when the figure went from 30% to 93%.

**Figure 70 :** Evolution of the percentage of tuberculosis patients who carried out the HIV test from 2007 to 2016



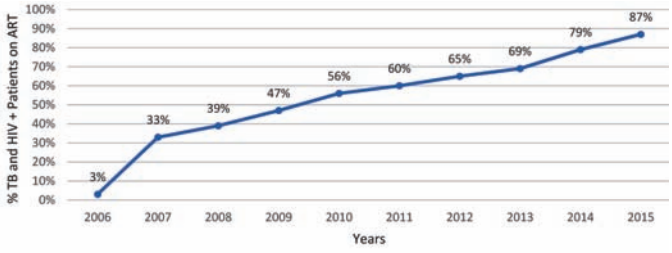

Source : MINSANTE, NPFT Report on activities from 2007 to 2016

## 65- HIV-positive new and relapse TB patients on ART during TB treatment

It is the number of newly infected and relapse tuberculosis patients who are HIV-positive and placed on ART during tuberculosis treatment, expressed in percentage of the number of patients recorded during a given period.

An annual growth of the percentage of tuberculosis patients who are HIV positive and under ART during tuberculosis treatment was noticed as it went from 3% in 2006 to 87% in 2015.

**Figure 71 :** Evolution of the percentage of HIV-positive tuberculosis patients on ART during tuberculosis treatment from 2006 to 2015




Source : MINSANTE, NPFT Report on Activities 2006 to 2016

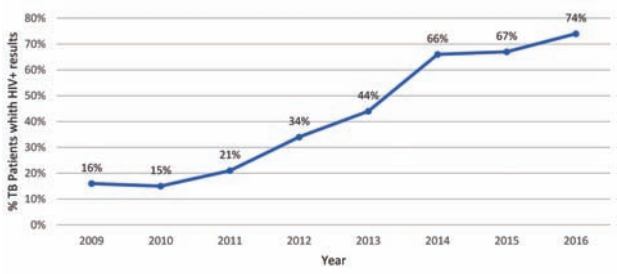
# M- TUBERCULOSIS

## 66- TB patients with results for drug susceptibility test

It is the number of newly infected and relapse tuberculosis patients who are HIV-positive and under ART during their tuberculosis treatment, expressed in percentage of the number of patients recorded over a given period.

The percentage of tuberculosis patients having a positive drug susceptibility test result is growing. It went from 16% in 2009 to 75% in 2016.

**Figure 72 :** Evolution of the percentage of tuberculosis patients with drug susceptibility test results available from 2009 to 2016



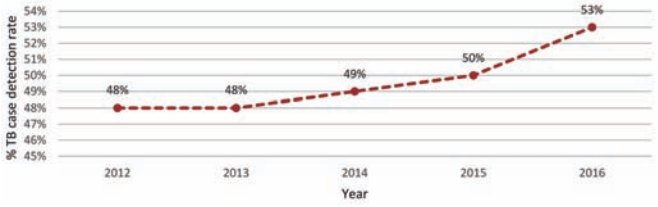

Source : MINSANTE, NPFT Report 2009 to 2016

## 67- TB case detection rate

It is the percentage of tuberculosis cases with drug susceptibility test results for resistance to isoniazid and rifampicin over a given period.

This indicator is presently not monitored by the country. According to WHO figures, a progressive increase of the rate of detection of tuberculosis cases is observed. It went from 48% in 2012 to 53% in 2016 (Figure 73).

**Figure 73 :** Evolution of TB case detection rate between 2012 and 2016



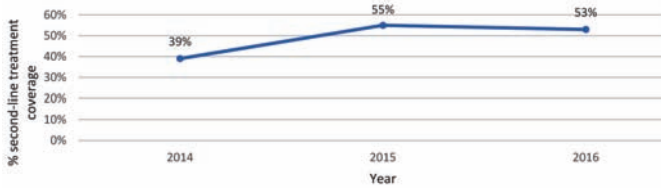

Source : WHO, Country Profile 2012 to 2016

## 68- Second-line treatment coverage among multi-drug-resistant tuberculosis (MDR-TB) cases

It is the percentage of registered tuberculosis cases who were suspected of, and diagnosed with, multi-drug-resistant tuberculosis and who have been under second-line treatment against tuberculosis for a specified period.

Second-line treatment coverage among multi-drug-resistant tuberculosis evolved between 2014 and 2015, going from 39% to 55%. Thereafter, it witnessed a light drop in 2016, reaching 53%.

**Figure 74 :** Evolution of second-line treatment coverage among multi-drug-resistant tuberculosis cases between 2014 and 2016




Source : MINSANTE, NPFT Report on Activities 2014 – 2015 – 2016

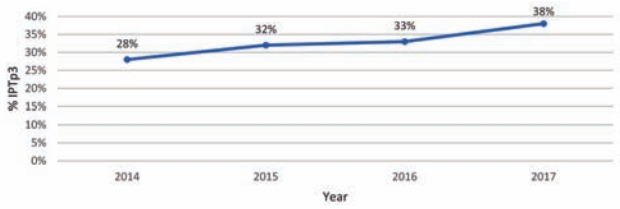
# N- MALARIA

## 69- Intermittent preventive therapy for malaria during pregnancy (IPTp)

It is the percentage of women having received at least three doses of intermittent preventive treatment during antenatal consultations during their last pregnancy.

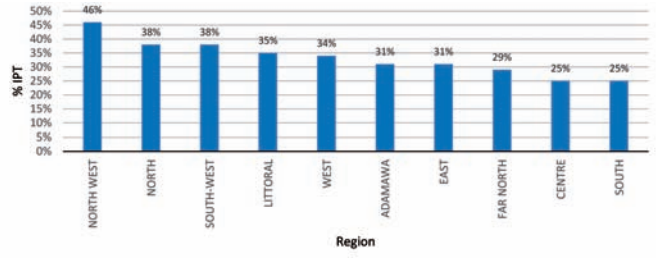
The percentage of pregnant women having received at least IPT3 witnessed a progressive evolution, going from 28% in 2014 to 38% in 2017 (Figure 75). However, regional discrepancies exist. In 2017, it stood at 50.8% in the Northwest, 41.7% in the North, 30.6% in the Centre and 28.6% in the South (Figure 76).

**Figure 75 :** Evolution of the percentage of pregnant women having received IPT3 between 2014 and 2017




Source : MINSANTE, NPFM Annual Reports 2014 à 2017.

**Figure 76 :** Situation of IPT for pregnant women per region in 2016



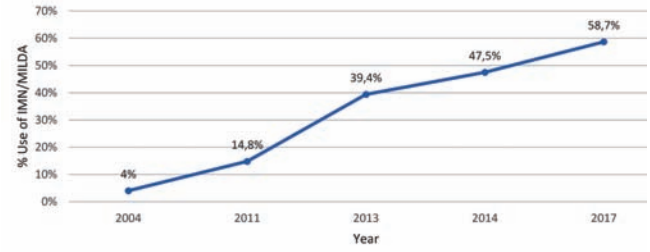

Source : MINSANTE, NMCP Annual Report 2017

## 70- Use of insecticide-treated nets (%)

It is the percentage of the population in malaria endemic regions having slept under an insecticide-treated mosquito net the previous night.

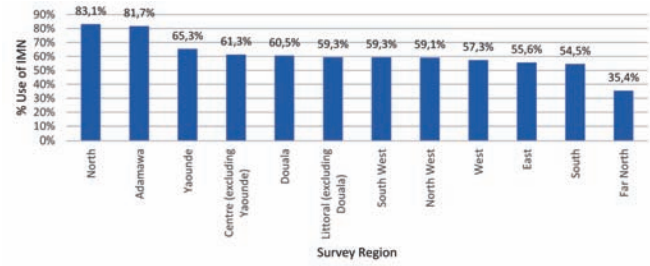
A growth in the percentage of use of insecticide-treated mosquito nets is noticed. It went from 4% in 2004 to 58.7% in 2017 (Figure 77). However, regional discrepancies exist. In 2017, the percentage was at 83.1% in the North and 81.7% in the Adamawa against 54.5% in the South and 35.4% in the Far North (Figure 78).

**Figure 77 :** Evolution of the percentage of use of insecticide-treated mosquito nets (ITN) between 2004 and 2017




Source : NIS, DHS 2004, DHS-MICS 2011, MICS 2014, EPC-LLITMN 2013 – 2017

**Figure 78 :** Percentage of use of insecticide-treated mosquito nets (ITN) per region in 2017



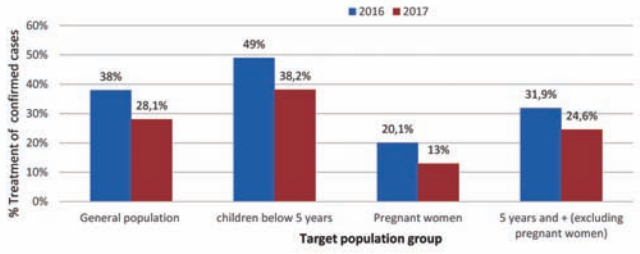

Source : NIS,, EPC-MILDA 2016/2017.

## 71- Treatment of confirmed malaria cases (%)

It is the percentage of confirmed malaria cases who receive a first-line antimalarial treatment.

This percentage went from 38% in 2016 to 28.1% in 2017. It was lowest in the target population of pregnant women with 13% against 38.2% in children below 5 years in 2017.

**Figure 79 :** Evolution of confirmed cases of malaria who receive first-line antimalarial treatment per target population group between 2016 and 2017



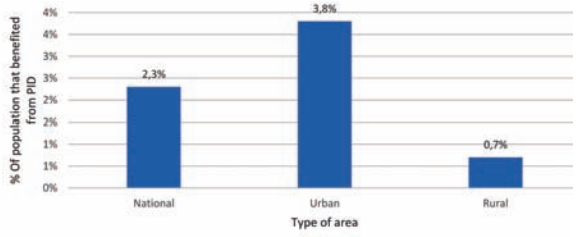

Source : MINSANTE, NMCP Annual Reports 2016 – 2017

## 72- Indoor residual spraying (IRS) coverage

It is the percentage of the population exposed to risks that is protected by spraying residual insecticide within houses over a given period.

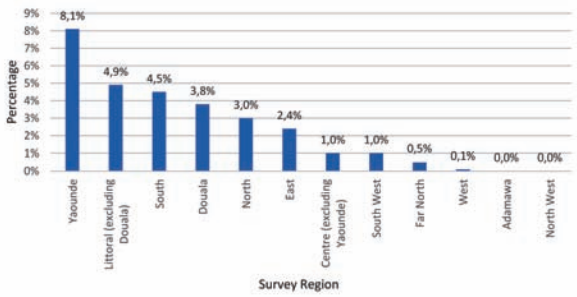
In 2011, 2.3% of homes were sprayed with residual insecticide, coverage being higher in urban than in rural areas. It stood at 0.0% in the North, 80.1% in the Adamawa, 54.3% in the South and 35% in the Far North.

**Figure 80 :** Indoor spraying coverage per place of residence in 2011




Source : NIS, EDS-MICS 2011

**Figure 81 :** Indoor spraying coverage per region in 2011




Source : NIS, EDS-MICS 2011

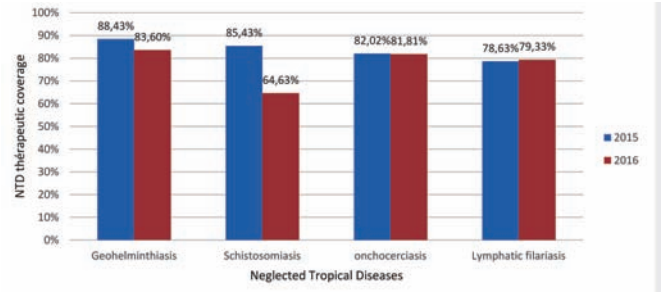
## O- NEGLECTED TROPICAL DISEASES

### 73- Coverage of preventive chemotherapy for selected neglected tropical diseases (NTD)

It is the percentage of the population living in endemic areas in need of preventive chemotherapy and having received treatment for at least one of the neglected tropical diseases selected (schistosomiasis, geohelminthiasis, lymphatic filariasis, onchocerciasis).

The evolution of preventive chemotherapy coverage of NTD depends on the type of NTD. Therapeutic coverage of helminthiasis and schistosomiasis dropped from 2015 to 2016, going from 88.43 % to 83.60% for helminthiasis and 85.4% to 64.63% for schistosomiasis. During the same period, the therapeutic coverage of onchocerciasis and lymphatic filariasis stagnated lightly. It went from 82% to 81.9% for onchocerciasis and from 78.63% to 79.3% for lymphatic filariasis.

**Figure 82 :** Evolution of preventive chemotherapy coverage of NTD from 2015 to 2016




Source : MINSANTE, NTD Report on Activities 2015 – 2016

## P- DIAGNOSIS AND PREVENTIVE CARE

### 74- Cervical cancer screening

It is the percentage of women from 30 to 49 years who declare to have been subjected to a cervical cancer screening using one of the following methods: visual inspection after applying acetic acid/vinegar (IVA), smear (pap test), HPV (Human Papillomavirus) test.

National data available for this indicator is limited. However, a recent study (Human Papillomavirus and Related Diseases in Cameroon, 2017) estimates this percentage at 19.7% for women above 18 years.

## Q- MENTAL HEALTH

### 75- Coverage of services for severe mental disorders

It is the percentage of people suffering from a serious mental disorder (psychosis, bipolar affective disorder, from moderate to serious depression) and using the services.

This indicator is presently not monitored by the country. Nevertheless, WHO figures in 2011 indicate that 0.1 per 100,000 inhabitants (WHO, Mental Health Atlas 2011), 55% of whom were women and 10% were people aged below 18, were hospitalized in referral hospitals for psychiatric problems.

# CHAP. 4 HEALTH SYSTEMS INDICATORS

## R- QUALITY AND SAFETY OF CARE

### 76- Perioperative mortality rate

It is the rate of deaths (whatever the cause) before discharge from hospital for patients having undergone one or several interventions in the operating theatre during their hospitalization.

This indicator is presently not monitored by the country.

### 77- Obstetric and gynecological admissions owing to abortion

It is the percentage of admissions for complications related to a termination of pregnancy (spontaneous or provoked) in care centers offering obstetrical and gynecologic hospitalization services, among all services (to the exception of those related to programed termination of pregnancy).

This indicator is presently not monitored by the country.

### 78- Institutional maternal mortality rate (per 100,000 deliveries)

It is the number of maternal deaths per 100,000 deliveries taking place in a health facility.

The data for this indicator are considered underreported as several regions and districts are silent and do not allow for the actual situation on the ground. However, available data (MAPE) show that this ratio was 135 and 107 deaths per 100,000 deliveries respectively in 2014 and 2017.

**Table 2 :** Number of hospital deliveries and deaths from 2014 to 2017

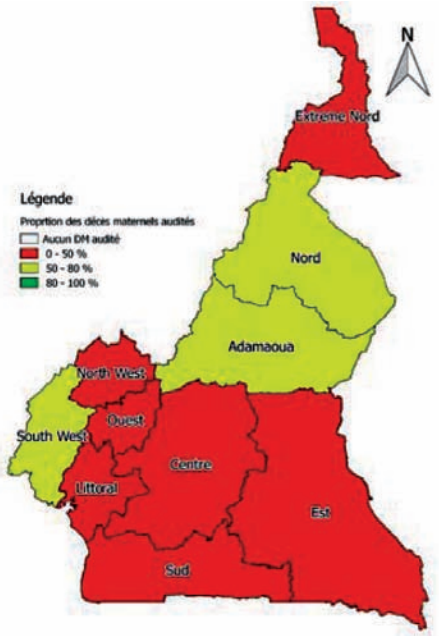
| REGION | 2014 | | 2015 | | 2016 | | 2017 | |
|---|---|---|---|---|---|---|---|---|
| | Case | Death | Case | Death | Case | Death | Case | Death |
| ADAMAWA | 10 102 | 25 | 12 722 | 22 | 16 455 | 22 | 16 140 | 25 |
| CENTRE | 45 175 | 37 | 41 553 | 42 | 50 702 | 38 | 59 102 | 59 |
| EAST | 6 488 | 0 | 8 067 | 8 | 10 621 | 7 | 13 512 | 14 |
| FAR NORTH | 23 837 | 62 | 26 022 | 50 | 33 313 | 50 | 41 859 | 65 |
| LITTORAL | 28 077 | 25 | 35 690 | 23 | 37 211 | 39 | 36 421 | 21 |
| NORTH | 14 411 | 49 | 15 642 | 24 | 18 550 | 35 | 27 558 | 51 |
| NORTH WEST | 32 755 | 38 | 31 161 | 18 | 33 930 | 37 | 27 838 | 15 |
| WEST | 33 797 | 22 | 44 691 | 26 | 42 992 | 27 | 40 709 | 21 |
| SOUTH | 4 662 | 14 | 4 027 | 3 | 6 366 | 13 | 7 487 | 6 |
| SOUTH WEST | 12 753 | 16 | 16 436 | 38 | 19 465 | 42 | 21 331 | 36 |
| NATIONAL | 212 057 | 288 | 236 011 | 254 | 269 605 | 310 | 291 957 | 313 |

### 79- Maternal death reviews (%)

It is the percentage of maternal deaths that happened in a health facility and are reviewed in the framework of an audit.

The review of maternal deaths was officially instituted in Cameroon in 2013 by a decision of the Minister of Public Health. This regulatory framework was strengthened in 2017 by the institutionalization of the review committees at all levels of the health pyramid. It should nevertheless be noted that device is gradually being put in place. The 2017 data show that coverage of the maternal death review is still low, with 7 out of 10 regions having less than 50% coverage of deaths, and only 3 out of 10 regions have more than 50% coverage.

**Figure 83 :** Maternal deaths review by region in 2017

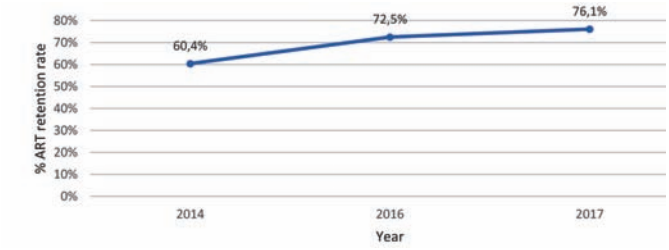



### 80- ART retention rate

It is the percentage of HIV-positive adults and children who are still alive and under antiretroviral treatment 12, 24, 36 (etc.) months after the start of the treatment, for patients having started an antiretroviral treatment during a given period.

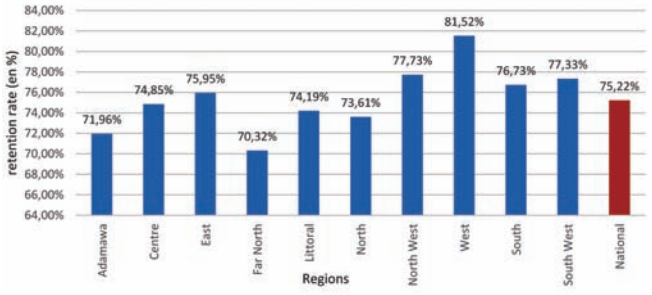
An increase in the number of PLHIV and still under ART 12, 24, 36 months or more after the start of the treatment is observed. It went from 60.4% in 2014 to 76.1% in 2017 (Figure 84).

**Figure 84 :** Evolution of ART retention rate from 2014 to 2017




Sources: UNAIDS, GARP (Global AIDS Response Progress) Report; MINSANTE, NCAP Annual Reports 2014 - 2016 - 2017

**Figure 85 :** ART retention rate per region at the end of the fourth quarter of 2017 for the August, September and October cohorts 2016



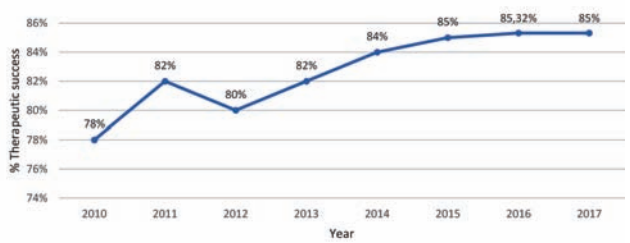

Source : MINSANTE, HIV/AIDS Epidemiological bulletin 4th quarter 2017.

## 81- TB treatment rate

It is the percentage of successfully treated tuberculosis cases (healing plus end of treatment) in relation to the number of cases of tuberculosis signaled to national health officials over a given period.

A progressive increase of the tuberculosis therapeutic success rate was noticed. It went from 79% in 2011 to 84% in 2015.

**Figure 86 :** Evolution of TB treatment rate from 2010 to 2017




Source : MINSANTE, NPFT Report on Activities 2011 - 2017

## 82- Service-specific availability and readiness (per 10,000 inhabitants)

It is the number of health facilities offering specific services per 10,000 inhabitants and satisfying minimum service standards measured from trackers of specific services, etc.

This indicator is currently not monitored by the country. However, the Service Delivery Indicator &Health Facility Assessment (SDI-HFA) survey will help obtain data at the end of 2018.

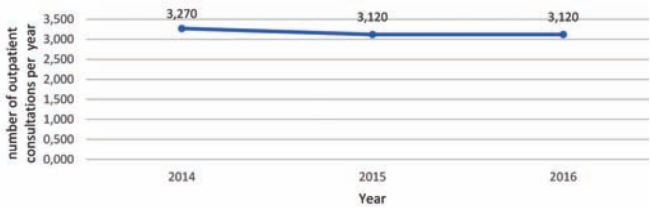
# S- ACCESS

## 83- Service utilization

It is the number of outpatient consultations per person every year.

A reduction of the number of outpatient consultations per person and per year is noticed. It went from 3.27 in 2014 to 3.12 in 2016.

**Figure 87 :** Evolution of the number of outpatient consultations per person and per year from 2014 to 2016



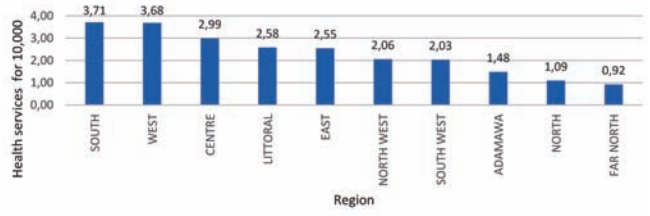

Source : MINSANTE, NPFA Annual Reports 2014 – 2015 – 2016

## 84- Health service access

It is the percentage of the population living less than 5 km away from a health facility (total number of health facilities per 10,000 inhabitants).

Access to health services in Cameroon in 2016 was at 2.19 health facilities per 10,000 inhabitants (MINSANTE, Cameroon Health Map 2016). Notwithstanding, regional discrepancies exist. Indeed, proportions of 3.71 per 10,000 in the South against 0.92 per 10,000 in the Far North were recorded.

**Figure 88 :** Health service access per region in 2016



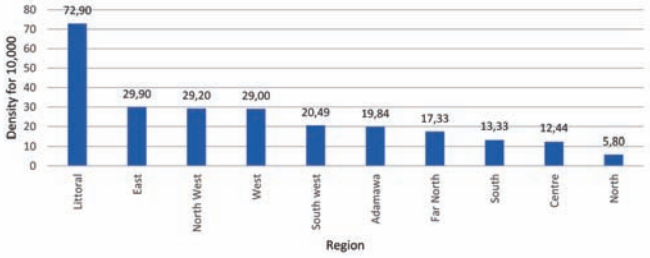

Source : MINSANTE, Health Map 2016

## 85- Hospital bed density (per 10,000 inhabitants)

It is the total number of hospital beds per 10,000 inhabitants.

Hospital bed density was at 26.49 hospital beds per 10,000 inhabitants in 2016 (MINSANTE, Cameroon Health Map 2016). However, there were regional discrepancies. With 72.90 against 5.80 hospital beds per 10,000 inhabitants in the Littoral and the North, respectively.

**Figure 89 :** Hospital bed density per region per 10,000 inhabitants in 2016




Source : MINSANTE, Cameroon Health Map 2016

## 86- Availability of essential medicines and commodities

It is the percentage of health facilities having essential drugs and vital products.

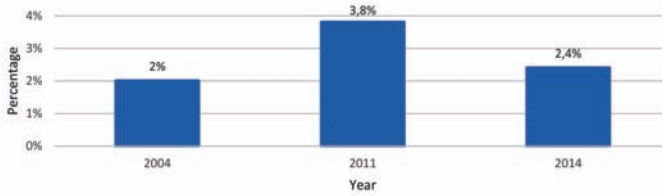
This indicator is presently not monitored by the country.

## 87- Caesarean section rate

It is the percentage of childbirths through caesarean portion.

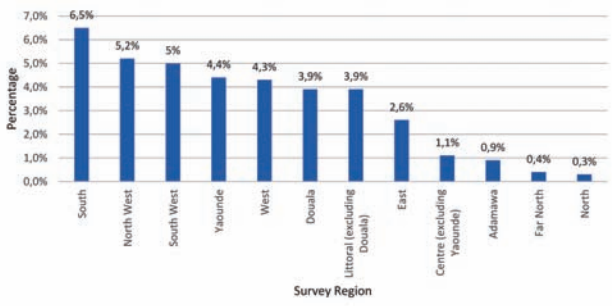
Between 2004 and 2011, the caesarean portion rate increased from 2% to 3.8% before dropping to 2.4% in 2014 (Figure 90). However, regional discrepancies exist. In 2014, rates of 6.5% in the South and 5.2% in the Northwest, against 0.4% in the Far North and 0.3% in the North, were recorded (Figure 91).

**Figure 90:** Evolution of caesarean section rate from 2004 to 2014




Source : NIS, DHS 2004, DHS-MICS 2011, MICS 2014

**Figure 91 :** Caesarean section rate in 2014 per region




Source: NIS, MICS 2014

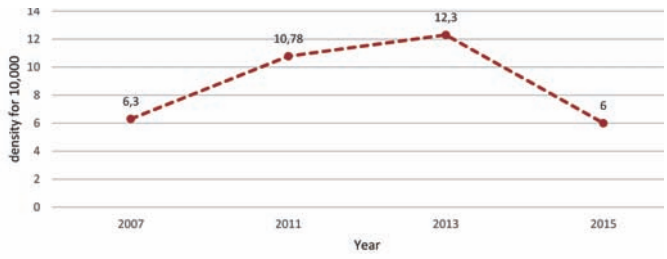
# T- HEALTH WORKFORCE

## 88- Health worker density and distribution (per 1000 inhabitants)

It is the number of health professionals per 1000 inhabitants.

In 2001, 38,207 health personnel were recorded, meaning a density of 1.90 health personnel per 1000 inhabitants (MINSANTE, General Report of the General Census of Health Personnel in Cameroon, 2011). In 2015, this density was estimated by WHO at 6 per 10,000 inhabitants against 14.1 per 10,000 inhabitants in the African region (WHO, World Health Statistics 2017).

**Figure 92 :** Evolution of WHO estimates on health worker density per 10,000 inhabitants between 2007 and 2015




Source : WHO, World Health Statistics 2017

## 89- Output of training institutions

It is the number of graduates of institutions training for health-related jobs (mainly faculties of medicine and pharmacy, dental care schools, nursing schools, midwifery schools) during the last academic year, per 1000 inhabitants.

According to the data of the Human Resources Department (DRH) of MINSANTE, nearly 6,000 health professionals (nurses and health care) and about 650 doctors come out each year from the country's various public and private training schools.

# U- HEALTH INFORMATION

## 90- Birth registration coverage

It is the percentage of births that are recorded (within a month from the day of birth) in a civil status registration system.

This indicator is presently not available in Cameroon for the number of children recorded at most a month after their birth in a civil status registration system. Nevertheless, survey data on the percentage of children below five years whose birth has been registered is 66.6% in 2014 (MICS 2014).

## 91-Death registration coverage

It is the percentage of recorded deaths (with mention of the age and sex).

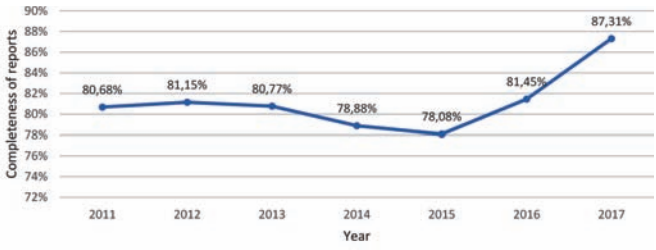
This indicator is presently not monitored by the country.

## 92- Completeness of reporting by facilities

This indicator helps track the percentage of facilities that report within required deadlines.

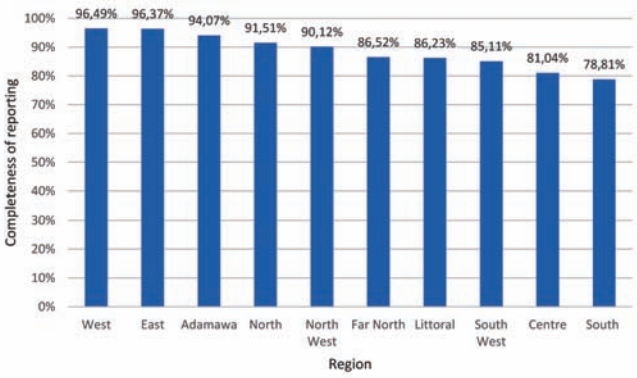
This indicator is presently not monitored by the country. The progressive implementation of the DHIS2 with Monthly Activity Reports (MAR) in all health facilities will help obtain reliable data. However, data collected by the National Malaria Control Programme help obtain a global trend (Figure 93).

**Figure 93 :** Completeness of reporting by the malaria programme from 2011 to 2017




Source: MINSANTE, NPFM Reports on Activities 2011-2017

**Figure 94 :** Completeness of reporting by the malaria programme per region in 2017




Source : MINSANTE, NPFM Reports on Activities 2017

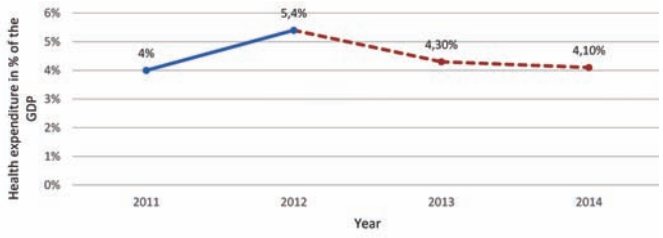
## V- HEALTH FINANCING

### 93- Total current health expenditures on health, in percentage of the gross domestic product (% GDP)

It represents total current health expenditure, in percentage of the gross domestic product ("in % of the GDP).

Between 2011 and 2012, an evolution of the percentage of total current health expenditure in relation to the gross domestic product (GDP) was noticed, as it went from 4% to 5.4% (MINSANTE, National Health Account 2011-2012). In 2014, this percentage was estimated at 4.10% by WHO (WHO, Global Health Expenditure Database).

**Figure 95 :** Total current health expenditure in percentage of the GDP




Sources: MINSANTE, NHC Report 2011-2012 ; WHO, Global Health Expenditure Database (apps.who.int/nha)

### 94- Current expenditures on health by general government and compulsory schemes, in percentage of current expenditure on health

They are current health expenditures of public administrations and compulsory schemes in proportion of total current health expenditures (expressed in percentage of total current health expenditures). It is the sum of current health expenditures paid in cash or in kind by government entities such as the Ministry of Public Health, other ministries, Para public organisations or social security organisations, or by entities that manage contributory health plans rendered compulsory by the law.

This indicator is presently not monitored by the country. However, it was estimated at 4.3% by WHO in 2014 against 9.9% in the WHO African region (WHO, Global Health Expenditure Database (apps.who.int/nha)).

### 95- Out-of-pocket payment for health, in percentage of current health expenditures

It is the proportion of total current health expenditures that are directly incurred by households, expressed in percentage of total health expenditures (it refers to direct payments by households).

The percentage of out-of-pocket payment for health increased from 51.4% to 70.27% between 2011 and 2012 (MINSANTE, National Health Accounts 2011 and 2012).

### 96- Externally sourced funding, in percentage of current expenditure on health

It is the portion of total current health expenditures that is funded by external institutional entities (the rest of the world), thereby offering revenues to the funding scheme.

The percentage of funding coming from external sources was at 14.4% in 2011, but dropped to 7.11% in 2012.

### 97- Total capital expenditure on health, in percentage of current and capital expenditure on health

It is the total capital expenditure on health, in percentage of current and capital expenditure on health.

The percentage of total capital expenditure was at 6.7%in 2011, and went up to 7.3% in 2012 (MINSANTE, National Health Accounts 2011-2012).

## 98- Headcount ratio of catastrophic health expenditure

It is the proportion of the population (or sub-population) faced with catastrophic health expenditures.

In 2001, 21.5% of households faced catastrophic health expenditures. This rate dropped to 8% in 2007 (World Bank, RaSSS 2012).

## 99- Headcount ratio of impoverishing health expenditure

This indicator expresses the proportion of the population (or sub-population) faced with empoverishment due to out-of-pocket payment for health.

This indicator is presently not monitored by the country.

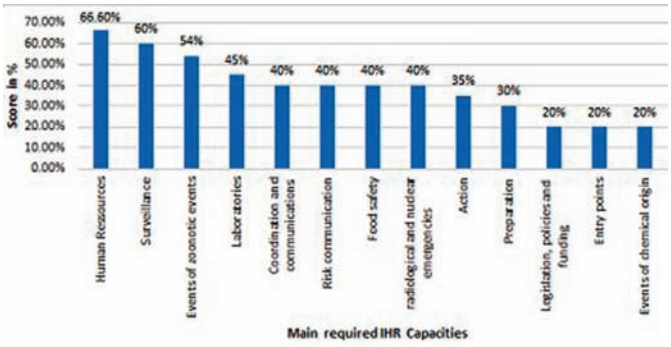
## W- HEALTH SECURITY

## 100- 100- International Health Regulations (IHR) core capacity index

This indicator tracks the percentage of the components of the 13 core capacities required according to IHR that were obtained at a precise moment. They are: (1) national legislation, policy and financing, (2) coordination and communication ensured by national focal points, (3) surveillance, (4) action, (5) preparation, (6) risk communication, (7) human resources, (8) laboratories, (9) pointsof entry, (10) zoonotic events, (11) food safety, (12) chemical events, (13) radiation or nuclear emergencies.

This indicator is evaluated to 40% of the 13 core capacities required according to IHR in 2017 (MINSANTE, 2017 Report, Joint External Evaluation of IHR Core Capacities.

**Figure 96 :** Assessment of the 13 main capacities required by the International Health Regulations (IHR, 2005)




Source : MINSANTE-WHO, JEE Report 2017

# APPENDICES

# Appendix 1: List of health indicators of Sustainable Development Goal N°3

**Goal 3. "Ensure healthy lives and promote wellbeing for all at all ages"**

| Goals | Indicators | Recent values |
|---|---|---|
| **3.1** By 2030, increase the global maternal mortality rate to below 70 per 100,000 live births | Maternal mortality ratio | Evaluated by the 2011 DHS at 782 per 100,000 live births and estimated by WHO in 2015 at 596 per 100,000 live births |
| | Proportion of births attended by skills health personnel | Evaluated by the MICS 2014 at 64.7%, it was estimated by the WHO in 2016 at 65% |
| **3.2** By 2030, eliminate preventable deaths of newborns and children under 5, with all countries seeking to reduce neonatal mortality to 12 per 1,000 live births at most and child mortality less than 5 years to 25 per 1,000 live births | Mortality of children under five | Evaluated by the MICS 2014 at 103 per 1000 live births, it was estimated by the WHO in 2015 at 87.9 per 1000 live births |
| | Neonatal mortality rate | Evaluated by the 2014 MICS at 28 per 1000 live births, it was estimated by the WHO in 2015 at 25.7 per 1000 live births |
| **3.3** By 2030, End the AIDS Epidemic, Tuberculosis, Malaria and Neglected Tropical Diseases and Combat Hepatitis, Waterborne Diseases and Other Communicable Diseases | Number of new HIV infections for 1,000 people seronegative, by sex, age and main population groups | The CAMPHIA report published in 2018 shows us that the annual incidence of HIV-AIDS among 15-64 year olds is 0.27% nationally ie 0.45% for women and 0.09% for men. |
| | Incidence of tuberculosis per 1,000 inhabitants | Estimated in 2015 by WHO at 212 cases per 100,000 population |
| | Incidence of malaria per 1,000 inhabitants | The hospital incidence rate of Malaria in 2017 is 86 cases per 1000 inhabitants |
| | Incidence of hepatitis B per 100,000 inhabitants | The CAMPHIA report published in 2018 shows us that the prevalence of hepatitis B among 15-64 year olds is 8.3% nationally, ie 5.5% for women and 11.3% for men. |
| | Number of persons for which interventions against neglected tropical diseases are required | The diseases followed at the national level are onchocerciasis, lymphatic filariasis, geo-helminthiasis, schistosomiasis, leprosy, yaws, rabies, and snakebite. In addition, trachoma and leishmaniasis affect only the Far North and North regions. |
| **3.4** By 2030, reduce by one third, through prevention and treatment, the premature death rate from non communicable diseases and | Mortality rate due to cardiovascular disease, cancer, diabetes or chronic respiratory disease | Estimated by WHO at 22.4% in 2015 |
| | Death rate by suicide | Estimated by the WHO at 11.9 per 100,000 inhabitants in 2013 |

# Appendix 1: List of health indicators of Sustainable Development Goal N°3

**Goal 3. "Ensure healthy lives and promote wellbeing for all at all ages"**

| Goals | Indicators | Recent values |
|---|---|---|
| **3.5** Strengthen prevention and treatment of substance abuse, including narcotics and alcohol | Coverage of interventions therapeutic (services pharmacological, psychosocial, detoxification and aftercare) for substance use disorders | Not Available |
| | Alcohol abuse, defined according to the national context by the consumption of pure alcohol (in liters) per capita (age 15 or over) in a calendar year | |
| **3.6** By 2020, halve worldwide deaths and injuries from road accidents | Mortality rate related to road accidents | Estimated by the WHO at 11.9 per 100,000 inhabitants in 2013 |
| **3.7** By 2030, ensure universal access to sexual and reproductive health services, including for family planning, information and education, and the inclusion of reproductive health in national strategies and programs | Family planning needs met by modern methods | Evaluated 40.1% by the 2011 DHS |
| | Adolescent birth rate (ages 10 to 14 and 15 to 19) per 1,000 adolescent girls in the same age group | Evaluated by the 2014 MICS report at 119 per 1000 girls aged 15 to 19, this rate was estimated by the WHO at 42.7% in 2015 |
| **3.8** Ensuring that everyone benefits from health insurance, including financial risk protection and access to quality essential health services and safe, effective, quality and cost-effective essential medicines and vaccines affordable | Coverage of essential health services (defined as average coverage of essential services based on follow-up interventions which include reproduction, mother, newborn and child health, infectious diseases, non communicable diseases and service capacity and access, among the most general and the most disadvantaged population | Estimate in the 2017 WHO and World Bank Joint Report on UHC at 44% |
| | Proportion of the population with significant household expenses on health as a share of total household expenditures or income | Estimated in 2017 WHO / World Bank Joint Report on UHC at 10.78 (at 10% of total household consumption or income) and 2.98 (at 25% of total household consumption or income) |
| **3.9** By 2030, dramatically reduce the number of deaths and illnesses from hazardous chemicals and pollution and contamination of air, water and soil | Mortality rate attributable to households and ambient air and pollution | Data not available for the country. However, this indicator is estimated in 2016 by WHO at 180.9 per 100,000 inhabitants in the African region |
| | Mortality rate attributed to unsafe water and unsanitary sanitation and lack of hygiene (exposure to unsafe water, sanitation and hygiene services for all (WASH) | Estimated by WHO in 2016 at 45.2 per 100,000 population |
| | Mortality rate attributed to involuntary poisoning | Estimated by WHO in 2016 at 3.1 per 100,000 population |

# Appendix 1: List of figures

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# Acknowledgements

The "Tracking 100 Core Health Indicators for Cameroon in 2017" report was drafted by the Ministry of Public Health through the National Public Health Observatory (ONSP: Observatoire National de SantéPublique), with technical support from the World Health Organisation (WHO).

- Serge Bataliack (WHO) and Oumarou Gnigninanjouena (NPHO) coordinated the technical work for the production of the document, with inputs and recommendations from of the Orientation Council of the NPHO; mainly Pr. Biwole Sida (MINSANTE), Prof. Kingue Samuel (MINSANTE), Pr Josephine Ngo Mbing (MINRESI), Pr. Monebenimp Francisca (MINESUP), Mr Eloundou Gaspard Joel (MINFI), Mrs Yap Mariatou (MINADT), Mr Damou Lantoing Antoine (MINEPDEP), Mr Bakari Bakari Francois (MINADER), Dr Feussom Jean Marc (MINEPIA), Dr Aboutou Rosalie Louise (MINAS), Mr Tedou Joseph (NIS), Dr Ndemayama Mobitang (Ad Lucem Foundation), Mr Balla Balla (HPYU).

- Our sincere gratitude goes to the scientific committee of NPHO made up of Prof. Moyou Somo Roger (President, IMPM), Prof. Zoung-Kagni Anne (HORU), Dr Etoundi Mballa Alain Georges (DFADEP), Pr Josephine Ngo, Dr Brahim Issa Sidi (OCEAC), Dr Gregoire Kananda Kipanya (UNICEF), Dr Bilo'o Robertson (ICAP), Dr Yondo David (CDBP-H), Dr Mfou'ou nee Ndo Eunice (IRAD), Prof.Saidou (IRGM), Dr Talongwa Roberto (Plan Cameroon), Dr Marie Lydie Rose (ANRP), Mrs Akame Julie (HKI).

- Our profound gratitude also goes to the experts of MINSANTE who contributed to the document. They are Dr Fezeu Maurice (CIS), Dr Nko'o Ayissi (DFADEP), Dr Afounde Jeannette (DFH), Dr Nguefack (FMBS), Dr Mache Patrice (TS/HSS), Dr Fosso Jean (NMCP), Dr Njih Earnest (NPFM), Dr Etoundi Antoine (NPFT), Miss Messeh Arlette (NCAP), Mr Nguekam Gildas (HORU), Mr Ekani Guy (WHO Consultant)

- The support of the WHO programming staff in the country office, mainly Dr Etienne Nnomzo'o (NTD), Dr Etienne Kembou (HIV/AIDS), Jean Christian Kouountchou (Data Manager/IVE) was highly appreciated.

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