



Namibia Statistics
Agency

REPORT ON MORTALITY AND CAUSES OF DEATHS IN NAMIBIA, 2016 - 2017

First Edition



Foreword



This is the first report on mortality and causes of deaths produced by the Namibia Statistics Agency and presents statistics for the years 2016 and 2017. Information on the number of deaths and their causes is vital in evaluating and tracking progress towards development goals particularly the health-related targets for monitoring the progress towards Sustainable Development Goal 3 on health and wellbeing for all ages. The production and availability of a mortality and cause of death report is a key step towards stimulating and guiding improvements on the civil registration system. Statistics are useful for evidence-based health policies and tracking of the population's health status. Hence, developing and publishing this report is essential to address the needs of the public, government, civil society and the international community for data on mortality patterns and causes.

The report is based on death data collected through the Namibian civil registration system maintained by the Ministry of Home Affairs and Immigration. The information on causes of deaths is as recorded on death notification forms completed by medical practitioners and other certifying officials. The coding for the causes of death data was done using International Classification of Diseases 11th Revision (ICD11).

It is my hope that stakeholders will make full use of this statistical report in their design of policies, strategies and plans towards improving the health and wellbeing of Namibians as well as improve the mortality and causes of deaths data collected through the Namibian civil registration system.

A handwritten signature in black ink, appearing to read 'Alex Shimuafeni', written in a cursive style.

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Executive Summary

Information on the number of deaths and their cause is invaluable in evaluating and tracking progress towards national, regional and international health related goals. The information on the mortality levels, trends and differentials is important for the identification of emerging diseases and conditions, formulation of evidence-based health policies and tracking of the population health status. Consequently, cause-of-death statistics assist in the formulation of evidence-based health policies and guide priorities for intervention programmes.

The main objective of this report is to present mortality and the cause of death statistics for the years 2016 and 2017 in Namibia. This was achieved by determining the quality of mortality and cause of death data and providing mortality and cause of death statistics with respect to spatial and demographic characteristics.

Key findings

There were a total of **19,254** (8,815 females and 10,431 males) and **18,448** (8,352 females and 10,091 males) deaths that occurred in **2016 and 2017 respectively**.

There is a uniform pattern of more deaths for males than females (54 percent more males were found to die than females despite age or cause of death). Deaths by age shows a typical W-shape mortality pattern, which is common among most developing countries with high mortality among infants, young adults and old age people.

Regional distribution of deaths shows that most of the deaths were recorded in Khomas and Oshana regions. The high numbers could have been attributed to fact that there are referral hospitals in the two regions (Oshakati Intermediate Hospital in Oshana region and Katutura Intermediate Hospital in Khomas Region).

CDR for both years was 8 deaths per 1,000 population. Crude Death Rate (CDR) was 8 deaths per 1,000 population for both 2016 and 2017.

The **death completeness rate** has improved from 73 percent in 2016 to 76 percent in 2017. The majority of deaths are registered within 12 months from time of occurrence (91.8% in 2016 and 99.1 in 2017).

There were a total of 2,523 (13.1% of 19,254) errors in the 2016 data and 2,241(12.2% of 18,448) in the 2017 data. Out of the total errors found, most were those on “codes not to be used for underlying cause of death” (64.1% and 62.1%).

The **evaluation of ill-defined causes** is classified into categories, including, symptoms and signs and non-specific causes that denote the mode of dying. Analysis of ill-defined causes of deaths by age groups shows that ill-defined causes were above the 10% threshold at all age groups for both years.

High proportion of ill-defined causes of death could be attributed to poor medical certification of cause of death, poor coding of cause of death, age misreporting of deaths, or biasness in reporting certain diseases. Factors such as the MCCD form not aligned to the standard WHO form leads to difficulties in determining the underlying cause of death. The unaligned form has impact on the accuracy of the cause of death data in terms certification.

The **major cause of deaths in Namibia** was communicable, maternal, perinatal and nutritional conditions and accounted for 41.6 and 40.4 percent in 2016 and 2017. The deaths caused by “communicable, maternal, perinatal and nutritional conditions” were most prevalent amongst those aged 0 and those aged 80 years and above, with a similar pattern observed for non-communicable diseases. However, patterns of injuries differ as they were more prevalent from the age group 20 – 24 years in 2016, and 25 – 29 in 2017.

Deaths due to communicable diseases were mostly of HIV (136 per 100,000 population in 2016 and 124 per 100,000 population in 2017) and respiratory infections (74 per 100,000 population in 2016 and 71 per 100,000 population in 2017) while the least were due to TB (38 per 100,000 population in 2016 and 33 per 100,000 population in 2017). Generally, there were more male HIV deaths than female and high deaths in infants and elders 80 years and above.

The major types of **non-communicable death rates per 100,000** population were; cardiovascular diseases (137 in 2016 and 142 in 2017), cancer (51 in 2016 and 51 in 2017), hypertension (9 in 2016 and 8 in 2017) and diabetes (6 in 2016 and 7 in 2017).

There were a total of 56 and 48 **maternal deaths** in 2016 and 2017 respectively and most were in Khomas and Oshana regions. The causes of maternal deaths were mostly due to bleeding (APH and PPH) and abortion for both years.

The **IMR** was 45 infant deaths per 1,000 live births in both 2016 and 2017, while **CMR** was 58 for both years. More than 50% of perinatal deaths were caused by macerated stillbirth and low birth weight.

The most common causes of **endocrine, nutritional and metabolic diseases** were malnutrition (accounting for over 40% in both years), metabolic disorders (with over 28% in both years) and diabetes mellitus (with over 22% in both years).

Deaths due to injuries were mostly those from road traffic accidents for both years (76.4% in 2016 and 73.0% in 2017). Deaths due to road traffic accidents were 3 times higher among males than females.

Conclusions

- i. A typical W-shape mortality pattern, usually observed in most developing countries with high mortality among infants, young adults and old age people, was observed.
- ii. A general pattern of more male than female deaths were observed.
- iii. Deaths due to communicable diseases remain high in Namibia.
- iv. There is an emerging high burden of NCDs which is mostly affecting the economically productive ages.
- v. The prevalence of deaths due to road traffic accidents is dominant among those aged 20- 39 in both years
- vi. HIV remains the leading cause of death among all age groups.
- vii. Namibia does not have adequate and good quality Civil Registration data on mortality and causes of death that can be used to support policy development and implementation. This is due to inappropriate recording of underlying causes of death as well as the completeness rate.
- viii. Generally, the level of misclassification and ill- defined causes of death are serious data quality concerns.

Recommendations

- i) Standardized training on certification of causes of death.
- ii) Implementation of built-in data validation checks in the e-death system to minimize data entry errors
- iii) Conducting regular quality review by stakeholders of the mortality and cause of death data.
- iv) Include the variable “place of usual residence” to link mortality to usual residence for accurate measuring of geographic variations
- v) Additional information should be a requirement for any unknown value in the data.
- vi) Strengthening existing policies and develop new strategies to improve the CRVS system including causes of deaths in Namibia.

Summary of Main Indicators

Indicator	2016	2017
Total Projected Population¹	2 324 388	2 368 747
Males ²	1 129 754	1 151 533
Females ³	1 194 634	1 217 214
Number of projected births⁴	69 322	69 709
Number of projected deaths⁵	25 268	25 045
Total deaths occurred	19 254	18 448
Males	10 431	10 091
Females	8 815	8 352
Death Completeness Rate (%)	76	74
<i>Death Registration timeliness (%)</i>		
Registered within 14 days (%)	91.8	95.9
Registered within 12 months (%)	99.1	99.9
Crude Death Rate (CDR) per 1,000 population	8.3	7.8
Adult mortality rate per 1,000 population	3	3
Under 5 (Child) Mortality Rate per 1,000 live births	58.8	57.7
Infant Mortality Rate per 1,000 live births	44.6	44.7
Neonatal mortality rate per 1,000 live births	28.5	27.5
Number of Stillbirths	737	685
Number of Maternal deaths	56	48
Number of Ill-defined causes of deaths	4 824	4 931
Ill-defined cause of deaths (%)	25.1	26.7

1 Namibia Population Projections 2011- 2041, page 11, Namibia Statistics Agency, NSA, 2014

2 ibid

3 ibid

4 ibid

5 ibid

List of Abbreviations

AIDS	Acquired immunodeficiency syndrome
APAI-CRVS	Africa Programme on Accelerated Improvement of Civil Registration and Vital Statistics
APH	Antepartum Hemorrhage
ASMR	Age Specific Mortality Rate
CBR	Crude Birth Rate
CDC	Centers for Disease Control and Prevention
CDR	Crude Death Rate
CMR	Child Mortality Rate
CoD	Cause of Death
CR	Civil Registration
CRVS	Civil Registration and Vital Statistics
CVD	Cardiovascular Disease
HBP	High Blood Pressure
HISMP	Health Information Systems and Management Program
HIV	Human Immunodeficiency Viruses
ICD	International Classification of Diseases
IMR	Infant Mortality Rate
MCCD	Medical Certificate of the Causes of Death/Still-birth
MO	Medical Officer
MoHSS	Ministry of Health and Social Services
MoJ	Ministry of Justice
MSS	Ministry of Safety and Security
NCD	Non-communicable Disease
NMR	Neonatal Mortality Rate
NPR	National Population Registration
NPRS	National Population Registration System
NSA	Namibia Statistics Agency
NUST	Namibia University of Science and Technology
PEPFAR	U.S. President's Emergency Plan for AIDS Relief
PPH	Postpartum Haemorrhage
TB	Tuberculosis
UA	Unknown Age
UN	United Nations
WHO	World Health Organisation

Concepts and Definitions

Adult Mortality: The probability of dying between the ages of 15 – 59 inclusive, that is, the probability of a 15-year-old dying before reaching the age of 60, if subject to current age-specific mortality rates between those ages

Adult Mortality Rate (AMR): the number of deaths among the economically productive age span (15 – 59 years) occurring during the same period of time, usually a calendar year, per 1,000 population of that area during the same year

Child Mortality Rate (CMR): The annual number of deaths among children under 5 per 1,000 livebirths in a given population the number of livebirths occurring in a population during a given period of time, usually a calendar year, i.e., the number of live births occurring among the population of a given geographical area during a given year, per 1,000 mid-year total population of that area during the same year

Crude Birth Rate (CBR): The number of livebirths occurring in a population during a given period of time, usually a calendar year, i.e., the number of live births occurring among the population of a given geographical area during a given year, per 1,000 mid-year total population of that area during the same year

Crude Death Rate (CDR): the number of deaths occurring in a population during a given period of time, usually a calendar year, i.e., the number of deaths occurring among the population of a given geographical area during a given year, per 1,000 mid-year total population of that area during the same year

Event captured refers to capturing/entering information of the event/record on the National Population Register System (NPRS)

Event occurred refers to the actual occurrence of an event (Birth, Death, or Marriage)

Event registered refers to the registration of an event through an issuance of a certificate e.g. birth certificate, death certificate or marriage certificate

Ill-defined Cause: A trivial condition unlikely to cause a death

Infant Mortality Rate (IMR) is the number of infant deaths occurring during the same period of time, usually a calendar year, i.e., the number of deaths of live-born children under 1 year of age occurring in a given geographical area during a given year, per 1,000 live births occurring among the population of that area during the same year

Live Birth is a result of the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy, which after such separation breathes or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached. Each product of such a birth is considered to be live-born

Maternal Death is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes

Neonatal Death: A neonatal death is defined as a death during the first 28 days of life (0 – 27 days)

Neonatal Mortality Rate (NMR): The number of neonatal deaths per 1,000 live births

Perinatal Mortality Rate (PMR): is the sum of the number of resident foetal deaths of 28 or more weeks gestation plus the number of resident newborns dying under 7 days of age in a specified geographic area divided by the sum of the number of resident live births plus the number of resident fetal deaths of 28 or more weeks gestation for the same geographic area and multiplied by 1,000

Post Neonatal Mortality Rate: is the number of resident newborns dying between 28 and 364 days of age in a specified geographic area divided by the number of resident live births for the same geographic area (for a specified time period, usually a calendar year) and multiplied by 1,000

Region of occurrence refers to the region where the event occurred and is derived from place of occurrence

Region of registration refers to the region in which the event was registered and is derived from the office of registration

Registration within a year means that an event is registered within 12 months (year) from the date of occurrence

Registration year refers to the year when the event was registered. Year of registration is derived from date of registration

Under 5 Mortality Rate: is the probability (expressed as a rate per 1,000 live births) of a child born in a specified year dying before reaching the age of five if subject to current age-specific mortality rates

Vital event is the occurrence of a live birth, death, foetal death, marriage, divorce, adoption, legitimation, and recognition of parenthood, annulment of marriage or legal separation.

Year of occurrence refers to the year when the event occurred. Year of occurrence is derived from date of occurrence

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CHAPTER 1: INTRODUCTION AND BACKGROUND

1.1 Background information

One of Namibia's fifth National Development Plan (NDP5) goals are to "Build Capable and Healthy Human Resources" over the period 2017- 2022. By 2022, Namibia aims to improve life expectancy from 58 in 2015 to 67.5 years, reduce maternal mortality ratio from 385 in 2013 to 200, reduce Under-Five Mortality from 54 in 2013 to 39, reduce Malaria Mortality Rate from 3.4 in 2014 to 0, reduce TB Mortality Rate from 73 in 2014 to 47 and HIV/AIDS Mortality Rate from 134 in 2016/17 to 90.

Goal three of the Sustainable Development Goals (SDGs) (SDG 3: Good Health and Well-Being), seeks to improve maternal and child health outcomes, end infectious diseases, reduce premature mortality from non-communicable diseases and injuries and ensure universal health coverage by 2030. Both the NDP5 and the SDGs are closely linked to Africa's Agenda 2063, which is a long-term inclusive and sustainable development framework for Africa. The Agenda envisages a continent characterised by universal access to healthcare, zero communicable diseases deaths, zero maternal deaths, zero child deaths, with countries capable of mobilising domestic funding for preventing, detecting and responding to public health threats such as non-communicable diseases, health needs of the youth population and malnutrition by 2063.

Information on the number of deaths and their causes is invaluable in evaluating and tracking progress towards these national, regional and international goals. Information on the mortality levels, trends and differentials is important for the identification of emerging diseases and conditions, formulation of evidence-based health policies and tracking of population health status. Consequently, cause-of-death statistics assist in the formulation of evidence-based health policies and guide priorities for intervention programmes (WHO, 2013; United Nations, 2014).

Mortality data from the civil registration system allows the production of mortality statistics on a continuous basis and contribute to the understanding of the burden of disease at national and local geographic levels. Given the critical importance of a well-functioning civil registration and vital statistics system in the production of complete, accurate, relevant and timely mortality statistics, the system needs to be anchored in an up-to-date legal and regulatory framework to enforce registration of deaths and ensure continuity and consistency of the system (WHO, 2013).

1.2 Objectives of the Report

1. To provide mortality and cause of death statistics with respect to spatial and demographic characteristics;
2. To determine the quality of mortality and cause of death data;

1.3 Report Structure

The report presents statistics on deaths, analysed by selected demographic characteristics; leading causes of death disaggregated by age and sex for the period 2016 and 2017. This report analyses mortality and cause of death records maintained in the National Population Registration System (NPRS). It comprises of six (6) chapters covering the following areas: chapter one is the introduction and background, the data sources and methodology follow in chapter two, quality of cause of death and data evaluation is shown in chapter three, chapter four gives the analysis of mortality patterns, chapter five shows results on causes of deaths, while chapter six provides the conclusions and recommendations.

1.4 Country profile

Namibia covers an area of 825,229 square kilometers and has a projected population of about 2.4 million inhabitants in 2017⁶. The country is one of the most sparsely populated countries in the world.

Namibia has adopted the goal of providing universal health care (UHC) coverage to its citizens. This goal is reflected in the National Health Policy Framework (NHPF III) [2010-2020]. According to the 2017 National Health Facility Census, there were a total of 448 health facilities in Namibia, covering close to 2.4 million people⁷, of which 338 (75.4%) were Government owned and the rest (110) were privately owned. Out of the total health facilities; 52 (11.6%) were hospitals, 50 (11.1%) were health centers, 311 (69.4%) were clinics, 11 (2.4%) were sick-bays and 24 (5.3%) were private consulting rooms.

The overall health facility density in Namibia for 2017, excluding private consulting rooms, was 1.7 health facilities per 10,000 people, which is almost equivalent to the WHO target of 2.0 facilities per 10,000 population. There were 26 inpatient beds per 10,000 people against the global average of 29 for upper middle-income countries based on the WHO benchmarks. In terms of human resources, there were 61 doctors, 807 nurses and 79 pharmacists, which translates into 1 medical doctor, 10 nurses and 1 pharmacist per 10,000 people.

1.5 Civil Registration and Vital Statistics system

Civil registration (CR) is defined as “the continuous, permanent, compulsory and universal recording of the occurrence and characteristics of vital events, provided through a decree or regulation in accordance with the legal requirements of each country” (UNSD, 2014). A civil registration system provides for the legal identity, i.e. recognition of person’s existence under the law, issuing a legal document that serves as proof of belonging (nationality) and other social characteristics of an individual. The CR system is a platform, which documents key life events such as births, deaths, marriages and divorces of people within the national borders of a country.

Vital Statistics (VS) is defined as “the collection of statistics on vital events in the lifetime of a person as well as relevant characteristics of the events themselves and of the person and persons concerned.” (UNSD, 2014)

Hence, information recorded can be used by government to generate vital statistics on demographic dynamics and health of the population. A well-functioning CR produces timely and accurate information on births, fertility and deaths that enable the calculation and production of timely and accurate population estimates, which contributes to policy development and planning of national development programs.

Civil Registration and Vital Statistics (CRVS) system include stakeholders from various backgrounds; therefore, coordination and communication of multiple agencies is key to optimal system performance. Therefore, Civil registration data is a cost-effective use of government resources, essential for updating the Civil Register (CR), the data can also be used to establish social developmental strategies.

6 Namibia 2011 Census Population Projections 2011 to 2041

7 Namibia Health Facility Census 2017

1.6 Global status of death registration and causes of death data

In most countries in need of CRVS, up to 80 percent of deaths occur outside of health facilities and two thirds of all deaths globally are not counted⁸. where CRVS systems do not function well enough to produce data for monitoring; population censuses and household surveys are an important source of mortality data for monitoring. Additionally, there are major gaps in the coverage of death registration and persisting quality issues in death registration data. (WHO, 2014)

The two main dimensions of quality that impede the use of death registration data for public health monitoring are;

1. Failure to register some deaths; and
2. Missing, incomplete or incorrect information on causes of death.

1.7 Status of Cause of Death Data in Africa

“Most people in Africa and Asia are born and die without leaving a trace in any legal record or official statistic. Absence of reliable data for births, deaths, and causes of death are at the root of this scandal of invisibility, which renders most of the world’s poor as unseen, uncountable, and hence uncounted” (The Lancet,2007). Since the publishing of the article, significant progress has been achieved globally and in particular in Africa in terms of the recognition of CRVS as a development imperative⁹.

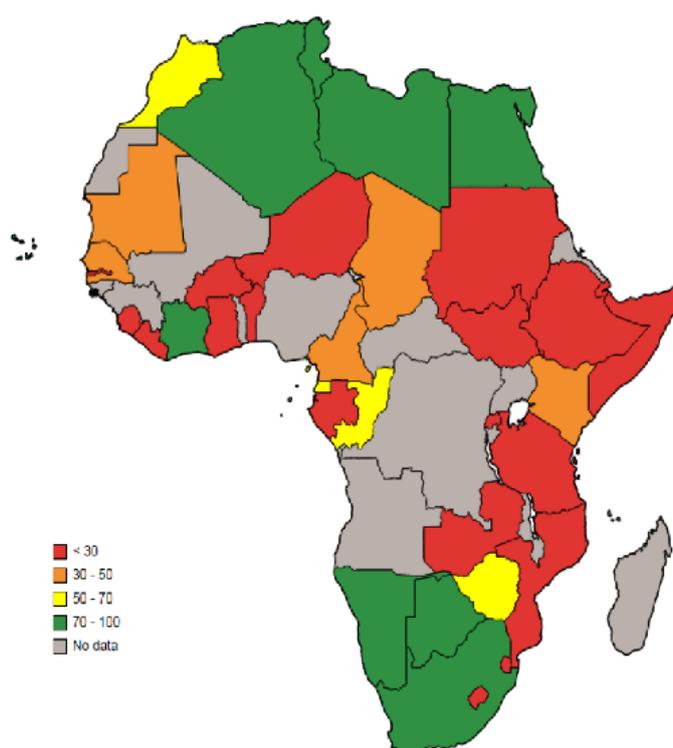


Figure 1: Percentage of death registration completeness in Africa, 2017

8 Global Civil Registration and Vital Statistics Scaling up Investment Plan 2015–2024, page xii, World bank group, WHO, 2014

9 http://apai-crvs.org/sites/default/files/public/Making%20Everyone%20Visible_September%20EN%20_0.pdf

According to Africa Programme on Accelerated Improvement of Civil Registration and Vital Statistics (APAI-CRVS)(2017), Status of death registration, including the causes of death data, in Africa are relatively low. More than 80% of African countries have no concrete vital registration systems of death information in place for recording deaths and their causes. According to (WHO, 2017) it was reported that in Africa only Algeria, Mauritius, Seychelles and South Africa have high coverage rates of death information (75% and higher). In most parts of Africa, death registration lags far behind birth registration coverage. Most deaths in Africa occur outside health facilities and a doctor rarely certifies the cause of death. The existing international guidelines and standards on improving civil registration do not capture this unique context in Africa. Thus, the need to design and adopt innovative approaches that are specific to the situation on the continent.

Out of the 47 member States in the World Health Organization (WHO) African region, only Mauritius can provide high-quality cause-of-death data. Seychelles, South Africa and Zimbabwe are able to provide low or medium-quality data while Egypt and Morocco can provide low to medium-quality cause-of-death data. The World Bank recently noted that lack of information on deaths and causes of death means that problems arise from using estimates. Hence, the only way to accurately track progress will be through complete civil registration and vital statistics systems.¹⁰

1.8 Civil Registration System in Namibia

In Namibia, the department of civil registration under the Ministry of Home Affairs and Immigration (MHAI), is mandated to register births, marriages and deaths and to issue certificates of those events. The Ministry of Health and Social Services (MoHSS) is a key player in birth and death notifications and determining the causes of death. The Namibian police under the Ministry of Safety and Security handles unnatural deaths and ascertains the causes of death. The coding of causes of death for this specific data was done by Namibia Statistics Agency (NSA) in conjunction with the Ministry of Health and Social Service. The successful incorporation of the ICD-coded underlying cause of death in the legal record in the civil registration system will allow the CRVS data source to provide the complete, minimally recommended data elements needed to compute cause of death indicators (UN, 2014b).

Since 1996, Namibia has undertaken a thorough step-by-step process to digitize most of its Civil Registration functions and integrated these with an Identity Document Production System. This has created tremendous improvements in ensuring accurate identity data and effective service delivery.

1.8.1 Legal framework

The Births, Marriages and Deaths Registration Act (Act No. 81 of 1963) governs the registration of civil events and sets out the legal framework for civil registration (currently being revised). The Act states that only a medical practitioner shall certify a death and determine the cause of death if it was due to natural causes. The Inquests Act (Act No.6 of 1993) guides unnatural deaths where the police undertake an investigation on the circumstances of the death and a post-mortem examination is carried out by the medical practitioner to determine the cause of death. The production of statistics is done in accordance with the Statistics Act (Act No. 9 of 2011).

10 www.apai-crvs.org/sites/default/files/public/Death%20registration_eng.pdf,
2016 Decade for repositioning of Civil Registration and Vital Statistics in Africa 2017- 2026

1.8.2 Organizational framework

There are several stakeholders involved in the notification, registration and certification of deaths.

The key institutions involved in the recording and capturing of mortality and causes of death data include the Ministry of Health and Social Services, Ministry of Home Affairs and Immigration, Ministry of Safety and Security and Ministry of Justice, **Figure 2**.

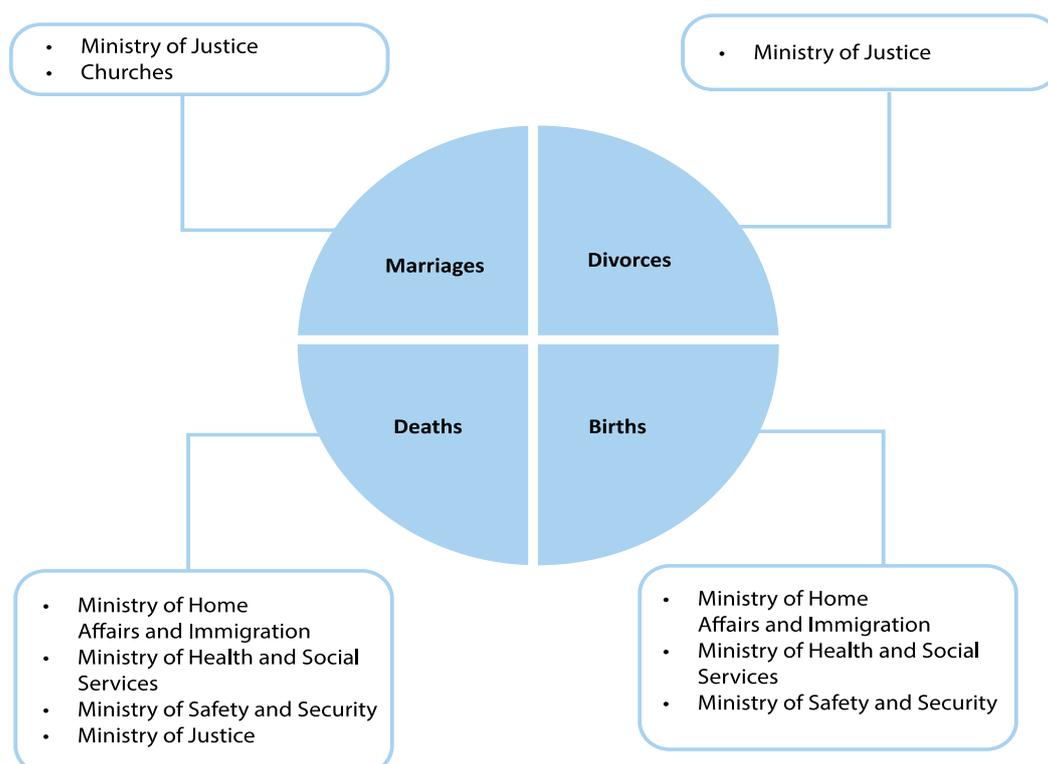


Figure 2: Linkage of components of civil registration with various institutions

MHAI has an integrated web based NPRS aimed at consolidating all vital events of an individual under one demographic profile. All stakeholders are working towards achieving the goals and objectives to improve CRVS.

Figure 3 illustrates the visual flow of data at different stages to the point of statistics production. Events are registered at every level (local, regional or national) as registration offices are spread throughout the country to ensure the population has access to registration services. All records of registered events are stored in the NPRS database maintained by the Office of the Prime Minister. The statistics office use data extracted from the NPRS to produce Vital Statistics Reports and Cause of death report.

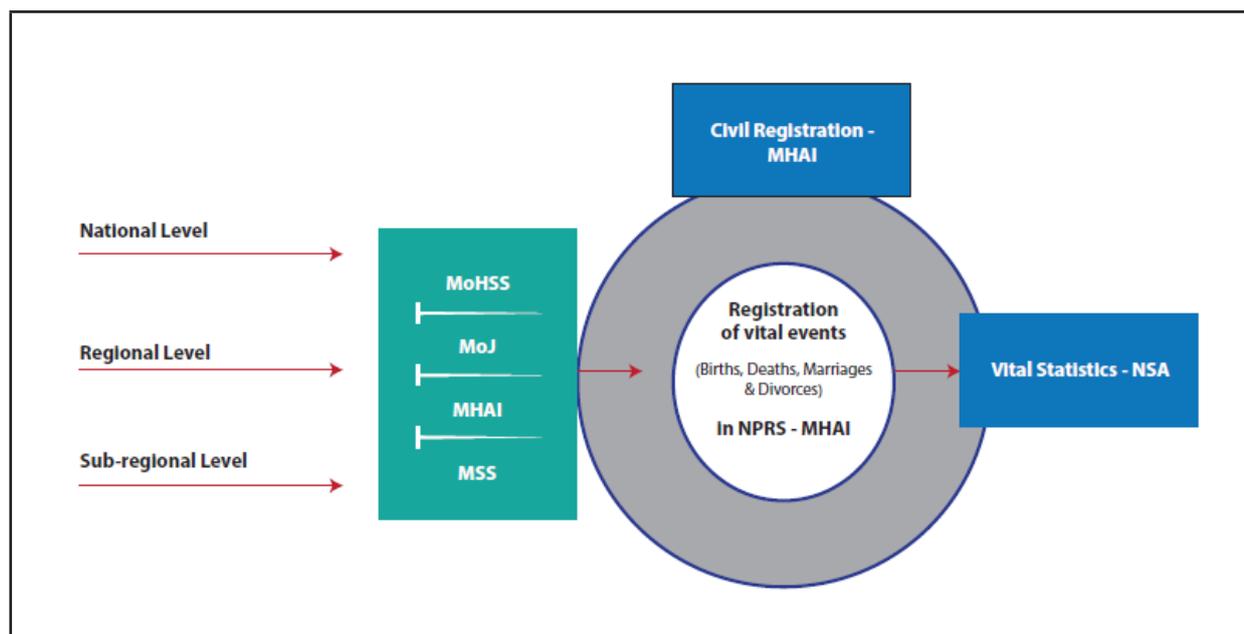


Figure 3: Data flow of vital events

1.8.3 Death Certification and Registration Process in Namibia

The process in **Figure 4** depicts a diagram flow for **deaths** that occur **in a health facility**, as explained in the following steps:

- Step 0:** Death occurs
- Step 1:** A Doctor certifies the death and adds the cause of death on the patient admission file and completes Medical Certificate of Cause of Death (MCCD)
- Step 2:** Ward nurse completes the notice of death form and the in-patient department register book to indicate that a death occurred.
- Step 3:** Body moved to mortuary together with a copy of the notice of death form. Body gets ID tag
- Step 4:** At mortuary, death registration book is completed by hospital mortuary assistant
- Step 5:** Family takes MCCD to MHAI to obtain death certificate
- Step 6:** MHAI registers death and issues death certificate. Record stored in NPRS
- Step 7:** NPRS Data to NSA for production of statistics

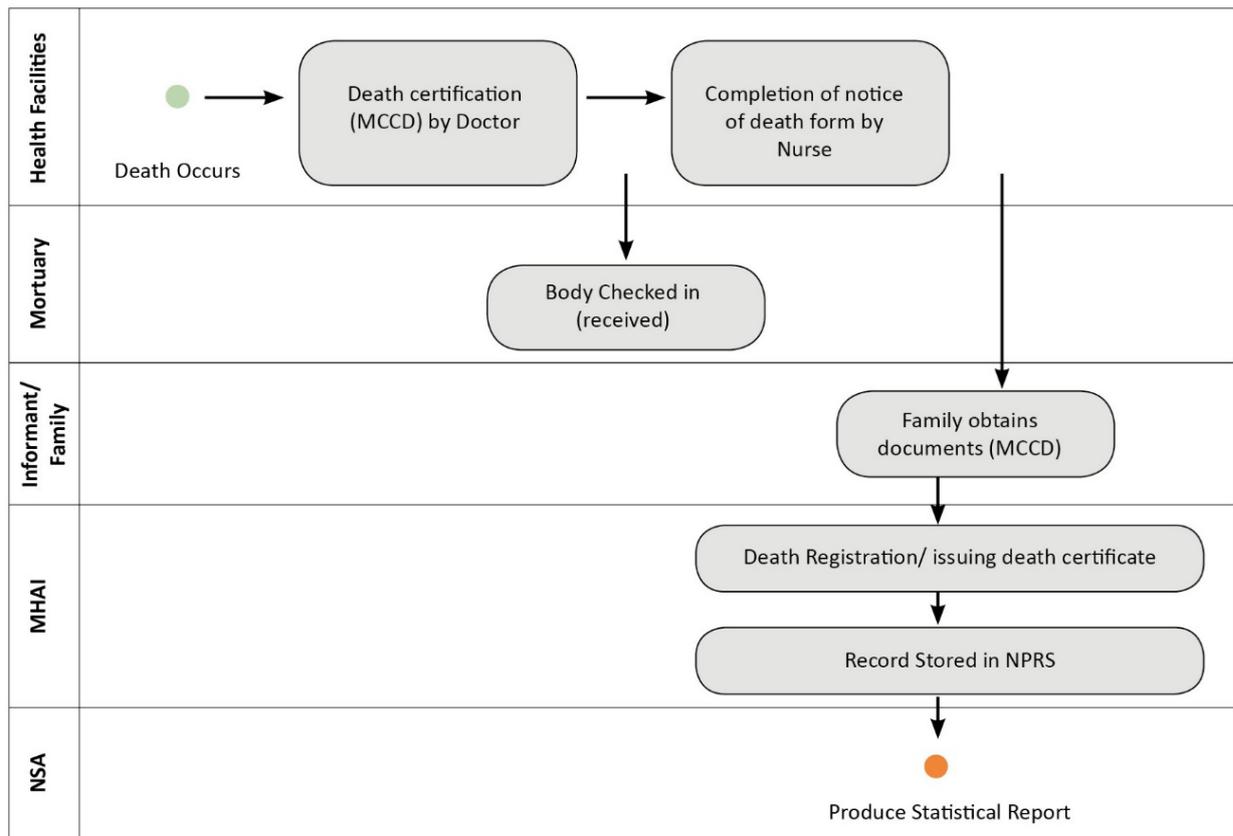


Figure 4: Certification and Registration for deaths occurring in Health Facility

The process in **Figure 5** depicts a diagram flow for **deaths** that occurred **outside a health facility**, and exemplifies the following steps:

- Step 0:** Death occurs
- Step 1:** Informant calls police
- Step 2:** Police (Investigation officer) investigates circumstance surround the death and certifies death. *In case of a natural death, the family may receive a Death Notification Letter with **Pol700**. At this point **Pol 700** can be taken to MHAI to obtain a death certificate*
- Step 3:** Forensic pathology technician receives the body, completes **Pol28** (report accompanying body sent for post-mortem) and **Pol67** (Government Mortuary Receipt of Body and Property), transports body to mortuary and completes death register (**Pol26**).
- Step 4:** Police reports death to Magistrate (Ministry of Justice) and requests for approval from magistrate to conduct the autopsy by completing **Pol58**
- Step 5:** After approval from Magistrate (Ministry of Justice), the Medical officer conducts Autopsy to determine cause of death and complete **Pol29** (certificate of examination- causes of death)

- Step 6:** Forensic pathology technician completes the yellow form and attach to **Pol29**
- Step 7:** Informant identifies and confirms the body and completes **Pol51** and obtains **Pol29** and yellow form to register the death
- Step 8:** MHAI registers death and issues death certificate and burial order to family. Death record stored in NPRS
- Step 9:** NPRS Data to NSA for statistics production

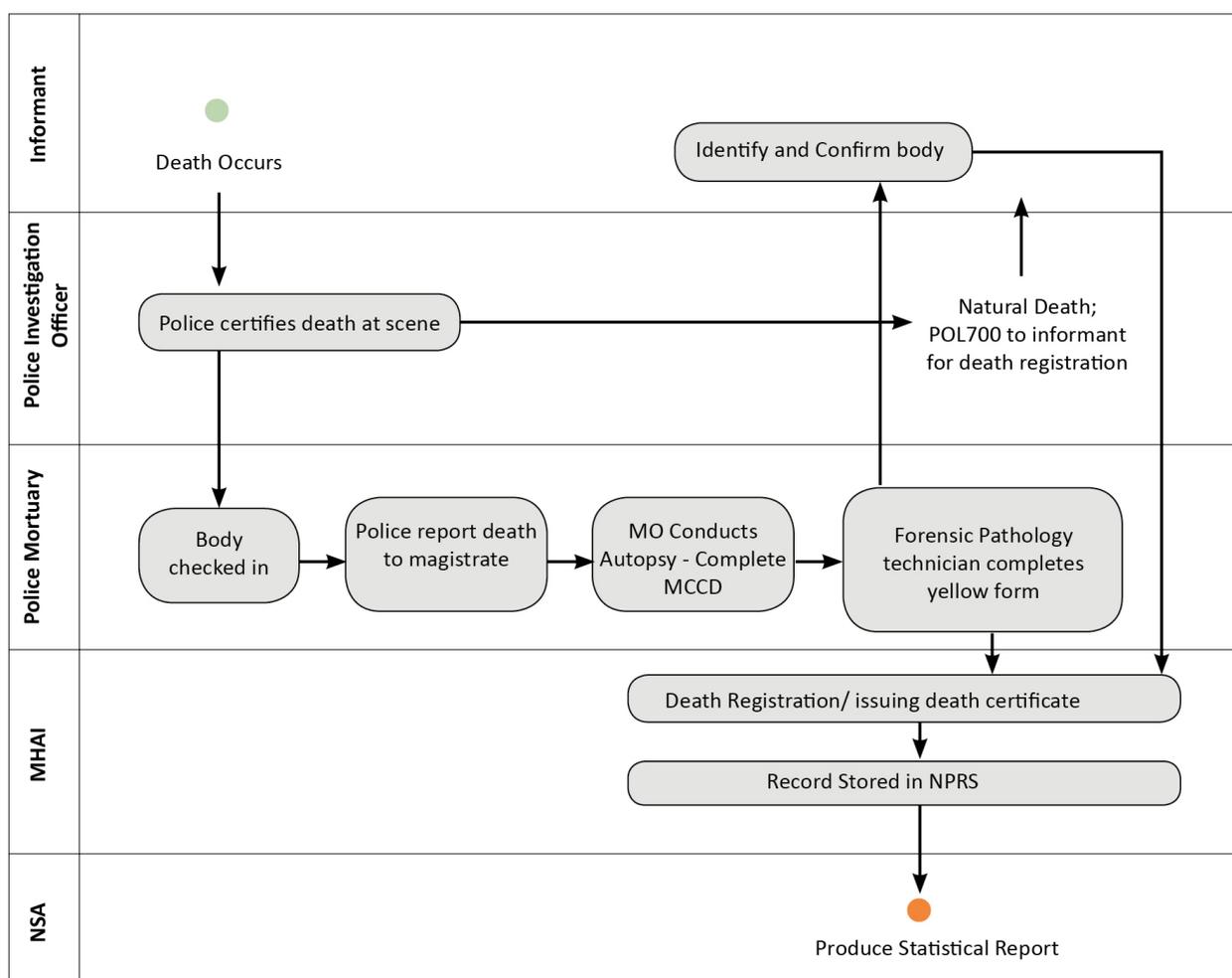


Figure 5: Certification and Registration for deaths occurring outside Health Facility

1.8.4 Incentives and disincentives for registration

The Births, Marriages and Deaths Registration Act (Act No. 81 of 1963) requires that no burial takes place unless the death is registered and issuance of a death certificate from MHAI. Factors that may influence registration of vital events positively includes; the free service for registration of vital events, a requirement of a birth certificate to enroll children in early childhood development programs, pension grants, death benefits, etc. There are no disincentives but there are few barriers, such as geographic distance and a lack of knowledge on the importance of death registration.

CHAPTER 2:

DATA SOURCES AND METHODOLOGY

This chapter presents the sources of data and methodology used in generating mortality and cause of death statistics based on registered deaths in Namibia for the period 2016 and 2017.

2.1 Data source

The data used for analysis was sourced through the NPRS of the Ministry of Home Affairs and Immigration. The report used dataset for the period of 2016 to 2017 in order to have comparative analysis. Projected population births and deaths were taken from the population projections based on the 2011 Namibia Population and Housing Census. The causes of death were captured in the NPRS at MHA using information on the Medical Certificate of Cause of Death (MCCD) completed by medical doctors.

2.2 Data Cleaning

CoDEdit version 1.0 was used to check and flag errors and alert about the possible misuse of codes of each unit record. It is worth noting that routine data checks using CoDEdit were not performed, it was only applied to a full dataset.

2.3 Data Quality mechanism

The quality of the data in this report was measured according to four data quality attributes namely; completeness, accuracy, consistency and timeliness. The evaluation of the data quality is essential in providing both data producers and users with a good understanding of the strengths and weaknesses of the data in order to improve the CRVS system. Furthermore, quality is one of the most important aspects of data as it enhances its credibility and increases the validity of any conclusions drawn from such data. The assessment of the quality of the data was done using the CodEdit tool version 1.0 developed by WHO. The tool is used for checking and flagging errors to improve data quality.

2.4 Coding on cause of death

Data on causes of death is coded using the International Classification of Diseases (ICD) as developed by WHO. The ICD is used to translate diagnoses of diseases and other health problems from words into an alphanumeric code, which permits easy storage, retrieval and analysis of the data. For Namibia, the data was coded using ICD 11, however, during the analysis phase the codes in ICD 11 were translated back to ICD 10 because the analysis tools for ICD 11 are not yet developed.

2.5 Data Analysis

The analysis process was done using Microsoft Excel and available mortality and cause-of death tools by WHO; CoDEdit version 1.0 and ANACoD version 2.0 for quality checks and analysis. The CoDEdit electronic tool is intended to help producers of cause-of-death statistics in strengthening their capacity to perform routine checks on their data. The CoDEdit tool was used at data compilation stage with the primary purpose to flag basic gross errors, alert about possible misuse of codes and provide a summary of the data set.

The tool for analysing mortality level and cause-of-death data version 2 (ANACoD V.2) provides a step-by-step approach to enable users to quickly conduct a comprehensive analysis of data on mortality levels and causes of death. The tool automatically reviews the data for errors, tabulates the information, presents the results in easy-to-use tables and charts, and provides the opportunity to compare the findings across countries.

Maps were created using Tableau version 2018.3 software. The data was analysed by levels, trends and cross-tabulated by selected spatial and demographic variables mainly age, sex, and geographical location. It is worth to note that regional distribution of deaths is based on place/region where the death occurred, and not necessarily the place of usual residence of the person that has died. The causes of death were computed by ranking the underlying cause and providing the proportions of deaths due to specific causes, based on the General Mortality List 1: 103 Cause List of the ICD 10 volume II of 2016 (see Annex III). The projected figures for population, births and deaths from “Namibia Population Projections 2011 – 2041” were used as denominator to estimate the 2016 and 2017 mortality indicators such as CDR, ASMR, CMR, IMR and completeness rates.

2.6 Cautionary note

Note that the difference in the death totals in the Causes of Death (CoD) report as compared to the death totals in the Vital Statistics Report (VSR) are due to the different time of extraction of the two data sets from the National Population Register System (NPRS).

CHAPTER 3: QUALITY OF CAUSE OF DEATH DATA

3.1 Death registration completeness

Complete registration has been achieved when any vital event that has occurred to the members of the population of a particular country (or area), within a specified time period, has been registered in the system, i.e. there is a vital event registration record (UN Principles and Recommendations for a Vital Statistics System Rev 3, 2014). Death completeness rate is a percentage of registered deaths within the year of occurrence out of the estimated number of deaths in the same year of occurrence and is calculated as;

$$(1) \text{ Death completeness rate} = \frac{\text{Number of registered deaths within the year of occurrence}}{\text{Projected deaths in a year}} \times 100$$

In **Table 1**, it is observed that the completeness rate has improved from 73 percent in 2016 to 76 percent in 2017.

Table 1: Death completeness rates by year

Year	Deaths registered within a year	Projected deaths	Death completeness rate
2016	18 456	25 268	73.0
2017	19 031	25 045	76.0

Source: Projected deaths from Namibia Population Projections 2011 – 2041

3.2 Registration Timeliness

Timeliness in registration means that every event that has occurred in the country (area) has been reported for registration within the legally stipulated timeframe. For Namibia, timely death registration refers to a death that has been registered within 14 days from date of occurrence. However, an internationally standard timeframe for timely death registration is deaths registered within 12 months. The 12 months' timeframe is good for comparability with other countries, therefore, the report also used the 12 months' definition.

Figure 6 shows that the deaths registered within 14 days increased from 91.8 percent in 2016 to 95 percent in 2017. This is also similar with the death registered within 12 months which increased from 99.1 percent in 2016 to 99.9 percent in 2017.

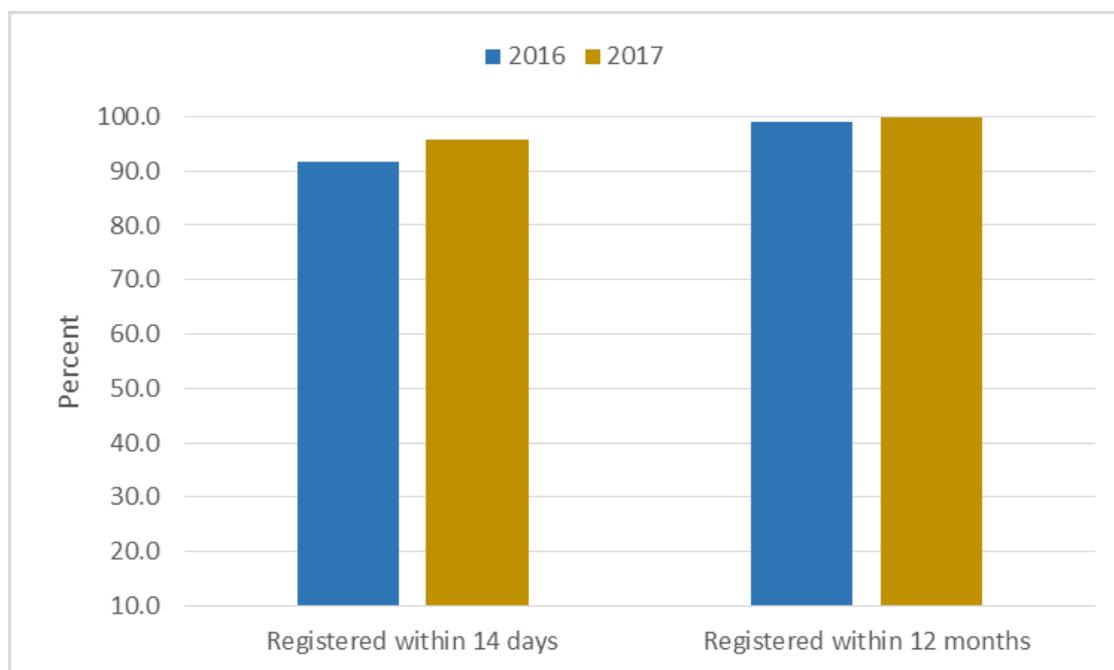


Figure 6: Percent deaths registered timely (within 14 days and 12 months) by year

3.3 Consistency and Accuracy of Cause of death data

Consistency measures whether or not data is equivalent across all systems i.e. the data reflects the same information and are in synch with each other across all institutions (National Statistical System). There are two dimensions of consistency in measuring data quality, namely Internal and external consistency. Internal consistency refers to checking and ensuring that there are no outliers within the data being assessed, CodEdit was used to flag out outliers. Conversely, external consistency refers to the comparability of the data with other different data sources, for example, results using causes of death data should be similar to results from a survey or other data sources.

Accuracy of registration is achieved when data items for each vital event on the vital record have accurately been completed. In Namibia, the accuracy of data depends on different role players involved in the death registration process (certification, data entry and coding). If causes of death data is not recorded correctly, it compromises the quality and reliability of estimates that can derived from such data.

Inaccurate recording of cause of death compromises the quality and reliability of estimates that can derived from such data. High proportion of ill-defined causes of death could be attributed to poor medical certification of cause of death, poor coding of cause of death, age misreporting of deaths, or biasness in reporting certain diseases.

3.3.1 Data Quality in Medical Certification

Some errors relating to certification were identified as follows:

1. MCCD form is not in line with standard WHO form, *see Annex II.*
2. Doctors not recording cause of death according to International Classification of Diseases, *see Table 3.*
3. Spelling errors introduced during data entry in NPRS. A sample screenshot of the misspelled causes of death is shown in *Annex Table 1.*

3.3.2 Coding of cause of death

The CoDEdit tool is intended to help producers of cause-of-death statistics to strengthen their capacity in performing routine checks on their data in order to minimize errors. While the CoDEdit tool is applied at data compilation stage, its primary purpose is to warn and flag basic gross errors, alert about possible misuse of codes and finally provide a summary of the data set. This tool provides relatively simple ways of checking for the validity of each data record that would enable data collectors to improve their data significantly.

A batch of records was prepared where a data set had a single record of which each record represents a death. For example, if there are 4,000 deaths in the area, there should be 4000 rows in the data set. The program requires that data set should have these 6 compulsory variables:

1. **Freid:** this column is for any ID which a country uses to identify each record
2. **Sex:** 1 =male, 2 =female and 9 =unknown sex
3. **Age Value:** 0 to 125
4. **Age Type:** D =days (0- 27), M =months (1 – 11) and Y = years (1- 125), for unknown age use Y 999
5. **Code:** Underlying cause of death by ICD-10 code. A country can either report data using the 3-character or 4-character level of the ICD-10.
6. **Death Date:** Year of death. Note: one data set should contain only deaths for a specific year.
It is recommended not to mix records from several years.

After the program runs the data, a list of errors will be shown in terms of the following:

Sex-specific cause:

For causes that are specific to one sex, the tool will flag as error when the combination of sex and cause is wrong. For e.g. a female death from prostate cancer is an error.

Action: The user is expected to correct each mistake by reviewing the information on the sex and cause of death on the death certificate.

Age-specific cause:

For causes that are specific to certain ages, the tool will flag as error when the combination of age and cause is doubtful. For e.g. maternal death for a female aged 5 years or death from senility at age 15 years.

Action: The user is expected to correct each mistake by reviewing the information on the age and cause of death on the death certificate.

Notifiable diseases:

Diseases that are usually notifiable in countries such as yellow fever, cholera and plague are flagged if there are deaths. Also if there is any death from small pox, this is flagged as the disease is now considered as eradicated.

Action: The user is expected to check the plausibility of such events with the health authorities.

ICD-10 codes:

Several types of errors are involved in the use of the ICD-10 codes:

Typing mistakes or incomplete code

1. If code is typed as "J18A" for e.g., this is flagged as error as the 4th character cannot be a letter "A".

- If the coding is generally done at the 4-character level of the ICD-10, code “E10” for e.g. will be flagged since it is missing a 4th character. It should be either E100 or E101, ... or E109.

Action: The user is expected to correct each mistake by consulting ICD-10 volume 1 for the list of standard codes.

There was a total of 2,523 (13.1% of 19,254) errors in the 2016 data and 2,241(12.1% of 18,448) in the 2017 data. Most errors were those on “codes not to be used for underlying cause of death” (64.1% and 62.1%) and “cause of death implausible for age” (33.1% and 35.0%), **Table 2**.

Table 2: Distribution of error types in 2016 and 2017 data

Error type	2016		2017	
	Number	Percent	Number	Percent
Cause code is not in cause list	43	1.7	46	2.1
Cause implausible for sex	26	1.0	20	0.9
Cause of death implausible for age	836	33.1	784	35.0
Code not to be used for underlying cause of death	1 618	64.1	1 391	62.1
Total Errors	2 523		2 241	

The evaluation of ill-defined causes is classified into categories including symptoms and signs and non-specific causes that denote the mode of dying. Generally, the accepted threshold of ill-defined causes is 10%. The graphs for 2016 and 2017 data show the ill-defined causes above 10% in all age groups, **Figure 7** and **Figure 8**.

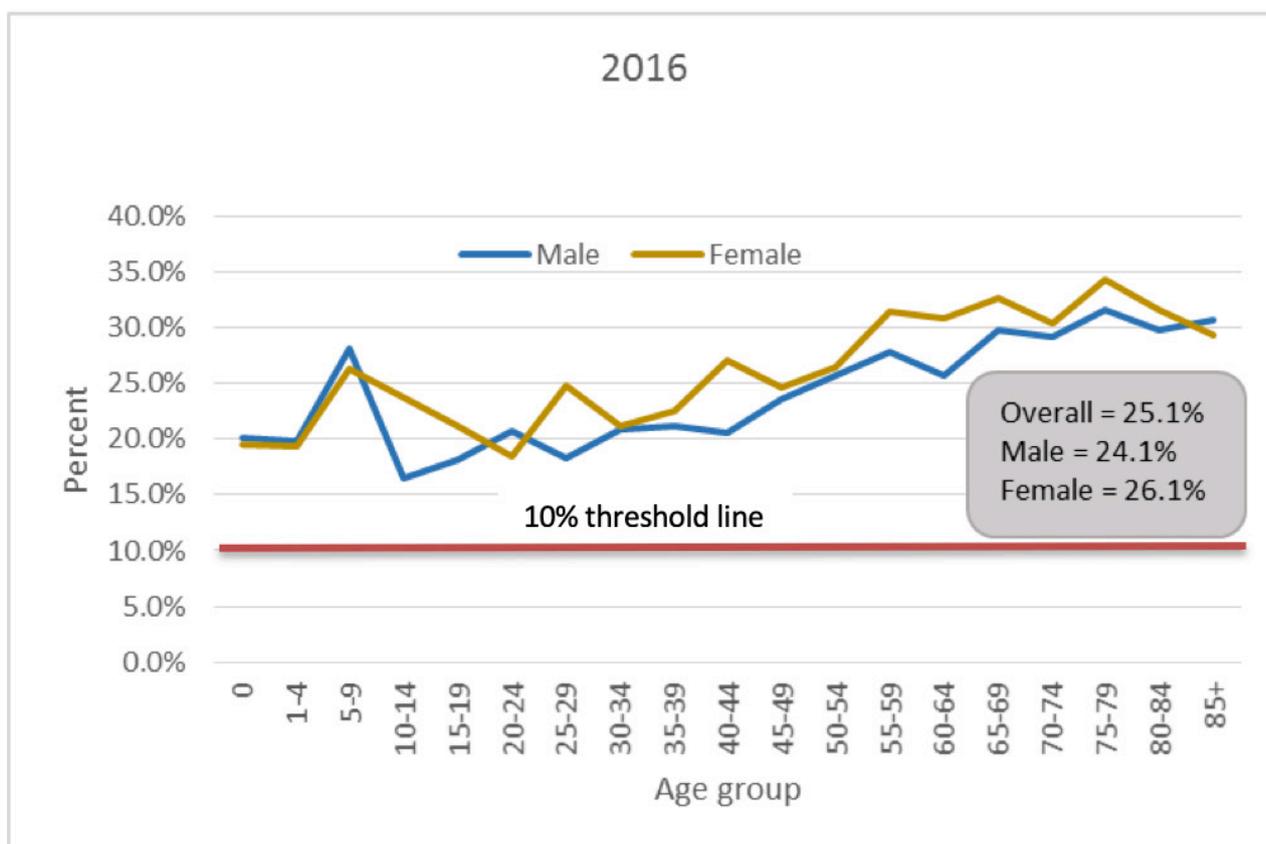


Figure 7: Percent distribution of ill-defined cause of deaths by age group, 2016

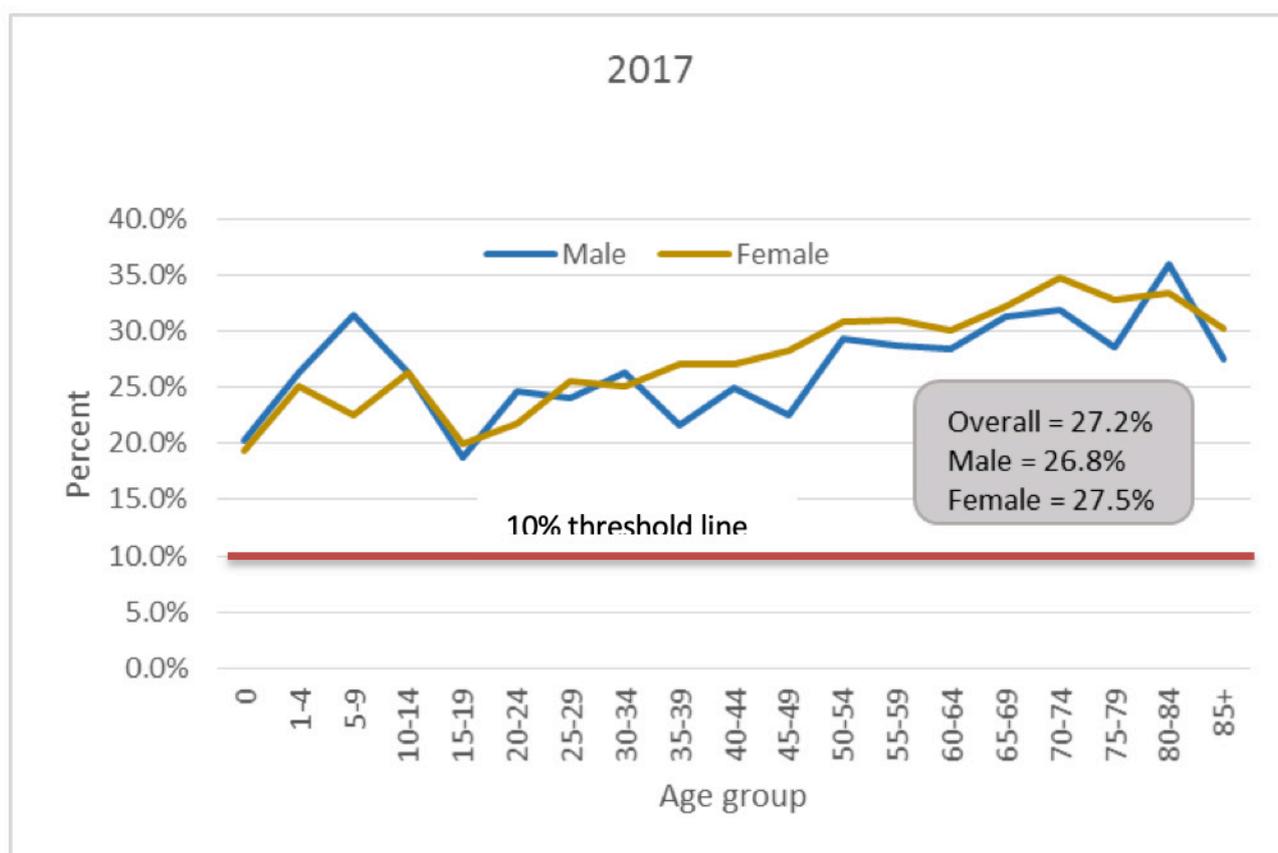


Figure 8: Percent distribution of ill-defined cause of deaths by age group, 2017

Cases of conditions unlikely to cause a death were detected in the data as illustrated. A total of 4,824 (25.1% of 19,254) ill-defined causes were found in the 2016 data and 4,931 (26.7% of 18,448) in the 2017 data. Diseases of circulatory system recorded the highest percentage of ill-defined cause of death for both years, 39.4 percent in 2016 and 41.7 percent in 2017, **Table 3**.

Table 3: Ill-defined causes by ICD-10 for 2016 and 2017

Ill-defined causes by ICD-10 chapter:	2016		2017	
	Number	Percent	Number	Percent
Total of ill-defined	4 824	100.0	4 931	100.0
Diseases of circulatory system	1,900	39.4	2,057	41.7
Symptoms, signs and....	1,424	29.5	1,471	29.8
Diseases of genitourinary system	584	12.1	502	10.2
Infectious and parasitic diseases	315	6.5	343	7.0
Diseases of respiratory system	247	5.1	244	4.9
Diseases of digestive system	130	2.7	99	2.0
Endocrine, nutritional, metabolic...	107	2.2	94	1.9
Neoplasms	81	1.7	67	1.4
External causes of morbidity and mortality	33	0.7	50	1.0
Diseases of blood	3	0.1	4	0.1
Perinatal conditions	-	-	-	-

CHAPTER 4:

MORTALITY PATTERNS

Mortality and cause of death statistics provide essential epidemiological information to guide policy reforms aimed at improving health systems in Namibia. Therefore, this chapter presents the distribution of deaths in the population by sex, age and other mortality indicators as well as geographical area for death events, which occurred during 2016 and 2017.

4.1 Mortality Indicators

The basic mortality indicators presented in the section includes:

i) **Crude Death Rates (CDR)**

The number of deaths in a given year divided by the mid-year population, times 1,000. It is given by the formula:

$$\frac{D}{P} \times 1000$$

Where **D** is deaths in a year, **P** is the total population or mid-year population.

ii) **Infant Mortality Rate (IMR):**

The number of deaths of children younger than 1 year (12 months) per 1,000 live births in a given population. It is represented by the formula:

$$IMR = \frac{\text{Number of deaths of infants under age 1 in a given year}}{\text{Total live births in that year}} \times 1,000$$

The IMR is one of the key indicators that measures the survival status of the population.

iii) **Child Mortality Rate (CMR)**

The number of children dying under the age of 5 per 1,000 live births in a given population.

$$CMR = \frac{\text{Number of deaths of children age 0 – 4 in a given year}}{\text{Total live births in that year}} \times 1,000$$

iv) **Adult Mortality Rate (AMR):**

is defined as death rates among the economically productive age span (15 – 59 years).

$$AMR = \frac{\text{Number of deaths of 15 – 59 year old in a given year}}{\text{Total number of persons aged 15 – 59 year old in a population}} \times 1,000$$

The Crude Death Rate (CDR) for Namibia was 8 deaths per 1,000 population for both 2016 and 2017. The IMR was 45 infant deaths per 1,000 live births in both 2016 and 2017, see **Figure 9** for the rest of the death rates.

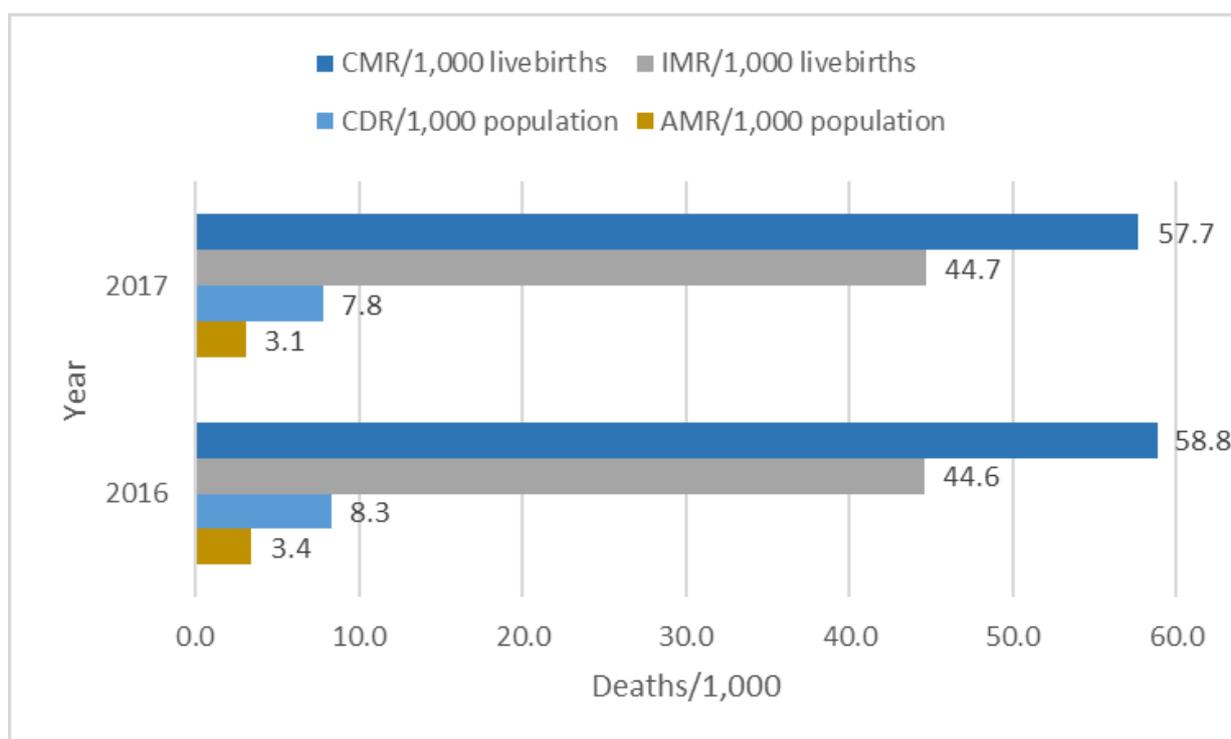


Figure 9: National Mortality Indicators for 2016 and 2017

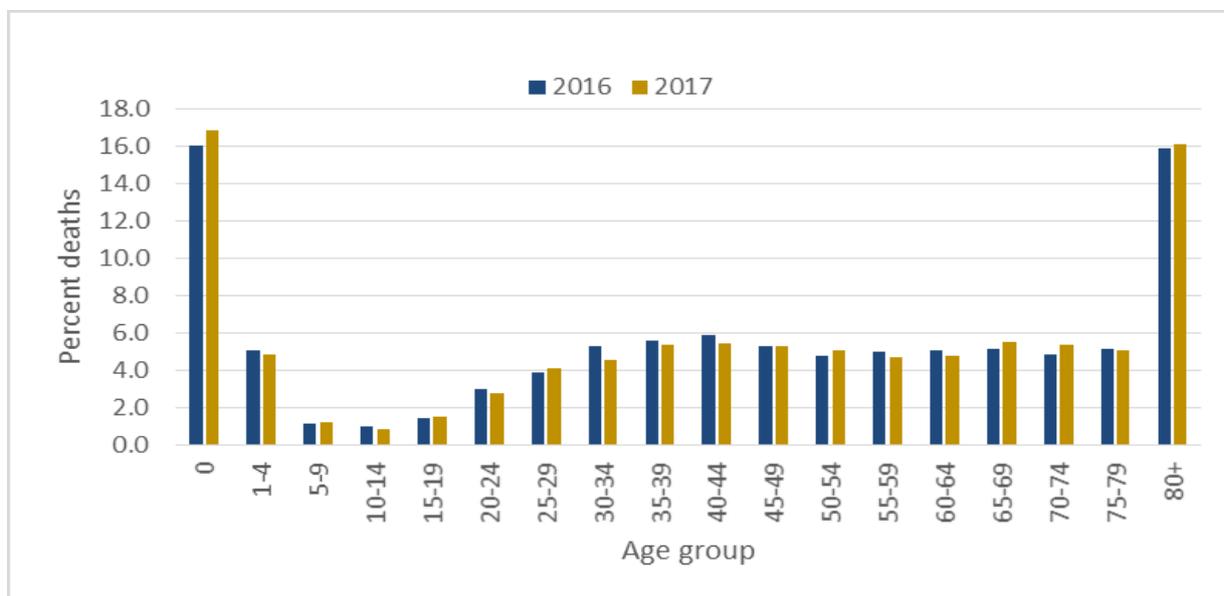
4.2 Age and sex Mortality Patterns

Table 4 shows that there were more deaths in 2016 compared to 2017. Deaths by the elderly 60 and above account for 36 percent of the deaths. High numbers of infant deaths usually indicates poor maternal health status in a country.

Table 4: Distribution of deaths by age and sex, 2016 – 2017

Age group	2016				2017			
	Total	Female	Male	Unknown sex	Total	Female	Male	Unknown sex
0 Day	1 182	533	641	8	1 063	482	577	4
1-6Days	477	219	258		518	214	304	
7-27Days	316	150	166		334	165	169	
28-365Days	1 115	578	537		1 200	570	630	
0 year	3 090	1 480	1 602	8	3 115	1 431	1 680	4
1-4	988	471	517		906	443	463	
5-9	231	99	132		232	111	121	
10-14	196	93	103		167	76	91	
15-19	287	132	155		281	110	171	
20-24	586	239	347		519	207	312	
25-29	753	299	454		767	293	474	
30-34	1 031	436	595		841	355	486	
35-39	1 088	401	687		993	418	575	
40-44	1 132	436	696		1 014	414	600	
45-49	1 018	406	612		978	379	599	
50-54	925	371	554		935	351	584	
55-59	968	411	557		871	374	497	
60-64	979	400	579		887	359	528	
65-69	989	447	542		1 023	422	601	
70-74	933	408	525		995	411	584	
75-79	990	458	532		938	440	498	
80-84	904	443	461		818	386	432	
85-89	775	470	305		786	449	337	
90-94	488	324	164		470	305	165	
95+	889	586	303		905	616	289	
UA	14	5	9		7	2	4	1
Total	19 254	8 815	10 431	8	18 448	8 352	10 091	5

Figure 10 shows a typical W-shape mortality pattern which is common in most developing countries with high mortality among infants, young adults and old age persons and **Figure 11** illustrate a uniform pattern of more males dying than females, especially among male infants.



Note: Excludes deaths with unknown ages

Figure 10: Percent distribution of deaths by age groups, 2016 and 2017

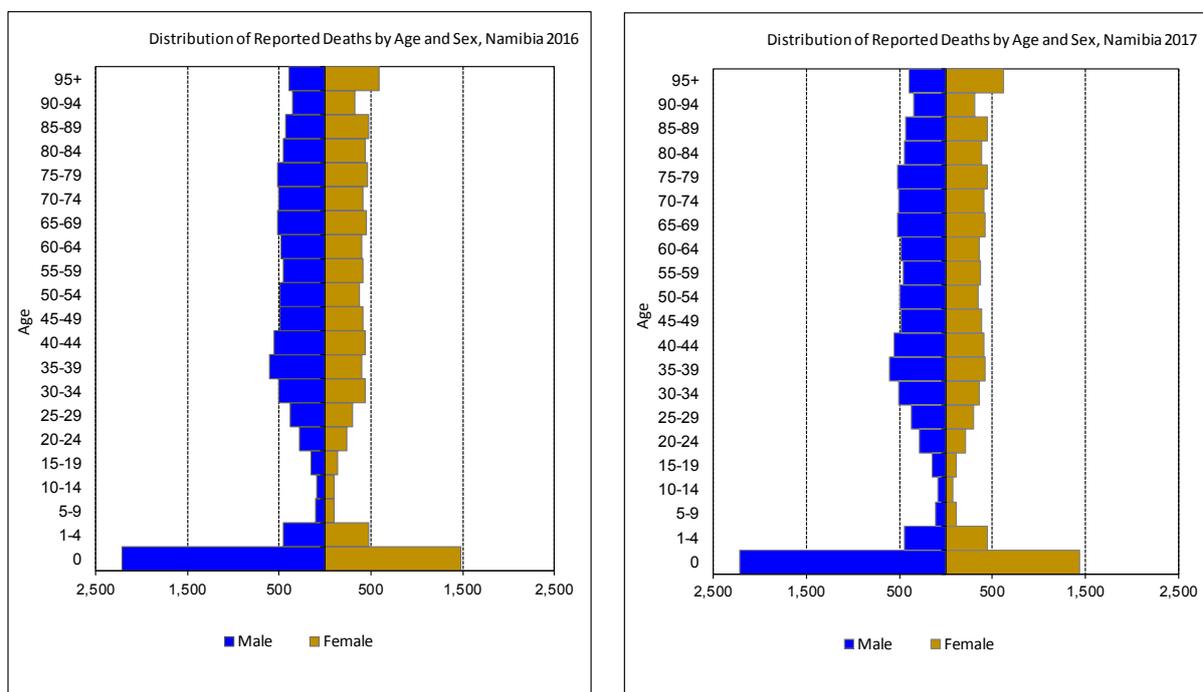


Figure 11: Distribution of reported deaths by age and sex, 2016 and 2017

To generate meaningful comparisons of mortality between populations, age-specific mortality rates are used. For health planning, it is important to know how many deaths occur in different age groups. An age-specific mortality rate is the number of deaths per 1,000 population of a given age group in a specific time period. **Figure 12** shows a pattern for age-specific mortality rates in Namibia. Adult mortality rate (15 – 59) have relatively lower rates of mortality compared to all the other age groups.

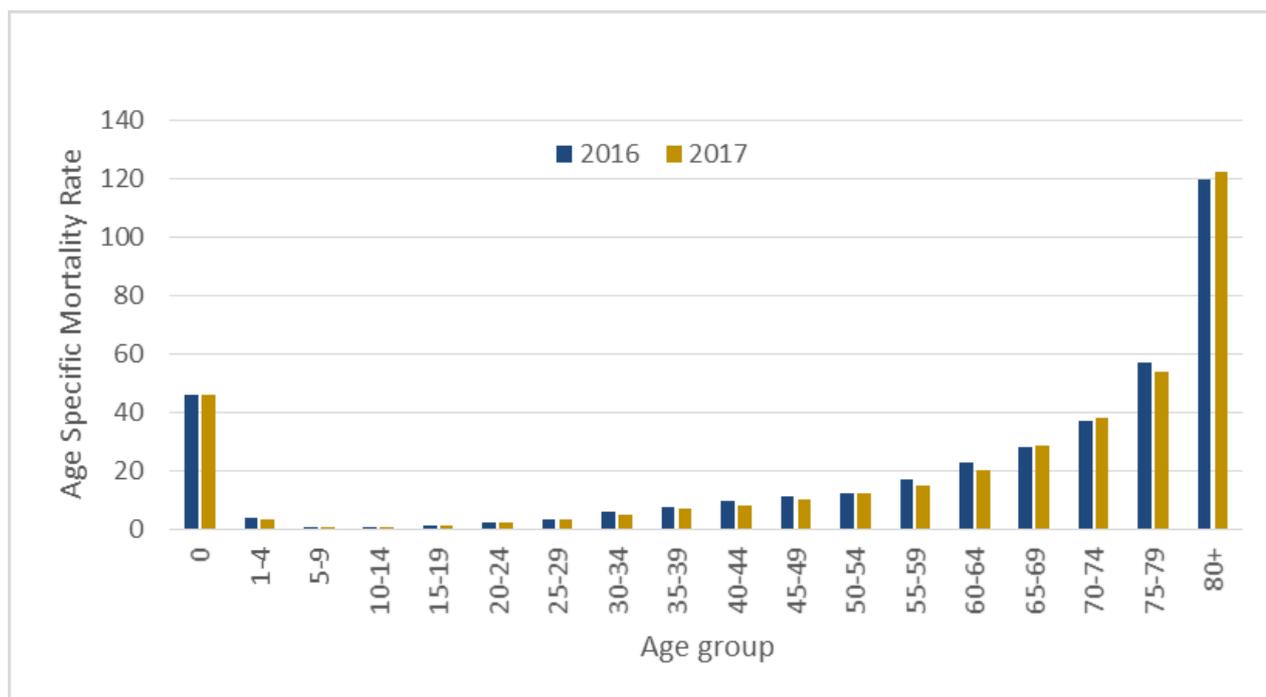


Figure 12: Age-specific mortality rates per 1,000 population for 2016 and 2017

4.3 Mortality Patterns by Month and Region of Death

The section provides statistics on deaths by month and region. **Figure 13** show that most deaths were occurred in January, March and August. Factors contributing to most deaths in those months can be a possible area of investigation.

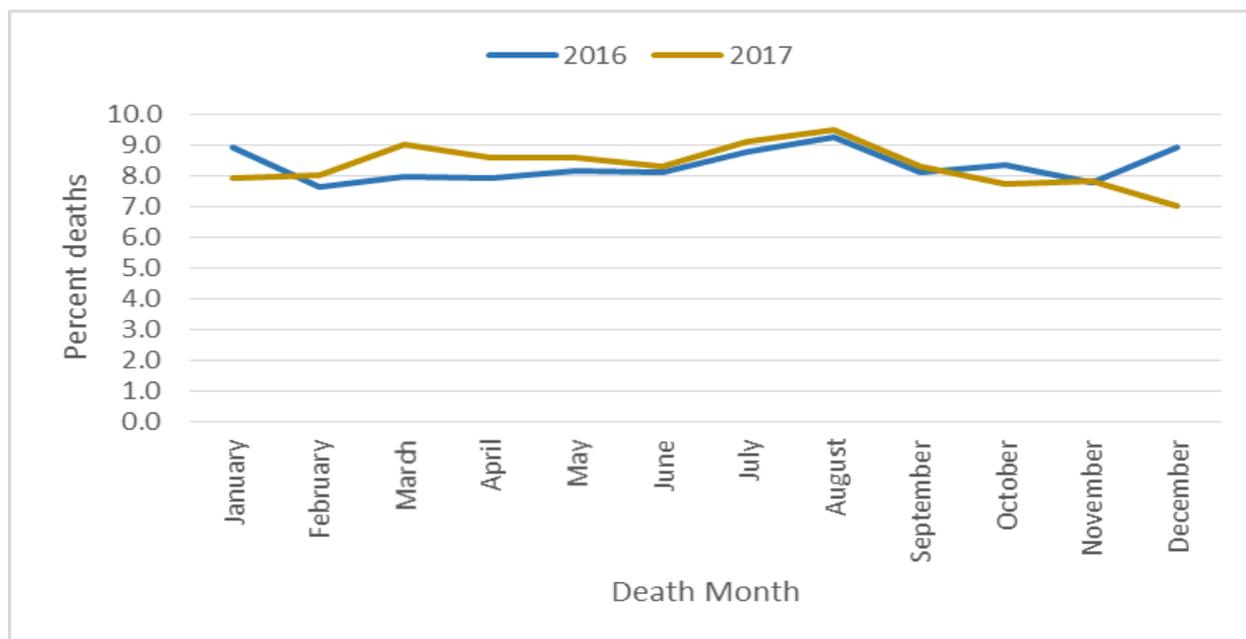


Figure 13: Percent deaths by month, 2016 and 2017

Figure 14, shows that Oshana and Khomas region recorded the highest number with close to 20 percent in both years, compared to other regions. It is worth noting that there are two referral centers in the country; Oshakati Intermediate Hospital in Oshana region and Katutura Intermediate hospital in Khomas Region, which may have contributed to the high number of deaths in those specific regions.

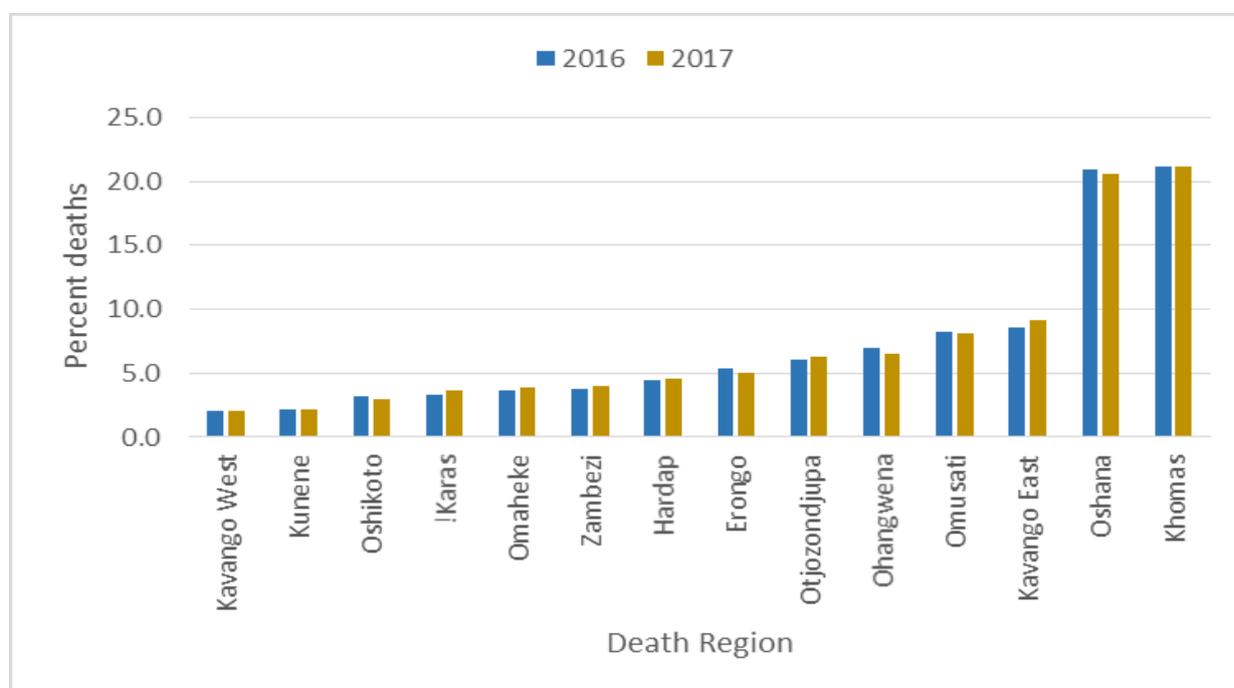


Figure 14: Percent deaths by region and year

Table 5 shows that Oshana region recorded the highest CDR while Oshikoto recorded the lowest in both years.

Table 5: Crude Death Rate (CDR) by region and year

Region	2016			2017		
	Population	Deaths Occured	Crude Death Rate (CDR)	Population	Deaths Occured	Crude Death Rate (CDR)
Total	2 324 388	19 254	8.3	2 368 747	18 448	7.8
!Karas	85 759	641	7.5	87 460	679	7.8
Erongo	182 402	1 029	5.6	189 014	920	4.9
Hardap	87 186	852	9.8	88 743	834	9.4
Kavango East	148 466	1 660	11.2	150 849	1 692	11.2
Kavango West	89 313	403	4.5	89 918	373	4.1
Khomas	415 780	4 085	9.8	431 607	3 899	9.0
Kunene	97 865	426	4.4	100 157	406	4.1
Ohangwena	255 510	1 349	5.3	257 784	1 194	4.6
Omaheke	74 629	702	9.4	75 191	709	9.4
Omusati	249 885	1 589	6.4	251 369	1 506	6.0
Oshana	189 237	4 022	21.3	191 898	3 792	19.8
Oshikoto	195 165	606	3.1	197 901	542	2.7
Otjozondjupa	154 342	1 160	7.5	156 309	1 171	7.5
Zambezi	98 849	730	7.4	100 547	731	7.3

Table 6, show the regional distribution of deaths by sex. Generally, there were more male than female deaths in all the regions.

Table 6: Regional distribution of deaths occurred by sex for 2016 and 2017

Region	2016				2017			
	Total	Female	Male	Unknown sex	Total	Female	Male	Unknown sex
Total	19 254	8 815	10 431	8	18 448	8 352	10 091	5
!Karas	641	298	343		679	301	378	
Erongo	1 029	450	578	1	920	436	482	2
Hardap	852	367	485		834	381	453	
Kavango East	1 660	759	901		1 692	737	955	
Kavango West	403	168	235		373	174	199	
Khomas	4 085	1 846	2 234	5	3 899	1 783	2 116	
Kunene	426	205	221		406	180	226	
Ohangwena	1 349	624	725		1 194	533	661	
Omaheke	702	311	391		709	321	388	
Omusati	1 589	734	854	1	1 506	705	800	1
Oshana	4 022	1 892	2 130		3 792	1 699	2 091	2
Oshikoto	606	282	324		542	239	303	
Otjozondjupa	1 160	526	634		1 171	525	646	
Zambezi	730	353	376	1	731	338	393	

Figure 15 and **Figure 16**, shows changes in IMR and CMR for the two years.

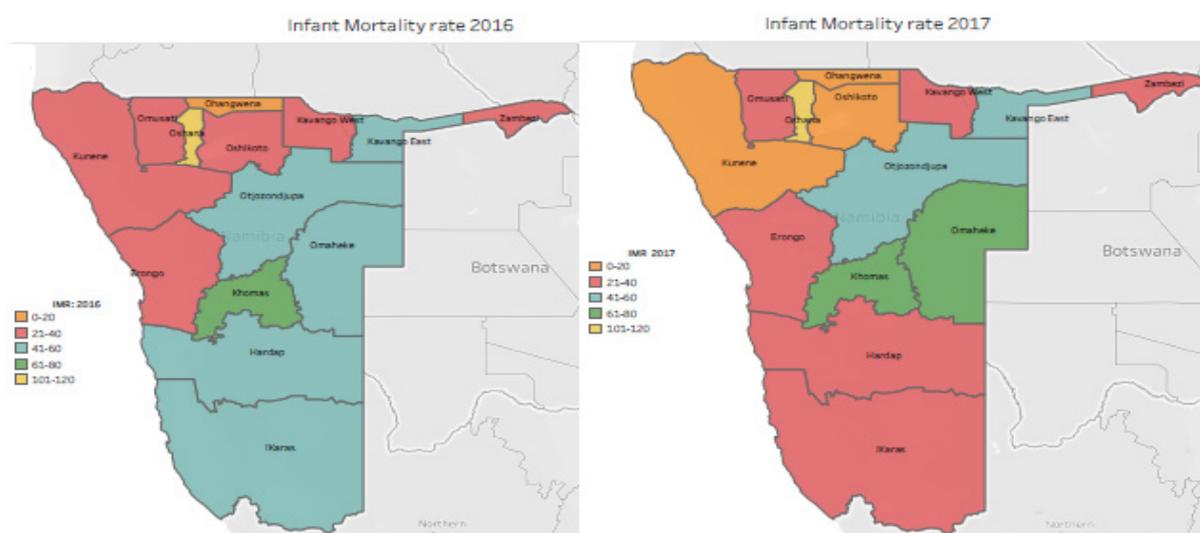


Figure 15: IMR for 2016 and 2017

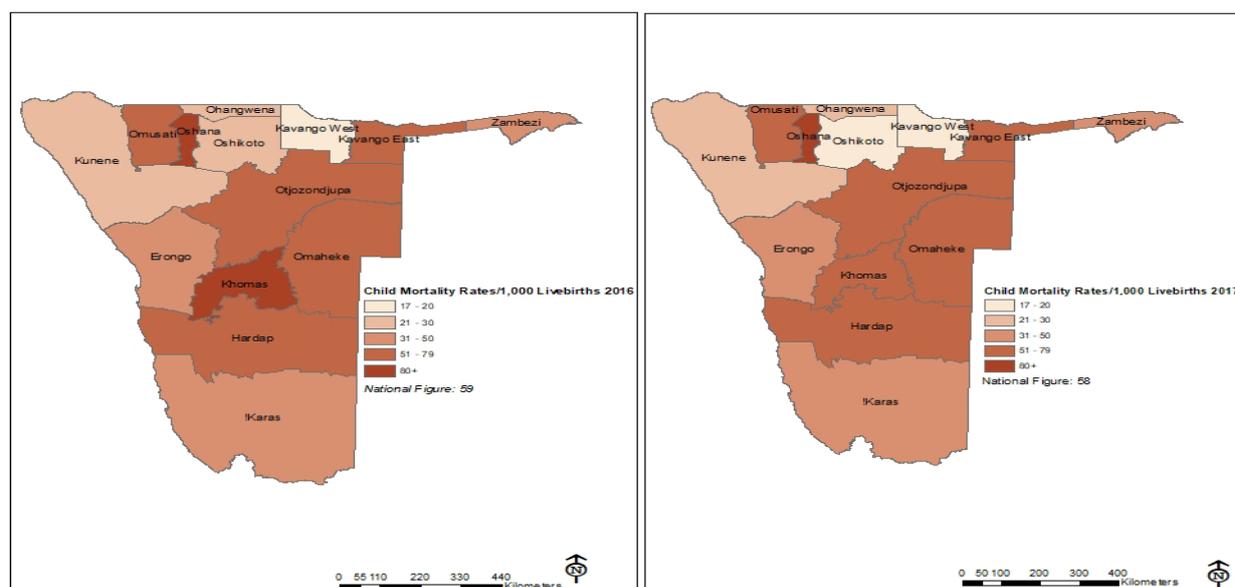


Figure 16: CMR for 2016 and 2017

Table 7 shows that the overall adult mortality rates among economically productive population (15 – 59 years) for Namibia was 3 deaths per 1,000 population for both 2016 and 2017. Regional adult death rates shows that Oshana region recorded the highest (8 adult deaths per 1,000 population), while Oshikoto recorded the lowest (1 adult deaths per 1,000 population) for both years.

Table 7: Adult (15 – 59 years) Mortality Rates by region for 2016 and 2017

Region	2016			2017		
	Population	Adult deaths	Death Rate/ 1,000 population	Population	Adult deaths	Death Rate/ 1,000 population
Total	2 324 388	7 788	3	2 368 747	7 199	3
!Karas	85 759	283	3	87 460	300	3
Erongo	182 402	434	2	189 014	345	2
Hardap	87 186	362	4	88 743	329	4
Kavango East	148 466	705	5	150 849	722	5
Kavango West	89 313	186	2	89 918	165	2
Khomas	415 780	1 593	4	431 607	1 473	3
Kunene	97 865	186	2	100 157	160	2
Ohangwena	255 510	548	2	257 784	463	2
Omaheke	74 629	312	4	75 191	307	4
Omusati	249 885	621	2	251 369	550	2
Oshana	189 237	1 561	8	191 898	1 441	8
Oshikoto	195 165	253	1	197 901	224	1
Otjozondjupa	154 342	450	3	156 309	438	3
Zambezi	98 849	294	3	100 547	282	3

CHAPTER 5: CAUSES OF DEATH

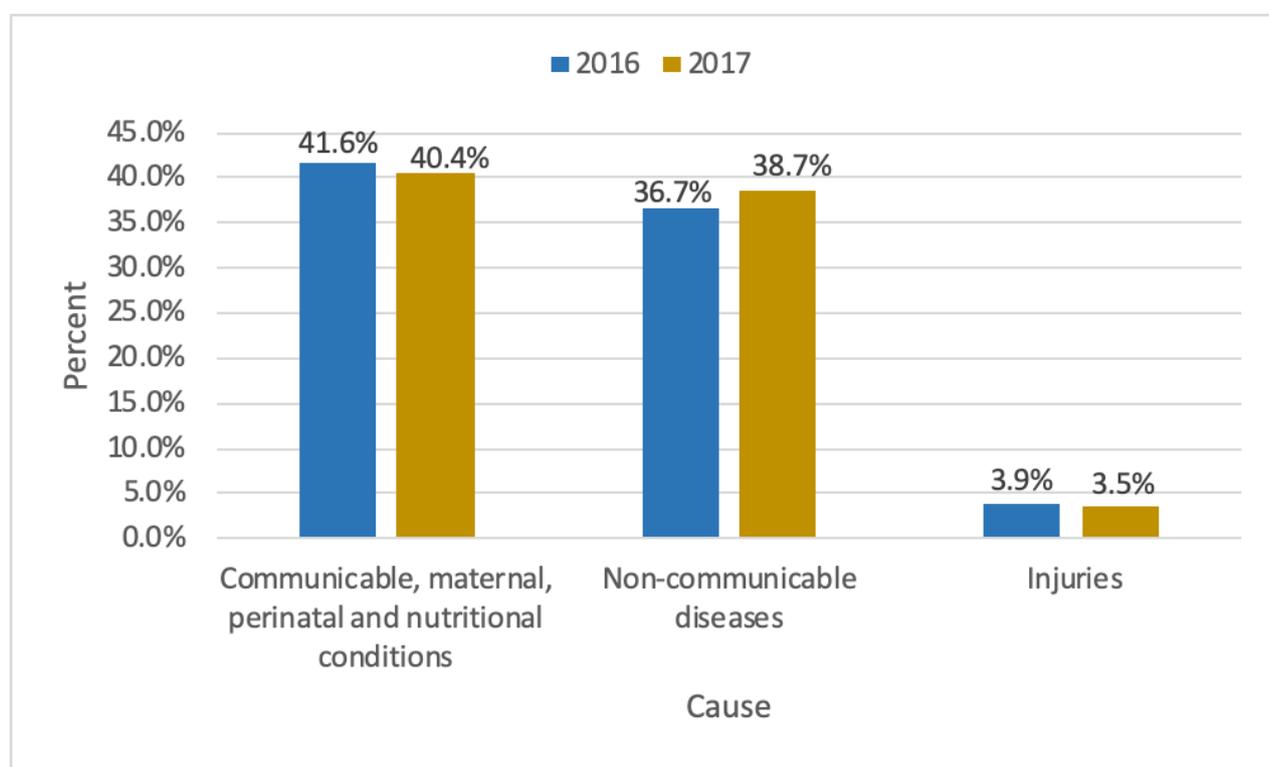
5.1 Leading causes of death

The leading causes of death can be classified by major causes namely, communicable disease, non-communicable disease and injuries (WHO, 2013). Comparisons for the top 10 leading causes of death at global level for the year 2016 shows that most deaths were due to non-communicable diseases, while at continental and national level, most deaths were due to communicable, maternal, perinatal and nutritional conditions, **Figure 17**.



Figure 17: A comparison of the Top-ten leading causes of deaths in the World, Africa and Namibia, 2016

Figure 18 shows that communicable diseases accounted for about 40 percent deaths in both years whereas the least deaths were caused by injuries.



Note: Percent will not add to 100% as it excludes ill-defined causes

Figure 18: Percent distribution of deaths by major cause and year

More deaths were reported for males than females due to all major cause. Most deaths were as a result of “communicable, maternal, perinatal and nutritional conditions” for both years, **Annex Table 6**.

Figure 19 and **Figure 20** show that deaths caused by “communicable, maternal, perinatal and nutritional conditions” were high amongst those aged 0 and those aged 80+ years, with a similar pattern observed for non-communicable diseases. However, patterns of injuries differ as they were more prevalent from the age group 20 – 24 in 2016, and 25 – 29 in 2017.

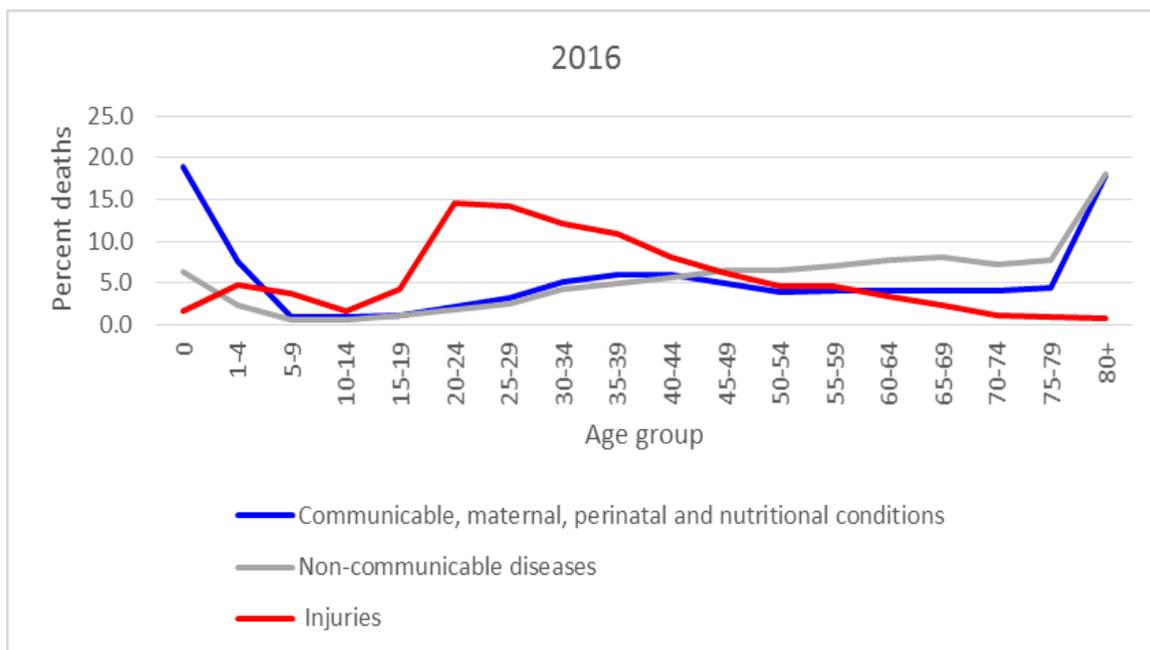


Figure 19: Age distribution of deaths by major cause for 2016

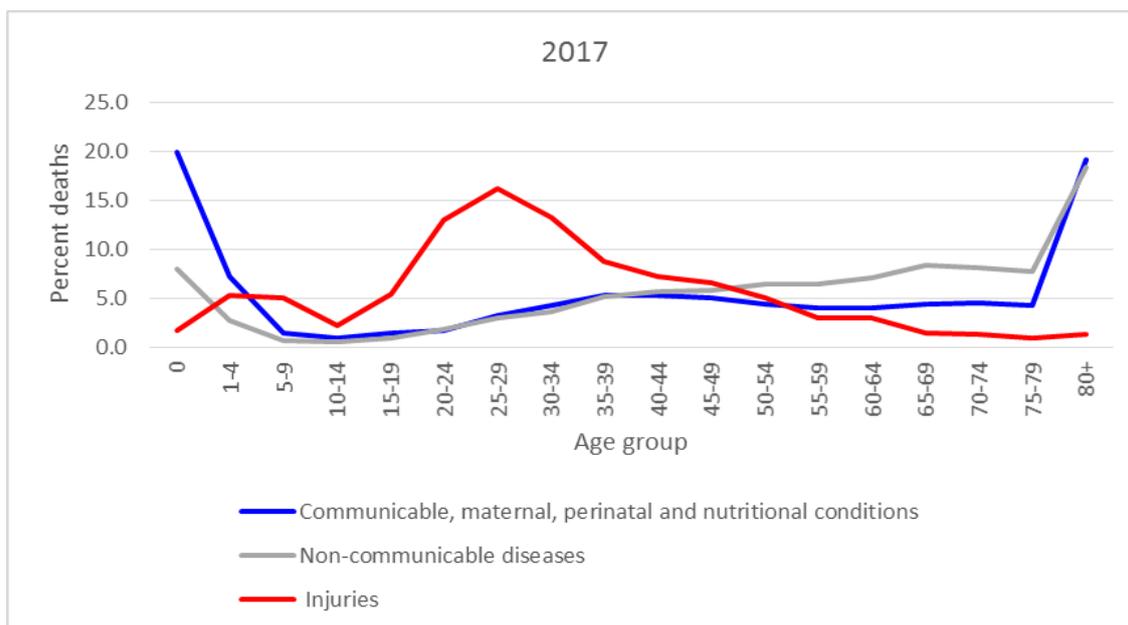


Figure 20: Age distribution of deaths by major cause for 2017

5.3 Top-ten leading causes of death in Namibia

This section presents the top-ten leading causes of death in Namibia for the years 2016 and 2017.

“Ill- defined” is not a cause of death (*ill-defined is A trivial condition unlikely to cause a death*) however it is part of the top 10 list and it contains a significant number of deaths whose causes could not be classified.

Table 8 shows that the top 10 leading causes of death remained the same for both years and most of them are communicable diseases. HIV remained the leading cause in both years. Annex Tables (Annex Table 2 to 5) present the top 10 leading causes of death by sex in Namibia. HIV was the leading cause of death for males and females in 2016 and 2017. Talk about ill defined

Table 8: Top 10 leading causes of death in Namibia, all ages, in 2016 and 2017.

10 Leading Causes of Death, Both Sexes, All Ages, 2016					10 Leading Causes of Death, Both Sexes, All Ages, 2017			
Rank	Cause	Number	%		Rank	Cause	Number	%
1	HIV	3,169	16.5	→	1	HIV	2,926	15.9
2	Other cardiovascular diseases	2,132	11.1	→	2	Other cardiovascular diseases	2,255	12.2
3	Ill-defined diseases (ICD10 R00-R99)	1,424	7.4	→	3	Ill-defined diseases (ICD10 R00-R99)	1,471	8.0
4	Lower respiratory infections	1,419	7.4	→	4	Lower respiratory infections	1,344	7.3
5	Tuberculosis	892	4.6	→	5	Tuberculosis	779	4.2
6	Diarrhoeal diseases	834	4.3	→	6	Diarrhoeal diseases	766	4.2
7	Cerebrovascular disease	625	3.2	→	7	Cerebrovascular disease	666	3.6
8	Nephritis and nephrosis	597	3.1	↔	8	Other digestive diseases	519	2.8
9	Road traffic accidents	570	3.0	↔	9	Nephritis and nephrosis	510	2.8
10	Other digestive diseases	548	2.8	↔	10	Road traffic accidents	473	2.6
11	Endocrine disorders	418	2.2	→	11	Other respiratory diseases	444	2.4

The information in **Table 9** shows that the top 10 causes of death for under 5 are mostly communicable, maternal, perinatal and nutritional conditions for both years.

Table 9: Top 10 leading causes of death in Namibia for children under 5 in 2016 and 2017.

10 Leading Causes of Death, Both Sexes, 0-4 yrs, 2016					10 Leading Causes of Death, Both Sexes, 0-4 yrs, 2017			
Rank	Cause	Number	%		Rank	Cause	Number	%
1	HIV	431	10.6	→	1	HIV	426	10.6
2	Diarrhoeal diseases	399	9.8	↔	2	Ill-defined diseases (ICD10 R00-R99)	388	9.7
3	Ill-defined diseases (ICD10 R00-R99)	385	9.5	↔	3	Diarrhoeal diseases	330	8.2
4	Lower respiratory infections	301	7.4	→	4	Lower respiratory infections	258	6.4
5	Prematurity and low birth weight	234	5.7	↔	5	Other cardiovascular diseases	257	6.4
6	Protein-energy malnutrition	228	5.6	↔	6	Protein-energy malnutrition	223	5.6
7	Other cardiovascular diseases	196	4.8	↔	7	Prematurity and low birth weight	208	5.2
8	Other conditions arising during the perina	173	4.3	↔	8	Birth asphyxia and birth trauma	183	4.6
9	Birth asphyxia and birth trauma	161	4.0	↔	9	Other conditions arising during the perina	164	4.1
10	Other respiratory diseases	122	3.0	→	10	Other respiratory diseases	118	2.9
11	Endocrine disorders	95	2.3	→	11	Endocrine disorders	111	2.8

Table 10 shows that the top 10 leading causes for children aged 5-14 years were communicable, congenital and road traffic accidents. HIV is the leading cause of death which reflects the impact of mother to child transmission of HIV.

Table 10: Top 10 leading causes of death in Namibia for children aged 5 – 14 years, in 2016 and 2017.

10 Leading Causes of Death, Both Sexes, 5 - 14 yrs, 2016				10 Leading Causes of Death, Both Sexes, 5 - 14 yrs, 2017			
Rank	Cause	Number	%	Rank	Cause	Number	%
1	HIV	61	14.3	1	HIV	68	17.0
2	Ill-defined diseases (ICD10 R00-R99)	52	12.2	2	Ill-defined diseases (ICD10 R00-R99)	47	11.8
3	Road traffic accidents	28	6.6	3	Road traffic accidents	39	9.8
4	Other cardiovascular diseases	23	5.4	4	Other cardiovascular diseases	27	6.8
5	Malaria	20	4.7	5	Other infectious diseases	22	5.5
5	Lower respiratory infections	20	4.7	6	Lower respiratory infections	19	4.8
6	Other infectious diseases	16	3.7	7	Malaria	18	4.5
7	Tuberculosis	14	3.3	8	Tuberculosis	17	4.3
8	Diarrhoeal diseases	11	2.6	9	Protein-energy malnutrition	10	2.5
8	Other digestive diseases	11	2.6	9	Other malignant neoplasms	10	2.5
8	Ill-defined injuries/accidents (ICD10 Y10-Y34)	11	2.6	10	Diarrhoeal diseases	9	2.3
9	Endocrine disorders	10	2.3	11	Endocrine disorders	7	1.8
10	Meningitis	9	2.1	11	Nephritis and nephrosis	7	1.8
10	Other malignant neoplasms	9	2.1				
11	Cerebrovascular disease	7	1.6				

Table 11 shows that for the economically productive ages, HIV remained the leading cause in both years. Road traffic accidents and non-communicable disease (cardiovascular, malignant neoplasms and kidney problems) are also major contributors to mortality in this age group.

Table 11: Top 10 leading causes of deaths among the economically productive ages aged 15 – 59 years, Both Sexes, in 2016 and 2017, Namibia

10 leading causes of death, Both Sexes, 15-59 years, 2016				10 leading causes of death, Both Sexes, 15-59 years, 2017			
Rank	Cause	Number	%	Rank	Cause	Number	%
1	HIV	1,066	13.7	1	HIV	856	11.9
2	Other cardiovascular diseases	745	9.6	2	Other cardiovascular diseases	725	10.1
3	Tuberculosis	637	8.2	3	Ill-defined diseases (ICD10 R00-R99)	629	8.7
4	Lower respiratory infections	542	7.0	4	Tuberculosis	555	7.7
5	Ill-defined diseases (ICD10 R00-R99)	521	6.7	5	Lower respiratory infections	510	7.1
6	Road traffic accidents	458	5.9	6	Road traffic accidents	378	5.3
7	Other digestive diseases	318	4.1	7	Other digestive diseases	303	4.2
8	Nephritis and nephrosis	295	3.8	8	Diarrhoeal diseases	278	3.9
9	Diarrhoeal diseases	288	3.7	9	Nephritis and nephrosis	245	3.4
10	Other malignant neoplasms	193	2.5	10	Other malignant neoplasms	183	2.5
11	Endocrine disorders	189	2.4	11	Cerebrovascular disease	181	2.5

Table 12 shows that HIV maintained its position as the leading cause in both years in those aged 60 years and above. On the other hand, the burden of non – communicable disease is evident in both years.

Table 12: Top 10 leading causes of deaths for the elderly people aged 60+ years in Namibia, in 2016 and 2017.

10 Leading Causes of Death, Both Sexes, 60+ years, 2016				10 Leading Causes of Death, Both Sexes, 60+ years, 2017			
Rank	Cause	Number	%	Rank	Cause	Number	%
1	HIV	1,610	23.2	1	HIV	1,573	23.1
2	Other cardiovascular diseases	1,168	16.8	2	Other cardiovascular diseases	1,245	18.2
3	Lower respiratory infections	556	8.0	3	Lower respiratory infections	557	8.2
4	Ill-defined diseases (ICD10 R00-R99)	458	6.6	4	Ill-defined diseases (ICD10 R00-R99)	407	6.0
5	Cerebrovascular disease	390	5.6	5	Cerebrovascular disease	372	5.5
6	Nephritis and nephrosis	283	4.1	6	Nephritis and nephrosis	246	3.6
7	Tuberculosis	201	2.9	7	Tuberculosis	187	2.7
8	Other digestive diseases	189	2.7	8	Other digestive diseases	177	2.6
9	Hypertensive disease	154	2.2	9	Other respiratory diseases	164	2.4
10	Other respiratory diseases	145	2.1	10	Other infectious diseases	152	2.2
11	Other infectious diseases	144	2.1	11	Diarrhoeal diseases	149	2.2

5.4 Deaths due to Communicable diseases

Communicable diseases are caused by pathogenic microorganisms such as bacteria, parasites or fungi and can be spread directly or indirectly from one person to another. **Figure 24** indicates three major types of communicable and infectious diseases.

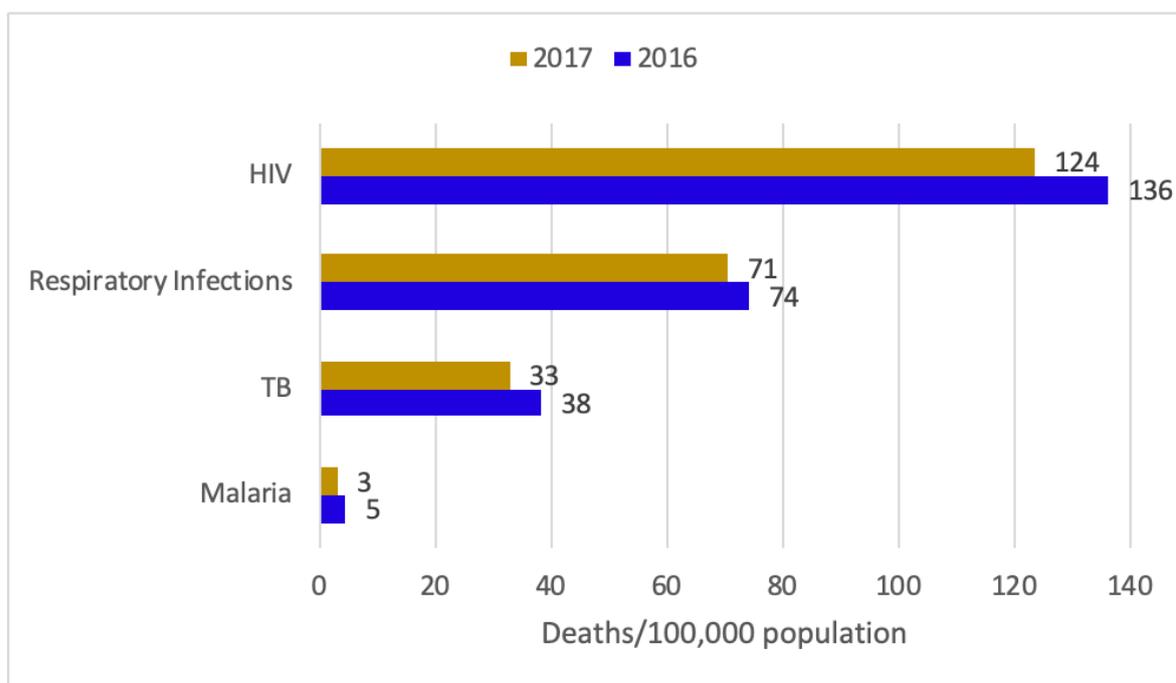


Figure 24: National death rates of main Communicable Diseases by Type in 2016 and 2017

5.4.1 HIV/AIDS

The Human Immune Virus, (HIV), is a virus that causes the condition known as the Acquired Immune Deficiency Syndrome (AIDS). The human immunodeficiency virus hinders a person's ability to fight off secondary infections. **Figure 25** shows that most HIV deaths were recorded in Oshana and Khomas regions for both years.

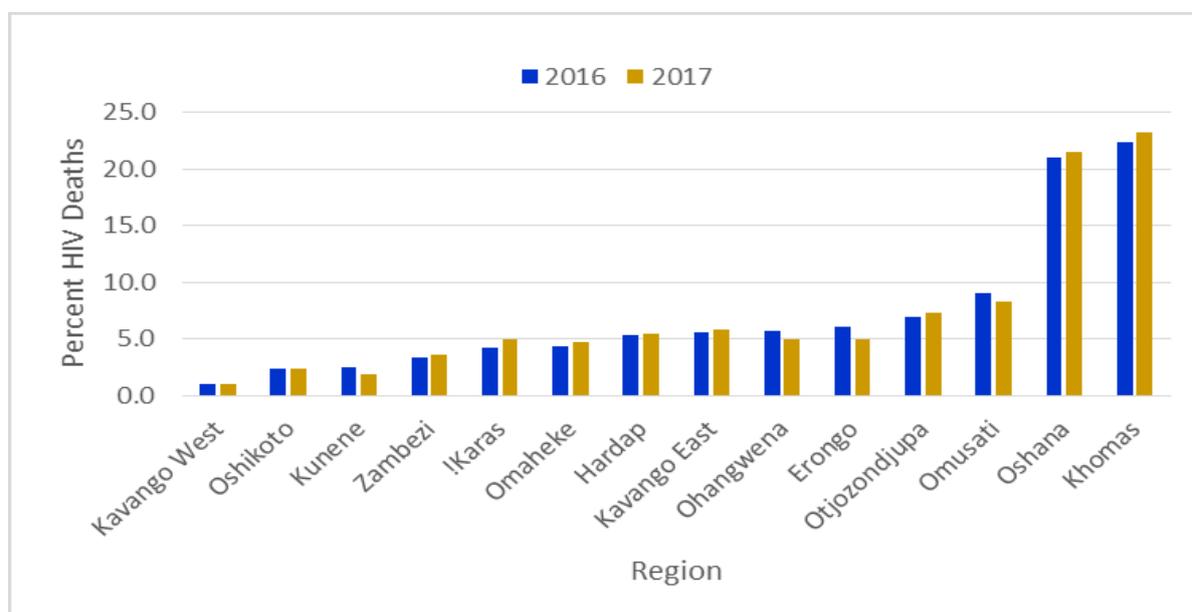


Figure 25: Regional Percentage distribution of HIV deaths in 2016 and 2017

Figure 26 shows that most HIV deaths were mostly in males in 2016 while the proportion of male to female was almost the same in 2017.

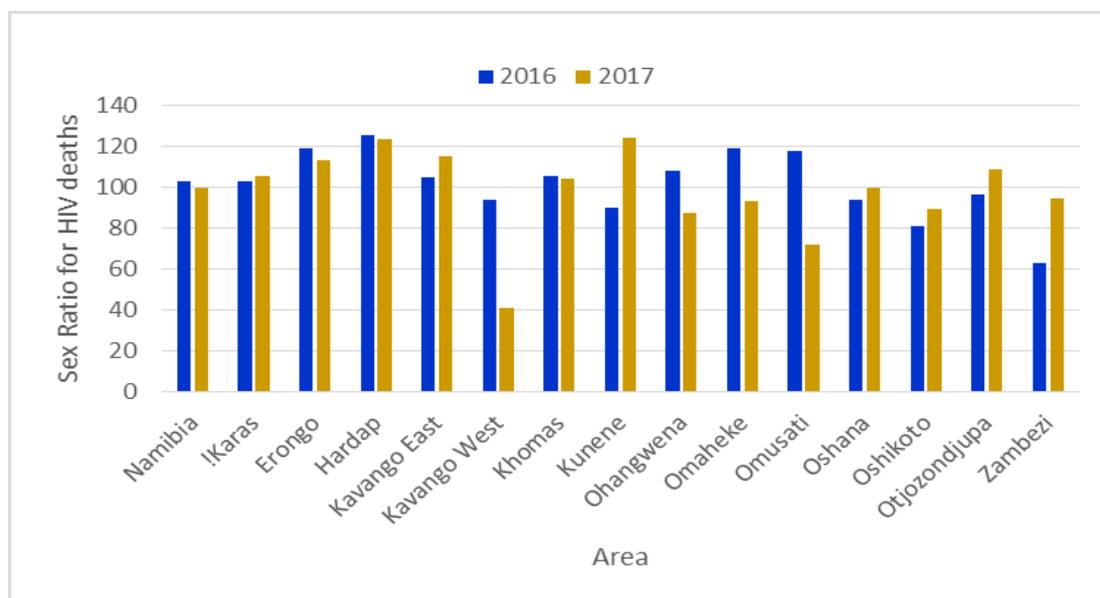


Figure 26: Sex ratio of deaths due to HIV by area in 2016 and 2017

Figure 27 indicates high HIV deaths in infants and the elderly (80 years and above) in both years.

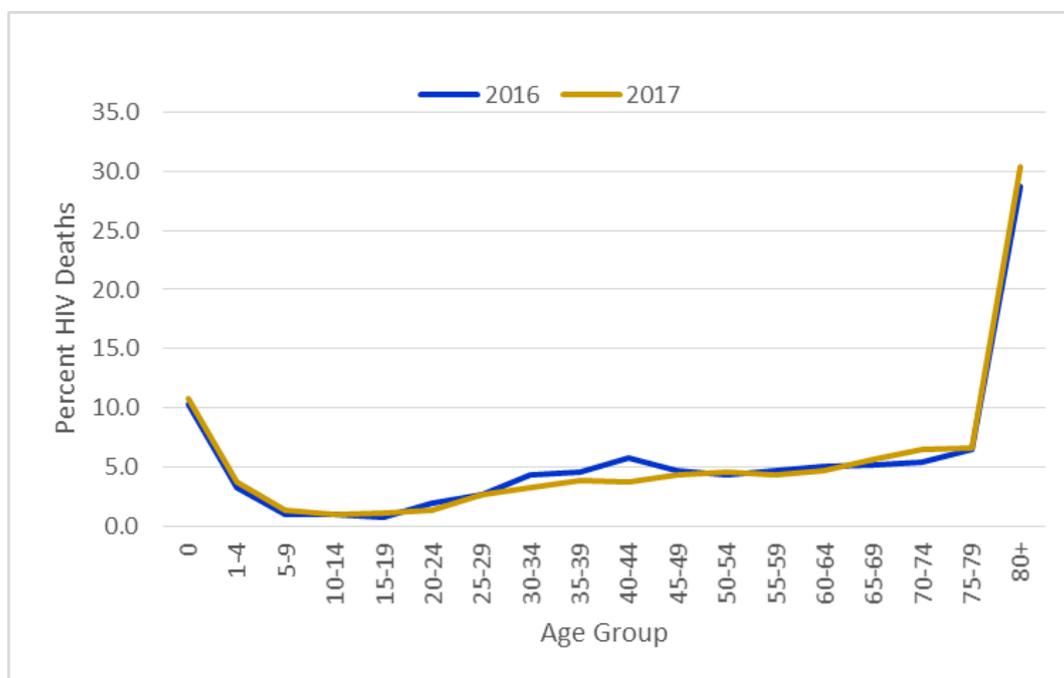


Figure 27: Percent distribution of HIV deaths by age groups, 2016 and 2017

5.4.2 Tuberculosis

Tuberculosis (TB) is an illness caused by the inhalation of bacteria (*Mycobacterium tuberculosis*) which affects the lungs. The World Health Organization (WHO) estimates that up to one-quarter of the global population has latent TB, meaning they have been infected with the disease but are not ill with the disease (although this does not inhibit it from becoming active in the future). People with compromised immune systems, such as those suffering from malnutrition, diabetes, and smokers are more likely to become ill with TB. There is a strong link between HIV/AIDS and TB; those infected with HIV are 20-30 times more likely to develop active tuberculosis. **Figure 28** shows percentage distribution of deaths caused by Tuberculosis in 2016 and 2017. Khomas and Oshana regions had the highest percentage of Tuberculosis related deaths in 2016 and 2017. Oshikoto, Zambezi and Kunene among others had the lowest.

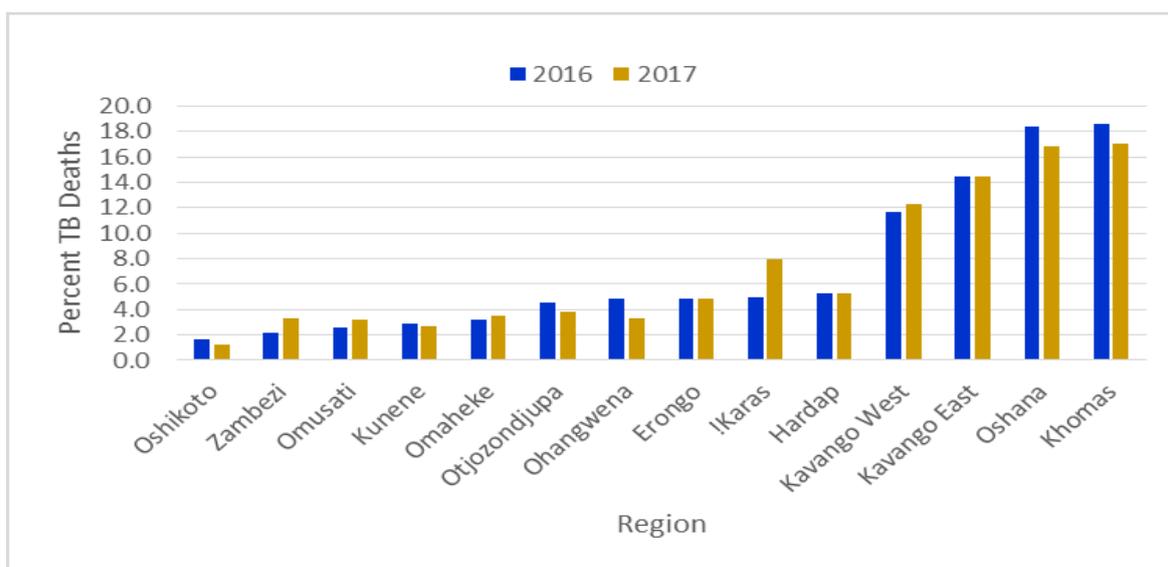


Figure 28: Percent TB deaths by region in 2016 and 2017

Figure 29 the sex ratio at death shows that there were more male than female deaths due to TB in most regions.

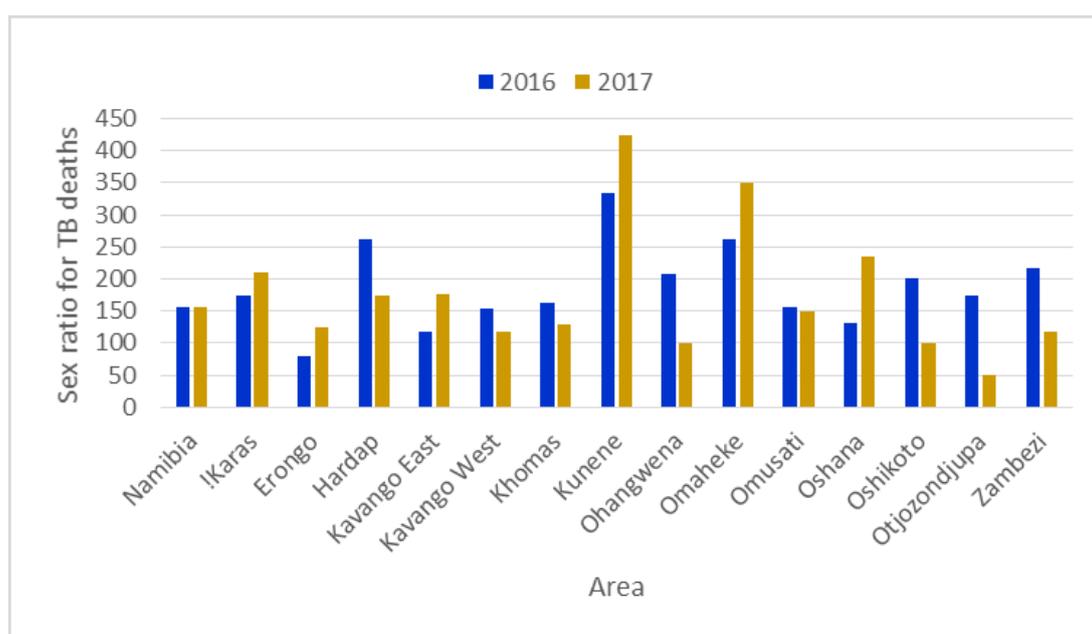


Figure 29: Sex ratio for deaths due to TB by region and year

Figure 30 shows that most deaths due to TB were among those in age groups 25 – 29 to 45 – 49 years for both years. This pattern does not resemble the expected bell curve shape TB mortality pattern in Namibia.

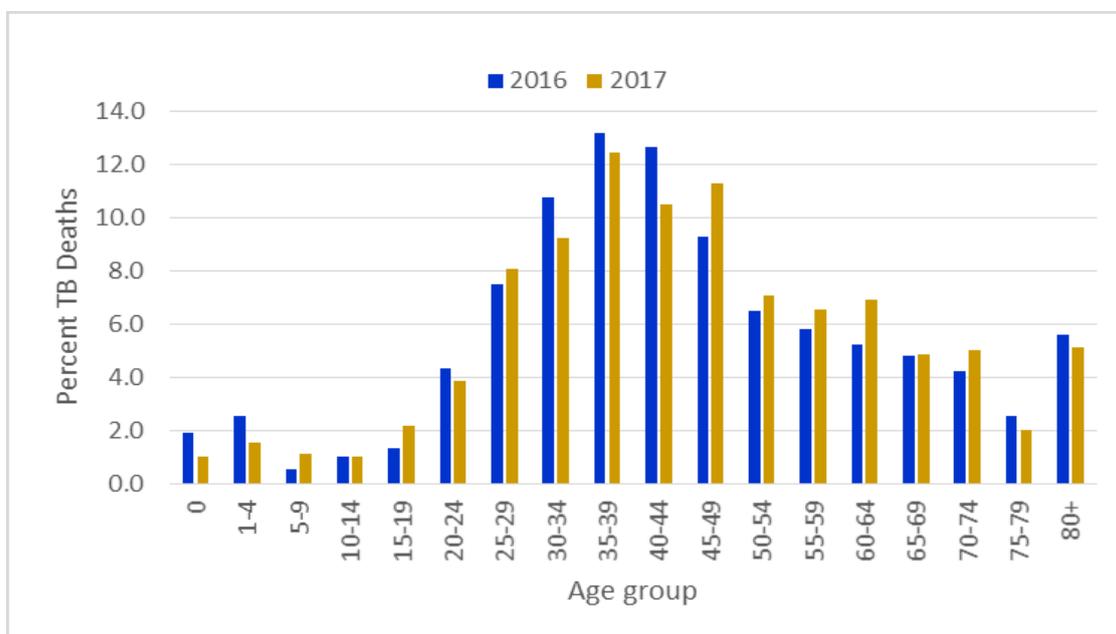


Figure 30: Percent distribution of Tuberculosis deaths for different age groups, 2016 and 2017

5.4.3 Malaria

Malaria is a blood disease caused by parasites in the female Anopheles mosquito. The illness can be classified in two categories, namely uncomplicated and severe malaria. **Figure 31** shows the percent distribution of Malaria deaths by region. Khomas region reported the highest proportion of deaths for 2016 followed by Oshana and Kavango East while Omaheke reported the highest in 2017 followed by Oshana and Otjozondjupa.

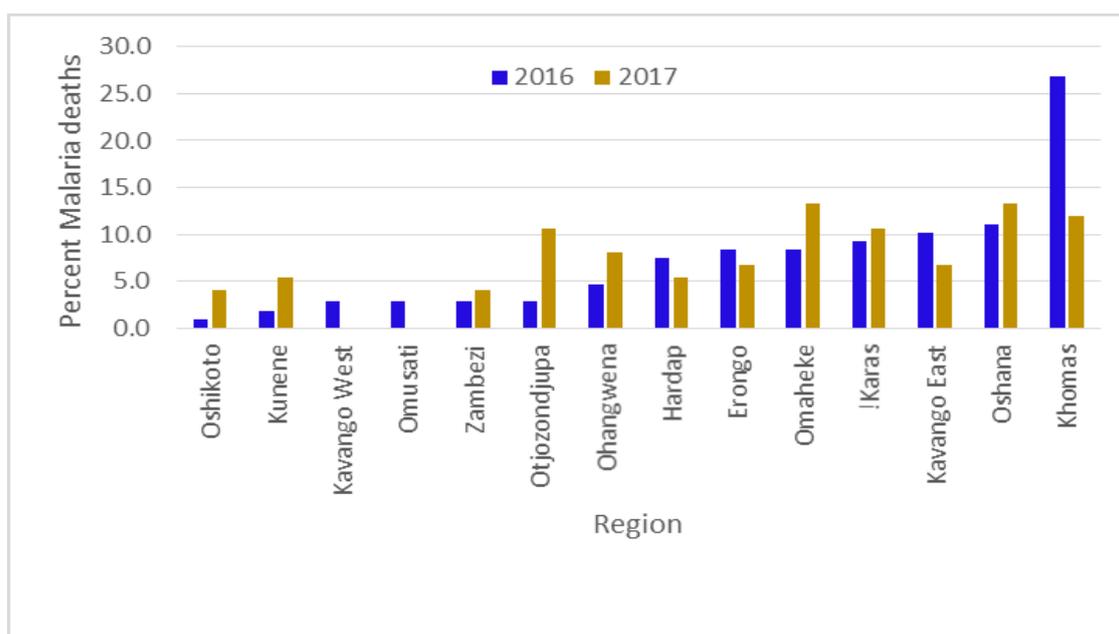


Figure 31: Regional Percent distribution of deaths due to Malaria for 2016 and 2017

Figure 32 shows more female than male deaths in Namibia for 2016 due to malaria, while in 2017, there were more male than female deaths.

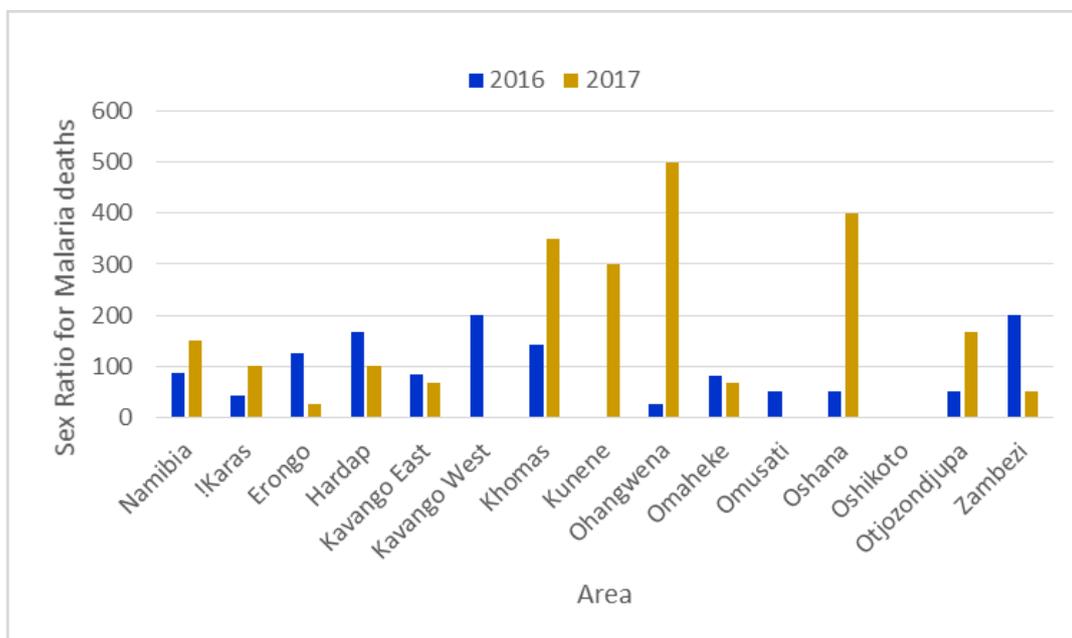


Figure 32: Sex ratio for deaths due to malaria by region in 2016 and 2017

Figure 33 shows that the age groups that recorded over 10 percent deaths due to malaria were 5 – 9 and 30 – 34 in 2017 whereas in 2016 it was among the age groups 1 – 4, 5 – 9 and 55 – 59 years.

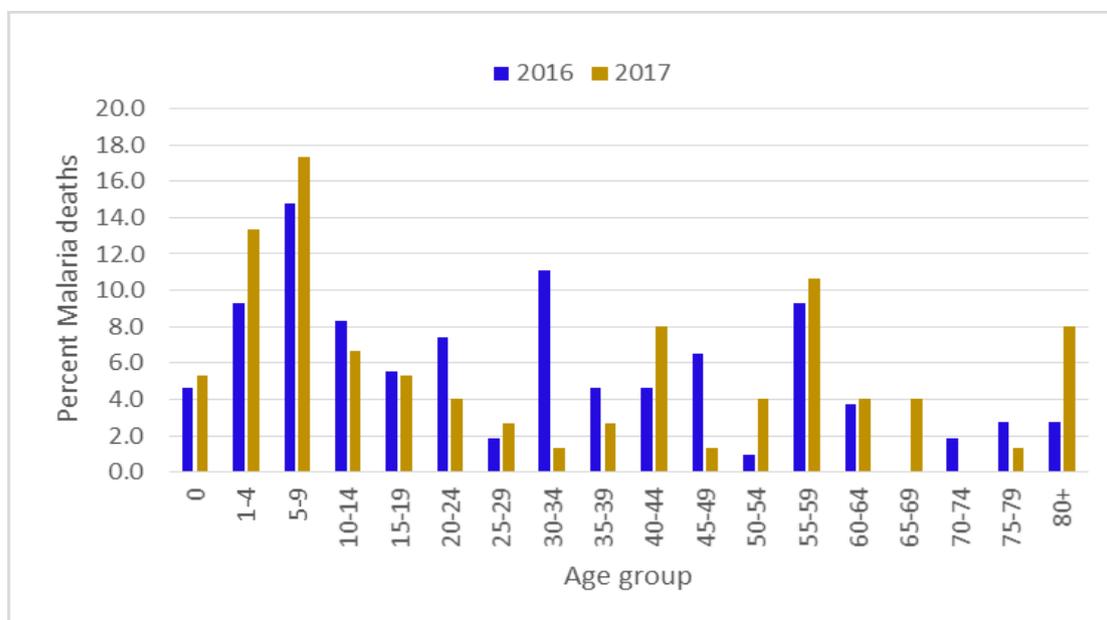


Figure 33: Percent distribution of Malaria death by age group for 2016 and 2017

Figure 35 shows that sex ratio at death was highest in Kavango West region in 2017, implying that there were twice as many deaths due to infectious respiratory disease for males than for females. Nationally, more males died from infectious respiratory related deaths than females.

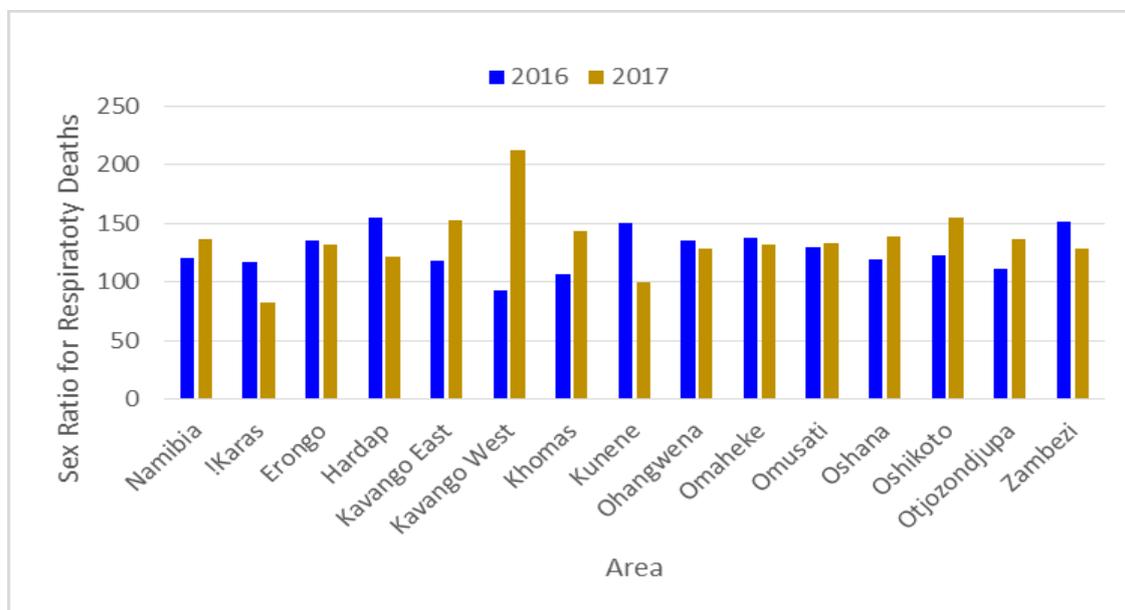


Figure 35: Deaths due to infectious respiratory diseases by region and sex ratio, 2016 and 2017

Figure 36 shows that deaths due to infectious respiratory diseases for the different age groups follows a “W-shape” with high deaths among infants, young adults and the elderly for both 2016 and 2017.

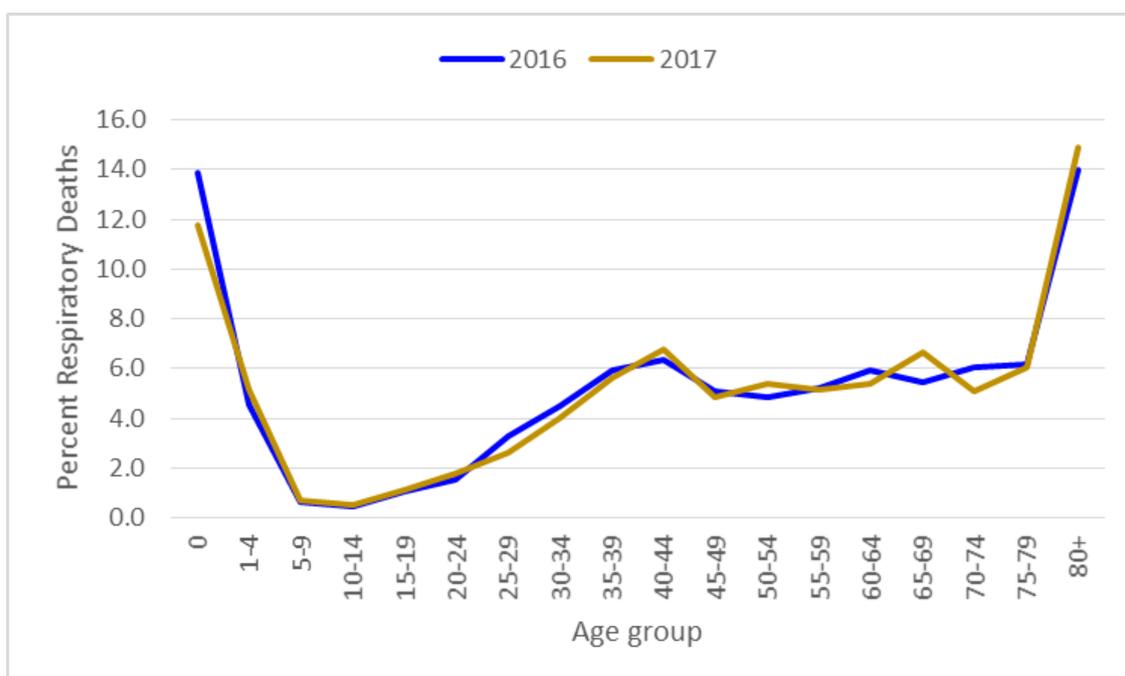


Figure 36: Percent Respiratory infectious Diseases by age group for 2016 and 2017

5.5 Mortality due to Non-Communicable Conditions

Non-Communicable Diseases (NCD) are classified as non-infectious health conditions that cannot be spread from person to person and lasts for a lifetime. These are also known as chronic diseases which are caused by a combination of genetic, physiological, lifestyle, and environmental factors.

In Namibia, the proportion of deaths due to non-communicable diseases accounted for 36.7 percent in 2016 and 38.7 percent in 2017. **Figure 37** shows that most non-communicable deaths were due to cardiovascular diseases, while the least were due to diabetes for both years.

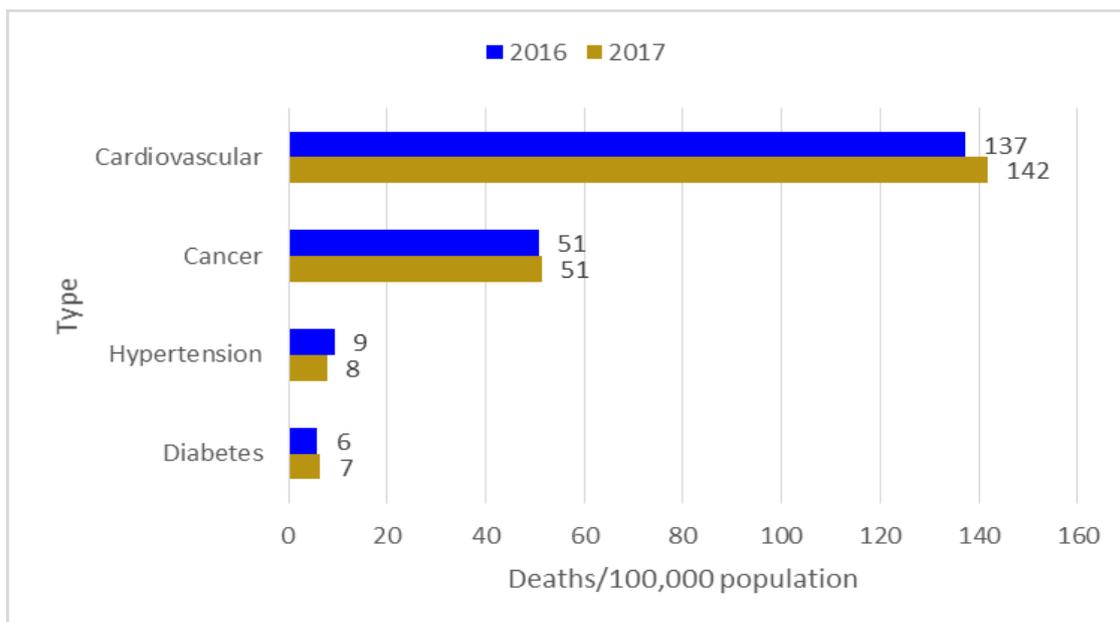


Figure 37: Summary death rates for non - communicable diseases for 2016 and 2017

The most common types of non-communicable causes were cardiovascular diseases and malignant neoplasms for both years as shown in **Figure 38**. Distribution of types by sex is presented in **Annexure Table 11**.

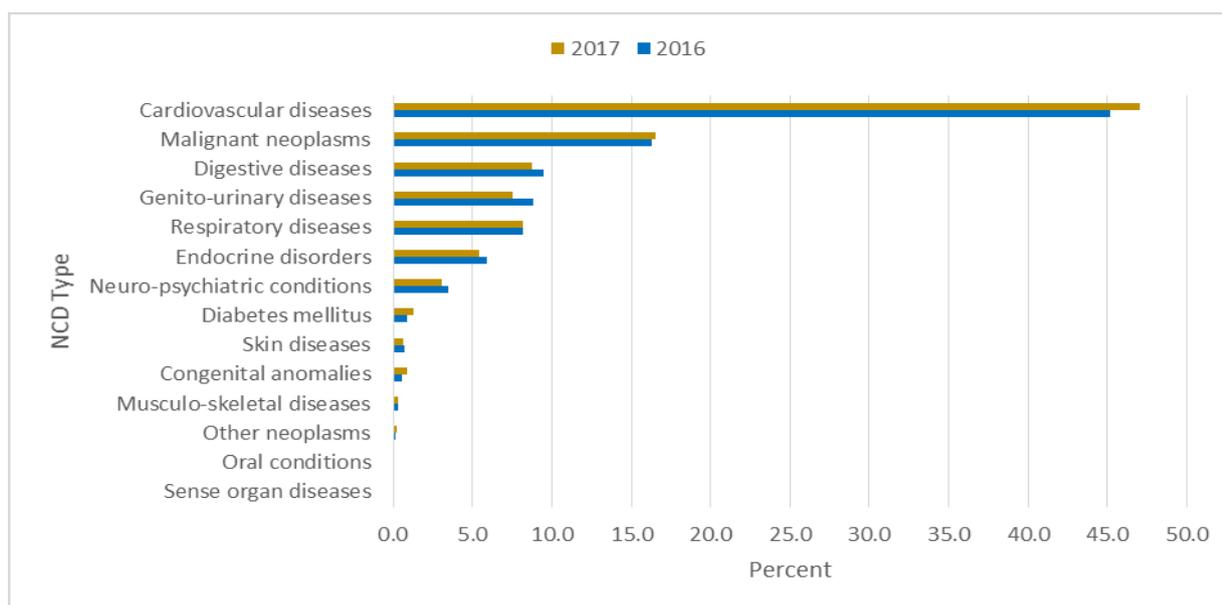


Figure 38: Percent distribution of types of Non-communicable diseases for the years 2016 and 2017

Figure 39 shows that deaths due to non-communicable diseases for under five were 9 percent in 2016 and 11 percent in 2017, while about 80 percent were for those aged 35 years and above in both years.

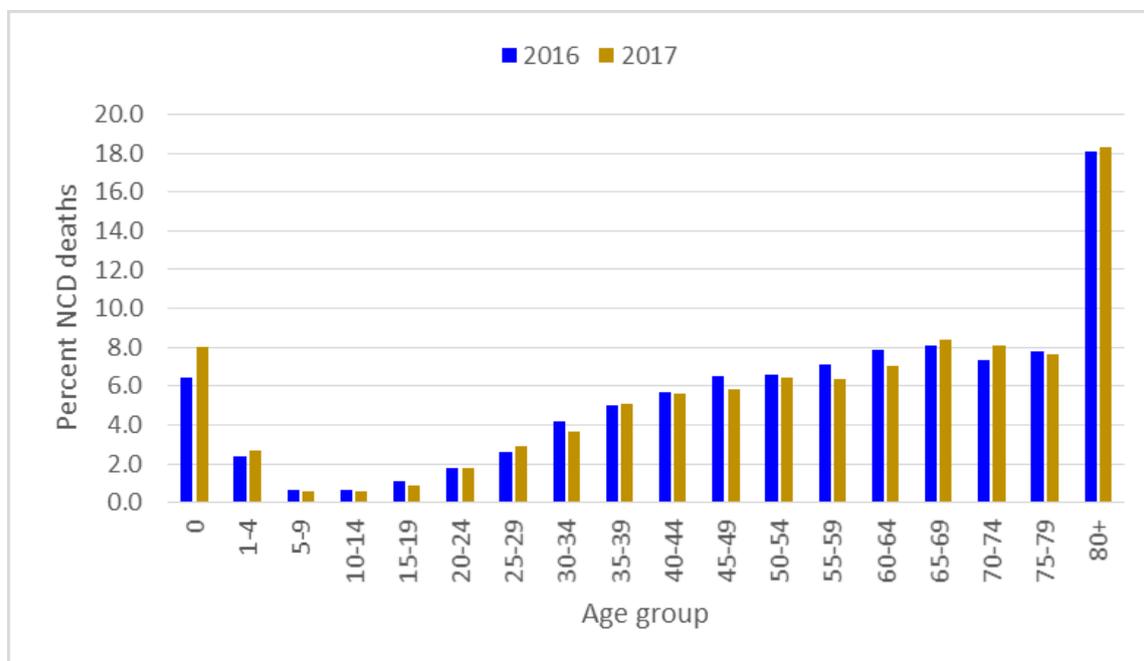


Figure 39: Percent distribution of deaths due to Non-communicable diseases by age for 2016 and 2017

5.5.1 Cardiovascular diseases

Cardiovascular diseases refer to conditions that involve narrowed or blocked blood vessels that can lead to a heart attack, chest pain (angina) or stroke. Conditions that affect heart’s muscle, valves or rhythm are also considered as other forms of heart disease. **Figure 40** shows that most deaths were due to other cardiovascular diseases for both years.

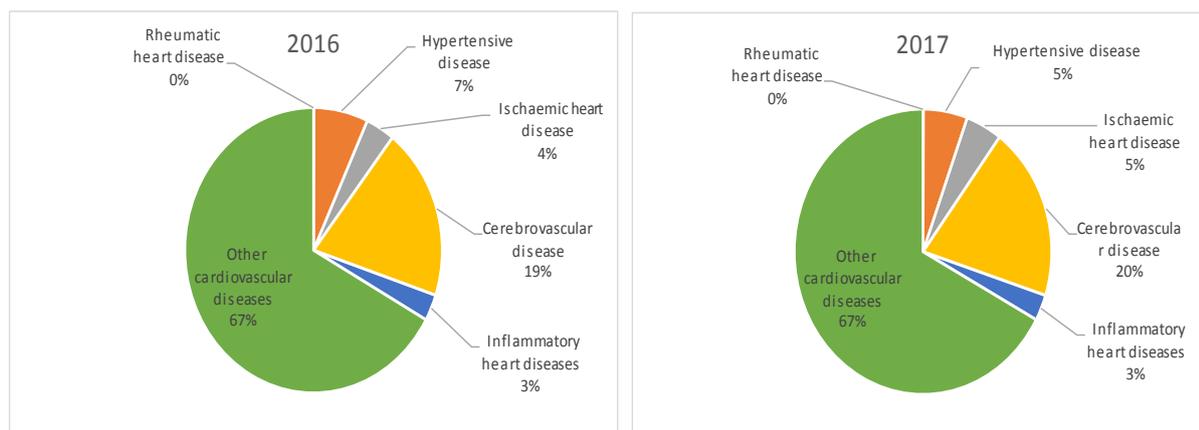


Figure 40: Percent distribution of types of Cardiovascular diseases for the years 2016 and 2017

Deaths due to Cardiovascular diseases are more prevalent in older ages, **Figure 41**.

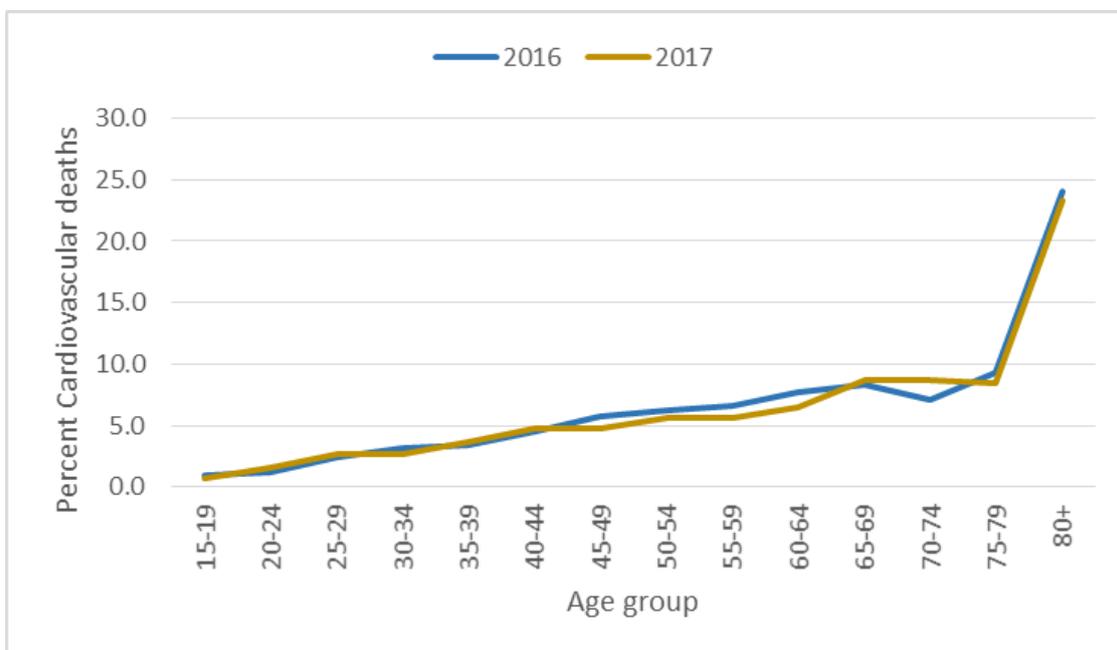


Figure 41: Percent deaths due to Cardiovascular diseases for those aged 15 years and above, 2016 and 2017

In 2016, sex ratio at death due to cardiovascular disease was highest for the age group 45 – 49 years with 56 more male deaths per 100 female deaths (Figure 43). In addition, in 2017, there were 47 more male deaths per 100 female deaths at the age group 50 – 54 years.

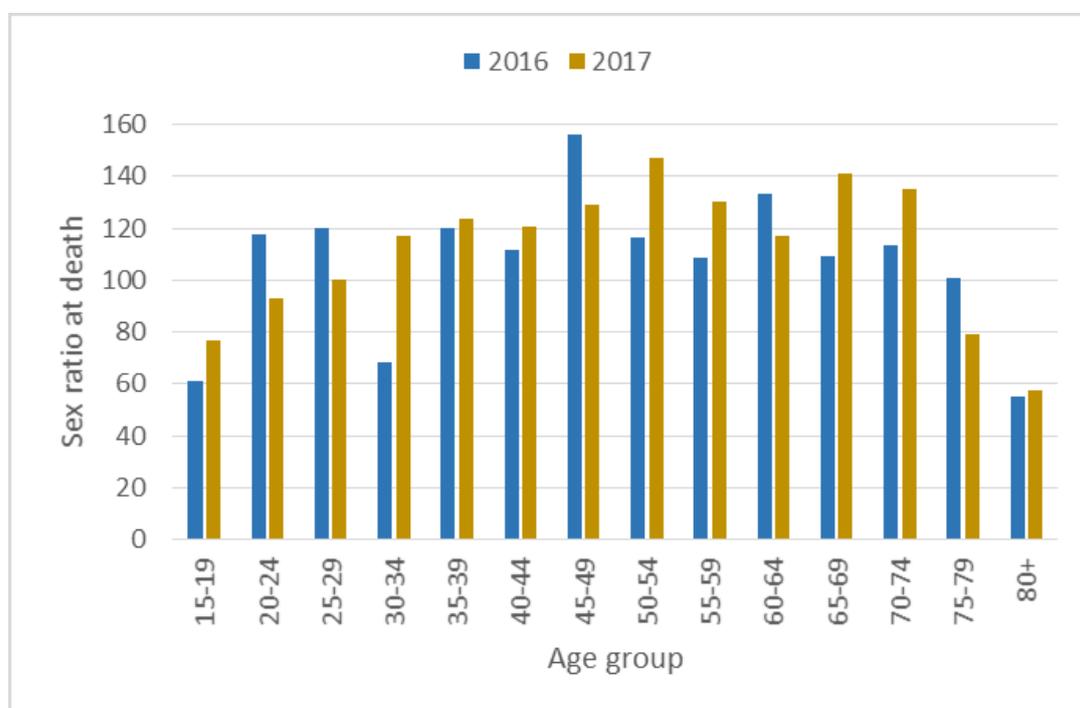


Figure 42: Sex ratio for deaths due to Cardiovascular disease for those aged 15 years and above, 2016 and 2017

5.5.2 Cancer

Cancer is defined as a generic term for a large group of diseases characterised by growth of abnormal cells beyond their usual boundaries that can then invade adjoining parts of the body and/or spread to other organs. Other common terms used are malignant tumours and neoplasms (WHO, 2018). **Table 13** shows that most deaths were due to other malignant neoplasms for both years. The high numbers of “other malignant neoplasms” could be due to misclassifications. The table on distribution of cancer deaths by sex is presented in **Annex Table 12**.

Table 13: Top 10 types of Cancer deaths for 2016 and 2017

2016				2017			
Rank	Causes	Total	%	Rank	Causes	Number	%
1	Other malignant neoplasms	342	29.7	1	Other malignant neoplasms	345	29.2
2	Cervix uteri cancer	106	9.2	2	Breast cancer	102	8.6
3	Breast cancer	97	8.4	3	Liver cancer	100	8.5
4	Liver cancer	92	8.0	4	Cervix uteri cancer	100	8.5
5	Prostate cancer	85	7.4	5	Trachea, bronchus and lung cancers	95	8.0
6	Trachea, bronchus and lung cancers	76	6.6	6	Prostate cancer	84	7.1
7	Pancreas cancer	49	4.3	7	Lymphomas and multiple myeloma	62	5.2
8	Lymphomas and multiple myeloma	47	4.1	8	Mouth and oropharynx cancers	52	4.4
9	Oesophagus cancer	42	3.7	9	Oesophagus cancer	43	3.6
10	Leukaemia	40	3.5	10	Pancreas cancer	43	3.6

Figure 43 shows that cancer deaths increases gradually from the age groups 25 – 29 and above for both years.

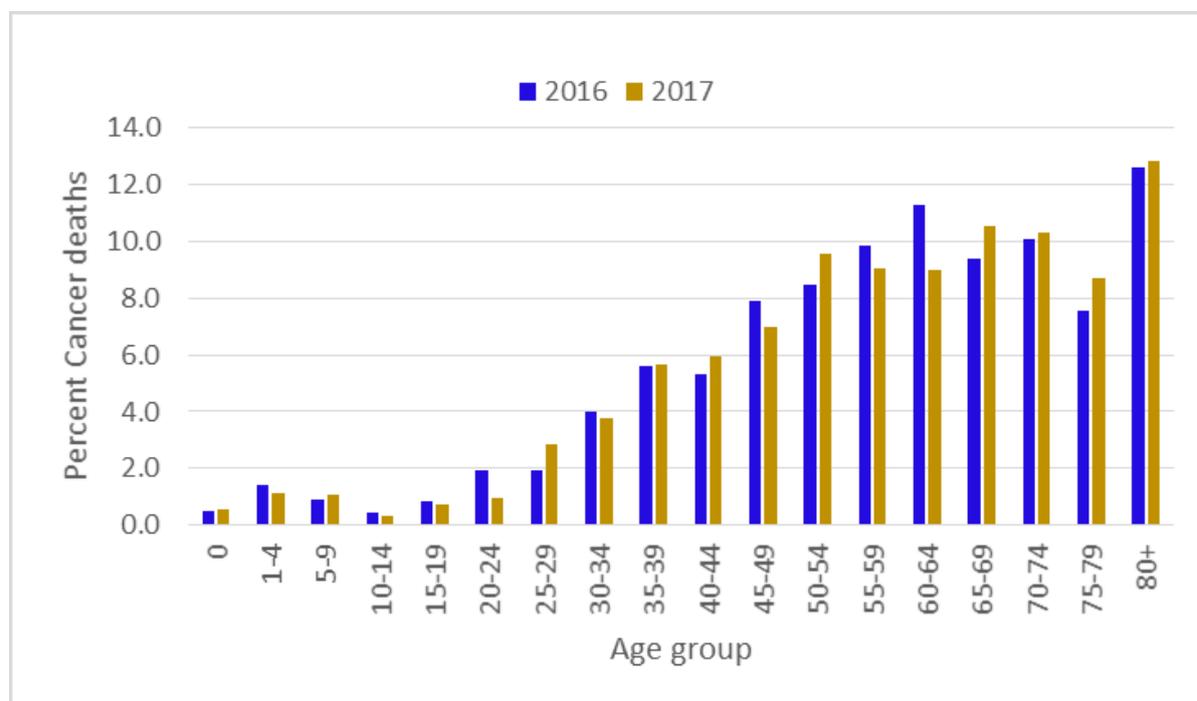


Figure 43: Percent Cancer deaths by age group for 2016 and 2017

The maps in **Figure 44** show that Kavango East and Khomas regions recorded the highest (more than 95 cancer deaths per 100,000 population) in both years.

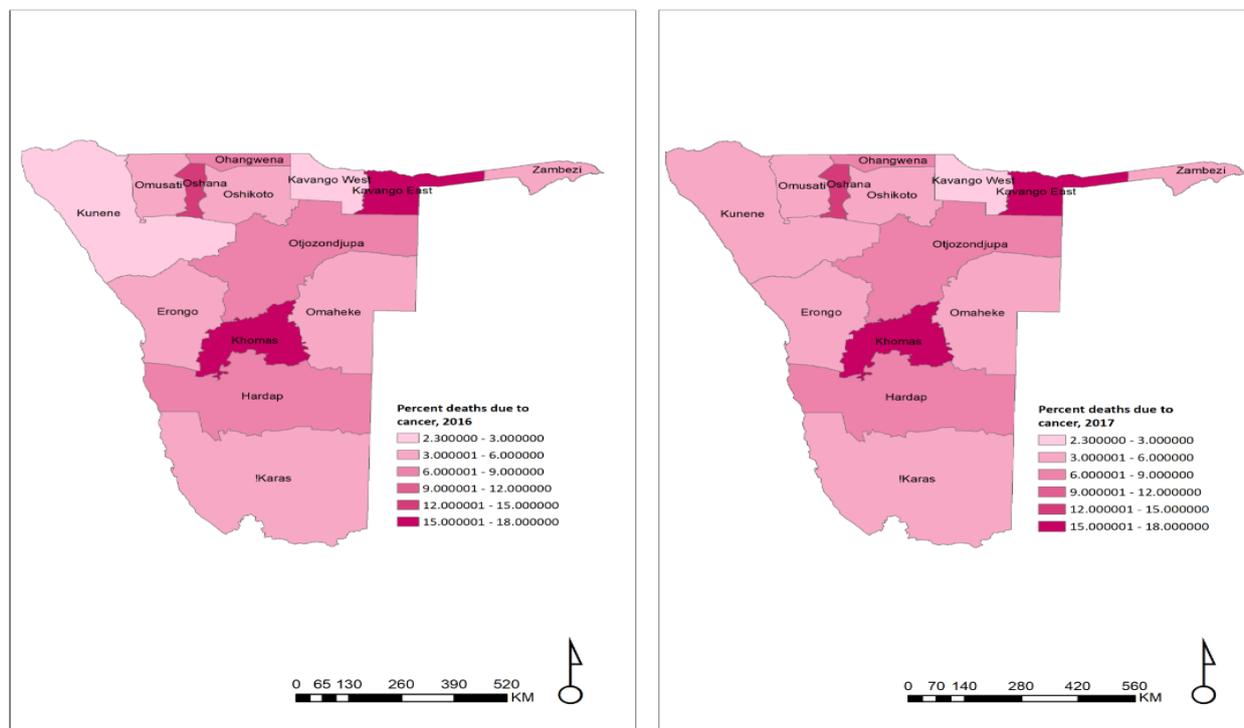


Figure 44: Percentage of Cancer death rates by region and year

Kavango West region recorded three times more male deaths than female deaths in 2017 due to cancer, **Figure 45**.

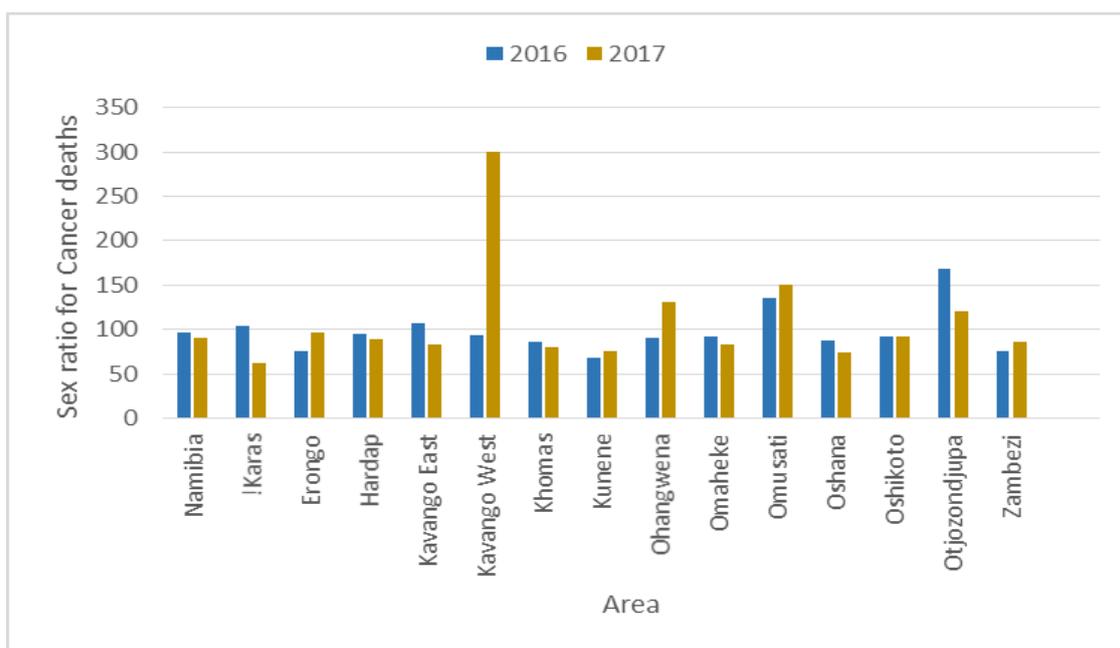


Figure 45: Deaths due to cancer by Sex ratio and Region for 2016 and 2017

5.5.3 Diabetes

Diabetes occurs when the body cannot produce enough insulin, a hormone that regulates blood sugar (Type 1). It can also occur when the body cannot effectively use the insulin it produces (Type 2). Some effects of diabetes include heart disease, vision loss, and kidney injury.

Deaths due to diabetes are more prevalent from the age-groups 30 – 34 years, **Figure 46**.

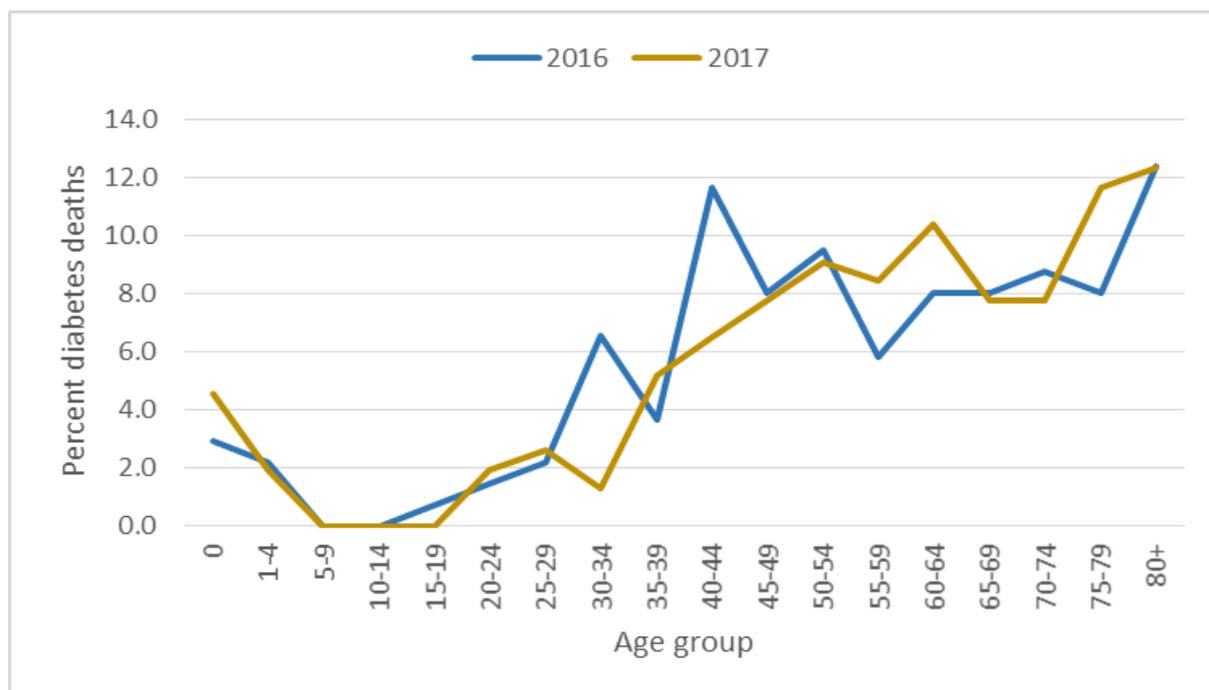


Figure 46: Percent Diabetes deaths by age group for 2016 and 2017

5.5.4 Hypertension

Hypertension also known as High blood pressure (HBP) is a non-communicable disease (NCD) that occurs in stages where the blood pressure within an individual’s blood vessels has elevated to an unusual level for a persistent period of time and is the leading risk factor worldwide of cardiovascular disease (WHO, 2003). There are many risk factors that cause hypertension, including socio-economic and demographic factors such as smoking habits, high cholesterol and obesity. Hypertension death rates are higher in older ages (from 45 years and above), **Figure 47**.

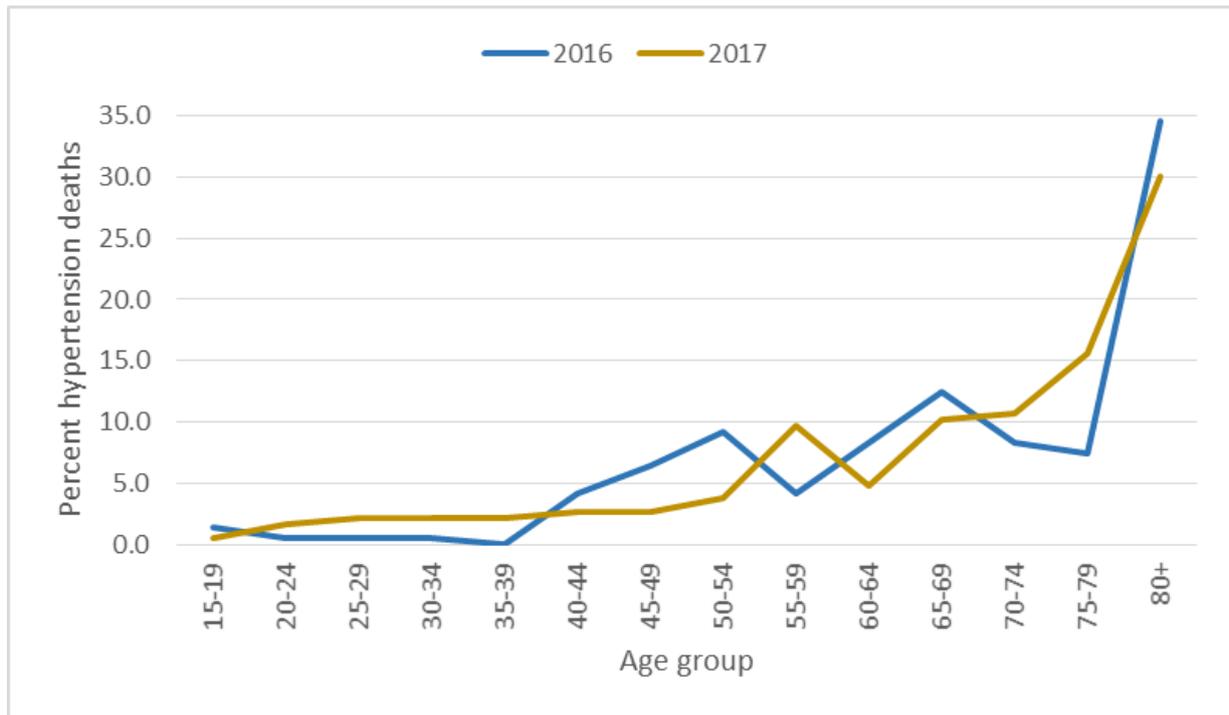


Figure 47: Percent Hypertension deaths by age group for 2016 and 2017

Oshana, Kavango East and Khomas regions recorded the highest hypertension death rates, **Figure 48**.

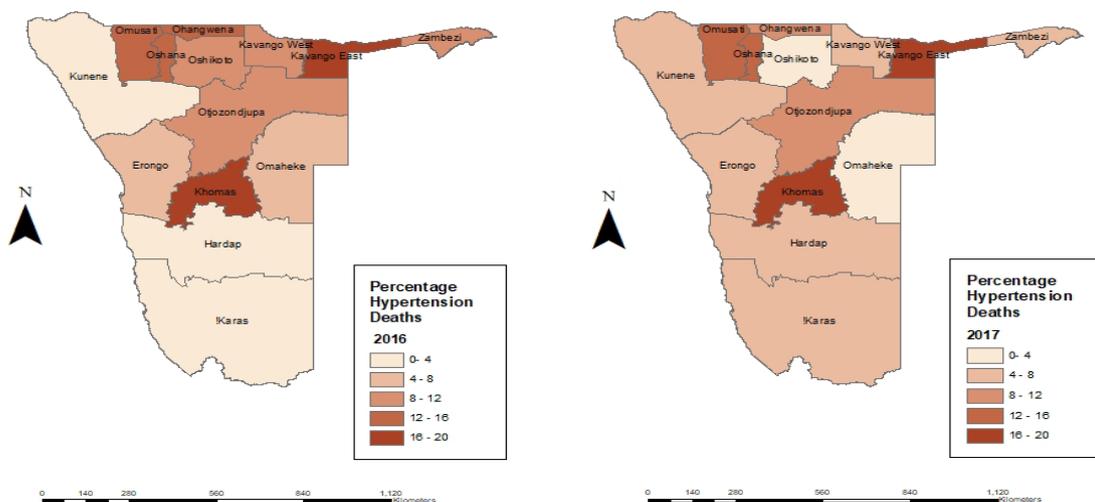


Figure 48: Percentage Hypertension deaths by region for 2016 and 2017

5.6 Mortality due to Maternal, Perinatal and Nutritional Conditions

Statistics on maternal, perinatal and nutritional conditions are used for identifying problems and designing policies and programmes to address these problems as well as evaluating the effectiveness of the country's health system. Maternal and Perinatal deaths statistics can be used to design high-quality antenatal care, delivery and postnatal care to reduce the incidence of complications and ensure the survival of mothers and infants. Nutritional conditions statistics are vital as these conditions negatively affect the most vulnerable population groups such as pregnant women and young children. Nutrition interventions can have a positive effect on micronutrient deficiencies, undernutrition and acute infections like diarrhoea, malaria, HIV/AIDS and tuberculosis.

5.6.1 Maternal Deaths

Maternal death or **maternal mortality** is defined by the World Health Organization (WHO) as “the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.

Figure 49 shows the percent maternal deaths. There were a total of 56 and 48 maternal deaths in 2016 and 2017 respectively. Most maternal deaths were in Khomas and Oshana regions in both years.

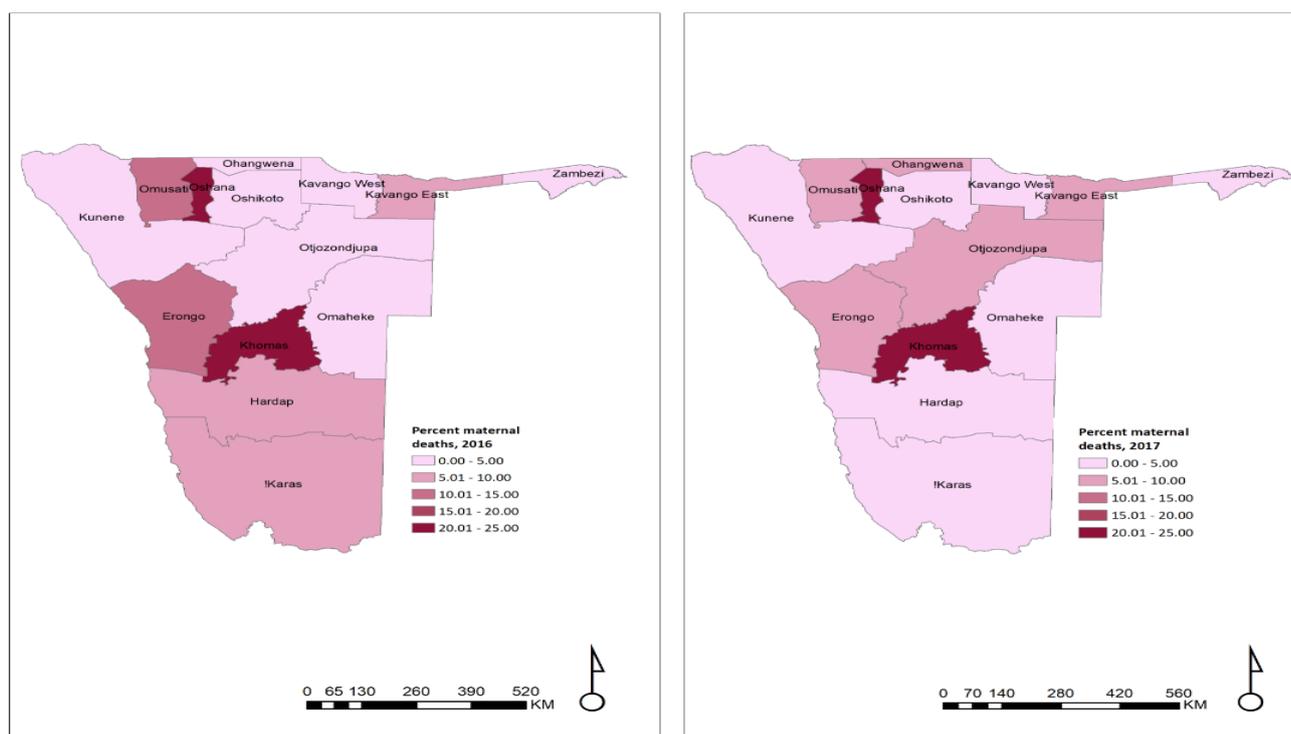


Figure 49: Percent Maternal Deaths by Region, 2016 and 2017

Figure 50 shows that a high percent of maternal deaths due to bleeding (APH and PPH) and abortion for both years.

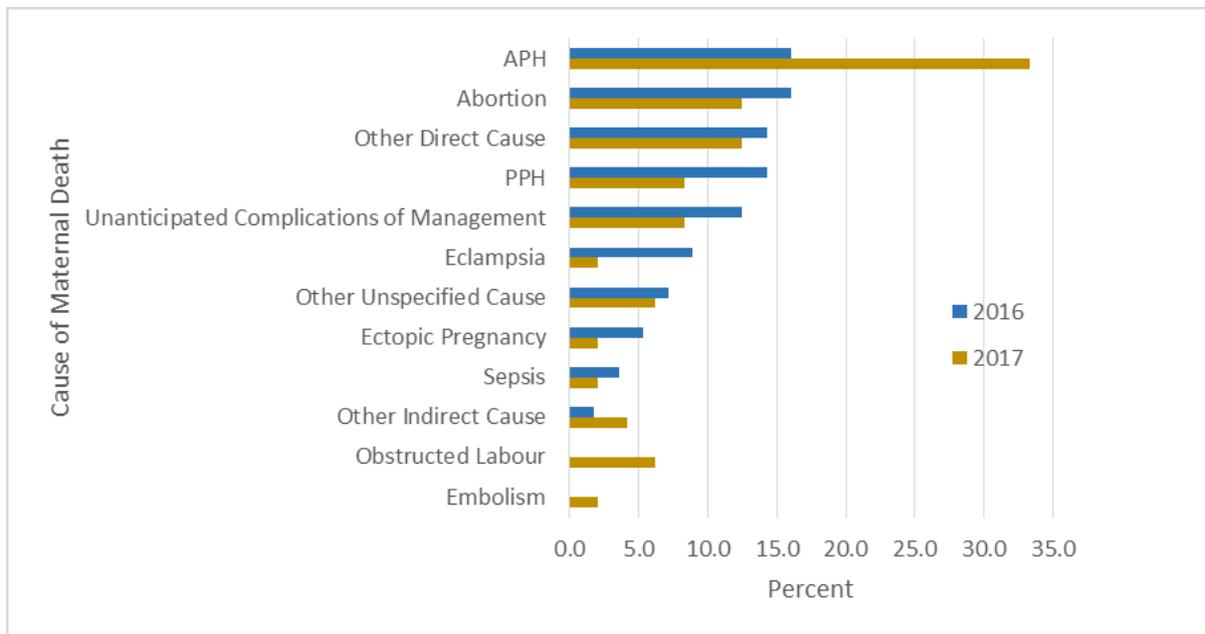


Figure 50: Causes of maternal deaths by Year

5.6.2 Still-births/ Foetal deaths

A stillbirth is defined as a baby born with no signs of life at or after 28 weeks' gestation. Stillbirth rate is the number of stillbirths per 1,000 births (live and stillbirths). However, the rate is not calculated in this report due to the limitations of data in the denominator (live and stillbirths). Stillbirths can occur at antepartum or intrapartum. An antepartum foetal death (stillbirth) refers to a foetus that has suffered an intrauterine death after the 24th week of gestation and before the onset of labour. In many cases, stillbirths reflect inadequacies in antenatal care coverage or in intrapartum care. For purposes of international comparison, stillbirths are defined as third trimester foetal deaths (≥ 1000 g or ≥ 28 weeks) (WHO, 2015).

Still births are a reflection of the health system care on pre-natal and post-natal services. Khomas and Oshana region recorded the highest number of stillbirths out of all stillbirths in the country, **Figure 51**.

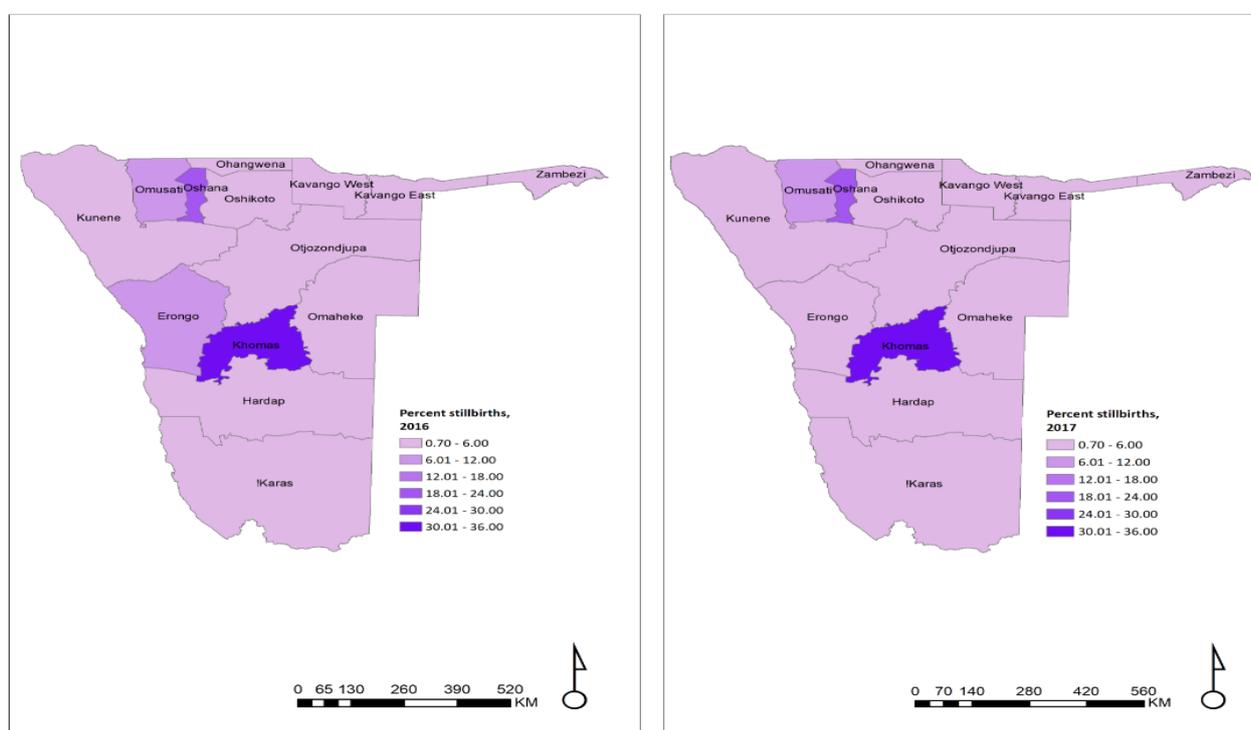


Figure 51: Percent regional distribution of Stillbirths, 2016 and 2017

5.6.3 Perinatal Deaths

WHO defines perinatal deaths as the stillbirths and deaths in the first week of life (early neonatal mortality).

Overall, **Figure 52** indicates that Khomas and Oshana regions recorded the highest perinatal deaths with over 20 percent deaths in both years.

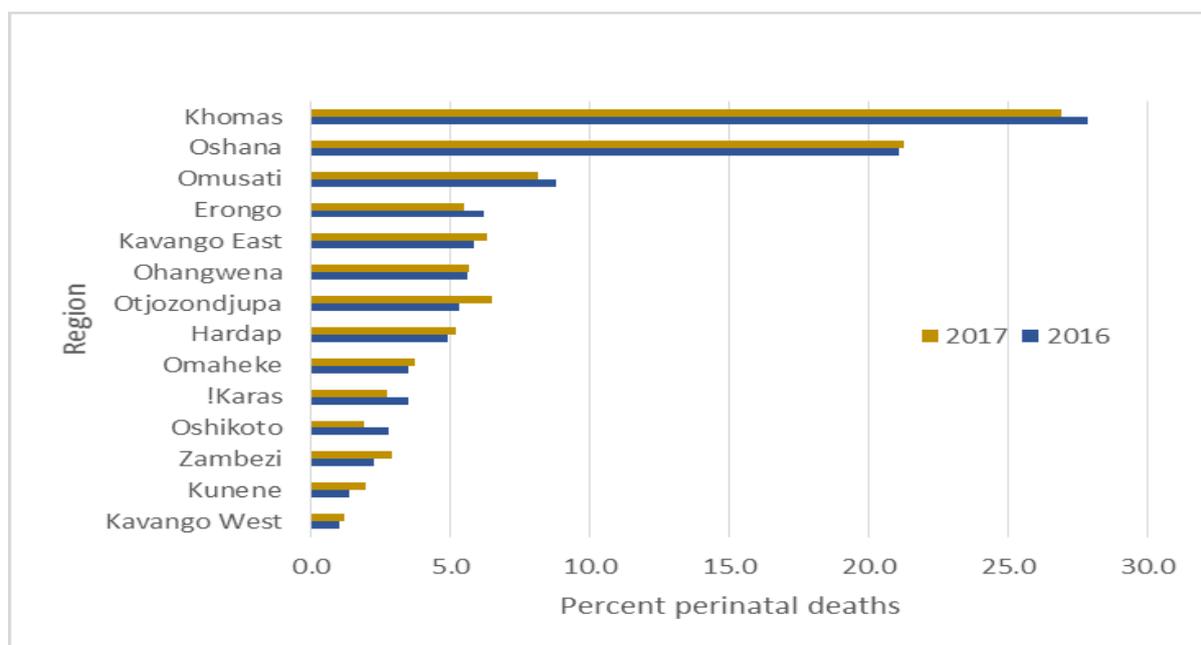


Figure 52: Percent Perinatal deaths by Region and year

Table 14, shows that the top 2 causes of perinatal deaths was macerated stillbirth and low birth weight accounting for more than 50% of the causes. Maceration describes the degenerative changes that occur in stillbirths retained in the uterus after death, and the earliest signs are in the form of discolouration and peeling of the skin, leaving regions of raw tissue (WHO,2018).

Table 14: Top 10 Causes of Perinatal deaths by year

2016 Top 10 Causes of Perinatal Deaths				2017 Top 10 Causes of Perinatal Deaths			
Rank	Cause	Number	%	Rank	Cause	Number	%
1	Macerated StillBirth	718	43.3	1	Macerated StillBirth	675	42.7
2	Low Birth Weight	195	11.8	2	Low Birth Weight	169	10.7
3	Ill-defined	117	7.1	3	Ill-defined	130	8.2
4	HIV/AIDS	111	6.7	4	Birth Asphyxia	78	4.9
5	Birth Asphyxia	79	4.8	5	HIV/AIDS	66	4.2
6	Sepsis of newborn	65	3.9	6	Anoxic brain damage, not elsewhere classified	54	3.4
7	Respiratory Failure	35	2.1	7	Sepsis of newborn	46	2.9
8	Cardiovascular	34	2.0	8	Respiratory distress	42	2.7
9	Respiratory distress	34	2.0	9	Cardiovascular	39	2.5
10	Anoxic brain damage, not elsewhere classified	27	1.6	10	Hypoxic ischaemic	24	1.5

5.6.5 Post neonatal mortality

Post neonatal mortality is a measure of infants dying between 28 days of age and 1 year. Factors such as the health of mothers, intrapartum care, birth weight, nutritional and health care after birth continue to be important determinants of deaths in the post-neonatal period. The section provides statistics on the number of post neonatal deaths by region and sex as well as the top ten leading causes of death.

Figure 54 shows the Post Neonatal death rates by region. For Namibia the number of deaths slightly increased in 2017. Overall, the post neonatal deaths were below 25 for most regions except Omaheke in 2017 and Oshana region (in both years).

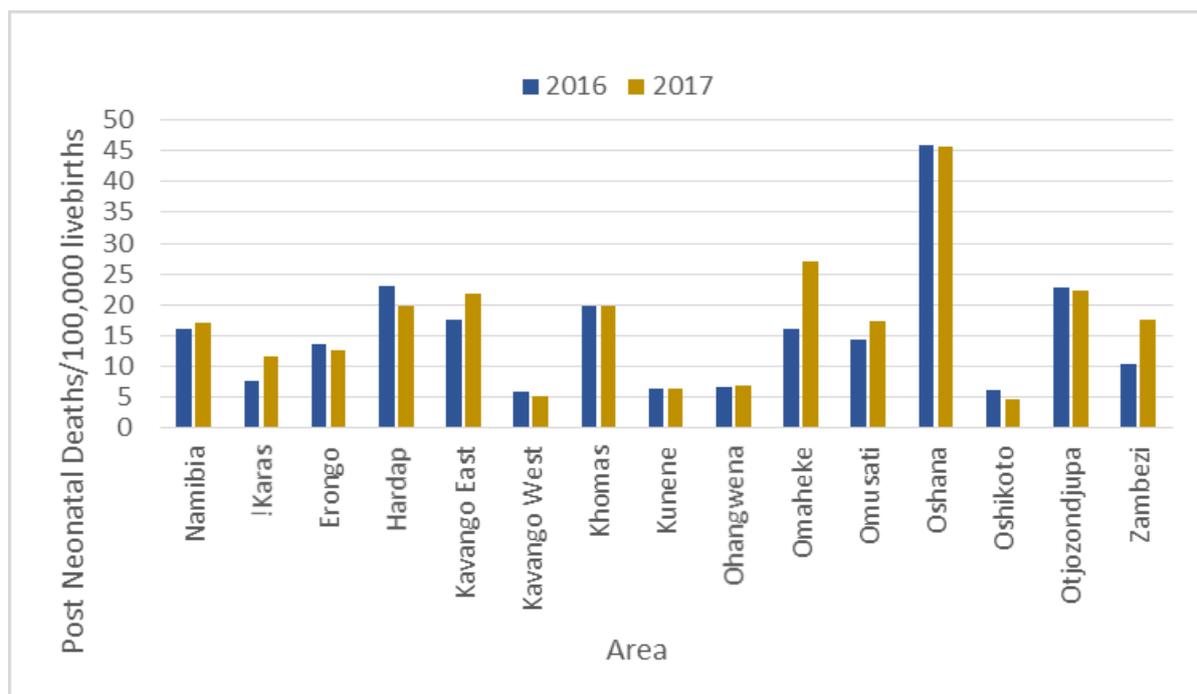


Figure 54: Post Neonatal Death Rates by Year and Area

Table 15 shows that in total there were 1,115 Post neonatal deaths in 2016 and 1,200 in 2017. There were less post neonatal deaths for males than females in 2016 while in 2017 there were more male than female post neonatal deaths. Overall, Khomas and Oshana regions recorded most deaths for both years.

Table 15: Number of Post Neonatal deaths by Region and Sex, 2016 and 2017

Area	2016			2017		
	Total	Female	Male	Total	Female	Male
Namibia	1 115	578	537	1 200	570	630
!Karas	18	10	8	27	13	14
Erongo	66	37	29	63	34	29
Hardap	54	22	32	47	26	21
Kavango East	94	45	49	117	52	65
Kavango West	18	9	9	16	7	9
Khomas	244	132	112	252	120	132
Kunene	21	17	4	21	6	15
Ohangwena	54	24	30	57	30	27
Omaheke	34	15	19	56	30	26
Omusati	97	43	54	118	58	60
Oshana	243	135	108	243	115	128
Oshikoto	35	16	19	26	10	16
Otjozondjupa	104	58	46	101	40	61
Zambezi	33	15	18	56	29	27

Figure 55 shows that deaths due to Pneumonia and Diarrhoea and gastroenteritis were the leading cause of death during the Post neonatal period, besides Other ill-defined and unspecified causes of mortality category.

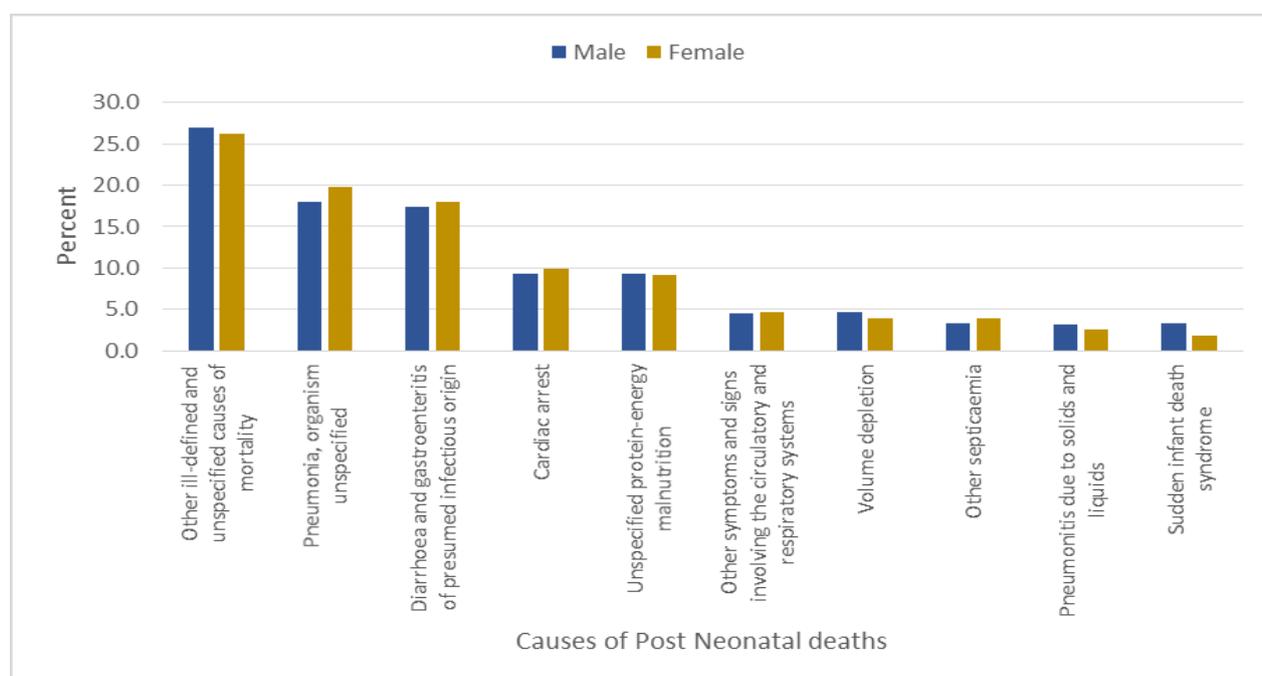


Figure 55: Percent of top 10 leading Post Neonatal causes of Deaths by sex for 2016 and 2017

5.6.6 Infant Mortality

Infant mortality rate is an important health indicator and can be used to assess the robustness of the country's health system. The infant mortality rate (IMR) is the number of infant deaths (deaths in children under 1 year) per 1,000 live births during a specified period, according to the US National Institute of Health (2017).

Figure 56 shows the IMR for Namibia was 45 in 2016 and 2017, which means that for every 1,000 babies born in both years, 45 died before their first birthday. Oshana region recorded the highest rate (125 in 2016 and 121 in 2017) for both years as against the lowest recorded by Kavango West (12 in both years).

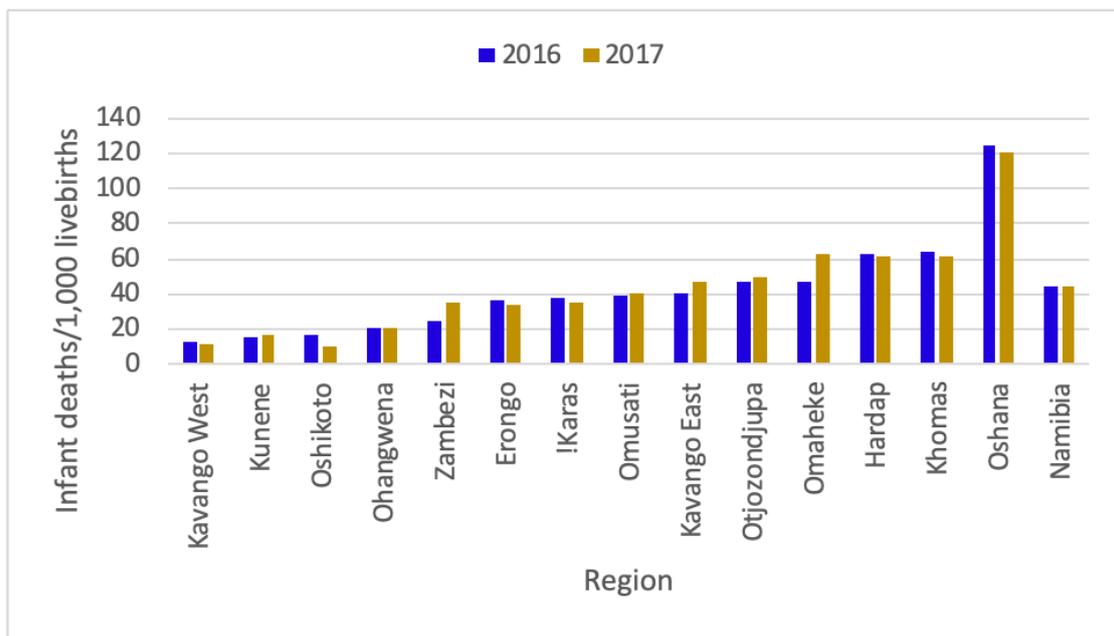


Figure 56: Infant Mortality Rate by Region and year

Figure 57 shows that in most regions, more male babies died than females for both years.

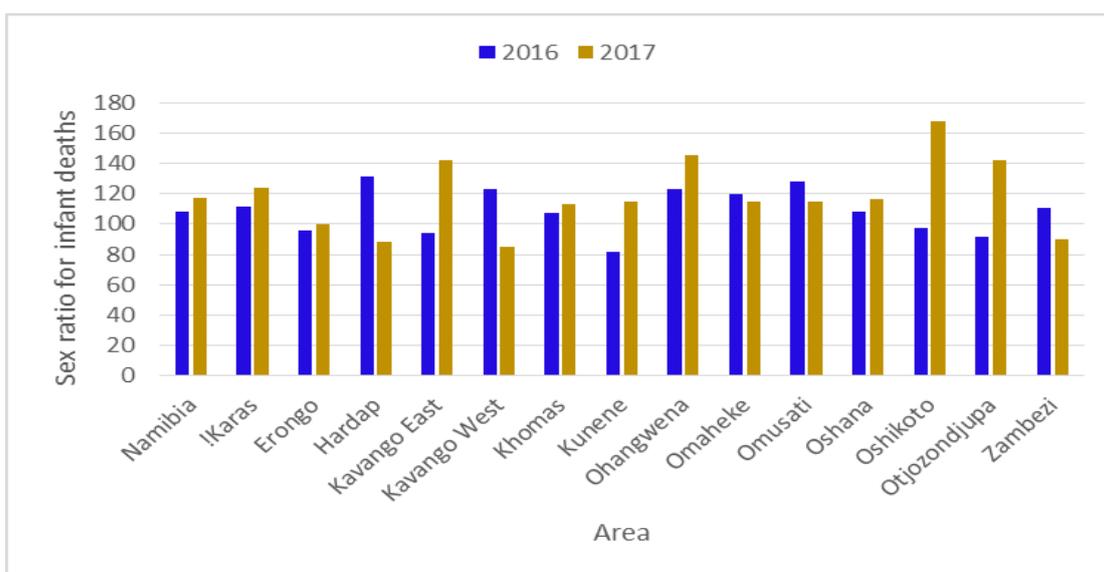


Figure 57: Sex ratio for Infant Deaths by Region in 2016 and 2017

5.6.7 Under-five Mortality Rate

The under-five mortality rate is defined as the probability of a child dying before reaching the age of five according to WHO, 2017). It is expressed as a rate per 1,000 live births in a specific year.

At regional level **Figure 58** shows that Oshana region recorded the highest deaths of children under the age of five (168 in 2016 and 158 in 2017, per 1,000 livebirths).

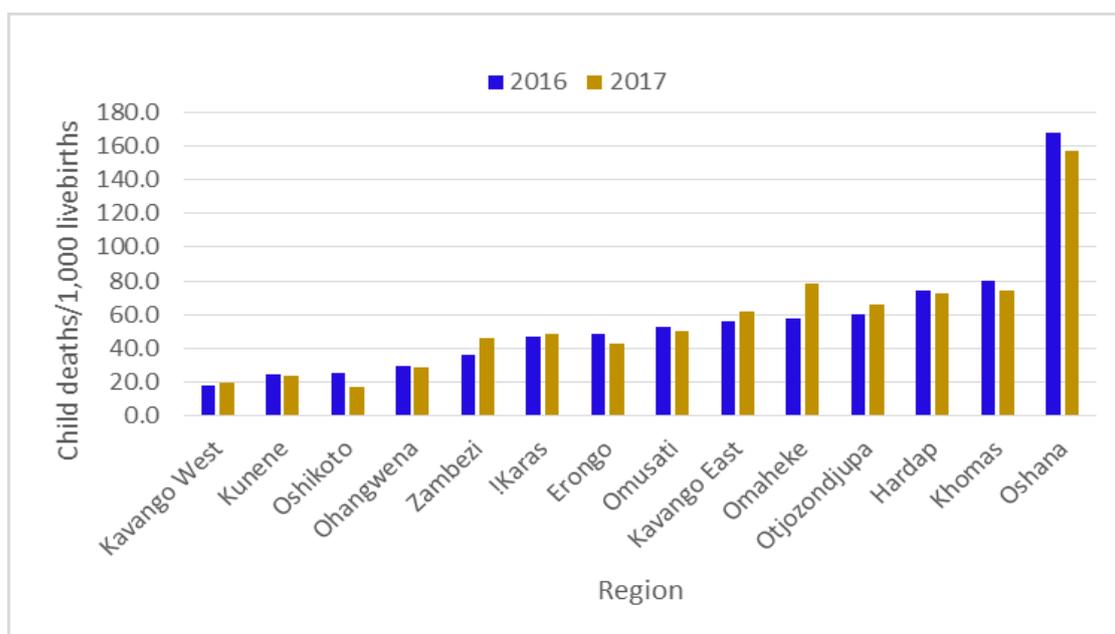


Figure 58: Child deaths per 1,000 livebirths by Region, 2016 and 2017

At regional level **Figure 59** shows that most regions (10 regions in 2016 and 12 regions in 2017) recorded more deaths of male children under five than females for both years.

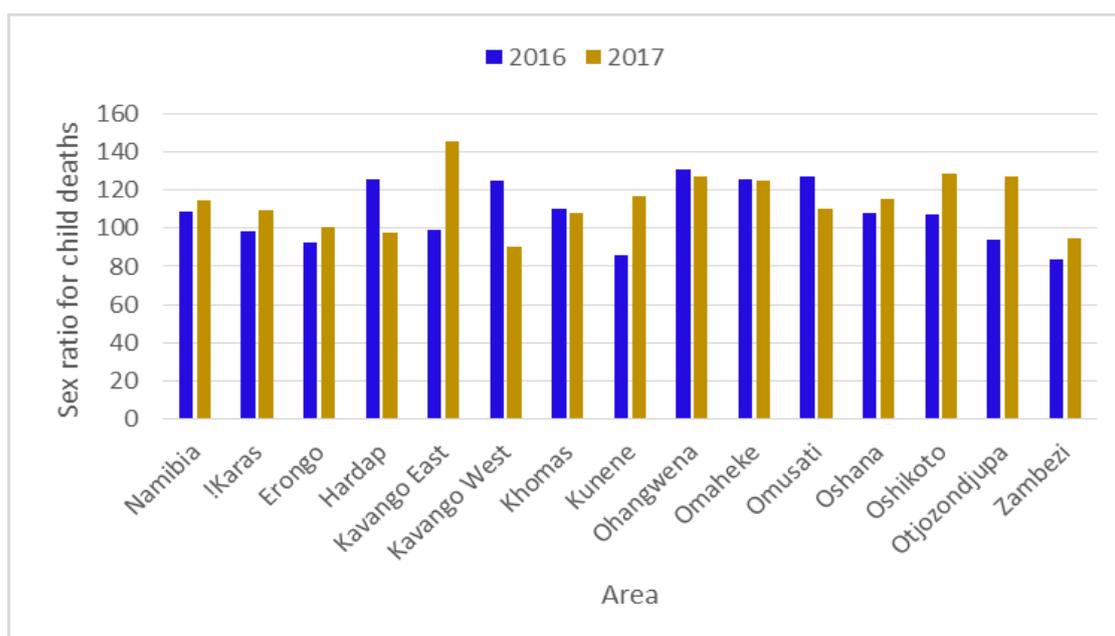


Figure 59: Sex ratio at death for children under five by Region, 2016 and 2017

5.6.8 Nutritional Conditions

Human beings require food intake to stimulate growth and development. However, lack of the right nutrients can result in many nutritional conditions which can lead to death. Nutrient-related diseases and conditions may include deficiencies or excesses in the diet, which may lead to obesity and eating disorders, chronic diseases such as cardiovascular disease, hypertension, cancer, and diabetes mellitus. These conditions also negatively affect the most vulnerable population groups such as pregnant women, young children and the elderly. Nutrition interventions can help reduce nutritional related conditions which may include diarrhea, malnutrition, metabolic disorders amongst others.

Table 16 shows that most deaths due to malnutrition, metabolic disorders and diabetes mellitus were the most common causes of endocrine, nutritional and metabolic diseases sub main groups for both years. For detailed information on the different distribution per each sub main group, **Annex Table 18**.

Table 16: Endocrine, nutritional and metabolic diseases deaths by sub main groups and Year

Endocrine, nutritional and metabolic diseases	2016		2017	
	Number	%	Number	%
Diabetes mellitus	138	22.4	163	26.5
Disorders of other endocrine glands	3	0.5	4	0.7
Disorders of thyroid gland	3	0.5	0	0.0
Malnutrition	276	44.9	264	43.0
Metabolic disorders	180	29.3	174	28.3
Obesity and other hyperalimentation	0	0.0	1	0.2
Other nutritional deficiencies	15	2.4	8	1.3
Total	615	100.0	614	100.0

Malnutrition is defined as the deficiencies, excesses, or imbalances in a person’s intake of energy and nutrients, WHO, 2016.

There were a total of 232 and 229 deaths due to malnutrition for those under the age of 10 years in 2016 and 2017, respectively. **Figure 60** indicates that the highest proportion of deaths due to malnutrition were among those aged 0 – 2 years, constituting close to 90 percent of all the deaths due to malnutrition for under ten years for both years.

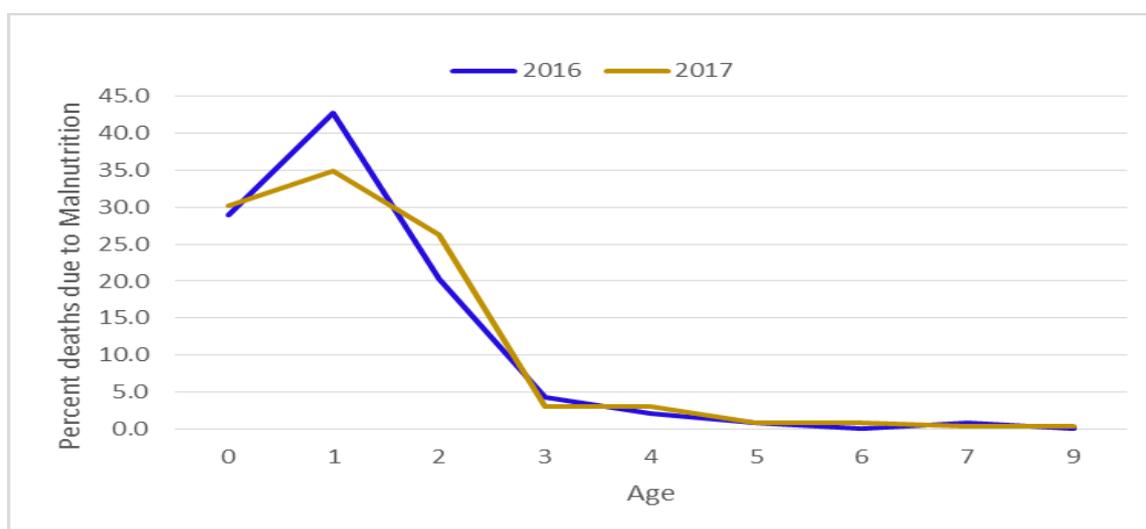


Figure 60: Percent distribution of Malnutrition deaths for those under 10 years old, 2016 and 2017

Figure 61 shows that most deaths due to diabetes mellitus are more prevalent in older ages (from age 40 years). Deaths for those under 5 years could be due to misclassification of causes as it not expected in those young ages.

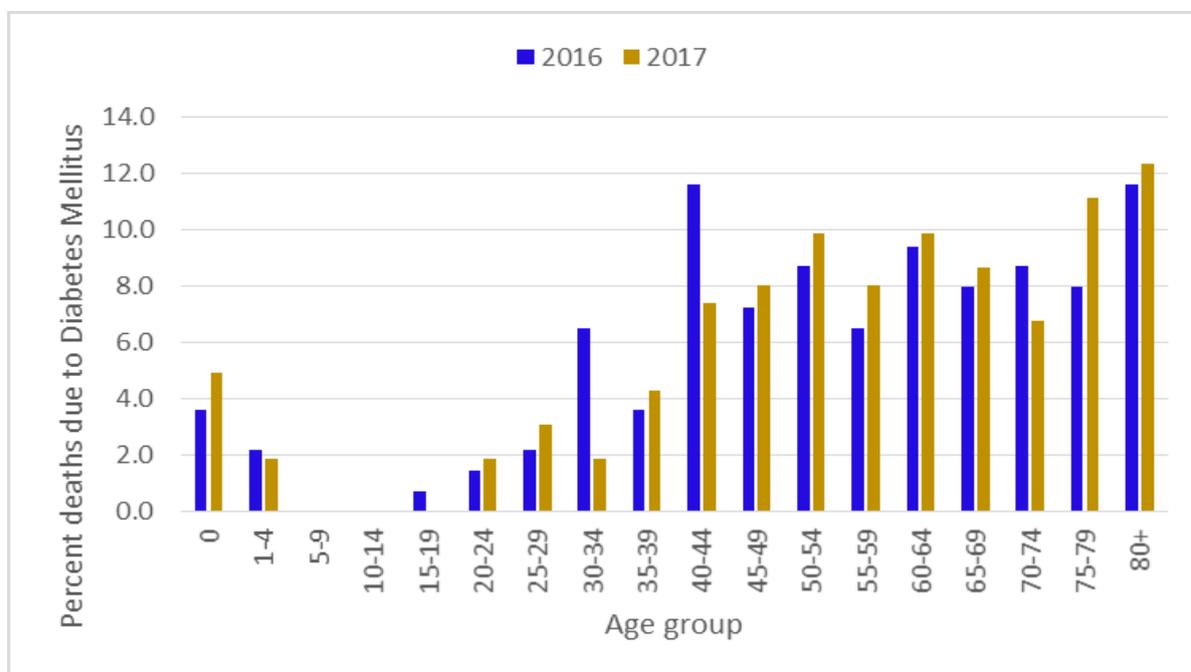


Figure 61: Percent distribution of deaths due to Diabetes Mellitus by age groups, 2016 and 2017

Most deaths due to metabolic disorders were among children under the age of five and people above the 80 years old, **Figure 62**.

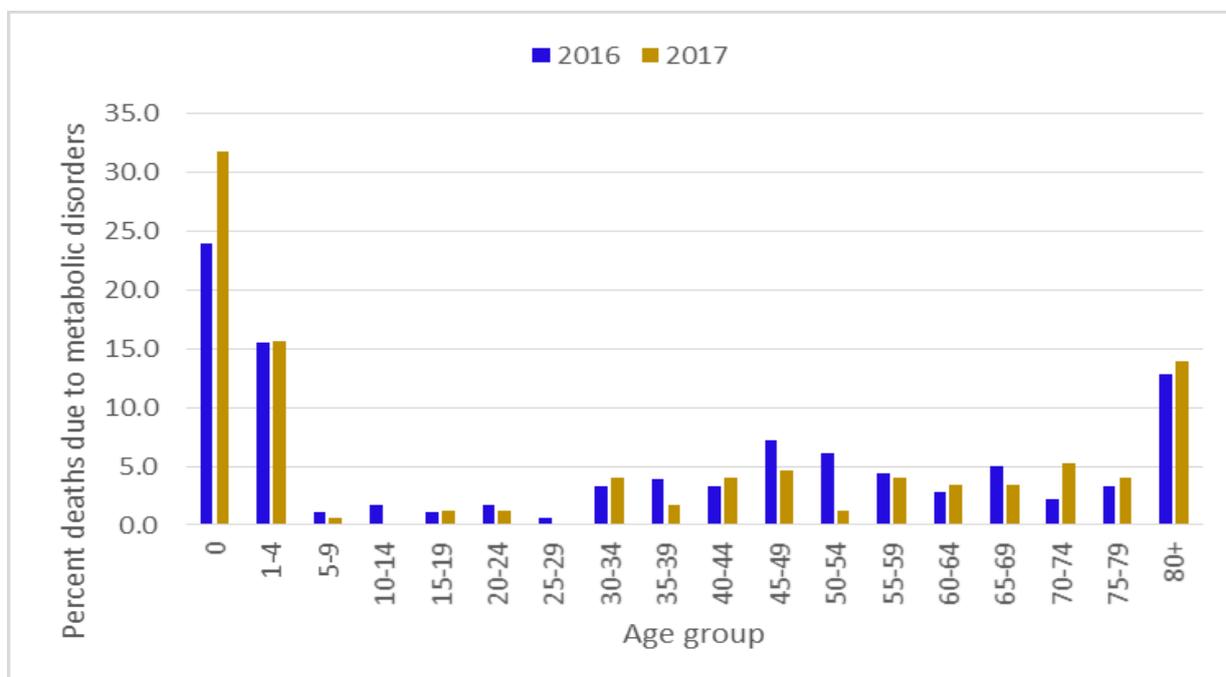


Figure 62: Percent distribution of deaths due to Metabolic Disorders by age groups, 2016 and 2017

5.7 Mortality due to external causes and injuries

An external cause of death, as described in WHO’s ICD-10, is a death resulting from accidents and violence including environmental events, circumstances and conditions as the cause of injury, poisoning, and other adverse effects.

Table 17 shows the ten (10) most frequently reported deaths caused by external causes and other injuries in 2016 and 2017. For both years, most deaths were caused by unspecified vehicle accidents i.e. 575 (76.4 %) and 473 (73 %) deaths in 2016 and 2017 respectively. Furthermore, assault by sharp object, discharge from unspecified firearms as well as drowning and submersion with undetermined intent were also found to be amongst the highest in 2016 and 2017.

Table 17: Top 10 external causes and injuries in 2016 and 2017

10 leading external causes and injuries, Both Sexes, ALL AGES, 2016				10 leading external causes and injuries, Both Sexes, ALL AGES, 2017			
Rank	Cause	Number	%	Rank	Cause	Number	%
1	Person injured in unspecified vehicle accident	575	76.4	1	Person injured in unspecified vehicle accident	473	73.0
2	Assault by sharp object, unspecified place	60	8.0	2	Assault by sharp object, unspecified place	59	9.1
3	Discharge from other and unspecified firearms, unspecified place	53	7.0	3	Drowning and submersion, undetermined intent, unspecified place	44	6.8
4	Drowning and submersion, undetermined intent, unspecified place	27	3.6	4	Discharge from other and unspecified firearms, unspecified place	33	5.1
5	Assault by other and unspecified firearm discharge, unspecified place	11	1.5	5	Assault by other and unspecified firearm discharge, unspecified place	10	1.5
6	Discharge from other and unspecified firearms, home	6	0.8	6	Aspiration of fluid	4	0.6
7	Sequelae of misadventures to patients during surgical and medical procedures	5	0.7	7	Exposure to smoke, fire and flames, undetermined intent, unspecified place	3	0.5
8	Aspiration of fluid	4	0.5	8	Sequelae of misadventures to patients during surgical and medical procedures	3	0.5
9	Rifle, shotgun and larger firearm discharge, undetermined intent, unspecified place	3	0.4	9	Motorcycle rider [any] injured in unspecified traffic accident	2	0.3
10	Exposure to smoke, fire and flames, undetermined intent, unspecified place	2	0.3	10	Discharge from other and unspecified firearms, home	2	0.3

Table 18 shows the distribution of deaths by sex due to injuries for 2016 and 2017. Deaths due to road traffic accidents were 3 times higher among males than females and death due to homicide were 4 times higher among males than females in 2016. The same trend was observed in 2017. **Table 18** also shows that road traffic accidents were the highest contributor to Unintentional injuries, while Homicide was the greatest contributor to Intentional injuries.

Table 18: Distribution of injuries as causes of deaths by sex in 2016 and 2017

Cause of death	2016			2017		
	Total	Male	Female	Total	Male	Female
Total injuries	753	564	189	648	470	178
Unintentional injuries	647	484	163	526	373	153
Road traffic accidents	576	425	151	477	336	141
Poisonings	-	-	-	-	-	-
Falls	-	-	-	-	-	-
Fires	-	-	-	3	2	1
Drownings	-	-	-	-	-	-
Other unintentional injuries	71	59	12	46	35	11
Intentional injuries	73	59	14	72	64	8
Self-inflicted injuries	-	-	-	1	1	-
Homicide	73	59	14	71	63	8
War and conflict	-	-	-	-	-	-
Other intentional injuries	-	-	-	-	-	-
Ill-defined injuries	33	21	12	50	33	17

Note: “-“ No cases reported

5.7.1 Deaths due to Road Traffic Accidents

Accidents from motor vehicle traffic crashes are one of the major contributors of external causes of deaths in Namibia. **Figure 63** shows the prevalence of deaths due to road traffic accidents is dominant among those aged 20 – 39 in both years. In general, data show that there was a reduction in deaths due to road traffic accidents in some age groups (0 – 4, 35 – 44, 55 – 74 and 80+ years) between the two years.

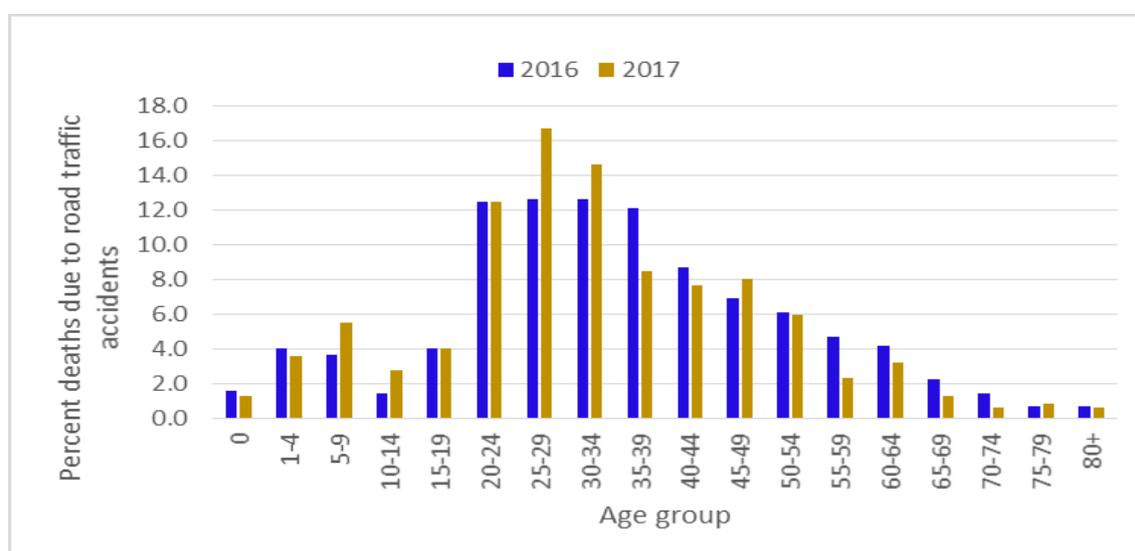


Figure 63: Percent Road Traffic Accident deaths by age and year

In **Figure 64**, most deaths due to road traffic accidents were reported in Khomas and Oshana regions, while in Omusati, Otjozondjupa, Zambezi there were significant increase from 2016 to 2017.

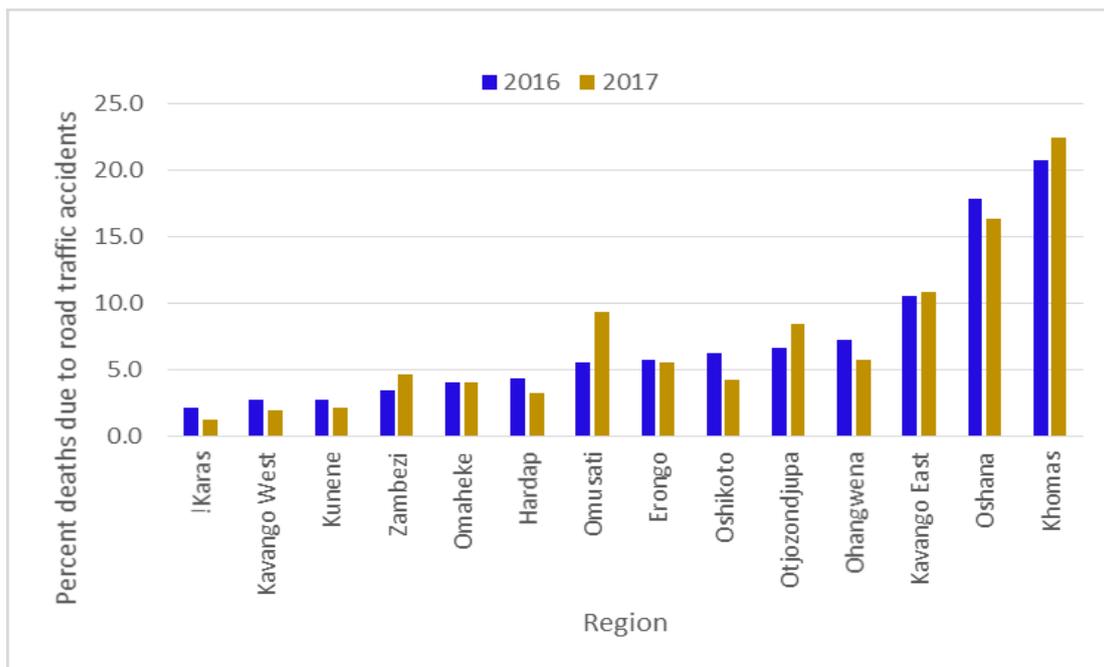


Figure 64: Percent distribution of Road Traffic Accident Deaths by Region

CHAPTER 6:

CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

- i. A typical W-shape mortality pattern, usually observed in most developing countries with high mortality among infants, young adults and old age people, was observed.
- ii. A general pattern of more male than female deaths were observed.
- iii. Deaths due to communicable diseases remain high in Namibia.
- iv. There is an emerging high burden of NCDs which is mostly affecting the economically productive ages.
- v. The prevalence of deaths due to road traffic accidents is dominant among those aged 20- 39 in both years
- vi. HIV remains the leading cause of death among all age groups.
- vii. Namibia does not have adequate and good quality Civil Registration data on mortality and causes of death that can be used to support policy development and implementation. This is due to inappropriate recording of underlying causes of death.
- viii. Generally, the level of misclassification and ill- defined causes of death are serious data quality concerns.

6.2 Recommendations

- i. Standardized Training on certification of causes of death.
- ii. Implement built-in data validation checks in the e-death system to minimize data entry errors
- iii. Conduct regular quality review by stakeholders of the mortality and cause of death
- iv. Include the variable “place of usual residence” to link mortality to usual residence and geographic variation of mortality.
- v. Additional information should be a requirement for any unknown value in the data.
- vi. Strengthen existing policies and develop new strategies to improve the CRVS system including causes of deaths in Namibia.

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21. <https://www.who.int/news-room/fact-sheets/detail/malnutrition>

ANNEXURE

Annex I: Annex Tables

Annex Table 1: Screenshot erroneous entries

Row Labels
007
063
210
ABDOMIN SYMPHOMS
ACE AND SAN
ACUTE
ACUTE MYELOID LEUKEMIA
ACUTE MYLOID LEUKEMIA
ANOREXIA
CARDIOPULMONARY FAILURE
ILLNESS
LIVER
NATURAL DEATH
OLD AGE
OSHAKATI
POOR IN TAKE
SEVERE
SEVRE ASPHYXIA CRADEIVH
SEVVERE BRONCHOPNEUMONIA
SHORT ILLNESS
SUDDEN ILLNESS

Annex Table 2: Top 10 leading causes of MALE & FEMALE deaths in Namibia, all ages, 2016 & 2017

10 Leading Causes of Death, Males, All Ages, 2016					10 Leading Causes of Death, Males, All Ages, 2017			
Rank	Cause	Number	%		Rank	Cause	Number	%
1	HIV	1,605	15.4	→	1	HIV	1,461	14.5
2	Other cardiovascular diseases	1,037	9.9	→	2	Other cardiovascular diseases	1,116	11.1
3	Ill-defined diseases (ICD10 R00-R99)	793	7.6	→	3	Ill-defined diseases (ICD10 R00-R99)	887	8.8
4	Lower respiratory infections	750	7.2	→	4	Lower respiratory infections	765	7.6
5	Tuberculosis	542	5.2	→	5	Tuberculosis	475	4.7
6	Road traffic accidents	421	4.0	↔	6	Diarrhoeal diseases	369	3.7
7	Diarrhoeal diseases	393	3.8	↔	7	Road traffic accidents	333	3.3
8	Nephritis and nephrosis	342	3.3	↔	8	Cerebrovascular disease	318	3.2
9	Other digestive diseases	299	2.9	↔	9	Other digestive diseases	315	3.1
10	Cerebrovascular disease	284	2.7	↔	10	Nephritis and nephrosis	271	2.7
10 Leading Causes of Death, Females, All Ages, 2016					10 Leading Causes of Death, Females, All Ages, 2017			
Rank	Cause	Number	%		Rank	Cause	Number	%
1	HIV	1,564	17.7	→	1	HIV	1,465	17.5
2	Other cardiovascular diseases	1,095	12.4	→	2	Other cardiovascular diseases	1,139	13.6
3	Lower respiratory infections	669	7.6	↔	3	Ill-defined diseases (ICD10 R00-R99)	584	7.0
4	Ill-defined diseases (ICD10 R00-R99)	631	7.2	↔	4	Lower respiratory infections	579	6.9
5	Diarrhoeal diseases	441	5.0	→	5	Diarrhoeal diseases	397	4.8
6	Tuberculosis	350	4.0	→	6	Cerebrovascular disease	348	4.2
7	Cerebrovascular disease	341	3.9	↔	7	Tuberculosis	304	3.6
8	Nephritis and nephrosis	255	2.9	→	8	Nephritis and nephrosis	239	2.9
9	Other digestive diseases	249	2.8	→	9	Other infectious diseases	229	2.7
10	Endocrine disorders	229	2.6	→	10	Other digestive diseases	204	2.4

Annex Table 3: Top 10 leading causes of deaths for children aged 5 - 14 years, MALES & FEMALES, Namibia

10 leading causes of death, Males, 5-14 years 2016				10 leading causes of death, Males, 5-14 years 2017			
Rank	Cause	Number	%	Rank	Cause	Number	%
1	HIV	36	15.3	1	HIV	42	19.8
2	Ill-defined diseases (ICD10 R00-R99)	31	13.2	2	Ill-defined diseases (ICD10 R00-R99)	32	15.1
3	Road traffic accidents	18	7.7	3	Road traffic accidents	20	9.4
4	Other infectious diseases	12	5.1	4	Other infectious diseases	13	6.1
5	Other cardiovascular diseases	10	4.3	4	Other cardiovascular diseases	13	6.1
6	Tuberculosis	9	3.8	6	Tuberculosis	12	5.7
6	Ill-defined injuries/accidents (ICD10 Y10-Y34)	9	3.8	7	Lower respiratory infections	8	3.8
8	Lower respiratory infections	8	3.4	8	Malaria	7	3.3
9	Diarrhoeal diseases	7	3.0	9	Other malignant neoplasms	5	2.4
9	Malaria	7	3.0	10	Diarrhoeal diseases	4	1.9
				10	Protein-energy malnutrition	4	1.9
				10	Nephritis and nephrosis	4	1.9
10 leading causes of death, Females, 5-14 years 2016				10 leading causes of death, Females, 5-14 years 2017			
Rank	Cause	Number	%	Rank	Cause	Number	%
1	HIV	25	13.0	1	HIV	26	13.9
2	Ill-defined diseases (ICD10 R00-R99)	21	10.9	2	Road traffic accidents	19	10.2
3	Malaria	13	6.8	3	Ill-defined diseases (ICD10 R00-R99)	15	8.0
3	Other cardiovascular diseases	13	6.8	4	Other cardiovascular diseases	14	7.5
5	Lower respiratory infections	12	6.3	5	Malaria	11	5.9
6	Road traffic accidents	10	5.2	5	Lower respiratory infections	11	5.9
7	Endocrine disorders	7	3.6	7	Other infectious diseases	9	4.8
8	Other malignant neoplasms	6	3.1	8	Protein-energy malnutrition	6	3.2
8	Cerebrovascular disease	6	3.1	9	Tuberculosis	5	2.7
10	Tuberculosis	5	2.6	9	Diarrhoeal diseases	5	2.7
10	Meningitis	5	2.6	9	Other malignant neoplasms	5	2.7
10	Other digestive diseases	5	2.6	9	Endocrine disorders	5	2.7

Annex Table 4: Top 10 leading causes of deaths for Adult aged 15 - 59 years, MALES & FEMALES, Namibia

10 leading causes of death, Males, 15-59 years, 2016				10 leading causes of death, Males, 15-59 years, 2017			
Rank	Cause	Number	%	Rank	Cause	Number	%
1	HIV	608	13.1	1	HIV	493	11.5
2	Other cardiovascular diseases	389	8.4	2	Ill-defined diseases (ICD10 R00-R99)	430	10.0
3	Tuberculosis	381	8.2	3	Other cardiovascular diseases	384	8.9
4	Road traffic accidents	350	7.5	4	Tuberculosis	338	7.9
5	Ill-defined diseases (ICD10 R00-R99)	341	7.3	5	Lower respiratory infections	299	7.0
6	Lower respiratory infections	323	6.9	6	Road traffic accidents	278	6.5
7	Other digestive diseases	191	4.1	7	Other digestive diseases	186	4.3
8	Nephritis and nephrosis	165	3.5	8	Diarrhoeal diseases	126	2.9
9	Diarrhoeal diseases	129	2.8	9	Nephritis and nephrosis	111	2.6
10	Other malignant neoplasms	104	2.2	10	Other respiratory diseases	103	2.4
10 leading causes of death, Females, 15-59 years, 2016				10 leading causes of death, Females, 15-59 years, 2017			
Rank	Cause	Number	%	Rank	Cause	Number	%
1	HIV	458	14.6	1	HIV	363	12.5
2	Other cardiovascular diseases	356	11.4	2	Other cardiovascular diseases	341	11.8
3	Tuberculosis	256	8.2	3	Tuberculosis	217	7.5
4	Lower respiratory infections	219	7.0	4	Lower respiratory infections	211	7.3
5	Ill-defined diseases (ICD10 R00-R99)	180	5.7	5	Ill-defined diseases (ICD10 R00-R99)	199	6.9
6	Diarrhoeal diseases	159	5.1	6	Diarrhoeal diseases	152	5.2
7	Nephritis and nephrosis	130	4.2	7	Nephritis and nephrosis	134	4.6
8	Other digestive diseases	127	4.1	8	Other digestive diseases	117	4.0
9	Road traffic accidents	108	3.4	9	Road traffic accidents	100	3.4
10	Endocrine disorders	101	3.2	10	Other malignant neoplasms	91	3.1

Annex Table 5: Top 10 leading causes of deaths for Adult aged 60+ years, MALES & FEMALES, Namibia

10 leading causes of death, Males, 60+ years 2016				10 leading causes of death, Males, 60+ years 2017			
Rank	Cause	Number	%	Rank	Cause	Number	%
1	HIV	757	22.2	1	HIV	717	20.9
2	Other cardiovascular diseases	537	15.7	2	Other cardiovascular diseases	583	17.0
3	Lower respiratory infections	280	8.2	3	Lower respiratory infections	326	9.5
4	Ill-defined diseases (ICD10 R00-R99)	210	6.2	4	Ill-defined diseases (ICD10 R00-R99)	207	6.0
5	Cerebrovascular disease	168	4.9	5	Nephritis and nephrosis	149	4.3
6	Nephritis and nephrosis	167	4.9	6	Cerebrovascular disease	146	4.3
7	Tuberculosis	128	3.8	7	Tuberculosis	114	3.3
8	Other digestive diseases	88	2.6	8	Other digestive diseases	104	3.0
9	Other respiratory diseases	83	2.4	9	Other respiratory diseases	88	2.6
10	Prostate cancer	82	2.4	10	Prostate cancer	83	2.4

10 leading causes of death, Females, 60+ years 2016				10 leading causes of death, Females, 60+ years 2017			
Rank	Cause	Number	%	Rank	Cause	Number	%
1	HIV	853	24.1	1	HIV	856	25.3
2	Other cardiovascular diseases	631	17.8	2	Other cardiovascular diseases	662	19.5
3	Lower respiratory infections	276	7.8	3	Lower respiratory infections	231	6.8
4	Ill-defined diseases (ICD10 R00-R99)	248	7.0	4	Cerebrovascular disease	226	6.7
5	Cerebrovascular disease	222	6.3	5	Ill-defined diseases (ICD10 R00-R99)	200	5.9
6	Nephritis and nephrosis	116	3.3	6	Nephritis and nephrosis	97	2.9
7	Hypertensive disease	101	2.9	7	Other infectious diseases	90	2.7
7	Other digestive diseases	101	2.9	8	Diarrhoeal diseases	78	2.3
9	Other infectious diseases	87	2.5	9	Other respiratory diseases	76	2.2
10	Diarrhoeal diseases	82	2.3	10	Tuberculosis	73	2.2
				10	Other digestive diseases	73	2.2

Annex Table 6: Distribution of deaths by major cause and sex for 2016 and 2017

Causes	2016				2017			
	Total	Male	Female	Unknown Sex	Total	Male	Female	Unknown Sex
All Causes	19 246	10 431	8 815	8	18 443	10 091	8 352	5
Percent		54.2	45.8	0.0		54.7	45.3	0.0
Communicable, maternal, perinatal and nutritional conditions	8 007	4 150	3 857		7 457	3 913	3 544	
Non-communicable diseases	7 057	3 617	3 440		7 140	3 707	3 433	
Injuries	747	560	187		643	467	176	
Ill-defined diseases (ICD10 R00-R99)	1 424	793	631		1 471	887	584	
Percent (row)		% Male	% Female	% Unknown Sex		% Male	% Female	% Unknown Sex
Communicable, maternal, perinatal and nutritional conditions		51.8	48.2			52.5	47.5	
Non-communicable diseases		51.3	48.7			51.9	48.1	
Injuries		75.0	25.0			72.6	27.4	
Ill-defined diseases (ICD10 R00-R99)		55.7	44.3			60.3	39.7	

Annex Table 7: HIV deaths by Sex, Region and year

Region	2016			2017			Unknown Sex
	Total	Female	Male	Total	Female	Male	
!Karas	134	66	68	144	70	74	
Erongo	193	88	105	144	67	76	1
Hardap	169	75	94	161	72	89	
Kavango East	178	87	91	170	79	91	
Kavango West	33	17	16	31	22	9	
Khomas	710	346	364	679	332	347	
Kunene	78	41	37	56	25	31	
Ohangwena	183	88	95	146	78	68	
Omaheke	138	63	75	137	71	66	
Omusati	285	131	154	242	141	101	
Oshana	666	343	323	630	315	314	1
Oshikoto	76	42	34	70	37	33	
Otjozondjupa	220	112	108	213	102	111	
Zambezi	106	65	41	105	54	51	
Namibia	3 169	1 564	1 605	2 928	1 465	1 461	2

Annex Table 8: Number of TB deaths by Sex and Region and year

Region	2016			2017		
	Total	Female	Male	Total	Female	Male
!Karas	44	16	28	62	20	42
Erongo	43	24	19	38	17	21
Hardap	47	13	34	41	15	26
Kavango East	129	59	70	113	41	72
Kavango West	104	41	63	96	44	52
Khomas	166	63	103	133	58	75
Kunene	26	6	20	21	4	17
Ohangwena	43	14	29	26	13	13
Omaheke	29	8	21	27	6	21
Omusati	23	9	14	25	10	15
Oshana	164	71	93	131	39	92
Oshikoto	15	5	10	10	5	5
Otjozondjupa	41	15	26	30	20	10
Zambezi	19	6	13	26	12	14
Namibia	893	350	543	779	304	475

Annex Table 9: Malaria deaths by Sex, Region and year

Region	2016			2017		
	Total	Female	Male	Total	Female	Male
!Karas	10	7	3	8	4	4
Erongo	9	4	5	5	4	1
Hardap	8	3	5	4	2	2
Kavango East	11	6	5	5	3	2
Kavango West	3	1	2	0	0	0
Khomas	29	12	17	9	2	7
Kunene	2	2	0	4	1	3
Ohangwena	5	4	1	6	1	5
Omaheke	9	5	4	10	6	4
Omusati	3	2	1	0	0	0
Oshana	12	8	4	10	2	8
Oshikoto	1	1	0	3	0	3
Otjozondjupa	3	2	1	8	3	5
Zambezi	3	1	2	3	2	1
Namibia	108	58	50	75	30	45

Annex Table 10: Number of Respiratory Disease deaths by Sex, Region and year

Region	2016			2017		
	All Sex	Female	Male	All Sex	Female	Male
!Karas	39	18	21	60	33	27
Erongo	106	45	61	79	34	45
Hardap	74	29	45	73	33	40
Kavango East	174	80	94	154	61	93
Kavango West	27	14	13	25	8	17
Khomas	437	212	225	390	160	230
Kunene	30	12	18	22	11	11
Ohangwena	120	51	69	103	45	58
Omaheke	57	24	33	81	35	46
Omusati	124	54	70	126	54	72
Oshana	345	157	188	356	149	207
Oshikoto	40	18	22	51	20	31
Otjozondjupa	91	43	48	90	38	52
Zambezi	63	25	38	64	28	36
Namibia	1727	782	945	1674	709	965

Annex Table 11: Distribution of types of Non-communicable diseases by sex and year

Causes	2016				2017			
	Male	Female	Total	% Total	Male	Female	Total	% Total
Non communicable diseases	3 617	3 440	7 057	100.0	3 707	3 433	7 140	100.0
Malignant neoplasms	558	592	1 150	16.3	555	628	1 183	16.6
Other neoplasms	7	5	12	0.2	9	5	14	0.2
Diabetes mellitus	29	30	59	0.8	45	47	92	1.3
Endocrine disorders	189	229	418	5.9	187	202	389	5.4
Neuro-psychiatric conditions	140	103	243	3.4	123	94	217	3.0
Sense organ diseases	1	1	2	0.0	3	1	4	0.1
Cardiovascular diseases	1 546	1 641	3 187	45.2	1 695	1 666	3 361	47.1
Respiratory diseases	352	223	575	8.1	355	228	583	8.2
Digestive diseases	377	293	670	9.5	384	240	624	8.7
Genito-urinary diseases	361	264	625	8.9	290	249	539	7.5
Skin diseases	25	27	52	0.7	19	25	44	0.6
Musculo-skeletal diseases	7	14	21	0.3	15	8	23	0.3
Congenital anomalies	24	16	40	0.6	27	36	63	0.9
Oral conditions	1	2	3	0.0	0	4	4	0.1

Annex Table 12: Deaths due to Cancers by type and sex for 2016 and 2017

2016				2017			
Causes	Total	Male	Female	Causes	Total	Male	Female
Malignant neoplasms	1 150	558	592	Malignant neoplasms	1 183	555	628
Other malignant neoplasms	342	186	156	Other malignant neoplasms	345	172	173
Cervix uteri cancer	104	0	104	Breast cancer	102	5	97
Breast cancer	97	4	93	Liver cancer	100	61	39
Liver cancer	92	56	36	Cervix uteri cancer	100	0	100
Prostate cancer	85	85	0	Trachea, bronchus and lung cancers	95	62	33
Trachea, bronchus and lung cancers	76	49	27	Prostate cancer	84	84	0
Pancreas cancer	49	29	20	Lymphomas and multiple myeloma	62	33	29
Lymphomas and multiple myeloma	47	23	24	Mouth and oropharynx cancers	52	31	21
Oesophagus cancer	42	28	14	Oesophagus cancer	43	31	12
Leukaemia	40	21	19	Pancreas cancer	43	26	17
Mouth and oropharynx cancers	36	23	13	Colon and rectum cancers	36	13	23
Colon and rectum cancers	31	18	13	Ovary cancer	32	0	32
Ovary cancer	31	0	31	Leukaemia	25	10	15
Stomach cancer	29	16	13	Stomach cancer	23	15	8
Melanoma and other skin cancers	24	11	13	Corpus uteri cancer	15	0	15
Bladder cancer	15	7	8	Melanoma and other skin cancers	14	6	8
Corpus uteri cancer	8	0	8	Bladder cancer	12	6	6

Annex Table 13: Post Neonatal Death Rates by Region and year

Region	2016			2017		
	Post Neonatal Deaths	Livebirths	Post Neonatal/1,000 livebirths	Post Neonatal Deaths	Livebirths	Post Neonatal/1,000 livebirths
!Karas	18	2 322	7.8	27	2 333	11.6
Erongo	66	4 886	13.5	63	4 959	12.7
Hardap	54	2 353	22.9	47	2 358	19.9
Kavango East	94	5 313	17.7	117	5 338	21.9
Kavango West	18	3 079	5.8	16	3 047	5.3
Khomas	244	12 352	19.8	252	12 644	19.9
Kunene	21	3 306	6.4	21	3 336	6.3
Ohangwena	54	8 157	6.6	57	8 184	7.0
Omaheke	34	2 110	16.1	56	2 076	27.0
Omusati	97	6 775	14.3	118	6 773	17.4
Oshana	243	5 291	45.9	243	5 311	45.8
Oshikoto	35	5 610	6.2	26	5 633	4.6
Otjozondjupa	104	4 566	22.8	101	4 513	22.4
Zambezi	33	3 202	10.3	56	3 204	17.5
Namibia	1 115	69 322	16.1	1 200	69 709	17.2

Annex Table 14: Infant Mortality Rate by Region and year

Region	2016			2017		
	Infant Deaths	Livebirths	Infant Deaths/1,000 livebirths	Infant Deaths	Livebirths	Infant Deaths/1,000 livebirths
!Karas	89	2 322	38.3	83	2 333	35.6
Erongo	181	4 886	37.0	169	4 959	34.1
Hardap	146	2 353	62.0	145	2 358	61.5
Kavango East	214	5 313	40.3	247	5 338	46.3
Kavango West	38	3 079	12.3	37	3 047	12.1
Khomas	792	12 352	64.1	769	12 644	60.8
Kunene	49	3 306	14.8	58	3 336	17.4
Ohangwena	172	8 157	21.1	167	8 184	20.4
Omaheke	99	2 110	46.9	129	2 076	62.1
Omusati	268	6 775	39.6	274	6 773	40.5
Oshana	659	5 291	124.6	641	5 311	120.7
Oshikoto	91	5 610	16.2	59	5 633	10.5
Otjozondjupa	213	4 566	46.6	225	4 513	49.9
Zambezi	79	3 202	24.7	112	3 204	35.0
Namibia	3 090	69 322	44.6	3 115	69 709	44.7

Annex Table 15: Regional distribution of Infant Deaths by Sex and year

Region	2016				2017			
	Total	Female	Male	Unknown Sex	Total	Female	Male	Unknown Sex
!Karas	89	42	47		83	37	46	
Erongo	181	92	88	1	169	84	84	1
Hardap	146	63	83		145	77	68	
Kavango East	214	110	104		247	102	145	
Kavango West	38	17	21		37	20	17	
Khomas	792	379	408	5	769	360	409	
Kunene	49	27	22		58	27	31	
Ohangwena	172	77	95		167	68	99	
Omaheke	99	45	54		129	60	69	
Omusati	268	117	150	1	274	127	146	1
Oshana	659	317	342		641	295	344	2
Oshikoto	91	46	45		59	22	37	
Otjozondjupa	213	111	102		225	93	132	
Zambezi	79	37	41	1	112	59	53	
Namibia	3 090	1 480	1 602	8	3 115	1 431	1 680	4

Annex Table 16: Under 5 Death Rates by Region and year

Region	2016			2017		
	Child Deaths	Livebirths	Child Deaths/ 1,000 livebirths	Child Deaths	Livebirths	Child Deaths/ 1,000 livebirths
!Karas	109	2 322	46.9	113	2 333	48.4
Erongo	236	4 886	48.3	210	4 959	42.3
Hardap	174	2 353	73.9	172	2 358	72.9
Kavango East	297	5 313	55.9	329	5 338	61.6
Kavango West	54	3 079	17.5	59	3 047	19.4
Khomas	985	12 352	79.7	943	12 644	74.6
Kunene	80	3 306	24.2	78	3 336	23.4
Ohangwena	240	8 157	29.4	236	8 184	28.8
Omaheke	122	2 110	57.8	162	2 076	78.0
Omusati	356	6 775	52.5	340	6 773	50.2
Oshana	891	5 291	168.4	837	5 311	157.6
Oshikoto	143	5 610	25.5	96	5 633	17.0
Otjozondjupa	276	4 566	60.4	298	4 513	66.0
Zambezi	115	3 202	35.9	148	3 204	46.2
Namibia	4 078	69 322	58.8	4 021	69 709	57.7

Annex Table 17: Number of Under 5 Deaths by Region and Sex and year

Region	2016				2017			
	Total	Female	Male	Unknown Sex	Total	Female	Male	Unknown Sex
!Karas	109	55	54		113	54	59	
Erongo	236	122	113	1	210	104	105	1
Hardap	174	77	97		172	87	85	
Kavango East	297	149	148		329	134	195	
Kavango West	54	24	30		59	31	28	
Khomas	985	466	514	5	943	454	489	
Kunene	80	43	37		78	36	42	
Ohangwena	240	104	136		236	104	132	
Omaheke	122	54	68		162	72	90	
Omusati	356	156	199	1	340	161	178	1
Oshana	891	428	463		837	388	447	2
Oshikoto	143	69	74		96	42	54	
Otjozondjupa	276	142	134		298	131	167	
Zambezi	115	62	52	1	148	76	72	
Namibia	4 078	1 951	2 119	8	4 021	1 874	2 143	4

Annex Table 18: Endocrine, nutritional and metabolic diseases deaths by year

Endocrine, nutritional and metabolic diseases	2016		2017	
	Number	%	Number	%
Diabetes mellitus (E10–E14)	138	22.4	163	26.5
Non-insulin-dependent diabetes mellitus	3	2.2	12	7.4
Other disorders of pancreatic internal secretion	79	57.2	71	43.6
Unspecified diabetes mellitus	56	40.6	80	49.1
Disorders of other endocrine glands (E20–E35)	3	0.5	4	0.7
Hyperfunction of pituitary gland	0	0.0	1	25.0
Hyperparathyroidism and other disorders of parathyroid gland	1	33.3	0	0.0
Hypofunction and other disorders of pituitary gland	0	0.0	2	50.0
Hypoparathyroidism	0	0.0	1	25.0
Other disorders of adrenal gland	1	33.3	0	0.0
Ovarian dysfunction	1	33.3	0	0.0
Disorders of thyroid gland (E00–E07)	3	0.5	0	0.0
Other hypothyroidism	2	66.7	0	0.0
Thyrotoxicosis [hyperthyroidism]	1	50.0	0	0.0
Malnutrition (E40–E46)	276	44.9	264	43.0
Unspecified protein-energy malnutrition	268	97.1	258	97.7
Unspecified severe protein-energy malnutrition	1	0.4	1	0.4
Kwashiorkor	7	2.5	5	1.9
Metabolic disorders (E70–E90)	180	29.3	174	28.3

Endocrine, nutritional and metabolic diseases	2016		2017	
	Number	%	Number	%
Disorders of branched-chain amino-acid metabolism and fatty-acid metabolism	0	0.0	1	0.6
Disorders of porphyrin and bilirubin metabolism	2	1.1	1	0.6
Other disorders of fluid, electrolyte and acid-base balance	68	37.8	75	43.1
Other metabolic disorders	3	1.7	3	1.7
Volume depletion	107	59.4	94	54.0
Obesity and other hyperalimentation (E65–E68)	0	0.0	1	0.2
Obesity	0	0	1	100.0
Other nutritional deficiencies (E50–E64)	15	2.4	8	1.3
Niacin deficiency [pellagra]	12	80.0	3	37.5
Thiamine deficiency	3	20.0	5	62.5
Total	615	100.0	614	100.0

Annex Table 19: Malnutrition deaths by Region and for 2016 and 2017

Region	2016			2017		
	Total	Female	Male	Total	Female	Male
!Karas	8	6	2	10	5	5
Erongo	16	7	9	15	4	11
Hardap	5	4	1	10	5	5
Kavango East	39	20	19	37	15	22
Kavango West	8	3	5	8	4	4
Khomas	36	15	21	31	11	20
Kunene	12	7	5	17	8	9
Ohangwena	31	10	21	26	17	9
Omaheke	6	2	4	8	4	4
Omusati	27	13	14	21	11	10
Oshana	59	36	23	48	22	26
Oshikoto	9	4	5	8	2	6
Otjozondjupa	10	5	5	16	10	6
Zambezi	10	6	4	9	4	5
Namibia	276	138	138	264	122	142

Annex Table 20: Frequently reported deaths by external causes, 2016

Rank	ICD	Cause	Total deaths	Percent
1	V899	Person injured in unspecified vehicle accident	575	76.4
2	X999	Assault by sharp object, unspecified place	60	8
3	W349	Discharge from other and unspecified firearms, unspecified place	53	7
4	Y219	Drowning and submersion, undetermined intent, unspecified place	27	3.6
5	X959	Assault by other and unspecified firearm discharge, unspecified place	11	1.5
6	W340	Discharge from other and unspecified firearms, home	6	0.8
7	Y881	Sequelae of misadventures to patients during surgical and medical procedures	5	0.7
8	Y844	Aspiration of fluid	4	0.5
9	Y239	Rifle, shotgun and larger firearm discharge, undetermined intent, unspecified place	3	0.4
10	Y269	Exposure to smoke, fire and flames, undetermined intent, unspecified place	2	0.3

Annex Table 21: Frequently reported deaths by external causes, 2017

Rank	ICD	Cause	Total deaths	Percent
1	V899	Person injured in unspecified vehicle accident	473	73.0
2	X999	Assault by sharp object, unspecified place	59	9.1
3	Y219	Drowning and submersion, undetermined intent, unspecified place	44	6.8
4	W349	Discharge from other and unspecified firearms, unspecified place	33	5.1
5	X959	Assault by other and unspecified firearm discharge, unspecified place	10	1.5
6	Y844	Aspiration of fluid	4	0.6
7	Y269	Exposure to smoke, fire and flames, undetermined intent, unspecified place	3	0.5
8	Y881	Sequelae of misadventures to patients during surgical and medical procedures	3	0.5

9	V299	Motorcycle rider [any] injured in unspecified traffic accident	2	0.3
10	W340	Discharge from other and unspecified firearms, home	2	0.3

Annex Table 22: Road traffic accident Deaths by Sex and Region and year

Region	2016			2017		
	Total	Female	Male	Total	Female	Male
!Karas	12	2	10	6		6
Erongo	33	2	31	26	8	18
Hardap	25	8	17	15	4	11
Kavango East	61	16	45	51	17	34
Kavango West	16	1	15	9	2	7
Khomas	120	36	84	106	29	77
Kunene	16	6	10	10	1	9
Ohangwena	42	18	24	27	9	18
Omaheke	23	5	18	19	7	12
Omusati	32	7	25	44	17	27
Oshana	103	31	72	77	24	53
Oshikoto	36	7	29	20	4	16
Otjozondjupa	38	11	27	40	12	28
Zambezi	20	4	16	22	5	17
Total	577	154	423	472	139	333

Annex Table 23: List of report drafters

No.	Title	Name	Surname	Institution
1	Ms.	Pauline	Enkono	Namibia Statistics Agency
2	Ms.	Liana	Koita	Namibia Statistics Agency
3	Ms.	Ndilimeke	Shiyuka	Namibia Statistics Agency
4	Mr.	O'Brien	Simasiku	Namibia Statistics Agency
5	Ms.	Ruusa	Kambonde	Namibia Statistics Agency
6	Mr.	George	Aupindi	Namibia Statistics Agency
7	Mr.	Tommy	Harris	Namibia Statistics Agency
8	Mr.	Eben	Kahitu	Namibia Statistics Agency
9	Ms.	Annalisa	Shilongo	Namibia Statistics Agency
10	Ms.	Annalisa	Kashinyenga	Namibia Statistics Agency
11	Mr.	Toivo	Amunyela	Namibia Statistics Agency
12	Mr.	Primus	Shilunga	Ministry of Health and Social Services
13	Mr.	Ben	Tjivambi	Ministry of Health and Social Services
14	Dr.	Mamadi	Guriras	Ministry of Health and Social Services
15	Ms.	Ndunge	Max	Ministry of Home Affairs and Immigration
16	Mr.	Jooste	Mbandeka	Ministry of Safety and Security
17	Dr.	Sikota	Zeko	WHO Namibia
18	Dr.	Hillary	Kipruto	WHO AFRO
19	Dr.	Joseph Kyalo	Mung'atu	WHO consultant
20	Mr.	Samuel K.	Cheburet	WHO consultant

Annex II: Medical certificate of the cause of death/still-birth form



9-10/170

MEDICAL CERTIFICATE OF THE CAUSES OF DEATH/STILL-BIRTH
COMPLETE CLEARLY IN BLOCK LETTERS

N.B. - For the use of a medical practitioner only or, in the case of a still-birth, also a registered midwife.
WARNING: No person may accept or use this document for any purpose other than that of lodging it with the Registrar of Deaths.

PARTICULARS OF *DECEASED/STILL - BORN CHILD

1. Identity Number
2. *Surname
First names in full
3. *Age
4. Date of *death/still-birth Day Month Year
5. Place of *death/still-birth
6. Duration of illness (in years, months and days)
7. Particulars of parents of still-born child (complete only if applicable):
(a) Name of father
- (b) Name of mother
- (c) Address of parents
8. CAUSE OF DEATH (if still born, state "Still-Birth")
9. *CONTRIBUTORY CAUSES OF ILLNESS
10. Special investigations, pathological examination, post-mortem, etc
11. I HEREBY CERTIFY that to the best of my knowledge and believe the particulars given above are true and correct, that the *death/still-birth was due solely and exclusively to natural causes as mentioned above and that I *saw the body/was present at the birth
on (Date)
12. Signature of *medical practitioner/midwife Date
13. Surname and initials of *medical practitioner/midwife
14. Registered qualifications
15. Address
16. THE MAGISTRATE,
I wish to report that I am unable to certify that the person died of natural causes.
Signature Date

*Delete whichever is not applicable

Del.A-Subsentry Tel:+264-61-210017

Administrative Data (can be further specified by country)

Sex Male Female Unknown

Date of birth

D	M	N	M	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Date of death

D	M	N	M	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Part 1: Medical data: Part 1 and 2

1	Report disease or condition directly leading to death on line a	Cause of death	Time interval from onset to death
a	Report chain of events in due to order (if applicable)	a	
b		b	
c	State the underlying cause on the lowest used line	c	
d		d	

2. Other significant conditions contributing to death (time intervals can be included in brackets after the condition)

Frame B: Other medical data

Was surgery performed within the last 4 weeks? Yes No Unknown

If yes please specify date of surgery

D	M	N	M	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

If yes please specify reason for surgery (disease or condition)

Was an autopsy requested? Yes No Unknown

If yes were the findings used in the certification? Yes No Unknown

Manner of death:

<input type="checkbox"/> Disease	<input type="checkbox"/> Assault	<input type="checkbox"/> Could not be determined
<input type="checkbox"/> Accident	<input type="checkbox"/> Legal intervention	<input type="checkbox"/> Pending investigation
<input type="checkbox"/> Intentional self-harm	<input type="checkbox"/> War	<input type="checkbox"/> Unknown

If external cause or poisoning:

Please describe how external cause occurred (if poisoning please specify poisoning agent)

Place of occurrence of the external cause:

<input type="checkbox"/> At home	<input type="checkbox"/> Residential institution	<input type="checkbox"/> School, other institution, public administrative area	<input type="checkbox"/> Sports and athletics area
<input type="checkbox"/> Street and highway	<input type="checkbox"/> Trade and service area	<input type="checkbox"/> Industrial and construction area	<input type="checkbox"/> Farm
<input type="checkbox"/> Other place (please specify):			<input type="checkbox"/> Unknown

Fetal or Infant Death

Multiple pregnancy	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
Stillborn?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown

If death within 24h specify number of hours survived

Number of completed weeks of pregnancy:

Birth weight (in grams)

Age of mother (years)

If death was perinatal, please state conditions of mother that affected the fetus and newborn

For women, was the deceased pregnant?

<input type="checkbox"/> At time of death	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
<input type="checkbox"/> Between 43 days up to 1 year before death	<input type="checkbox"/> Within 42 days before the death <input type="checkbox"/> Unknown

Did the pregnancy contribute to the death? Yes No Unknown

Annex III: General Mortality List 1: 103 Cause List

List code	Disease	ICD Codes
1-001	Certain infectious and parasitic diseases	A00–B99
1-002	Cholera	A00
1-003	Diarrhoea and gastroenteritis of presumed infectious origin	A09
1-004	Other intestinal infectious diseases	A01–A08
1-005	Respiratory tuberculosis	A15–A16
1-006	Other tuberculosis	A17–A19
1-007	Plague	A20
1-008	Tetanus	A33–A35
1-009	Diphtheria	A36
1-010	Whooping cough	A37
1-011	Meningococcal infection	A39
1-012	Septicaemia	A40–A41
1-013	Infections with a predominantly sexual mode of transmission	A50–A64
1-014	Acute poliomyelitis	A80
1-015	Rabies	A82
1-016	Yellow fever	A95
1-017	Other arthropod-borne viral fevers and viral haemorrhagic fevers	A90–A94, A96–A99
1-018	Measles	B05
1-019	Viral hepatitis	B15–B19
1-020	Human immunodeficiency virus [HIV] disease	B20–B24
1-021	Malaria	B50–B54
1-022	Leishmaniasis	B55
1-023	Trypanosomiasis	B56–B57
1-024	Schistosomiasis	B65
1-025	Remainder of certain infectious and parasitic diseases	A21–A32, A38, A42–A49, A65–A79, A81, A83–A89, B00–B04, B06–B09, B25–B49, B58–B64, B66–B94, B99
1-026	Neoplasms	C00–D48

1-027	Malignant neoplasm of lip, oral cavity and pharynx	C00–C14
1-028	Malignant neoplasm of oesophagus	C15
1-029	Malignant neoplasm of stomach	C16
1-030	Malignant neoplasm of colon, rectum and anus	C18–C21
1-031	Malignant neoplasm of liver and intrahepatic bile ducts	C22
1-032	Malignant neoplasm of pancreas	C25
1-033	Malignant neoplasm of larynx	C32
1-034	Malignant neoplasm of trachea, bronchus and lung	C33–C34
1-035	Malignant melanoma of skin	C43
1-036	Malignant neoplasm of breast	C50
1-037	Malignant neoplasm of cervix uteri	C53
1-038	Malignant neoplasm of other and unspecified parts of uterus	C54–C55
1-039	Malignant neoplasm of ovary	C56
1-040	Malignant neoplasm of prostate	C61
1-041	Malignant neoplasm of bladder	C67
1-042	Malignant neoplasm of meninges, brain and other parts of central nervous system	C70–C72
1-043	Non-Hodgkin's lymphoma	C82–C85
1-044	Multiple myeloma and malignant plasma cell neoplasms	C90
1-045	Leukaemia	C91–C95
1-046	Remainder of malignant neoplasms	C17, C23–C24, C26–C31, C37–C41, C44–C49, C51–C52, C57–C60, C62–C66, C68–C69, C73–C81, C88, C96–C97
1-047	Remainder of neoplasms	D00–D48
1-048	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	D50–D89
1-049	Anaemia	D50–D64

1-050	Remainder of diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	D65–D89
1-051	Endocrine, nutritional and metabolic diseases	E00–E88
1-052	Diabetes mellitus	E10–E14
1-053	Malnutrition	E40–E46
1-054	Remainder of endocrine, nutritional and metabolic diseases	E00–E07, E15–E34, E50–E88
1-055	Mental and behavioural disorders	F01–F99
1-056	Mental & behavioural disorders due to psychoactive substance use	F10–F19
1-057	Remainder of mental and behavioural disorders	F01–F09, F20–F99
1-058	Diseases of the nervous system	G00–G98
1-059	Meningitis	G00, G03
1-060	Alzheimer's disease	G30
1-061	Remainder of diseases of the nervous system	G04–G25, G31–G98
1-062	Diseases of the eye and adnexa	H00–H59
1-063	Diseases of the ear and mastoid process	H60–H93
1-064	Diseases of the circulatory system	I00–I99
1-065	Acute rheumatic fever and chronic rheumatic heart diseases	I00–I09
1-066	Hypertensive diseases	I10–I13
1-067	Ischaemic heart diseases	I20–I25
1-068	Other heart diseases	I26–I51
1-069	Cerebrovascular diseases	I60–I69
1-070	Atherosclerosis	I70
1-071	Remainder of diseases of the circulatory system	I71–I99
1-072	Diseases of the respiratory system	J00–J98
1-073	Influenza	J10–J11
1-074	Pneumonia	J12–J18

1-075	Other acute lower respiratory infections	J20–J22
1-076	Chronic lower respiratory diseases	J40–J47
1-077	Remainder of diseases of the respiratory system	J00–J06, J30–J39, J60–J98
1-078	Diseases of the digestive system	K00–K92
1-079	Gastric and duodenal ulcer	K25–K27
1-080	Diseases of the liver	K70–K76
1-081	Remainder of diseases of the digestive system	K00–K22, K28–K66, K80–K92
1-082	Diseases of the skin and subcutaneous tissue	L00–L98
1-083	Diseases of the musculoskeletal system and connective tissue	M00–M99
1-084	Diseases of the genitourinary system	N00–N99
1-085	Glomerular and renal tubulointerstitial diseases	N00–N15
1-086	Remainder of diseases of the genitourinary system	N17–N98
1-087	Pregnancy, childbirth and the puerperium	O00–O99
1-088	Pregnancy with abortive outcome	O00–O07
1-089	Other direct obstetric deaths	O10–O92
1-090	Indirect obstetric deaths	O98–O99
1-091	Remainder of pregnancy, childbirth and the puerperium	O95–O97
1-092	Certain conditions originating in the perinatal period	P00–P96
1-093	Congenital malformations, deformations and chromosomal abnormalities	Q00–Q99
1-094	Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	R00–R99
1-095	External causes of morbidity and mortality	V01–Y89
1-096	Transport accidents	V01–V99
1-097	Falls	W00–W19

1-098	Accidental drowning and submersion	W65–W74
1-099	Exposure to smoke, fire and flames	X00–X09
1-100	Accidental poisoning by and exposure to noxious substances	X40–X49
1-101	Intentional self-harm	X60–X84
1-102	Assault	X85–Y09
1-103	All other external causes	W20–W64, W75–W99, X10–X39, X50–X59, Y10–Y89
1-901	SARS	U04



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