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Mortality and causes of death in South Africa:

Findings from death notification

2019

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Preface

This statistical release presents information on mortality and causes of death in South Africa for deaths that occurred in 2019. Deaths for the years 1998–2018 are also included to show trends in mortality and causes of death, using updated information that includes late registrations. The statistical release is based on deaths collected through the South African civil registration system maintained by the Department of Home Affairs. The information on causes of death is as recorded on death notification forms completed by medical practitioners and other certifying officials.

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Abbreviations/acronyms

ANACoD	Analysing Mortality and Causes of Death
DHA	Department of Home Affairs
ECA	Economic Commission for Africa
GBD	Global Burden of Diseases
HIV	Human Immunodeficiency Virus
ICD-10	International Classification of Diseases 10th Revision
ICD-11	International Classification of Diseases 11th Revision
NCDs	Non-communicable diseases
NDP	National Development Plan
Stats SA	Statistics South Africa
WHO	World Health Organization

1. Introduction

1.1 Background

The World Health Organization's vision on health revolves around ensuring that every individual, regardless of their background, has access to quality healthcare, promoting health equity, addressing health emergencies, fostering healthy lifestyles, promoting research and innovation, and fostering collaborative partnerships to improve global health outcomes.

South Africa faces various health challenges, including a significant burden of disease and mortality. Mortality rates have been influenced by a multitude of factors, including demographic changes, socioeconomic conditions, healthcare accessibility, and the burden of communicable and non-communicable diseases (Scott, Vera et al., 2017).

Communicable diseases – such as HIV/AIDS, tuberculosis (TB), and respiratory infections – have historically been significant contributors to mortality in South Africa. The country has experienced one of the world's most severe HIV/AIDS epidemics, leading to a substantial number of deaths. However, antiretroviral treatment has had a dramatic impact on adult mortality in South Africa (Johnson et al., 2017).

Non-communicable diseases (NCDs) have emerged as a growing concern for South Africa's public health. Conditions like cardiovascular diseases (including hypertension and heart disease), diabetes, and chronic respiratory diseases have become leading causes of death (Stats SA, 2018). Lifestyle factors such as unhealthy diets, physical inactivity, tobacco use, and harmful alcohol consumption contribute to the burden of NCDs in the country.

South Africa has also faced challenges related to violence and injuries, which contribute significantly to mortality rates. Homicides, road traffic accidents and interpersonal violence have resulted in a significant number of deaths. These issues often intersect with social and economic factors, including inequality, poverty, and substance abuse.

Understanding the causes of death is crucial for policymakers, healthcare professionals, and researchers to develop effective interventions and improve public health outcomes in the country. Vital statistics generated out of a civil registration system offer the most valuable, accurate and relevant information on population dynamics, including for small areas. These data are vital for assessing progress made towards government programmes, for highlighting areas of progress and for exposing where resources need to be directed.

The Economic Commission for Africa’s (ECA) assessment of the status of national civil registration and vital statistics (CRVS) systems in member states reported that death registrations were particularly challenging, and many countries performed poorly on completeness of death registration and medical certificate of cause of death (Economic Commission for Africa, 2017).

The continuous production of mortality statistics is made possible through the availability of administrative death records from the civil registration system. A complete death registration system is

an important tool for informing public health policy planning and targeted health intervention in the country. The system provides this invaluable information at national level and by location, age, sex, and causes of death, which is important for monitoring health-related indicators and targets. The Department of Home Affairs (DHA) is the steward of the civil registration system inclusive of administrative records and is mandated to provide a complete and accurate national death register (Republic of South Africa, 1992). Statistics South Africa (Stats SA) produces information on mortality and causes of death from the civil registration system as mandated by the Statistics Act (Act No. 6 of 1999). This includes the provision of reliable information on levels and causes of mortality through the application of appropriate quality criteria, standards, classifications and procedures for vital statistics (Republic of South Africa, 1999).

1.2 Objectives of this statistical release

The mortality and causes of death statistical release is part of a regular series published by Stats SA, based on data collected through the civil registration system. This statistical release has two main objectives:

- To outline emerging trends spanning a 21-year period (1998–2019) and differentials in mortality by selected socio-demographic and geographic characteristics for deaths that occurred in 2019; and
- To present statistics on the causes of death for deaths that occurred in 2019, focusing on the underlying causes of death.

1.3 Scope of this statistical release

This release is based on information on mortality and causes of death from the South African civil registration system. All death notification forms from DHA for deaths that occurred in 2019 or earlier that reached Stats SA during the 2021/2023 processing phase are covered. The main focus is on deaths that occurred in 2019. Deaths that occurred during the period 1998 to 2018 are also provided to show trends in mortality and causes of death. This release excludes stillbirths, which are also collected through the civil registration system using the same death notification form. The definitions of technical terms used in this release are provided in Appendix A.

1.4 Organisation and presentation of this statistical release

This release is composed of five sections. The first section consists of information on the background and purpose of the release. Section two lays out the data and methods which focuses on data sources, including methods used in data processing, data editing, quality assurance and data analysis. The third section on registered deaths presents mortality levels, trends and differentials, specifically focusing on the socio-demographic and geographic characteristics of the deceased. The fourth section mainly

covers information on the underlying causes of death for 2019 death occurrences. In addition, the section provides information on immediate, contributing, and underlying causes of death differentials by natural versus non-natural causes, as well as the Global Burden of Disease (GBD). Causes of death for the years 1998 to 2019 are also included to show patterns in mortality over the years. Finally, the last section presents a summary of the findings and concluding remarks.

2. Data and methods

This section describes the sources of data, methods used to process, edit and analyse data as well as procedures used in assessing the quality of data.

2.1 Data source

The statistics presented in this release are based solely on administrative records from death notification forms obtained from the Department of Home Affairs (DHA). The DHA uses two types of death notification forms to capture deaths: Form BI-1663 which was introduced in 1998 and Form DHA-1663 which was introduced in 2009 as a replacement of Form BI-1663, however, BI-1663 forms will continue to be used until all remaining forms in circulation are depleted. The major difference between the two forms is that stillbirths and deaths occurring within the first seven days of life (perinatal deaths) on Form BI-1663 are recorded in the same section as all other deaths. Form DHA-1663 has a separate section that records perinatal deaths. In instances where there is no medical practitioner available to complete the death notification form as is the case in some rural areas in South Africa, a traditional leader may complete and issue a Death Report form also known as Form B1-1680 which certifies the occurrence of death and a description of circumstances that resulted in the death. During registration at DHA offices, information on the Death Report is transcribed on to either the BI-1663 or the DHA-1663.

The Births and Deaths Registration Act, 1992 (Act No. 51 of 1992) amended in 2010 through the Births and Deaths Registration Amendment Act, 2010 (Act No. 18 of 2010) is the legislation governing registration of deaths in South Africa (Republic of South Africa, 1992; Republic of South Africa, 2010). Additionally, the 2014 Births and Deaths Regulations which rescinded the 1992 Regulations prescribe that notice of occurrence of death including a stillbirth must be given within 72 hours by an informant, regardless of citizenship status of the deceased. After registration of the death, the DHA issues a death certificate to the informant and updates the National Population Register (NPR). The NPR only includes deaths for South African citizens with ID documents and permanent residents whose births records were already captured onto the NPR prior to death. Persons not eligible for inclusion in the NPR are non-South African citizens who were temporarily in the country. South African citizens and permanent residents who died before notice of their births had been registered would also not be captured in the NPR. Stats SA, on the other-hand, collects all death notification forms, irrespective of the deceased's citizenship status for processing, analysis and dissemination of mortality and causes of death information. On this basis, the number of deaths processed by Stats SA will always be higher than the figure of deaths recorded on the NPR for the same period.

The 2019 statistical release is based on a total of 461 006 deaths that occurred in 2019 and 30 747 late death registrations for 1998 to 2018 that were registered at the DHA and reached Stats SA in time for the 2021/2023 processing phase.

2.2 Data processing

The processing of completed death notification forms takes place at Stats SA Data Processing Centre. The process begins with sorting of the forms by year of death, pasting unique identifier labels on each of the forms, coding sociodemographic and causes of death variables, and ending with data capturing. Data from the two death notifications (Form BI-1663 and Form DHA-1663) are then merged into one dataset as data elements in these two forms are largely comparable.

2.2.1 Classification of the causes of death

The cause-of-death statistics in this publication are compiled using the International Classification of Diseases (ICD), 10th Revision, 2016 Edition. The ICD is a system of categories to which morbid entities of either external or pathological causation are assigned according to established criteria. It is developed collaboratively between the World Health Organization (WHO) and various international centres. It is revised from time to time in line with new adaptations, classifications and glossaries. All member states of the United Nations, including South Africa, agreed to use ICD as the standard classification system for compiling morbidity and mortality statistics. The South African National Information System also adopted it as a standard.

The primary purpose of ICD 10 is to provide for conversion of word descriptions of diseases or conditions into an alphanumeric code, which permit easy storage, retrieval and analysis of data. It also allows for the systematic and standardised recording, analysis, interpretation, comparison and sharing of morbidity and mortality data within a population and across countries. The ICD-10 provides for coding and classification of diseases and injuries and a wide range of signs, symptoms and other abnormal findings.

Each chapter contains three-character categories, which is subdivided into 10 four-character subcategories. However, for international comparisons, three-character coding is the mandatory level for reporting morbidity and mortality statistics, while four-character coding is recommended for more specific details about the disease or condition resulting in morbidity or mortality. Stats SA codes the causes-of-death data at four-character level where sufficient details about the causes of death were available. However, this statistical release analyses up to three-character level.

At the World Health Assembly on 25 May 2019, ICD-11 was adopted for implementation. For the first time, ICD is fully electronic, currently providing access to 17 000 diagnostic categories, with over 100 000 medical diagnostic index terms. WHO has encouraged all Member States to use the most current version of the ICD for reporting death and disease statistics by migrating from ICD-10 to the new ICD-11. This is important because it provides a common language for recording, reporting, and monitoring diseases and allows the world to compare and share data in a consistent and standard way. To assist countries with the transition process, WHO has developed a guideline that countries need to

consider in the lead up to and during the transition from an existing ICD environment to the eventual implementation of ICD11.

To initiate the process to transition, Stats SA requested support from the Centre for Disease Control and Prevention, Atlanta (CDC Atlanta) with support from Data for Health Bloomberg Philanthropies (D4H). The initial step was the development of the transition plan followed by ICD-11 training which was a training-of-trainers course (TOT). Participants included Stats SA Mortality and Causes of Deaths senior coders, programmers from data processing and analysts. It is envisaged that Stats SA will transition from ICD10 to ICD11 over a period of two processing years. As a means of ensuring stability of Mortality and Causes of Deaths (MACOD) product, during the transition period, the organisation will still be publishing MACOD data using ICD10, while the impact of transitioning on quality and consistency of data is being assessed.

The quality of the causes of mortality statistics depends on completeness and accuracy of certified death notification forms. Coders at Stats SA follow the principle of, 'what you see is what you code' when coding causes-of-death statistics. The coders use the ICD-10 for categories of causes of death coded in the ICD-10 manual. For categories that not coded in the ICD-10 manual, Stats SA has outlined specific guidelines and procedures. For example, according to these rules and procedures immunosuppression is coded as immunodeficiency and not as human immunodeficiency virus (HIV) disease.

Medical practitioners sometimes report the cause of death as acquired immune suppression which is not coded in the ICD-10 manual. Based on the Stats SA guidelines, this is coded as human immunodeficiency virus (HIV) disease (B20-B24). Multidrug-resistant tuberculosis (MDR-TB) and extensively drug-resistant tuberculosis (XDR-TB) were assigned the ICD-10 special codes U51 and U52, respectively, and are included in the tuberculosis (A15-A19) broad group causes of mortality.

2.2.2 Generation of the underlying causes of death

The underlying cause of death is defined as: "(a) the disease or injury that initiated the sequence of events leading directly to death, or (b) the circumstances of the accident or violence that produced the fatal injury" (WHO, 2016: 31). Stats SA uses IRIS software for the automated derivation of the underlying causes of death. according to the ICD-10 rules. Where one software failed to derive the underlying cause, the results of the other software were used. In occasions where the software fails to derive the underlying cause of death, experienced coders at Stats SA derived the underlying cause of death manually.

2.3 Data editing

On completion of all data processing, an internally developed Stats SA editing program was used to check for accuracy and flag implausible causes of death for further investigation. Additionally, two electronic tools developed by WHO: Analysing mortality levels and causes-of-death (ANACoD) version 2.0 and CoDEdit version 1.0 were used to further check data consistency and plausibility (WHO, 2014a and WHO, 2014b, respectively). The tools were developed to enhance the value of mortality statistics in informing health policies and programmes. The main difference between the two tools is that CoDEdit assesses data consistency and plausibility for each unit record, while ANACoD checks the data at an aggregate level.

ANACoD version 2.0 and CoDEdit version 1.0 tools were used to automatically check the 2019 mortality data for accuracy and consistency. The tools were also used for highlighting cases with causes unlikely to cause death categorised by age and sex (sex-specific causes, age-specific causes and notifiable diseases). They also assist with assessment with possible misuse of ICD-10 codes as well as providing a summary of records within the dataset (WHO, 2014a; WHO, 2014b). For instance, regarding causes of death that are specific to one sex, the tools warn and flag for errors where the combination of sex and cause is incorrect. Errors flagged by the tools, were manually investigated for verification and corrections where necessary.

2.4 Assessment of the quality of data

The importance of producing quality mortality statistics derived from the civil registration system cannot be over-emphasised, since they are the only source of health information data continuously available at national and local administrative levels.

Mortality data have the potential to support decentralised population health administration, while the usability of statistics derived from such data depends wholly on their quality (WHO, 2013). An accurate, complete and timely civil registration system provides the foundation for the production of reliable and routine vital statistics. However, the data can suffer from a range of quality limitations such as late registrations, completeness of death registration, timeliness of data dissemination, accuracy of reporting, high proportion of ill-defined causes of death and misreporting or misclassification of causes of death. It is therefore vitally important to assess data quality and to be transparent about data limitations, to identify areas of improvement.

For the purpose of this statistical release in addition to the quality assessment undertaken through ANACoD and CoDEdit electronic tools, the framework proposed by Mahapatra et al. (2007) was used to evaluate quality of the 2019 causes of death data. This section presents a summary of the results of this assessment. A detailed discussion of the assessment is provided in Appendix C.

In the 2015 statistical release (Stats SA, 2018), an estimated 96% completeness level of adult deaths (15 years and older) was reported for the 2011–2016 intercensal/survey period. Male adults had a completeness level of 97,0%, higher than the adult female completeness level of 95,0%. Estimates for the 2019 deaths completeness level remain the same, and a revised estimate will be provided with the production of the 2020 statistical release.

2.5 Data analysis

A two-pronged data analysis approach was followed for this release, which includes mortality analysis and causes of death analysis. The first section on mortality describes information on selected socio-demographic variables and mortality patterns, based on frequency distributions and cross-tabulations.

The section further covers demographic indicators such as sex ratios at death, age-specific death rates and median ages at death. Sex ratios at death show the ratio of male deaths per 100 female deaths and age-specific death rates show variations in mortality taking into consideration the population size of each age group. Age-specific death rates indicate the number of deaths in a particular age group per 1 000 population in that age group while the median ages at death provide a basic measure of how early or late mortality occurs in a population over time.

The second section lays out analysis of information on causes of death, mainly based on ranking the natural underlying causes of death and proportions of deaths due to specific causes. The top-ranking causes determine the leading causes of death. The ranking indicates the frequency of causes of death among those causes eligible to be ranked, and does not reflect causes of death in terms of their importance from a public health perspective. Causes of death with the same number of deaths received the same rank, and a rank was skipped for the next cause. For example, if two causes of death had the same frequency and were ranked third, they both received the same rank, and the next cause received rank five.

The process of ranking natural underlying causes of death excluded symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00–R99), because such information is not sufficiently detailed to be of use for public health purposes. It is therefore essential to raise awareness among certifying practitioners to seek sufficient evidence to assign causes of these deaths to the more precise categories through training programmes and other initiatives. Due to concerns about violence and deaths due to accidents in South Africa, natural and non-natural causes have been separated. Although non-natural causes of death were not ranked, for analysis they were disaggregated by characteristics such as age, sex and province of death of the deceased that relay important information on the levels and patterns of non-natural deaths.

In addition, the second section also provides information on causes of death based on the Global Burden of Disease as generated by ANACoD. Causes of deaths are categorised into three broad

groups, namely Group I (communicable diseases), Group II (non-communicable diseases) and Group III (injuries). Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00–R99) deaths which are ill-defined natural causes of death were accorded across communicable and non-communicable diseases categories. The release also presents tables on mortality and causes of death for district municipalities in the country in the appendices section. Information on local municipalities is not provided in this release, but it can be made available in an aggregated dataset format and not as unit records datasets to users on request.

3. Mortality

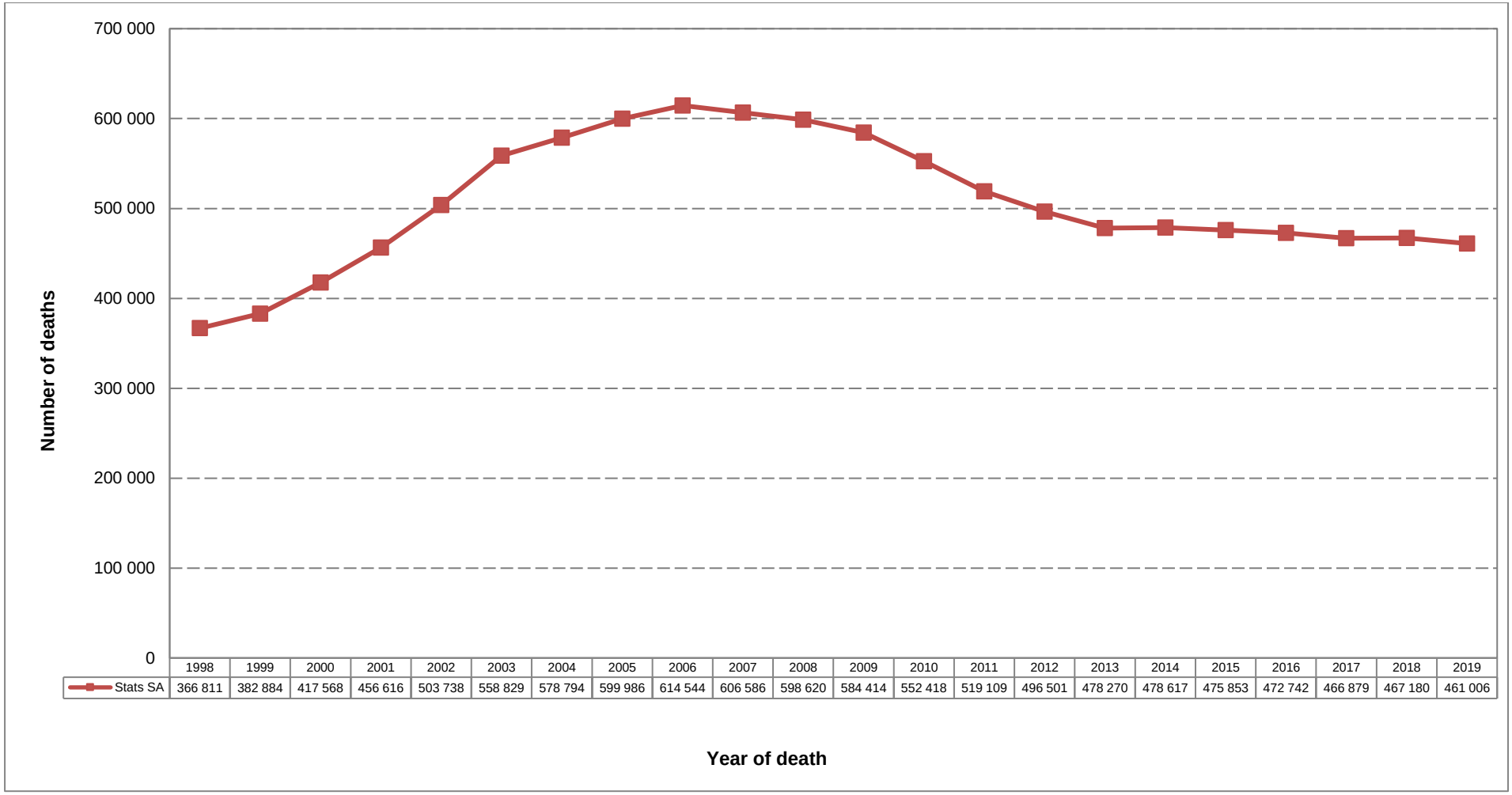
This chapter provides analysis on the distribution of 2019 registered deaths that reached Statistics South Africa (Stats SA) during the 2021/2023 processing phase. The section mainly focuses on absolute numbers and percentage distributions of 2019 deaths by selected background characteristics of the deceased such as age, sex, place/institution of death and geographic information (province and district municipalities). Levels and trends of registered deaths over the period 1998−2019 are also included.

3.1 Levels and trends of mortality in 2019

Figure 3.1 shows that the total number of deaths that occurred and were registered at the Department of Home Affairs (DHA) and processed by Stats SA during 2021/2023 were 461 006. This indicates a 1,3% decrease from the 467 180 deaths that occurred in 2018.

The general trend in the number of registered deaths processed by Stats SA indicates an increase from 1998 to 2006 when the number of deaths peaked at 614 544, and a decrease thereafter. The overall number of deaths per year increase as additional forms are processed at Stats SA. Additional forms may result from delayed registration or delayed transmission of forms from DHA regional offices to head office in time for processing at Stats SA. It is, therefore, expected that additional forms, 2019 forms in particular, and for the previous years will still be received for processing at Stats SA. Updated information will be provided in the next statistical release.

Figure 3.1- Number of registered deaths by year of death, 1998−2019*



	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Stats SA	366 811	382 884	417 568	456 616	503 738	558 829	578 794	599 986	614 544	606 586	598 620	584 414	552 418	519 109	496 501	478 270	478 617	475 853	472 742	466 879	467 180	461 006

*Data for 1998–2018 have been updated with late registrations / delayed death notification forms processed in 2021/2023.

3.2 Age differentials

The distribution of deaths by age groups is presented in Table 3.1. The highest number of deaths that occurred in 2019 was amongst those aged 65–69, comprising 8,5% of all deaths. This age group was followed closely by those aged 60–64 (8,3%). Deaths that occurred among infants (age 0) accounted for 4,6% of all deaths, while the lowest percentages of deaths were observed in age groups 5–9 years and 10–14 years, each representing 0,6% and 0,7%, respectively.

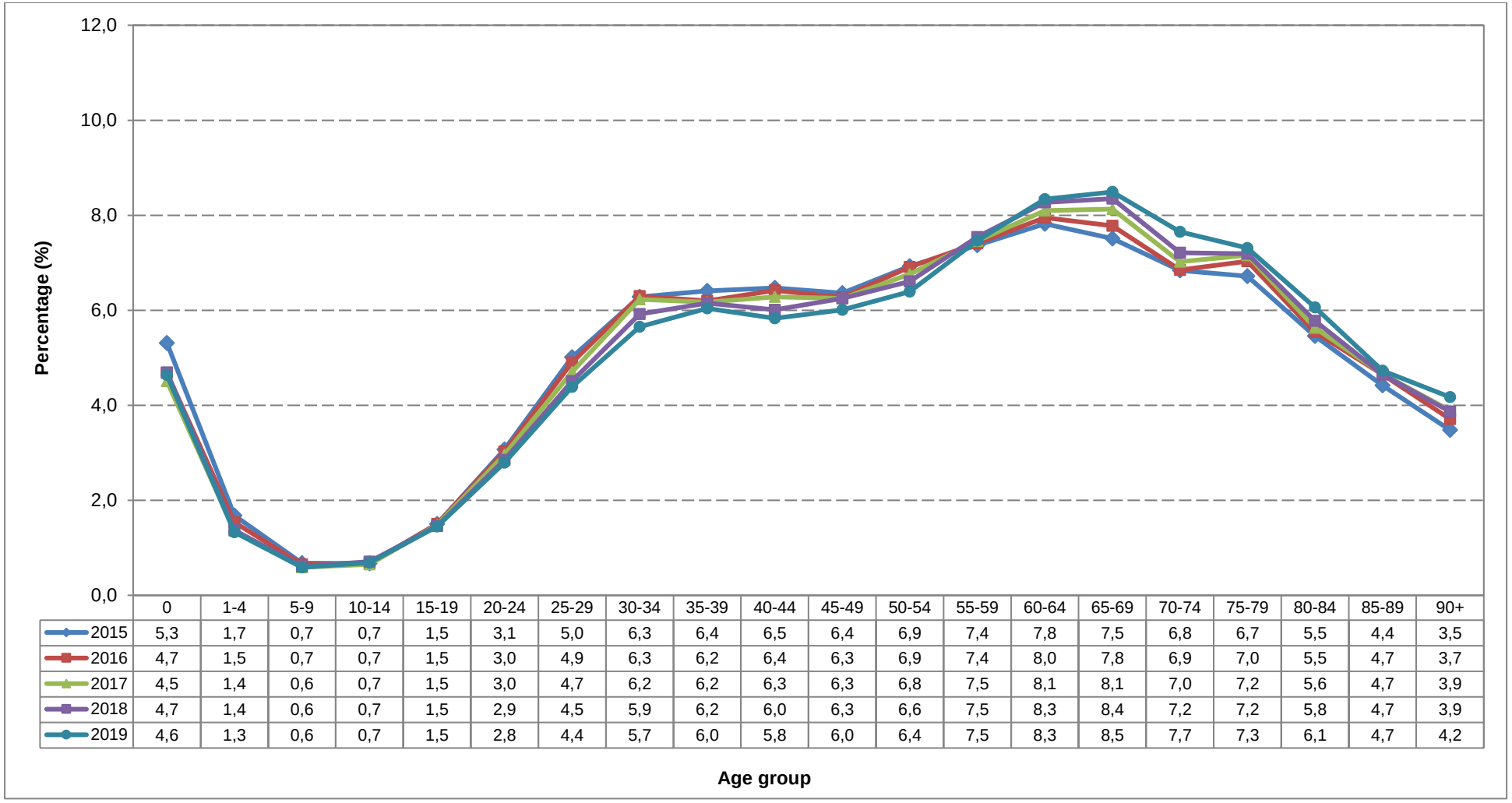
Table 3.1- Number and percentage distribution of deaths by age group, 2019

Age group	Number	Percentage (%)
0	21 377	4,6
1−4	6 112	1,3
5−9	2 711	0,6
10−14	3 172	0,7
15−19	6 695	1,5
20−24	12 878	2,8
25−29	20 245	4,4
30−34	26 029	5,6
35−39	27 820	6,0
40−44	26 858	5,8
45−49	27 722	6,0
50−54	29 457	6,4
55−59	34 454	7,5
60−64	38 427	8,3
65−69	39 117	8,5
70−74	35 261	7,6
75−79	33 674	7,3
80−84	27 910	6,1
85−89	21 802	4,7
90+	19 211	4,2
Unspecified	74	0,0
Total	**461 006**	**100,0**

Figure 3.2 shows the percentage distribution of deaths by age groups and year of death between 2015 and 2019. A general observation is that the age pattern of mortality was somewhat consistent over the five-year period. The pattern is generally characterised by high proportions of deaths amongst infants (zero years), lower proportions for ages 1−4 years, lowest proportions between 5−9 years and 10−14 years, rising but still low proportions between age group 15−19 years and 20−24 years. High proportions averaging over 6,0% are observed in all years from age group 35−39 years to 75−79 years. Decreasing proportions are seen from age group 80 and older.

The figure further shows that between the years 2015 to 2017, the proportion of deaths peaked at age group 60−64. In 2018 and 2019 age group 65–69 years recorded the highest proportion of deaths at 8,4% and 8,5%, respectively. The lowest proportions were observed in age group 5–9 years (0,7%) between 2015 to 2016, and 0,6% from 2017 onward.

Figure 3.2- Percentage distribution of deaths by age group and year of death, 2015–2019*



	0	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90+
2015	5,3	1,7	0,7	0,7	1,5	3,1	5,0	6,3	6,4	6,5	6,4	6,9	7,4	7,8	7,5	6,8	6,7	5,5	4,4	3,5
2016	4,7	1,5	0,7	0,7	1,5	3,0	4,9	6,3	6,2	6,4	6,3	6,9	7,4	8,0	7,8	6,9	7,0	5,5	4,7	3,7
2017	4,5	1,4	0,6	0,7	1,5	3,0	4,7	6,2	6,2	6,3	6,3	6,8	7,5	8,1	8,1	7,0	7,2	5,6	4,7	3,9
2018	4,7	1,4	0,6	0,7	1,5	2,9	4,5	5,9	6,2	6,0	6,3	6,6	7,5	8,3	8,4	7,2	7,2	5,8	4,7	3,9
2019	4,6	1,3	0,6	0,7	1,5	2,8	4,4	5,7	6,0	5,8	6,0	6,4	7,5	8,3	8,5	7,7	7,3	6,1	4,7	4,2

*(1) Excluding deaths with unspecified age.

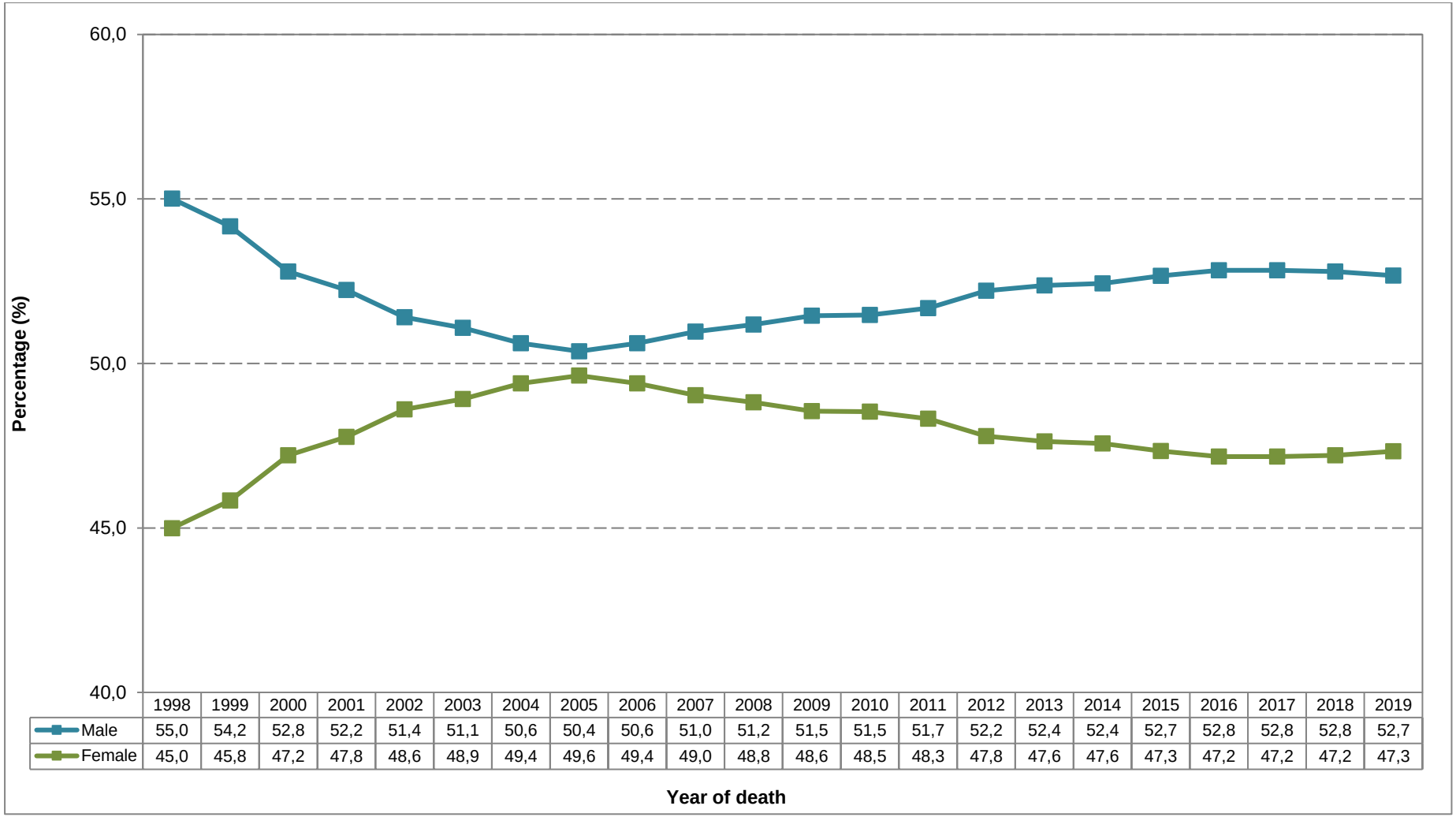
(2) Data for 2015–2018 have been updated with late registrations / delayed death notification forms processed in 2021/2023.

3.3 Sex differentials

Figure 3.3 presents the percentage distribution of deaths by sex and year of death from 1998–2019. The results show that prior to 2006, the proportion of male deaths persistently decreased while that of females increased, and the reverse was observed from 2006 to 2015 for both sexes. The percentage of male deaths declined consistently from a high of 55,0% in 1998 to a low of 50,4% in 2005. The opposite was true for females where their contribution to total deaths increased from a low of 45,0% in 1998 and reached a peak of 49,6% in 2005. From 2006 to 2016, the proportion of female deaths decreased yearly from 49,4% in 2006 to 47,2%. Conversely, during the same period, the percentages of male deaths increased from 50,6% in 2006 to 52,8% in 2016.

Notably, between 2016 and 2018, the percentage distribution of deaths remained the same between the two sexes, with males accounting for 52,8% of deaths and females for 47,2%. In 2019, a slight pattern change is observed, with the percentage distribution of male deaths decreasing from 52,8% in 2018 to 52,7% in 2019, while that of females increased from 47,2% to 47,3%.

Figure 3.3- Percentage distributions of deaths by sex and year of death, 1998–2019*



	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Male	55,0	54,2	52,8	52,2	51,4	51,1	50,6	50,4	50,6	51,0	51,2	51,5	51,5	51,7	52,2	52,4	52,4	52,7	52,8	52,8	52,8	52,7
Female	45,0	45,8	47,2	47,8	48,6	48,9	49,4	49,6	49,4	49,0	48,8	48,6	48,5	48,3	47,8	47,6	47,6	47,3	47,2	47,2	47,2	47,3

*(1) Excluding deaths with unspecified sex.

(2) Data for 1998–2018 have been updated with late registrations / delayed death notification forms processed in 2021/2023.

The annual percentage changes in the number of deaths by sex from 1997–1998 to 2018–2019 are shown in Appendix E. Between 1997 and 2005, female deaths increased at a higher rate than male deaths. In contrast, female deaths went on to decline at a higher rate than male deaths between the years 2006 and 2012. Between 2013 and 2019, there was no discernible pattern in the percentage change in the number of deaths by sex, with the trend showing more male deaths than female deaths in 2018–2019. Appendix F provides Age-specific Death Rates (ASDRs) for the years 2015 to 2019 in order to show differentials in mortality by age group, taking into account the population size of each age group. The ASDRs provided should be interpreted with caution as they are based on the observed number of deaths that have not been adjusted for incomplete death registration, which may vary by age group.

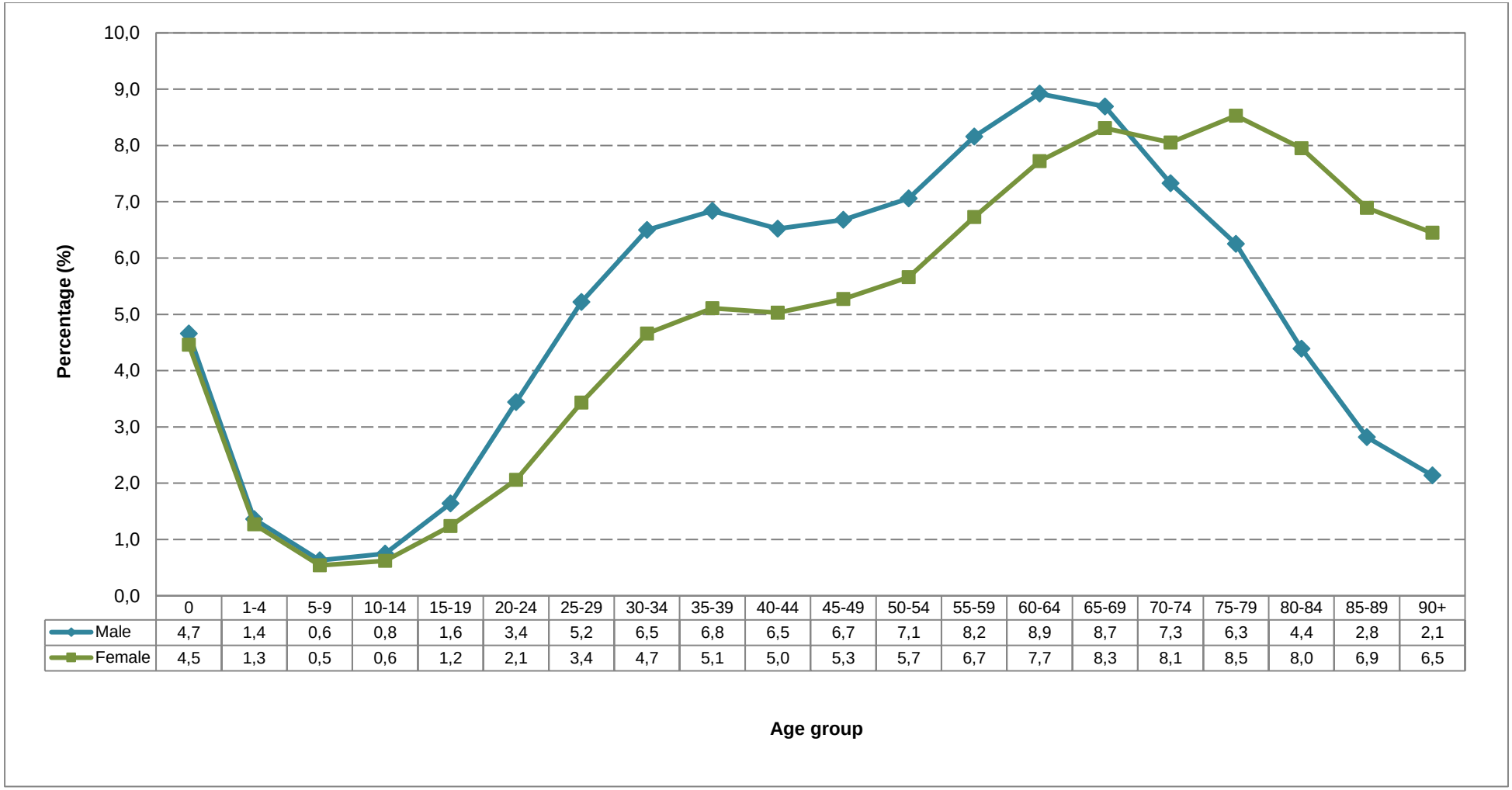
3.4 Age and sex differentials

3.4.1 Distribution of deaths by age group and sex

Figure 3.4 shows the age and sex percentage distribution of deaths for 2019 (absolute numbers are presented in Appendix D). The differences between proportions of male and female deaths were minimal at younger ages (age groups 1–4 to 15–19 years). The distribution shows that the percentage of male infant deaths marginally exceeded the percentage of female infant deaths (4,7% for males and 4,5% for females). For both males and females, the lowest proportions of deaths occurred amongst those aged 5–9 years (0,6% for males and 0,5% for females).

Overall, male deaths exceeded those of female deaths from age group zero up to 65–69 years. Male deaths peaked at age group 60–64 years (8,9%), followed by age group 65–69 years (8,7%) and age group 55–59 (8,2%). The highest proportions for females were observed at age group 75–79 years with 8,5%, followed by 65–69 years accounting for 8,3% of total female deaths. Overall, from age 70 years and older there were more female than male deaths. The gap in the proportion for male and female deaths was highest in age group 90 years and older, followed by age group 85–89 years.

Figure 3.4- Percentage distribution of deaths by age group and sex, 2019*



	0	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90+
Male	4,7	1,4	0,6	0,8	1,6	3,4	5,2	6,5	6,8	6,5	6,7	7,1	8,2	8,9	8,7	7,3	6,3	4,4	2,8	2,1
Female	4,5	1,3	0,5	0,6	1,2	2,1	3,4	4,7	5,1	5,0	5,3	5,7	6,7	7,7	8,3	8,1	8,5	8,0	6,9	6,5

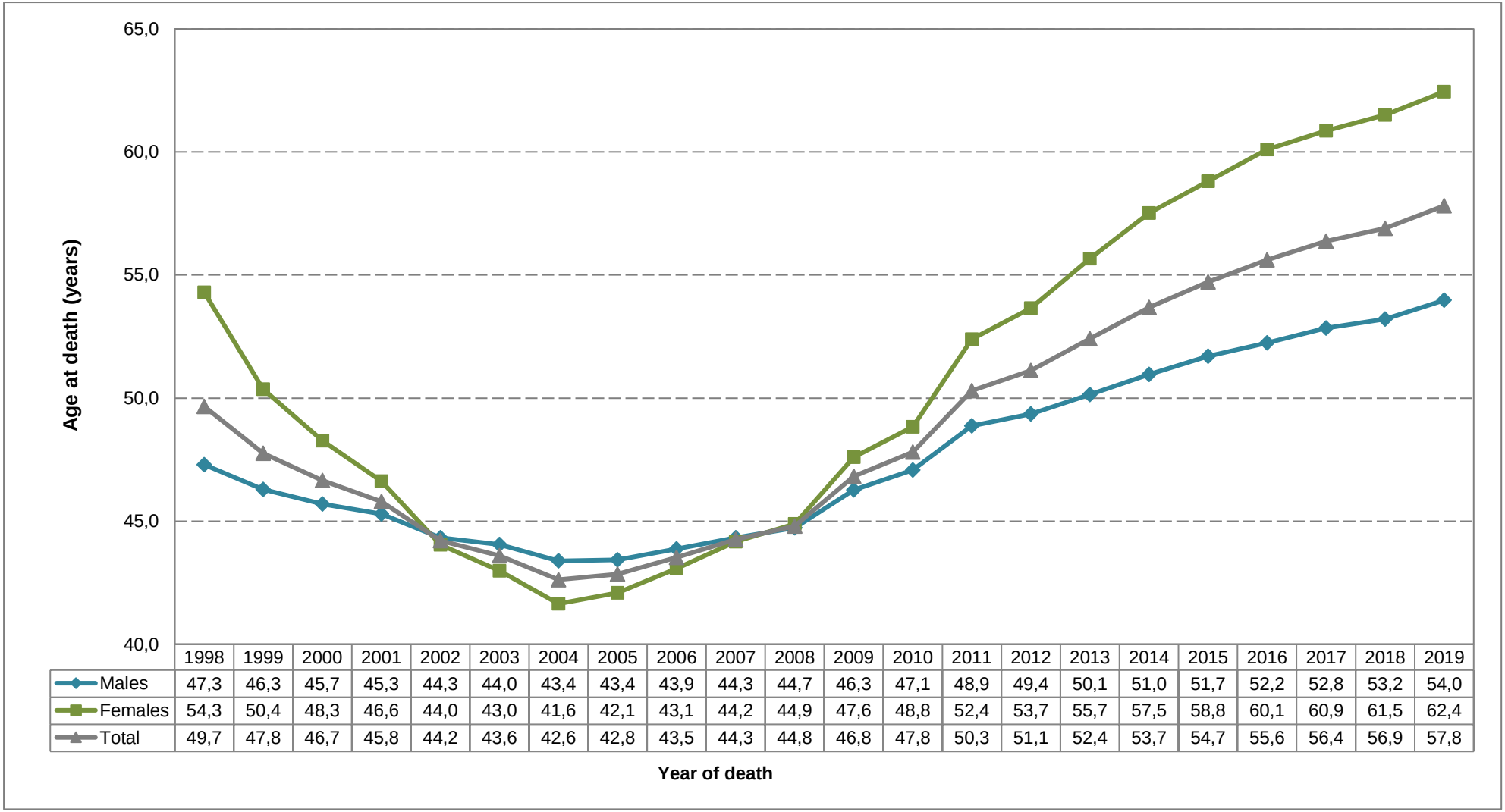
*Excluding deaths with unspecified age and sex.

3.4.2 Median ages at death by sex

The median ages at death by sex are presented in Figure 3.5. Median ages show how early or late mortality occurs in the population and specifies the age at which half of the reported deaths occur. An analysis of median ages can reveal changes in patterns of mortality over time; lower median ages at death indicate that mortality is occurring earlier while higher median ages indicate that mortality is occurring later. Figure 3.5 shows that the median ages at death for total deaths declined notably from 49,7 years in 1998 and reached their lowest level of 42,6 years in 2004. The decreases were more rapid for females compared to males. The median age at death for females decreased by 12,7 years from 54,3 years in 1998 to 41,6 years in 2004, while the median age at death for males decreased by 3,9 years from 47,3 years in 1998 to 43,4 years in 2004.

Since 2005, the median ages at death for both males and females have been increasing, reflecting improvement in mortality. The median age at death for all deaths increased from 42,6 in 2004 to 57,8 in 2019. Female median age at death had the sharpest increase from 41,6 in 2004 to 62,4 in 2019, with the median age at death for males increasing from 43,4 to 54,0 in the respective years.

Figure 3.5- Median ages at death by sex and year of death, 1998–2019*



	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Males	47,3	46,3	45,7	45,3	44,3	44,0	43,4	43,4	43,9	44,3	44,7	46,3	47,1	48,9	49,4	50,1	51,0	51,7	52,2	52,8	53,2	54,0
Females	54,3	50,4	48,3	46,6	44,0	43,0	41,6	42,1	43,1	44,2	44,9	47,6	48,8	52,4	53,7	55,7	57,5	58,8	60,1	60,9	61,5	62,4
Total	49,7	47,8	46,7	45,8	44,2	43,6	42,6	42,8	43,5	44,3	44,8	46,8	47,8	50,3	51,1	52,4	53,7	54,7	55,6	56,4	56,9	57,8

*Data for 1998–2018 have been updated with late registrations / delayed death notification forms processed in 2021/2023.

3.4.3 Sex ratios by age groups

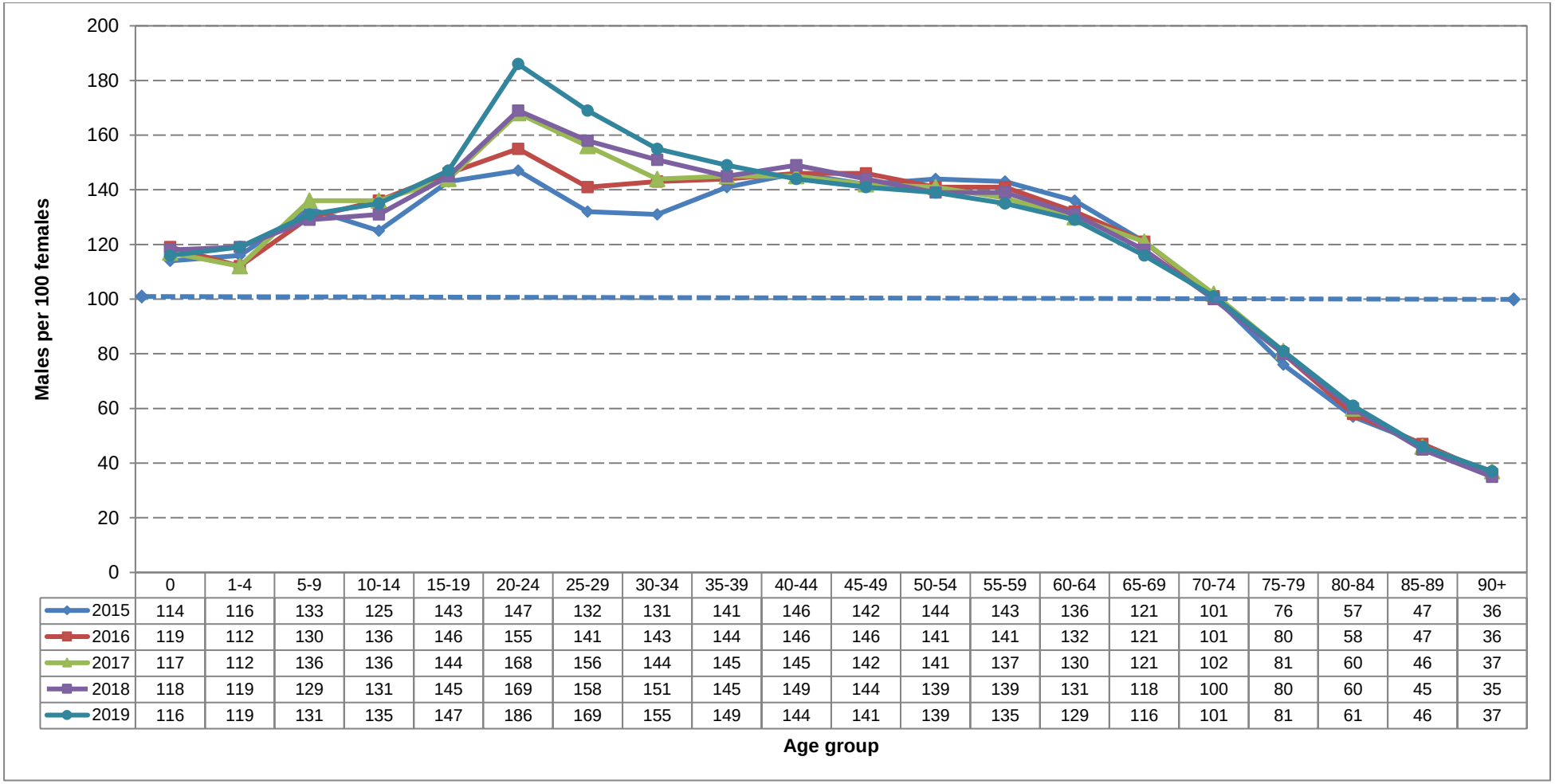
The sex ratio at death is an important demographic indicator, highlighting the number of male deaths relative to the number of female deaths. When there are equal numbers of male and female deaths, the sex ratio at death is equal to 100. If there are more males than female deaths, the sex ratio is above 100 and excess female deaths are indicated by a sex ratio at death that is less than 100.

Figure 3.6 represents the sex ratio at death by age groups and year of death for the period 2015–2019. Over the five-year period, more male than female deaths were consistently observed from age zero up to age group 65–69. Conversely, there were more female deaths amongst those aged 75 years and older.

The results also indicate that the highest sex ratio (186 male deaths per 100 female deaths) was observed in 2019 in the age group 20–24 years. This pattern has been prevalent from the preceding four years, where in 2015 the sex ratio for the age group 20–24 years was 147, gradually increasing to 169 in 2018.

Generally, for all five years, there has been a consistent and significant increase in the sex ratios for age groups 20–24 to 30–34, implying that female deaths were decreasing much more than male deaths in these age groups.

Figure 3.6- Sex ratios by age group and year of death, 2015–2019*



	0	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90+
2015	114	116	133	125	143	147	132	131	141	146	142	144	143	136	121	101	76	57	47	36
2016	119	112	130	136	146	155	141	143	144	146	146	141	141	132	121	101	80	58	47	36
2017	117	112	136	136	144	168	156	144	145	145	142	141	137	130	121	102	81	60	46	37
2018	118	119	129	131	145	169	158	151	145	149	144	139	139	131	118	100	80	60	45	35
2019	116	119	131	135	147	186	169	155	149	144	141	139	135	129	116	101	81	61	46	37

*(1) Excluding deaths with unspecified age and sex.

(2) Data for 2015–2018 have been updated to include late registrations/death notification forms processed in 2021/2023.

3.5 Population group differences in mortality

Mortality differentials by population group reflect the stage of health transition. Black Africans and coloureds are faced with the quadruple burden of disease, while profiles for Indians/Asians and whites are dominated by non-communicable diseases. The effect of HIV/AIDS and tuberculosis has been greatest in black Africans, exacerbating mortality differentials. The discussion and distribution of underlying causes of death by population group are provided in Appendices Q and Q1.

Table 3.2 shows the absolute and percentage distribution of deaths by population group for 2019. To account for the population composition, the table also shows deaths per thousand population. The population group with the highest proportion of deaths was black Africans who accounted for 67,6% of all deaths. The Indian/Asian population group accounted for the least percentage of deaths with only 2,1% of all registered deaths. The table also indicates that 9,4% and 7,4% of all deaths were for the white and coloured population groups, respectively. Just above 13% of the cases had unknown or unspecified population group. While there has been an improvement in other aspects of reporting on the death notification forms, the proportion of deaths with unknown or unspecified population group remains considerably high and therefore, these results should be interpreted with caution.

The percentage of deaths within the entire population indicates that the black African population group has a higher proportion of deaths. However, a look into the death rate within each population group, as seen under the deaths per thousand population column, reveals a different picture. It is seen that the death rate is higher amongst the white population group at 9,3%, followed by the black African and coloured population groups both at 6,6%. Amongst the Indian/Asian population group the death rate was 6,5%.

Table 3.2- Number and percentage distribution of deaths by population group, 2019

Population group	Number of deaths	Percentage of deaths (%)	Mid-year population estimates	Deaths per thousand population
Black African	311 724	67,6	47 443 259	6,6
White	43 404	9,4	4 652 006	9,3
Indian/Asian	9 837	2,1	1 503 007	6,5
Coloured	34 253	7,4	5 176 750	6,6
Other	943	0,2		*
Unknown or unspecified	60 845	13,2		*
Total	**461 006**	**100,0**	**58 775 022**	

3.6 Marital status differences in mortality

The informant reporting a death had to indicate the marital status of the deceased at the time of death. Table 3.3 shows the number and percentage distribution of deaths by marital status of the deceased. About 38,2% of the deceased were reported as never been married at the time of death. Less than a quarter (23,3%) of the deaths were married people. Furthermore, 10,9% and 2,3% of all deaths occurred amongst widowed and divorced persons, respectively. The marital status of the deceased at the time of death was missing in 25,3% of all registered deaths and, therefore, these results must be interpreted with caution.

Table 3.3- Number and percentage distribution of deaths by marital status, 2019

Marital status	Number	Percentage (%)
Never married	175 871	38,2
Married	107 251	23,3
Widowed	50 404	10,9
Divorced	10 639	2,3
Unknown/unspecified/not applicable	116 841	25,3
Total	**461 006**	**100,0**

3.7 Differences in mortality by smoking status of the deceased

The number and percentage distribution of 2019 registered deaths classified by smoking status of the deceased is depicted in Table 3.4. Smoking status of the deceased is defined as the regular smoking of tobacco during the five years prior to death, and the question is applicable if the deceased was aged 16 years and older.

The table shows that the highest percentage of deaths were among people who were non-smokers (41,5%) while 19,8% of the deaths occurred among people who were smoking. The table also shows that 32,9% of registered deaths in 2019 had smoking status classified as unknown or unspecified. The high proportion of deaths with missing information on smoking status shows a poor reporting of this information on the death notification forms, therefore these results must be interpreted with caution.

Table 3.4- Number and percentage distribution of deaths by smoking status among those aged 16 years and older, 2019

Smoking status	Number	Percentage (%)
Yes	84 361	19,8
No	176 934	41,5
Do not know	24 971	5,9
Unknown or unspecified	140 441	32,9
Total	**426 707**	**100,0**

3.8 Differences in mortality by place or institution of death occurrence

Table 3.5 shows the number and percentage distribution of registered deaths by place or institution of death occurrence for 2019. The results indicate that 39,7% of the deaths took place in hospitals, 2,3% were emergency room or outpatient facility deaths and 1,9% died in nursing homes. These three places of death occurrence account for 43,9% of total deaths that occurred within a health care facility. A total of 23,6% of all deaths occurred at home in 2019, while 2,3% were amongst people who had already died by the time they reached the hospital. About 28,5% of the death notification forms had unknown or unspecified information on place or institution of death of the deceased.

Table 3.5- Number and percentage distribution of deaths by place of death occurrence, 2019

Place of death	Number	Percentage (%)
Hospital	182 785	39,7
Emergency room / outpatient	10 359	2,3
Dead on arrival	10 508	2,3
Nursing home	8 542	1,9
Home	108 757	23,6
Other	8 789	1,9
Unknown / unspecified	131 266	28,5
Total	**461 006**	**100,0**

3.9 Geographic variations in mortality

This section presents information on the distribution of registered deaths by province and district municipality where the death occurred and by the deceased usual residences. The districts and provinces information were derived based on the 2016 municipal boundaries. The number and percentage distribution of deaths by province of the deceased are provided in Appendix I and I1 on (absolute numbers and percentages, respectively); Appendix J presents the sex distribution of these.

3.9.1 Differences by province, age and sex

Table 3.6 shows the distribution of 2019 deaths by province of death occurrence and province of usual residence of the deceased at the time of death. The province of death occurrence may not always be similar to the place of usual residence.

For province of death occurrence, the highest proportion of deaths (21,3%) occurred in Gauteng, followed by KwaZulu-Natal and Eastern Cape each comprising 18,9% and 15,5%, respectively. The same pattern was observed for deaths that occurred and were registered in 2018. The lowest percentage of deaths occurred in Northern Cape (3,0%).

With regard to province of usual residence, Gauteng (19,8%) had the highest proportion of deaths, followed by KwaZulu-Natal (18,6%) and Eastern Cape (15,7%).

A cross tabulation of province of death occurrence and province of usual residence of the deceased is given in Appendix H and H1. It must be noted that analysis on geographic distribution of deaths is based only on place of death occurrence, not place of residence or place of birth of the deceased. However, information on the distribution of deaths by place of residence and place of birth of the deceased is available on request from Stats SA.

Table 3.6- Distribution of deaths by province of death occurrence and province of usual residence of the deceased, 2019

Province	Province of death occurrence		Province of usual residence of deceased	
	Number	Percentage (%)	Number	Percentage (%)
Western Cape	51 311	11,1	50 617	11,0
Eastern Cape	71 326	15,5	72 304	15,7
Northern Cape	14 008	3,0	13 772	3,0
Free State	31 064	6,7	30 660	6,7
KwaZulu-Natal	87 291	18,9	85 670	18,6
North West	30 077	6,5	32 168	7,0
Gauteng	98 227	21,3	91 407	19,8
Mpumalanga	31 383	6,8	31 969	6,9
Limpopo	45 159	9,8	46 149	10,0
Unspecified	1 160	0,3	6 290	1,4
Total	**461 006**	**100,0**	**461 006**	**100,0**

The number distribution of deaths by age and province of death occurrence as shown in Appendix I indicates that Gauteng had the highest number of deaths for most age groups (age 0 [5 338], 15–44 years [26 372], 45–64 years [27 660] and 65 years and older [36 488]). KwaZulu-Natal had the highest number of deaths for age group 1–14 years [2 383]. It must be noted that the distribution of deaths does not take into account potential underreporting of deaths at specific ages, which may vary by district of death occurrence.

Percentage variations in 2019 deaths by age and district municipality are presented in Appendix I1. At province level, North West (6,5%) had the highest proportion of infant deaths. Mpumalanga (3,5%) had the highest percentage of deaths amongst children 1–14 years. Deaths in Mpumalanga (28,7%), followed by KwaZulu-Natal (28,3%) had the highest percentage in the 15–44 years age category. Northern Cape had the highest proportion of deaths occurring in the 45–64 years age group (32,6%), while Western Cape had the highest percentage of elderly deaths [ages 65 and older (41,7%)], closely followed by Limpopo (41,6%).

The sex ratios at death depicted in Appendix J show that Western Cape (119 male deaths per 100 female deaths) had the highest sex ratio of death, followed by North West and Gauteng (with 117 and 115 male deaths per 100 female deaths). Limpopo had 100 male deaths per 100 female deaths.

3.9.2 Differences by district municipality, age group and sex

The number distribution of deaths by age and district municipality of death occurrence as shown in Appendix I indicates that out of the 52 district municipalities, the top three district municipalities were metropolitan municipalities: City of Johannesburg (28 587), City of Cape Town (28 520) and eThekwini (26 876). The district municipalities that recorded the least number of deaths were Central Karoo (141), Xhariep (929) and Amajuba (1 141). Differentials by age group indicate that City of Johannesburg had the highest number of deaths for age 0 (1 773) as well as 1–14 years (695) and amongst those aged 15–44 years (7 887). Lastly, City of Cape Town had the highest number of deaths for age groups 45–64 years (8 134) and 65 years and older (12 049).

Appendix I1 also shows percentage variations by age and district municipality. Dr Ruth Segomotsi Mompati district in North West had the highest proportion of deaths occurring among children below age one year (8,8%), followed by John Taolo Gaetsewe district in Northern Cape (8,5%). The highest proportions of deaths occurring among children aged 1–14 years were noted in Mopani district in Limpopo, Ngaka Modiri Molema in North West and Alfred Nzo in Eastern Cape, all at 4,1%. For deaths occurring among those aged 15–44 years, O.R. Tambo district in Eastern Cape (31,9%), King Cetshwayo district in KwaZulu-Natal (31,0%) and Gert Sibande district in Mpumalanga (29,6%) had the highest proportion of deaths.

At older ages, Pixley ka Seme in Northern Cape had the highest proportion of deaths at 37,3% for individuals in the age group 45–64 years, followed by Xhariep and Garden Route at 36,2% and 34,8% respectively. Overberg (49,1%), Vhembe (46,8%) and Amathole (46,3%) had the highest proportion of deaths occurring at ages 65 years and older.

Appendix J shows the sex distribution of the deceased by the district municipality of death occurrence. Eight district municipalities had sex ratios below 100: Vhembe district in Limpopo (89 male deaths per 100 female deaths), uMkhanyakude and Amajuba in KwaZulu-Natal (90 male deaths per 100 female deaths and 93 male deaths per 100 females, respectively). Umzinyathi and Ilembe, both in KwaZulu-Natal had about 94 male deaths per 100 females. Zululand in KwaZulu-Natal, Mopani and Greater Sekhukhune districts in Limpopo had about 97 male deaths per 100 female deaths.

4. Causes of death

This section presents information on causes of death for all registered deaths that occurred in 2008, as well as some comparisons with data for the previous years. The death notification forms were completed mainly by medical practitioners and other role players. The section has nine sub-sections, namely: introduction, reported causes of death, method of ascertaining the cause of death, main groups of the underlying causes of death, natural and non-natural causes of death, major group of causes of death, broad groups of natural causes of death, non-natural causes of death, and comparison between immediate, contributing and underlying causes of death.

The 10th revision of the International Classification of Diseases (ICD-10) was used to classify the causes of death data in this publication. The analysis undertaken focuses mainly on the underlying cause of death, which is defined as the disease or injury that initiated the train of events leading directly to death; or the circumstances of the accident or violence which produced the fatal injury (WHO, 1992). Previous publications have shown that Non-communicable Diseases (NCD) pose a major barrier to health, quadrupling the burden of disease as such this necessitated the inclusion of analysis on Global Burden of Disease. Global Burden of Disease is a critical resource for informed policymaking, as it provides a tool to quantify and compare the effects of different diseases in a population.

Trend analysis for the period 1997–2018 was also done to establish patterns between natural and non-natural causes of death. A summary of causes of death by age, sex and province of occurrence was also included in this section.

The final subsection provides a comparison between underlying, immediate and contributing causes of death. This analysis basically gives an overview of the recorded instances of multiple causes of death, as death notification forms allow for reporting one or more causes of death on each form.

4.1 Reported causes of death

Both the BI-1663 and DHA-1663 forms make provision for the recording of multiple causes of death. These are Part 1 and Part 2 under “Medical Certificate of Cause of Death” on both death notification forms, or under “Causes of Death” for perinatal deaths on the new form (DHA-1663). Part 1 is for reporting a chain of events leading directly to death, with the immediate cause of death on line (a) and the underlying cause on the lowest used line. Part 2 is for reporting other conditions that contributed to death, but did not cause any of the causes of death mentioned in Part 1. These are other important diseases or conditions that were present at the time of death and may have contributed, but did not lead to the underlying cause of death listed in Part 1.

Table 4.1 provides information on the number of causes of death reported on each death notification form for deaths that occurred in 2019. It is observed that less than one per cent (0,1%) of the forms had no cause of death indicated on the forms. There are two possible circumstances under which no cause of death is indicated on the form. Firstly, in instances where a doctor has ticked on the form to show that the death was a natural cause but did not provide a specific cause. Secondly, where a death was still under investigation when the form was completed and causes of death not yet established, or the page with causes of death information was missing.

All these causes were subsequently coded to other ill-defined and unspecified causes of mortality (R99) or other conditions originating in the perinatal period (P96), depending on the age of the deceased. If the deceased was aged 28 days or younger, the cause of death was finally reported as other conditions originating in the perinatal period (P96), while for ages greater than 28 days it was reported as other ill-defined and unspecified causes of mortality (R99).

More than half of the death notifications (52,6%) had only one cause recorded, followed by 25,0% of death notification forms which had two causes of death recorded and 14,7% which had three causes recorded.

Table 4.1- Number and percentage distribution of death notification forms by the number of causes entered on the notification form, 2019

Number of the reported causes of death	Number of death notification forms	Percentage (%)
No cause	576	0,1
One cause	242 332	52,6
Two causes	115 083	25,0
Three causes	67 756	14,7
Four or more causes	35 259	7,6
Total	**461 006**	**100,0**

4.2 Method of ascertaining cause of death

The death notification form makes provision for a certifying official to indicate the method that was used to ascertain the cause of death. Table 4.2 shows the nine options available on the form for method used to ascertain the death.

With the exclusion of unspecified method of ascertainment, opinion of attending medical practitioner was the most common method of ascertaining causes of death, with 23,9% deaths of which the cause was ascertained through this method. It was followed by the opinion of the attending medical practitioner on duty at 14,6%). Autopsy was performed in 10,9% of the deaths, while for 11,2%, the cause of death was ascertained through the interview of family member. There were 2,0% forms that indicated that cause of death was ascertained through post mortem examination.

Table 4.2- Number and percentage distribution of deaths by method used to ascertain the cause of death, 2019

Method of ascertaining the cause of death	Number	Percentage (%)
Autopsy	50 427	10,9
Post mortem examination	9 183	2,0
Opinion of attending medical practitioner	110 009	23,9
Opinion of attending medical practitioner on duty	67 392	14,6
Opinion of registered professional nurse	5 444	1,2
Interview of family member	53 437	11,6
Other	4 888	1,1
Autopsy results may be available later	1 108	0,2
Autopsy not performed	408	0,1
Unspecified	158 710	34,4
Total deaths	**461 006**	**100,0**

4.3 Main groups of the underlying causes of death

This section presents an overview of the underlying causes of death for main groups (chapters) of classification of causes of death. The ICD-10 classifies diseases and related health problems into 22 chapters, of which 19 are used in the reporting of information on underlying causes of death (see Table 4.3).

The chapters in the ICD excluded in this report are chapters 19, 21 and 22. These are discussed briefly below:

1. Chapter 19: *Injury, poisoning and certain other consequences of external causes (S00-T98)*. These codes are used to classify causes of death in other causes but not in the underlying causes.
2. Chapter 21: *Factors influencing health status and contact with health services (Z00-Z99)*. These are only used in morbidity coding.
3. Chapter 22: *Codes for special purpose*s. These codes are used by WHO for the provisional assignment of new diseases of uncertain aetiology. U51 and U52 were used for coding multidrug-resistant tuberculosis (MDR-TB) and extensively drug-resistant tuberculosis (XDR-TB) in this release for individual causes of death, but were both recoded to the broad group of tuberculosis (A15-A19) in the analyses.

Table 4.3 shows both the number and percentage distribution of deaths by the 19 main groups (chapters) of the classification of causes of death. The most common main group of causes of death in 2019 was *diseases of the circulatory system*, comprising 17,5% of all deaths. The second most common main group of causes of death was *certain infectious and parasitic diseases*, accounting for almost 17% of deaths. This group also included 982 deaths due to multidrug-resistant tuberculosis (MDR-TB) and 106 deaths due to extensively drug-resistant tuberculosis (XDR-TB).

The third most reported main group of underlying causes in 2019 was *symptoms and signs not elsewhere classified* (15,8%). This main group consist mainly of information about various symptoms and signs that may not fit neatly into other categories; for example, some common conditions under this group include abnormal heart sounds (R01) and abnormal blood chemistry (R79). This group was followed by *external causes of morbidity and mortality* (12,4%). The rest of the groups contributed less than 10% of deaths in 2019. Amongst these were *neoplasms* comprising 9,9% of all deaths, *diseases of the respiratory system* (8,7%) and *endocrine, nutritional and metabolic diseases* (7,0%), amongst others.

Table 4.3- Distribution of deaths by main causes of death, 2019

Chapter No.	Main groups of underlying causes of death (based on ICD-10)	Number	Percentage (%)
9	Diseases of the circulatory system (I00_I99)	80 791	17,5
1	Certain infectious and parasitic diseases (A00_B99)	77 503	16,8
18	Symptoms and signs not elsewhere classified (R00_R99)	72 882	15,8
20	External causes of morbidity and mortality (V01_Y98)	57 162	12,4
2	Neoplasms (C00_D48)	45 430	9,9
10	Diseases of the respiratory system (J00_J99)	40 007	8,7
4	Endocrine, nutritional and metabolic diseases (E00_E90)	32 396	7,0
11	Diseases of the digestive system (K00_K93)	11 380	2,5
14	Diseases of the genitourinary system (N00_N99)	10 211	2,2
6	Diseases of the nervous system (G00_G99)	9 444	2,0
16	Certain conditions originating in the perinatal period (P00_P96)	8 290	1,8
3	Diseases of the blood and immune mechanism (D50_D89)	6 627	1,4
5	Mental and behavioural disorders (F00_F99)	2 983	0,6
17	Congenital malformations (Q00_Q99)	2 639	0,6
13	Diseases of the musculoskeletal system, etc. (M00_M99)	1 896	0,4
12	Diseases of the skin and subcutaneous tissue (L00_L99)	705	0,2
15	Pregnancy, childbirth and puerperium (O00_O99)	581	0,1
8	Diseases of the ear and mastoid process (H60_H95)	51	0,0
7	Diseases of the eye and adnexa (H00_H59)	28	0,0
	Total	**461 006**	**100,0**

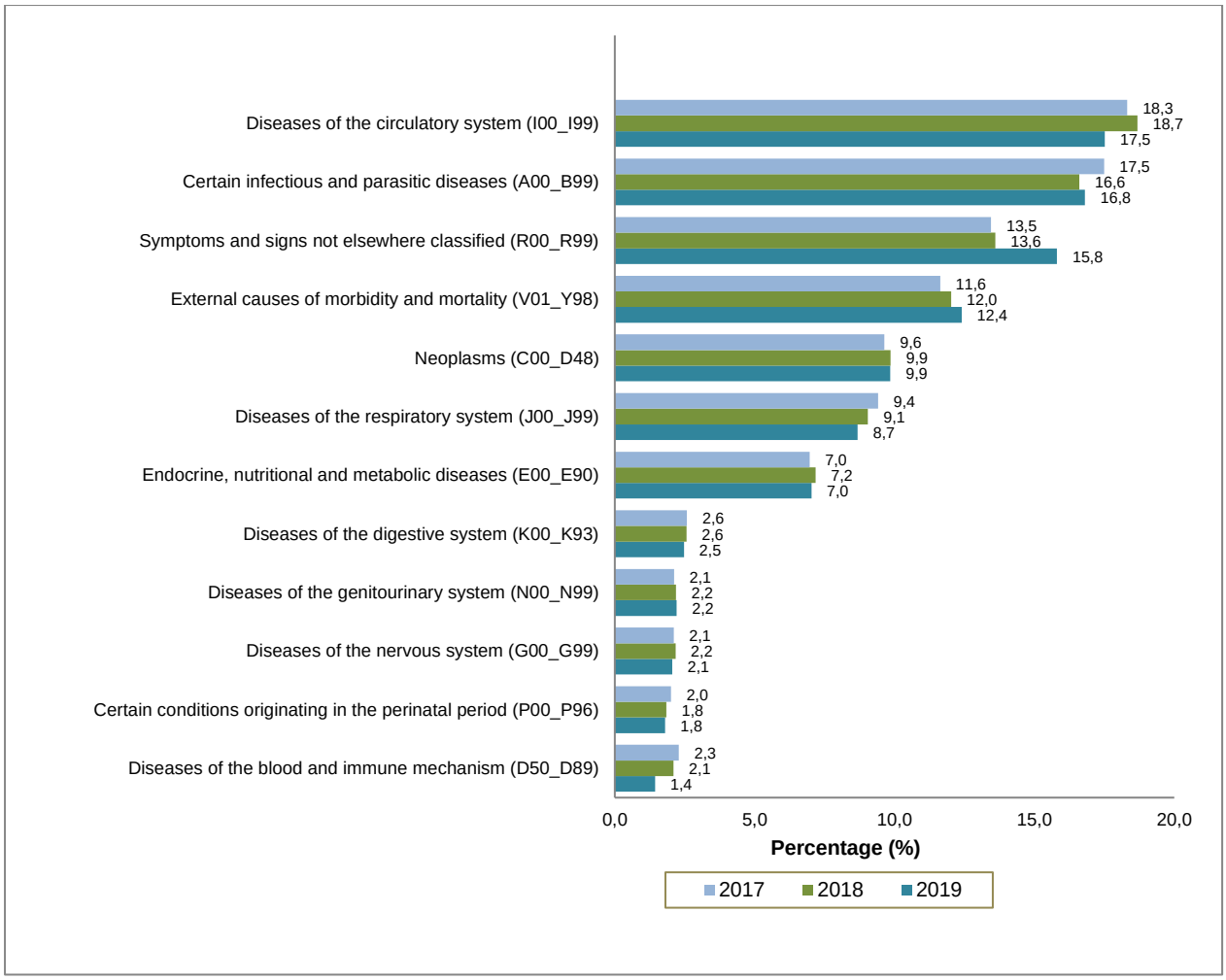
**Including deaths due to MDR-TB and XDR-TB.*

A three-year (2017–2019) trend analysis on the distribution of deaths by selected main groups of causes of death was undertaken and the results are shown in Figure 4.1. It is observed that the rankings of the main groups of causes of death by year have remained more or less the same during the period 2017–2019. *Diseases of the circulatory system* were the most common causes of death for the three years, and accounted for between 17% and 19% of deaths across the three years. *Certain infectious and parasitic diseases* in the three-year period were constantly the second most common group of underlying causes, ranging between 16% and 18%. *Symptoms and signs not elsewhere classified*, *diseases of the circulatory system* and *external causes of morbidity and mortality* were third and fourth, each contributing between 12% and 15% of the deaths for each year and for each cause.

There was no consistent observable pattern for the first two most commonly reported main group of underlying causes. The only deviation from previous patterns is observed in the proportion of deaths attributable to *symptoms and signs not elsewhere classified*, which increased from 13,5% in 2017 to a high of 15,8% in 2019. *External causes of morbidity and mortality* increased steadily from 11,6% in 2017 to 12% in 2018, and to current levels at 12,4% in 2019.

The only groups that showed notable decreases in proportion of deaths were *diseases of the respiratory system* (9,4% in 2017 to 8,7% in 2019) and *diseases of the blood and immune mechanism* (2,3% in 2017 to 1,4% in 2019). *Certain conditions originating in the perinatal period* and *diseases of the digestive system* decreased slightly from 2,0% in 2017 to 1,8% in 2019 and 2,6% in 2017 to 2,5% in 2019, respectively.

Figure 4.1- Percentage distribution of deaths by main groups of causes of death, 2017–2019*



4.4 Natural and non-natural causes of death

Non-natural causes of death comprise all deaths that were not attributable, or may not have been attributable to natural causes. Natural and non-natural causes of death information reported in this release was derived from the underlying causes of death based on specific causes of death recorded on the death notification form.

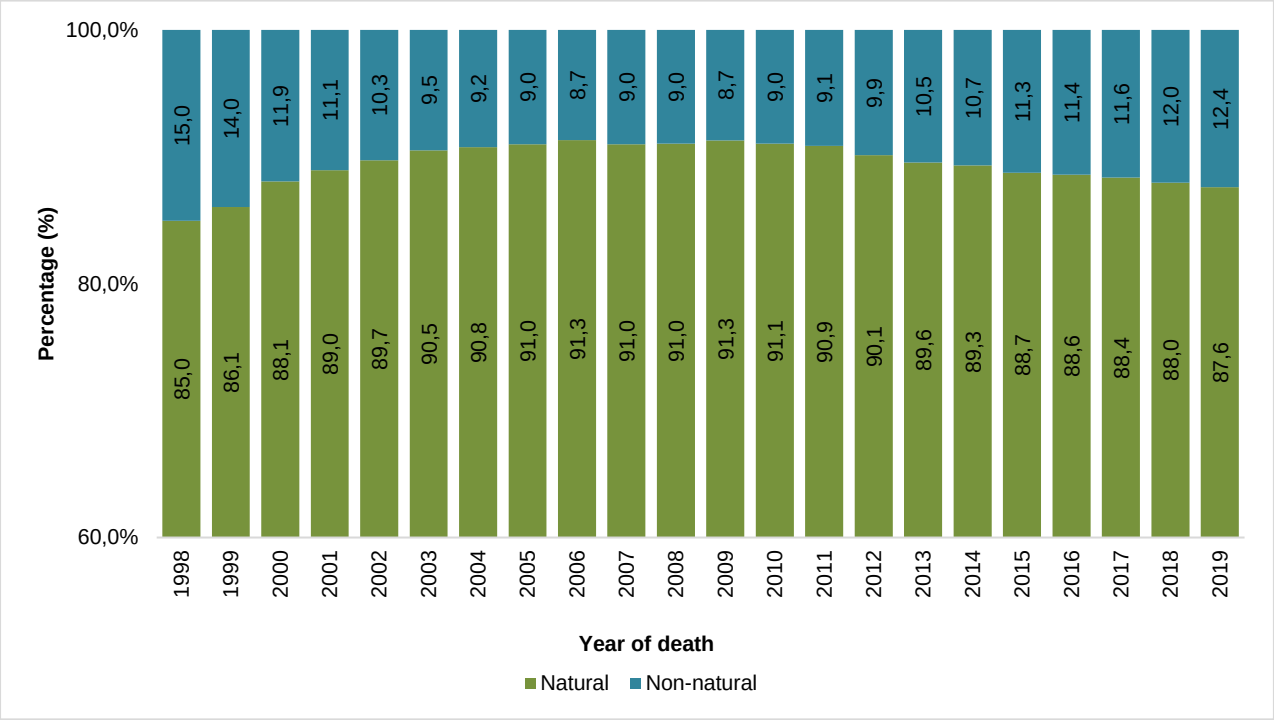
Table 4.4 shows that since 1997, the number of deaths due to natural causes were higher than the number of deaths due to non-natural causes. Between 1997 and 2006, there was a consistent increase in the number of natural deaths, after which a decline was observed. Further, it can be observed that there was an inconsistent pattern in the number of deaths due to non-natural causes. However, the number of deaths due to non-natural causes has decreased consistently between 2008 and 2013, after which there was a consistent increase until 2019.

Table 4.4- Number of natural and non-natural deaths by year of death occurrence, 1998–2019*

Year of death	Number of natural deaths	Number of non-natural deaths	Total
1997	263 992	54 161	**318 153**
1998	311 635	55 176	**366 811**
1999	329 475	53 409	**382 884**
2000	367 715	49 853	**417 568**
2001	406 170	50 446	**456 616**
2002	451 935	51 803	**503 738**
2003	505 853	52 976	**558 829**
2004	525 325	53 469	**578 794**
2005	545 906	54 080	**599 986**
2006	561 227	53 317	**614 544**
2007	551 922	54 664	**606 586**
2008	544 911	53 709	**598 620**
2009	533 520	50 894	**584 414**
2010	502 996	49 422	**552 418**
2011	471 689	47 420	**519 109**
2012	447 436	49 065	**496 501**
2013	428 311	49 959	**478 270**
2014	427 464	51 153	**478 617**
2015	422 290	53 563	**475 853**
2016	418 820	53 922	**472 742**
2017	412 534	54 345	**466 879**
2018	410 968	56 212	**467 180**
2019	403 844	57 162	**461 006**

Percentage distributions of natural and non-natural causes of death by year of death for the period 1998 to 2019 are shown in Figure 4.2. The pattern shows that the percentage of deaths due to natural causes was consistently above 80% each year. For non-natural causes of death, the pattern shows decreases in the proportion of deaths from 1998 to 2006. In 2007, the proportion of deaths due to non-natural causes increased to 9,0% and remained at this level in 2008, then declined to 8,7% in 2009. After this period deaths due to non-natural causes increased steadily, although the levels were still lower than those observed in 1998 (15,0%).

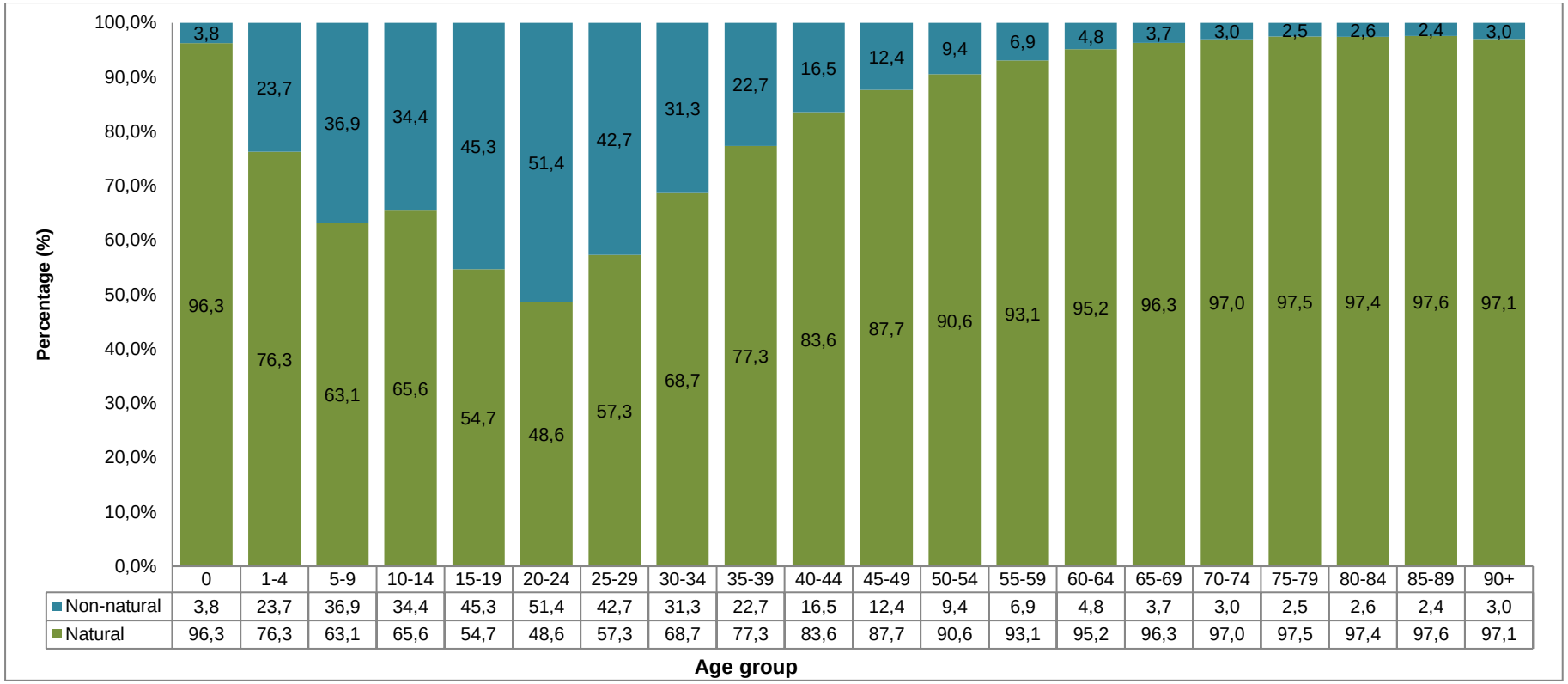
Figure 4.2- Percentage distribution of natural and non-natural causes of death by year of death, 1998–2019*



4.4.1 Natural and non-natural causes of death by age

The percentage distribution of deaths due to natural and non-natural causes classified by age group for deaths that occurred in 2019 is provided in Figure 4.3. The general pattern observed that the proportion of deaths due to non-natural causes increases consistently from age 0 (3,8%) to age group 20–24 (51,4%) and decreased thereafter. Figure 4.3 also shows that age group 20–24 was the age mostly affected by non-natural causes. Other ages with higher proportions (over 30%) of deaths due to non-natural causes were age groups 15–19 (45,3%), 5–9 (36,9%), 10–14 (34,4%), 25–29 (42,7%) and 30–34 (31,3%). Ages least affected by non-natural deaths were infancy (less than 0) and older ages (60 years and older) where less than 5,0% of the deaths in each of these age groups were due to non-natural causes of death.

Figure 4.3- Percentage distribution of natural and non-natural causes of death by age, 2019



	0	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90+
Non-natural	3,8	23,7	36,9	34,4	45,3	51,4	42,7	31,3	22,7	16,5	12,4	9,4	6,9	4,8	3,7	3,0	2,5	2,6	2,4	3,0
Natural	96,3	76,3	63,1	65,6	54,7	48,6	57,3	68,7	77,3	83,6	87,7	90,6	93,1	95,2	96,3	97,0	97,5	97,4	97,6	97,1

4.5 Major groups of causes of death as per Global Burden of Disease

The Global Burden of Disease (GBD) Study is an all-inclusive program of disease burden that assesses mortality and disability from major diseases, injuries, and risk factors. It provides a comprehensive picture of mortality and disability across countries, time, age, and sex and is a landmark initiative that systematically quantifies the prevalence, morbidity, and mortality for hundreds of diseases, injuries, and risk factors of global health importance. This is a useful measure as countries can combine this type of evidence along with information about policies and their costs to decide how to set their health targets and interventions. GBD also makes comparisons across populations, enabling understanding of the changing health challenges facing people across the world.

The nineteen ICD-10 chapters used in the reporting of information on underlying causes of death can be further condensed into three groups of causes of death as per the Global Burden of Disease cause list:

Group I:

- Communicable diseases (e.g. *tuberculosis, pneumonia, diarrhoea, malaria, measles*);
- Maternal and perinatal causes (e.g*. maternal hemorrhage, birth trauma*); and
- Nutritional conditions (e.g. *protein-energy malnutrition*).

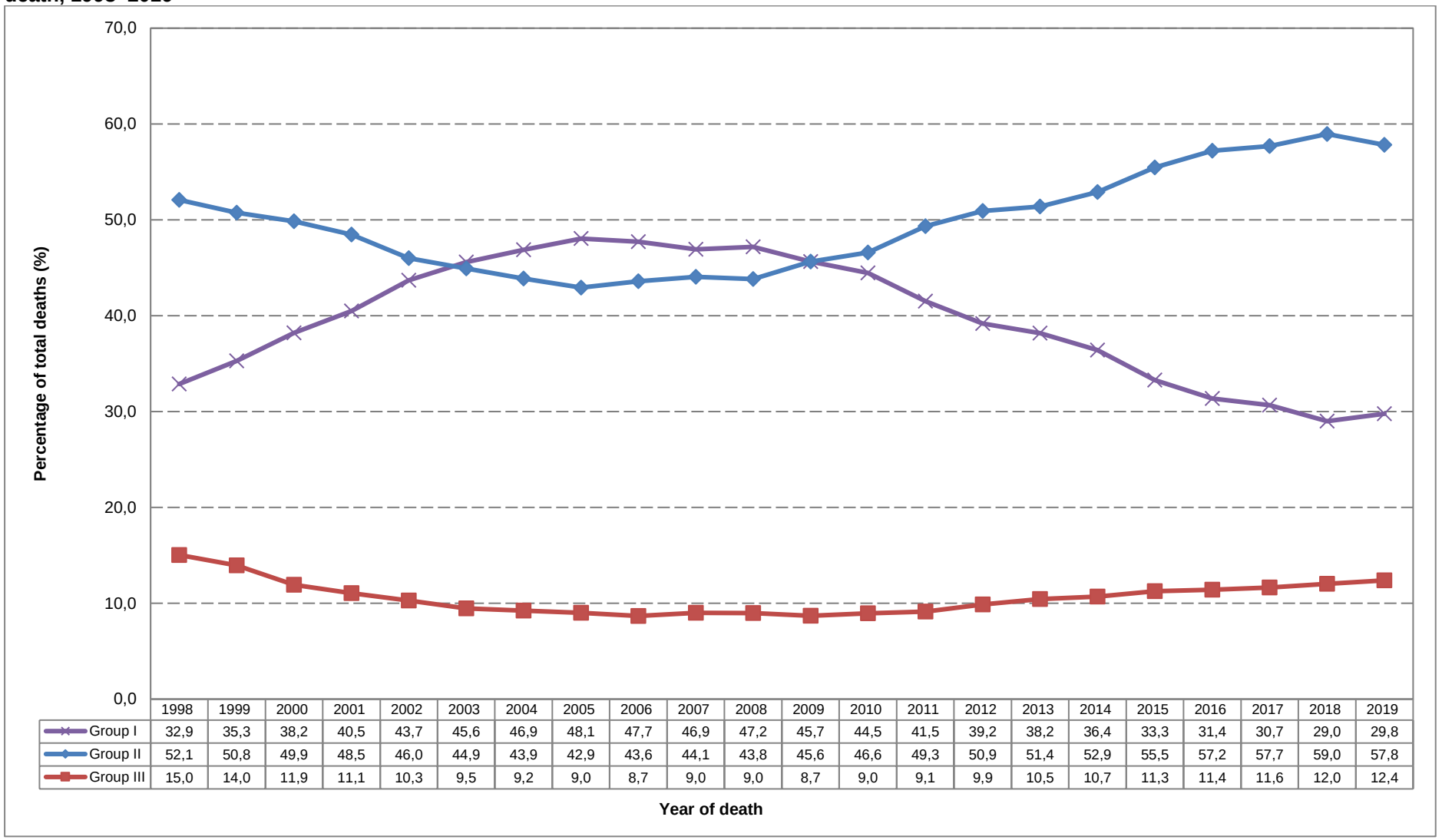
Group II: Non-communicable diseases (e.g*. cancer, diabetes, heart disease* and *asthma*)

Group III: External causes of mortality (e.g. *accidents, homicide* and *suicide*)

Communicable diseases are diseases caused by pathogenic microorganisms, such as bacteria, viruses, parasites or fungi and can be spread, directly or indirectly, from one person to another. These include, amongst other diseases, diarrhoea, tuberculosis and pneumonia. Non-communicable diseases are medical conditions or diseases that are non-infectious or non-transmissible among people. These diseases last for longer periods of time and progress slowly and include, amongst others, cancer, asthma and heart diseases. External causes of mortality are the non-natural causes of death which are discussed in chapter 20 of the ICD-10.

The percentage distribution of deaths by group type and year of death are depicted in Figure 4.4. The pattern shows that prior to 2003, there were more deaths from non-communicable diseases relative to communicable diseases, although the gap narrowed over time. Starting from the year 2004 up to 2008, deaths due to communicable diseases surpassed non-communicable deaths. In 2009, there were equal proportion of deaths due communicable and non-communicable diseases. From 2010 to 2019, the gap between the communicable and non-communicable diseases became wider with more deaths resulting from non-communicable diseases. A closer look at the recent patterns (2010–2019) gives an indication that there is an epidemiological shift in the main causes of death and disease, away from communicable diseases towards non-communicable diseases.

Figure 4.4- Percentage of deaths due to communicable diseases (Group I), non-communicable diseases (Group II) and injuries (Group III) by year of death, 1998–2019*



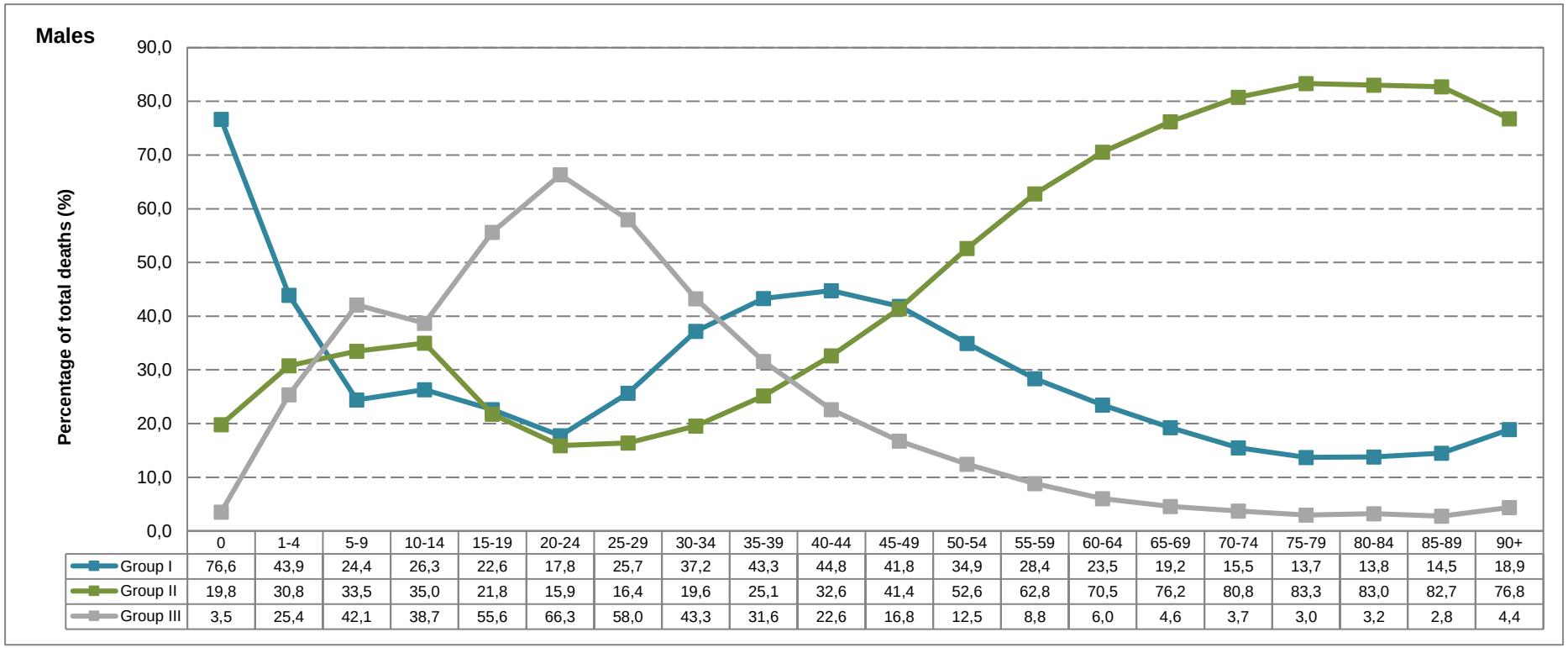
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Group I	32,9	35,3	38,2	40,5	43,7	45,6	46,9	48,1	47,7	46,9	47,2	45,7	44,5	41,5	39,2	38,2	36,4	33,3	31,4	30,7	29,0	29,8
Group II	52,1	50,8	49,9	48,5	46,0	44,9	43,9	42,9	43,6	44,1	43,8	45,6	46,6	49,3	50,9	51,4	52,9	55,5	57,2	57,7	59,0	57,8
Group III	15,0	14,0	11,9	11,1	10,3	9,5	9,2	9,0	8,7	9,0	9,0	8,7	9,0	9,1	9,9	10,5	10,7	11,3	11,4	11,6	12,0	12,4

Figure 4.5 shows the percentage distribution of causes of death by sex, group type and age group. The pattern on Group I remained the same as that observed in the previous publication of *Mortality and causes of death, 2018* (Stats SA, 2018) for both sexes, whereby the proportion of deaths due to Group I causes (communicable diseases, maternal, perinatal and nutritional conditions) was high among children aged 0–4 years, although declining with age for both males and females. The highest percentage of male and female deaths due to communicable diseases occurred among those aged 0 years (76,6% for males and 74,7% for females). Deaths due to communicable diseases peak again at ages 40–44 (44,8%) for males while it peaks again at ages 30–34 (57,8%) for females. For both sexes, the proportion of deaths due to communicable diseases declines gradually with age from the age of 40 years.

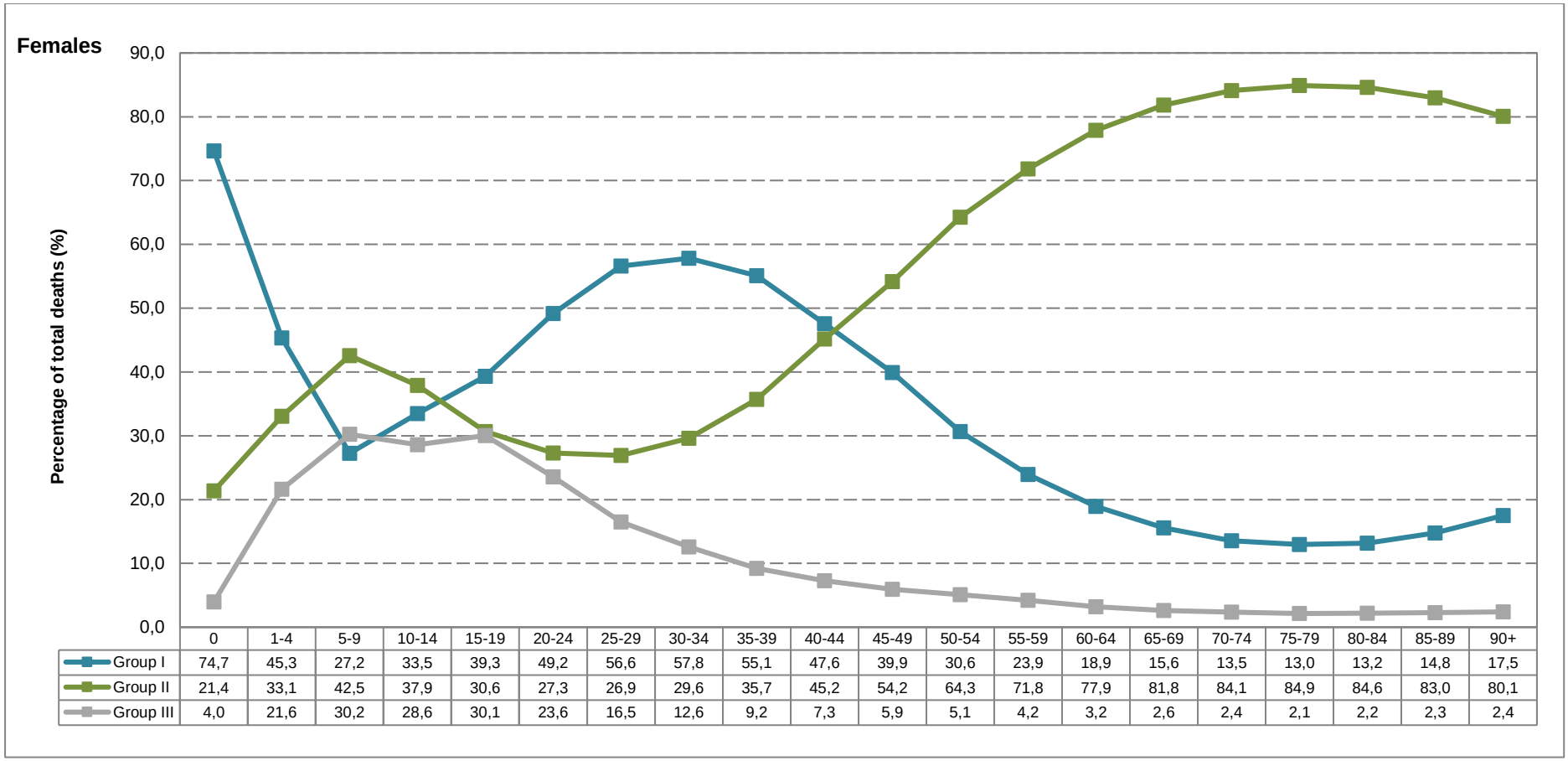
Deaths due to non-communicable diseases for females are lowest among children aged 0–4 years, with the first peak observed at age group 10–14 years for males and 5–9 years for females; the lowest proportion of deaths due to non-communicable diseases is observed at age group 25–29. For females, after the age of 9 years the proportion of deaths due to non-communicable diseases decrease to a low of 26,9% at age group 25–29, and thereafter increases with age. Deaths due to non-communicable diseases rise dramatically at older ages for both sexes due to the increasing incidence of neoplasms, cardiovascular diseases and ischaemic heart diseases.

The proportion of deaths due to external causes of death was higher for males compared to females at all ages above age 1. For males, the proportion of deaths due to this group was particularly high at ages 20–24 where at least 66,3% of deaths due to external causes exceeded deaths due to other causes. For both sexes, the proportion of deaths due to injuries decreased steadily with age for those aged 40 years and older.

Figure 4.5- Percentage of deaths due to communicable diseases (Group I), non-communicable diseases (Group II) and injuries (Group III) by sex and age group, 2019*



	0	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90+
Group I	76,6	43,9	24,4	26,3	22,6	17,8	25,7	37,2	43,3	44,8	41,8	34,9	28,4	23,5	19,2	15,5	13,7	13,8	14,5	18,9
Group II	19,8	30,8	33,5	35,0	21,8	15,9	16,4	19,6	25,1	32,6	41,4	52,6	62,8	70,5	76,2	80,8	83,3	83,0	82,7	76,8
Group III	3,5	25,4	42,1	38,7	55,6	66,3	58,0	43,3	31,6	22,6	16,8	12,5	8,8	6,0	4,6	3,7	3,0	3,2	2,8	4,4



	0	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90+
Group I	74,7	45,3	27,2	33,5	39,3	49,2	56,6	57,8	55,1	47,6	39,9	30,6	23,9	18,9	15,6	13,5	13,0	13,2	14,8	17,5
Group II	21,4	33,1	42,5	37,9	30,6	27,3	26,9	29,6	35,7	45,2	54,2	64,3	71,8	77,9	81,8	84,1	84,9	84,6	83,0	80,1
Group III	4,0	21,6	30,2	28,6	30,1	23,6	16,5	12,6	9,2	7,3	5,9	5,1	4,2	3,2	2,6	2,4	2,1	2,2	2,3	2,4

4.6 Broad groups of natural causes of death

Information on the leading underlying natural causes of death for broad groups is presented in this subsection. The ten leading causes were identified by ranking the causes of death by the number of deaths among those eligible for ranking as described in Section 2 and excludes symptoms, signs and abnormal findings, not elsewhere classified as well as all non-natural deaths (external causes of morbidity and mortality). The top-ranking causes determine the leading underlying natural causes of death as it accounts for large numbers of deaths within a specified population and time period.

4.6.1 Overall pattern of the leading underlying natural causes of death

Table 4.5 shows the ten leading underlying natural causes of death in South Africa for the years 2017–2019. The years 2017 and 2018 have been included to show recent trends in natural causes of death. The table provides changes in the ten leading underlying causes of death by absolute numbers and percentages over the three-year period.

For a list of deaths by all broad groups of causes of death ranked by frequency (including non-natural causes and symptoms and signs not elsewhere classified) for 2019, refer to Appendix K. The breakdown of individual causes for the broad groups that were among the ten leading causes in 2019 is provided in Appendix L.

Table 4.5 shows that nine of the ten leading causes of death for the three-year period were the same, although they differed in rank as well as proportions. *Malignant neoplasms of digestive organs* was among the top ten leading causes of death in 2018 only, but was not on the ten leading causes of death for 2017 and 2019. Similarly, *Other viral diseases* were in the top ten leading causes of death in 2017 and 2019 but not in 2018. The first two of the ten leading causes of death (*diabetes mellitus* and *tuberculosis*) for the period 2017 to 2019 remained the same, though changed rankings between the years.

The most notable change in rank was for *other forms of heart disease,* which moved from being ranked third in 2017 (accounting for 5,0% of deaths) to eighth rank in 2019 (accounting for 3,4% of deaths). This was followed by *chronic lower respiratory diseases*, which moved two places down from eighth rank in 2017 (responsible for 2,9% of deaths) to tenth rank in 2019 (responsible for 2,7% of deaths). The other causes either moved one position up or one position down from the ranking of the previous year. Year-on-year comparison between 2018 and 2019 shows that only *cerebrovascular diseases* did not change position between the two years.

Table 4.5- The ten leading underlying natural causes of death, 2017–2019

Causes of death (based on ICD-10)	2017			2018			2019		
	Rank	Number	%	Rank	Number	%	Rank	Number	%
Diabetes mellitus (E10_E14)	2	26 264	5,6	2	27 370	5,9	1	26 191	5,7
Tuberculosis (A15_A19)	1	29 837	6,4	1	28 294	6,1	2	25 262	5,5
Cerebrovascular diseases (I60_I69)	4	23 105	4,9	3	23 497	5,0	3	23 133	5,0
Human immunodeficiency virus [HIV] disease (B20_B24)	5	22 370	4,8	5	22 518	4,8	4	22 039	4,8
Hypertensive diseases (I10_I15)	6	20 510	4,4	6	20 971	4,5	5	20 492	4,4
Influenza and pneumonia (J09_J18)	7	19 481	4,2	7	17 981	3,8	6	17 294	3,8
Ischaemic heart diseases (I20_I25)	9	13 379	2,9	8	13 857	3,0	7	15 904	3,4
Other forms of heart disease (I30_I52)	3	23 381	5,0	4	23 297	5,0	8	15 741	3,4
Other viral diseases (B25_B34)	10	13 043	2,8	.	.	.	9	13 171	2,9
Chronic lower respiratory diseases (J40_J47)	8	13 704	2,9	9	13 822	3,0	10	12 309	2,7
Malignant neoplasms of digestive organs (C15_C26)	.	.	.	10	11 060	2,4	.	.	.
Other natural		207 460	44,4		208 302	44,6		212 308	46,1
Non-natural		54 345	11,6		56 211	12,0		57 162	12,4
All causes		**466 879**	**100,0**		**467 180**	**100,0**		**461 006**	**100,0**

4.6.2 Leading underlying natural causes of death by sex

The distribution of the ten leading underlying natural causes of death by sex in 2019 is shown in Table 4.6, and indicates different patterns of underlying natural causes between males and females. The ten leading causes of male deaths contributed 38,7% of all male deaths while the ten leading causes for females contributed 45,2% of all female deaths. Although nine of the ten leading causes of death for both sexes were the same, none of the underlying causes had the same rank. In addition, there was one cause of death that was among the leading causes of death for males and not for females and vice versa. *Malignant neoplasms of female genital organs* which affects only women was among the ten leading causes of death for females, but not for males. Conversely, *chronic lower respiratory diseases* were among the top ten underlying causes of death for males but not for females.

Tuberculosis was the leading cause of death amongst males accounting for 6,5% male deaths, followed by HIV which accounted for 4,6% male deaths in 2019. For females, *diabetes mellitus* was the leading cause of death accounting for 7,5% female deaths, followed by *cerebrovascular diseases* responsible for 6,0% female deaths. It is worth noting that though *tuberculosis* was the leading underlying cause of death for males, it ranked fifth for females and was responsible for 4,3% of female deaths. *Hypertensive diseases*, which was the third leading underlying cause of death amongst females accounting for 5,8% female deaths, ranked seventh for males and was responsible for 3,2% male deaths.

Human immunodeficiency virus (HIV) disease was the second leading cause of death for males (accounting for 4,6% of male deaths), but was the fourth leading cause of death among females (accounting for 5,0% of female deaths).

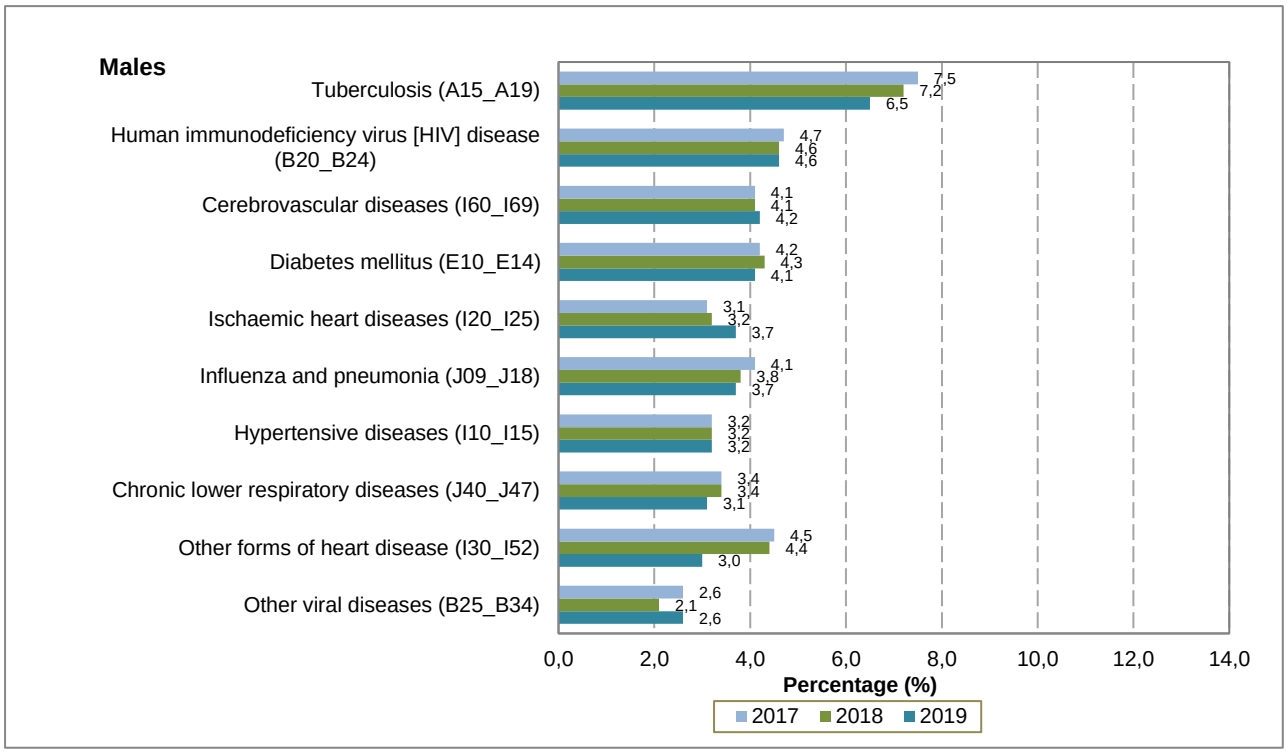
Table 4.6- The ten leading underlying causes of death for males and females, 2019

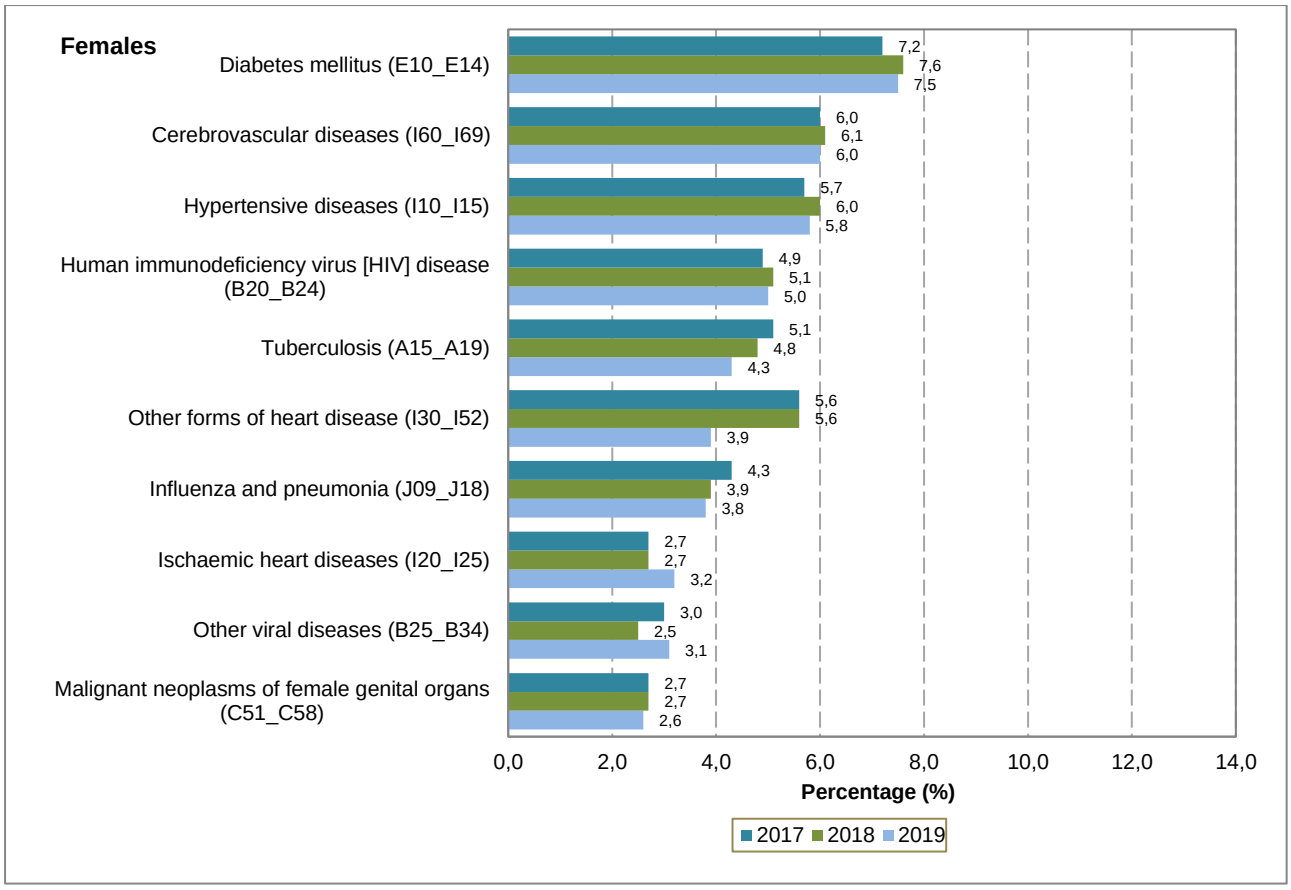
Causes of death (based on ICD-10)	Male			Female		
	Rank	Number	%	Rank	Number	%
Tuberculosis (A15_A19)	1	15 814	6,5	5	9 363	4,3
Human immunodeficiency virus [HIV] disease (B20_B24)	2	11 124	4,6	4	10 828	5,0
Cerebrovascular diseases (I60_I69)	3	10 131	4,2	2	12 963	6,0
Diabetes mellitus (E10_E14)	4	9 850	4,1	1	16 316	7,5
Influenza and pneumonia (J09_J18)	5	8 892	3,7	7	8 343	3,8
Ischaemic heart diseases (I20_I25)	6	8 877	3,7	8	7 001	3,2
Hypertensive diseases (I10_I15)	7	7 796	3,2	3	12 666	5,8
Chronic lower respiratory diseases (J40_J47)	8	7 456	3,1	…	…	…
Other forms of heart disease (I30_I52)	9	7 204	3,0	6	8 515	3,9
Other viral diseases (B25_B34)	10	6 330	2,6	9	6 783	3,1
Malignant neoplasms of female genital organs (C51_C58)	…	…	…	10	5 657	2,6
Other natural		104 454	43,2		106 164	48,9
Non-natural		43 917	18,2		12 711	5,8
All causes		**241 845**	**100,0**		**217 310**	**100,0**

The percentage distribution of deaths associated with the ten leading causes of death classified by sex for the period 2017–2019 is shown in Figure 4.6. Over the three-year period, *tuberculosis* remained the leading cause of death for males and *diabetes mellitus* for females, although the proportions differed over time. The main similarity between males and females is that there was a consistent decline in the proportion of deaths due to *influenza* and *pneumonia, tuberculosis* and *other forms of heart diseases*, and a constant increase in the proportion of deaths due to *ischaemic heart disease*, although the difference is marginal for 2017 and 2018 for females.

The proportion of male deaths due to *HIV disease* decreased slightly from 4,7% in 2017 to 4,6% in 2018 and kept the same proportion in 2019, while for females it increased from 4,9% in 2017 to 5,1% in 2018, then marginally reduced to 5,0% in 2019. Similarly, the proportion of deaths due to *diabetes mellitus* increased from 7,2% in 2017 to 7,5% in 2019 for females but reduced for males from 4,2% in 2017 to 4,1% in 2019. Between 2017 and 2019, the proportion of deaths due to *hypertensive diseases* increased from 5,7% to 5,8% for females, however, the proportion for males remained the same in the three-year period at 3,2%.

Figure 4.6: Distribution of deaths for the leading causes of death by year of death and sex, 2017–2019*





4.6.3 Leading underlying natural causes of death by age

Analysis of the broad age groups (0, 1–14, 15–44, 45–64, and 65 years and older) is recommended by the World Health Organization for classifying ages for international comparison (WHO, 2009). Table 4.7 shows the ten leading underlying natural causes of death for these age groups. Further decomposition of age and leading underlying natural causes of death are provided in Tables 4.8 (under 5 years) and 4.9 (15–24 years).

Influenza and pneumonia was the only underlying cause of death common for all age groups, although the ranking varied greatly by age. For example, deaths due to *influenza and pneumonia* were the second leading underlying cause of death for age 0 (6,8%), first for age group 1–14 (6,4%), fourth for age group 15–44 (3,1%) and ninth for both age groups 45–64 (3,3%) and seventh for age group 65 years and older (4,3%). *Tuberculosis* and *other forms of heart diseases* were part of the ten underlying causes of death in all age groups, except infants. *Hypertensive diseases, ischaemic heart disease* and *malignant neoplasm of digestive organs* were amongst the ten leading underlying causes of death only for those aged 45 years and older.

The leading underlying cause of death for infant deaths (age 0) was *respiratory and cardiovascular disorders specific to the perinatal period*, responsible for 13,2% of deaths at this age. *Influenza and pneumonia* was the second leading cause of death, accounting for 6,8% of deaths. *Disorders related to length of gestation and fetal growth*, which constituted 6,4% of deaths in this age group, was the third leading cause of death. *Malnutrition* was on the ten leading underlying causes for only infants and age group 1–14 and ranked ninth for infants, responsible for 2,4% of infant deaths and fourth for age group 1–14, responsible for 2,6% of deaths in this age group.

The leading underlying cause of death for age group 1–14 years was *influenza and pneumonia*, responsible for 6,4% of deaths in this age group, followed *by intestinal infectious diseases* with 5,5% of deaths. *Tuberculosis* was the third leading cause of death (3,1%), followed by *malnutrition* (2,6%). *Cerebral palsy and other paralytic syndromes* ranked fifth among the top ten leading underlying causes of death only for age group 1–14, and was responsible for 2,5% of deaths in this age group.

The leading underlying cause of death for the age group 15–44 years was *human immunodeficiency virus* [HIV] diseases, constituting 10,4% of deaths, followed by *tuberculosis,* accounting for 9,6% of deaths*. Other viral diseases* ranked third, accounting for 5,8% of deaths. *Influenza and pneumonia*, which ranked fourth with 3,1% of deaths, was amongst the ten leading causes of death for all age groups. *Certain disorders involving the immune mechanism*, which was on the ten leading underlying causes of death only on this group, ranked fifth and accounted for 1,8% of deaths in this age group.

Eight of the ten leading causes of death for those aged 45–64 and 65 years and older were the same, with differences in rank and the contribution of each cause to the overall number of deaths in each age group. While *tuberculosis* was the leading cause of death among those aged 45–64, contributing 7,0% of deaths in this age group, it was the tenth leading cause of death among those aged 65 and older, accounting for 2,3% of deaths. Conversely, *diabetes mellitus* was the leading cause of death for those aged 65 and older (8,9%) but was the second leading underlying cause of death for those aged 45–64 (6,9%).

The two underlying causes of death not common between the two groups are *other viral diseases* and *human immunodeficiency virus*. Both causes of death were not on the ten leading causes of death for age group 45–64 and the age group 65 years and older. *Chronic lower respiratory diseases* as well as *renal failure*, which are on the ten leading causes of death for the 65 years and older age group, were not listed for the 45–64 age group. It is worth noting that the ten leading causes of death in these age groups are dominated by non-communicable diseases and the only exceptions were *tuberculosis, human immunodeficiency virus*, and *influenza and pneumonia*, which are communicable diseases.

Table 4.7- The ten leading underlying natural causes of death for broad age groups, 2019*

Causes of death (based on ICD-10)	0			1–14			15–44			45–64			65+		
	Rank	Number	%	Rank	Number	%	Rank	Number	%	Rank	Number	%	Rank	Number	%
Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	1	2 821	13,2	…	…	…	…	…	…	…	…	…	…	…	…
Influenza and pneumonia (J09_J18)	2	1 459	6,8	1	767	6,4	4	3683	3,1	9	4357	3,3	7	7025	4
Disorders related to length of gestation and fetal growth (P05_P08)	3	1 376	6,4	…	…	…	…	…	…	…	…	…	…	…	…
Intestinal infectious diseases (A00_A09)	4	1 290	6,0	2	658	5,5	…	…	…	…	…	…	…	…	…
Infections specific to the perinatal period (P35_P39)	5	1 211	5,7	…	…	…	…	…	…	…	…	…	…	…	…
Other disorders originating in the perinatal period (P90_P96)	6	1 042	4,9	…	…	…	…	…	…	…	…	…	…	…	…
Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04)	7	882	4,1	…	…	…	…	…	…	…	…	…	…	…	…
Congenital malformations of the circulatory system (Q20_Q28)	8	627	2,9	…	…	…	…	…	…	…	…	…	…	…	…
Malnutrition (E40_E46)	9	514	2,4	4	311	2,6	…	…	…	…	…	…	…	…	…
Other bacterial diseases (A30_A49)	10	420	2,0	…	…	…	…	…	…	…	…	…	…	…	…
Tuberculosis (A15_A19)	…	…	…	3	377	3,1	2	11549	9,6	1	9 136	7,0	10	4 083	2,3
Cerebral palsy and other paralytic syndromes (G80_G83)	…	…	…	5	303	2,5	…	…	…	…	…	…	…	…	…
Human immunodeficiency virus [HIV] disease (B20_B24)	…	…	…	6	251	2,1	1	12 570	10,4	3	7 741	6,0	…	…	…
Episodic and paroxysmal disorders (G40_G47)	…	…	…	7	246	2,1	10	1 319	1,1	…	…	…	…	…	…
Metabolic disorders (E70_E90)	…	…	…	8	211	1,8	…	…	…	…	…	…	…	…	…
Other forms of heart disease (I30_I52)	…	…	…	9	206	1,7	6	2 067	1,7	10	4 355	3,3	5	8 994	5,1
Other viral diseases (B25_B34)	…	…	…	10	188	1,6	3	7 045	5,8	7	4 805	3,7	…	…	…
Certain disorders involving the immune mechanism (D80_D89)	…	…	…	…	…	…	5	2 181	1,8	…	…	…	…	…	…
Cerebrovascular diseases (I60_I69)	…	…	…	…	…	…	7	1 721	1,4	4	6 508	5,0	2	14 807	8,4
Renal failure (N17_N19)	…	…	…	…	…	…	8	1 410	1,2	…	…	…	9	4 295	2,4
Diabetes mellitus (E10_E14)	…	…	…	…	…	…	9	1 396	1,2	2	8 971	6,9	1	15 761	8,9
Hypertensive diseases (I10_I15)	…	…	…	…	…	…	…	…	…	5	5 226	4,0	3	14 225	8,0
Ischaemic heart diseases (I20_I25)	…	…	…	…	…	…	…	…	…	6	5 069	3,9	4	9 674	5,5
Malignant neoplasms of digestive organs (C15_C26)	…	…	…	…	…	…	…	…	…	8	4 450	3,4	8	5 586	3,2
Chronic lower respiratory diseases (J40_J47)	…	…	…	…	…	…	…	…	…	…	…	…	6	7 193	4,1
Other natural		8 933	41,8		4 935	41,1	50	38 416	31,9	50	58 993	45,4	50	80 153	45,3
Non-natural		802	3,8		3 542	29,5	51	37 168	30,8	51	10 449	8,0	51	5 179	2,9
Total		**21 377**	**100,0**		**11 995**	**100,0**		**120 525**	**100,0**		**130 060**	**100,0**		**176 975**	**100,0**

4.6.4 Leading underlying natural causes of death for children aged below five years by age groups

The ten leading causes of death for neonatal deaths (infants that died within the first 28 days of life), post-neonatal deaths (29 days to 11 months), all infant deaths (aged less than one year), and deaths among those aged 1–4 years are shown in Table 4.8. Infant deaths are composed of both neonatal and post-neonatal deaths.

Table 4.8 shows that *congenital malformations of the circulatory system* was the only underlying cause of death common for all age groups, although the ranking varied greatly by age. Additionally, apart from *congenital malformations of the circulatory system* and *chromosomal abnormalities, not elsewhere classified*, there were no overlapping leading underlying causes of death for those who died during the neonatal and post-neonatal periods. However, there was a smaller percentage of deaths due to *congenital malformations of the circulatory system* for neonatal deaths (2,7%) compared to post-neonatal deaths (3,1%), and moreover, there was a much smaller percentage of deaths due to *chromosomal abnormalities, not elsewhere classified* for post-neonatal deaths (1,4%) compared to neonatal deaths (1,6%).

Neonatal deaths mainly resulted from *respiratory and cardiovascular disorders specific to the perinatal period*, which was the leading underlying cause of death among neonates, and responsible for 27,6% deaths. The second leading underlying cause of death for neonatal deaths was *disorders related to length of gestation and fetal growth*, accounting for 12,2% of all neonatal deaths, followed by *infections specific to the perinatal period,* responsible for 11,7% of deaths in this age group. The ten leading underlying causes of death during the neonatal period constituted 85,4% of deaths in this age group.

The leading cause of death for those who died during the post-neonatal period was *influenza and pneumonia* (12,6%), followed by *intestinal infectious diseases* (11,1%). These two causes were the highest contributors of post-neonatal deaths, accounting for almost a quarter (23,7%) of deaths occurring during this period. *Malnutrition* (4,5%) was the third leading cause of death, and *other bacterial diseases* (3,5%) the fourth.

Overall for infants (less than one year), the leading underlying cause of deaths was *respiratory and cardiovascular disorders specific to the perinatal period* (13,2%). *Influenza and pneumonia* (6,8%) was ranked second. *Disorders related to length of gestation and fetal growth* (6,4*%), intestinal infectious diseases* (6,0%) and *infections specific to the perinatal period* (5,7%) were ranked third, fourth and fifth, respectively.

The three leading causes of death for those aged 1–4 years were *influenza and pneumonia* (8,4%), *intestinal infectious diseases* (8,1%) and *malnutrition* (4,7%). *Tuberculosis* (2,7%) was the fourth leading cause of death while *metabolic disorders* (2,4%) was the fifth leading cause of death.

Other acute lower respiratory infections and *other forms of heart diseases* (1,7%) were both tied at sixth position with 1,7% of deaths due to these causes.

For under five ages, *respiratory and cardiovascular disorders specific to the perinatal period* was the leading underlying cause of death responsible for 10,3% of deaths, followed by *influenza and pneumonia* (7,2%) while *intestinal infectious diseases* accounted for 6,5% of deaths in this age group. *Disorders related to length of gestation and fetal growth* was ranked the fourth leading underlying cause of death amongst the under-5 mortality, responsible for 5,0% of deaths.

There were four common underlying causes of death for deaths occurring from 29 days and older to within the first year of life: *intestinal infectious diseases, influenza and pneumonia, malnutrition,* and *other bacterial diseases*. Their contribution towards deaths within their age groups varied greatly.

Table 4.8- The ten underlying natural causes of death for infants and children aged below five years, 2019*

Causes of death (based on ICD-10)	Neonatal (0-28 days)			Post-neonatal (29 days to 11 months)			Less than 1 year			1-4 years			Under 5 years		
	Rank	Number	%	Rank	Number	%	Rank	Number	%	Rank	Number	%	Rank	Number	%
Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	1	2 760	27,6	…	…	…	1	2 821	13,2	…	…	…	1	2 824	10,3
Disorders related to length of gestation and fetal growth (P05_P08)	2	1 222	12,2	…	…	…	3	1 376	6,4	…	…	…	4	1 380	5,0
Infections specific to the perinatal period (P35_P39)	3	1 166	11,7	…	…	…	5	1 211	5,7	…	…	…	5	1 212	4,4
Other disorders originating in the perinatal period (P90_P96)	4	1 029	10,3	…	…	…	6	1 042	4,9	…	…	…	6	1 042	3,8
Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04)	5	873	8,7	…	…	…	7	882	4,1	…	…	…	7	883	3,2
Haemorrhagic and haematological disorders of fetus and newborn (P50_P61)	6	411	4,1	…	…	…	…	…	…	…	…	…	…	…	…
Digestive system disorders of fetus and newborn (P75_P78)	7	340	3,4	…	…	…	…	…	…	…	…	…	…	…	…
Other congenital malformations (Q80_Q89)	8	314	3,1	…	…	…	…	…	…	…	…	…	…	…	…
Congenital malformations of the circulatory system (Q20_Q28)	9	269	2,7	5	358	3,1	8	627	2,9	9	96	1,6	9	723	2,6
Chromosomal abnormalities, not elsewhere classified (Q90_Q99)	10	159	1,6	10	157	1,4	…	…	…	…	…	…	…	…	…
Influenza and pneumonia (J09_J18)	…	…	…	1	1 434	12,6	2	1 459	6,8	1	516	8,4	2	1 975	7,2
Intestinal infectious diseases (A00_A09)	…	…	…	2	1 258	11,1	4	1 290	6,0	2	497	8,1	3	1 787	6,5
Malnutrition (E40_E46)	…	…	…	3	512	4,5	9	514	2,4	3	288	4,7	8	802	2,9
Other bacterial diseases (A30_A49)	…	…	…	4	399	3,5	10	420	2,0	…	…	…	10	511	1,9
Other acute lower respiratory infections (J20_J22)	…	…	…	6	333	2,9	…	…	…	6	105	1,7	…	…	…
Metabolic disorders (E70_E90)	…	…	…	7	290	2,6	…	…	…	5	144	2,4	…	…	…
Other diseases of the respiratory system (J95_J99)	…	…	…	8	271	2,4	…	…	…	…	…	…	…	…	…
Other viral diseases (B25_B34)	…	…	…	9	169	1,5	…	…	…	…	…	…	…	…	…
Tuberculosis (A15_A19)	…	…	…	…	…	…	…	…	…	4	165	2,7	…	…	…
Other forms of heart disease (I30_I52)	…	…	…	…	…	…	…	…	…	7	103	1,7	…	…	…
Episodic and paroxysmal disorders (G40_G47)	…	…	…	…	…	…	…	…	…	8	99	1,6	…	…	…
Cerebral palsy and other paralytic syndromes (G80_G83)	…	…	…	…	…	…	…	…	…	10	93	1,5	…	…	…
Other natural		1 383	13,8		5 468	48,1		8 933	41,8		2 556	41,8		12 098	44,0
Non-natural		81	0,8		721	6,3		802	3,8		1 450	23,7		2 252	8,2
All causes		**10 007**	**100,0**		**11 370**	**100,0**		**21 377**	**100,0**		**6 112**	**99,9**		**27 489**	**100,0**

4.6.5 Leading underlying natural causes of death for the population aged 15–24 years

According to the WHO recommendations, the 15–24 age group must also be included in the analysis for international comparison (WHO, 1992). This analysis is provided in Table 4.9. In 2019, *tuberculosis* was the leading cause of death for those aged 15–24, accounting for 6,6% of deaths in this age group, followed by *human immunodeficiency virus* [HIV] disease (5,1%) and *other viral diseases* (3,3%). *Influenza and pneumonia, episodic and paroxysmal disorders* and *other forms of heart disease* were the fourth, fifth and sixth leading causes of death, respectively. The ten leading causes of death in this age group contributed almost a quarter (24,2%) of deaths in this age group.

Table 4.9- The ten leading underlying causes of death for the population aged 15–24 years, 2019

Causes of death (based on ICD-10)	15-24		
	Rank	Number	Percentage (%)
Tuberculosis (A15_A19)	1	1 284	6,6
Human immunodeficiency virus [HIV] disease (B20_B24)	2	989	5,1
Other viral diseases (B25_B34)	3	653	3,3
Influenza and pneumonia (J09_J18)	4	482	2,5
Episodic and paroxysmal disorders (G40_G47)	5	287	1,5
Other forms of heart disease (I30_I52)	6	272	1,4
Inflammatory diseases of the central nervous system (G00_G09)	7	220	1,1
Certain disorders involving the immune mechanism (D80_D89)	8	217	1,1
Intestinal infectious diseases (A00_A09)	9	173	0,9
Malignant neoplasms, stated or presumed to be primary, of lymphoid, haematopoietic and related tissue (C81_C96)	10	168	0,9
Other natural		5 178	26,5
Non-natural		9 650	49,3
All causes		**19 573**	**100,0**

4.6.6 Leading underlying natural causes of death by province of death occurrence

This section looks at province-level variations in mortality and causes of death. Table 4.10 shows the provincial variations in the ranking of the ten leading underlying causes of death for 2019. Across the nine provinces, *diabetes mellitus* was a leading underlying cause of death in Limpopo (7,0%), KwaZulu-Natal (6,7%) and Gauteng (4,4%) whilst *tuberculosis* was the leading cause of death in Eastern Cape (7,5%), North West (6,1%) and Mpumalanga (6,0%). *Ischaemic heart diseases* was the leading cause of death only in Western Cape, responsible for 7,4% of deaths in this province.

There were six underlying causes of death that were common in all nine provinces, namely *diabetes mellitus, HIV disease, tuberculosis, cerebrovascular diseases, hypertensive diseases* and *other forms*

of heart disease. However, the ranks of these causes of death differed between provinces. For example, while *diabetes mellitus* was the second leading cause of death in Western Cape (6,7%), it was the third leading cause in Eastern Cape (5,7%) and the fourth leading cause in Northern Cape (5,0%).

The highest proportion of deaths due to *tuberculosis* was recorded in Eastern Cape with 7,5% of deaths in the province, followed by North West with 6,1% of deaths. *Tuberculosis* ranked as the second leading underlying cause of death in Northern Cape (6,0%), KwaZulu-Natal (6,0%) and Gauteng (4,0%). It had the lowest rank in Free State, accounting for 5,0% of deaths in the province. *Ischaemic heart diseases* which ranked first in the Western Cape was not in the ten leading causes of death in the Eastern Cape and Limpopo provinces, and ranked sixth in Gauteng (3,7%), KwaZulu-Natal (3,5%) and Northern Cape (4,1%).

HIV disease, which ranked first as the leading cause of death (6,3%) in both Northern Cape and Free State, was the second leading underlying cause of death in Eastern Cape (5,8%) and ranked third in the Western Cape (5,9%). It ranked fourth in KwaZulu-Natal (4,9%) and Mpumalanga (5,0%). For Limpopo and North West, it ranked sixth and was responsible for 4,8% and 4,2% of deaths respectively. Deaths due to *HIV disease* were lowest in Gauteng at 2,8%.

Western Cape was the only province where *malignant neoplasms of respiratory and intrathoracic organs* was in the top ten leading underlying causes of death (4,1%), and was also the only province where *other viral diseases* and *influenza and pneumonia* were not on the ten leading underlying causes of death. Only Limpopo (2,6%) and Mpumalanga (2,2%) had *intestinal infectious diseases* in the top ten leading underlying causes of death; furthermore, Limpopo was the only province which had *renal failure* (2,3%) in the list of ten leading underlying causes of death.

According to the Global Burden of Disease, all nine provinces had at least five non-communicable diseases among the ten underlying causes of death in each province. The highest was the Western Cape, where eight of the ten leading underlying causes of death were non-communicable. The only communicable diseases were *HIV disease* and *tuberculosis*. Limpopo and Mpumalanga had a 50% split where five of the ten leading underlying causes of death in the provinces were communicable diseases while the other five were non-communicable diseases. Detailed information on the distribution of the ten leading underlying causes by province, sex and age is provided in Appendices M to M9.

Table 4.10- The ten leading underlying natural causes of death in each province of death occurrence, 2019*

Causes of death (based on ICD-10)	Western Cape			Eastern Cape			Northern Cape			Free State			KwaZulu-Natal			North West			Gauteng			Mpumalanga			Limpopo		
	Rank	No.	%	Rank	No.	%	Rank	No.	%	Rank	No.	%	Rank	No.	%	Rank	No.	%	Rank	No.	%	Rank	No.	%	Rank	No.	%
Ischaemic heart diseases (I20_I25)	1	3 800	7,4	…	…	…	6	580	4,1	9	867	2,8	6	3 086	3,5	10	533	1.8	6	3 603	3.7	8	1 216	3.9	13	.	.
Diabetes mellitus (E10_E14)	2	3 421	6,7	3	4 084	5,7	4	704	5,0	3	1 606	5,2	1	5 848	6,7	3	1 373	4.5	1	4 321	4.4	3	1 660	5.3	1	3 139	7.0
Human immunodeficiency virus [HIV] disease (B20_B24)	3	3 001	5,9	2	4 123	5,8	1	884	6,3	1	1 956	6,3	4	4 330	4,9	6	1 276	4.2	8	2 706	2.8	4	1 559	5.0	6	2 171	4.8
Cerebrovascular diseases (I60_I69)	4	2 982	5,8	4	3 670	5,2	5	673	4,8	5	1 569	5,0	3	4 938	5,6	5	1 303	4.3	4	3 816	3.9	5	1 546	5.0	3	2 600	5.8
Tuberculosis (A15_A19)	5	2389	4,7	1	5378	7,5	2	843	6,0	6	1546	5,0	2	5260	6,0	1	1833	6.1	2	3936	4.0	1	1862	6.0	5	2173	4.8
Malignant neoplasms of digestive organs (C15_C26)	6	2 345	4,6	9	1 883	2,6	…	…	…	…	…	…	10	1 832	2,1	13	.	.	10	2 595	2.6	…	…	…	…	…	…
Chronic lower respiratory diseases (J40_J47)	7	2 288	4,5	6	2 735	3,8	8	558	4,0	10	735	2,4	…	…	…	9	780	2.6	…	…	…	…	…	…	…	…	…
Hypertensive diseases (I10_I15)	8	2147	4,2	5	3414	4,8	3	791	5,6	2	1738	5,6	5	3411	3.9	2	1686	5.6	7	3516	3.6	6	1393	4.5	4	2351	5.2
Malignant neoplasms of respiratory and intrathoracic organs (C30_C39)	9	2 103	4,1	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
Other forms of heart disease (I30_I52)	10	1 486	2,9	7	2 249	3,2	10	337	2,4	7	1 219	3,9	7	2 922	3,3	7	1 242	4.1	3	3 836	3.9	9	1 151	3.7	8	1 252	2.8
Other viral diseases (B25_B34)	…	…	…	8	2 049	2,9	9	466	3,3	8	1 028	3,3	9	2 320	2,7	8	1 219	4.0	9	2 669	2.7	7	1 262	4.0	7	1 605	3.6
Influenza and pneumonia (J09_J18)	…	…	…	10	1 776	2,5	7	564	4,0	4	1 578	5,1	8	2 740	3,1	4	1 371	4.5	5	3 624	3.7	2	1 692	5.4	2	2 898	6.4
Intestinal infectious diseases (A00_A09)	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	10	700	2.2	9	1150	2.6
Renal failure (N17_N19)	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	10	1016	2.3
Other Natural		18289	35,7		30778	43.2		6238	44,3		13894	44,7		38599	44.1		14647	48.5		50756	51.7		13280	42.6		20362	45.3
Non-natural		6968	13,6		9093	12.8		1436	10,2		3340	10,7		12212	14.0		2927	9.7		12868	13.1		3879	12.4		4223	9.4
All causes		**51 219**	**100,0**		**71 232**	**100,0**		**14 074**	**100,0**		**31 076**	**100,0**		**87 498**	**100,0**		**30 190**	**100,0**		**98 246**	**100,0**		**31 200**	**100, 0**		**44 940**	**100,0**

4.6.7 Underlying causes of death by district/metropolitan municipality of death occurrence

4.6.7.1 Main group

The main groups of underlying natural causes of death by district/metropolitan municipalities are provided in Appendices N to O2. The number of deaths by main groups of causes of death for each district/metropolitan municipality of death occurrence is provided in Appendices N to N2, while Appendices O to O2 show the main groups of causes of death for each district/metropolitan municipality of death occurrence by their percentage distribution. Information at a geographic level lower than district is not provided in this release; however, it is available on request from Stats SA.

4.6.7.2 Broad groups

Appendices P to P9 show information on the ten leading natural causes of death by district/metropolitan municipality. Similarly, information at a geographic level lower than district is not provided in this release; however, it is available on request from Stats SA.

4.6.8 Underlying natural causes of death by population group

Due to a large proportion of unknown or unspecified cases, the ten leading underlying natural causes of death by population group are not discussed in this section. The discussion and distribution of underlying causes of death by population group are provided in appendices Q and Q.1.

4.7 Non-natural causes of death

The focus of this subsection is on non-natural causes of death. Information on non-natural causes of death is important in South Africa, considering the high levels of violence experienced in the country. This section profiles non-natural causes of death based on all external causes of morbidity and mortality (V01-Y98) derived from the causes of death specified on the death notification forms.

On the death notification form, where insufficient details are provided to code the non-natural cause of death accurately, Stats SA codes such deaths as *other external causes of accidental injury* or *event of undetermined intent* in line with the recommendations of WHO in classifying unknown non-natural causes of death (WHO, 2009b). This therefore contributes to the high percentage of unspecified causes of non-natural deaths. Results therefore on non-natural causes of death should therefore be interpreted mindful of the fact that nearly three-quarters of non-natural causes of death were not adequately classified. The unexpected lower number of deaths due to transport accidents, assault, complications of medical and surgical care, intentional self-harm or sequelae of external causes of morbidity and mortality may have been partly the result of causes classified as other external causes of accidental injury or event of undetermined intent.

Table 4.11 shows the number and percentage distribution of broad groups of non-natural causes of death. A proportion of 11,4% (refer to Table 4.3) of all deaths that occurred in 2019 were due to external causes of morbidity and mortality. It is observed that the majority of non-natural causes of death resulted from other external causes of accidental injury (67,2%). In terms of all deaths, other external causes of accidental injury accounted for 8,3%.

Assault was the second most common non-natural cause of death and accounted for 13,3% of non-natural causes and 1,6% of all reported deaths. The third most common cause of non-natural deaths was transport accidents at 11,3% and constituting 1,4% of all deaths, followed by event of undetermined intent (5,3%) and complications of medical and surgical care (2,0%). About 1% of non-natural deaths were due to intentional self-harm and 0,1% were due to sequelae of external causes of morbidity and mortality.

Table 4.11- Distribution of non-natural causes of death by broad groups, 2019

Causes of death (based on ICD-10, 1992)	Number	Percentage of non-natural causes (%)	Percentage of all causes (%) (N = 461 006)
Other external causes of accidental injury (W00_X59)	38 434	67,2	8,3
Assault (X85_Y09)	7 596	13,3	1,6
Transport accidents (V01_V99)	6 435	11,3	1,4
Event of undetermined intent (Y10_Y34)	3 028	5,3	0,7
Complications of medical and surgical care (Y40_Y84)	1 159	2,0	0,3
Intentional self-harm (X60_X84)	431	0,8	0,1
Sequelae of external causes of morbidity and mortality (Y85_Y89)	76	0,1	0,0
Legal intervention and operations of war (Y35_Y36)	3	0,0	0
All non-natural	**57 162**	**100,0**	

A breakdown of the 38 434 deaths due to *other external causes of accidental injury* identified in Table 4.11 are shown in Table 4.12. It provides a further breakdown of deaths due to *other external causes of accidental injury* for a better understanding of deaths due to this cause, which comprised nearly two-thirds of all non-natural deaths. The table shows that almost half of these deaths were due to accidental exposure to other and unspecified factors. This includes exposure to unspecified factor causing fracture and exposure to other unspecified factors.

The majority of deaths in this group were *accidental exposure to other and unspecified factors* (47,7%). This was followed by deaths due to *exposure to inanimate mechanical forces* which were the second leading cause, responsible for 21,9% of deaths in this group. This group includes discharge from other and unspecified firearms as well as contact with knife or sword. The third most common cause was *other accidental threats to breathing* (14,2%), which includes accidental hanging and strangulation. The fourth most reported death due to other external causes of accidental injury was *exposure to smoke, fire and flames* (6,8%), followed by *accidental drowning and submersion* (3,9%).

Table 4.12- Distribution of deaths due to other external causes of accidental injury, 2019

Cause of death (based on ICD-10)	Number	Percentage (%)
Accidental exposure to other and unspecified factors (X58-X59)	18 228	47,4
Exposure to inanimate mechanical forces (W20-W49)	8 418	21,9
Other accidental threats to breathing (W75-W84)	5 464	14,2
Exposure to smoke, fire and flames (X00-X09)	2 625	6,8
Accidental drowning and submersion (W65-W74)	1 505	3,9
Accidental poisoning by and exposure to noxious substance (X40-X49)	1 134	3,0
Exposure to electric current, radiation and extreme ambient air temperature and pressure (W85-W99)	470	1,2
Exposure to forces of nature (X30-X39)	269	0,7
Falls (W00-W19)	216	0,6
Contact with venomous animals and plants (X20-X29)	46	0,1
Exposure to animate mechanical forces (W50-W64)	35	0,1
Contact with heat and hot substances (X10-X19)	13	0,0
Overexertion, travel and privation (X50-X59)	11	0,0
Total	**38 434**	**100,0**

4.7.1 Non-natural causes of death by age and sex

This subsection looks at the distribution of non-natural causes of death by sex and broad age groups (0, 1–14, 15–29, 30–44, 45–64 and 65+). For international comparison, age group 15–44 has been divided into two age groups (15–29 and 30–44) as recommended by the WHO (1992).

Table 4.13 shows the distribution of non-natural causes of death by sex and broad age groups (0, 1–14, 15–29, 30–44, 45–64 and 65 and older) for deaths that occurred in 2019. The absolute numbers and percentages for both sexes may not be similar to the results presented in Table 4.11, as deaths with missing sex and age have been excluded.

The first section of Table 4.13 showing both sexes indicates that for both sexes, the age group mostly affected by non-natural causes of death was age group 15–29, where 45,9% of all deaths in this age group were due to non-natural causes. The age group least affected by non-natural causes for both sexes was 65 years and older, where just 2,9% of deaths in this age group were due to non-natural causes. Assault was more common among those aged 15–29, accounting for 19,5% of non-natural deaths in this age group. Complications of medical and surgical care were highest amongst the elderly (10,1%).

Differentials by sex show higher proportions of non-natural deaths for males at 18,2% compared to 5,8% of female non-natural deaths. Moreover, for each of the age groups, males had higher proportions

of deaths due to non-natural causes compared to females, with the gap much wider at age group 15–29 where as much as 60,4% of male deaths resulted from non-natural cause compared to 21,1% of females in the same age group. This is the only age group where the proportion of non-natural deaths is more than that of natural deaths for males.

Comparison between male and female deaths due to non-natural causes show that the proportion of deaths due to assault were high for males (15,1%) compared to females (7,2%). For both sexes, non-natural deaths due to complications of medical and surgical care were higher at infancy (those aged less than a year) as well as among the elderly (those aged 65 years and older). This cause of death was also high amongst females, with the proportion of female deaths due to complications of medical and surgical care at 4,6% compared to 1,3% for males.

The proportion of non-natural deaths due to transport accidents were higher amongst females (12,8%) compared to males (10,9%). For each of the sexes, intentional self-harm and sequelae of external causes of morbidity and mortality were uncommon, each comprising less than 2% of deaths for each sex.

For all age groups, other external cause of accidental injury was the highest non-natural cause of death, followed by event of undetermined intent in these age groups. However, these broad groups do not give valuable information as they cover non-natural deaths not adequately classified.

Table 4.13- Underlying non-natural causes of death by age group and sex, 2019

Causes of death based on ICD-10	Number							Percentage						
	0	1–14	15–29	30–44	45–64	65+	Total	0	1–14	15–29	30–44	45–64	65+	Total
	0	1-14	15-29	30-44	45-64	65+	Total	0	1-14	15-29	30-44	45-64	65+	
Both sexes														
V01_V99	37	521	1 828	2 282	1 343	422	6 433	4,6	14,7	10,0	12,1	12,9	8,1	11,3
W00_X59	698	2 644	11 623	12 515	7 145	3 790	38 415	87,0	74,6	63,5	66,3	68,4	73,2	67,2
X60_X84	0	17	162	153	70	29	431	0,0	0,5	0,9	0,8	0,7	0,6	0,8
X85_Y09	17	83	3 575	2 813	899	208	7 595	2,1	2,3	19,5	14,9	8,6	4,0	13,3
Y10_Y34	30	247	1 024	961	590	176	3 028	3,7	7,0	5,6	5,1	5,6	3,4	5,3
Y35_Y36	0	1	0	1	1	0	3	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Y40_Y84	20	28	73	135	380	523	1 159	2,5	0,8	0,4	0,7	3,6	10,1	2,0
Y85_Y89	0	1	6	17	21	31	76	0,0	0,0	0,0	0,1	0,2	0,6	0,1
Subtotal	**802**	**3 542**	**18 291**	**18 877**	**10 449**	**5 179**	**57 140**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**
Non-natural causes	**802**	**3 542**	**18 291**	**18 877**	**10 449**	**5 179**	**57 140**	**3,8**	**29,5**	**45,9**	**23,4**	**8,0**	**2,9**	**12,4**
Natural causes	**20 575**	**8 453**	**21 527**	**61 830**	**119 611**	**171 796**	**403 792**	**96,2**	**70,5**	**54,1**	**76,6**	**92,0**	**97,1**	**87,6**
All causes	**21 377**	**11 995**	**39 818**	**80 707**	**130 060**	**176 975**	**460 932**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**
Male														
V01_V99	18	319	1 390	1 776	996	268	4 767	4,5	14,6	9,2	11,4	12,6	9,5	10,9
W00_X59	348	1 660	9 573	10 405	5 474	2 067	29 527	87,2	76,1	63,6	66,8	69,5	73,3	67,2
X60_X84	0	10	127	132	51	22	342	0,0	0,5	0,8	0,8	0,6	0,8	0,8
X85_Y09	10	57	3 251	2 464	723	123	6 628	2,5	2,6	21,6	15,8	9,2	4,4	15,1
Y10_Y34	13	118	667	727	408	88	2 021	3,3	5,4	4,4	4,7	5,2	3,1	4,6
Y35_Y36	0	0	0	1	0	0	1	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Y40_Y84	10	17	42	62	205	238	574	2,5	0,8	0,3	0,4	2,6	8,4	1,3
Y85_Y89	0	1	5	12	17	13	48	0,0	0,0	0,0	0,1	0,2	0,5	0,1
Subtotal	**399**	**2 182**	**15 055**	**15 579**	**7 874**	**2 819**	**43 908**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**
Non-natural causes	**399**	**2 182**	**15 055**	**15 579**	**7 874**	**2 819**	**43 908**	**3,5**	**32,9**	**60,4**	**32,5**	**10,6**	**3,7**	**18,2**
Natural causes	**10 874**	**4 458**	**9 874**	**32 428**	**66 653**	**73 614**	**197 901**	**96,5**	**67,1**	**39,6**	**67,5**	**89,4**	**96,3**	**81,8**
All causes	**11 273**	**6 640**	**24 929**	**48 007**	**74 527**	**76 433**	**241 809**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**
Female														
V01_V99	19	201	428	489	341	154	1 632	4,9	15,0	13,8	15,8	13,9	6,6	12,8
W00_X59	334	967	1 950	1 964	1 573	1 703	8 491	86,8	72,4	63,0	63,5	64,0	72,8	66,8
X60_X84	0	7	35	21	19	6	88	0,0	0,5	1,1	0,7	0,8	0,3	0,7
X85_Y09	7	26	304	322	170	85	914	1,8	1,9	9,8	10,4	6,9	3,6	7,2
Y10_Y34	16	123	346	224	178	88	975	4,2	9,2	11,2	7,2	7,2	3,8	7,7
Y35_Y36	0	1	0	0	1	0	2	0,0	0,1	0,0	0,0	0,0	0,0	0,0
Y40_Y84	9	11	31	72	173	285	581	2,3	0,8	1,0	2,3	7,0	12,2	4,6
Y85_Y89	0	0	1	3	4	18	26	0,0	0,0	0,0	0,1	0,2	0,8	0,2
Subtotal	**385**	**1 336**	**3 095**	**3 095**	**2 459**	**2 339**	**12 709**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**
Non-natural causes	**385**	**1 336**	**3 095**	**3 095**	**2 459**	**2 339**	**12 709**	**4,0**	**25,3**	**21,1**	**9,6**	**4,5**	**2,3**	**5,8**
Natural causes	**9 308**	**3 946**	**11 540**	**29 072**	**52 698**	**98 018**	**204 582**	**96,0**	**74,7**	**78,9**	**90,4**	**95,5**	**97,7**	**94,2**
All causes	**9 693**	**5 282**	**14 635**	**32 167**	**55 157**	**100 357**	**217 291**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**

4.7.2 Non-natural causes of death by province of death occurrence

The distribution of the underlying non-natural causes of death by province of death occurrence for 2019 is shown in Table 4.14. It is observed that KwaZulu-Natal (14,0%) is the province with the highest proportion of deaths due to non-natural causes; this is consistent with previous years. Western Cape has the second highest proportion of deaths due to non-natural causes at 13,6%, followed by Gauteng at 13,1%. Eastern Cape was the fourth with 12,8% while Mpumalanga ranked fifth at 12,4%. The lowest proportions of deaths due to non-natural causes were observed in North West (9,7%) and Limpopo (9,4%).

The most common cause of non-natural deaths in all provinces were *other external causes of accidental injury* where more than half of non-natural deaths resulted from this broad group in each province, except for Northern Cape (40,1%). The proportion of deaths due to *other external causes of accidental injury* was highest in Gauteng (76,7%) and Mpumalanga (74,4%). Western Cape (20,5%) had the highest proportion of deaths due to assault, followed by Northern Cape (19,7%) and Eastern Cape at 19,6%. Deaths due to assault were lowest in Limpopo (8,8%) and Mpumalanga (7,4%).

Deaths due to transport accidents were highest in Limpopo, responsible for 29,9% of deaths, followed closely by Northern Cape at 28,4%. Traditionally, Limpopo has always had the highest proportion of transport accidents in South Africa compared to the rest of the other provinces. The same can be said about assault in the Western Cape, which has generally been higher than the rest of the other provinces.

Intentional self-harm and sequelae of external causes of morbidity and mortality were least common, each affecting about 5% or less of non-natural deaths in each province, except for Northern Cape where 5,5% of non-natural deaths were due to intentional self-harm. Complications of medical and surgical care were least common, comprising less than 5% of non-natural deaths in all the provinces.

4.7.3 Non-natural causes of death by district municipalities

The proportion of deaths due to non-natural causes of death for each district is provided in appendices O to O2. Non-natural causes of death are in the column labelled external causes of morbidity and mortality (V01-Y98). Information at lower geographic levels is provided in appendices.

Table 4.14- Underlying non-natural causes of death by province, 2019

Causes of death (based on ICD-10)	Western Cape		Eastern Cape		Northern Cape		Free State		KwaZulu-Natal		North West		Gauteng		Mpumalanga		Limpopo	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Transport accidents (V01_V99)	502	7,2	948	10,4	407	28,4	286	8,6	1 567	12,8	580	20,0	395	3,1	455	11,7	1 273	29,9
Other external causes of accidental injury (W00_X59)	4 618	66,2	5 745	63,1	574	40,1	2 216	66,4	8 372	68,6	1 695	58,4	9 859	76,7	2 896	74,4	2 316	54,4
Intentional self-harm (X60_X84)	37	0,5	61	0,7	79	5,5	17	0,5	104	0,9	24	0,8	60	0,5	028	0,7	21	0,5
Assault (X85_Y09)	1 433	20,5	1 787	19,6	282	19,7	519	15,5	1 476	12,1	363	12,5	1 054	8,2	289	7,4	376	8,8
Event of undetermined intent (Y10_Y34)	203	2,9	446	4,9	58	4,0	236	7,1	493	4,0	185	6,4	1 021	7,9	188	4,8	186	4,4
Legal intervention and operations of war (Y35_Y36)	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	0	0,0	2	0,0	0	0,0	0	0,0
Complications of medical and surgical care (Y40_Y84)	166	2,4	108	1,2	29	2,0	60	1,8	188	1,5	53	1,8	433	3,4	37	0,9	78	1,8
Sequelae of external causes of morbidity and mortality (Y85_Y89)	15	0,2	5	0,1	4	0,3	4	0,1	9	0,1	3	0,1	28	0,2	2	0,1	5	0,1
Subtotal	**6 974**	**100,0**	**9 100**	**100,0**	**1 433**	**100,0**	**3 338**	**100,0**	**12 209**	**100,0**	**2 903**	**100,0**	**12 852**	**100,0**	**3 895**	**100,0**	**4 255**	**100,0**
Non-natural causes	6 974	13,6	9 100	12,8	1 433	10,2	3 338	10,7	12 209	14,0	2 903	9,7	12 852	13,1	3 895	12,4	4 255	9,4
Natural causes	44 337	86,4	62 226	87,2	12 575	89,8	27 726	89,3	75 082	86,0	27 174	90,3	85 375	86,9	27 488	87,6	40 904	90,6
Total	**51 311**	**100,0**	**71 326**	**100,0**	**14 008**	**100,0**	**31 064**	**100,0**	**87 291**	**100,0**	**30 077**	**100,0**	**98 227**	**100,0**	**31 383**	**100,0**	**45 159**	**100,0**

4.8 Comparison between immediate, contributing and underlying causes of death

This subsection provides information on the total number of causes of death reported on each form. As previously mentioned in section 4.2, the death notification form provides for the recording of multiple causes of death. Section G of both death notification forms (BI-1663 and DHA-1663) makes provision for several causes to be reported on the form (see Appendix B). A maximum number of six causes can be recorded on the death notification form. These causes are recorded as immediate, contributing or underlying causes of death (see definitions in Appendix A).

Table 4.15 aggregates the total number of causes mentioned on each form and groups these in broad groups of causes of death. The broad groups of causes of death were then ranked, and the 20 leading causes based on all causes of death recorded on each form. The list includes all causes of death both natural and non-natural, as well as deaths due to symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified to indicate the frequency of mentioning any cause on the death notification form.

In 2019, the most frequently reported cause of death was *other forms of heart disease* and was recorded on 66 633 death notification forms. In terms of percentage distribution, about 14,5% of all death notification forms had *other forms of heart disease* recorded as either an immediate, contributing or underlying cause of death. The second most reported cause *was ill-defined and unknown causes of mortality* for 60 877 (13,2%) deaths. *Hypertensive diseases* was the third most reported cause of death (12,8%), mentioned on 59 124 forms. *Influenza and pneumonia* (8,9%) and *other external causes of accidental injury* (8,8%) were the fourth and fifth most reported cause, respectively.

Table 4.15- Distribution of the 20 most commonly reported causes of death, 2019

Rank	Causes of death (based on ICD-10)	Number of deaths in which the causes was reported	Percentage of all deaths (%)
1	Other forms of heart disease (I30-I52)	66 633	14,5
2	Ill-defined and unknown causes of mortality (R95-R99)	60 877	13,2
3	Hypertensive diseases (I10-I15)	59 124	12,8
4	Influenza and pneumonia (J09-J18)	41 248	8,9
5	Other external causes of accidental injury (W00-X59)	40 680	8,8
6	Tuberculosis (A15-A19)*	39 394	8,5
7	Renal failure (N17-N19)	37 204	8,1
8	Cerebrovascular diseases (I60-I69)	34 813	7,6
9	Diabetes mellitus (E10-E14)	32 451	7,0
10	Other bacterial diseases (A30-A49)	27 455	6,0
11	Other viral diseases (B25-B34)	24 427	5,3
12	Human immunodeficiency virus [HIV] disease (B20-B24)	23 149	5,0
13	Ischaemic heart diseases (I20-I25)	20 049	4,3
14	Chronic lower respiratory diseases (J40-J47)	19 336	4,2
15	Metabolic disorders (E70-E90)	16 130	3,5
16	Other diseases of the respiratory system (J95-J99)	16 068	3,5
17	Malignant neoplasm of ill-defined, secondary and unspecified sites (C76-C80)	15 408	3,3
18	Intestinal infectious diseases (A00-A09)	13 468	2,9
19	Malignant neoplasm of digestive organs (C15-C26)	11 676	2,5
20	Other acute lower respiratory infections (J20-J22)	10 760	2,3

All the natural underlying causes of death that appeared among the ten leading causes of death also appeared among the twenty-five most commonly mentioned causes. The ten leading underlying natural causes of death shown in Table 4.5 are presented in Table 4.16 to show the breakdown of the number of deaths by whether the death was selected as the underlying cause or whether it was reported as the immediate or contributing cause.

Within each category, the counts of underlying causes and immediate or contributing causes are not duplicated, so that they can be summed up to equal the total number of times a specific cause of death was recorded on a death notification form. For example, 23 133 deaths had *cerebrovascular diseases* as the underlying cause and another 11 680 deaths had it as an immediate or contributing cause. This gives a total of 34 813 death notification forms that had *cerebrovascular diseases* mentioned on them. The table shows that in over 80% of deaths where *HIV disease* (95,2%) and *diabetes mellitus* (80,7%) were mentioned, they were selected as underlying causes. In less than half of the cases where *influenza and pneumonia* (41,9%), *other forms of heart disease* (23,6%) and *hypertensive diseases* (34,7%) were mentioned, they were selected as the underlying causes.

Table 4.136- Number and percentage of deaths selected as underlying or reported as immediate or contributing causes of death, 2019

Causes of death (ICD-10)	Under-lying rank	Number of deaths			Percentage of any mention		
		Underlying	Immediate or contributing	Total recorded	Underlying	Immediate or contributing	Total recorded
Diabetes mellitus (E10_E14)	1	26 191	6 260	**32 451**	80,7	19,3	**100,0**
Tuberculosis (A15_A19)	2	25 262	14 132	**39 394**	64,1	35,9	**100,0**
Cerebrovascular diseases (I60_I69)	3	23 133	11 680	**34 813**	66,4	33,6	**100,0**
Human immunodeficiency virus [HIV] disease (B20_B24)	4	22 039	1 110	**23 149**	95,2	4,8	**100,0**
Hypertensive diseases (I10_I15)	5	20 492	38 632	**59 124**	34,7	65,3	**100,0**
Influenza and pneumonia (J09_J18)	6	17 294	23 954	**41 248**	41,9	58,1	**100,0**
Ischaemic heart diseases (I20_I25)	7	15 904	4 145	**20 049**	79,3	20,7	**100,0**
Other forms of heart disease (I30_I52)	8	15 741	50 892	**66 633**	23,6	76,4	**100,0**
Other viral diseases (B25_B34)	9	13 171	11 256	**24 427**	53,9	46,1	**100,0**
Chronic lower respiratory diseases (J40_J47)	10	12 309	7 027	**19 336**	63,7	36,3	**100,0**

5. Conclusion

This statistical release provided information on deaths that occurred for 2019 and prior years in South Africa based on data from the death notification forms, DHA-1663 presented to the Department of Home Affairs (DHA) for registration purposes. Analyses included levels, trends and patterns in mortality and causes of deaths by demographic and geographic characteristics. The release further presented information on leading underlying natural causes of death, patterns and trends in natural and non-natural underlying causes of death. Deaths for the years 1998 to 2018 were also included to provide information on trends.

The total number of deaths that occurred and were registered at the Department of Home Affairs and processed by Stats SA in 2019 were 461 006. The 454 014 deaths which were published in the 2018 report have been updated with 15 467 deaths that were registered and processed in the years 2021/2023.

The highest number of deaths that occurred in 2019 were among those aged 65–69 (8,5%) years, while the lowest number was observed among those aged 5–9 and 10–14 years, 0,6% and 0,7%, respectively. Overall, there were more male deaths than female deaths in 2019 from infancy until age 65–69, after which there were more female than male deaths.

The results have shown that the trends observed previously where over 80,0% of all deaths comprised natural causes was maintained, albeit with a declining trend. As seen in previous years, deaths due to non-natural causes were highest amongst young males, peaking at ages 20–24 with 66,3% young males falling victim to non-natural causes of death. The other noticeable trend was the continued decline in the proportion of deaths due to communicable diseases (30,0%) and an increase in non-communicable diseases (57,8%).

Trends between 2017 to 2019 show that eight of the ten leading natural underlying causes of death were the same since 2017. *Diabetes mellitus* was the leading cause of death in 2019, surpassing *tuberculosis* which was the leading cause of death in 2017 and 2018. Although *diabetes mellitus* ranked first, the proportion of deaths due to this cause declined to 5,7% in 2019 from 5,9% in 2018. Generally, there was an increase in the proportion of deaths due to non-communicable diseases; these were *diabetes mellitus, cerebrovascular diseases, hypertensive diseases*, *ischaemic heart diseases*, *other forms of heart disease, chronic lower respiratory diseases* and *malignant neoplasms of digestive organs.* For females the top three leading underlying causes of deaths were due to non-communicable diseases, while for males they were due to communicable diseases. The leading underlying natural cause of death amongst females was *diabetes mellitus* (responsible for 7,5% of deaths) while *tuberculosis* was the first leading underlying natural cause of death for males, accounting for 6,5% of deaths. *Tuberculosis* was the fifth leading underlying natural cause for females, while *diabetes mellitus* maintained the fourth position among males since 2017–2019.

Consistent with previous years, *influenza and pneumonia* was the only underlying cause of death common among the five broad age groups. *Tuberculosis* and *other forms of heart diseases* were part

of the ten underlying causes of death in all age groups, except for infants, while *intestinal infectious diseases* were among the ten leading underlying causes of death for children, accounting for 6,0% of infant deaths and 5,5% of deaths to children aged 1–14 years. Furthermore, *malnutrition* accounted for 2,4% of infant deaths and 2,6% of deaths to children aged 1–14 years. The leading underlying cause of death for infants (age 0) was *respiratory and cardiovascular disorders specific to the perinatal period*, responsible for 13,2% of deaths. *Influenza and pneumonia* was the leading underlying cause of death for age group 1–14 years, accounting for 6,4% of deaths while *human immunodeficiency virus (HIV)*, and *tuberculosis* was the leading underlying cause of death among those aged 15–44 and 45–64, at 10,4% and 6,0% respectively. *Diabetes mellitus* was the leading cause of death for those aged 65 and older at 8,9%.

Except for those dying during the neonatal period, *other natural causes* was the number one leading underlying cause of death for all childhood age groups. The top three leading underlying causes of death for neonates accounted for more than 50% of deaths among this group.

Respiratory and cardiovascular disorders specific to the perinatal period was the leading underlying cause of death among neonates and those aged less than 1 year. It was responsible for more than a quarter of neonatal deaths (27,6%) and 13,2% of deaths for those aged less than 1 year. The leading underlying cause of death for post-neonatal deaths was *influenza and pneumonia* with 12,6% of deaths.

Western Cape had the highest number of deaths due to non-communicable diseases, with eight out of the ten leading underlying causes of death being non-communicable diseases. Gauteng, Northern Cape, KwaZulu-Natal, North West, Eastern Cape, and Free State had six of the ten leading underlying causes of death being non-communicable diseases. *Diabetes mellitus* was the leading underlying cause of death in KwaZulu-Natal*,* Gauteng and Limpopo whilst *tuberculosis* was the leading underlying cause of death in the Eastern Cape, North West and Mpumalanga. *Ischaemic heart diseases* were the leading underlying cause of death in the Western Cape. In the Free State and Northern Cape, *HIV disease* was the leading underlying cause of death. *Ischaemic heart diseases* were the leading underlying cause of death only in the Western Cape.

As expected, males had a higher proportion of deaths attributed to non-natural causes at 18,2% compared to females at 5,8%. Males aged 15–29 years remained the group most burdened by deaths due to non-natural causes (60,4%) compared to females (21,1%) in the same age group. Assault remained the most prevalent cause of non-natural death among those aged 15–29, accounting for 21,6%, down from 23,6% in 2018 of deaths in this age group. *Complications of medical and surgical care* were highest amongst females. About 12% of deaths were due to *complications of medical and surgical care* for females aged 65 years and older, compared to just above 8% of deaths for males in the same age group.

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Appendices

Appendix A: Glossary

Causes of death are all those diseases, morbid conditions, or injuries that either resulted in or contributed to death, and the circumstances of the accident or violence which produced any such injuries.

Contributing causes of death are morbid conditions, if any, giving rise to the immediate cause of death.

Death is a permanent disappearance of all evidence of life at any time after a *live birth* has taken place.

Human immunodeficiency virus **(HIV)** is the pathogenic organism responsible for the acquired immunodeficiency syndrome (AIDS), also known as the lymphadenopathy virus (LAV).

Immediate cause of death is the disease or condition directly leading to death.

Leading underlying causes of death are the most frequent underlying causes of death in any given population. In this release, the underlying causes of death are ranked according to frequency.

Live birth in relation to a child, means the birth of a child born alive.

Multiple causes of death are all morbid conditions, diseases and injuries entered on the death certificate. These include those involved in the morbid train of events leading to the death which were classified as either the underlying cause, the intermediate cause, or any intervening cause and those conditions which contributed to death but were not related to the disease or condition causing death.

Neonatal death is the death of a live-born child during the first 28 completed days of life.

Perinatal deaths are a combination of stillbirths and infants who die in the first week after birth (early neonatal deaths).

Post-neonatal death is a live-born infant dying after 28 completed days of birth but before the first year of life is completed.

Population group: According to the Population Registration Act Repeal Act (Act No. 114 of 1991), the South African Population Register no longer stores information regarding the population group of individuals whose details are on the register. This Repeal Act is still in place; therefore, the population group used in this report refers to the population group as identified by the certifying physician/professional nurse on the death notification form and is only used for statistical purposes.

Stillbirth is the intra-uterine death of a foetus of at least 26 weeks of gestation that showed no sign of life after complete birth.

Underlying cause of death (previously known as primary cause is the disease or injury that initiated the sequence of events leading directly to death; or the circumstances of the accident or violence which produced the fatal injury.

Appendix B: Death Notification form

Please refer to the Mortality and causes of death in South Africa: Findings from death notification, 2016 on pages 59–64 for copies of both the BI–1663 and DHA–1663 forms (Stats SA, 2018).

Appendix C: Assessment of the quality of data

The gold standard in mortality statistics is to have real-time data on the number of deaths and corresponding medically certified causes of death (WHO, 2013). However, such information need to be of the highest quality in terms of completeness and timeliness of death registration and publication of death statistics. Also critical is the accuracy of information provided which must be embedded with correct information on characteristics of deceased, accurate causes of deaths and lower proportions of deaths with ill-defined or unspecified causes of deaths. Part of the process includes data quality confrontation undertaken to check for improvements in mortality statistics.

In previous years, as part of data quality assessment, data confrontation was undertaken with other data sources, primarily, mortality data in the National Population Register data (NPR). However, in the mortality and causes of death 2019 statistical release this process was not undertaken as was case in previous publications. This was attributable to Stats SA not having access to mortality data captured in the national population register at DHA. As a result, the section dealing with comparison of the two datasets in order to assess coherency is excluded. It is envisaged that in forthcoming publications the assessment will be performed.

Completeness of death registration

Completeness of death registration refers to the extent to which deaths occurring in a population in a given year are registered in the civil registration system. Two indirect demographic techniques, namely the General Growth Balance method (GGB) (Hill, 1987) and the Synthetic Extinct Generations method (SEG) (Bennett and Horiuchi, 1981 and 1984) were used for estimating the completeness of adult deaths (15 years and older). The output from the GGB was used as input in the estimation process in the SEG (as recommended by Bennett and Horiuchi, 1981) to obtain consistent estimates by age. To date, estimation of completeness has been done for four intercensal/survey periods: 1996–2001 (89%), 2001–2007 (93%), 2007–2011 (94%) and 2011–2016 (96%). For this current publication the latest estimates (2011–2016) are adopted. Overall, the completeness of adult death registration has improved over the years. In the 2011–2016 intercensal/survey period completeness level for male adult deaths was estimated at 97% whereas for females it was slightly lower (95%). Estimates for child deaths (0–14 years) will be made available when appropriate methods of estimation have been established.

Timeliness of death registration

The Regulations for the Registration of Births and Deaths in South Africa mandates that deaths should be registered within 72 hours (three days) of occurrence (Republic of South Africa, 2014). Accordingly, timeliness of death registration in this publication is calculated as the number of days it took to register a death from the date of occurrence to the date of registration. Table C.1 shows the distribution of the 2019 death occurrences by the number of days it took to register the deaths.

The table shows that 78,6% of the deaths in 2019 were registered within the period stipulated in the regulations. Among these deaths, 16,6% were registered within a day of occurrence, increasing to 47,6% by the first day, 65,9% by the second day and 78,6% by the third day. The vast majority of deaths (92,6%) were registered within the first week in which they occurred, and by the end of the first month 98,1% of the deaths were registered. While 21,3% of the deaths were registered later than the mandated time period, at least they were registered within a year of death occurrence and reached Stats SA in time for the production of the statistical release. Concerted efforts are needed for the improvement in the adherence to the legislative framework and for the reduction of deaths that do not reach Stats SA in time for the production of the statistical release.

Table C1- Distribution of deaths by the number of days it took to register the death, 2019

Number of days	Number of deaths	Percentage (%)	Cumulative percentage (%)
Within a day of death	76 709	16,6	16,6
1 day	142 068	30,8	47,5
2 days	83 790	18,2	65,6
3 days	59 111	12,8	78,5
4 days	33 671	7,3	85,8
5 days	19 307	4,2	89,9
6 days	11 351	2,5	92,4
7 -13 days	21 226	4,6	97,0
14-20 days	3 001	0,7	97,7
21-30 days	1 927	0,4	98,1
31-364 days	8 482	1,8	99,9
1 year+	363	0,1	100,0
Total	**461 006**	**100,0**	

Timeliness of publication of statistics

Table C.2 presents information on the timeliness of published statistics, focussing on the number of deaths published in the 2018 statistical release and the additional delayed or late registrations received during the 2021/2023 processing phase for the years 1998 to 2018. According to the United Nations (UN) recommendation, for civil registration mortality statistics to be considered timely they ought to be published and disseminated before one-year from the end of the year of death occurrence (UN, 2014). This statistical release fell short of this recommendation as it is published 37 months after the end of 2019. Since civil registration deaths are continuously updated, the proportion of total registrations that are delayed or late provide an estimate of under-reporting in previous time periods.

Table C.2 shows the number of deaths published in the 2019 mortality and causes of death report for the years 1998 to 2018, and late or delayed death registrations processed during the processing of deaths registered in 2019. The table shows that 16 636 additional death notification forms for deaths that occurred between 1998 and 2018 were processed during the 2021/2023 processing phase. In general, years closer to the reference period have higher additional death notification forms, which in principle means that deaths become more complete over time. The majority [15 467 (50,3%)] of the additional forms were for deaths that occurred in 2018, followed by 8 539 (27,8%) deaths that occurred in 2017. Appendices D (1998−1999), D1 (2000−2002), D2 (2003−2005), D3 (2006−2008), D4 (2009−2011), D5 (2012−2014), D6 (2015−2017) and D7 (2018−2019) present the number distribution of the deaths by age, sex and year of death over the period 1998−2019 where years before 2019 have been updated with late or delayed registrations and processed during the 2021/2023 processing phase.

Table C2- Number of deaths published in December 2019 and late registrations processed during the 2021/2023 processing phase by year of death, 1998–2018

Year of death	Number of deaths published in December 2018	Additional forms received in the 2021/23 processing phase	Total number of deaths (December 2019)
1998	366 711	38	366 749
1999	382 762	62	382 824
2000	417 411	83	417 494
2001	456 484	71	456 555
2002	503 592	80	503 672
2003	558 679	70	558 749
2004	578 646	70	578 716
2005	599 854	68	599 922
2006	614 412	73	614 485
2007	606 459	69	606 528
2008	598 490	67	598 557
2009	584 273	80	584 353
2010	551 820	523	552 343
2011	517 935	913	518 848
2012	495 536	637	496 173
2013	477 462	583	478 045
2014	477 484	987	478 471
2015	474 175	1 293	475 468
2016	470 395	910	471 305
2017	446 544	8 539	455 083
2018	454 014	15 467	469 481
Total	**10 951 123**	**30 747**	**10 981 870**

Data confrontation

As previously stated in the section **Appendix C: Assessment of the quality of data**, this section was excluded in the 2019 statistical release.

Quality of causes of death information

Causes of death are fundamental to the understanding of population health and are key to the measurement of various health indicators. However, the usefulness of the data depends entirely on the quality of reporting. Symptoms and modes of dying, such as fever, chest pain, respiratory failure, heart failure (stopped breathing) and cardiac arrest are not considered to be causes of death for vital statistics purposes. Instead, underlying causes of death which are the diseases or conditions that initiated these symptoms and modes of dying are the ones that indicate diagnoses that are robust, and therefore have sufficient details to be of value for public health purposes. This is due to the understanding that the

symptoms and modes of dying occur due to a precipitating underlying cause. The ill-defined causes do not provide conclusive information on the underlying cause and as such, are of no value to evidence-based public health monitoring and interventions. For example, if heart failure is recorded as the cause of death, it is classified as an ill-defined garbage code as it does not give enough information to select the actual underlying cause. This is because heart failure as a mode of dying can result from a wide range of underlying causes such as stab injury, postpartum haemorrhage, poisoning, ischemic heart disease and other diseases, injuries or conditions (WHO, 2013).

Table C.3 provides the assessment of the quality of causes of death data based on the number and percentage distribution of ill-defined causes of death by sex of the deceased. The results show a total of 121 092 deceased with ill-defined causes, with males accounting for 57 110 (47,2%) of the ill-defined deaths compared to 63 982 (52,8%) for females. For both sexes, *symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99)* accounted for 59,9% of all ill-defined underlying causes of death. Males had 61,3% of deaths classified as *symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified* whilst females had 58,8%. The *symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified* are cases where, for example, the medical practitioner wrote the cause of death as *natural cause.* Ill-defined causes due to *essential (primary) hypertension (I10)* featured as the second highest ill-defined cause of death at 10,2%.

Table C3- Number of ill-defined causes of death by sex, 2019*

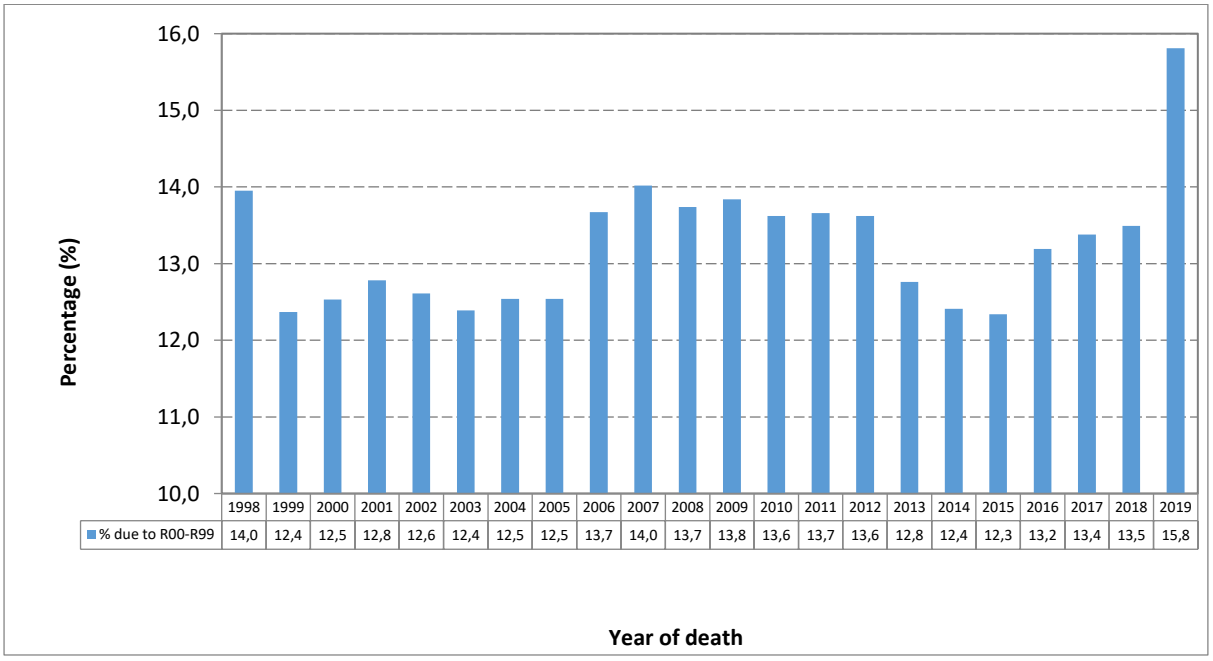
Underlying cause of death (based in ICD-10)	Number			Percentage (%)		
	Male	Female	Both sexes	Male	Female	Both sexes
Streptococcal septicaemia (A40)	2	3	5	0,0	0,0	0,0
Other septicaemia (A41)	2 789	3 465	6 254	4,9	5,4	5,2
Malignant neoplasm of other and ill-defined sites (C76)	196	448	644	0,3	0,7	0,5
Malignant neoplasm without specification of site (C80)	1 799	1 897	3 696	3,2	3,0	3,1
Disseminated intravascular coagulation [defibrination syndrome] (D65)	44	64	108	0,1	0,1	0,1
Volume depletion (E86)	744	812	1 556	1,3	1,3	1,3
Essential (primary) hypertension (I10)	4 651	7 744	12 395	8,1	12,1	10,2
Cardiac arrest (I46)	15	28	43	0,0	0,0	0,0
Heart failure (I50)	3 979	5 263	9 242	7,0	8,2	7,6
Complications and ill-defined descriptions of heart disease (I51)	552	554	1 106	1,0	0,9	0,9
Other and unspecified disorders of circulatory system (I99)	28	39	67	0,0	0,1	0,1
Pulmonary oedema (J81)	140	162	302	0,2	0,3	0,2
Respiratory failure, not elsewhere classified (J96)	855	773	1 628	1,5	1,2	1,3
Acute renal failure (N17)	510	541	1 051	0,9	0,8	0,9
Chronic renal failure (N18)	1 466	1 399	2 865	2,6	2,2	2,4
Unspecified renal failure (N19)	2 330	2 223	4 553	4,1	3,5	3,8
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99)	34 989	37 592	72 581	61,3	58,8	59,9
Event of undetermined intent (Y10-Y34)	2 021	975	2 996	3,5	1,5	2,5
Total of ill-defined	**57 110**	**63 982**	**121 092**	**100,0**	**100,0**	**100,0**

*Excluding deaths with unspecified sex.

Due to the high proportion of ill-defined causes of death attributed to *symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified*, it therefore becomes essential to further analyse this category to identify trends over time. Figure C.2 presents the percentage distribution of deaths attributed to *symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified* over the period from 1998−2019. Overall, the proportions ranged between 12,4% and 15,8% over the period. The highest percentage of 15,8% was recorded in 2019 while the lowest (12,3%) was recorded in 2015.

These figures continue to fall short of the 10,0% stipulated by WHO as the minimum threshold for ill-defined deaths and is indicative of regressing improvements in the reporting of causes of deaths. It is worth noting that while the observed deterioration may be real, there is also a growing issue of death notification forms that are sealed with glue such that when they are opened for capturing at Stats SA they have already been spoiled by the glue and the causes of death information is no longer legible.

Figure C2- Percentage distribution of deaths assigned to symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified and year of death, 1998–2019*



Assessment framework for death registration data

For the purpose of this release, the framework by Mahapatra *et al*. (2007) is used to evaluate the quality of the 2019 deaths data from the South African civil registration system. This framework identified five quality assurance dimensions, namely: level of accuracy, relevance, comparability, timeliness and accessibility.

Table C.4 shows information on the proportion of missing information as indicated by the unknown or unspecified information for selected socio-demographic variables. Overall, the table gives an indication of the level of accuracy. The 'unknown' cases refer to cases where the 'unknown' option was selected on the death notification form, or where more than one option was selected, as well as in cases where information could not be classified according to specified categories. 'Unspecified' cases refer to missing information for that variable.

In 2019, less than 1,0% of deaths had missing information on sex of deceased (0,4%) and age of deceased (0,1%). Missing information on province of usual residence of the deceased was 2,0%. These three variables have generally been well reported over time.

Missing information for marital status was missing in 18,6% of the cases. Incomplete information for population group was 13,2% in 2019. In 2019, occupation (78,3%), industry (74,0%), and pregnancy status (79,2%) remained the three variables with more than half of information unknown or unspecified. Four variables, namely place or institution of death occurrence (28,4%), method used to ascertain cause of death (34,4%), smoking status (32,9%), and education (42,5%) had high missing information above 20,0% but below 50,0%.

In this publication, no analyses were undertaken on all variables with over half of the information classified as missing, including the education variable with 42,5% missing information. However, these variables are also published by Stats SA on the dataset containing unit records on mortality and causes of death.

Table C.5 shows, for accuracy, the indicators for completeness of death registration and percentage of missing information for key variables. Using deaths from the civil registration, the death registration completeness level for adults aged 15 years and older was estimated at 95,0% for the 2011−2016 intercensal/survey. The death data from the civil registration is regarded as complete in terms of the relevance and comparability of mortality and causes of death statistics indicators.

The data is relevant as it is routinely tabulated by sex and 5-year age groups and the information is provided for the nine provinces and 52 district municipalities in the country. The data also meets the comparability quality assurance dimension as the ICD-10, which is recommended for international comparability, was used for coding causes of death. The tools used in coding causes of death for 2019

were similar to those used in previous years. Accordingly, the data are comparable within the country and at the international level.

For the accuracy dimension in the cause-of-deaths statistics category 49,0% of the deaths occurred within a health care facility in 2019. This percentage is a proxy for the percentage of deaths whose causes are more likely to be detailed enough for the underlying cause to be derived. While less than 50,0% of the deaths occurred in a health care facility, it is still good that all deaths in South Africa are mandated to be certified by medical practitioners. According to Mahapatra et al. (2007) no more than 10% of deaths should be assigned to *symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified* categories. The 2019 data shows that 13,4% of all deaths were assigned to ill-defined causes. This is a shortfall of 3,4% from the recommended threshold. Improvements are needed in the reduction of ill-defined causes of death.

The timeliness of the 2019 statistical release is not within the expected time frame of one-year lapse from end of the reference period. The time from end of the reference period to publication was 36 months while the capturing and coding of the data took 24 months. Table C5 further shows that there is wide accessibility to the statistical release and data sets on mortality and causes of death. The data published on this statistical release can be accessed in a wide range of formats from the Stats SA website and through the Stats SA User Information Services.

Table C4- Percentage of deaths classified as unknown/unspecified for selected variables, 2019

Variables	Applicable group	Percentage unknown or Unspecified (%)
Sex	All	0,4
Age	All	0,1
Province of death occurrence	All	0,3
Province of usual residence of deceased	All	2,0
Province of birth	All	26,8
Population group	All	13,2
Place or institution of death occurrence	All	28,4
Method used to ascertain cause of death	All	34,4
Marital status	All	18,6
Smoking status	Aged 16 and older	32,9
Education	Aged 6 and older	42,5
Occupation	Aged 15 and older	78,3
Industry	Aged 15 and older (economically active)	74,9
Pregnancy status	Females aged 10–55	79,2

Table C5- Assessment of the 2019 South African death statistics from civil registration system using the framework proposed by Mahapatra et al. (2007)

General vital statistics		Cause-of-death statistics	
Criteria and indicators	**Measure**	**Criteria and indicators**	**Measure**
Accuracy		**Accuracy**	
Completeness of death registration	96%	Proportion of deaths that occurred in healthcare facilities	43,9%
Missing data		Proportion of deaths assigned to symptoms and signs of disease not elsewhere classified	15,8%
See Table 2.5			
Relevance		**Relevance**	
Routine tabulations by sex and 5-year age groups	100%	Routine tabulation by sex and 5-year age groups	100%
Deaths in children under five years tabulated by 0 and 1–4-year age group	100%	Number of cause-of-death tabulation areas	9 provinces and 52 district municipalities
Comparability		**Comparability**	
Stability of key definitions over time	100%	Consistency of cause specific mortality proportions over consecutive years	100%
Uniformity of definitions across areas	100%	ICD coding for certification and coding of causes of death, revision used and code level to which tabulations are published	Coding causes of death using the tenth revision at 4/5-digit level
Timeliness			
Processing time	36 months		
Mean time from end of reference period to publication	12 months		
Accessibility			
Media - number of formats in which data are released	Two: website and compact discs		
Metadata	Published on the web and with compact disc and available on request		
Availability of user service	Email: info@statssa.gov.za / Tel: 012 310 8600 / Fax 012 310 8500 / 8495		

Appendix D- Number of deaths by age, sex and year of death, 1998–1999

Age	1998				1999			
	Male	Female	Unspecified	Total	Male	Female	Unspecified	Total
0	14 934	13 264	314	**28 512**	14 741	13 462	438	**28 641**
1-4	4 865	4 492	96	**9 453**	5 073	4 642	98	**9 813**
5-9	1 780	1 438	36	**3 254**	1 902	1 512	34	**3 448**
10-14	1 697	1 288	23	**3 008**	1 651	1 306	23	**2 980**
15-19	4 111	2 915	63	**7 089**	4 356	3 337	89	**7 782**
20-24	8 802	6 936	113	**15 851**	8 656	8 316	108	**17 080**
25-29	13 101	9 904	113	**23 118**	13 914	12 687	142	**26 743**
30-34	14 401	9 765	130	**24 296**	16 330	12 321	122	**28 773**
35-39	14 647	8 964	99	**23 710**	16 494	10 862	111	**27 467**
40-44	13 980	7 959	95	**22 034**	15 252	8 958	92	**24 302**
45-49	14 231	7 704	91	**22 026**	15 022	8 552	103	**23 677**
50-54	13 039	7 230	79	**20 348**	13 920	7 781	81	**21 782**
55-59	13 971	8 893	108	**22 972**	14 102	8 700	85	**22 887**
60-64	12 454	10 008	60	**22 522**	12 711	10 062	85	**22 858**
65-69	13 270	12 468	85	**25 823**	12 855	12 325	92	**25 272**
70-74	12 753	11 805	53	**24 611**	12 873	12 262	71	**25 206**
75-79	11 438	12 488	87	**24 013**	10 711	11 593	63	**22 367**
80-84	7 888	11 048	49	**18 985**	7 610	11 325	73	**19 008**
85-89	4 262	7 808	35	**12 105**	4 453	7 947	53	**12 453**
90+	2 364	5 568	29	**7 961**	2 211	5 385	30	**7 626**
Unspecified	2 822	2 102	196	**5 120**	1 493	1 112	114	**2 719**
Total	**200 810**	**164 047**	**1 954**	**366 811**	**206 330**	**174 447**	**2 107**	**382 884**

Appendix D1- Number of deaths by age, sex and year of death, 2000–2002

Age	Year of death											
	2000				2001				2002			
	Male	Female	Unspecified	Total	Male	Female	Unspecified	Total	Male	Female	Unspecified	Total
0	15 023	13 539	353	**28 915**	15 498	14 083	307	**29 888**	17 899	16 223	341	**34 463**
1-4	5 392	4 937	86	**10 415**	5 899	5 316	78	**11 293**	6 328	5 704	87	**12 119**
5-9	1 999	1 600	29	**3 628**	2 127	1 710	29	**3 866**	2 406	1 966	17	**4 389**
10-14	1 725	1 340	36	**3 101**	1 753	1 472	22	**3 247**	1 872	1 490	24	**3 386**
15-19	4 323	3 498	73	**7 894**	4 484	3 922	63	**8 469**	4 743	4 299	60	**9 102**
20-24	8 892	9 932	88	**18 912**	8 956	10 994	87	**20 037**	9 588	12 546	112	**22 246**
25-29	15 111	15 793	108	**31 012**	16 893	19 384	115	**36 392**	18 675	23 427	137	**42 239**
30-34	18 536	15 872	115	**34 523**	20 960	18 812	112	**39 884**	23 944	23 617	155	**47 716**
35-39	18 594	13 667	99	**32 360**	21 151	15 927	101	**37 179**	24 147	19 523	129	**43 799**
40-44	17 197	11 069	85	**28 351**	19 414	12 935	98	**32 447**	21 653	15 557	118	**37 328**
45-49	16 165	9 596	80	**25 841**	17 984	10 974	64	**29 022**	19 345	12 708	113	**32 166**
50-54	15 330	9 124	67	**24 521**	16 959	10 180	74	**27 213**	18 674	11 275	103	**30 052**
55-59	13 988	8 886	76	**22 950**	14 624	9 145	66	**23 835**	15 454	10 032	72	**25 558**
60-64	14 281	11 271	70	**25 622**	15 152	12 086	69	**27 307**	16 223	12 725	82	**29 030**
65-69	12 614	12 078	53	**24 745**	13 044	12 827	65	**25 936**	13 771	13 301	65	**27 137**
70-74	13 138	14 158	68	**27 364**	14 080	15 150	60	**29 290**	13 817	15 489	62	**29 368**
75-79	10 360	11 549	48	**21 957**	10 873	12 061	61	**22 995**	11 116	12 844	72	**24 032**
80-84	8 498	12 649	32	**21 179**	9 174	13 933	47	**23 154**	9 558	14 209	60	**23 827**
85-89	4 683	8 234	27	**12 944**	4 587	8 374	31	**12 992**	4 381	8 320	34	**12 735**
90+	2 532	6 535	31	**9 098**	3 027	7 168	28	**10 223**	3 296	7 670	33	**10 999**
Unspecified	1 192	897	147	**2 236**	1 054	792	101	**1 947**	1 139	791	117	**2 047**
Total	**219 573**	**196 224**	**1 771**	**417 568**	**237 693**	**217 245**	**1 678**	**456 616**	**258 029**	**243 716**	**1 993**	**503 738**

Appendix D2- Number of deaths by age, sex and year of death, 2003–2005

Age	Year of death											
	2003				2004				2005			
	Male	Female	Unspecified	Total	Male	Female	Unspecified	Total	Male	Female	Unspecified	Total
0	19 980	18 070	435	**38 485**	21 811	19 230	533	**41 574**	24 099	21 982	476	**46 557**
1-4	7 160	6 297	79	**13 536**	8 285	7 647	72	**16 004**	8 246	7 338	80	**15 664**
5-9	2 783	2 210	28	**5 021**	3 193	2 805	13	**6 011**	3 371	2 808	21	**6 200**
10-14	2 004	1 645	25	**3 674**	2 142	1 781	14	**3 937**	2 153	1 862	17	**4 032**
15-19	4 845	4 572	70	**9 487**	4 691	4 629	42	**9 362**	4 781	4 557	53	**9 391**
20-24	10 362	14 237	106	**24 705**	10 387	15 141	78	**25 606**	10 504	14 933	91	**25 528**
25-29	20 071	26 340	155	**46 566**	19 847	27 660	114	**47 621**	19 352	27 344	111	**46 807**
30-34	27 561	28 234	145	**55 940**	28 512	30 735	82	**59 329**	28 852	31 364	109	**60 325**
35-39	26 496	22 738	115	**49 349**	28 276	25 237	89	**53 602**	29 466	26 334	101	**55 901**
40-44	24 811	18 488	125	**43 424**	26 542	20 627	70	**47 239**	27 528	21 525	87	**49 140**
45-49	22 107	14 512	91	**36 710**	23 149	16 296	70	**39 515**	24 498	17 425	81	**42 004**
50-54	20 653	12 909	68	**33 630**	21 162	14 124	47	**35 333**	21 556	14 995	59	**36 610**
55-59	17 244	11 007	49	**28 300**	18 106	12 045	33	**30 184**	19 749	13 329	47	**33 125**
60-64	17 432	13 326	58	**30 816**	16 999	13 419	31	**30 449**	16 873	13 263	34	**30 170**
65-69	14 691	13 898	53	**28 642**	15 233	13 818	26	**29 077**	16 391	15 206	38	**31 635**
70-74	14 495	16 403	58	**30 956**	13 460	15 438	26	**28 924**	12 921	15 098	35	**28 054**
75-79	12 085	14 135	56	**26 276**	11 825	14 093	16	**25 934**	12 237	15 937	35	**28 209**
80-84	9 462	13 710	39	**23 211**	8 656	11 970	21	**20 647**	8 449	11 851	21	**20 321**
85-89	5 440	10 206	37	**15 683**	5 043	9 480	19	**14 542**	5 457	10 354	17	**15 828**
90+	3 382	8 160	18	**11 560**	3 292	7 484	14	**10 790**	3 292	7 889	15	**11 196**
Unspecified	1 683	960	215	**2 858**	1 937	931	246	**3 114**	1 979	1 084	226	**3 289**
Total	**284 747**	**272 057**	**2 025**	**558 829**	**292 548**	**284 590**	**1 656**	**578 794**	**301 754**	**296 478**	**1 754**	**599 986**

Appendix D3- Number of deaths by age, sex and year of death, 2006–2008

Age	Year of death											
	2006				2007				2008			
	Male	Female	Unspecified	Total	Male	Female	Unspecified	Total	Male	Female	Unspecified	Total
0	25 561	22 154	726	**48 441**	24 921	21 760	415	**47 096**	24 181	21 484	301	**45 966**
1-4	8 410	7 606	118	**16 134**	7 861	7 070	47	**14 978**	8 248	7 233	31	**15 512**
5-9	3 034	2 555	17	**5 606**	2 885	2 510	4	**5 399**	2 746	2 312	7	**5 065**
10-14	2 388	1 921	15	**4 324**	2 253	1 913	2	**4 168**	2 238	1 895	2	**4 135**
15-19	4 855	4 609	39	**9 503**	4 901	4 228	16	**9 145**	4 872	4 149	27	**9 048**
20-24	10 883	14 854	100	**25 837**	10 955	13 825	53	**24 833**	10 757	12 977	45	**23 779**
25-29	19 044	26 262	86	**45 392**	18 573	24 695	72	**43 340**	18 534	23 671	48	**42 253**
30-34	28 931	31 119	95	**60 145**	28 476	29 269	69	**57 814**	26 929	27 418	57	**54 404**
35-39	29 545	26 186	80	**55 811**	29 511	24 988	50	**54 549**	29 252	24 518	48	**53 818**
40-44	28 179	21 928	79	**50 186**	27 202	21 310	49	**48 561**	26 210	20 332	31	**46 573**
45-49	25 209	18 005	45	**43 259**	24 975	17 988	43	**43 006**	24 935	17 655	31	**42 621**
50-54	22 848	15 646	42	**38 536**	22 988	15 701	17	**38 706**	22 863	15 640	21	**38 524**
55-59	20 696	14 207	42	**34 945**	21 504	14 674	24	**36 202**	21 703	15 016	22	**36 741**
60-64	17 092	13 363	27	**30 482**	17 545	13 523	11	**31 079**	17 823	13 965	17	**31 805**
65-69	17 781	15 839	25	**33 645**	18 015	15 887	9	**33 911**	18 133	15 668	12	**33 813**
70-74	13 613	15 618	28	**29 259**	13 864	15 884	8	**29 756**	14 208	15 371	2	**29 581**
75-79	12 750	17 036	25	**29 811**	12 624	17 112	4	**29 740**	12 630	17 258	4	**29 892**
80-84	8 962	12 359	21	**21 342**	8 930	12 953	4	**21 887**	9 072	13 901	2	**22 975**
85-89	6 158	12 040	12	**18 210**	6 377	12 231	2	**18 610**	6 009	11 234	1	**17 244**
90+	3 568	8 723	9	**12 300**	3 689	8 802	12	**12 503**	4 003	9 582	27	**13 612**
Unspecified	871	358	147	**1 376**	840	350	113	**1 303**	814	279	166	**1 259**
Total	**310 378**	**302 388**	**1 778**	**614 544**	**308 889**	**296 673**	**1 024**	**606 586**	**306 160**	**291 558**	**902**	**598 620**

Appendix D4- Number of deaths by age, sex and year of death, 2009–2011

Age	Year of death											
	2009				2010				2011			
	Male	Female	Unspecified	Total	Male	Female	Unspecified	Total	Male	Female	Unspecified	Total
0	21 121	17 820	467	**39 408**	18 393	16 174	386	**34 953**	15 085	13 383	510	**28 978**
1-4	6 705	6 127	31	**12 863**	7 071	6 144	44	**13 259**	5 371	4 808	47	**10 226**
5-9	2 375	2 051	6	**4 432**	2 575	2 132	5	**4 712**	2 386	2 060	9	**4 455**
10-14	2 396	2 077	4	**4 477**	2 456	2 136	3	**4 595**	2 113	1 821	6	**3 940**
15-19	4 681	4 157	25	**8 863**	4 444	3 988	18	**8 450**	4 168	3 592	25	**7 785**
20-24	10 025	11 881	56	**21 962**	9 479	10 764	37	**20 280**	8 684	8 987	84	**17 755**
25-29	17 811	21 791	72	**39 674**	16 568	19 587	64	**36 219**	15 099	16 294	153	**31 546**
30-34	25 090	24 292	81	**49 463**	22 512	21 532	74	**44 118**	19 811	17 961	145	**37 917**
35-39	27 761	22 469	59	**50 289**	24 878	20 476	52	**45 406**	22 673	17 635	116	**40 424**
40-44	25 239	19 257	55	**44 551**	23 431	17 732	47	**41 210**	21 103	15 636	100	**36 839**
45-49	24 415	17 416	47	**41 878**	23 015	16 447	58	**39 520**	21 153	15 064	67	**36 284**
50-54	22 911	15 642	40	**38 593**	22 090	15 297	33	**37 420**	21 308	14 517	74	**35 899**
55-59	21 859	15 168	29	**37 056**	21 039	14 393	34	**35 466**	20 581	14 377	54	**35 012**
60-64	19 272	14 439	21	**33 732**	20 167	14 868	30	**35 065**	20 593	15 132	61	**35 786**
65-69	18 273	15 769	16	**34 058**	17 351	14 656	21	**32 028**	17 131	14 402	26	**31 559**
70-74	15 209	15 998	17	**31 224**	15 895	16 766	15	**32 676**	16 667	16 993	22	**33 682**
75-79	12 772	17 838	9	**30 619**	11 813	16 188	8	**28 009**	11 797	16 621	18	**28 436**
80-84	9 815	15 176	9	**25 000**	9 962	16 271	11	**26 244**	10 038	16 858	15	**26 911**
85-89	6 171	11 256	2	**17 429**	5 787	10 531	5	**16 323**	6 036	11 248	13	**17 297**
90+	5 260	11 691	1	**16 952**	4 095	10 760	10	**14 865**	4 409	11 471	7	**15 887**
Unspecified	1 285	393	213	**1 891**	1 009	265	326	**1 600**	1 300	594	597	**2 491**
Total	**300 446**	**282 708**	**1 260**	**584 414**	**284 030**	**267 107**	**1 281**	**552 418**	**267 506**	**249 454**	**2 149**	**519 109**

Appendix D5- Number of deaths by age, sex and year of death, 2012–2014

	Year of death												
	2012				2013				2014				
Age	Male	Female	Unspeci-fied	Total	Male	Female	Unspecified	Total	Male	Female	Undeter-minable	Unspecified	Total
0	14 385	12 382	528	**27 295**	14 072	12 316	519	**26 907**	14 208	12 228	0	541	**26 977**
1-4	5 650	5 017	49	**10 716**	5 017	4 358	67	**9 442**	4 796	4 106	0	64	**8 966**
5-9	2 681	2 262	7	**4 950**	1 947	1 602	12	**3 561**	1 876	1 444	0	10	**3 330**
10-14	2 264	1 913	4	**4 181**	1 862	1 541	6	**3 409**	1 818	1 439	0	8	**3 265**
15-19	4 138	3 439	20	**7 597**	4 256	3 115	31	**7 402**	4 224	3 165	0	21	**7 410**
20-24	8 494	7 889	86	**16 469**	8 469	7 117	70	**15 656**	8 514	6 287	0	80	**14 881**
25-29	14 713	14 327	126	**29 166**	13 768	12 375	140	**26 283**	13 258	11 103	0	176	**24 537**
30-34	18 240	16 235	157	**34 632**	17 501	14 488	154	**32 143**	17 395	13 804	0	171	**31 370**
35-39	20 837	15 813	119	**36 769**	19 057	14 084	134	**33 275**	18 058	13 149	0	156	**31 363**
40-44	19 880	14 172	96	**34 148**	19 148	13 442	117	**32 707**	18 560	12 818	0	114	**31 492**
45-49	19 408	13 760	87	**33 255**	18 370	13 036	79	**31 485**	17 863	12 659	1	78	**30 601**
50-54	20 017	13 832	73	**33 922**	19 417	13 516	75	**33 008**	19 465	13 529	0	73	**33 067**
55-59	20 130	13 608	52	**33 790**	19 563	13 567	53	**33 183**	19 714	14 014	0	62	**33 790**
60-64	20 316	14 529	30	**34 875**	20 482	14 798	50	**35 330**	21 142	15 553	0	42	**36 737**
65-69	17 131	13 983	24	**31 138**	16 932	14 190	33	**31 155**	18 460	15 180	0	22	**33 662**
70-74	16 343	16 487	15	**32 845**	16 396	16 603	19	**33 018**	16 240	16 805	0	17	**33 062**
75-79	12 103	16 426	18	**28 547**	12 397	16 084	24	**28 505**	13 027	16 621	0	21	**29 669**
80-84	10 038	16 826	11	**26 875**	9 760	16 882	17	**26 659**	9 767	17 248	0	18	**27 033**
85-89	5 826	11 195	11	**17 032**	6 038	11 929	13	**17 980**	6 541	13 108	0	10	**19 659**
90+	4 326	11 072	8	**15 406**	4 172	11 044	12	**15 228**	4 340	11 913	0	4	**16 257**
Unspecified	1 498	737	658	**2 893**	1 023	427	484	**1 934**	798	239	0	452	**1 489**
Total	**258 418**	**235 904**	**2 179**	**496 501**	**249 647**	**226 514**	**2 109**	**478 270**	**250 064**	**226 412**	**1**	**2 140**	**478 617**

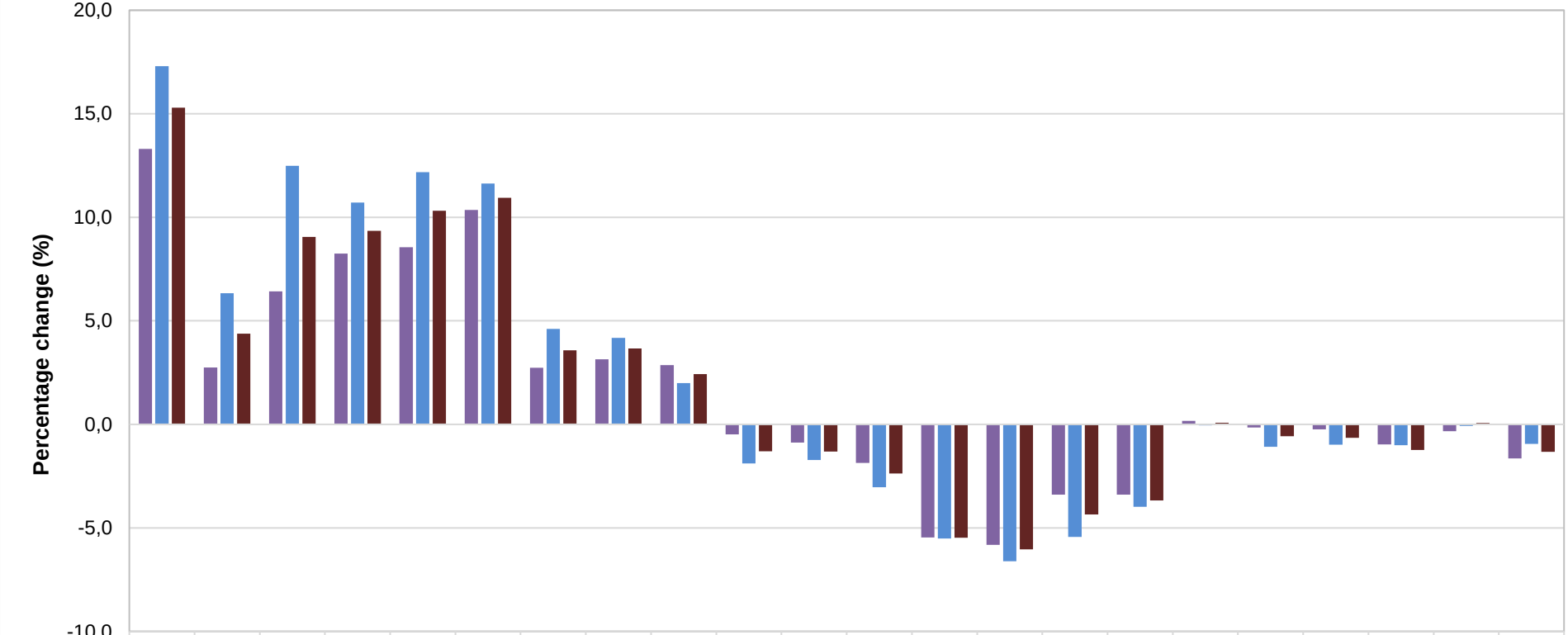
Appendix D6- Number of deaths by age, sex and year of death, 2015–2017

Age	Year of death													
	2015				2016					2017				
	Male	Female	Unspecified	Total	Male	Female	Undeterminable	Unspecified	Total	Male	Female	Undeterminable	Unspecified	Total
0	13 102	11 497	600	**25 199**	11 739	9 873	1	417	**22 030**	11 249	9 634	3	99	**20 985**
1-4	4 249	3 671	44	**7 964**	3 817	3 408	0	43	**7 268**	3 332	2 988	1	11	**6 332**
5-9	1 834	1 384	10	**3 228**	1 740	1 339	0	6	**3 085**	1 568	1 156	0	1	**2 725**
10-14	1 769	1 413	9	**3 191**	1 830	1 344	0	4	**3 178**	1 738	1 281	0	2	**3 021**
15-19	4 178	2 912	14	**7 104**	4 177	2 869	0	21	**7 067**	4 070	2 821	0	4	**6 895**
20-24	8 616	5 880	83	**14 579**	8 642	5 570	0	61	**14 273**	8 629	5 134	0	12	**13 775**
25-29	13 443	10 207	135	**23 785**	13 427	9 553	0	126	**23 106**	13 300	8 549	0	15	**21 864**
30-34	16 800	12 826	182	**29 808**	17 373	12 161	0	155	**29 689**	17 069	11 872	1	28	**28 970**
35-39	17 677	12 562	158	**30 397**	17 177	11 891	0	159	**29 227**	16 971	11 697	0	23	**28 691**
40-44	18 152	12 400	133	**30 685**	17 856	12 259	0	123	**30 238**	17 289	11 915	2	14	**29 220**
45-49	17 648	12 411	99	**30 158**	17 462	11 996	0	91	**29 549**	17 038	12 040	0	15	**29 093**
50-54	19 375	13 440	72	**32 887**	19 022	13 472	1	55	**32 550**	18 390	13 028	0	10	**31 428**
55-59	20 514	14 380	57	**34 951**	20 377	14 469	0	67	**34 913**	20 055	14 648	1	11	**34 715**
60-64	21 344	15 692	42	**37 078**	21 305	16 102	0	52	**37 459**	21 303	16 378	0	7	**37 688**
65-69	19 510	16 090	27	**35 627**	20 044	16 568	0	33	**36 645**	20 674	17 117	0	3	**37 794**
70-74	16 330	16 099	20	**32 449**	16 214	16 036	0	34	**32 284**	16 477	16 160	0	5	**32 642**
75-79	13 789	18 073	16	**31 878**	14 766	18 343	0	21	**33 130**	14 891	18 403	0	1	**33 295**
80-84	9 417	16 447	17	**25 881**	9 565	16 521	0	12	**26 098**	9 773	16 420	0	1	**26 194**
85-89	6 706	14 228	9	**20 943**	6 948	14 938	0	19	**21 905**	6 854	14 819	0	2	**21 675**
90+	4 378	12 118	13	**16 509**	4 655	12 805	0	15	**17 475**	4 885	13 228	0	3	**18 116**
Unspecified	850	235	467	**1 552**	959	251	0	363	**1 573**	1 132	240	0	389	**1 761**
Total	**249 681**	**223 965**	**2 207**	**475 853**	**249 095**	**221 768**	**2**	**1 877**	**472 742**	**246 687**	**219 528**	**8**	**656**	**466 879**

Appendix D7- Number of deaths by age, sex and year of death, 2018–2019

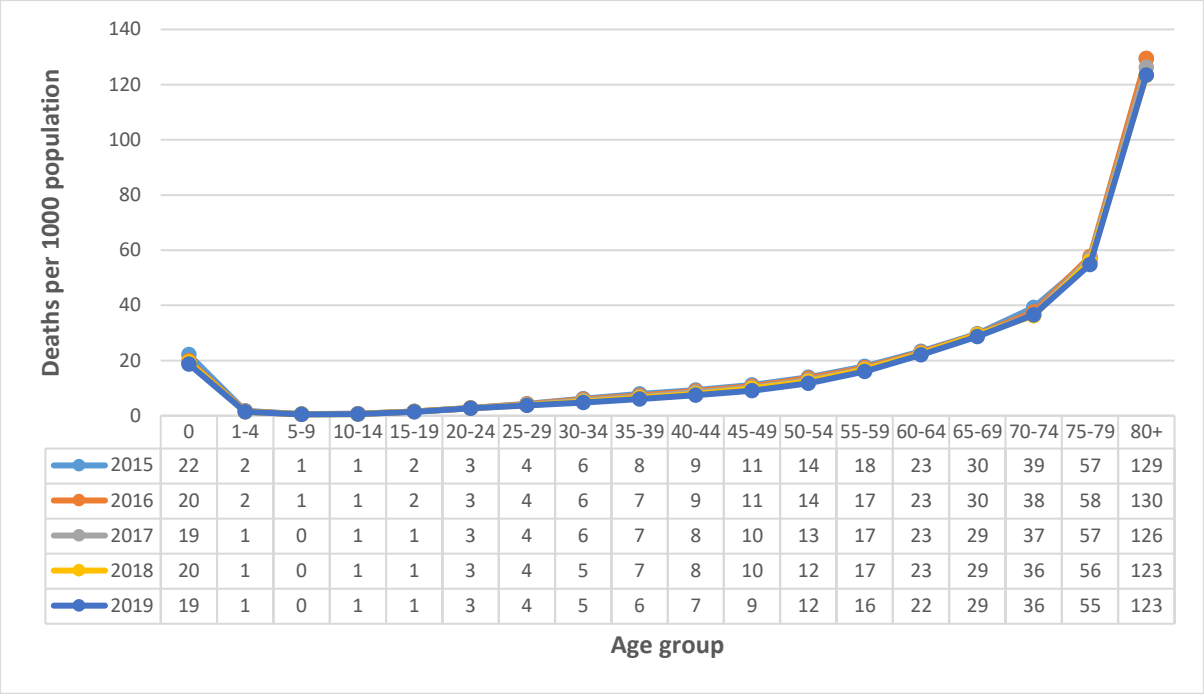
Age	Year of death									
	2018					2019				
	Male	Female	Undeterminable	Unspecified	Total	Male	Female	Undeterminable	Unspecified	Total
0	11 658	9 882	21	268	**21 829**	11 273	9 693	35	376	**21 377**
1-4	3 450	2 888	0	33	**6 371**	3 293	2 769	0	50	**6 112**
5-9	1 605	1 249	0	9	**2 863**	1 528	1 168	1	14	**2 711**
10-14	1 878	1 430	0	6	**3 314**	1 819	1 345	1	7	**3 172**
15-19	4 016	2 761	0	24	**6 801**	3 976	2 699	1	19	**6 695**
20-24	8 310	4 921	0	64	**13 295**	8 323	4 478	4	73	**12 878**
25-29	12 795	8 083	0	116	**20 994**	12 630	7 458	1	156	**20 245**
30-34	16 470	10 931	2	164	**27 567**	15 711	10 129	5	184	**26 029**
35-39	16 859	11 661	4	149	**28 673**	16 528	11 113	6	173	**27 820**
40-44	16 661	11 209	2	121	**27 993**	15 768	10 925	2	163	**26 858**
45-49	17 161	11 882	1	93	**29 137**	16 149	11 451	5	117	**27 722**
50-54	17 860	12 845	1	82	**30 788**	17 075	12 290	0	92	**29 457**
55-59	20 377	14 673	0	64	**35 114**	19 737	14 634	4	79	**34 454**
60-64	21 778	16 667	1	78	**38 524**	21 566	16 782	0	79	**38 427**
65-69	21 040	17 774	0	62	**38 876**	21 016	18 050	3	48	**39 117**
70-74	16 779	16 784	0	48	**33 611**	17 722	17 489	0	50	**35 261**
75-79	14 903	18 542	0	44	**33 489**	15 105	18 543	1	25	**33 674**
80-84	10 040	16 834	0	41	**26 915**	10 606	17 285	3	16	**27 910**
85-89	6 748	14 884	0	29	**21 661**	6 813	14 968	1	20	**21 802**
90+	4 695	13 319	0	21	**18 035**	5 171	14 022	1	17	**19 211**
Unspecified	796	157	1	376	**1 330**	36	19	0	19	**74**
Total	**245 879**	**219 376**	**33**	**1 892**	**467 180**	**241 845**	**217 310**	**74**	**1 777**	**461 006**

Appendix E- Year-to-year percentage changes in number of deaths by sex, 1997–2019



	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
Male	13,3	2,7	6,4	8,3	8,6	10,4	2,7	3,1	2,9	-0,5	-0,9	-1,9	-5,5	-5,8	-3,4	-3,4	0,2	-0,2	-0,2	-1,0	-0,3	-1,6
Female	17,3	6,3	12,5	10,7	12,2	11,6	4,6	4,2	2,0	-1,9	-1,7	-3,0	-5,5	-6,6	-5,4	-4,0	0,0	-1,1	-1,0	-1,0	-0,1	-0,9
Total	15,3	4,4	9,1	9,4	10,3	10,9	3,6	3,7	2,4	-1,3	-1,3	-2,4	-5,5	-6,0	-4,4	-3,7	0,1	-0,6	-0,7	-1,2	0,1	-1,3

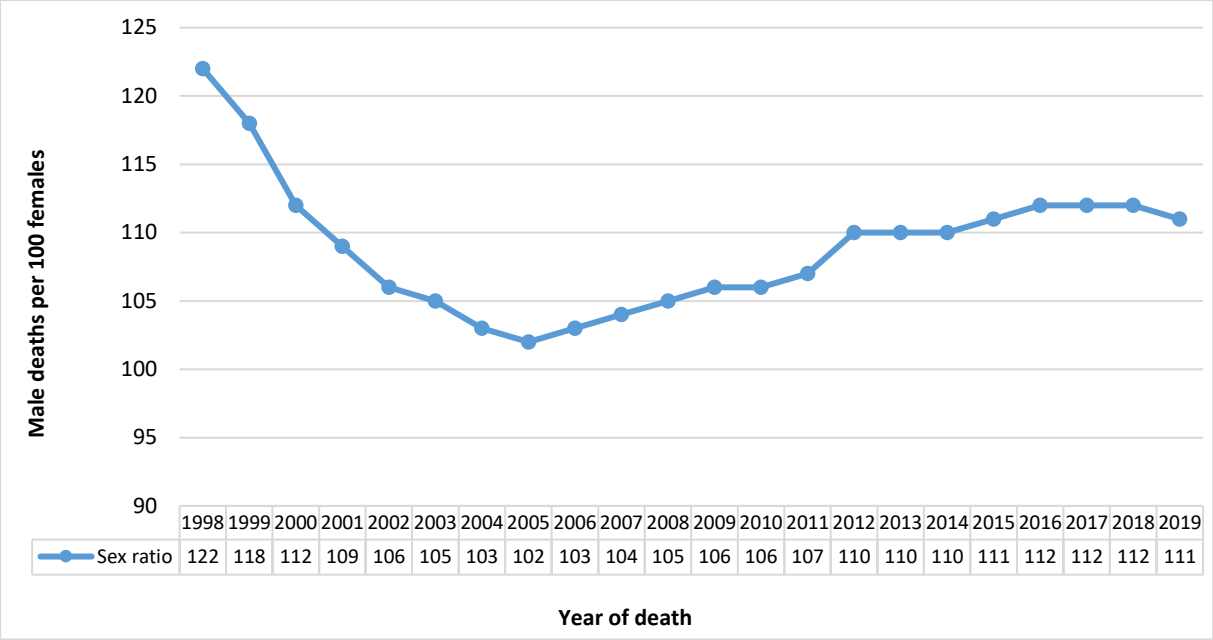
Appendix F- Age-specific death rates (ASDR) by year of death, 2015–2019*



	0	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80+
2015	22	2	1	1	2	3	4	6	8	9	11	14	18	23	30	39	57	129
2016	20	2	1	1	2	3	4	6	7	9	11	14	17	23	30	38	58	130
2017	19	1	0	1	1	3	4	6	7	8	10	13	17	23	29	37	57	126
2018	20	1	0	1	1	3	4	5	7	8	10	12	17	23	29	36	56	123
2019	19	1	0	1	1	3	4	5	6	7	9	12	16	22	29	36	55	123

*Data for 2015–2018 have been updated with late registrations/delayed death notification forms processed in 2021/23.

Appendix G- Sex ratios at death by year of death, 1998–2019



Appendix H- Number of deaths by province of death occurrence and province of usual residence of the deceased, 2019

Province of death	Western Cape	Eastern Cape	Northern Cape	Free State	KwaZulu-Natal	North West	Gauteng	Mpumalanga	Limpopo	Unknown/ unspecified	Total
Western Cape	47 241	1 135	163	69	877	54	338	299	315	754	**51 311**
Eastern Cape	1 008	67 103	117	142	799	62	1 088	428	151	356	**71 326**
Northern Cape	215	108	12 473	227	36	372	72	357	69	64	**14 008**
Free State	48	316	194	28 417	124	556	714	79	262	172	**31 064**
KwaZulu-Natal	309	1 691	27	144	81 644	98	1 734	594	182	741	**87 291**
North West	47	120	184	529	66	27 448	1 049	65	297	215	**30 077**
Gauteng	1 571	1 256	97	832	1 400	3 016	84 722	1 604	1 514	1 851	**98 227**
Mpumalanga	47	358	482	96	456	74	764	27 761	1 012	195	**31 383**
Limpopo	53	141	21	165	125	421	696	733	42 168	353	**45 159**
Unknown/unspecified	78	76	14	39	143	67	230	49	179	215	**1 160**
Total	**50 617**	**72 304**	**13 772**	**30 660**	**85 670**	**32 168**	**91 407**	**31 969**	**46 149**	**4 916**	**461 006**

Appendix H1- Percentage distribution of deaths by province of death occurrence and province of usual residence of the deceased, 2019

Province of death	Western Cape	Eastern Cape	Northern Cape	Free State	KwaZulu-Natal	North West	Gauteng	Mpumalanga	Limpopo	Unknown/ unspecified	Total
Western Cape	92,1	2,2	0,3	0,1	1,7	0,1	0,7	0,6	0,6	1,5	**100,0**
Eastern Cape	1,4	94,1	0,2	0,2	1,1	0,1	1,5	0,6	0,2	0,5	**100,0**
Northern Cape	1,5	0,8	89,0	1,6	0,3	2,7	0,5	2,5	0,5	0,5	**100,0**
Free State	0,2	1,0	0,6	91,5	0,4	1,8	2,3	0,3	0,8	0,6	**100,0**
KwaZulu-Natal	0,4	1,9	0,0	0,2	93,5	0,1	2,0	0,7	0,2	0,8	**100,0**
North West	0,2	0,4	0,6	1,8	0,2	91,3	3,5	0,2	1,0	0,7	**100,0**
Gauteng	1,6	1,3	0,1	0,8	1,4	3,1	86,3	1,6	1,5	1,9	**100,0**
Mpumalanga	0,1	1,1	1,5	0,3	1,5	0,2	2,4	88,5	3,2	0,6	**100,0**
Limpopo	0,1	0,3	0,0	0,4	0,3	0,9	1,5	1,6	93,4	0,8	**100,0**
Unknown/unspecified	6,7	6,6	1,2	3,4	12,3	5,8	19,8	4,2	15,4	18,5	**100,0**

Appendix I- Number of deaths by age, province and district municipality of death occurrence, 2019

Province of death occurrence	District municipality of death occurrence	Age						
		0	1-14	15-44	45-64	65+	Unspeci-fied	Total
Western Cape	Cape Winelands	183	61	1 165	1 884	2 217	1	**5 511**
	Central Karoo	4	.	25	47	65	0	**141**
	City of Cape Town	1 054	408	6 868	8 134	12 049	7	**28 520**
	Garden Route	37	18	280	545	685	1	**1 566**
	Overberg	58	27	312	561	925	0	**1 883**
	West Coast	96	38	701	1 217	1 577	0	**3 629**
	Unspecified	291	132	2 599	3 161	3 877	1	**10 061**
	Total	1 723	684	11 950	15 549	21 395	10	**51 311**
Eastern Cape	Alfred Nzo	173	215	1 501	1 256	2 151	0	**5 296**
	Amathole	191	173	1 888	2 192	3 836	1	**8 281**
	Buffalo City	225	152	2 059	2 641	3 387	1	**8 465**
	Chris Hani	251	172	2 097	2 483	3 658	1	**8 662**
	Joe Gqabi	167	83	783	917	1 293	0	**3 243**
	Nelson Mandela Bay	268	236	3 324	4 096	4 902	3	**12 829**
	O.R. Tambo	425	475	4 282	3 163	5 060	4	**13 409**
	Sarah Baartman	102	54	858	1 314	1 572	0	**3 900**
	Unspecified	192	195	2 040	2 027	2 786	1	**7 241**
	Total	1 994	1 755	18 832	20 089	28 645	11	**71 326**
Northern Cape	Frances Baard	263	119	1 216	1 518	1 707	0	**4 823**
	John Taolo Gaetsewe	196	87	660	670	693	0	**2 306**
	Namakwa	65	24	364	493	588	0	**1 534**
	Pixley ka Seme	109	42	512	795	673	0	**2 131**
	Z F Mgcawu	123	46	713	840	814	0	**2 536**
	Unspecified	22	9	177	245	224	1	**678**
	Total	778	327	3 642	4 561	4 699	1	**14 008**
Free State	Fezile Dabi	184	105	1 110	1 361	1 799	0	**4 559**
	Lejweleputswa	357	140	1 620	1 909	2 131	1	**6 158**
	Mangaung	431	187	2 128	2 705	3 298	2	**8 751**
	Thabo Mofutsanyane	550	230	2 159	2 544	2 893	2	**8 378**
	Xhariep	41	22	196	336	334	0	**929**
	Unspecified	128	53	601	676	830	1	**2 289**
	Total	1 691	737	7 814	9 531	11 285	6	**31 064**

Appendix I- Number of deaths by age, province and district municipality of death occurrence, 2019 (concluded)

Province of death occurrence	District municipality of death occurrence	Age						
		0	1-14	15-44	45-64	65+	Unspeci-fied	Total
KwaZulu-Natal	Amajuba	55	23	314	301	448	0	**1 141**
	Harry Gwala	170	124	1 188	1 096	1 522	1	**4 101**
	King Cetshwayo	318	191	1 885	1 672	2 020	1	**6 087**
	Ugu	235	159	2 011	1 938	3 106	0	**7 449**
	Umgungundlovu	329	186	2 492	2 546	3 712	1	**9 266**
	Umkhanyakude	153	99	773	706	1 087	0	**2 818**
	Umzinyathi	143	83	828	830	1 329	0	**3 213**
	Uthukela	284	200	1 607	1 549	1 992	1	**5 633**
	Zululand	206	133	1 138	953	1 485	1	**3 916**
	eThekwini	974	644	7 606	7 283	10 363	6	**26 876**
	iLembe	67	79	573	586	876	1	**2 182**
	Unspecified	697	462	4 327	3 706	5 417	0	**14 609**
	Total	3 631	2 383	24 742	23 166	33 357	12	**87 291**
North West	Bojanala	281	145	1 278	1 475	2 006	0	**5 185**
	Dr Kenneth Kaunda	335	186	1 707	2 245	2 554	0	**7 027**
	Dr Ruth Segomotsi Mompati	376	171	1 000	1 244	1 504	1	**4 296**
	Ngaka Modiri Molema	316	220	1 346	1 512	1 914	1	**5 309**
	Unspecified	634	253	2 149	2 457	2 767	0	**8 260**
	Total	1 942	975	7 480	8 933	10 745	2	**30 077**
Gauteng	City of Johannesburg	1 773	695	7 887	7 897	10 321	14	**28 587**
	City of Tshwane	1 206	534	5 721	6 774	10 658	4	**24 897**
	Ekurhuleni	1 024	407	4 311	4 588	5 894	2	**16 226**
	Sedibeng	441	227	2 495	2 961	3 863	1	**9 988**
	West Rand	182	85	1 105	1 263	1 515	0	**4 150**
	Unspecified	712	395	4 853	4 177	4 237	5	**14 379**
	Total	5 338	2 343	26 372	27 660	36 488	26	**98 227**
Mpumalanga	Ehlanzeni	404	390	3 034	2 875	3 928	0	**10 631**
	Gert Sibande	559	266	2 339	2 186	2 557	1	**7 908**
	Nkangala	305	222	1 788	1 956	2 559	0	**6 830**
	Unspecified	221	218	1 844	1 683	2 048	0	**6 014**
	Total	1 489	1 096	9 005	8 700	11 092	1	**31 383**
Limpopo	Capricorn	589	262	1 838	2 160	3 344	0	**8 193**
	Mopani	674	338	1 843	2 062	3 410	1	**8 328**
	Sekhukhune	352	258	1 638	1 971	3 180	0	**7 399**
	Vhembe	317	208	1 070	1 327	2 574	0	**5 496**
	Waterberg	256	133	1 101	1 262	1 934	2	**4 688**
	Unspecified	567	469	2 891	2 778	4 350	0	**11 055**
	Total	2 755	1 668	10 381	11 560	18 792	3	**45 159**

Appendix I1- Percentage distribution of deaths by age, province and district municipality of death occurrence, 2019

Province of death occurrence	District municipality of death occurrence	Age						
		0	1-14	15-44	45-64	65+	Unspeci-fied	Total
Western Cape	Cape Winelands	3,3	1,1	21,1	34,2	40,2	0,0	**100,0**
	Central Karoo	2,8	0,0	17,7	33,3	46,1	0,0	**100,0**
	City of Cape Town	3,7	1,4	24,1	28,5	42,2	0,0	**100,0**
	Garden Route	2,4	1,1	17,9	34,8	43,7	0,1	**100,0**
	Overberg	3,1	1,4	16,6	29,8	49,1	0,0	**100,0**
	West Coast	2,6	1,0	19,3	33,5	43,5	0,0	**100,0**
	Unspecified	2,9	1,3	25,8	31,4	38,5	0,0	**100,0**
	Total	**3,4**	**1,3**	**23,3**	**30,3**	**41,7**	**0,0**	100,0
Eastern Cape	Alfred Nzo	3,3	4,1	28,3	23,7	40,6	0,0	**100,0**
	Amathole	2,3	2,1	22,8	26,5	46,3	0,0	**100,0**
	Buffalo City	2,7	1,8	24,3	31,2	40,0	0,0	**100,0**
	Chris Hani	2,9	2,0	24,2	28,7	42,2	0,0	**100,0**
	Joe Gqabi	5,1	2,6	24,1	28,3	39,9	0,0	**100,0**
	Nelson Mandela Bay	2,1	1,8	25,9	31,9	38,2	0,0	**100,0**
	O.R. Tambo	3,2	3,5	31,9	23,6	37,7	0,0	**100,0**
	Sarah Baartman	2,6	1,4	22,0	33,7	40,3	0,0	**100,0**
	Unspecified	2,7	2,7	28,2	28,0	38,5	0,0	**100,0**
	Total	**2,8**	**2,5**	**26,4**	**28,2**	**40,2**	**0,0**	100,0
Northern Cape	Frances Baard	5,5	2,5	25,2	31,5	35,4	0,0	**100,0**
	John Taolo Gaetsewe	8,5	3,8	28,6	29,1	30,1	0,0	**100,0**
	Namakwa	4,2	1,6	23,7	32,1	38,3	0,0	**100,0**
	Pixley ka Seme	5,1	2,0	24,0	37,3	31,6	0,0	**100,0**
	Z F Mgcawu	4,9	1,8	28,1	33,1	32,1	0,0	**100,0**
	Unspecified	3,2	1,3	26,1	36,1	33,0	0,1	**100,0**
	Total	**5,6**	**2,3**	**26,0**	**32,6**	**33,5**	**0,0**	100,0
Free State	Fezile Dabi	4,0	2,3	24,3	29,9	39,5	0,0	**100,0**
	Lejweleputswa	5,8	2,3	26,3	31,0	34,6	0,0	**100,0**
	Mangaung	4,9	2,1	24,3	30,9	37,7	0,0	**100,0**
	Thabo Mofutsanyane	6,6	2,7	25,8	30,4	34,5	0,0	**100,0**
	Xhariep	4,4	2,4	21,1	36,2	36,0	0,0	**100,0**
	Unspecified	5,6	2,3	26,3	29,5	36,3	0,0	**100,0**
	Total	**5,4**	**2,4**	**25,2**	**30,7**	**36,3**	**0,0**	100,0

Appendix I1- Percentage distribution of deaths by age, province and district municipality of death occurrence, 2019, (concluded)

Province of death occurrence	District municipality of death occurrence	Age						
		0	1-14	15-44	45-64	65+	Unspeci-fied	Total
KwaZulu-Natal	Amajuba	4,8	2,0	27,5	26,4	39,3	0,0	**100,0**
	Harry Gwala	4,1	3,0	29,0	26,7	37,1	0,0	**100,0**
	King Cetshwayo	5,2	3,1	31,0	27,5	33,2	0,0	**100,0**
	Ugu	3,2	2,1	27,0	26,0	41,7	0,0	**100,0**
	Umgungundlovu	3,6	2,0	26,9	27,5	40,1	0,0	**100,0**
	Umkhanyakude	5,4	3,5	27,4	25,1	38,6	0,0	**100,0**
	Umzinyathi	4,5	2,6	25,8	25,8	41,4	0,0	**100,0**
	Uthukela	5,0	3,6	28,5	27,5	35,4	0,0	**100,0**
	Zululand	5,3	3,4	29,1	24,3	37,9	0,0	**100,0**
	eThekwini	3,6	2,4	28,3	27,1	38,6	0,0	**100,0**
	iLembe	3,1	3,6	26,3	26,9	40,1	0,0	**100,0**
	Unspecified	4,8	3,2	29,6	25,4	37,1	0,0	**100,0**
	Total	**4,2**	**2,7**	**28,3**	**26,5**	**38,2**	**0,0**	100,0
North West	Bojanala	5,4	2,8	24,6	28,4	38,7	0,0	**100,0**
	Dr Kenneth Kaunda	4,8	2,6	24,3	31,9	36,3	0,0	**100,0**
	Dr Ruth Segomotsi Mompati	8,8	4,0	23,3	29,0	35,0	0,0	**100,0**
	Ngaka Modiri Molema	6,0	4,1	25,4	28,5	36,1	0,0	**100,0**
	Unspecified	7,7	3,1	26,0	29,7	33,5	0,0	**100,0**
	Total	**6,5**	**3,2**	**24,9**	**29,7**	**35,7**	**0,0**	100,0
Gauteng	City of Johannesburg	6,2	2,4	27,6	27,6	36,1	0,0	**100,0**
	City of Tshwane	4,8	2,1	23,0	27,2	42,8	0,0	**100,0**
	Ekurhuleni	6,3	2,5	26,6	28,3	36,3	0,0	**100,0**
	Sedibeng	4,4	2,3	25,0	29,6	38,7	0,0	**100,0**
	West Rand	4,4	2,0	26,6	30,4	36,5	0,0	**100,0**
	Unspecified	5,0	2,7	33,8	29,0	29,5	0,0	**100,0**
	Total	**5,4**	**2,4**	**26,8**	**28,2**	**37,1**	**0,0**	100,0
Mpumalanga	Ehlanzeni	3,8	3,7	28,5	27,0	36,9	0,0	**100,0**
	Gert Sibande	7,1	3,4	29,6	27,6	32,3	0,0	**100,0**
	Nkangala	4,5	3,3	26,2	28,6	37,5	0,0	**100,0**
	Unspecified	3,7	3,6	30,7	28,0	34,1	0,0	**100,0**
	Total	**4,7**	**3,5**	**28,7**	**27,7**	**35,3**	**0,0**	100,0
Limpopo	Capricorn	7,2	3,2	22,4	26,4	40,8	0,0	**100,0**
	Mopani	8,1	4,1	22,1	24,8	40,9	0,0	**100,0**
	Sekhukhune	4,8	3,5	22,1	26,6	43,0	0,0	**100,0**
	Vhembe	5,8	3,8	19,5	24,1	46,8	0,0	**100,0**
	Waterberg	5,5	2,8	23,5	26,9	41,3	0,0	**100,0**
	Unspecified	5,1	4,2	26,2	25,1	39,3	0,0	**100,0**
	Total	**6,1**	**3,7**	**23,0**	**25,6**	**41,6**	**0,0**	100,0

Appendix J- Number of deaths by sex, province and district municipality of death occurrence, 2019

Province of death occurrence	District municipality of death occurrence	Sex of deceased					Sex ratio at death
		Male	Female	Undeter-minable	Unspecified	Total	
	Cape Winelands	3 030	2 463	0	18	**5 511**	123
	Central Karoo	79	61	0	1	**141**	130
	City of Cape Town	15 479	12 960	4	77	**28 520**	119
	Garden Route	835	727	0	4	**1 566**	115
	Overberg	1 064	818	0	1	**1 883**	130
	West Coast	1 886	1 740	0	3	**3 629**	108
	Unspecified	5 559	4 468	1	33	**10 061**	124
Western Cape	**Total**	**22 373**	**18 769**	**4**	**104**	**41 250**	**119**
	Alfred Nzo	2 765	2 522	0	9	**5 296**	110
	Amathole	4 438	3 828	0	15	**8 281**	116
	Buffalo City	4 503	3 943	2	17	**8 465**	114
	Chris Hani	4 452	4 191	2	17	**8 662**	106
	Joe Gqabi	1 648	1 581	0	14	**3 243**	104
	Nelson Mandela Bay	6 846	5 944	1	38	**12 829**	115
	O.R. Tambo	6 866	6 498	5	40	**13 409**	106
	Sarah Baartman	2 102	1 793	0	5	**3 900**	117
	Unspecified	3 845	3 374	1	21	**7 241**	114
Eastern Cape	**Total**	**37 465**	**33 674**	**11**	**176**	**71 326**	**111**
	Frances Baard	2 539	2 268	0	16	**4 823**	112
	John Taolo Gaetsewe	1 215	1 086	0	5	**2 306**	112
	Namakwa	780	750	0	4	**1 534**	104
	Pixley ka Seme	1 081	1 045	0	5	**2 131**	103
	Z F Mgcawu	1 399	1 135	0	2	**2 536**	123
	Unspecified	368	307	0	3	**678**	120
Northern Cape	**Total**	**7 382**	**6 591**	**0**	**35**	**14 008**	**112**
	Fezile Dabi	2 379	2 171	0	9	**4 559**	110
	Lejweleputswa	3 309	2 834	2	13	**6 158**	117
	Mangaung	4 627	4 097	4	23	**8 751**	113
	Thabo Mofutsanyane	4 334	4 022	0	22	**8 378**	108
	Xhariep	516	412	0	1	**929**	125
	Unspecified	1 249	1 036	0	4	**2 289**	121
Free State	**Total**	**16 414**	**14 572**	**6**	**72**	**31 064**	**113**

Appendix J- Number of deaths by sex, province and district municipality of death occurrence, 2019 (concluded)

Province of death occurrence	District municipality of death occurrence	Sex of deceased					Sex ratio at death
		Male	Female	Undeter-minable	Unspecified	Total	
	Amajuba	548	589	1	3	**1 141**	93
	Harry Gwala	2 146	1 942	0	13	**4 101**	111
	King Cetshwayo	3 224	2 845	1	17	**6 087**	113
	Ugu	3 784	3 650	0	15	**7 449**	104
	Umgungundlovu	4 707	4 536	5	18	**9 266**	104
	Umkhanyakude	1 337	1 479	0	2	**2 818**	90
	Umzinyathi	1 551	1 653	0	9	**3 213**	94
	Uthukela	2 893	2 730	1	9	**5 633**	106
	Zululand	1 924	1 983	1	8	**3 916**	97
	eThekwini	14 300	12 526	1	49	**26 876**	114
	iLembe	1 059	1 122	0	1	**2 182**	94
	Unspecified	7 515	7 062	3	29	**14 609**	106
KwaZulu-Natal	**Total**	**44 988**	**42 117**	**13**	**173**	**87 291**	**107**
	Bojanala	2 799	2 360	0	26	**5 185**	119
	Dr Kenneth Kaunda	3 773	3 231	0	23	**7 027**	117
	Dr Ruth Segomotsi Mompati	2 265	2 021	0	10	**4 296**	112
	Ngaka Modiri Molema	2 893	2 397	0	19	**5 309**	121
	Unspecified	4 401	3 810	1	48	**8 260**	116
North West	**Total**	**16 131**	**13 819**	**1**	**126**	**30 077**	**117**
	City of Johannesburg	15 144	13 098	11	334	**28 587**	116
	City of Tshwane	12 978	11 831	6	82	**24 897**	110
	Ekurhuleni	8 482	7 582	5	157	**16 226**	112
	Sedibeng	5 222	4 702	3	61	**9 988**	111
	West Rand	2 291	1 833	1	25	**4 150**	125
	Unspecified	7 894	6 352	1	132	**14 379**	124
Gauteng	**Total**	**52 011**	**45 398**	**27**	**791**	**98 227**	**115**
	Ehlanzeni	5 294	5 301	0	36	**10 631**	100
	Gert Sibande	4 204	3 683	0	21	**7 908**	114
	Nkangala	3 535	3 274	0	21	**6 830**	108
	Unspecified	3 347	2 640	1	26	**6 014**	127
Mpumalanga	**Total**	**16 380**	**14 898**	**1**	**104**	**31 383**	**110**
	Capricorn	4 123	4 053	1	16	**8 193**	102
	Mopani	4 084	4 217	3	24	**8 328**	97
	Sekhukhune	3 634	3 751	1	13	**7 399**	97
	Vhembe	2 572	2 900	1	23	**5 496**	89
	Waterberg	2 337	2 342	1	8	**4 688**	100
	Unspecified	5 755	5 266	2	32	**11 055**	109
Limpopo	**Total**	**22 505**	**22 529**	**9**	**116**	**45 159**	**100**

Appendix K- All underlying causes of death, 2019

Underlying Broad Group	Number	Percentage (%)
Ill-defined and unknown causes of mortality (R95_R99)	69 302	15,0
Other external causes of accidental injury (W00_X59)	38 434	8,3
Diabetes mellitus (E10_E14)	26 191	5,7
Tuberculosis (A15_A19)	25 262	5,5
Cerebrovascular diseases (I60_I69)	23 133	5,0
Human immunodeficiency virus [HIV] disease (B20_B24)	22 039	4,8
Hypertensive diseases (I10_I15)	20 492	4,4
Influenza and pneumonia (J09_J18)	17 294	3,8
Ischaemic heart diseases (I20_I25)	15 904	3,4
Other forms of heart disease (I30_I52)	15 741	3,4
Other viral diseases (B25_B34)	13 171	2,9
Chronic lower respiratory diseases (J40_J47)	12 309	2,7
Malignant neoplasms of digestive organs (C15_C26)	11 039	2,4
Renal failure (N17_N19)	8 487	1,8
Assault (X85_Y09)	7 596	1,6
Malignant neoplasms of respiratory and intrathoracic organs (C30_C39)	6 642	1,4
Transport accidents (V01_V99)	6 435	1,4
Other bacterial diseases (A30_A49)	6 417	1,4
Intestinal infectious diseases (A00_A09)	5 969	1,3
Malignant neoplasms of female genital organs (C51_C58)	5 657	1,2
Malignant neoplasms of ill-defined, secondary and unspecified sites (C76_C80)	4 346	0,9
Certain disorders involving the immune mechanism (D80_D89)	4 203	0,9
Other acute lower respiratory infections (J20_J22)	4 055	0,9
Malignant neoplasms of breast (C50)	3 933	0,9
Malignant neoplasms of male genital organs (C60_C63)	3 920	0,9
Diseases of liver (K70_K77)	3 824	0,8
Episodic and paroxysmal disorders (G40_G47)	3 690	0,8
Metabolic disorders (E70_E90)	3 424	0,7
Malignant neoplasms, stated or presumed to be primary, of lymphoid, haematopoietic and related tissue (C81_C96)	3 349	0,7
Other diseases of the respiratory system (J95_J99)	3 238	0,7
General symptoms and signs (R50_R69)	3 126	0,7
Pulmonary heart disease and diseases of pulmonary circulation (I26_I28)	3 031	0,7
Event of undetermined intent (Y10_Y34)	3 028	0,7
Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	2 828	0,6
Diseases of oesophagus, stomach and duodenum (K20_K31)	2 102	0,5
Protozoal diseases (B50_B64)	2 056	0,4
Inflammatory diseases of the central nervous system (G00_G09)	2 014	0,4
Organic, including symptomatic, mental disorders (F00_F09)	1 947	0,4
Aplastic and other anaemias (D60_D64)	1 800	0,4
Other diseases of intestines (K55_K64)	1 617	0,4
Other respiratory diseases principally affecting the interstitium (J80_J84)	1 438	0,3
Disorders related to length of gestation and fetal growth (P05_P08)	1 380	0,3
Diseases of arteries, arterioles and capillaries (I70_I79)	1 346	0,3
Sequelae of infectious and parasitic diseases (B90_B94)	1 297	0,3
Infections specific to the perinatal period (P35_P39)	1 212	0,3
Malignant neoplasms of urinary tract (C64_C68)	1 163	0,3
Complications of medical and surgical care (Y40_Y84)	1 159	0,3
Other diseases of the digestive system (K90_K93)	1 156	0,3
Malignant neoplasms of lip, oral cavity and pharynx (C00_C14)	1 142	0,2
Disorders of gallbladder, biliary tract and pancreas (K80_K87)	1 124	0,2

Appendix K- All underlying causes of death, 2019, continued

Underlying Broad Group	Number	Percentage (%)
Neoplasms of uncertain or unknown behaviour (D37_D48)	1 083	0,2
Other disorders originating in the perinatal period (P90_P96)	1 042	0,2
Malnutrition (E40_E46)	1 026	0,2
Malignant neoplasms of mesothelial and soft tissue (C45_C49)	974	0,2
Other disorders of the nervous system (G90_G99)	956	0,2
Cerebral palsy and other paralytic syndromes (G80_G83)	934	0,2
Noninfective enteritis and colitis (K50_K52)	898	0,2
Congenital malformations of the circulatory system (Q20_Q28)	892	0,2
Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04)	886	0,2
Other disorders of glucose regulation and pancreatic internal secretion (E15_E16)	845	0,2
Arthropathies (M00_M25)	830	0,2
Other degenerative diseases of the nervous system (G30_G32)	829	0,2
Malignant neoplasms of skin (C43_C44)	828	0,2
Lung diseases due to external agents (J60_J70)	822	0,2
Malignant neoplasms of eye, brain and other parts of central nervous system (C69_C72)	722	0,2
Diseases of veins, lymphatic vessels and lymph nodes, not elsewhere classified (I80_I89)	698	0,2
Mental and behavioural disorders due to psychoactive substance use (F10_F19)	675	0,1
Systemic connective tissue disorders (M30_M36)	544	0,1
Mycoses (B35_B49)	532	0,1
Extrapyramidal and movement disorders (G20_G26)	505	0,1
Other congenital malformations (Q80_Q89)	469	0,1
Intentional self-harm (X60_X84)	431	0,1
Chromosomal abnormalities, not elsewhere classified (Q90_Q99)	430	0,1
Coagulation defects, purpura and other haemorrhagic conditions (D65_D69)	423	0,1
Other diseases of urinary system (N30_N39)	423	0,1
Haemorrhagic and haematological disorders of fetus and newborn (P50_P61)	415	0,1
Disorders of thyroid gland (E00_E07)	397	0,1
Digestive system disorders of fetus and newborn (P75_P78)	373	0,1
Obesity and other hyperalimentation (E65_E68)	359	0,1
Infections of the skin and subcutaneous tissue (L00_L08)	356	0,1
Other diseases of pleura (J90_J94)	353	0,1
Symptoms and signs involving the circulatory and respiratory systems (R00_R09)	343	0,1
Diseases of male genital organs (N40_N51)	342	0,1
Soft tissue disorders (M60_M79)	333	0,1
Congenital malformations of the nervous system (Q00_Q07)	310	0,1
Viral hepatitis (B15_B19)	303	0,1
Other disorders of kidney and ureter (N25_N29)	296	0,1
Hernia (K40_K46)	291	0,1
Chronic rheumatic heart diseases (I05_I09)	273	0,1
Renal tubulo_interstitial diseases (N10_N16)	265	0,1
Benign neoplasms (D10_D36)	261	0,1
Malignant neoplasms of thyroid and other endocrine glands (C73_C75)	256	0,1
Schizophrenia, schizotypal and delusional disorders (F20_F29)	222	0,0

Appendix K- All underlying causes of death, 2019, continued

Underlying Broad Group	Number	Percentage (%)
Other disorders of the skin and subcutaneous tissue (L80_L99)	212	0,0
Systemic atrophies primarily affecting the central nervous system (G10_G14)	206	0,0
Suppurative and necrotic conditions of lower respiratory tract (J85_J86)	201	0,0
Acute upper respiratory infections (J00_J06)	189	0,0
Other congenital malformations of the digestive system (Q38_Q45)	177	0,0
Glomerular diseases (N00_N08)	172	0,0
Other and unspecified disorders of the circulatory system (I95_I99)	161	0,0
Diseases of appendix (K35_K38)	161	0,0
Diseases of peritoneum (K65_K67)	151	0,0
Other obstetric conditions, not elsewhere classified (O94_O99)	148	0,0
Oedema, proteinuria and hypertensive disorders in pregnancy, childbirth and the puerperium (O10_O16)	144	0,0
Congenital malformations and deformations of the musculoskeletal system (Q65_Q79)	143	0,0
Noninflammatory disorders of female genital tract (N80_N98)	136	0,0
Congenital malformations of the urinary system (Q60_Q64)	132	0,0
Diseases of myoneural junction and muscle (G70_G73)	124	0,0
Viral infections characterized by skin and mucous membrane lesions (B00_B09)	116	0,0
Viral infections of the central nervous system (A80_A89)	108	0,0
Malignant neoplasms of bone and articular cartilage (C40_C41)	108	0,0
Other diseases of upper respiratory tract (J30_J39)	108	0,0
Osteopathies and chondropathies (M80_M94)	107	0,0
Polyneuropathies and other disorders of the peripheral nervous system (G60_G64)	99	0,0
Infections with a predominantly sexual mode of transmission (A50_A64)	95	0,0
Complications of labour and delivery (O60_O75)	95	0,0
Pregnancy with abortive outcome (O00_O08)	84	0,0
Symptoms and signs involving the digestive system and abdomen (R10_R19)	84	0,0
Dorsopathies (M40_M54)	81	0,0
Conditions involving the integument and temperature regulation of fetus and newborn (P80_P83)	80	0,0
Other nutritional deficiencies (E50_E64)	78	0,0
Demyelinating diseases of the central nervous system (G35_G37)	78	0,0
Disorders of other endocrine glands (E20_E35)	76	0,0
Sequelae of external causes of morbidity and mortality (Y85_Y89)	76	0,0
Other diseases of blood and blood-forming organs (D70_D77)	74	0,0
Urticaria and erythema (L50_L54)	73	0,0
Haemolytic anaemias (D55_D59)	71	0,0
Helminthiases (B65_B83)	67	0,0
Congenital malformations of the respiratory system (Q30_Q34)	65	0,0
Mood [affective] disorders (F30_F39)	57	0,0
Inflammatory diseases of female pelvic organs (N70_N77)	57	0,0
Nutritional anaemias (D50_D53)	56	0,0
Diseases of oral cavity, salivary glands and jaws (K00_K14)	56	0,0
Complications predominantly related to the puerperium (O85_O92)	54	0,0

Appendix K- All underlying causes of death, 2019 (concluded)

Underlying Broad Group	Number	Percentage (%)
Complications predominantly related to the puerperium (O85_O92)	54	0,0
Diseases of middle ear and mastoid (H65_H75)	48	0,0
Other infectious diseases (B99)	47	0,0
Transitory endocrine and metabolic disorders specific to fetus and newborn (P70_P74)	47	0,0
Maternal care related to the fetus and amniotic cavity and possible delivery problems (O30_O48)	32	0,0
Dermatitis and eczema (L20_L30)	31	0,0
Birth trauma (P10_P15)	27	0,0
Bullous disorders (L10_L14)	26	0,0
Neurotic, stress-related and somatoform disorders (F40_F48)	24	0,0
Other maternal disorders predominantly related to pregnancy (O20_O29)	24	0,0
Unspecified mental disorder (F99)	21	0,0
Disorders of breast (N60_N64)	21	0,0
Behavioural syndromes associated with physiological disturbances and physical factors (F50_F59)	18	0,0
Acute rheumatic fever (I00_I02)	12	0,0
Urolithiasis (N20_N23)	12	0,0
Cleft lip and cleft palate (Q35_Q37)	11	0,0
Mental retardation (F70_F79)	9	0,0
Nerve, nerve root and plexus disorders (G50_G59)	9	0,0
Certain zoonotic bacterial diseases (A20_A28)	8	0,0
Visual disturbances and blindness (H53_H54)	8	0,0
Abnormal findings on examination of blood, without diagnosis (R70_R79)	8	0,0
Pediculosis, acariasis and other infestations (B85_B89)	7	0,0
In situ neoplasms (D00_D09)	7	0,0
Disorders of eyelid, lacrimal system and orbit (H00_H06)	7	0,0
Symptoms and signs involving cognition, perception, emotional state and behaviour (R40_R46)	7	0,0
Disorders of psychological development (F80_F89)	6	0,0
Papulosquamous disorders (L40_L45)	6	0,0
Congenital malformations of eye, ear, face and neck (Q10_Q18)	6	0,0
Arthropod-borne viral fevers and viral haemorrhagic fevers (A92_A99)	5	0,0
Symptoms and signs involving speech and voice (R47_R49)	5	0,0
Other spirochaetal diseases (A65_A69)	4	0,0
Behavioural and emotional disorders with onset usually occurring in childhood and adolescence (F90_F98)	4	0,0
Congenital malformations of genital organs (Q50_Q56)	4	0,0
Abnormal findings on diagnostic imaging and in function studies, without diagnosis (R90_R94)	4	0,0
Disorders of lens (H25_H28)	3	0,0
Glaucoma (H40_H42)	3	0,0
Legal intervention and operations of war (Y35_Y36)	3	0,0
Disorders of vitreous body and globe (H43_H45)	2	0,0
Disorders of ocular muscles, binocular movement, accommodation and refraction (H49_H52)	2	0,0
Other disorders of eye and adnexa (H55_H59)	2	0,0
Other disorders of ear (H90_H95)	2	0,0
Symptoms and signs involving the urinary system (R30_R39)	2	0,0
Disorders of conjunctiva (H10_H13)	1	0,0
Diseases of inner ear (H80_H83)	1	0,0
Disorders of skin appendages (L60_L75)	1	0,0
Other disorders of the musculoskeletal system and connective tissue (M95_M99)	1	0,0
Symptoms and signs involving the skin and subcutaneous tissue (R20_R23)	1	0,0
All causes	**593**	**100,0**

Appendix L- Detailed description of the broad-based groups of natural causes of death which were among the ten leading causes, 2019

Causes of death (based on ICD-10 Version: 2016)		Number	Percentage (%)
	Hypertensive diseases		
A15	Respiratory tuberculosis, bacteriologically and histologically confirmed	9	0,0
A16	Respiratory tuberculosis, not confirmed bacteriologically or histologically (A16)	19 506	77,2
A17	Tuberculosis of nervous system (A17)	1 524	6,0
A18	Tuberculosis of other organs (A18)	901	3,6
A19	Miliary tuberculosis	2 985	11,8
	Drug resistant tuberculosis		
U51	Multi-drug resistant tuberculosis (U51)	308	1,2
U52	Extensively drug-resistant tuberculosis (U52)	29	0,1
	Total	**25 262**	**100,0**

	Human immunodeficiency virus [HIV] disease (B20_B24)		
B20	Human immunodeficiency virus [HIV] disease resulting in infectious and parasitic diseases (B20)	13 112	59,5
B21	Human immunodeficiency virus [HIV] disease resulting in malignant neoplasms (B21)	1 010	4,6
B22	Human immunodeficiency virus [HIV] disease resulting in other specified diseases (B22)	849	3,9
B23	Human immunodeficiency virus [HIV] disease resulting in other conditions (B23)	4 018	18,2
B24	Unspecified human immunodeficiency virus [HIV] disease (B24)	3 050	13,8
	Total	**22 039**	**100,0**

	Other viral diseases (B25_B34)		
B25	Cytomegaloviral disease (B25)	34	0,3
B26	Mumps (B26)	1	0,0
B33	Other viral diseases, not elsewhere classified (B33)	13 088	99,4
B34	Viral infection of unspecified site (B34)	48	0,4
	Total	**13 171**	**100,0**

	Diabetes mellitus (E10_E14)		
E10	Insulin-dependent diabetes mellitus (E10)	234	0,9
E11	Non-insulin-dependent diabetes mellitus (E11)	2 571	9,8
E12	Malnutrition-related diabetes mellitus (E12)	4	0,0
E13	Other specified diabetes mellitus (E13)	5	0,0
E14	Unspecified diabetes mellitus (E14)	23 377	89,3
	Total	**26 191**	**100,0**

	Hypertensive diseases (I10_I15)		
I10	Essential (primary) hypertension (I10)	12 412	60,6
I11	Hypertensive heart disease (I11)	5 185	25,3
I12	Hypertensive renal disease (I12)	2 461	12,0
I13	Hypertensive heart and renal disease (I13)	434	2,1
	Total	**20 492**	**100,0**

	Ischaemic heart diseases (I20_I25)		
I20	Angina pectoris (I20)	62	0,4
I21	Acute myocardial infarction (I21)	13 058	82,1
I24	Other acute ischaemic heart diseases (I24)	2	0,0
I25	Chronic ischaemic heart disease (I25)	2 782	17,5
	Total	**15 904**	**100,0**

Appendix L- Detailed description of the broad-based groups of natural causes of death which were among the ten leading causes, 2019 (concluded)

Causes of death (based on ICD-10 Version: 2010)		Number	Percentage (%)
	Other forms of heart disease (I30_I52)		
I30	Acute pericarditis (I30)	5	0,0
I31	Other diseases of pericardium (I31)	81	0,5
I33	Acute and subacute endocarditis (I33)	87	0,6
I34	Non-rheumatic mitral valve disorders (I34)	74	0,5
I35	Non-rheumatic aortic valve disorders (I35)	255	1,6
I36	Non-rheumatic tricuspid valve disorders (I36)	1	0,0
I37	Nonrheumatic pulmonary valve disorders (I37)	39	0,2
I38	Endocarditis, valve unspecified (I38)	174	1,1
I40	Acute myocarditis (I40)	11	0,1
I42	Cardiomyopathy (I42)	3 806	24,2
I44	Atrioventricular and left bundle-branch block (I44)	35	0,2
I45	Other conduction disorders (I45)	38	0,2
I46	Cardiac arrest (I46)	43	0,3
I47	Paroxysmal tachycardia (I47)	36	0,2
I48	Atrial fibrillation and flutter (I48)	397	2,5
I49	Other cardiac arrhythmias (I49)	299	1,9
I50	Heart failure (I50)	9 252	58,8
I51	Complications and ill-defined descriptions of heart disease (I51)	1 108	7,0
	Total	**15 741**	**100,0**

	Cerebrovascular diseases (I60_I69)		
I60	Subarachnoid haemorrhage (I60)	526	2,3
I61	Intracerebral haemorrhage (I61)	1 685	7,3
I62	Other non-traumatic intracranial haemorrhage (I62)	1 000	4,3
I63	Cerebral infarction (I63)	601	2,6
I64	Stroke, not specified as haemorrhage or infection (I64)	18 130	78,4
I67	Other cerebrovascular diseases (I67)	766	3,3
I69	Sequelae of cerebrovascular disease (I69)	425	1,8
	Total	**23 133**	**100,0**

	Influenza and pneumonia (J09_J18)		
J10	Influenza due to other identified influenza virus (J10)	2	0,0
J11	Influenza, virus not identified (J11)	354	2,0
J12	Viral pneumonia, not elsewhere classified (J12)	27	0,2
J13	Pneumonia due to Streptococcus pneumoniae (J13)	5	0,0
J15	Bacterial pneumonia, not elsewhere classified (J15)	109	0,6
J16	Pneumonia due to other infectious organisms, not elsewhere classified (J16)	1	0,0
J18	Pneumonia, organism unspecified (J18)	16 796	97,1
	Total	17 294	100,0
	Chronic lower respiratory diseases (J40_J47)	Number	Percentage
J40	Bronchitis, not specified as acute or chronic (J40)	318	2,6
J41	simple and mucopurulent chronic bronchitis(J41)	2	0,0
J42	Unspecified chronic bronchitis (J42)	142	1,2
J43	Emphysema (J43)	629	5,1
J44	Other chronic obstructive pulmonary disease (J44)	7 565	61,5
J45	Asthma (J45)	2 840	23,1
J46	Status asthmaticus (J46)	639	5,2
J47	Bronchiectasis (J47)	174	1,4
	Total	**12 309**	**100,0**

Appendix M- The ten leading underlying natural causes of death by age and sex: South Africa, 2019

	SA, all ages	No	%		SA, Males, all ages	No	%		SA, Females, all ages	No	%
1	Diabetes mellitus (E10_E14)	26 191	5,7	1	Tuberculosis (A15_A19)	15 814	6,5	1	Diabetes mellitus (E10_E14)	16 316	7,5
2	Tuberculosis (A15_A19)	25 262	5,5	2	Human immunodeficiency virus [HIV] disease (B20_B24)	11 124	4,6	2	Cerebrovascular diseases (I60_I69)	12 963	6,0
3	Cerebrovascular diseases (I60_I69)	23 133	5,0	3	Cerebrovascular diseases (I60_I69)	10 131	4,2	3	Hypertensive diseases (I10_I15)	12 666	5,8
4	Human immunodeficiency virus [HIV] disease (B20_B24)	22 039	4,8	4	Diabetes mellitus (E10_E14)	9 850	4,1	4	Human immunodeficiency virus [HIV] disease (B20_B24)	10 828	5,0
5	Hypertensive diseases (I10_I15)	20 492	4,4	5	Influenza and pneumonia (J09_J18)	8 892	3,7	5	Tuberculosis (A15_A19)	9 363	4,3
6	Influenza and pneumonia (J09_J18)	17 294	3,8	6	Ischaemic heart diseases (I20_I25)	8 877	3,7	6	Other forms of heart disease (I30_I52)	8 515	3,9
7	Ischaemic heart diseases (I20_I25)	15 904	3,4	7	Hypertensive diseases (I10_I15)	7 796	3,2	7	Influenza and pneumonia (J09_J18)	8 343	3,8
8	Other forms of heart disease (I30_I52)	15 741	3,4	8	Chronic lower respiratory diseases (J40_J47)	7 456	3,1	8	Ischaemic heart diseases (I20_I25)	7 001	3,2
9	Other viral diseases (B25_B34)	13 171	2,9	9	Other forms of heart disease (I30_I52)	7 204	3,0	9	Other viral diseases (B25_B34)	6 783	3,1
10	Chronic lower respiratory diseases (J40_J47)	12 309	2,7	10	Other viral diseases (B25_B34)	6 330	2,6	10	Malignant neoplasms of female genital organs (C51_C58)	5 657	2,6
	Other Natural	212 308	46,1		Other Natural	104 454	43,2		Other Natural	106 164	48,9
	Non-natural	57 162	12,4		Non-natural	43 917	18,2		Non-natural	12 711	5,8
	All causes	**461 006**	**100,0**		**All causes**	**241 845**	**100,0**		**All causes**	**217 310**	**100,0**
	SA, 0	**No**	**%**		**SA, Males, 0**	**No**	**%**		**SA, Females, 0**	**No**	**%**
1	Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	2 821	13,2	1	Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	1 570	13,9	1	Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	1 187	12,2
2	Influenza and pneumonia (J09_J18)	1 459	6,8	2	Influenza and pneumonia (J09_J18)	756	6,7	2	Influenza and pneumonia (J09_J18)	693	7,1
3	Disorders related to length of gestation and fetal growth (P05_P08)	1 376	6,4	3	Disorders related to length of gestation and fetal growth (P05_P08)	731	6,5	3	Intestinal infectious diseases (A00_A09)	621	6,4
4	Intestinal infectious diseases (A00_A09)	1 290	6,0	4	Infections specific to the perinatal period (P35_P39)	664	5,9	4	Disorders related to length of gestation and fetal growth (P05_P08)	611	6,3
5	Infections specific to the perinatal period (P35_P39)	1 211	5,7	5	Intestinal infectious diseases (A00_A09)	660	5,9	5	Infections specific to the perinatal period (P35_P39)	520	5,4
6	Other disorders originating in the perinatal period (P90_P96)	1 042	4,9	6	Other disorders originating in the perinatal period (P90_P96)	575	5,1	6	Other disorders originating in the perinatal period (P90_P96)	432	4,5
7	Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04)	882	4,1	7	Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04)	481	4,3	7	Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04)	382	3,9
8	Congenital malformations of the circulatory system (Q20_Q28)	627	2,9	8	Congenital malformations of the circulatory system (Q20_Q28)	316	2,8	8	Congenital malformations of the circulatory system (Q20_Q28)	299	3,1
9	Malnutrition (E40_E46)	514	2,4	9	Malnutrition (E40_E46)	269	2,4	9	Malnutrition (E40_E46)	240	2,5
10	Other bacterial diseases (A30_A49)	420	2,0	10	Haemorrhagic and haematological disorders of fetus and newborn (P50_P61)	241	2,1	10	Other bacterial diseases (A30_A49)	222	2,3
	Other Natural	8 933	41,8		Other Natural	4 611	40,9		Other Natural	4 101	42,3
	Non-natural	802	3,8		Non-natural	399	3,5		Non-natural	385	4
	All causes	**21 377**	**100,0**		**All causes**	**11 273**	**100,0**		**All causes**	**9 693**	**100,0**

Appendix M- The ten leading underlying natural causes of death by age and sex: South Africa, 2019 (continued)

	SA, 1-14	No	%		SA, Males, 1-14	No	%		SA, Males, 1-14	No	%
1	Influenza and pneumonia (J09_J18)	767	6,4	1	Influenza and pneumonia (J09_J18)	401	6,0	1	Influenza and pneumonia (J09_J18)	365	6,9
2	Intestinal infectious diseases (A00_A09)	658	5,5	2	Intestinal infectious diseases (A00_A09)	353	5,3	2	Intestinal infectious diseases (A00_A09)	303	5,7
3	Tuberculosis (A15_A19)	377	3,1	3	Tuberculosis (A15_A19)	206	3,1	3	Tuberculosis (A15_A19)	169	3,2
4	Malnutrition (E40_E46)	311	2,6	4	Cerebral palsy and other paralytic syndromes (G80_G83)	176	2,7	4	Malnutrition (E40_E46)	141	2,7
5	Cerebral palsy and other paralytic syndromes (G80_G83)	303	2,5	5	Malnutrition (E40_E46)	168	2,5	5	Cerebral palsy and other paralytic syndromes (G80_G83)	127	2,4
6	Human immunodeficiency virus [HIV] disease (B20_B24)	251	2,1	6	Episodic and paroxysmal disorders (G40_G47)	138	2,1	6	Human immunodeficiency virus [HIV] disease (B20_B24)	118	2,2
7	Episodic and paroxysmal disorders (G40_G47)	246	2,1	7	Human immunodeficiency virus [HIV] disease (B20_B24)	133	2,0	7	Episodic and paroxysmal disorders (G40_G47)	108	2,0
8	Metabolic disorders (E70_E90)	211	1,8	8	Other forms of heart disease (I30_I52)	110	1,7	8	Metabolic disorders (E70_E90)	105	2,0
9	Other forms of heart disease (I30_I52)	206	1,7	9	Metabolic disorders (E70_E90)	105	1,6	9	Other forms of heart disease (I30_I52)	96	1,8
10	Other viral diseases (B25_B34)	188	1,6	10	Other viral diseases (B25_B34)	103	1,6	10	Inflammatory diseases of the central nervous system (G00_G09)	86	1,6
	Other Natural	4 935	41,1		Other Natural	2 565	38,6		Other Natural	2 328	44,1
	Non-natural	3 542	29,5		Non-natural	2 182	32,9		Non-natural	1 336	25,3
	All causes	**11 995**	**100,0**		**All causes**	**6 640**	**100,0**		**All causes**	**5 282**	**100,0**
	SA, 15-44	**No**	**%**		**SA, Males, 15-44**	**No**	**%**		**SA, Females, 15-44**	**No**	**%**
1	Human immunodeficiency virus [HIV] disease (B20_B24)	12 570	10,4	1	Tuberculosis (A15_A19)	6 698	9,2	1	Human immunodeficiency virus [HIV] disease (B20_B24)	6 540	14,0
2	Tuberculosis (A15_A19)	11 549	9,6	2	Human immunodeficiency virus [HIV] disease (B20_B24)	5 969	8,2	2	Tuberculosis (A15_A19)	4 806	10,3
3	Other viral diseases (B25_B34)	7 045	5,8	3	Other viral diseases (B25_B34)	3 128	4,3	3	Other viral diseases (B25_B34)	3 873	8,3
4	Influenza and pneumonia (J09_J18)	3 683	3,1	4	Influenza and pneumonia (J09_J18)	1 941	2,7	4	Influenza and pneumonia (J09_J18)	1 710	3,7
5	Certain disorders involving the immune mechanism (D80_D89)	2 181	1,8	5	Other forms of heart disease (I30_I52)	1 107	1,5	5	Malignant neoplasms of female genital organs (C51_C58)	1 305	2,8
6	Other forms of heart disease (I30_I52)	2 067	1,7	6	Certain disorders involving the immune mechanism (D80_D89)	1 013	1,4	6	Certain disorders involving the immune mechanism (D80_D89)	1 160	2,5
7	Cerebrovascular diseases (I60_I69)	1 721	1,4	7	Cerebrovascular diseases (I60_I69)	929	1,3	7	Other forms of heart disease (I30_I52)	951	2,0
8	Renal failure (N17_N19)	1 410	1,2	8	Episodic and paroxysmal disorders (G40_G47)	887	1,2	8	Cerebrovascular diseases (I60_I69)	784	1,7
9	Diabetes mellitus (E10_E14)	1 396	1,2	9	Renal failure (N17_N19)	772	1,1	9	Protozoal diseases (B50_B64)	726	1,6
10	Episodic and paroxysmal disorders (G40_G47)	1 319	1,1	10	Ischaemic heart diseases (I20_I25)	757	1,0	10	Diabetes mellitus (E10_E14)	724	1,5
	Other Natural	38 416	31,9		Non-natural	30 634	42,0		Other Natural	18 033	38,5
	Non-natural	37 168	30,8		Other Natural	19 101	26,2		Non-natural	6 190	13,2
	All causes	**120 525**	**100,0**		**All causes**	**72 936**	**100,0**		**All causes**	**46 802**	**100,0**

Appendix M- The ten leading underlying natural causes of death by age and sex: South Africa, 2019 (concluded)

	SA, 45-64	No	%		SA, Males, 45-64	No	%		SA, Females, 45-64	No	%
1	Tuberculosis (A15_A19)	9 136	7,0	1	Tuberculosis (A15_A19)	6 336	8,5	1	Diabetes mellitus (E10_E14)	5 258	9,5
2	Diabetes mellitus (E10_E14)	8 971	6,9	2	Human immunodeficiency virus [HIV] disease (B20_B24)	4 322	5,8	2	Human immunodeficiency virus [HIV] disease (B20_B24)	3 398	6,2
3	Human immunodeficiency virus [HIV] disease (B20_B24)	7 741	6,0	3	Diabetes mellitus (E10_E14)	3 708	5,0	3	Cerebrovascular diseases (I60_I69)	2 970	5,4
4	Cerebrovascular diseases (I60_I69)	6 508	5,0	4	Cerebrovascular diseases (I60_I69)	3 522	4,7	4	Tuberculosis (A15_A19)	2 768	5,0
5	Hypertensive diseases (I10_I15)	5 226	4,0	5	Ischaemic heart diseases (I20_I25)	3 345	4,5	5	Hypertensive diseases (I10_I15)	2 735	5,0
6	Ischaemic heart diseases (I20_I25)	5 069	3,9	6	Chronic lower respiratory diseases (J40_J47)	2 726	3,7	6	Malignant neoplasms of female genital organs (C51_C58)	2 511	4,6
7	Other viral diseases (B25_B34)	4 805	3,7	7	Malignant neoplasms of digestive organs (C15_C26)	2 698	3,6	7	Other viral diseases (B25_B34)	2 230	4,0
8	Malignant neoplasms of digestive organs (C15_C26)	4 450	3,4	8	Influenza and pneumonia (J09_J18)	2 659	3,6	8	Other forms of heart disease (I30_I52)	1 985	3,6
9	Influenza and pneumonia (J09_J18)	4 357	3,3	9	Other viral diseases (B25_B34)	2 564	3,4	9	Malignant neoplasms of digestive organs (C15_C26)	1 749	3,2
10	Other forms of heart disease (I30_I52)	4 355	3,3	10	Hypertensive diseases (I10_I15)	2 485	3,3	10	Ischaemic heart diseases (I20_I25)	1 711	3,1
	Other Natural	58 993	45,4		Other Natural	32 288	43,3		Other Natural	25 383	46,0
	Non-natural	10 449	8,0		Non-natural	7 874	10,6		Non-natural	2 459	4,5
	All causes	**130 060**	**100,0**		**All causes**	**74 527**	**100,0**		**All causes**	**55 157**	**100,0**
	SA, 65+	**No**	**%**		**SA, Males, 65+**	**No**	**%**		**SA, Females, 65+**	**No**	**%**
1	Diabetes mellitus (E10_E14)	15 761	8.9	1	Cerebrovascular diseases (I60_I69)	5 631	7,4	1	Diabetes mellitus (E10_E14)	10 300	10,3
2	Cerebrovascular diseases (I60_I69)	14 807	8.4	2	Diabetes mellitus (E10_E14)	5 445	7,1	2	Hypertensive diseases (I10_I15)	9 373	9,3
3	Hypertensive diseases (I10_I15)	14 225	8.0	3	Hypertensive diseases (I10_I15)	4 839	6,3	3	Cerebrovascular diseases (I60_I69)	9 161	9,1
4	Ischaemic heart diseases (I20_I25)	9 674	5.5	4	Ischaemic heart diseases (I20_I25)	4 773	6,2	4	Other forms of heart disease (I30_I52)	5 425	5,4
5	Other forms of heart disease (I30_I52)	8 994	5.1	5	Chronic lower respiratory diseases (J40_J47)	4 137	5,4	5	Ischaemic heart diseases (I20_I25)	4 896	4,9
6	Chronic lower respiratory diseases (J40_J47)	7 193	4.1	6	Other forms of heart disease (I30_I52)	3 561	4,7	6	Influenza and pneumonia (J09_J18)	3 886	3,9
7	Influenza and pneumonia (J09_J18)	7 025	4.0	7	Influenza and pneumonia (J09_J18)	3 133	4,1	7	Chronic lower respiratory diseases (J40_J47)	3 052	3,0
8	Malignant neoplasms of digestive organs (C15_C26)	5 586	3.2	8	Malignant neoplasms of male genital organs (C60_C63)	3 117	4,1	8	Malignant neoplasms of digestive organs (C15_C26)	2 724	2,7
9	Renal failure (N17_N19)	4 295	2.4	9	Malignant neoplasms of digestive organs (C15_C26)	2 860	3,7	9	Renal failure (N17_N19)	2 268	2,3
10	Tuberculosis (A15_A19)	4 083	2.3	10	Tuberculosis (A15_A19)	2 511	3,3	10	Other bacterial diseases (A30_A49)	1 913	1,9
	Other Natural	80 153	45.3		Other Natural	33 607	44,0		Other Natural	45 020	44,9
	Non-natural	5 179	2.9		Non-natural	2 819	3,7		Non-natural	2 339	2,3
	All causes	**176 975**	**100,0**		**All causes**	**76 433**	**100,0**		**All causes**	**100 357**	**100,0**

Appendix M1- The ten leading underlying natural causes of death by age and sex: Western Cape, 2019

	Western Cape, all ages	No	%		Western Cape, Males, all ages	No	%		Western Cape, Females, all ages	No	%
1	Ischaemic heart diseases (I20_I25)	3 802	7,4	1	Ischaemic heart diseases (I20_I25)	2 113	7.6	1	Diabetes mellitus (E10_E14)	2 068	8,9
2	Diabetes mellitus (E10_E14)	3 421	6,7	2	Tuberculosis (A15_A19)	1 524	5.5	2	Ischaemic heart diseases (I20_I25)	1 685	7,3
3	Human immunodeficiency virus [HIV] disease (B20_B24)	3 001	5,8	3	Human immunodeficiency virus [HIV] disease (B20_B24)	1 502	5.4	3	Cerebrovascular diseases (I60_I69)	1 638	7,0
4	Cerebrovascular diseases (I60_I69)	2 988	5,8	4	Chronic lower respiratory diseases (J40_J47)	1 352	4.8	4	Human immunodeficiency virus [HIV] disease (B20_B24)	1 486	6,4
5	Tuberculosis (A15_A19)	2 391	4,7	5	Diabetes mellitus (E10_E14)	1 349	4.8	5	Hypertensive diseases (I10_I15)	1 308	5,6
6	Malignant neoplasms of digestive organs (C15_C26)	2 358	4,6	6	Cerebrovascular diseases (I60_I69)	1 349	4.8	6	Malignant neoplasms of digestive organs (C15_C26)	1 092	4,7
7	Chronic lower respiratory diseases (J40_J47)	2 293	4,5	7	Malignant neoplasms of respiratory and intrathoracic organs (C30_C39)	1 305	4.7	7	Chronic lower respiratory diseases (J40_J47)	935	4,0
8	Hypertensive diseases (I10_I15)	2 151	4,2	8	Malignant neoplasms of digestive organs (C15_C26)	1 266	4.5	8	Tuberculosis (A15_A19)	864	3,7
9	Malignant neoplasms of respiratory and intrathoracic organs (C30_C39)	2 106	4,1	9	Hypertensive diseases (I10_I15)	840	3.0	9	Malignant neoplasms of breast (C50)	838	3,6
10	Other forms of heart disease (I30_I52)	1 493	2,9	10	Other forms of heart disease (I30_I52)	715	2.6	10	Malignant neoplasms of respiratory and intrathoracic organs (C30_C39)	800	3,4
	Other Natural	18 333	35,7		Other Natural	8 951	32.0		Other Natural	9 252	39,8
	Non-natural	6 974	13,6		Non-natural	5 666	20.3		Non-natural	1 271	5,5
	All causes	**51 311**	**100,0**		**All causes**	**27 932**	**100,0**		**All causes**	**23 237**	**100,0**
	Western Cape, 0	**No**	**%**		**Western Cape, Males, 0**	**No**	**%**		**Western Cape, Females, 0**	**No**	**%**
1	Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	194	11,3	1	Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	109	12,2	1	Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	80	10,1
2	Disorders related to length of gestation and fetal growth (P05_P08)	178	10,3	2	Disorders related to length of gestation and fetal growth (P05_P08)	96	10,7	2	Disorders related to length of gestation and fetal growth (P05_P08)	79	10,0
3	Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04)	96	5,6	3	Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04)	56	6,3	3	Influenza and pneumonia (J09_J18)	45	5,7
4	Other disorders originating in the perinatal period (P90_P96)	85	4,9	4	Infections specific to the perinatal period (P35_P39)	49	5,5	4	Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04)	40	5,1
5	Influenza and pneumonia (J09_J18)	83	4,8	5	Other disorders originating in the perinatal period (P90_P96)	46	5,1	5	Congenital malformations of the circulatory system (Q20_Q28)	38	4,8
6	Infections specific to the perinatal period (P35_P39)	83	4,8	6	Influenza and pneumonia (J09_J18)	38	4,2	6	Other acute lower respiratory infections (J20_J22)	37	4,7
7	Congenital malformations of the circulatory system (Q20_Q28)	73	4,2	7	Congenital malformations of the circulatory system (Q20_Q28)	32	3,6	7	Other disorders originating in the perinatal period (P90_P96)	36	4,5
8	Other acute lower respiratory infections (J20_J22)	67	3,9	8	Intestinal infectious diseases (A00_A09)	31	3,5	8	Infections specific to the perinatal period (P35_P39)	33	4,2
9	Intestinal infectious diseases (A00_A09)	61	3,5	9	Other acute lower respiratory infections (J20_J22)	30	3,3	9	Intestinal infectious diseases (A00_A09)	29	3,7
10	Digestive system disorders of fetus and newborn (P75_P78)	51	3,0	10	Digestive system disorders of fetus and newborn (P75_P78)	26	2,9	10	Chromosomal abnormalities, not elsewhere classified (Q90_Q99)	28	3,5
	Other Natural	699	40,6		Other Natural	354	39,5		Other Natural	323	40,8
	Non-natural	53	3,1		Non-natural	29	3,2		Non-natural	24	3,0
	All causes	**1 723**	**100,0**		**All causes**	**896**	**100,0**		**All causes**	**792**	**100,0**

Appendix M1- The ten leading underlying natural causes of death by age and sex: Western Cape, 2019 (continued)

	Western Cape, 1-14	No	%		Western Cape, Males, 1-14	No	%		Western Cape, Females, 1-14	No	%
1	Influenza and pneumonia (J09_J18)	35	5,1	1	Cerebral palsy and other paralytic syndromes (G80_G83)	29	7,2	1	Influenza and pneumonia (J09_J18)	17	6,1
2	Cerebral palsy and other paralytic syndromes (G80_G83)	35	5,1	2	Influenza and pneumonia (J09_J18)	18	4,5	2	Congenital malformations of the circulatory system (Q20_Q28)	11	3,9
3	Other forms of heart disease (I30_I52)	20	2,9	3	Intestinal infectious diseases (A00_A09)	12	3,0	3	Other forms of heart disease (I30_I52)	10	3,6
4	Congenital malformations of the circulatory system (Q20_Q28)	19	2,8	4	Other forms of heart disease (I30_I52)	10	2,5	4	Tuberculosis (A15_A19)	9	3,2
5	Tuberculosis (A15_A19)	18	2,6	5	Tuberculosis (A15_A19)	9	2,2	5	Cerebral palsy and other paralytic syndromes (G80_G83)	6	2,1
6	Intestinal infectious diseases (A00_A09)	16	2,3	6	Malignant neoplasms, stated or presumed to be primary, of lymphoid, haematopoietic and related tissue (C81_C96)	9	2,2	6	Malignant neoplasms of eye, brain and other parts of central nervous system (C69_C72)	6	2,1
7	Malignant neoplasms, stated or presumed to be primary, of lymphoid, haematopoietic and related tissue (C81_C96)	15	2,2	7	Congenital malformations of the circulatory system (Q20_Q28)	8	2,0	7	Other acute lower respiratory infections (J20_J22)	6	2,1
8	Other acute lower respiratory infections (J20_J22)	11	1,6	8	Human immunodeficiency virus [HIV] disease (B20_B24)	6	1,5	8	Malignant neoplasms, stated or presumed to be primary, of lymphoid, haematopoietic and related tissue (C81_C96)	5	1,8
9	Human immunodeficiency virus [HIV] disease (B20_B24)	10	1,5	9	Chromosomal abnormalities, not elsewhere classified (Q90_Q99)	5	1,2	9	Chromosomal abnormalities, not elsewhere classified (Q90_Q99)	5	1,8
10	Chromosomal abnormalities, not elsewhere classified (Q90_Q99)	10	1,5	10	Other acute lower respiratory infections (J20_J22)	5	1,2	10	Inflammatory diseases of the central nervous system (G00_G09)	5	1,8
	Non-natural	278	40,6		Non-natural	178	44,4		Other Natural	102	36,4
	Other Natural	217	31,7		Other Natural	112	27,9		Non-natural	98	35,0
	All causes	**684**	**100,0**		**All causes**	**401**	**100,0**		**All causes**	**280**	**100,0**
	Western Cape, 15-44	**No**	**%**		**Western Cape, Males, 15-44**	**No**	**%**		**Western Cape, Females, 15-44**	**No**	**%**
1	Human immunodeficiency virus [HIV] disease (B20_B24)	1 876	15,7	1	Human immunodeficiency virus [HIV] disease (B20_B24)	896	11,3	1	Human immunodeficiency virus [HIV] disease (B20_B24)	973	24,6
2	Tuberculosis (A15_A19)	1 031	8,6	2	Tuberculosis (A15_A19)	605	7,6	2	Tuberculosis (A15_A19)	425	10,8
3	Other viral diseases (B25_B34)	280	2,3	3	Ischaemic heart diseases (I20_I25)	147	1,8	3	Other viral diseases (B25_B34)	158	4
4	Ischaemic heart diseases (I20_I25)	201	1,7	4	Other viral diseases (B25_B34)	121	1,5	4	Malignant neoplasms of breast (C50)	104	2,6
5	Cerebrovascular diseases (I60_I69)	187	1,6	5	Other forms of heart disease (I30_I52)	109	1,4	5	Diabetes mellitus (E10_E14)	97	2,5
6	Other forms of heart disease (I30_I52)	182	1,5	6	Cerebrovascular diseases (I60_I69)	92	1,2	6	Cerebrovascular diseases (I60_I69)	95	2,4
7	Diabetes mellitus (E10_E14)	164	1,4	7	Malignant neoplasms of digestive organs (C15_C26)	90	1,1	7	Malignant neoplasms of female genital organs (C51_C58)	92	2,3
8	Malignant neoplasms of digestive organs (C15_C26)	153	1,3	8	Episodic and paroxysmal disorders (G40_G47)	85	1,1	8	Other forms of heart disease (I30_I52)	71	1,8
9	Episodic and paroxysmal disorders (G40_G47)	122	1,0	9	Chronic lower respiratory diseases (J40_J47)	70	0,9	9	Malignant neoplasms of digestive organs (C15_C26)	63	1,6
10	Influenza and pneumonia (J09_J18)	118	1,0	10	Malignant neoplasms, stated or presumed to be primary, of lymphoid, haematopoietic and related tissue (C81_C96)	68	0,9	10	Ischaemic heart diseases (I20_I25)	54	1,4
	Non-natural	4 928	41,2		Non-natural	4 273	53,8		Other Natural	1 187	30,1
	Other Natural	2 708	22,7		Other Natural	1 390	17,5		Non-natural	630	16
	All causes	**11 950**	**100,0**		**All causes**	**7 946**	**100,0**		**All causes**	**3 949**	**100,0**

Appendix M1-: The ten leading underlying natural causes of death by age and sex: Western Cape, 2019 (concluded)

	Western Cape, 45-64	No	%		Western Cape, Males, 45-64	No	%		Western Cape, Females, 45-64	No	%
1	Ischaemic heart diseases (I20_I25)	1 251	8,0	1	Ischaemic heart diseases (I20_I25)	822	9,2	1	Diabetes mellitus (E10_E14)	667	10,2
2	Diabetes mellitus (E10_E14)	1 183	7,6	2	Tuberculosis (A15_A19)	699	7,8	2	Cerebrovascular diseases (I60_I69)	441	6,7
3	Tuberculosis (A15_A19)	998	6,4	3	Malignant neoplasms of respiratory and intrathoracic organs (C30_C39)	649	7,2	3	Human immunodeficiency virus [HIV] disease (B20_B24)	428	6,5
4	Human immunodeficiency virus [HIV] disease (B20_B24)	977	6,3	4	Chronic lower respiratory diseases (J40_J47)	598	6,7	4	Ischaemic heart diseases (I20_I25)	426	6,5
5	Malignant neoplasms of digestive organs (C15_C26)	971	6,2	5	Malignant neoplasms of digestive organs (C15_C26)	562	6,3	5	Malignant neoplasms of digestive organs (C15_C26)	409	6,2
6	Malignant neoplasms of respiratory and intrathoracic organs (C30_C39)	942	6,1	6	Human immunodeficiency virus [HIV] disease (B20_B24)	545	6,1	6	Malignant neoplasms of breast (C50)	370	5,6
7	Cerebrovascular diseases (I60_I69)	926	6,0	7	Diabetes mellitus (E10_E14)	514	5,7	7	Chronic lower respiratory diseases (J40_J47)	315	4,8
8	Chronic lower respiratory diseases (J40_J47)	917	5,9	8	Cerebrovascular diseases (I60_I69)	484	5,4	8	Tuberculosis (A15_A19)	297	4,5
9	Hypertensive diseases (I10_I15)	554	3,6	9	Hypertensive diseases (I10_I15)	268	3,0	9	Malignant neoplasms of respiratory and intrathoracic organs (C30_C39)	292	4,5
10	Other forms of heart disease (I30_I52)	405	2,6	10	Other forms of heart disease (I30_I52)	240	2,7	10	Hypertensive diseases (I10_I15)	285	4,4
	Other Natural	5 282	34,0		Other Natural	2 737	30,5		Other Natural	2 329	35,6
	Non-natural	1 143	7,4		Non-natural	846	9,4		Non-natural	291	4,4
	All causes	**15 549**	**100,0**		**All causes**	**8 964**	**100,0**		**All causes**	**6 550**	**100,0**
	Western Cape, 65+	**No**	**%**		**Western Cape, Males, 45-64**	**No**	**%**		**Western Cape, Females, 45-64**	**No**	**%**
1	Ischaemic heart diseases (I20_I25)	2 349	11,0	1	Ischaemic heart diseases (I20_I25)	1 143	11,8	1	Diabetes mellitus (E10_E14)	1 303	11,2
2	Diabetes mellitus (E10_E14)	2 072	9,7	2	Cerebrovascular diseases (I60_I69)	769	7,9	2	Ischaemic heart diseases (I20_I25)	1 205	10,3
3	Cerebrovascular diseases (I60_I69)	1 867	8,7	3	Diabetes mellitus (E10_E14)	767	7,9	3	Cerebrovascular diseases (I60_I69)	1 098	9,4
4	Hypertensive diseases (I10_I15)	1 498	7,0	4	Chronic lower respiratory diseases (J40_J47)	680	7,0	4	Hypertensive diseases (I10_I15)	972	8,3
5	Chronic lower respiratory diseases (J40_J47)	1 251	5,8	5	Malignant neoplasms of digestive organs (C15_C26)	611	6,3	5	Malignant neoplasms of digestive organs (C15_C26)	619	5,3
6	Malignant neoplasms of digestive organs (C15_C26)	1 230	5,7	6	Malignant neoplasms of respiratory and intrathoracic organs (C30_C39)	601	6,2	6	Chronic lower respiratory diseases (J40_J47)	570	4,9
7	Malignant neoplasms of respiratory and intrathoracic organs (C30_C39)	1 093	5,1	7	Malignant neoplasms of male genital organs (C60_C63)	596	6,1	7	Other forms of heart disease (I30_I52)	524	4,5
8	Other forms of heart disease (I30_I52)	876	4,1	8	Hypertensive diseases (I10_I15)	525	5,4	8	Malignant neoplasms of respiratory and intrathoracic organs (C30_C39)	492	4,2
9	Malignant neoplasms of male genital organs (C60_C63)	596	2,8	9	Other forms of heart disease (I30_I52)	352	3,6	9	Malignant neoplasms of breast (C50)	364	3,1
10	Influenza and pneumonia (J09_J18)	556	2,6	10	Influenza and pneumonia (J09_J18)	239	2,5	10	Organic, including symptomatic, mental disorders (F00_F09)	339	2,9
	Other Natural	7 439	34,8		Other Natural	3 098	31,9		Other Natural	3 951	33,9
	Non-natural	568	2,7		Non-natural	339	3,5		Non-natural	228	2,0
	All causes	**21 395**	**100,0**		**All causes**	**9 720**	**100,0**		**All causes**	**11 665**	**100,0**

Appendix M2- The ten leading underlying natural causes of death by age and sex: Eastern Cape, 2019

	Eastern Cape, all ages	No	%		Eastern Cape, Males, all ages	No	%		Eastern Cape, Females, all ages	No	%
1	Tuberculosis (A15_A19)	5 386	7,6	1	Tuberculosis (A15_A19)	3 360	9,0	1	Diabetes mellitus (E10_E14)	2 623	7,8
2	Human immunodeficiency virus [HIV] disease (B20_B24)	4 136	5,8	2	Human immunodeficiency virus [HIV] disease (B20_B24)	1 977	5,3	2	Human immunodeficiency virus [HIV] disease (B20_B24)	2 146	6,4
3	Diabetes mellitus (E10_E14)	4 099	5,7	3	Cerebrovascular diseases (I60_I69)	1 700	4,5	3	Hypertensive diseases (I10_I15)	2 124	6,3
4	Cerebrovascular diseases (I60_I69)	3 674	5,2	4	Chronic lower respiratory diseases (J40_J47)	1 576	4,2	4	Tuberculosis (A15_A19)	2 011	6
5	Hypertensive diseases (I10_I15)	3 413	4,8	5	Diabetes mellitus (E10_E14)	1 473	3,9	5	Cerebrovascular diseases (I60_I69)	1 971	5,9
6	Chronic lower respiratory diseases (J40_J47)	2 736	3,8	6	Hypertensive diseases (I10_I15)	1 282	3,4	6	Other forms of heart disease (I30_I52)	1 235	3,7
7	Other forms of heart disease (I30_I52)	2 253	3,2	7	Malignant neoplasms of digestive organs (C15_C26)	1 045	2,8	7	Chronic lower respiratory diseases (J40_J47)	1 158	3,4
8	Other viral diseases (B25_B34)	2 055	2,9	8	Other forms of heart disease (I30_I52)	1 017	2,7	8	Other viral diseases (B25_B34)	1 061	3,2
9	Malignant neoplasms of digestive organs (C15_C26)	1 885	2,6	9	Other viral diseases (B25_B34)	988	2,6	9	Influenza and pneumonia (J09_J18)	897	2,7
10	Influenza and pneumonia (J09_J18)	1 782	2,5	10	Influenza and pneumonia (J09_J18)	883	2,4	10	Malignant neoplasms of digestive organs (C15_C26)	839	2,5
	Other Natural	30 807	43,2		Other Natural	15 119	40,4		Other Natural	15 595	46,3
	Non-natural	9 100	12,8		Non-natural	7 045	18,8		Non-natural	2 014	6
	All causes	**71 326**	**100,0**		**All causes**	**37 465**	**100,0**		**All causes**	**33 674**	**100,0**
	Eastern Cape, 0	**No**	**%**		**Eastern Cape, Males, 0**	**No**	**%**		**Eastern Cape, Females, 0**	**No**	**%**
1	Influenza and pneumonia (J09_J18)	184	9,2	1	Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	94	9,2	1	Influenza and pneumonia (J09_J18)	91	9,7
2	Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	177	8,9	2	Influenza and pneumonia (J09_J18)	93	9,1	2	Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	75	8
3	Intestinal infectious diseases (A00_A09)	134	6,7	3	Intestinal infectious diseases (A00_A09)	68	6,7	3	Intestinal infectious diseases (A00_A09)	66	7
4	Malnutrition (E40_E46)	70	3,5	4	Infections specific to the perinatal period (P35_P39)	41	4,0	4	Malnutrition (E40_E46)	31	3,3
5	Infections specific to the perinatal period (P35_P39)	67	3,4	5	Malnutrition (E40_E46)	39	3,8	5	Congenital malformations of the circulatory system (Q20_Q28)	25	2,7
6	Other disorders originating in the perinatal period (P90_P96)	62	3,1	6	Other disorders originating in the perinatal period (P90_P96)	38	3,7	6	Infections specific to the perinatal period (P35_P39)	24	2,5
7	Congenital malformations of the circulatory system (Q20_Q28)	53	2,7	7	Disorders related to length of gestation and fetal growth (P05_P08)	32	3,1	7	Other bacterial diseases (A30_A49)	23	2,4
8	Disorders related to length of gestation and fetal growth (P05_P08)	53	2,7	8	Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04)	29	2,8	8	Other disorders originating in the perinatal period (P90_P96)	23	2,4
9	Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04)	45	2,3	9	Congenital malformations of the circulatory system (Q20_Q28)	27	2,6	9	Disorders related to length of gestation and fetal growth (P05_P08)	18	1,9
10	Other bacterial diseases (A30_A49)	44	2,2	10	Other bacterial diseases (A30_A49)	21	2,1	10	Other acute lower respiratory infections (J20_J22)	17	1,8
	Other Natural	972	48,7		Other Natural	469	46,0		Other Natural	487	51,6
	Non-natural	133	6,7		Non-natural	68	6,7		Non-natural	63	6,7
	All causes	**1 994**	**100,0**		**All causes**	**1 019**	**100,0**		**All causes**	**943**	**100,0**

Appendix M2- The ten leading underlying natural causes of death by age and sex: Eastern Cape, 2019 (continued)

	Eastern Cape, 1-14	No	%		Eastern Cape, Males, 1-14	No	%		Eastern Cape, Females, 1-14	No	%
1	Influenza and pneumonia (J09_J18)	72	4,1	1	Tuberculosis (A15_A19)	32	3,3	1	Influenza and pneumonia (J09_J18)	41	5,3
2	Tuberculosis (A15_A19)	59	3,4	2	Influenza and pneumonia (J09_J18)	31	3,2	2	Intestinal infectious diseases (A00_A09)	30	3,9
3	Intestinal infectious diseases (A00_A09)	59	3,4	3	Intestinal infectious diseases (A00_A09)	29	3,0	3	Tuberculosis (A15_A19)	27	3,5
4	Cerebral palsy and other paralytic syndromes (G80_G83)	49	2,8	4	Cerebral palsy and other paralytic syndromes (G80_G83)	26	2,7	4	Human immunodeficiency virus [HIV] disease (B20_B24)	23	3
5	Human immunodeficiency virus [HIV] disease (B20_B24)	43	2,5	5	Human immunodeficiency virus [HIV] disease (B20_B24)	20	2,1	5	Cerebral palsy and other paralytic syndromes (G80_G83)	23	3
6	Episodic and paroxysmal disorders (G40_G47)	32	1,8	6	Episodic and paroxysmal disorders (G40_G47)	18	1,8	6	Inflammatory diseases of the central nervous system (G00_G09)	17	2,2
7	Malnutrition (E40_E46)	31	1,8	7	Malnutrition (E40_E46)	18	1,8	7	Episodic and paroxysmal disorders (G40_G47)	14	1,8
8	Other forms of heart disease (I30_I52)	27	1,5	8	Other forms of heart disease (I30_I52)	17	1,7	8	Congenital malformations of the circulatory system (Q20_Q28)	13	1,7
9	Inflammatory diseases of the central nervous system (G00_G09)	26	1,5	9	Other viral diseases (B25_B34)	13	1,3	9	Malnutrition (E40_E46)	13	1,7
10	Other viral diseases (B25_B34)	24	1,4	10	Metabolic disorders (E70_E90)	12	1,2	10	Other bacterial diseases (A30_A49)	11	1,4
	Other Natural	757	43,1		Non-natural	379	39,0		Other Natural	365	47,3
	Non-natural	576	32,8		Other Natural	378	38,8		Non-natural	194	25,2
	All causes	**1 755**	**100,0**		**All causes**	**973**	**100,0**		**All causes**	**771**	**100,0**
	Eastern Cape, 15-44	**No**	**%**		**Eastern Cape, Males, 15-44**	**No**	**%**		**Eastern Cape, Females, 15-44**	**No**	**%**
1	Human immunodeficiency virus [HIV] disease (B20_B24)	2 443	13,0	1	Tuberculosis (A15_A19)	1 276	11,1	1	Human immunodeficiency virus [HIV] disease (B20_B24)	1 355	18,7
2	Tuberculosis (A15_A19)	2 163	11,5	2	Human immunodeficiency virus [HIV] disease (B20_B24)	1 076	9,3	2	Tuberculosis (A15_A19)	878	12,1
3	Other viral diseases (B25_B34)	1 159	6,2	3	Other viral diseases (B25_B34)	511	4,4	3	Other viral diseases (B25_B34)	644	8,9
4	Influenza and pneumonia (J09_J18)	310	1,6	4	Episodic and paroxysmal disorders (G40_G47)	202	1,8	4	Malignant neoplasms of female genital organs (C51_C58)	148	2
5	Episodic and paroxysmal disorders (G40_G47)	309	1,6	5	Influenza and pneumonia (J09_J18)	162	1,4	5	Influenza and pneumonia (J09_J18)	147	2
6	Certain disorders involving the immune mechanism (D80_D89)	285	1,5	6	Cerebrovascular diseases (I60_I69)	152	1,3	6	Certain disorders involving the immune mechanism (D80_D89)	145	2
7	Cerebrovascular diseases (I60_I69)	261	1,4	7	Certain disorders involving the immune mechanism (D80_D89)	138	1,2	7	Cerebrovascular diseases (I60_I69)	108	1,5
8	Other forms of heart disease (I30_I52)	242	1,3	8	Other forms of heart disease (I30_I52)	137	1,2	8	Episodic and paroxysmal disorders (G40_G47)	106	1,5
9	Diabetes mellitus (E10_E14)	179	1,0	9	Chronic lower respiratory diseases (J40_J47)	105	0,9	9	Other forms of heart disease (I30_I52)	105	1,5
10	Renal failure (N17_N19)	174	0,9	10	Malignant neoplasms of digestive organs (C15_C26)	93	0,8	10	Diabetes mellitus (E10_E14)	99	1,4
	Non-natural	5 919	31,4		Non-natural	4 977	43,2		Other Natural	2 586	35,8
	Other Natural	5 388	28,6		Other Natural	2 689	23,3		Non-natural	912	12,6
	All causes	**18 832**	**100,0**		**All causes**	**11 518**	**100,0**		**All causes**	**7 233**	**100,0**

Appendix M2- The ten leading underlying natural causes of death by age and sex: Eastern Cape, 2019 (concluded)

	Eastern Cape, 45-64	No	%		Eastern Cape, Males, 45-64	No	%		Eastern Cape, Females, 45-64	No	%
1	Tuberculosis (A15_A19)	1 881	9,4	1	Tuberculosis (A15_A19)	1 322	11,4	1	Diabetes mellitus (E10_E14)	884	10,5
2	Diabetes mellitus (E10_E14)	1 419	7,1	2	Human immunodeficiency virus [HIV] disease (B20_B24)	761	6,6	2	Human immunodeficiency virus [HIV] disease (B20_B24)	619	7,3
3	Human immunodeficiency virus [HIV] disease (B20_B24)	1 380	6,9	3	Cerebrovascular diseases (I60_I69)	552	4,8	3	Tuberculosis (A15_A19)	554	6,6
4	Cerebrovascular diseases (I60_I69)	1 022	5,1	4	Chronic lower respiratory diseases (J40_J47)	539	4,6	4	Hypertensive diseases (I10_I15)	480	5,7
5	Hypertensive diseases (I10_I15)	885	4,4	5	Diabetes mellitus (E10_E14)	535	4,6	5	Cerebrovascular diseases (I60_I69)	469	5,6
6	Chronic lower respiratory diseases (J40_J47)	819	4,1	6	Malignant neoplasms of digestive organs (C15_C26)	463	4,0	6	Other viral diseases (B25_B34)	333	3,9
7	Malignant neoplasms of digestive organs (C15_C26)	736	3,7	7	Hypertensive diseases (I10_I15)	403	3,5	7	Other forms of heart disease (I30_I52)	299	3,5
8	Other viral diseases (B25_B34)	709	3,5	8	Other viral diseases (B25_B34)	375	3,2	8	Malignant neoplasms of female genital organs (C51_C58)	280	3,3
9	Other forms of heart disease (I30_I52)	645	3,2	9	Malignant neoplasms of respiratory and intrathoracic organs (C30_C39)	359	3,1	9	Chronic lower respiratory diseases (J40_J47)	280	3,3
10	Ischaemic heart diseases (I20_I25)	540	2,7	10	Other forms of heart disease (I30_I52)	346	3,0	10	Malignant neoplasms of digestive organs (C15_C26)	272	3,2
	Other Natural	8 436	42,0		Other Natural	4 788	41,2		Other Natural	3 527	41,8
	Non-natural	1 617	8,0		Non-natural	1 175	10,1		Non-natural	437	5,2
	All causes	**20 089**	**100,0**		**All causes**	**11 618**	**100,0**		**All causes**	**8 434**	**100,0**
	Eastern Cape, 64+	**No**	**%**		**Eastern Cape, Males, 65+**	**No**	**%**		**Eastern Cape, Females, 65+**	**No**	**%**
1	Diabetes mellitus (E10_E14)	2 492	8,7	1	Cerebrovascular diseases (I60_I69)	988	8,0	1	Diabetes mellitus (E10_E14)	1 632	10
2	Cerebrovascular diseases (I60_I69)	2 377	8,3	2	Chronic lower respiratory diseases (J40_J47)	913	7,4	2	Hypertensive diseases (I10_I15)	1 558	9,6
3	Hypertensive diseases (I10_I15)	2 376	8,3	3	Diabetes mellitus (E10_E14)	857	6,9	3	Cerebrovascular diseases (I60_I69)	1 388	8,5
4	Chronic lower respiratory diseases (J40_J47)	1 713	6,0	4	Hypertensive diseases (I10_I15)	816	6,6	4	Other forms of heart disease (I30_I52)	811	5
5	Other forms of heart disease (I30_I52)	1 323	4,6	5	Tuberculosis (A15_A19)	717	5,8	5	Chronic lower respiratory diseases (J40_J47)	799	4,9
6	Tuberculosis (A15_A19)	1 264	4,4	6	Other forms of heart disease (I30_I52)	511	4,1	6	Tuberculosis (A15_A19)	546	3,4
7	Malignant neoplasms of digestive organs (C15_C26)	991	3,5	7	Malignant neoplasms of digestive organs (C15_C26)	487	3,9	7	Ischaemic heart diseases (I20_I25)	510	3,1
8	Ischaemic heart diseases (I20_I25)	922	3,2	8	Malignant neoplasms of male genital organs (C60_C63)	459	3,7	8	Malignant neoplasms of digestive organs (C15_C26)	504	3,1
9	Influenza and pneumonia (J09_J18)	820	2,9	9	Ischaemic heart diseases (I20_I25)	412	3,3	9	Influenza and pneumonia (J09_J18)	455	2,8
10	Renal failure (N17_N19)	487	1,7	10	Influenza and pneumonia (J09_J18)	365	3,0	10	Malignant neoplasms of female genital organs (C51_C58)	269	1,7
	Other Natural	13 028	45,5		Other Natural	5 364	43,5		Other Natural	7 409	45,5
	Non-natural	852	3,0		Non-natural	443	3,6		Non-natural	408	2,5
	All causes	**28 645**	**100,0**		**All causes**	**12 332**	**100,0**		**All causes**	**16 289**	**100,0**

Appendix M3- The ten leading underlying natural causes of death by age and sex: Northern Cape, 2019

	Northern Cape, all ages	No	%		Northern Cape, Males, all ages	No	%		Northern Cape, Females, all ages	No	%
1	Human immunodeficiency virus [HIV] disease (B20_B24)	878	6,3	1	Tuberculosis (A15_A19)	531	7,2	1	Hypertensive diseases (I10_I15)	473	7,2
2	Tuberculosis (A15_A19)	841	6,0	2	Human immunodeficiency virus [HIV] disease (B20_B24)	436	5,9	2	Diabetes mellitus (E10_E14)	441	6,7
3	Hypertensive diseases (I10_I15)	790	5,6	3	Chronic lower respiratory diseases (J40_J47)	342	4,6	3	Human immunodeficiency virus [HIV] disease (B20_B24)	439	6,7
4	Diabetes mellitus (E10_E14)	698	5,0	4	Hypertensive diseases (I10_I15)	317	4,3	4	Cerebrovascular diseases (I60_I69)	397	6
5	Cerebrovascular diseases (I60_I69)	674	4,8	5	Ischaemic heart diseases (I20_I25)	305	4,1	5	Tuberculosis (A15_A19)	309	4,7
6	Influenza and pneumonia (J09_J18)	566	4,0	6	Influenza and pneumonia (J09_J18)	293	4,0	6	Influenza and pneumonia (J09_J18)	273	4,1
7	Ischaemic heart diseases (I20_I25)	565	4,0	7	Cerebrovascular diseases (I60_I69)	274	3,7	7	Ischaemic heart diseases (I20_I25)	260	3,9
8	Chronic lower respiratory diseases (J40_J47)	549	3,9	8	Diabetes mellitus (E10_E14)	256	3,5	8	Other viral diseases (B25_B34)	256	3,9
9	Other viral diseases (B25_B34)	465	3,3	9	Other viral diseases (B25_B34)	207	2,8	9	Chronic lower respiratory diseases (J40_J47)	207	3,1
10	Other forms of heart disease (I30_I52)	335	2,4	10	Malignant neoplasms of respiratory and intrathoracic organs (C30_C39)	171	2,3	10	Other forms of heart disease (I30_I52)	167	2,5
	Other Natural	6 214	44,4		Other Natural	3 206	43,4		Other Natural	2 985	45,3
	Non-natural	1 433	10,2		Non-natural	1 044	14,1		Non-natural	384	5,8
	All causes	**14 008**	**100,0**		**All causes**	**7 382**	**100,0**		**All causes**	**6 591**	**100,0**
	Northern Cape, 0	**No**	**%**		**Northern Cape, Males, 0**	**No**	**%**		**Northern Cape, Females, 0**	**No**	**%**
1	Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	115	14,8	1	Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	72	17,9	1	Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	42	11,6
2	Disorders related to length of gestation and fetal growth (P05_P08)	65	8,4	2	Other disorders originating in the perinatal period (P90_P96)	27	6,7	2	Disorders related to length of gestation and fetal growth (P05_P08)	39	10,7
3	Influenza and pneumonia (J09_J18)	44	5,7	3	Disorders related to length of gestation and fetal growth (P05_P08)	25	6,2	3	Influenza and pneumonia (J09_J18)	24	6,6
4	Other disorders originating in the perinatal period (P90_P96)	41	5,3	4	Intestinal infectious diseases (A00_A09)	21	5,2	4	Infections specific to the perinatal period (P35_P39)	17	4,7
5	Intestinal infectious diseases (A00_A09)	37	4,8	5	Influenza and pneumonia (J09_J18)	20	5,0	5	Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04)	16	4,4
6	Infections specific to the perinatal period (P35_P39)	33	4,2	6	Infections specific to the perinatal period (P35_P39)	16	4,0	6	Intestinal infectious diseases (A00_A09)	16	4,4
7	Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04)	32	4,1	7	Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04)	13	3,2	7	Congenital malformations of the circulatory system (Q20_Q28)	15	4,1
8	Other acute lower respiratory infections (J20_J22)	25	3,2	8	Other acute lower respiratory infections (J20_J22)	13	3,2	8	Other disorders originating in the perinatal period (P90_P96)	14	3,9
9	Congenital malformations of the circulatory system (Q20_Q28)	23	3,0	9	Haemorrhagic and haematological disorders of fetus and newborn (P50_P61)	10	2,5	9	Other acute lower respiratory infections (J20_J22)	12	3,3
10	Malnutrition (E40_E46)	19	2,4	10	Malnutrition (E40_E46)	9	2,2	10	Malnutrition (E40_E46)	10	2,8
	Other Natural	314	40,4		Other Natural	166	41,2		Other Natural	139	38,3
	Non-natural	30	3,9		Non-natural	11	2,7		Non-natural	19	5,2
	All causes	**778**	**100,0**		**All causes**	**403**	**100,0**		**All causes**	**363**	**100,0**

Appendix M3- The ten leading underlying natural causes of death by age and sex: Northern Cape, 2019 (continued)

	Northern Cape, 1-14	No	%		Northern Cape, Males, 1-14	No	%		Northern Cape, Females, 1-14	No	%
1	Intestinal infectious diseases (A00_A09)	22	6,7	1	Intestinal infectious diseases (A00_A09)	13	7,5	1	Intestinal infectious diseases (A00_A09)	9	5,9
2	Malnutrition (E40_E46)	18	5,5	2	Influenza and pneumonia (J09_J18)	11	6,4	2	Malnutrition (E40_E46)	8	5,2
3	Influenza and pneumonia (J09_J18)	17	5,2	3	Malnutrition (E40_E46)	10	5,8	3	Other viral diseases (B25_B34)	7	4,6
4	Human immunodeficiency virus [HIV] disease (B20_B24)	12	3,7	4	Human immunodeficiency virus [HIV] disease (B20_B24)	9	5,2	4	Influenza and pneumonia (J09_J18)	6	3,9
5	Tuberculosis (A15_A19)	12	3,7	5	Tuberculosis (A15_A19)	7	4,0	5	Metabolic disorders (E70_E90)	5	3,3
6	Other viral diseases (B25_B34)	12	3,7	6	Other viral diseases (B25_B34)	5	2,9	6	Tuberculosis (A15_A19)	5	3,3
7	Metabolic disorders (E70_E90)	8	2,4	7	Congenital malformations of the nervous system (Q00_Q07)	4	2,3	7	Human immunodeficiency virus [HIV] disease (B20_B24)	3	2
8	Inflammatory diseases of the central nervous system (G00_G09)	6	1,8	8	Inflammatory diseases of the central nervous system (G00_G09)	4	2,3	8	Malignant neoplasms, stated or presumed to be primary, of lymphoid, haematopoietic and related tissue (C81_C96)	3	2
9	Congenital malformations of the nervous system (Q00_Q07)	5	1,5	9	Metabolic disorders (E70_E90)	3	1,7	9	Diseases of liver (K70_K77)	3	2
10	Diseases of liver (K70_K77)	5	1,5	10	Malignant neoplasms of eye, brain and other parts of central nervous system (C69_C72)	3	1,7	10	Other disorders of the nervous system (G90_G99)	3	2
	Other Natural	113	34,6		Non-natural	55	31,8		Other Natural	59	38,6
	Non-natural	97	29,7		Other Natural	49	28,3		Non-natural	42	27,5
	All causes	**327**	**100,0**		**All causes**	**173**	**100,0**		**All causes**	**153**	**100,0**
	Northern Cape, 15-44	**No**	**%**		**Northern Cape, Males, 15-44**	**No**	**%**		**Northern Cape, Females, 15-44**	**No**	**%**
1	Human immunodeficiency virus [HIV] disease (B20_B24)	499	13,7	1	Human immunodeficiency virus [HIV] disease (B20_B24)	245	11,6	1	Human immunodeficiency virus [HIV] disease (B20_B24)	252	16,7
2	Tuberculosis (A15_A19)	404	11,1	2	Tuberculosis (A15_A19)	235	11,1	2	Tuberculosis (A15_A19)	168	11,1
3	Other viral diseases (B25_B34)	264	7,2	3	Other viral diseases (B25_B34)	121	5,7	3	Other viral diseases (B25_B34)	142	9,4
4	Certain disorders involving the immune mechanism (D80_D89)	171	4,7	4	Certain disorders involving the immune mechanism (D80_D89)	79	3,7	4	Certain disorders involving the immune mechanism (D80_D89)	92	6,1
5	Influenza and pneumonia (J09_J18)	110	3,0	5	Influenza and pneumonia (J09_J18)	62	2,9	5	Influenza and pneumonia (J09_J18)	48	3,2
6	Cerebrovascular diseases (I60_I69)	60	1,6	6	Episodic and paroxysmal disorders (G40_G47)	42	2,0	6	Cerebrovascular diseases (I60_I69)	33	2,2
7	Episodic and paroxysmal disorders (G40_G47)	53	1,5	7	Cerebrovascular diseases (I60_I69)	26	1,2	7	Diseases of liver (K70_K77)	32	2,1
8	Diseases of liver (K70_K77)	46	1,3	8	Diabetes mellitus (E10_E14)	25	1,2	8	Malignant neoplasms of female genital organs (C51_C58)	28	1,9
9	Diabetes mellitus (E10_E14)	45	1,2	9	Ischaemic heart diseases (I20_I25)	22	1,0	9	Malignant neoplasms of breast (C50)	22	1,5
10	Other forms of heart disease (I30_I52)	43	1,2	10	Other forms of heart disease (I30_I52)	22	1,0	10	Other forms of heart disease (I30_I52)	21	1,4
	Other Natural	1 042	28,6		Non-natural	717	33,8		Other Natural	486	32,2
	Non-natural	905	24,8		Other Natural	525	24,8		Non-natural	183	12,1
	All causes	**3 642**	**100,0**		**All causes**	**2 121**	**100,0**		**All causes**	**1 507**	**100,0**

Appendix M3- The ten leading underlying natural causes of death by age and sex: Northern Cape, 2019 (concluded)

	Northern Cape, 45-64	No	%		Northern Cape, Males, 45-64	No	%		Northern Cape, Females, 45-64	No	%
1	Tuberculosis (A15_A19)	327	7,2	1	Tuberculosis (A15_A19)	223	8,8	1	Diabetes mellitus (E10_E14)	161	8
2	Human immunodeficiency virus [HIV] disease (B20_B24)	324	7,1	2	Human immunodeficiency virus [HIV] disease (B20_B24)	166	6,5	2	Human immunodeficiency virus [HIV] disease (B20_B24)	157	7,8
3	Diabetes mellitus (E10_E14)	271	5,9	3	Chronic lower respiratory diseases (J40_J47)	157	6,2	3	Hypertensive diseases (I10_I15)	114	5,7
4	Chronic lower respiratory diseases (J40_J47)	237	5,2	4	Ischaemic heart diseases (I20_I25)	135	5,3	4	Tuberculosis (A15_A19)	104	5,2
5	Ischaemic heart diseases (I20_I25)	232	5,1	5	Diabetes mellitus (E10_E14)	110	4,3	5	Cerebrovascular diseases (I60_I69)	100	5
6	Hypertensive diseases (I10_I15)	209	4,6	6	Influenza and pneumonia (J09_J18)	103	4,0	6	Ischaemic heart diseases (I20_I25)	97	4,8
7	Cerebrovascular diseases (I60_I69)	199	4,4	7	Cerebrovascular diseases (I60_I69)	98	3,9	7	Influenza and pneumonia (J09_J18)	87	4,3
8	Influenza and pneumonia (J09_J18)	190	4,2	8	Hypertensive diseases (I10_I15)	95	3,7	8	Other viral diseases (B25_B34)	83	4,1
9	Other viral diseases (B25_B34)	145	3,2	9	Malignant neoplasms of digestive organs (C15_C26)	91	3,6	9	Chronic lower respiratory diseases (J40_J47)	80	4
10	Malignant neoplasms of respiratory and intrathoracic organs (C30_C39)	133	2,9	10	Malignant neoplasms of respiratory and intrathoracic organs (C30_C39)	91	3,6	10	Malignant neoplasms of female genital organs (C51_C58)	71	3,5
	Other Natural	2 010	44,1		Other Natural	1 067	41,9		Other Natural	881	43,8
	Non-natural	284	6,2		Non-natural	208	8,2		Non-natural	76	3,8
	All causes	**4 561**	**100,0**		**All causes**	**2 544**	**100,0**		**All causes**	**2 011**	**100,0**
	Northern Cape, 65+	**No**	**%**		**Northern Cape, Males, 65+**	**No**	**%**		**Northern Cape, Females, 65+**	**No**	**%**
1	Hypertensive diseases (I10_I15)	554	11,8	1	Hypertensive diseases (I10_I15)	208	9,7	1	Hypertensive diseases (I10_I15)	346	13,5
2	Cerebrovascular diseases (I60_I69)	415	8,8	2	Chronic lower respiratory diseases (J40_J47)	165	7,7	2	Cerebrovascular diseases (I60_I69)	264	10,3
3	Diabetes mellitus (E10_E14)	380	8,1	3	Cerebrovascular diseases (I60_I69)	150	7,0	3	Diabetes mellitus (E10_E14)	259	10,1
4	Ischaemic heart diseases (I20_I25)	297	6,3	4	Ischaemic heart diseases (I20_I25)	148	6,9	4	Ischaemic heart diseases (I20_I25)	149	5,8
5	Chronic lower respiratory diseases (J40_J47)	281	6,0	5	Diabetes mellitus (E10_E14)	120	5,6	5	Chronic lower respiratory diseases (J40_J47)	116	4,5
6	Influenza and pneumonia (J09_J18)	205	4,4	6	Malignant neoplasms of male genital organs (C60_C63)	116	5,4	6	Influenza and pneumonia (J09_J18)	108	4,2
7	Other forms of heart disease (I30_I52)	153	3,3	7	Influenza and pneumonia (J09_J18)	97	4,5	7	Other forms of heart disease (I30_I52)	83	3,2
8	Malignant neoplasms of digestive organs (C15_C26)	128	2,7	8	Malignant neoplasms of respiratory and intrathoracic organs (C30_C39)	74	3,5	8	Malignant neoplasms of digestive organs (C15_C26)	63	2,5
9	Malignant neoplasms of male genital organs (C60_C63)	116	2,5	9	Other forms of heart disease (I30_I52)	70	3,3	9	Malignant neoplasms of female genital organs (C51_C58)	55	2,2
10	Malignant neoplasms of respiratory and intrathoracic organs (C30_C39)	108	2,3	10	Malignant neoplasms of digestive organs (C15_C26)	65	3,0	10	Malignant neoplasms of ill-defined, secondary and unspecified sites (C76_C80)	39	1,5
	Other Natural	1 946	41,4		Other Natural	875	40,9		Other Natural	1 011	39,6
	Non-natural	116	2,5		Non-natural	53	2,5		Non-natural	63	2,5
	All causes	**4 699**	**100,0**		**All causes**	**2 141**	**100,0**		**All causes**	**2 556**	**100,0**

Appendix M4- The ten leading underlying natural causes of death by age and sex: Free State, 2019

	Free State, all ages	No	%		Free State, Males, all ages	No	%		Free State, Females, all ages	No	%
1	Human immunodeficiency virus [HIV] disease (B20_B24)	1 955	6,3	1	Human immunodeficiency virus [HIV] disease (B20_B24)	1 052	6,4	1	Hypertensive diseases (I10_I15)	1 074	7,4
2	Hypertensive diseases (I10_I15)	1 735	5,6	2	Tuberculosis (A15_A19)	1 001	6,1	2	Diabetes mellitus (E10_E14)	1 053	7,2
3	Diabetes mellitus (E10_E14)	1 605	5,2	3	Influenza and pneumonia (J09_J18)	904	5,5	3	Human immunodeficiency virus [HIV] disease (B20_B24)	896	6,1
4	Influenza and pneumonia (J09_J18)	1 577	5,1	4	Cerebrovascular diseases (I60_I69)	677	4,1	4	Cerebrovascular diseases (I60_I69)	891	6,1
5	Cerebrovascular diseases (I60_I69)	1 568	5,0	5	Hypertensive diseases (I10_I15)	659	4,0	5	Other forms of heart disease (I30_I52)	684	4,7
6	Tuberculosis (A15_A19)	1 549	5,0	6	Diabetes mellitus (E10_E14)	551	3,4	6	Influenza and pneumonia (J09_J18)	671	4,6
7	Other forms of heart disease (I30_I52)	1 222	3,9	7	Other forms of heart disease (I30_I52)	537	3,3	7	Tuberculosis (A15_A19)	538	3,7
8	Other viral diseases (B25_B34)	1 026	3,3	8	Other viral diseases (B25_B34)	511	3,1	8	Other viral diseases (B25_B34)	514	3,5
9	Ischaemic heart diseases (I20_I25)	868	2,8	9	Ischaemic heart diseases (I20_I25)	500	3,0	9	Malignant neoplasms of female genital organs (C51_C58)	412	2,8
10	Chronic lower respiratory diseases (J40_J47)	736	2,4	10	Chronic lower respiratory diseases (J40_J47)	462	2,8	10	Ischaemic heart diseases (I20_I25)	367	2,5
	Other Natural	13 885	44,7		Other Natural	7 027	42,8		Other Natural	6 683	45,9
	Non-natural	3 338	10,7		Non-natural	2 533	15,4		Non-natural	789	5,4
	All causes	**31 064**	**100,0**		**All causes**	**16 414**	**100,0**		**All causes**	**14 572**	**100,0**
	Free State, 0	**No**	**%**		**Free State, Males, 0**	**No**	**%**		**Free State, Females, all ages**	**No**	**%**
1	Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	260	15,4	1	Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	152	16,7	1	Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	104	13,6
2	Infections specific to the perinatal period (P35_P39)	123	7,3	2	Influenza and pneumonia (J09_J18)	72	7,9	2	Infections specific to the perinatal period (P35_P39)	60	7,9
3	Influenza and pneumonia (J09_J18)	121	7,2	3	Infections specific to the perinatal period (P35_P39)	61	6,7	3	Intestinal infectious diseases (A00_A09)	53	6,9
4	Intestinal infectious diseases (A00_A09)	106	6,3	4	Disorders related to length of gestation and fetal growth (P05_P08)	57	6,3	4	Influenza and pneumonia (J09_J18)	49	6,4
5	Disorders related to length of gestation and fetal growth (P05_P08)	104	6,2	5	Intestinal infectious diseases (A00_A09)	52	5,7	5	Disorders related to length of gestation and fetal growth (P05_P08)	47	6,2
6	Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04)	86	5,1	6	Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04)	51	5,6	6	Malnutrition (E40_E46)	36	4,7
7	Malnutrition (E40_E46)	73	4,3	7	Other disorders originating in the perinatal period (P90_P96)	39	4,3	7	Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04)	33	4,3
8	Other disorders originating in the perinatal period (P90_P96)	68	4,0	8	Congenital malformations of the circulatory system (Q20_Q28)	36	4,0	8	Other disorders originating in the perinatal period (P90_P96)	29	3,8
9	Congenital malformations of the circulatory system (Q20_Q28)	64	3,8	9	Malnutrition (E40_E46)	36	4,0	9	Congenital malformations of the circulatory system (Q20_Q28)	28	3,7
10	Other acute lower respiratory infections (J20_J22)	33	2,0	10	Other congenital malformations (Q80_Q89)	18	2,0	10	Other acute lower respiratory infections (J20_J22)	17	2,2
	Other Natural	611	36,1		Other Natural	315	34,7		Other Natural	285	37,4
	Non-natural	42	2,5		Non-natural	20	2,2		Non-natural	22	2,9
	All causes	**1 691**	**100,0**		**All causes**	**909**	**100,0**		**All causes**	**763**	**100,0**

Appendix M4- The ten leading underlying natural causes of death by age and sex: Free State, 2019 (continued)

	Free State, 1-14	No	%		Free State, Males, 1-14	No	%		Free State, Females, 1-14	No	%
1	Influenza and pneumonia (J09_J18)	67	9,1	1	Influenza and pneumonia (J09_J18)	36	9,0	1	Influenza and pneumonia (J09_J18)	31	9,2
2	Intestinal infectious diseases (A00_A09)	47	6,4	2	Intestinal infectious diseases (A00_A09)	24	6,0	2	Intestinal infectious diseases (A00_A09)	23	6,8
3	Malnutrition (E40_E46)	30	4,1	3	Malnutrition (E40_E46)	17	4,3	3	Malnutrition (E40_E46)	13	3,9
4	Human immunodeficiency virus [HIV] disease (B20_B24)	24	3,3	4	Cerebral palsy and other paralytic syndromes (G80_G83)	13	3,3	4	Other viral diseases (B25_B34)	12	3,6
5	Cerebral palsy and other paralytic syndromes (G80_G83)	24	3,3	5	Human immunodeficiency virus [HIV] disease (B20_B24)	13	3,3	5	Human immunodeficiency virus [HIV] disease (B20_B24)	11	3,3
6	Tuberculosis (A15_A19)	21	2,8	6	Tuberculosis (A15_A19)	11	2,8	6	Cerebral palsy and other paralytic syndromes (G80_G83)	11	3,3
7	Other viral diseases (B25_B34)	17	2,3	7	Episodic and paroxysmal disorders (G40_G47)	8	2,0	7	Tuberculosis (A15_A19)	10	3
8	Episodic and paroxysmal disorders (G40_G47)	14	1,9	8	Other acute lower respiratory infections (J20_J22)	8	2,0	8	Other disorders of the nervous system (G90_G99)	7	2,1
9	Other acute lower respiratory infections (J20_J22)	14	1,9	9	Inflammatory diseases of the central nervous system (G00_G09)	7	1,8	9	Episodic and paroxysmal disorders (G40_G47)	6	1,8
10	Metabolic disorders (E70_E90)	12	1,6	10	Congenital malformations of the circulatory system (Q20_Q28)	6	1,5	10	Metabolic disorders (E70_E90)	6	1,8
	Other Natural	260	35,3		Other Natural	130	32,7		Other Natural	124	36,9
	Non-natural	207	28,1		Non-natural	125	31,4		Non-natural	82	24,4
	All causes	**737**	**100,0**		**All causes**	**398**	**100,0**		**All causes**	**336**	**100,0**
	Free State, 15-44	**No**	**%**		**Free State, Males, 15-44**	**No**	**%**		**Free State, Females, 15-44**	**No**	**%**
1	Human immunodeficiency virus [HIV] disease (B20_B24)	977	12,5	1	Human immunodeficiency virus [HIV] disease (B20_B24)	524	11,3	1	Human immunodeficiency virus [HIV] disease (B20_B24)	449	14,4
2	Tuberculosis (A15_A19)	734	9,4	2	Tuberculosis (A15_A19)	443	9,5	2	Tuberculosis (A15_A19)	283	9,1
3	Other viral diseases (B25_B34)	499	6,4	3	Other viral diseases (B25_B34)	230	4,9	3	Other viral diseases (B25_B34)	268	8,6
4	Certain disorders involving the immune mechanism (D80_D89)	316	4,0	4	Influenza and pneumonia (J09_J18)	170	3,7	4	Certain disorders involving the immune mechanism (D80_D89)	162	5,2
5	Influenza and pneumonia (J09_J18)	291	3,7	5	Certain disorders involving the immune mechanism (D80_D89)	154	3,3	5	Influenza and pneumonia (J09_J18)	121	3,9
6	Other forms of heart disease (I30_I52)	149	1,9	6	Other forms of heart disease (I30_I52)	80	1,7	6	Protozoal diseases (B50_B64)	88	2,8
7	Protozoal diseases (B50_B64)	146	1,9	7	Cerebrovascular diseases (I60_I69)	67	1,4	7	Malignant neoplasms of female genital organs (C51_C58)	85	2,7
8	Cerebrovascular diseases (I60_I69)	121	1,5	8	Renal failure (N17_N19)	65	1,4	8	Other forms of heart disease (I30_I52)	68	2,2
9	Renal failure (N17_N19)	98	1,3	9	Protozoal diseases (B50_B64)	58	1,2	9	Cerebrovascular diseases (I60_I69)	54	1,7
10	Diabetes mellitus (E10_E14)	95	1,2	10	Episodic and paroxysmal disorders (G40_G47)	56	1,2	10	Diabetes mellitus (E10_E14)	44	1,4
	Other Natural	2 312	29,6		Non-natural	1 650	35,4		Other Natural	1 085	34,7
	Non-natural	2 076	26,6		Other Natural	1 160	24,9		Non-natural	416	13,3
	All causes	**7 814**	**100,0**		**All causes**	**4 657**	**100,0**		**All causes**	**3 123**	**100,0**

Appendix M4- The ten leading underlying natural causes of death by age and sex: Free State, 2019 (concluded)

	Free State, 45-64	No	%		Free State, Males, 45-64	No	%		Free State, Females, 45-64	No	%
1	Human immunodeficiency virus [HIV] disease (B20_B24)	798	8,4	1	Human immunodeficiency virus [HIV] disease (B20_B24)	439	8,0	1	Human immunodeficiency virus [HIV] disease (B20_B24)	356	8,9
2	Tuberculosis (A15_A19)	565	5,9	2	Tuberculosis (A15_A19)	401	7,3	2	Diabetes mellitus (E10_E14)	352	8,8
3	Diabetes mellitus (E10_E14)	564	5,9	3	Influenza and pneumonia (J09_J18)	316	5,7	3	Hypertensive diseases (I10_I15)	263	6,6
4	Cerebrovascular diseases (I60_I69)	508	5,3	4	Cerebrovascular diseases (I60_I69)	273	5,0	4	Cerebrovascular diseases (I60_I69)	235	5,9
5	Hypertensive diseases (I10_I15)	483	5,1	5	Other viral diseases (B25_B34)	233	4,2	5	Other viral diseases (B25_B34)	188	4,7
6	Influenza and pneumonia (J09_J18)	456	4,8	6	Hypertensive diseases (I10_I15)	220	4,0	6	Malignant neoplasms of female genital organs (C51_C58)	181	4,5
7	Other viral diseases (B25_B34)	421	4,4	7	Diabetes mellitus (E10_E14)	211	3,8	7	Other forms of heart disease (I30_I52)	179	4,5
8	Other forms of heart disease (I30_I52)	365	3,8	8	Ischaemic heart diseases (I20_I25)	194	3,5	8	Tuberculosis (A15_A19)	162	4
9	Ischaemic heart diseases (I20_I25)	285	3,0	9	Other forms of heart disease (I30_I52)	186	3,4	9	Influenza and pneumonia (J09_J18)	140	3,5
10	Chronic lower respiratory diseases (J40_J47)	262	2,7	10	Chronic lower respiratory diseases (J40_J47)	171	3,1	10	Malignant neoplasms of digestive organs (C15_C26)	116	2,9
	Other Natural	4 124	43,3		Other Natural	2 312	42,0		Other Natural	1 693	42,2
	Non-natural	700	7,3		Non-natural	546	9,9		Non-natural	148	3,7
	All causes	**9 531**	**100,0**		**All causes**	**5 502**	**100,0**		**All causes**	**4 013**	**100,0**
	Free State, 65+	**No**	**%**		**Free State, Males, 65+**	**No**	**%**		**Free State, Females, 65+**	**No**	**%**
1	Hypertensive diseases (I10_I15)	1 178	10,4	1	Hypertensive diseases (I10_I15)	405	8,2	1	Hypertensive diseases (I10_I15)	771	12,2
2	Diabetes mellitus (E10_E14)	938	8,3	2	Cerebrovascular diseases (I60_I69)	330	6,7	2	Diabetes mellitus (E10_E14)	653	10,3
3	Cerebrovascular diseases (I60_I69)	930	8,2	3	Influenza and pneumonia (J09_J18)	310	6,3	3	Cerebrovascular diseases (I60_I69)	600	9,5
4	Other forms of heart disease (I30_I52)	694	6,1	4	Diabetes mellitus (E10_E14)	285	5,8	4	Other forms of heart disease (I30_I52)	429	6,8
5	Influenza and pneumonia (J09_J18)	642	5,7	5	Ischaemic heart diseases (I20_I25)	271	5,5	5	Influenza and pneumonia (J09_J18)	330	5,2
6	Ischaemic heart diseases (I20_I25)	522	4,6	6	Other forms of heart disease (I30_I52)	265	5,4	6	Ischaemic heart diseases (I20_I25)	251	4
7	Chronic lower respiratory diseases (J40_J47)	427	3,8	7	Chronic lower respiratory diseases (J40_J47)	258	5,2	7	Chronic lower respiratory diseases (J40_J47)	169	2,7
8	Malignant neoplasms of digestive organs (C15_C26)	288	2,6	8	Malignant neoplasms of male genital organs (C60_C63)	221	4,5	8	Malignant neoplasms of female genital organs (C51_C58)	146	2,3
9	Renal failure (N17_N19)	272	2,4	9	Malignant neoplasms of digestive organs (C15_C26)	167	3,4	9	Renal failure (N17_N19)	140	2,2
10	Malignant neoplasms of male genital organs (C60_C63)	221	2,0	10	Tuberculosis (A15_A19)	140	2,8	10	Malignant neoplasms of digestive organs (C15_C26)	121	1,9
	Other Natural	4 861	43,1		Other Natural	2 101	42,5		Other Natural	2 604	41,1
	Non-natural	312	2,8		Non-natural	192	3,9		Non-natural	120	1,9
	All causes	**11 285**	**100,0**		**All causes**	**4 945**	**100,0**		**All causes**	**6 334**	**100,0**

Appendix M5- The ten leading underlying natural causes of death by age and sex: KwaZulu-Natal, 2019

	KwaZulu-Natal, all ages	No	%		KwaZulu-Natal, Males, all ages	No	%		KwaZulu-Natal, Females, all ages	No	%
1	Diabetes mellitus (E10_E14)	5 828	6,7	1	Tuberculosis (A15_A19)	3 290	7,3	1	Diabetes mellitus (E10_E14)	3 923	9,3
2	Tuberculosis (A15_A19)	5 251	6,0	2	Human immunodeficiency virus [HIV] disease (B20_B24)	2 176	4,8	2	Cerebrovascular diseases (I60_I69)	2 976	7,1
3	Cerebrovascular diseases (I60_I69)	4 925	5,6	3	Cerebrovascular diseases (I60_I69)	1 942	4,3	3	Hypertensive diseases (I10_I15)	2 231	5,3
4	Human immunodeficiency virus [HIV] disease (B20_B24)	4 312	4,9	4	Diabetes mellitus (E10_E14)	1 902	4,2	4	Human immunodeficiency virus [HIV] disease (B20_B24)	2 127	5,1
5	Hypertensive diseases (I10_I15)	3 408	3,9	5	Ischaemic heart diseases (I20_I25)	1 715	3,8	5	Tuberculosis (A15_A19)	1 953	4,6
6	Ischaemic heart diseases (I20_I25)	3 080	3,5	6	Influenza and pneumonia (J09_J18)	1 383	3,1	6	Other forms of heart disease (I30_I52)	1 681	4
7	Other forms of heart disease (I30_I52)	2 912	3,3	7	Other forms of heart disease (I30_I52)	1 230	2,7	7	Ischaemic heart diseases (I20_I25)	1 363	3,2
8	Influenza and pneumonia (J09_J18)	2 736	3,1	8	Hypertensive diseases (I10_I15)	1 176	2,6	8	Influenza and pneumonia (J09_J18)	1 353	3,2
9	Other viral diseases (B25_B34)	2 312	2,6	9	Other viral diseases (B25_B34)	1 157	2,6	9	Malignant neoplasms of female genital organs (C51_C58)	1 247	3
10	Malignant neoplasms of digestive organs (C15_C26)	1 816	2,1	10	Malignant neoplasms of digestive organs (C15_C26)	1 029	2,3	10	Other viral diseases (B25_B34)	1 151	2,7
	Other Natural	38 502	44,1		Other Natural	18 556	41,2		Other Natural	19 382	46
	Non-natural	12 209	14,0		Non-natural	9 432	21,0		Non-natural	2 730	6,5
	All causes	**87 291**	**100,0**		**All causes**	**44 988**	**100,0**		**All causes**	**42 117**	**100,0**
	KwaZulu-Natal, 0	**No**	**%**		**KwaZulu-Natal, Males, 0**	**No**	**%**		**KwaZulu-Natal, Females, 0**	**No**	**%**
1	Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	446	12,3	1	Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	242	12,8	1	Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	195	11,6
2	Disorders related to length of gestation and fetal growth (P05_P08)	334	9,2	2	Disorders related to length of gestation and fetal growth (P05_P08)	189	10,0	2	Disorders related to length of gestation and fetal growth (P05_P08)	136	8,1
3	Intestinal infectious diseases (A00_A09)	256	7,1	3	Intestinal infectious diseases (A00_A09)	131	6,9	3	Intestinal infectious diseases (A00_A09)	124	7,4
4	Influenza and pneumonia (J09_J18)	234	6,4	4	Influenza and pneumonia (J09_J18)	128	6,8	4	Influenza and pneumonia (J09_J18)	106	6,3
5	Infections specific to the perinatal period (P35_P39)	206	5,7	5	Other disorders originating in the perinatal period (P90_P96)	109	5,8	5	Infections specific to the perinatal period (P35_P39)	92	5,5
6	Other disorders originating in the perinatal period (P90_P96)	199	5,5	6	Infections specific to the perinatal period (P35_P39)	108	5,7	6	Other disorders originating in the perinatal period (P90_P96)	87	5,2
7	Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04)	174	4,8	7	Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04)	86	4,5	7	Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04)	84	5
8	Congenital malformations of the circulatory system (Q20_Q28)	102	2,8	8	Congenital malformations of the circulatory system (Q20_Q28)	49	2,6	8	Congenital malformations of the circulatory system (Q20_Q28)	51	3
9	Other bacterial diseases (A30_A49)	86	2,4	9	Other congenital malformations (Q80_Q89)	41	2,2	9	Other bacterial diseases (A30_A49)	44	2,6
10	Haemorrhagic and haematological disorders of fetus and newborn (P50_P61)	83	2,3	10	Haemorrhagic and haematological disorders of fetus and newborn (P50_P61)	40	2,1	10	Haemorrhagic and haematological disorders of fetus and newborn (P50_P61)	41	2,4
	Other Natural	1 381	38,0		Other Natural	707	37,3		Other Natural	652	38,8
	Non-natural	130	3,6		Non-natural	63	3,3		Non-natural	67	4
	All causes	**3 631**	**100,0**		**All causes**	**1 893**	**100,0**		**All causes**	**1 679**	**100,0**

Appendix M5- The ten leading underlying natural causes of death by age and sex: KwaZulu-Natal, 2019 (continued)

	KwaZulu-Natal, 1-14	No	%		KwaZulu-Natal, Males, 1-14	No	%		KwaZulu-Natal, Females, 1-14	No	%
1	Intestinal infectious diseases (A00_A09)	141	5,9	1	Intestinal infectious diseases (A00_A09)	74	5,6	1	Influenza and pneumonia (J09_J18)	68	6,5
2	Influenza and pneumonia (J09_J18)	133	5,6	2	Influenza and pneumonia (J09_J18)	65	4,9	2	Intestinal infectious diseases (A00_A09)	67	6,4
3	Tuberculosis (A15_A19)	70	2,9	3	Tuberculosis (A15_A19)	38	2,9	3	Tuberculosis (A15_A19)	31	2,9
4	Episodic and paroxysmal disorders (G40_G47)	59	2,5	4	Cerebral palsy and other paralytic syndromes (G80_G83)	33	2,5	4	Episodic and paroxysmal disorders (G40_G47)	28	2,7
5	Human immunodeficiency virus [HIV] disease (B20_B24)	57	2,4	5	Episodic and paroxysmal disorders (G40_G47)	31	2,3	5	Human immunodeficiency virus [HIV] disease (B20_B24)	27	2,6
6	Cerebral palsy and other paralytic syndromes (G80_G83)	55	2,3	6	Human immunodeficiency virus [HIV] disease (B20_B24)	30	2,3	6	Metabolic disorders (E70_E90)	23	2,2
7	Metabolic disorders (E70_E90)	48	2,0	7	Metabolic disorders (E70_E90)	25	1,9	7	Malnutrition (E40_E46)	22	2,1
8	Malnutrition (E40_E46)	44	1,8	8	Inflammatory diseases of the central nervous system (G00_G09)	23	1,7	8	Cerebral palsy and other paralytic syndromes (G80_G83)	22	2,1
9	Inflammatory diseases of the central nervous system (G00_G09)	41	1,7	9	Other forms of heart disease (I30_I52)	23	1,7	9	Other bacterial diseases (A30_A49)	19	1,8
10	Other forms of heart disease (I30_I52)	38	1,6	10	Malnutrition (E40_E46)	21	1,6	10	Inflammatory diseases of the central nervous system (G00_G09)	18	1,7
	Other Natural	898	37,7		Non-natural	506	38,2		Other Natural	436	41,4
	Non-natural	799	33,5		Other Natural	457	34,5		Non-natural	292	27,7
	All causes	**2 383**	**100,0**		**All causes**	**1 326**	**100,0**		**All causes**	**1 053**	**100,0**
	KwaZulu-Natal, 15-44	**No**	**%**		**KwaZulu-Natal, Males, 15-44**	**No**	**%**		**KwaZulu-Natal, Females, 15-44**	**No**	**%**
1	Tuberculosis (A15_A19)	2 651	10,7	1	Tuberculosis (A15_A19)	1 563	10,2	1	Human immunodeficiency virus [HIV] disease (B20_B24)	1 317	14,2
2	Human immunodeficiency virus [HIV] disease (B20_B24)	2 560	10,3	2	Human immunodeficiency virus [HIV] disease (B20_B24)	1 238	8,1	2	Tuberculosis (A15_A19)	1 083	11,6
3	Other viral diseases (B25_B34)	1 340	5,4	3	Other viral diseases (B25_B34)	639	4,2	3	Other viral diseases (B25_B34)	698	7,5
4	Influenza and pneumonia (J09_J18)	579	2,3	4	Influenza and pneumonia (J09_J18)	312	2,0	4	Malignant neoplasms of female genital organs (C51_C58)	362	3,9
5	Other forms of heart disease (I30_I52)	373	1,5	5	Other forms of heart disease (I30_I52)	188	1,2	5	Influenza and pneumonia (J09_J18)	267	2,9
6	Malignant neoplasms of female genital organs (C51_C58)	362	1,5	6	Cerebrovascular diseases (I60_I69)	183	1,2	6	Other forms of heart disease (I30_I52)	185	2
7	Cerebrovascular diseases (I60_I69)	318	1,3	7	Episodic and paroxysmal disorders (G40_G47)	178	1,2	7	Certain disorders involving the immune mechanism (D80_D89)	155	1,7
8	Renal failure (N17_N19)	302	1,2	8	Renal failure (N17_N19)	170	1,1	8	Cerebrovascular diseases (I60_I69)	134	1,4
9	Certain disorders involving the immune mechanism (D80_D89)	285	1,2	9	Diseases of liver (K70_K77)	169	1,1	9	Renal failure (N17_N19)	132	1,4
10	Diseases of liver (K70_K77)	284	1,1	10	Malignant neoplasms of digestive organs (C15_C26)	145	0,9	10	Diabetes mellitus (E10_E14)	125	1,3
	Non-natural	8 102	32,7		Non-natural	6 712	43,7		Other Natural	3 491	37,5
	Other Natural	7 586	30,7		Other Natural	3 867	25,2		Non-natural	1 356	14,6
	All causes	**24 742**	**100,0**		**All causes**	**15 364**	**100,0**		**All causes**	**9 305**	**100,0**

Appendix M5- The ten leading underlying natural causes of death by age and sex: KwaZulu-Natal, 2019 (concluded)

	KwaZulu-Natal, 45-64	No	%		KwaZulu-Natal, Males, 45-64	No	%		KwaZulu-Natal, Females, 45-64	No	%
1	Diabetes mellitus (E10_E14)	1 938	8,4	1	Tuberculosis (A15_A19)	1 210	9,2	1	Diabetes mellitus (E10_E14)	1 216	12,2
2	Tuberculosis (A15_A19)	1 695	7,3	2	Human immunodeficiency virus [HIV] disease (B20_B24)	775	5,9	2	Human immunodeficiency virus [HIV] disease (B20_B24)	629	6,3
3	Human immunodeficiency virus [HIV] disease (B20_B24)	1 407	6,1	3	Diabetes mellitus (E10_E14)	722	5,5	3	Cerebrovascular diseases (I60_I69)	601	6
4	Cerebrovascular diseases (I60_I69)	1 252	5,4	4	Cerebrovascular diseases (I60_I69)	649	4,9	4	Malignant neoplasms of female genital organs (C51_C58)	531	5,3
5	Ischaemic heart diseases (I20_I25)	918	4,0	5	Ischaemic heart diseases (I20_I25)	609	4,6	5	Tuberculosis (A15_A19)	484	4,9
6	Hypertensive diseases (I10_I15)	803	3,5	6	Malignant neoplasms of digestive organs (C15_C26)	441	3,3	6	Hypertensive diseases (I10_I15)	418	4,2
7	Other viral diseases (B25_B34)	768	3,3	7	Other viral diseases (B25_B34)	422	3,2	7	Other forms of heart disease (I30_I52)	363	3,6
8	Other forms of heart disease (I30_I52)	735	3,2	8	Influenza and pneumonia (J09_J18)	413	3,1	8	Other viral diseases (B25_B34)	345	3,5
9	Malignant neoplasms of digestive organs (C15_C26)	701	3,0	9	Hypertensive diseases (I10_I15)	385	2,9	9	Ischaemic heart diseases (I20_I25)	308	3,1
10	Influenza and pneumonia (J09_J18)	665	2,9	10	Other forms of heart disease (I30_I52)	372	2,8	10	Renal failure (N17_N19)	299	3
	Other Natural	10 146	43,8		Other Natural	5 553	42,1		Other Natural	4 261	42,8
	Non-natural	2 138	9,2		Non-natural	1 637	12,4		Non-natural	491	4,9
	All causes	**23 166**	**100,0**		**All causes**	**13 188**	**100,0**		**All causes**	**9 946**	**100,0**
	KwaZulu-Natal, 65+	**No**	**%**		**KwaZulu-Natal, Males, 65+**	**No**	**%**		**KwaZulu-Natal, Females, 65+**	**No**	**%**
1	Diabetes mellitus (E10_E14)	3 647	10,9	1	Cerebrovascular diseases (I60_I69)	1 095	8,3	1	Diabetes mellitus (E10_E14)	2 575	12,8
2	Cerebrovascular diseases (I60_I69)	3 329	10,0	2	Diabetes mellitus (E10_E14)	1 070	8,1	2	Cerebrovascular diseases (I60_I69)	2 230	11,1
3	Hypertensive diseases (I10_I15)	2 419	7,3	3	Ischaemic heart diseases (I20_I25)	985	7,5	3	Hypertensive diseases (I10_I15)	1 729	8,6
4	Ischaemic heart diseases (I20_I25)	1 983	5,9	4	Hypertensive diseases (I10_I15)	690	5,2	4	Other forms of heart disease (I30_I52)	1 107	5,5
5	Other forms of heart disease (I30_I52)	1 748	5,2	5	Other forms of heart disease (I30_I52)	640	4,8	5	Ischaemic heart diseases (I20_I25)	998	5
6	Influenza and pneumonia (J09_J18)	1 124	3,4	6	Chronic lower respiratory diseases (J40_J47)	542	4,1	6	Influenza and pneumonia (J09_J18)	660	3,3
7	Malignant neoplasms of digestive organs (C15_C26)	882	2,6	7	Tuberculosis (A15_A19)	467	3,5	7	Other bacterial diseases (A30_A49)	478	2,4
8	Chronic lower respiratory diseases (J40_J47)	872	2,6	8	Influenza and pneumonia (J09_J18)	464	3,5	8	Renal failure (N17_N19)	476	2,4
9	Renal failure (N17_N19)	870	2,6	9	Malignant neoplasms of digestive organs (C15_C26)	440	3,3	9	Malignant neoplasms of digestive organs (C15_C26)	442	2,2
10	Tuberculosis (A15_A19)	810	2,4	10	Malignant neoplasms of male genital organs (C60_C63)	427	3,2	10	Malignant neoplasms of female genital organs (C51_C58)	353	1,8
11	Other Natural	14 634	43,9	11	Other Natural	5 878	44,5	11	Other Natural	8 556	42,5
12	Non-natural	1 039	3,1	12	Non-natural	513	3,9	12	Non-natural	524	2,6
	All causes	**33 357**	**100,0**		**All causes**	**13 211**	**100,0**		**All causes**	**20 128**	**100,0**

Appendix M6- The ten leading underlying natural causes of death by age and sex: North West, 2019

	North West, all ages	No	%		North West, Males, all ages	No	%		North West, Females, all ages	No	%
1	Tuberculosis (A15_A19)	1 827	6,1	1	Tuberculosis (A15_A19)	1 156	7,2	1	Hypertensive diseases (I10_I15)	1 006	7,3
2	Hypertensive diseases (I10_I15)	1 666	5,5	2	Influenza and pneumonia (J09_J18)	759	4,7	2	Diabetes mellitus (E10_E14)	859	6,2
3	Diabetes mellitus (E10_E14)	1 367	4,5	3	Human immunodeficiency virus [HIV] disease (B20_B24)	709	4,4	3	Tuberculosis (A15_A19)	668	4,8
4	Influenza and pneumonia (J09_J18)	1 365	4,5	4	Hypertensive diseases (I10_I15)	659	4,1	4	Cerebrovascular diseases (I60_I69)	664	4,8
5	Cerebrovascular diseases (I60_I69)	1 296	4,3	5	Cerebrovascular diseases (I60_I69)	629	3,9	5	Other forms of heart disease (I30_I52)	645	4,7
6	Human immunodeficiency virus [HIV] disease (B20_B24)	1 275	4,2	6	Other forms of heart disease (I30_I52)	588	3,6	6	Other viral diseases (B25_B34)	632	4,6
7	Other forms of heart disease (I30_I52)	1 237	4,1	7	Other viral diseases (B25_B34)	578	3,6	7	Influenza and pneumonia (J09_J18)	599	4,3
8	Other viral diseases (B25_B34)	1 216	4,0	8	Diabetes mellitus (E10_E14)	507	3,1	8	Human immunodeficiency virus [HIV] disease (B20_B24)	563	4,1
9	Chronic lower respiratory diseases (J40_J47)	777	2,6	9	Chronic lower respiratory diseases (J40_J47)	501	3,1	9	Malignant neoplasms of female genital organs (C51_C58)	312	2,3
10	Ischaemic heart diseases (I20_I25)	531	1,8	10	Ischaemic heart diseases (I20_I25)	329	2,0	10	Chronic lower respiratory diseases (J40_J47)	275	2
	Other Natural	14 617	48,6		Other Natural	7 521	46,6		Other Natural	6 921	50,1
	Non-natural	2 903	9,7		Non-natural	2 195	13,6		Non-natural	675	4,9
	All causes	**30 077**	**100,0**		**All causes**	**16 131**	**100,0**		**All causes**	**13 819**	**100,0**
	North West, 0	**No**	**%**		**North West, Males, 0**	**No**	**%**		**North West, Females, 0**	**No**	**%**
1	Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	258	13,3	1	Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	141	13,3	1	Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	114	13,5
2	Influenza and pneumonia (J09_J18)	136	7,0	2	Influenza and pneumonia (J09_J18)	71	6,7	2	Influenza and pneumonia (J09_J18)	64	7,6
3	Other disorders originating in the perinatal period (P90_P96)	130	6,7	3	Other disorders originating in the perinatal period (P90_P96)	69	6,5	3	Intestinal infectious diseases (A00_A09)	58	6,9
4	Intestinal infectious diseases (A00_A09)	115	5,9	4	Infections specific to the perinatal period (P35_P39)	62	5,8	4	Other disorders originating in the perinatal period (P90_P96)	51	6
5	Disorders related to length of gestation and fetal growth (P05_P08)	112	5,8	5	Disorders related to length of gestation and fetal growth (P05_P08)	61	5,7	5	Disorders related to length of gestation and fetal growth (P05_P08)	47	5,6
6	Infections specific to the perinatal period (P35_P39)	109	5,6	6	Intestinal infectious diseases (A00_A09)	57	5,4	6	Malnutrition (E40_E46)	45	5,3
7	Malnutrition (E40_E46)	93	4,8	7	Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04)	48	4,5	7	Infections specific to the perinatal period (P35_P39)	44	5,2
8	Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04)	71	3,7	8	Malnutrition (E40_E46)	48	4,5	8	Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04)	23	2,7
9	Other acute lower respiratory infections (J20_J22)	50	2,6	9	Haemorrhagic and haematological disorders of fetus and newborn (P50_P61)	34	3,2	9	Other acute lower respiratory infections (J20_J22)	22	2,6
10	Haemorrhagic and haematological disorders of fetus and newborn (P50_P61)	40	2,1	10	Other acute lower respiratory infections (J20_J22)	27	2,5	10	Congenital malformations of the circulatory system (Q20_Q28)	20	2,4
	Other Natural	763	39,3		Other Natural	410	38,6		Other Natural	329	38,9
	Non-natural	65	3,3		Non-natural	35	3,3		Non-natural	28	3,3
	All causes	**1 942**	**100,0**		**All causes**	**1 063**	**100,0**		**All causes**	**845**	**100,0**

Appendix M6- The ten leading underlying natural causes of death by age and sex: North West, 2019 (continued)

	North West, 1-14	No	%		North West, Males, 1-14	No	%		North West, Females, 1-14	No	%
1	Malnutrition (E40_E46)	78	8,0	1	Malnutrition (E40_E46)	41	7,4	1	Influenza and pneumonia (J09_J18)	39	9,3
2	Intestinal infectious diseases (A00_A09)	77	7,9	2	Intestinal infectious diseases (A00_A09)	40	7,2	2	Intestinal infectious diseases (A00_A09)	37	8,8
3	Influenza and pneumonia (J09_J18)	74	7,6	3	Tuberculosis (A15_A19)	35	6,3	3	Malnutrition (E40_E46)	37	8,8
4	Tuberculosis (A15_A19)	59	6,1	4	Influenza and pneumonia (J09_J18)	35	6,3	4	Tuberculosis (A15_A19)	24	5,7
5	Other viral diseases (B25_B34)	25	2,6	5	Other viral diseases (B25_B34)	17	3,1	5	Metabolic disorders (E70_E90)	15	3,6
6	Metabolic disorders (E70_E90)	24	2,5	6	Cerebral palsy and other paralytic syndromes (G80_G83)	16	2,9	6	Other forms of heart disease (I30_I52)	12	2,9
7	Other forms of heart disease (I30_I52)	23	2,4	7	Other forms of heart disease (I30_I52)	11	2,0	7	Other acute lower respiratory infections (J20_J22)	11	2,6
8	Cerebral palsy and other paralytic syndromes (G80_G83)	22	2,3	8	Human immunodeficiency virus [HIV] disease (B20_B24)	9	1,6	8	Episodic and paroxysmal disorders (G40_G47)	10	2,4
9	Other acute lower respiratory infections (J20_J22)	20	2,1	9	Episodic and paroxysmal disorders (G40_G47)	9	1,6	9	Other viral diseases (B25_B34)	8	1,9
10	Episodic and paroxysmal disorders (G40_G47)	19	1,9	10	Chronic lower respiratory diseases (J40_J47)	9	1,6	10	Human immunodeficiency virus [HIV] disease (B20_B24)	7	1,7
	Other Natural	343	35,2		Other Natural	188	34,0		Other Natural	153	36,4
	Non-natural	211	21,6		Non-natural	143	25,9		Non-natural	67	16
	All causes	**975**	**100,0**		**All causes**	**553**	**100,0**		**All causes**	**420**	**100,0**
	North West, 15-44	**No**	**%**		**North West, Males, 15-44**	**No**	**%**		**North West, Females, 15-44**	**No**	**%**
1	Tuberculosis (A15_A19)	764	10,2	1	Tuberculosis (A15_A19)	433	10,2	1	Other viral diseases (B25_B34)	360	11,4
2	Human immunodeficiency virus [HIV] disease (B20_B24)	662	8,9	2	Human immunodeficiency virus [HIV] disease (B20_B24)	339	8,0	2	Tuberculosis (A15_A19)	330	10,4
3	Other viral diseases (B25_B34)	644	8,6	3	Other viral diseases (B25_B34)	279	6,5	3	Human immunodeficiency virus [HIV] disease (B20_B24)	321	10,1
4	Influenza and pneumonia (J09_J18)	322	4,3	4	Influenza and pneumonia (J09_J18)	173	4,1	4	Influenza and pneumonia (J09_J18)	147	4,6
5	Certain disorders involving the immune mechanism (D80_D89)	240	3,2	5	Certain disorders involving the immune mechanism (D80_D89)	98	2,3	5	Certain disorders involving the immune mechanism (D80_D89)	142	4,5
6	Other forms of heart disease (I30_I52)	157	2,1	6	Other forms of heart disease (I30_I52)	74	1,7	6	Other forms of heart disease (I30_I52)	82	2,6
7	Cerebrovascular diseases (I60_I69)	123	1,6	7	Cerebrovascular diseases (I60_I69)	69	1,6	7	Malignant neoplasms of female genital organs (C51_C58)	62	2
8	Other acute lower respiratory infections (J20_J22)	95	1,3	8	Episodic and paroxysmal disorders (G40_G47)	59	1,4	8	Cerebrovascular diseases (I60_I69)	54	1,7
9	Episodic and paroxysmal disorders (G40_G47)	82	1,1	9	Other acute lower respiratory infections (J20_J22)	53	1,2	9	Hypertensive diseases (I10_I15)	44	1,4
10	Diabetes mellitus (E10_E14)	81	1,1	10	Diabetes mellitus (E10_E14)	44	1,0	10	Protozoal diseases (B50_B64)	44	1,4
	Other Natural	2 556	34,2		Non-natural	1 393	32,7		Other Natural	1 243	39,2
	Non-natural	1 754	23,4		Other Natural	1 248	29,3		Non-natural	342	10,8
	All causes	**7 480**	**100,0**		**All causes**	**4 262**	**100,0**		**All causes**	**3 171**	**100,0**

Appendix M6- The ten leading underlying natural causes of death by age and sex: North West, 2019 (concluded)

	North West, 45-64	No	%		North West, Males, 45-64	No	%		North West, Females, 45-64	No	%
1	Tuberculosis (A15_A19)	718	8,0	1	Tuberculosis (A15_A19)	490	9,3	1	Diabetes mellitus (E10_E14)	265	7,3
2	Human immunodeficiency virus [HIV] disease (B20_B24)	498	5,6	2	Human immunodeficiency virus [HIV] disease (B20_B24)	308	5,8	2	Hypertensive diseases (I10_I15)	242	6,7
3	Hypertensive diseases (I10_I15)	459	5,1	3	Influenza and pneumonia (J09_J18)	240	4,5	3	Tuberculosis (A15_A19)	226	6,2
4	Diabetes mellitus (E10_E14)	455	5,1	4	Other viral diseases (B25_B34)	239	4,5	4	Other viral diseases (B25_B34)	193	5,3
5	Other viral diseases (B25_B34)	433	4,8	5	Cerebrovascular diseases (I60_I69)	224	4,2	5	Human immunodeficiency virus [HIV] disease (B20_B24)	189	5,2
6	Cerebrovascular diseases (I60_I69)	401	4,5	6	Hypertensive diseases (I10_I15)	217	4,1	6	Cerebrovascular diseases (I60_I69)	176	4,9
7	Influenza and pneumonia (J09_J18)	388	4,3	7	Other forms of heart disease (I30_I52)	203	3,8	7	Malignant neoplasms of female genital organs (C51_C58)	155	4,3
8	Other forms of heart disease (I30_I52)	346	3,9	8	Diabetes mellitus (E10_E14)	190	3,6	8	Influenza and pneumonia (J09_J18)	146	4
9	Chronic lower respiratory diseases (J40_J47)	270	3,0	9	Chronic lower respiratory diseases (J40_J47)	183	3,5	9	Other forms of heart disease (I30_I52)	142	3,9
10	Malignant neoplasms of digestive organs (C15_C26)	215	2,4	10	Ischaemic heart diseases (I20_I25)	140	2,7	10	Certain disorders involving the immune mechanism (D80_D89)	88	2,4
	Other Natural	4 136	46,3		Other Natural	2 372	44,9		Other Natural	1 672	46,1
	Non-natural	614	6,9		Non-natural	473	9,0		Non-natural	131	3,6
	All causes	**8 933**	**100,0**		**All causes**	**5 279**	**100,0**		**All causes**	**3 625**	**100,0**
	North West, 65+	**No**	**%**		**North West, Males, 65+**	**No**	**%**		**North West, Females, 65+**	**No**	**%**
1	Hypertensive diseases (I10_I15)	1 124	10,5	1	Hypertensive diseases (I10_I15)	406	8,2	1	Hypertensive diseases (I10_I15)	718	12,5
2	Diabetes mellitus (E10_E14)	825	7,7	2	Cerebrovascular diseases (I60_I69)	333	6,7	2	Diabetes mellitus (E10_E14)	556	9,7
3	Cerebrovascular diseases (I60_I69)	766	7,1	3	Other forms of heart disease (I30_I52)	291	5,9	3	Cerebrovascular diseases (I60_I69)	431	7,5
4	Other forms of heart disease (I30_I52)	696	6,5	4	Chronic lower respiratory diseases (J40_J47)	269	5,4	4	Other forms of heart disease (I30_I52)	403	7
5	Influenza and pneumonia (J09_J18)	445	4,1	5	Diabetes mellitus (E10_E14)	269	5,4	5	Influenza and pneumonia (J09_J18)	203	3,5
6	Chronic lower respiratory diseases (J40_J47)	420	3,9	6	Influenza and pneumonia (J09_J18)	240	4,8	6	Chronic lower respiratory diseases (J40_J47)	151	2,6
7	Ischaemic heart diseases (I20_I25)	293	2,7	7	Tuberculosis (A15_A19)	191	3,8	7	Ischaemic heart diseases (I20_I25)	131	2,3
8	Tuberculosis (A15_A19)	271	2,5	8	Malignant neoplasms of male genital organs (C60_C63)	176	3,5	8	Renal failure (N17_N19)	122	2,1
9	Malignant neoplasms of digestive organs (C15_C26)	237	2,2	9	Ischaemic heart diseases (I20_I25)	162	3,3	9	Malignant neoplasms of digestive organs (C15_C26)	113	2
10	Renal failure (N17_N19)	231	2,1	10	Malignant neoplasms of digestive organs (C15_C26)	124	2,5	10	Malignant neoplasms of female genital organs (C51_C58)	95	1,6
	Other Natural	5 179	48,2		Other Natural	2 361	47,5		Other Natural	2 728	47,4
	Non-natural	258	2,4		Non-natural	151	3,0		Non-natural	107	1,9
	All causes	**10 745**	**100,0**		**All causes**	**4 973**	**100,0**		**All causes**	**5 758**	**100,0**

Appendix M7- The ten leading underlying natural causes of death by age and sex: Gauteng, 2019

	Gauteng, all ages	No	%		Gauteng, Males, all ages	No	%		Gauteng, Females, all ages	No	%
1	Diabetes mellitus (E10_E14)	4 322	4,4	1	Tuberculosis (A15_A19)	2 450	4,7	1	Diabetes mellitus (E10_E14)	2 436	5,4
2	Tuberculosis (A15_A19)	3 936	4,0	2	Ischaemic heart diseases (I20_I25)	2 071	4,0	2	Hypertensive diseases (I10_I15)	2 145	4,7
3	Other forms of heart disease (I30_I52)	3 829	3,9	3	Diabetes mellitus (E10_E14)	1 876	3,6	3	Cerebrovascular diseases (I60_I69)	1 990	4,4
4	Cerebrovascular diseases (I60_I69)	3 824	3,9	4	Other forms of heart disease (I30_I52)	1 845	3,5	4	Other forms of heart disease (I30_I52)	1 977	4,4
5	Influenza and pneumonia (J09_J18)	3 621	3,7	5	Influenza and pneumonia (J09_J18)	1 823	3,5	5	Influenza and pneumonia (J09_J18)	1 763	3,9
6	Ischaemic heart diseases (I20_I25)	3 597	3,7	6	Cerebrovascular diseases (I60_I69)	1 815	3,5	6	Ischaemic heart diseases (I20_I25)	1 518	3,3
7	Hypertensive diseases (I10_I15)	3 526	3,6	7	Malignant neoplasms of digestive organs (C15_C26)	1 445	2,8	7	Tuberculosis (A15_A19)	1 449	3,2
8	Human immunodeficiency virus [HIV] disease (B20_B24)	2 715	2,8	8	Human immunodeficiency virus [HIV] disease (B20_B24)	1 418	2,7	8	Other viral diseases (B25_B34)	1 298	2,9
9	Other viral diseases (B25_B34)	2 671	2,7	9	Hypertensive diseases (I10_I15)	1 370	2,6	9	Malignant neoplasms of female genital organs (C51_C58)	1 277	2,8
10	Malignant neoplasms of digestive organs (C15_C26)	2 594	2,6	10	Other viral diseases (B25_B34)	1 345	2,6	10	Human immunodeficiency virus [HIV] disease (B20_B24)	1 272	2,8
	Other Natural	50 740	51,7		Other Natural	24 813	47,7		Other Natural	25 441	56
	Non-natural	12 852	13,1		Non-natural	9 740	18,7		Non-natural	2 832	6,2
	All causes	**98 227**	**100,0**		**All causes**	**52 011**	**100,0**		**All causes**	**45 398**	**100,0**
	Gauteng, 0	**No**	**%**		**Gauteng, Males, 0**	**No**	**%**		**Gauteng, Females, 0**	**No**	**%**
1	Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	752	14,1	1	Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	412	14,6	1	Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	321	13,6
2	Infections specific to the perinatal period (P35_P39)	461	8,6	2	Infections specific to the perinatal period (P35_P39)	255	9,0	2	Infections specific to the perinatal period (P35_P39)	193	8,1
3	Disorders related to length of gestation and fetal growth (P05_P08)	311	5,8	3	Disorders related to length of gestation and fetal growth (P05_P08)	156	5,5	3	Disorders related to length of gestation and fetal growth (P05_P08)	150	6,3
4	Other disorders originating in the perinatal period (P90_P96)	287	5,4	4	Other disorders originating in the perinatal period (P90_P96)	155	5,5	4	Influenza and pneumonia (J09_J18)	133	5,6
5	Influenza and pneumonia (J09_J18)	281	5,3	5	Influenza and pneumonia (J09_J18)	142	5,0	5	Other disorders originating in the perinatal period (P90_P96)	121	5,1
6	Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04)	208	3,9	6	Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04)	106	3,8	6	Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04)	97	4,1
7	Intestinal infectious diseases (A00_A09)	197	3,7	7	Intestinal infectious diseases (A00_A09)	106	3,8	7	Intestinal infectious diseases (A00_A09)	86	3,6
8	Congenital malformations of the circulatory system (Q20_Q28)	190	3,6	8	Congenital malformations of the circulatory system (Q20_Q28)	101	3,6	8	Congenital malformations of the circulatory system (Q20_Q28)	85	3,6
9	Haemorrhagic and haematological disorders of fetus and newborn (P50_P61)	138	2,6	9	Haemorrhagic and haematological disorders of fetus and newborn (P50_P61)	77	2,7	9	Other bacterial diseases (A30_A49)	58	2,4
10	Other diseases of the respiratory system (J95_J99)	134	2,5	10	Digestive system disorders of fetus and newborn (P75_P78)	73	2,6	10	Haemorrhagic and haematological disorders of fetus and newborn (P50_P61)	57	2,4
	Other Natural	2 205	41,3		Other Natural	1 163	41,2		Other Natural	982	41,5
	Non-natural	174	3,3		Non-natural	79	2,8		Non-natural	86	3,6
	All causes	**5 338**	**100,0**		**All causes**	**2 825**	**100,0**		**All causes**	**2 369**	**100,0**

Appendix M7- The ten leading underlying natural causes of death by age and sex: Gauteng, 2019 (continued)

	Gauteng, 1-14	No	%		Gauteng, Males, 1-14	No	%		Gauteng, Females, 1-14	No	%
1	Influenza and pneumonia (J09_J18)	113	4,8	1	Influenza and pneumonia (J09_J18)	67	5,4	1	Influenza and pneumonia (J09_J18)	46	4,3
2	Other diseases of the respiratory system (J95_J99)	76	3,2	2	Other diseases of the respiratory system (J95_J99)	37	3,0	2	Other diseases of the respiratory system (J95_J99)	37	3,5
3	Intestinal infectious diseases (A00_A09)	63	2,7	3	Intestinal infectious diseases (A00_A09)	32	2,6	3	Cerebral palsy and other paralytic syndromes (G80_G83)	33	3,1
4	Cerebral palsy and other paralytic syndromes (G80_G83)	58	2,5	4	Cerebral palsy and other paralytic syndromes (G80_G83)	25	2,0	4	Intestinal infectious diseases (A00_A09)	31	2,9
5	Tuberculosis (A15_A19)	52	2,2	5	Malignant neoplasms, stated or presumed to be primary, of lymphoid, haematopoietic and related tissue (C81_C96)	25	2,0	5	Tuberculosis (A15_A19)	26	2,4
6	Malignant neoplasms, stated or presumed to be primary, of lymphoid, haematopoietic and related tissue (C81_C96)	45	1,9	6	Tuberculosis (A15_A19)	25	2,0	6	Congenital malformations of the circulatory system (Q20_Q28)	25	2,4
7	Congenital malformations of the circulatory system (Q20_Q28)	45	1,9	7	Episodic and paroxysmal disorders (G40_G47)	24	1,9	7	Other forms of heart disease (I30_I52)	23	2,2
8	Other forms of heart disease (I30_I52)	42	1,8	8	Metabolic disorders (E70_E90)	24	1,9	8	Malignant neoplasms, stated or presumed to be primary, of lymphoid, haematopoietic and related tissue (C81_C96)	19	1,8
9	Episodic and paroxysmal disorders (G40_G47)	40	1,7	9	Other disorders of the nervous system (G90_G99)	22	1,8	9	Inflammatory diseases of the central nervous system (G00_G09)	19	1,8
10	Metabolic disorders (E70_E90)	36	1,5	10	Malnutrition (E40_E46)	21	1,7	10	Episodic and paroxysmal disorders (G40_G47)	16	1,5
	Other Natural	1 017	43,4		Other Natural	523	41,8		Other Natural	463	43,6
	Non-natural	756	32,3		Non-natural	426	34,1		Non-natural	324	30,5
	All causes	**2 343**	**100,0**		**All causes**	**1 251**	**100,0**		**All causes**	**1 062**	**100,0**
	Gauteng, 15-44	**No**	**%**		**Gauteng, Males, 15-44**	**No**	**%**		**Gauteng, Females, 15-14**	**No**	**%**
1	Tuberculosis (A15_A19)	2 004	7,6	1	Tuberculosis (A15_A19)	1 193	7,4	1	Tuberculosis (A15_A19)	794	8,1
2	Human immunodeficiency virus [HIV] disease (B20_B24)	1 501	5,7	2	Human immunodeficiency virus [HIV] disease (B20_B24)	733	4,5	2	Human immunodeficiency virus [HIV] disease (B20_B24)	749	7,6
3	Other viral diseases (B25_B34)	1 438	5,5	3	Other viral diseases (B25_B34)	679	4,2	3	Other viral diseases (B25_B34)	737	7,5
4	Influenza and pneumonia (J09_J18)	911	3,5	4	Influenza and pneumonia (J09_J18)	503	3,1	4	Influenza and pneumonia (J09_J18)	384	3,9
5	Other forms of heart disease (I30_I52)	627	2,4	5	Other forms of heart disease (I30_I52)	376	2,3	5	Malignant neoplasms of female genital organs (C51_C58)	303	3,1
6	Certain disorders involving the immune mechanism (D80_D89)	506	1,9	6	Certain disorders involving the immune mechanism (D80_D89)	251	1,6	6	Certain disorders involving the immune mechanism (D80_D89)	253	2,6
7	Cerebrovascular diseases (I60_I69)	398	1,5	7	Cerebrovascular diseases (I60_I69)	208	1,3	7	Other forms of heart disease (I30_I52)	247	2,5
8	Other diseases of the respiratory system (J95_J99)	369	1,4	8	Other diseases of the respiratory system (J95_J99)	194	1,2	8	Protozoal diseases (B50_B64)	208	2,1
9	Protozoal diseases (B50_B64)	357	1,4	9	Ischaemic heart diseases (I20_I25)	193	1,2	9	Cerebrovascular diseases (I60_I69)	185	1,9
10	Renal failure (N17_N19)	340	1,3	10	Renal failure (N17_N19)	190	1,2	10	Other diseases of the respiratory system (J95_J99)	173	1,8
	Other Natural	9 571	36,3		Non-natural	6 786	42,1		Other Natural	4 439	45,1
	Non-natural	8 350	31,7		Other Natural	4 825	29,9		Non-natural	1 380	14
	All causes	**26 372**	**100,0**		**All causes**	**16 131**	**100,0**		**All causes**	**9 852**	**100,0**

Appendix M7- The ten leading underlying natural causes of death by age and sex: Gauteng, 2019 (concluded)

	Gauteng, 45-64	No	%		Gauteng, Males, 45-64	No	%		Gauteng, Females, 45-64	No	%
1	Diabetes mellitus (E10_E14)	1 533	5,5	1	Tuberculosis (A15_A19)	937	5,9	1	Diabetes mellitus (E10_E14)	813	7
2	Tuberculosis (A15_A19)	1 414	5,1	2	Ischaemic heart diseases (I20_I25)	749	4,7	2	Malignant neoplasms of female genital organs (C51_C58)	577	4,9
3	Cerebrovascular diseases (I60_I69)	1 203	4,3	3	Diabetes mellitus (E10_E14)	719	4,5	3	Cerebrovascular diseases (I60_I69)	502	4,3
4	Ischaemic heart diseases (I20_I25)	1 100	4,0	4	Cerebrovascular diseases (I60_I69)	694	4,4	4	Hypertensive diseases (I10_I15)	472	4
5	Other forms of heart disease (I30_I52)	1 057	3,8	5	Malignant neoplasms of digestive organs (C15_C26)	597	3,8	5	Other forms of heart disease (I30_I52)	469	4
6	Other viral diseases (B25_B34)	1 006	3,6	6	Other forms of heart disease (I30_I52)	586	3,7	6	Tuberculosis (A15_A19)	462	4
7	Human immunodeficiency virus [HIV] disease (B20_B24)	1 005	3,6	7	Human immunodeficiency virus [HIV] disease (B20_B24)	582	3,7	7	Other viral diseases (B25_B34)	449	3,8
8	Malignant neoplasms of digestive organs (C15_C26)	994	3,6	8	Other viral diseases (B25_B34)	551	3,5	8	Human immunodeficiency virus [HIV] disease (B20_B24)	417	3,6
9	Hypertensive diseases (I10_I15)	949	3,4	9	Influenza and pneumonia (J09_J18)	504	3,2	9	Malignant neoplasms of breast (C50)	400	3,4
10	Influenza and pneumonia (J09_J18)	846	3,1	10	Hypertensive diseases (I10_I15)	475	3,0	10	Malignant neoplasms of digestive organs (C15_C26)	395	3,4
	Other Natural	14 165	51,2		Other Natural	7 610	48,1		Other Natural	6 205	53,1
	Non-natural	2 388	8,6		Non-natural	1 806	11,4		Non-natural	521	4,5
	All causes	**27 660**	**100,0**		**All causes**	**15 810**	**100,0**		**All causes**	**11 682**	**100,0**
	Gauteng, 65+	**No**	**%**		**Gauteng, Males, 65+**	**No**	**%**		**Gauteng, Females, 65+**	**No**	**%**
1	Diabetes mellitus (E10_E14)	2 507	6,9	1	Ischaemic heart diseases (I20_I25)	1 128	7,1	1	Hypertensive diseases (I10_I15)	1 558	7,6
2	Hypertensive diseases (I10_I15)	2 345	6,4	2	Diabetes mellitus (E10_E14)	1 004	6,3	2	Diabetes mellitus (E10_E14)	1 496	7,3
3	Ischaemic heart diseases (I20_I25)	2 220	6,1	3	Cerebrovascular diseases (I60_I69)	905	5,7	3	Cerebrovascular diseases (I60_I69)	1 286	6,3
4	Cerebrovascular diseases (I60_I69)	2 198	6,0	4	Other forms of heart disease (I30_I52)	845	5,3	4	Other forms of heart disease (I30_I52)	1 222	6
5	Other forms of heart disease (I30_I52)	2 068	5,7	5	Chronic lower respiratory diseases (J40_J47)	796	5,0	5	Ischaemic heart diseases (I20_I25)	1 090	5,3
6	Chronic lower respiratory diseases (J40_J47)	1 470	4,0	6	Hypertensive diseases (I10_I15)	780	4,9	6	Influenza and pneumonia (J09_J18)	861	4,2
7	Influenza and pneumonia (J09_J18)	1 468	4,0	7	Malignant neoplasms of digestive organs (C15_C26)	711	4,4	7	Chronic lower respiratory diseases (J40_J47)	672	3,3
8	Malignant neoplasms of digestive organs (C15_C26)	1 371	3,8	8	Malignant neoplasms of male genital organs (C60_C63)	697	4,4	8	Malignant neoplasms of digestive organs (C15_C26)	658	3,2
9	Renal failure (N17_N19)	1 030	2,8	9	Influenza and pneumonia (J09_J18)	606	3,8	9	Renal failure (N17_N19)	551	2,7
10	Other bacterial diseases (A30_A49)	889	2,4	10	Renal failure (N17_N19)	477	3,0	10	Other bacterial diseases (A30_A49)	536	2,6
	Other Natural	17 747	48,6		Other Natural	7 391	46,3		Other Natural	9 979	48,8
	Non-natural	1 175	3,2		Non-natural	640	4,0		Non-natural	521	2,6
	All causes	**36 488**	**100,0**		**All causes**	**15 980**	**100,0**		**All causes**	**20 430**	**100,0**

Appendix M8- The ten leading underlying natural causes of death by age and sex: Mpumalanga, 2019

	Mpumalanga, all ages	No	%		Mpumalanga, Males, all ages	No	%		Mpumalanga, Females, all ages	No	%
1	Tuberculosis (A15_A19)	1 870	6,0	1	Tuberculosis (A15_A19)	1 165	7,1	1	Diabetes mellitus (E10_E14)	1 019	6,8
2	Influenza and pneumonia (J09_J18)	1 696	5,4	2	Influenza and pneumonia (J09_J18)	851	5,2	2	Cerebrovascular diseases (I60_I69)	918	6,2
3	Diabetes mellitus (E10_E14)	1 667	5,3	3	Human immunodeficiency virus [HIV] disease (B20_B24)	808	4,9	3	Hypertensive diseases (I10_I15)	847	5,7
4	Human immunodeficiency virus [HIV] disease (B20_B24)	1 566	5,0	4	Ischaemic heart diseases (I20_I25)	663	4,0	4	Influenza and pneumonia (J09_J18)	840	5,6
5	Cerebrovascular diseases (I60_I69)	1 543	4,9	5	Diabetes mellitus (E10_E14)	647	3,9	5	Human immunodeficiency virus [HIV] disease (B20_B24)	752	5
6	Hypertensive diseases (I10_I15)	1 400	4,5	6	Cerebrovascular diseases (I60_I69)	623	3,8	6	Tuberculosis (A15_A19)	700	4,7
7	Other viral diseases (B25_B34)	1 261	4,0	7	Other viral diseases (B25_B34)	576	3,5	7	Other viral diseases (B25_B34)	680	4,6
8	Ischaemic heart diseases (I20_I25)	1 231	3,9	8	Hypertensive diseases (I10_I15)	550	3,4	8	Other forms of heart disease (I30_I52)	671	4,5
9	Other forms of heart disease (I30_I52)	1 165	3,7	9	Other forms of heart disease (I30_I52)	492	3,0	9	Ischaemic heart diseases (I20_I25)	565	3,8
10	Intestinal infectious diseases (A00_A09)	705	2,2	10	Chronic lower respiratory diseases (J40_J47)	373	2,3	10	Malignant neoplasms of female genital organs (C51_C58)	429	2,9
	Other Natural	13 384	42,6		Other Natural	6 617	40,4		Other Natural	6 618	44,4
	Non-natural	3 895	12,4		Non-natural	3 015	18,4		Non-natural	859	5,8
	All causes	**31 383**	**100,0**		**All causes**	**16 380**	**100,0**		**All causes**	**14 898**	**100,0**
	Mpumalanga, 0	**No**	**%**		**Mpumalanga, Males, 0**	**No**	**%**		**Mpumalanga, Females, 0**	**No**	**%**
1	Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	232	15,6	1	Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	125	16,2	1	Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	98	14,2
2	Intestinal infectious diseases (A00_A09)	147	9,9	2	Influenza and pneumonia (J09_J18)	68	8,8	2	Intestinal infectious diseases (A00_A09)	81	11,8
3	Influenza and pneumonia (J09_J18)	133	8,9	3	Intestinal infectious diseases (A00_A09)	65	8,4	3	Influenza and pneumonia (J09_J18)	63	9,1
4	Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04)	58	3,9	4	Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04)	30	3,9	4	Disorders related to length of gestation and fetal growth (P05_P08)	28	4,1
5	Disorders related to length of gestation and fetal growth (P05_P08)	57	3,8	5	Disorders related to length of gestation and fetal growth (P05_P08)	28	3,6	5	Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04)	27	3,9
6	Other disorders originating in the perinatal period (P90_P96)	50	3,4	6	Other disorders originating in the perinatal period (P90_P96)	28	3,6	6	Infections specific to the perinatal period (P35_P39)	24	3,5
7	Infections specific to the perinatal period (P35_P39)	50	3,4	7	Infections specific to the perinatal period (P35_P39)	26	3,4	7	Metabolic disorders (E70_E90)	21	3
8	Metabolic disorders (E70_E90)	37	2,5	8	Other acute lower respiratory infections (J20_J22)	24	3,1	8	Other disorders originating in the perinatal period (P90_P96)	21	3
9	Congenital malformations of the circulatory system (Q20_Q28)	36	2,4	9	Digestive system disorders of fetus and newborn (P75_P78)	20	2,6	9	Chromosomal abnormalities, not elsewhere classified (Q90_Q99)	18	2,6
10	Other acute lower respiratory infections (J20_J22)	35	2,4	10	Haemorrhagic and haematological disorders of fetus and newborn (P50_P61)	20	2,6	10	Congenital malformations of the circulatory system (Q20_Q28)	17	2,5
	Other Natural	589	39,6		Other Natural	301	39,0		Other Natural	265	38,5
	Non-natural	65	4,4		Non-natural	37	4,8		Non-natural	26	3,8
	All causes	**1 489**	**100,0**		**All causes**	**772**	**100,0**		**All causes**	**689**	**100,0**

Appendix M8- The ten leading underlying natural causes of death by age and sex: Mpumalanga, 2019 (continued)

	Mpumalanga, 1-14	No	%		Mpumalanga, Males, 1-14	No	%		Mpumalanga, Females, 1-14	No	%
1	Influenza and pneumonia (J09_J18)	107	9,8	1	Influenza and pneumonia (J09_J18)	57	9,2	1	Influenza and pneumonia (J09_J18)	49	10,5
2	Intestinal infectious diseases (A00_A09)	90	8,2	2	Intestinal infectious diseases (A00_A09)	48	7,8	2	Intestinal infectious diseases (A00_A09)	41	8,8
3	Tuberculosis (A15_A19)	37	3,4	3	Tuberculosis (A15_A19)	20	3,2	3	Tuberculosis (A15_A19)	17	3,6
4	Other acute lower respiratory infections (J20_J22)	32	2,9	4	Episodic and paroxysmal disorders (G40_G47)	16	2,6	4	Metabolic disorders (E70_E90)	16	3,4
5	Congenital malformations of the circulatory system (Q20_Q28)	31	2,8	5	Other acute lower respiratory infections (J20_J22)	16	2,6	5	Congenital malformations of the circulatory system (Q20_Q28)	15	3,2
6	Episodic and paroxysmal disorders (G40_G47)	28	2,6	6	Congenital malformations of the circulatory system (Q20_Q28)	15	2,4	6	Other acute lower respiratory infections (J20_J22)	15	3,2
7	Other viral diseases (B25_B34)	24	2,2	7	Cerebral palsy and other paralytic syndromes (G80_G83)	14	2,3	7	Episodic and paroxysmal disorders (G40_G47)	12	2,6
8	Cerebral palsy and other paralytic syndromes (G80_G83)	24	2,2	8	Other viral diseases (B25_B34)	12	1,9	8	Other viral diseases (B25_B34)	12	2,6
9	Metabolic disorders (E70_E90)	22	2,0	9	Malnutrition (E40_E46)	12	1,9	9	Human immunodeficiency virus [HIV] disease (B20_B24)	10	2,1
10	Malnutrition (E40_E46)	20	1,8	10	Chronic lower respiratory diseases (J40_J47)	9	1,5	10	Cerebral palsy and other paralytic syndromes (G80_G83)	10	2,1
	Other Natural	407	37,1		Other Natural	226	36,6		Other Natural	173	37
	Non-natural	274	25,0		Non-natural	172	27,9		Non-natural	98	20,9
	All causes	**1 096**	**100,0**		**All causes**	**617**	**100,0**		**All causes**	**468**	**100,0**
	Mpumalanga, 15-44	**No**	**%**		**Mpumalanga, Males, 15-44**	**No**	**%**		**Mpumalanga, Females, 15-44**	**No**	**%**
1	Human immunodeficiency virus [HIV] disease (B20_B24)	889	9,9	1	Tuberculosis (A15_A19)	454	8,6	1	Human immunodeficiency virus [HIV] disease (B20_B24)	444	12
2	Tuberculosis (A15_A19)	822	9,1	2	Human immunodeficiency virus [HIV] disease (B20_B24)	439	8,3	2	Other viral diseases (B25_B34)	380	10,2
3	Other viral diseases (B25_B34)	652	7,2	3	Other viral diseases (B25_B34)	270	5,1	3	Tuberculosis (A15_A19)	366	9,9
4	Influenza and pneumonia (J09_J18)	411	4,6	4	Influenza and pneumonia (J09_J18)	188	3,6	4	Influenza and pneumonia (J09_J18)	222	6
5	Ischaemic heart diseases (I20_I25)	180	2,0	5	Ischaemic heart diseases (I20_I25)	110	2,1	5	Malignant neoplasms of female genital organs (C51_C58)	103	2,8
6	Other forms of heart disease (I30_I52)	140	1,6	6	Certain disorders involving the immune mechanism (D80_D89)	71	1,4	6	Other forms of heart disease (I30_I52)	78	2,1
7	Certain disorders involving the immune mechanism (D80_D89)	135	1,5	7	Renal failure (N17_N19)	66	1,3	7	Other acute lower respiratory infections (J20_J22)	76	2
8	Renal failure (N17_N19)	133	1,5	8	Other forms of heart disease (I30_I52)	62	1,2	8	Ischaemic heart diseases (I20_I25)	70	1,9
9	Other acute lower respiratory infections (J20_J22)	132	1,5	9	Cerebrovascular diseases (I60_I69)	62	1,2	9	Protozoal diseases (B50_B64)	70	1,9
10	Cerebrovascular diseases (I60_I69)	124	1,4	10	Diabetes mellitus (E10_E14)	61	1,2	10	Renal failure (N17_N19)	67	1,8
	Other Natural	2 857	31,7		Non-natural	2 073	39,4		Other Natural	1 391	37,5
	Non-natural	2 530	28,1		Other Natural	1 403	26,7		Non-natural	447	12
	All causes	**9 005**	**100,0**		**All causes**	**5 259**	**100,0**		**All causes**	**3 714**	**100,0**

Appendix M8- The ten leading underlying natural causes of death by age and sex: Mpumalanga, 2019 (concluded)

	Mpumalanga, 45-64	No	%		Mpumalanga, Males, 45-64	No	%		Mpumalanga, Females, 45-64	No	%
1	Tuberculosis (A15_A19)	711	8,2	1	Tuberculosis (A15_A19)	493	10,1	1	Diabetes mellitus (E10_E14)	318	8,4
2	Diabetes mellitus (E10_E14)	553	6,4	2	Human immunodeficiency virus [HIV] disease (B20_B24)	293	6,0	2	Human immunodeficiency virus [HIV] disease (B20_B24)	230	6
3	Human immunodeficiency virus [HIV] disease (B20_B24)	523	6,0	3	Influenza and pneumonia (J09_J18)	261	5,4	3	Other viral diseases (B25_B34)	222	5,8
4	Other viral diseases (B25_B34)	447	5,1	4	Diabetes mellitus (E10_E14)	235	4,8	4	Tuberculosis (A15_A19)	215	5,6
5	Influenza and pneumonia (J09_J18)	435	5,0	5	Ischaemic heart diseases (I20_I25)	234	4,8	5	Cerebrovascular diseases (I60_I69)	200	5,3
6	Cerebrovascular diseases (I60_I69)	418	4,8	6	Other viral diseases (B25_B34)	224	4,6	6	Hypertensive diseases (I10_I15)	189	5
7	Ischaemic heart diseases (I20_I25)	366	4,2	7	Cerebrovascular diseases (I60_I69)	216	4,4	7	Malignant neoplasms of female genital organs (C51_C58)	189	5
8	Hypertensive diseases (I10_I15)	341	3,9	8	Other forms of heart disease (I30_I52)	161	3,3	8	Influenza and pneumonia (J09_J18)	173	4,5
9	Other forms of heart disease (I30_I52)	316	3,6	9	Hypertensive diseases (I10_I15)	151	3,1	9	Other forms of heart disease (I30_I52)	155	4,1
10	Malignant neoplasms of digestive organs (C15_C26)	205	2,4	10	Chronic lower respiratory diseases (J40_J47)	129	2,6	10	Ischaemic heart diseases (I20_I25)	130	3,4
	Other Natural	3 690	42,4		Other Natural	1 957	40,2		Other Natural	1 614	42,4
	Non-natural	695	8,0		Non-natural	520	10,7		Non-natural	171	4,5
	All causes	**8 700**	**100,0**		**All causes**	**4 874**	**100,0**		**All causes**	**3 806**	**100,0**
	Mpumalanga, 65+	**No**	**%**		**Mpumalanga, Males, 65+**	**No**	**%**		**Mpumalanga, Females, 65+**	**No**	**%**
1	Hypertensive diseases (I10_I15)	1 003	9,0	1	Hypertensive diseases (I10_I15)	376	7,7	1	Cerebrovascular diseases (I60_I69)	654	10,5
2	Cerebrovascular diseases (I60_I69)	997	9,0	2	Diabetes mellitus (E10_E14)	348	7,2	2	Diabetes mellitus (E10_E14)	641	10,3
3	Diabetes mellitus (E10_E14)	990	8,9	3	Cerebrovascular diseases (I60_I69)	343	7,1	3	Hypertensive diseases (I10_I15)	626	10,1
4	Other forms of heart disease (I30_I52)	686	6,2	4	Ischaemic heart diseases (I20_I25)	319	6,6	4	Other forms of heart disease (I30_I52)	427	6,9
5	Ischaemic heart diseases (I20_I25)	685	6,2	5	Influenza and pneumonia (J09_J18)	277	5,7	5	Ischaemic heart diseases (I20_I25)	365	5,9
6	Influenza and pneumonia (J09_J18)	610	5,5	6	Other forms of heart disease (I30_I52)	257	5,3	6	Influenza and pneumonia (J09_J18)	333	5,4
7	Renal failure (N17_N19)	303	2,7	7	Tuberculosis (A15_A19)	196	4,0	7	Renal failure (N17_N19)	151	2,4
8	Chronic lower respiratory diseases (J40_J47)	301	2,7	8	Chronic lower respiratory diseases (J40_J47)	193	4,0	8	Malignant neoplasms of female genital organs (C51_C58)	137	2,2
9	Tuberculosis (A15_A19)	292	2,6	9	Malignant neoplasms of male genital organs (C60_C63)	179	3,7	9	Intestinal infectious diseases (A00_A09)	130	2,1
10	Other bacterial diseases (A30_A49)	211	1,9	10	Renal failure (N17_N19)	152	3,1	10	Other bacterial diseases (A30_A49)	127	2
	Other Natural	4 684	42,2		Other Natural	2 005	41,3		Other Natural	2 513	40,4
	Non-natural	330	3,0		Non-natural	212	4,4		Non-natural	117	1,9
	All causes	**11 092**	**100,0**		**All causes**	**4 857**	**100,0**		**All causes**	**6 221**	**100,0**

Appendix M9- The ten leading underlying natural causes of death by age and sex: Limpopo, 2019

	Limpopo, all ages	No	%		Limpopo, Males, all ages	No	%		Limpopo, Females, all ages	No	%
1	Diabetes mellitus (E10_E14)	3 153	7,0	1	Influenza and pneumonia (J09_J18)	1 487	6,6	1	Diabetes mellitus (E10_E14)	1 875	8,3
2	Influenza and pneumonia (J09_J18)	2 904	6,4	2	Tuberculosis (A15_A19)	1 313	5,8	2	Cerebrovascular diseases (I60_I69)	1 500	6,7
3	Cerebrovascular diseases (I60_I69)	2 606	5,8	3	Diabetes mellitus (E10_E14)	1 277	5,7	3	Hypertensive diseases (I10_I15)	1 434	6,4
4	Hypertensive diseases (I10_I15)	2 360	5,2	4	Cerebrovascular diseases (I60_I69)	1 105	4,9	4	Influenza and pneumonia (J09_J18)	1 414	6,3
5	Tuberculosis (A15_A19)	2 175	4,8	5	Human immunodeficiency virus [HIV] disease (B20_B24)	1 032	4,6	5	Human immunodeficiency virus [HIV] disease (B20_B24)	1 131	5
6	Human immunodeficiency virus [HIV] disease (B20_B24)	2 171	4,8	6	Hypertensive diseases (I10_I15)	925	4,1	6	Other viral diseases (B25_B34)	892	4
7	Other viral diseases (B25_B34)	1 610	3,6	7	Other viral diseases (B25_B34)	713	3,2	7	Tuberculosis (A15_A19)	860	3,8
8	Other forms of heart disease (I30_I52)	1 254	2,8	8	Other forms of heart disease (I30_I52)	594	2,6	8	Other forms of heart disease (I30_I52)	657	2,9
9	Intestinal infectious diseases (A00_A09)	1 150	2,5	9	Renal failure (N17_N19)	557	2,5	9	Intestinal infectious diseases (A00_A09)	609	2,7
10	Renal failure (N17_N19)	1 020	2,3	10	Chronic lower respiratory diseases (J40_J47)	549	2,4	10	Malignant neoplasms of female genital organs (C51_C58)	513	2,3
	Other Natural	20 501	45,4		Other Natural	9 850	43,8		Other Natural	10 523	46,7
	Non-natural	4 255	9,4		Non-natural	3 103	13,8		Non-natural	1 121	5
	All causes	**45 159**	**100,0**		**All causes**	**22 505**	**100,0**		**All causes**	**22 529**	**100,0**
	Limpopo, 0	**No**	**%**		**Limpopo, Males, 0**	**No**	**%**		**Limpopo, Females, 0**	**No**	**%**
1	Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	382	13,9	1	Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	221	14,9	1	Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	156	12,7
2	Influenza and pneumonia (J09_J18)	242	8,8	2	Intestinal infectious diseases (A00_A09)	128	8,6	2	Influenza and pneumonia (J09_J18)	118	9,6
3	Intestinal infectious diseases (A00_A09)	234	8,5	3	Influenza and pneumonia (J09_J18)	123	8,3	3	Intestinal infectious diseases (A00_A09)	106	8,6
4	Disorders related to length of gestation and fetal growth (P05_P08)	159	5,8	4	Disorders related to length of gestation and fetal growth (P05_P08)	87	5,9	4	Disorders related to length of gestation and fetal growth (P05_P08)	64	5,2
5	Other disorders originating in the perinatal period (P90_P96)	116	4,2	5	Other disorders originating in the perinatal period (P90_P96)	64	4,3	5	Other disorders originating in the perinatal period (P90_P96)	49	4
6	Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04)	109	4,0	6	Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04)	60	4,1	6	Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04)	45	3,6
7	Infections specific to the perinatal period (P35_P39)	79	2,9	7	Infections specific to the perinatal period (P35_P39)	46	3,1	7	Infections specific to the perinatal period (P35_P39)	33	2,7
8	Malnutrition (E40_E46)	66	2,4	8	Malnutrition (E40_E46)	33	2,2	8	Malnutrition (E40_E46)	32	2,6
9	Other congenital malformations (Q80_Q89)	59	2,1	9	Other congenital malformations (Q80_Q89)	32	2,2	9	Other congenital malformations (Q80_Q89)	25	2
10	Congenital malformations of the circulatory system (Q20_Q28)	51	1,9	10	Congenital malformations of the circulatory system (Q20_Q28)	30	2,0	10	Other bacterial diseases (A30_A49)	25	2
	Other Natural	1 149	41,7		Other Natural	599	40,5		Other Natural	530	43
	Non-natural	109	4,0		Non-natural	57	3,9		Non-natural	50	4,1
	All causes	**2 755**	**100,0**		**All causes**	**1 480**	**100,0**		**All causes**	**1 233**	**100,0**

Appendix M9- The ten leading underlying natural causes of death by age and sex: Limpopo, 2019 (continued)

	Limpopo, 1-14	No	%		Limpopo, Males, 1-14	No	%		Limpopo, Females, 1-14	No	%
1	Influenza and pneumonia (J09_J18)	146	8,8	1	Intestinal infectious diseases (A00_A09)	81	8,7	1	Influenza and pneumonia (J09_J18)	67	9,2
2	Intestinal infectious diseases (A00_A09)	143	8,6	2	Influenza and pneumonia (J09_J18)	79	8,4	2	Intestinal infectious diseases (A00_A09)	61	8,4
3	Malnutrition (E40_E46)	49	2,9	3	Tuberculosis (A15_A19)	29	3,1	3	Malnutrition (E40_E46)	26	3,6
4	Tuberculosis (A15_A19)	49	2,9	4	Inflammatory diseases of the central nervous system (G00_G09)	24	2,6	4	Metabolic disorders (E70_E90)	22	3
5	Inflammatory diseases of the central nervous system (G00_G09)	40	2,4	5	Episodic and paroxysmal disorders (G40_G47)	24	2,6	5	Tuberculosis (A15_A19)	20	2,8
6	Episodic and paroxysmal disorders (G40_G47)	40	2,4	6	Malnutrition (E40_E46)	23	2,5	6	Human immunodeficiency virus [HIV] disease (B20_B24)	16	2,2
7	Metabolic disorders (E70_E90)	39	2,3	7	Human immunodeficiency virus [HIV] disease (B20_B24)	21	2,2	7	Inflammatory diseases of the central nervous system (G00_G09)	16	2,2
8	Human immunodeficiency virus [HIV] disease (B20_B24)	37	2,2	8	Other viral diseases (B25_B34)	20	2,1	8	Episodic and paroxysmal disorders (G40_G47)	16	2,2
9	Other viral diseases (B25_B34)	34	2,0	9	Cerebral palsy and other paralytic syndromes (G80_G83)	19	2,0	9	Other viral diseases (B25_B34)	14	1,9
10	Cerebral palsy and other paralytic syndromes (G80_G83)	33	2,0	10	Malignant neoplasms, stated or presumed to be primary, of lymphoid, haematopoietic and related tissue (C81_C96)	18	1,9	10	Cerebral palsy and other paralytic syndromes (G80_G83)	14	1,9
	Other Natural	722	43,3		Other Natural	403	43,1		Other Natural	318	43,7
	Non-natural	336	20,1		Non-natural	195	20,8		Non-natural	137	18,8
	All causes	**1 668**	**100,0**		**All causes**	**936**	**100,0**		**All causes**	**727**	**100,0**
	Limpopo, 15-44	**No**	**%**		**Limpopo, Males, 15-44**	**No**	**%**		**Limpopo, Females, 15-44**	**No**	**%**
1	Human immunodeficiency virus [HIV] disease (B20_B24)	1 151	11,1	1	Tuberculosis (A15_A19)	487	8,9	1	Human immunodeficiency virus [HIV] disease (B20_B24)	673	13,9
2	Tuberculosis (A15_A19)	961	9,3	2	Human immunodeficiency virus [HIV] disease (B20_B24)	474	8,6	2	Other viral diseases (B25_B34)	480	9,9
3	Other viral diseases (B25_B34)	759	7,3	3	Influenza and pneumonia (J09_J18)	296	5,4	3	Tuberculosis (A15_A19)	473	9,8
4	Influenza and pneumonia (J09_J18)	618	6,0	4	Other viral diseases (B25_B34)	274	5,0	4	Influenza and pneumonia (J09_J18)	321	6,6
5	Intestinal infectious diseases (A00_A09)	229	2,2	5	Intestinal infectious diseases (A00_A09)	98	1,8	5	Intestinal infectious diseases (A00_A09)	130	2,7
6	Diabetes mellitus (E10_E14)	205	2,0	6	Episodic and paroxysmal disorders (G40_G47)	88	1,6	6	Diabetes mellitus (E10_E14)	121	2,5
7	Certain disorders involving the immune mechanism (D80_D89)	169	1,6	7	Diabetes mellitus (E10_E14)	84	1,5	7	Malignant neoplasms of female genital organs (C51_C58)	118	2,4
8	Protozoal diseases (B50_B64)	161	1,6	8	Renal failure (N17_N19)	80	1,5	8	Certain disorders involving the immune mechanism (D80_D89)	102	2,1
9	Renal failure (N17_N19)	152	1,5	9	Protozoal diseases (B50_B64)	75	1,4	9	Other forms of heart disease (I30_I52)	91	1,9
10	Other forms of heart disease (I30_I52)	151	1,5	10	Cerebrovascular diseases (I60_I69)	68	1,2	10	Malignant neoplasms of breast (C50)	87	1,8
	Other Natural	3 344	32,2		Non-natural	1 960	35,7		Other Natural	1 749	36,1
	Non-natural	2 481	23,9		Other Natural	1 503	27,4		Non-natural	504	10,4
	All causes	**10 381**	**100,0**		**All causes**	**5 487**	**100,0**		**All causes**	**4 849**	**100,0**

Appendix M9- The ten leading underlying natural causes of death by age and sex: Limpopo, 2019 (concluded)

	Limpopo, 45-64	No	%		Limpopo, Males, 45-64	No	%		Limpopo, Females, 45-64	No	%
1	Diabetes mellitus (E10_E14)	1 044	9,0	1	Tuberculosis (A15_A19)	550	8,4	1	Diabetes mellitus (E10_E14)	575	11,6
2	Human immunodeficiency virus [HIV] disease (B20_B24)	814	7,0	2	Diabetes mellitus (E10_E14)	468	7,1	2	Human immunodeficiency virus [HIV] disease (B20_B24)	367	7,4
3	Tuberculosis (A15_A19)	812	7,0	3	Influenza and pneumonia (J09_J18)	460	7,0	3	Other viral diseases (B25_B34)	308	6,2
4	Influenza and pneumonia (J09_J18)	757	6,5	4	Human immunodeficiency virus [HIV] disease (B20_B24)	444	6,8	4	Influenza and pneumonia (J09_J18)	297	6
5	Other viral diseases (B25_B34)	660	5,7	5	Other viral diseases (B25_B34)	352	5,4	5	Hypertensive diseases (I10_I15)	271	5,4
6	Cerebrovascular diseases (I60_I69)	570	4,9	6	Cerebrovascular diseases (I60_I69)	325	4,9	6	Tuberculosis (A15_A19)	261	5,2
7	Hypertensive diseases (I10_I15)	534	4,6	7	Hypertensive diseases (I10_I15)	263	4,0	7	Cerebrovascular diseases (I60_I69)	244	4,9
8	Other forms of heart disease (I30_I52)	338	2,9	8	Other forms of heart disease (I30_I52)	188	2,9	8	Malignant neoplasms of female genital organs (C51_C58)	243	4,9
9	Renal failure (N17_N19)	284	2,5	9	Chronic lower respiratory diseases (J40_J47)	181	2,8	9	Other forms of heart disease (I30_I52)	149	3
10	Malignant neoplasms of female genital organs (C51_C58)	243	2,1	10	Renal failure (N17_N19)	176	2,7	10	Malignant neoplasms of breast (C50)	124	2,5
	Other Natural	4 680	40,5		Other Natural	2 527	38,5		Other Natural	1 949	39,2
	Non-natural	824	7,1		Non-natural	632	9,6		Non-natural	186	3,7
	All causes	**11 560**	**100,0**		**All causes**	**6 566**	**100,0**		**All causes**	**4 974**	**100,0**
	Limpopo, 65+	**No**	**%**		**Limpopo, Males, 65+**	**No**	**%**		**Limpopo, Females, 65+**	**No**	**%**
1	Cerebrovascular diseases (I60_I69)	1 904	10,1	1	Diabetes mellitus (E10_E14)	718	8,9	1	Cerebrovascular diseases (I60_I69)	1 194	11,1
2	Diabetes mellitus (E10_E14)	1 891	10,1	2	Cerebrovascular diseases (I60_I69)	710	8,8	2	Diabetes mellitus (E10_E14)	1 173	10,9
3	Hypertensive diseases (I10_I15)	1 697	9,0	3	Hypertensive diseases (I10_I15)	624	7,8	3	Hypertensive diseases (I10_I15)	1 073	10
4	Influenza and pneumonia (J09_J18)	1 141	6,1	4	Influenza and pneumonia (J09_J18)	529	6,6	4	Influenza and pneumonia (J09_J18)	611	5,7
5	Other forms of heart disease (I30_I52)	729	3,9	5	Other forms of heart disease (I30_I52)	323	4,0	5	Other forms of heart disease (I30_I52)	405	3,8
6	Renal failure (N17_N19)	559	3,0	6	Chronic lower respiratory diseases (J40_J47)	316	3,9	6	Renal failure (N17_N19)	273	2,5
7	Chronic lower respiratory diseases (J40_J47)	450	2,4	7	Renal failure (N17_N19)	286	3,6	7	Intestinal infectious diseases (A00_A09)	215	2
8	Ischaemic heart diseases (I20_I25)	388	2,1	8	Tuberculosis (A15_A19)	240	3,0	8	Ischaemic heart diseases (I20_I25)	193	1,8
9	Intestinal infectious diseases (A00_A09)	349	1,9	9	Malignant neoplasms of male genital organs (C60_C63)	237	2,9	9	Malignant neoplasms of female genital organs (C51_C58)	152	1,4
10	Tuberculosis (A15_A19)	340	1,8	10	Ischaemic heart diseases (I20_I25)	194	2,4	10	Chronic lower respiratory diseases (J40_J47)	134	1,2
	Other Natural	8 840	47,0		Other Natural	3 599	44,8		Other Natural	5 078	47,3
	Non-natural	504	2,7		Non-natural	259	3,2		Non-natural	244	2,3
	All causes	**18 792**	**100,0**		**All causes**	**8 035**	**100,0**		**All causes**	**10 745**	**100,0**

Appendix N- Number of deaths by main groups of causes of death and district municipality of death occurrence (Western Cape, Eastern Cape and Northern Cape), 2019

Death province	District	Certain infectious and parasitic diseases (A00_B99)	Neoplasms (C00_D48)	Diseases of the blood and immune mechanism (D50_D89)	Endocrine, nutritional and metabolic diseases (E00_E90)	Diseases of the nervous system (G00_G99)	Diseases of the circulatory system (I00_I99)	Diseases of the respiratory system (J00_J99)	Mental and behavioural disorders (F00_F99)	Certain conditions originating in the perinatal period (P00_P96)	Diseases of the digestive system (K00_K93)	Other natural causes	External causes of morbidity and mortality (V01_Y98)	Total
Western Cape	Cape Winelands	888	982	23	430	123	1 180	489	70	77	109	562	578	**5 511**
	Central Karoo	22	36	1	8	4	36	15	0	0	1	5	13	**141**
	City of Cape Town	3 691	5 118	131	2 274	655	6 170	2 105	438	444	595	2 741	4 158	**28 520**
	Garden Route	283	285	13	114	40	368	151	21	15	34	131	111	**1 566**
	Overberg	231	406	9	150	48	456	158	33	22	39	140	191	**1 883**
	West Coast	596	618	23	293	68	847	352	39	47	70	390	286	**3 629**
	Unspecified	1 546	1 684	53	727	217	2 128	814	128	111	243	773	1 637	**10 061**
	Total	**7 257**	**9 129**	**253**	**3 996**	**1 155**	**11 185**	**4 084**	**729**	**716**	**1 091**	**4 742**	**6 974**	**51 311**
Eastern Cape	Alfred Nzo	804	174	65	191	85	445	341	8	23	82	2 245	833	**5 296**
	Amathole	1 587	633	142	676	226	1 669	1 018	54	39	183	1 115	939	**8 281**
	Buffalo City	1 644	1 243	89	639	233	1 925	773	95	69	193	651	911	**8 465**
	Chris Hani	1 831	700	84	673	201	1 441	778	58	81	183	1 793	839	**8 662**
	Joe Gqabi	604	175	64	163	72	478	284	10	45	72	1 006	270	**3 243**
	Nelson Mandela Bay	2 636	1 783	97	1 216	320	2 793	903	119	66	337	911	1 648	**12 829**
	O.R. Tambo	2 475	669	127	607	258	1 201	1 035	30	58	232	4 532	2 185	**13 409**
	Sarah Baartman	762	502	84	329	101	855	366	41	29	87	416	328	**3 900**
	Unspecified	1 241	553	75	408	131	994	504	42	47	159	1 940	1 147	**7 241**
	Total	**13 584**	**6 432**	**827**	**4 902**	**1 627**	**11 801**	**6 002**	**457**	**457**	**1 528**	**14 609**	**9 100**	**71 326**
Northern Cape	Frances Baard	922	517	137	390	94	886	392	37	96	161	711	480	**4 823**
	John Taolo Gaetsewe	519	132	45	109	36	274	154	6	83	28	685	235	**2 306**
	Namakwa	205	197	24	113	31	310	213	11	31	40	156	203	**1 534**
	Pixley ka Seme	383	182	64	111	51	471	302	5	47	59	276	180	**2 131**
	Z F Mgcawu	434	259	113	159	66	477	307	12	53	46	348	262	**2 536**
	Unspecified	126	75	22	41	18	131	70	1	10	15	96	73	**678**
	Total	**2 589**	**1 362**	**405**	**923**	**296**	**2 549**	**1 438**	**72**	**320**	**349**	**2 272**	**1 433**	**14 008**

Appendix N1- Number of deaths by main groups of causes of death and district municipality of death occurrence (Free State, KwaZulu-Natal and North West), 2019

Death province	District	Certain infectious and parasitic diseases (A00_B99)	Neoplasms (C00_D48)	Diseases of the blood and immune mechanism (D50_D89)	Endocrine, nutritional and metabolic diseases (E00_E90)	Diseases of the nervous system (G00_G99)	Diseases of the circulatory system (I00_I99)	Diseases of the respiratory system (J00_J99)	Mental and behavioural disorders (F00_F99)	Certain conditions originating in the perinatal period (P00_P96)	Diseases of the digestive system (K00_K93)	Other natural causes	External causes of morbidity and mortality (V01_Y98)	Total
Free State	Fezile Dabi	958	349	100	351	109	989	487	29	81	112	552	442	**4 559**
	Lejweleputswa	962	463	293	417	134	1 109	670	19	152	189	1 132	618	**6 158**
	Mangaung	1 477	918	205	529	147	1 372	623	58	178	230	2 026	988	**8 751**
	Thabo Mofutsanyane	1 775	619	185	682	174	1 650	922	49	245	227	942	908	**8 378**
	Xhariep	230	73	22	60	19	203	71	1	8	28	157	57	**929**
	Unspecified	416	210	34	150	38	450	232	8	49	67	310	325	**2 289**
	Total	**5 818**	**2 632**	**839**	**2 189**	**621**	**5 773**	**3 005**	**164**	**713**	**853**	**5 119**	**3 338**	**31 064**
KwaZulu-Natal	Amajuba	189	87	7	94	20	199	130	2	23	36	225	129	**1 141**
	Harry Gwala	753	301	61	302	92	684	397	20	58	96	738	599	**4 101**
	King Cetshwayo	1 238	586	82	428	105	869	382	15	139	191	1 078	974	**6 087**
	Ugu	1 400	668	63	591	146	1 330	492	37	122	162	1 499	939	**7 449**
	Umgungundlovu	1 612	974	73	1 024	206	1 808	673	79	145	277	1 206	1 189	**9 266**
	Umkhanyakude	737	306	38	171	69	540	198	29	68	91	368	203	**2 818**
	Umzinyathi	534	169	45	243	63	531	220	16	52	71	769	500	**3 213**
	Uthukela	1 312	339	66	559	130	1 259	366	17	109	158	436	882	**5 633**
	Zululand	837	237	46	295	72	564	222	18	68	87	1 031	439	**3 916**
	eThekwini	3 736	2 614	268	1 880	489	4 586	1 651	117	423	643	6 352	4 117	**26 876**
	Unspecified	2 545	1 034	160	997	288	2 214	1 096	69	294	343	3 425	2 144	**14 609**
	iLembe	480	183	12	259	71	579	156	4	19	44	281	94	**2 182**
	Total	**15 373**	**7 498**	**921**	**6 843**	**1 751**	**15 163**	**5 983**	**423**	**1 520**	**2 199**	**17 408**	**12 209**	**87 291**
North West	Bojanala	1 007	335	112	391	78	968	590	19	97	106	904	578	**5 185**
	Dr Kenneth Kaunda	1 527	893	109	383	159	1 237	631	33	132	187	1 111	625	**7 027**
	Dr Ruth Segomotsi Mompati	971	211	81	272	81	852	482	17	140	63	882	244	**4 296**
	Ngaka Modiri Molema	764	177	137	277	77	738	510	11	89	87	1 955	487	**5 309**
	Unspecified	1 193	562	228	544	157	1 221	742	36	306	192	2 110	969	**8 260**
	Total	**5 462**	**2 178**	**667**	**1 867**	**552**	**5 016**	**2 955**	**116**	**764**	**635**	**6 962**	**2 903**	**30 077**

Appendix N2- Number of deaths by main groups of causes of death and district municipality of death occurrence (Gauteng, Mpumalanga and Limpopo), 2019

Death province	District	Certain infectious and parasitic diseases (A00_B99)	Neoplasms (C00_D48)	Diseases of the blood and immune mechanism (D50_D89)	Endocrine, nutritional and metabolic diseases (E00_E90)	Diseases of the nervous system (G00_G99)	Diseases of the circulatory system (I00_I99)	Diseases of the respiratory system (J00_J99)	Mental and behavioural disorders (F00_F99)	Certain conditions originating in the perinatal period (P00_P96)	Diseases of the digestive system (K00_K93)	Other natural causes	External causes of morbidity and mortality (V01_Y98)	Total
Gauteng	City of Johannesburg	3 411	3 526	342	1 212	522	3 892	2 047	219	800	713	8 052	3 851	**28 587**
	City of Tshwane	3 301	3 307	351	1 809	603	5 342	2 264	239	513	702	4 059	2 407	**24 897**
	Ekurhuleni	2 193	1 605	237	903	318	2 617	1 821	95	473	524	3 421	2 019	**16 226**
	Sedibeng	1 424	965	254	666	255	1 991	1 095	79	161	300	1 739	1 059	**9 988**
	West Rand	590	382	94	190	74	564	317	38	65	114	1 092	630	**4 150**
	Unspecified	2 167	1 295	240	868	258	1 999	1 296	74	320	392	2 584	2 886	**14 379**
	Total	**13 086**	**11 080**	**1 518**	**5 648**	**2 030**	**16 405**	**8 840**	**744**	**2 332**	**2 745**	**20 947**	**12 852**	**98 227**
Mpumalanga	Ehlanzeni	2 426	950	154	815	212	2 095	997	38	133	301	1 576	934	**10 631**
	Gert Sibande	1 608	556	177	531	142	1 209	697	23	224	213	1 461	1 067	**7 908**
	Nkangala	1 031	397	124	410	85	1 254	930	24	93	141	1 621	720	**6 830**
	Unspecified	1 118	339	97	407	107	1 055	469	26	72	159	991	1 174	**6 014**
	Total	**6 183**	**2 242**	**552**	**2 163**	**546**	**5 613**	**3 093**	**111**	**522**	**814**	**5 649**	**3 895**	**31 383**
Limpopo	Capricorn	1 652	579	97	700	156	1 144	986	32	212	243	1 791	601	**8 193**
	Mopani	1 341	426	134	696	153	1 099	642	40	279	224	2 561	733	**8 328**
	Sekhukhune	1 448	347	101	663	146	1 828	1 089	23	98	140	996	520	**7 399**
	Vhembe	718	267	62	515	61	588	328	13	93	145	2 268	438	**5 496**
	Waterberg	1 042	305	95	428	124	891	543	21	82	102	682	373	**4 688**
	Unspecified	1 829	838	141	822	199	1 580	935	31	166	295	2 629	1 590	**11 055**
	Total	**8 030**	**2 762**	**630**	**3 824**	**839**	**7 130**	**4 523**	**160**	**930**	**1 149**	**10 927**	**4 255**	**45 159**

Appendix O- Percentage of deaths by main groups of causes of death and district municipality of death occurrence (Western Cape, Eastern Cape and Northern Cape), 2019

Province	District	Certain infectious and parasitic diseases (A00_B99)	Neoplasms (C00_D48)	Diseases of the blood and immune mechanism (D50_D89)	Endocrine, nutritional and metabolic diseases (E00_E90)	Diseases of the nervous system (G00_G99)	Diseases of the circulatory system (I00_I99)	Diseases of the respiratory system (J00_J99)	Mental and behavioural disorders (F00_F99)	Certain conditions originating in the perinatal period (P00_P96)	Diseases of the digestive system (K00_K93)	Other natural diseases	External causes of morbidity and mortality (V01_Y98)	Total
Western Cape	Cape Winelands	16,1	17,8	0,4	7,8	2,2	21,4	8,9	1,3	1,4	2,0	10,2	10,5	**100,0**
	Central Karoo	15,6	25,5	0,7	5,7	2,8	25,5	10,6	0,0	0,0	0,7	3,6	9,2	**100,0**
	City of Cape Town	12,9	18,0	0,5	8,0	2,3	21,6	7,4	1,5	1,6	2,1	9,6	14,6	**100,0**
	Garden Route	18,1	18,2	0,8	7,3	2,6	23,5	9,6	1,3	1,0	2,2	8,4	7,1	**100,0**
	Overberg	12,3	21,6	0,5	8,0	2,6	24,2	8,4	1,8	1,2	2,1	7,4	10,1	**100,0**
	West Coast	16,4	17,0	0,6	8,1	1,9	23,3	9,7	1,1	1,3	1,9	10,8	7,9	**100,0**
	Unspecified	15,4	16,7	0,5	7,2	2,2	21,2	8,1	1,3	1,1	2,4	7,7	16,3	**100,0**
	Total	**14,1**	**17,8**	**0,5**	**7,8**	**2,3**	**21,8**	**8,0**	**1,4**	**1,4**	**2,1**	**9,2**	**13,6**	**100,0**
Eastern Cape	Alfred Nzo	15,2	3,3	1,2	3,6	1,6	8,4	6,4	0,2	0,4	1,6	42,4	15,7	**100,0**
	Amathole	19,2	7,6	1,7	8,2	2,7	20,2	12,3	0,7	0,5	2,2	13,5	11,3	**100,0**
	Buffalo City	19,4	14,7	1,1	7,6	2,8	22,7	9,1	1,1	0,8	2,3	7,7	10,8	**100,0**
	Chris Hani	21,1	8,1	1,0	7,8	2,3	16,6	9,0	0,7	0,9	2,1	20,7	9,7	**100,0**
	Joe Gqabi	18,6	5,4	2,0	5,0	2,2	14,7	8,8	0,3	1,4	2,2	31,0	8,3	**100,0**
	Nelson Mandela Bay	20,6	13,9	0,8	9,5	2,5	21,8	7,0	0,9	0,5	2,6	7,1	12,9	**100,0**
	O.R. Tambo	18,5	5,0	1,0	4,5	1,9	9,0	7,7	0,2	0,4	1,7	33,8	16,3	**100,0**
	Sarah Baartman	19,5	12,9	2,2	8,4	2,6	21,9	9,4	1,1	0,7	2,2	10,7	8,4	**100,0**
	Unspecified	17,1	7,6	1,0	5,6	1,8	13,7	7,0	0,6	0,7	2,2	26,8	15,8	**100,0**
	Total	**19,0**	**9,0**	**1,2**	**6,9**	**2,3**	**16,6**	**8,4**	**0,6**	**0,6**	**2,1**	**20,5**	**12,8**	**100,0**
Northern Cape	Frances Baard	19,1	10,7	2,8	8,1	2,0	18,4	8,1	0,8	2,0	3,3	14,7	10,0	**100,0**
	John Taolo Gaetsewe	22,5	5,7	2,0	4,7	1,6	11,9	6,7	0,3	3,6	1,2	29,7	10,2	**100,0**
	Namakwa	13,4	12,8	1,6	7,4	2,0	20,2	13,9	0,7	2,0	2,6	10,2	13,2	**100,0**
	Pixley ka Seme	18,0	8,5	3,0	5,2	2,4	22,1	14,2	0,2	2,2	2,8	13,0	8,5	**100,0**
	Z F Mgcawu	17,1	10,2	4,5	6,3	2,6	18,8	12,1	0,5	2,1	1,8	13,7	10,3	**100,0**
	Unspecified	18,6	11,1	3,2	6,1	2,7	19,3	10,3	0,2	1,5	2,2	14,2	10,8	**100,0**
	Total	**18,5**	**9,7**	**2,9**	**6,6**	**2,1**	**18,2**	**10,3**	**0,5**	**2,3**	**2,5**	**16,2**	**10,2**	**100,0**

Appendix O1- Percentage of deaths by main groups of causes of death and district municipality of death occurrence (Free State, KwaZulu-Natal and North West), 2019

Province	District	Certain infectious and parasitic diseases (A00_B99)	Neoplasms (C00_D48)	Diseases of the blood and immune mechanism (D50_D89)	Endocrine, nutritional and metabolic diseases (E00_E90)	Diseases of the nervous system (G00_G99)	Diseases of the circulatory system (I00_I99)	Diseases of the respiratory system (J00_J99)	Mental and behavioural disorders (F00_F99)	Certain conditions originating in the perinatal period (P00_P96)	Diseases of the digestive system (K00_K93)	Other natural diseases	External causes of morbidity and mortality (V01_Y98)	Total
Free State	Fezile Dabi	21,0	7,7	2,2	7,7	2,4	21,7	10,7	0,6	1,8	2,5	9,7	9,7	**100,0**
	Lejweleputswa	15,6	7,5	4,8	6,8	2,2	18,0	10,9	0,3	2,5	3,1	10,0	10,0	**100,0**
	Mangaung	16,9	10,5	2,3	6,1	1,7	15,7	7,1	0,7	2,0	2,6	11,3	11,3	**100,0**
	Thabo Mofutsanyane	21,2	7,4	2,2	8,1	2,1	19,7	11,0	0,6	2,9	2,7	10,8	10,8	**100,0**
	Xhariep	24,8	7,9	2,4	6,5	2,1	21,9	7,6	0,1	0,9	3,0	6,1	6,1	**100,0**
	Unspecified	18,2	9,2	1,5	6,6	1,7	19,7	10,1	0,4	2,1	2,9	14,2	14,2	**100,0**
	Total	**18,7**	**8,5**	**2,7**	**7,1**	**2,0**	**18,6**	**9,7**	**0,5**	**2,3**	**2,8**	**10,8**	**10,8**	100,0
KwaZulu-Natal	Amajuba	16,6	7,6	0,6	8,2	1,8	17,4	11,4	0,2	2,0	3,2	11,3	11,3	**100,0**
	Harry Gwala	18,4	7,3	1,5	7,4	2,2	16,7	9,7	0,5	1,4	2,3	14,6	14,6	**100,0**
	King Cetshwayo	20,3	9,6	1,4	7,0	1,7	14,3	6,3	0,3	2,3	3,1	16,0	16,0	**100,0**
	Ugu	18,8	9,0	0,9	7,9	2,0	17,9	6,6	0,5	1,6	2,2	12,6	12,6	**100,0**
	Umgungundlovu	17,4	10,5	0,8	11,1	2,2	19,5	7,3	0,9	1,6	3,0	12,8	12,8	**100,0**
	Umkhanyakude	26,2	10,9	1,4	6,1	2,5	19,2	7,0	1,0	2,4	3,2	7,2	7,2	**100,0**
	Umzinyathi	16,6	5,3	1,4	7,6	2,0	16,5	6,9	0,5	1,6	2,2	15,6	15,6	**100,0**
	Uthukela	23,3	6,0	1,2	9,9	2,3	22,4	6,5	0,3	1,9	2,8	15,7	15,7	**100,0**
	Zululand	21,4	6,1	1,2	7,5	1,8	14,4	5,7	0,5	1,7	2,2	11,2	11,2	**100,0**
	eThekwini	13,9	9,7	1,0	7,0	1,8	17,1	6,1	0,4	1,6	2,4	15,3	15,3	**100,0**
	iLembe	22,0	8,4	0,6	11,9	3,3	26,5	7,2	0,2	0,9	2,0	4,3	4,3	**100,0**
	Unspecified	17,4	7,1	1,1	6,8	2,0	15,2	7,5	0,5	2,0	2,4	14,7	14,7	**100,0**
	Total	**17,6**	**8,6**	**1,1**	**7,8**	**2,0**	**17,4**	**6,9**	**0,5**	**1,7**	**2,5**	**14,0**	**14,0**	100,0
North West	Bojanala	19,4	6,5	2,2	7,5	1,5	18,7	11,4	0,4	1,9	2,0	11,2	11,2	**100,0**
	Dr Kenneth Kaunda	21,7	12,7	1,6	5,5	2,3	17,6	9,0	0,5	1,9	2,7	8,9	8,9	**100,0**
	Dr Ruth Segomotsi Mompati	22,6	4,9	1,9	6,3	1,9	19,8	11,2	0,4	3,3	1,5	5,7	5,7	**100,0**
	Ngaka Modiri Molema	14,4	3,3	2,6	5,2	1,5	13,9	9,6	0,2	1,7	1,6	9,2	9,2	**100,0**
	Unspecified	14,4	6,8	2,8	6,6	1,9	14,8	9,0	0,4	3,7	2,3	11,7	11,7	**100,0**
	Total	**18,2**	**7,2**	**2,2**	**6,2**	**1,8**	**16,7**	**9,8**	**0,4**	**2,5**	**2,1**	**23,1**	**9,7**	100,0

Appendix O2- Percentage of deaths by main groups of causes of death and district municipality of death occurrence (Gauteng, Mpumalanga and Limpopo), 2019

Province	District	Certain infectious and parasitic diseases (A00_B99)	Neoplasms (C00_D48)	Diseases of the blood and immune mechanism (D50_D89)	Endocrine, nutritional and metabolic diseases (E00_E90)	Diseases of the nervous system (G00_G99)	Diseases of the circulatory system (I00_I99)	Diseases of the respiratory system (J00_J99)	Mental and behavioural disorders (F00_F99)	Certain conditions originating in the perinatal period (P00_P96)	Diseases of the digestive system (K00_K93)	Other natural diseases	External causes of morbidity and mortality (V01_Y98)	Total
Gauteng	City of Johannesburg	11,9	12,3	1,2	4,2	1,8	13,6	7,2	0,8	2,8	2,5	28,2	13,5	100,0
	City of Tshwane	13,3	13,3	1,4	7,3	2,4	21,5	9,1	1,0	2,1	2,8	16,3	9,7	100,0
	Ekurhuleni	13,5	9,9	1,5	5,6	2,0	16,1	11,2	0,6	2,9	3,2	21,1	12,4	100,0
	Sedibeng	14,3	9,7	2,5	6,7	2,6	19,9	11,0	0,8	1,6	3,0	17,4	10,6	100,0
	West Rand	14,2	9,2	2,3	4,6	1,8	13,6	7,6	0,9	1,6	2,7	26,3	15,2	100,0
	Unspecified	15,1	9,0	1,7	6,0	1,8	13,9	9,0	0,5	2,2	2,7	18,0	20,1	100,0
	Total	**13,3**	**11,3**	**1,5**	**5,7**	**2,1**	**16,7**	**9,0**	**0,8**	**2,4**	**2,8**	**21,3**	**13,1**	**100,0**
Mpumalanga	Ehlanzeni	22,8	8,9	1,5	7,7	2,0	19,7	9,4	0,4	1,3	2,8	14,8	8,8	**100,0**
	Gert Sibande	20,3	7,0	2,2	6,7	1,8	15,3	8,8	0,3	2,8	2,7	18,5	13,5	**100,0**
	Nkangala	15,1	5,8	1,8	6,0	1,2	18,4	13,6	0,4	1,4	2,1	23,7	10,5	**100,0**
	Unspecified	18,6	5,6	1,6	6,8	1,8	17,5	7,8	0,4	1,2	2,6	16,5	19,5	**100,0**
	Total	**19,7**	**7,1**	**1,8**	**6,9**	**1,7**	**17,9**	**9,9**	**0,4**	**1,7**	**2,6**	**18,0**	**12,4**	**100,0**
Limpopo	Capricorn	20,2	7,1	1,2	8,5	1,9	14,0	12,0	0,4	2,6	3,0	21,9	7,3	**100,0**
	Mopani	16,1	5,1	1,6	8,4	1,8	13,2	7,7	0,5	3,4	2,7	30,7	8,8	**100,0**
	Sekhukhune	19,6	4,7	1,4	9,0	2,0	24,7	14,7	0,3	1,3	1,9	13,5	7,0	**100,0**
	Vhembe	13,1	4,9	1,1	9,4	1,1	10,7	6,0	0,2	1,7	2,6	41,3	8,0	**100,0**
	Waterberg	22,2	6,5	2,0	9,1	2,7	19,0	11,6	0,5	1,8	2,2	14,5	8,0	**100,0**
	Unspecified	16,5	7,6	1,3	7,4	1,8	14,3	8,5	0,3	1,5	2,7	23,8	14,4	**100,0**
	Total	**17,8**	**6,1**	**1,4**	**8,5**	**1,9**	**15,8**	**10,0**	**0,4**	**2,1**	**2,5**	**24,2**	**9,4**	**100,0**

Appendix P1- The ten leading underlying natural causes of death by district municipality of death occurrence, Western Cape, 2019

Cape Winelands		No	%	Central Karoo		No	%	City of Cape Town		No	%
Ischaemic heart diseases (I20_I25)	1	388	7,0	Hypertensive diseases (I10_I15)	1	12	8,5	Ischaemic heart diseases (I20_I25)	1	2 195	7,7
Diabetes mellitus (E10_E14)	2	382	6,9	Malignant neoplasms of respiratory and intrathoracic organs (C30_C39)	2	12	8,5	Diabetes mellitus (E10_E14)	2	1 935	6,8
Human immunodeficiency virus [HIV] disease (B20_B24)	3	365	6,6	Cerebrovascular diseases (I60_I69)	3	11	7,8	Human immunodeficiency virus [HIV] disease (B20_B24)	3	1 629	5,7
Cerebrovascular diseases (I60_I69)	4	351	6,4	Cerebrovascular diseases (I60_I69)	4	10	7,1	Cerebrovascular diseases (I60_I69)	4	1 485	5,2
Chronic lower respiratory diseases (J40_J47)	5	322	5,8	Ischaemic heart diseases (I20_I25)	5	9	6,4	Malignant neoplasms of digestive organs (C15_C26)	5	1 312	4,6
Tuberculosis (A15_A19)	6	288	5,2	Tuberculosis (A15_A19)	6	8	5,7	Hypertensive diseases (I10_I15)	6	1 231	4,3
Malignant neoplasms of digestive organs (C15_C26)	7	269	4,9	Malignant neoplasms of digestive organs (C15_C26)	7	7	5,0	Malignant neoplasms of respiratory and intrathoracic organs (C30_C39)	7	1 120	3,9
Malignant neoplasms of respiratory and intrathoracic organs (C30_C39)	8	259	4,7	Diabetes mellitus (E10_E14)	8	7	5,0	Chronic lower respiratory diseases (J40_J47)	8	1 094	3,8
Hypertensive diseases (I10_I15)	9	223	4,0	Human immunodeficiency virus [HIV] disease (B20_B24)	9	7	5,0	Tuberculosis (A15_A19)	9	1 063	3,7
Other forms of heart disease (I30_I52)	10	137	2,5	Malignant neoplasms of female genital organs (C51_C58)	10	4	2,8	Other forms of heart disease (I30_I52)	10	862	3,0
Other Natural		1 949	35,4	Other Natural		41	29,1	Other Natural		10 436	36,6
Non-natural		578	10,5	Non-natural		13	9,2	Non-natural		4 158	14,6
All causes		**5 511**	**100,0**	**All causes**		**141**	**100,0**	**All causes**		**28 520**	**100,0**

Appendix P1- The ten leading underlying natural causes of death by district municipality of death occurrence, Western Cape, 2019 (concluded)

Overberg		No	%	West Coast		No	%	Garden Route		No	%
Ischaemic heart diseases (I20_I25)	1	172	9,1	Diabetes mellitus (E10_E14)	1	267	7,4	Tuberculosis (A15_A19)	1	132	8,4
Cerebrovascular diseases (I60_I69)	2	135	7,2	Cerebrovascular diseases (I60_I69)	2	264	7,3	Ischaemic heart diseases (I20_I25)	2	123	7,9
Diabetes mellitus (E10_E14)	3	121	6,4	Ischaemic heart diseases (I20_I25)	3	254	7,0	Cerebrovascular diseases (I60_I69)	3	99	6,3
Malignant neoplasms of respiratory and intrathoracic organs (C30_C39)	4	105	5,6	Tuberculosis (A15_A19)	4	249	6,9	Diabetes mellitus (E10_E14)	4	92	5,9
Malignant neoplasms of digestive organs (C15_C26)	5	98	5,2	Chronic lower respiratory diseases (J40_J47)	5	220	6,1	Chronic lower respiratory diseases (J40_J47)	5	87	5,6
Human immunodeficiency virus [HIV] disease (B20_B24)	6	93	4,9	Human immunodeficiency virus [HIV] disease (B20_B24)	6	200	5,5	Human immunodeficiency virus [HIV] disease (B20_B24)	6	86	5,5
Chronic lower respiratory diseases (J40_J47)	7	90	4,8	Hypertensive diseases (I10_I15)	7	163	4,5	Hypertensive diseases (I10_I15)	7	73	4,7
Tuberculosis (A15_A19)	8	84	4,5	Malignant neoplasms of digestive organs (C15_C26)	8	157	4,3	Malignant neoplasms of digestive organs (C15_C26)	8	62	4,0
Hypertensive diseases (I10_I15)	9	71	3,8	Malignant neoplasms of respiratory and intrathoracic organs (C30_C39)	9	149	4,1	Malignant neoplasms of respiratory and intrathoracic organs (C30_C39)	9	57	3,6
Other forms of heart disease (I30_I52)	10	57	3,0	Other forms of heart disease (I30_I52)	10	106	2,9	Other forms of heart disease (I30_I52)	10	44	2,8
Other Natural		666	35,4	Other Natural		1 314	36,2	Other Natural		600	38,3
Non-natural		191	10,1	Non-natural		286	7,9	Non-natural		111	7,1
All causes		**1 883**	**100,0**	**All causes**		**3 629**	**100,0**	**All causes**		**1 566**	**100,0**

Appendix P2- The ten leading underlying natural causes of death by district municipality of death occurrence, Eastern Cape, 2019

Alfred Nzo		No	%	Amathole		No	%	Buffalo City		No	%
Tuberculosis (A15_A19)	1	322	6,1	Tuberculosis (A15_A19)	1	653	7,9	Human immunodeficiency virus [HIV] disease (B20_B24)	1	625	7,4
Human immunodeficiency virus [HIV] disease (B20_B24)	2	240	4,5	Hypertensive diseases (I10_I15)	2	589	7,1	Tuberculosis (A15_A19)	2	600	7,1
Cerebrovascular diseases (I60_I69)	3	161	3,0	Diabetes mellitus (E10_E14)	3	561	6,8	Cerebrovascular diseases (I60_I69)	3	555	6,6
Diabetes mellitus (E10_E14)	4	157	3,0	Cerebrovascular diseases (I60_I69)	4	492	5,9	Diabetes mellitus (E10_E14)	4	534	6,3
Hypertensive diseases (I10_I15)	5	120	2,3	Chronic lower respiratory diseases (J40_J47)	5	461	5,6	Hypertensive diseases (I10_I15)	5	518	6,1
Chronic lower respiratory diseases (J40_J47)	6	108	2,0	Other forms of heart disease (I30_I52)	6	390	4,7	Malignant neoplasms of digestive organs (C15_C26)	6	390	4,6
Influenza and pneumonia (J09_J18)	7	105	2,0	Human immunodeficiency virus [HIV] disease (B20_B24)	7	349	4,2	Other forms of heart disease (I30_I52)	7	384	4,5
Other viral diseases (B25_B34)	8	100	1,9	Influenza and pneumonia (J09_J18)	8	341	4,1	Chronic lower respiratory diseases (J40_J47)	8	368	4,3
Other forms of heart disease (I30_I52)	9	98	1,9	Other viral diseases (B25_B34)	9	299	3,6	Ischaemic heart diseases (I20_I25)	9	274	3,2
Intestinal infectious diseases (A00_A09)	10	66	1,2	Malignant neoplasms of digestive organs (C15_C26)	10	242	2,9	Influenza and pneumonia (J09_J18)	10	227	2,7
Other Natural		2 986	56,4	Other Natural		2 965	35,8	Other Natural		3 079	36,4
Non-natural		833	15,7	Non-natural		939	11,3	Non-natural		911	10,8
All causes		**5 296**	**100,0**	**All causes**		**8 281**	**100,0**	**All causes**		**8 465**	**100,0**

Appendix P2- The ten leading underlying natural causes of death by district municipality of death occurrence, Eastern Cape, 2019 (continued)

Chris Hani		No	%	Joe Gqabi		No	%	Nelson Mandela Bay		No	%
Tuberculosis (A15_A19)	1	685	7,9	Tuberculosis (A15_A19)	1	221	6,8	Diabetes mellitus (E10_E14)	1	1 096	8,5
Diabetes mellitus (E10_E14)	2	558	6,4	Human immunodeficiency virus [HIV] disease (B20_B24)	2	170	5,2	Tuberculosis (A15_A19)	2	1 086	8,5
Human immunodeficiency virus [HIV] disease (B20_B24)	3	526	6,1	Cerebrovascular diseases (I60_I69)	3	164	5,1	Human immunodeficiency virus [HIV] disease (B20_B24)	3	929	7,2
Cerebrovascular diseases (I60_I69)	4	466	5,4	Influenza and pneumonia (J09_J18)	4	125	3,9	Hypertensive diseases (I10_I15)	4	850	6,6
Hypertensive diseases (I10_I15)	5	443	5,1	Other forms of heart disease (I30_I52)	5	122	3,8	Cerebrovascular diseases (I60_I69)	5	721	5,6
Chronic lower respiratory diseases (J40_J47)	6	390	4,5	Diabetes mellitus (E10_E14)	6	112	3,5	Ischaemic heart diseases (I20_I25)	6	666	5,2
Other viral diseases (B25_B34)	7	364	4,2	Other viral diseases (B25_B34)	7	102	3,1	Chronic lower respiratory diseases (J40_J47)	7	499	3,9
Other forms of heart disease (I30_I52)	8	262	3,0	Hypertensive diseases (I10_I15)	8	102	3,1	Malignant neoplasms of digestive organs (C15_C26)	8	440	3,4
Influenza and pneumonia (J09_J18)	9	203	2,3	Chronic lower respiratory diseases (J40_J47)	9	69	2,1	Other forms of heart disease (I30_I52)	9	407	3,2
Malignant neoplasms of digestive organs (C15_C26)	10	199	2,3	Renal failure (N17_N19)	10	53	1,6	Malignant neoplasms of respiratory and intrathoracic organs (C30_C39)	10	346	2,7
Other Natural		3 727	43,0	Other Natural		1 733	53,4	Other Natural		4 141	32,3
Non-natural		839	9,7	Non-natural		270	8,3	Non-natural		1 648	12,8
All causes		**8 662**	**100,0**	**All causes**		**3 243**	**100,0**	**All causes**		**12 829**	**100,0**

Appendix P2- The ten leading underlying natural causes of death by district municipality of death occurrence, Eastern Cape, 2019 (concluded)

O.R. Tambo		No	%	Sarah Baartman		No	%
Tuberculosis (A15_A19)	1	1 055	7,9	Human immunodeficiency virus [HIV] disease (B20_B24)	1	303	7,8
Human immunodeficiency virus [HIV] disease (B20_B24)	2	636	4,7	Tuberculosis (A15_A19)	2	278	7,1
Cerebrovascular diseases (I60_I69)	3	546	4,1	Diabetes mellitus (E10_E14)	3	274	7,0
Diabetes mellitus (E10_E14)	4	467	3,5	Hypertensive diseases (I10_I15)	4	267	6,8
Chronic lower respiratory diseases (J40_J47)	5	448	3,3	Cerebrovascular diseases (I60_I69)	5	263	6,7
Other viral diseases (B25_B34)	6	409	3,1	Chronic lower respiratory diseases (J40_J47)	6	189	4,8
Influenza and pneumonia (J09_J18)	7	297	2,2	Ischaemic heart diseases (I20_I25)	7	150	3,8
Hypertensive diseases (I10_I15)	8	258	1,9	Malignant neoplasms of digestive organs (C15_C26)	8	134	3,4
Other forms of heart disease (I30_I52)	9	240	1,8	Other forms of heart disease (I30_I52)	9	129	3,3
Malignant neoplasms of digestive organs (C15_C26)	10	218	1,6	Influenza and pneumonia (J09_J18)	10	99	2,5
Other Natural		6 650	49,6	Other Natural		1 486	38,1
Non-natural		2 185	16,3	Non-natural		328	8,4
All causes		**13 409**	**100,0**	**All causes**		**3 900**	**100,0**

Appendix P3- The ten leading underlying natural causes of death by district municipality of death occurrence, Northern Cape, 2019

Frances Baard		No	%	John Taolo Gaetsewe		No	%	Namakwa		No	%
Diabetes mellitus (E10_E14)	1	298	6,2	Human immunodeficiency virus [HIV] disease (B20_B24)	1	238	10,3	Ischaemic heart diseases (I20_I25)	1	105	6,8
Human immunodeficiency virus [HIV] disease (B20_B24)	2	295	6,1	Tuberculosis (A15_A19)	2	121	5,2	Chronic lower respiratory diseases (J40_J47)	2	102	6,6
Hypertensive diseases (I10_I15)	3	291	6,0	Hypertensive diseases (I10_I15)	3	119	5,2	Diabetes mellitus (E10_E14)	3	101	6,6
Tuberculosis (A15_A19)	4	273	5,7	Influenza and pneumonia (J09_J18)	4	80	3,5	Influenza and pneumonia (J09_J18)	4	81	5,3
Cerebrovascular diseases (I60_I69)	5	250	5,2	Other viral diseases (B25_B34)	5	76	3,3	Hypertensive diseases (I10_I15)	5	70	4,6
Other viral diseases (B25_B34)	6	215	4,5	Cerebrovascular diseases (I60_I69)	6	64	2,8	Tuberculosis (A15_A19)	6	67	4,4
Ischaemic heart diseases (I20_I25)	7	175	3,6	Diabetes mellitus (E10_E14)	7	60	2,6	Cerebrovascular diseases (I60_I69)	7	64	4,2
Chronic lower respiratory diseases (J40_J47)	8	148	3,1	Intestinal infectious diseases (A00_A09)	8	47	2,0	Other viral diseases (B25_B34)	8	49	3,2
Influenza and pneumonia (J09_J18)	9	147	3,0	Other forms of heart disease (I30_I52)	9	38	1,6	Malignant neoplasms of respiratory and intrathoracic organs (C30_C39)	9	48	3,1
Malignant neoplasms of digestive organs (C15_C26)	10	111	2,3	Ischaemic heart diseases (I20_I25)	10	37	1,6	Other forms of heart disease (I30_I52)	10	47	3,1
Other Natural		2 140	44,4	Other Natural		1 191	51,6	Other Natural		597	38,9
Non-natural		480	10,0	Non-natural		235	10,2	Non-natural		203	13,2
All causes		**4 823**	**100,0**	**All causes**		**2 306**	**100,0**	**All causes**		**1 534**	**100,0**

Appendix P3- The ten leading underlying natural causes of death by district municipality of death occurrence, Northern Cape, 2019 (concluded)

Pixley ka Seme		No	%	Z F Mgcawu		No	%
Cerebrovascular diseases (I60_I69)	1	157	7,4	Tuberculosis (A15_A19)	1	187	7,4
Influenza and pneumonia (J09_J18)	2	155	7,3	Hypertensive diseases (I10_I15)	2	173	6,8
Tuberculosis (A15_A19)	3	153	7,2	Chronic lower respiratory diseases (J40_J47)	3	142	5,6
Human immunodeficiency virus [HIV] disease (B20_B24)	4	146	6,9	Diabetes mellitus (E10_E14)	4	135	5,3
Ischaemic heart diseases (I20_I25)	5	118	5,5	Human immunodeficiency virus [HIV] disease (B20_B24)	5	115	4,5
Hypertensive diseases (I10_I15)	6	102	4,8	Ischaemic heart diseases (I20_I25)	6	104	4,1
Chronic lower respiratory diseases (J40_J47)	7	102	4,8	Certain disorders involving the immune mechanism (D80_D89)	7	104	4,1
Diabetes mellitus (E10_E14)	8	71	3,3	Cerebrovascular diseases (I60_I69)	8	97	3,8
Other forms of heart disease (I30_I52)	9	66	3,1	Influenza and pneumonia (J09_J18)	9	76	3,0
Certain disorders involving the immune mechanism (D80_D89)	10	54	2,5	Other viral diseases (B25_B34)	10	68	2,7
Other Natural		827	38,8	Other Natural		1 073	42,3
Non-natural		180	8,4	Non-natural		262	10,3
All causes		**2 131**	**100,0**	**All causes**		**2 536**	**100,0**

Appendix P4- The ten leading underlying natural causes of death by district municipality of death occurrence, Free State, 2019

Fezile Dabi		No	%	Lejweleputswa		No	%	Mangaung		No	%
Hypertensive diseases (I10_I15)	1	286	6,3	Influenza and pneumonia (J09_J18)	1	367	6,0	Human immunodeficiency virus [HIV] disease (B20_B24)	1	690	7,9
Diabetes mellitus (E10_E14)	2	260	5,7	Tuberculosis (A15_A19)	2	335	5,4	Hypertensive diseases (I10_I15)	2	426	4,9
Tuberculosis (A15_A19)	3	256	5,6	Cerebrovascular diseases (I60_I69)	3	322	5,2	Diabetes mellitus (E10_E14)	3	406	4,6
Human immunodeficiency virus [HIV] disease (B20_B24)	4	245	5,4	Hypertensive diseases (I10_I15)	4	298	4,8	Tuberculosis (A15_A19)	4	355	4,1
Influenza and pneumonia (J09_J18)	5	241	5,3	Diabetes mellitus (E10_E14)	5	265	4,3	Cerebrovascular diseases (I60_I69)	5	351	4,0
Other forms of heart disease (I30_I52)	6	232	5,1	Certain disorders involving the immune mechanism (D80_D89)	6	244	4,0	Influenza and pneumonia (J09_J18)	6	260	3,0
Cerebrovascular diseases (I60_I69)	7	232	5,1	Other forms of heart disease (I30_I52)	7	244	4,0	Other forms of heart disease (I30_I52)	7	259	3,0
Other viral diseases (B25_B34)	8	222	4,9	Other viral diseases (B25_B34)	8	178	2,9	Chronic lower respiratory diseases (J40_J47)	8	233	2,7
Ischaemic heart diseases (I20_I25)	9	170	3,7	Human immunodeficiency virus [HIV] disease (B20_B24)	9	172	2,8	Ischaemic heart diseases (I20_I25)	9	219	2,5
Chronic lower respiratory diseases (J40_J47)	10	118	2,6	Ischaemic heart diseases (I20_I25)	10	169	2,7	Malignant neoplasms of digestive organs (C15_C26)	10	215	2,5
Other Natural		1 855	40,7	Other Natural		2 946	47,8	Other Natural		4 349	49,7
Non-natural		442	9,7	Non-natural		618	10,0	Non-natural		988	11,3
All causes		**4 559**	**100,0**	**All causes**		**6 158**	**100,0**	**All causes**		**8 751**	**100,0**

Appendix P4- The ten leading underlying natural causes of death by district municipality of death occurrence, Free State, 2019 (concluded)

Thabo Mofutsanyane		No	%	Xhariep		No	%
Human immunodeficiency virus [HIV] disease (B20_B24)	1	592	7,1	Human immunodeficiency virus [HIV] disease (B20_B24)	1	96	10,3
Influenza and pneumonia (J09_J18)	2	551	6,6	Tuberculosis (A15_A19)	2	62	6,7
Hypertensive diseases (I10_I15)	3	546	6,5	Hypertensive diseases (I10_I15)	3	56	6,0
Diabetes mellitus (E10_E14)	4	520	6,2	Cerebrovascular diseases (I60_I69)	4	54	5,8
Cerebrovascular diseases (I60_I69)	5	482	5,8	Ischaemic heart diseases (I20_I25)	5	51	5,5
Tuberculosis (A15_A19)	6	438	5,2	Diabetes mellitus (E10_E14)	6	46	5,0
Other forms of heart disease (I30_I52)	7	349	4,2	Other viral diseases (B25_B34)	7	44	4,7
Other viral diseases (B25_B34)	8	338	4,0	Other forms of heart disease (I30_I52)	8	32	3,4
Intestinal infectious diseases (A00_A09)	9	203	2,4	Influenza and pneumonia (J09_J18)	9	29	3,1
Ischaemic heart diseases (I20_I25)	10	192	2,3	Malignant neoplasms of digestive organs (C15_C26)	10	24	2,6
Other Natural		3 259	38,9	Other Natural		378	40,7
Non-natural		908	10,8	Non-natural		57	6,1
All causes		**8 378**	**100,0**	**All causes**		**929**	**100,0**

Appendix P5- The ten leading underlying natural causes of death by district municipality of death occurrence, KwaZulu-Natal, 2019

Amajuba		No	%	Harry Gwala		No	%	Ugu		No	%
Diabetes mellitus (E10_E14)	1	78	6,8	Tuberculosis (A15_A19)	1	287	7,0	Cerebrovascular diseases (I60_I69)	1	515	6,9
Tuberculosis (A15_A19)	2	74	6,5	Diabetes mellitus (E10_E14)	2	263	6,4	Diabetes mellitus (E10_E14)	2	511	6,9
Influenza and pneumonia (J09_J18)	3	70	6,1	Cerebrovascular diseases (I60_I69)	3	239	5,8	Tuberculosis (A15_A19)	3	467	6,3
Cerebrovascular diseases (I60_I69)	4	60	5,3	Human immunodeficiency virus [HIV] disease (B20_B24)	4	196	4,8	Human immunodeficiency virus [HIV] disease (B20_B24)	4	352	4,7
Hypertensive diseases (I10_I15)	5	59	5,2	Hypertensive diseases (I10_I15)	5	146	3,6	Hypertensive diseases (I10_I15)	5	347	4,7
Other forms of heart disease (I30_I52)	6	45	3,9	Influenza and pneumonia (J09_J18)	6	145	3,5	Other viral diseases (B25_B34)	6	338	4,5
Human immunodeficiency virus [HIV] disease (B20_B24)	7	42	3,7	Other forms of heart disease (I30_I52)	7	131	3,2	Ischaemic heart diseases (I20_I25)	7	231	3,1
Other viral diseases (B25_B34)	8	35	3,1	Other viral diseases (B25_B34)	8	127	3,1	Influenza and pneumonia (J09_J18)	8	206	2,8
Other acute lower respiratory infections (J20_J22)	9	35	3,1	Chronic lower respiratory diseases (J40_J47)	9	116	2,8	Other forms of heart disease (I30_I52)	9	199	2,7
Malignant neoplasms of female genital organs (C51_C58)	10	25	2,2	Ischaemic heart diseases (I20_I25)	10	92	2,2	Malignant neoplasms of digestive organs (C15_C26)	10	189	2,5
Other Natural		489	42,9	Other Natural		1 760	42,9	Other Natural		3 155	42,4
Non-natural		129	11,3	Non-natural		599	14,6	Non-natural		939	12,6
All causes		**1 141**	**100,0**	**All causes**		**4 101**	**100,0**	**All causes**		**7 449**	**100,0**

Appendix P5- The ten leading underlying natural causes of death by district municipality of death occurrence, KwaZulu-Natal, 2019 (continued)

Zululand		No	%	eThekwini		No	%	iLembe		No	%
Tuberculosis (A15_A19)	1	293	7,5	Diabetes mellitus (E10_E14)	1	1 644	6,1	Ischaemic heart diseases (I20_I25)	1	308	14,1
Human immunodeficiency virus [HIV] disease (B20_B24)	2	261	6,7	Ischaemic heart diseases (I20_I25)	2	1 403	5,2	Tuberculosis (A15_A19)	2	205	9,4
Diabetes mellitus (E10_E14)	3	252	6,4	Tuberculosis (A15_A19)	3	1 307	4,9	Diabetes mellitus (E10_E14)	3	185	8,5
Cerebrovascular diseases (I60_I69)	4	171	4,4	Cerebrovascular diseases (I60_I69)	4	1 206	4,5	Cerebrovascular diseases (I60_I69)	4	151	6,9
Hypertensive diseases (I10_I15)	5	169	4,3	Human immunodeficiency virus [HIV] disease (B20_B24)	5	1 133	4,2	Other viral diseases (B25_B34)	5	88	4,0
Other forms of heart disease (I30_I52)	6	120	3,1	Other forms of heart disease (I30_I52)	6	1 091	4,1	Human immunodeficiency virus [HIV] disease (B20_B24)	6	79	3,6
Other viral diseases (B25_B34)	7	95	2,4	Influenza and pneumonia (J09_J18)	7	808	3,0	Influenza and pneumonia (J09_J18)	7	73	3,3
Influenza and pneumonia (J09_J18)	8	87	2,2	Hypertensive diseases (I10_I15)	8	683	2,5	Metabolic disorders (E70_E90)	8	65	3,0
Renal failure (N17_N19)	9	77	2,0	Malignant neoplasms of digestive organs (C15_C26)	9	657	2,4	Other forms of heart disease (I30_I52)	9	57	2,6
Ischaemic heart diseases (I20_I25)	10	74	1,9	Renal failure (N17_N19)	10	520	1,9	Chronic lower respiratory diseases (J40_J47)	10	55	2,5
Other Natural		1 878	48,0	Other Natural		12 307	45,8	Other Natural		822	37,7
Non-natural		439	11,2	Non-natural		4 117	15,3	Non-natural		94	4,3
All causes		**3 916**	**100,0**	**All causes**		**26 876**	**100,0**	**All causes**		**2 182**	**100,0**

Appendix P5- The ten leading underlying natural causes of death by district municipality of death occurrence, KwaZulu-Natal, 2019 (continued)

uMgungundlovu		No	%	uMkhanyakude		No	%	uMzinyathi		No	%
Diabetes mellitus (E10_E14)	1	885	9,6	Human immunodeficiency virus [HIV] disease (B20_B24)	1	287	10,2	Hypertensive diseases (I10_I15)	1	201	6,3
Cerebrovascular diseases (I60_I69)	2	598	6,5	Cerebrovascular diseases (I60_I69)	2	237	8,4	Diabetes mellitus (E10_E14)	2	191	5,9
Human immunodeficiency virus [HIV] disease (B20_B24)	3	570	6,2	Tuberculosis (A15_A19)	3	184	6,5	Tuberculosis (A15_A19)	3	181	5,6
Hypertensive diseases (I10_I15)	4	547	5,9	Diabetes mellitus (E10_E14)	4	136	4,8	Cerebrovascular diseases (I60_I69)	4	168	5,2
Tuberculosis (A15_A19)	5	465	5,0	Hypertensive diseases (I10_I15)	5	121	4,3	Other viral diseases (B25_B34)	5	125	3,9
Ischaemic heart diseases (I20_I25)	6	298	3,2	Other forms of heart disease (I30_I52)	6	108	3,8	Influenza and pneumonia (J09_J18)	6	114	3,5
Influenza and pneumonia (J09_J18)	7	283	3,1	Influenza and pneumonia (J09_J18)	7	92	3,3	Human immunodeficiency virus [HIV] disease (B20_B24)	7	91	2,8
Malignant neoplasms of digestive organs (C15_C26)	8	266	2,9	Other bacterial diseases (A30_A49)	8	89	3,2	Other forms of heart disease (I30_I52)	8	84	2,6
Other forms of heart disease (I30_I52)	9	260	2,8	Renal failure (N17_N19)	9	87	3,1	Intestinal infectious diseases (A00_A09)	9	74	2,3
Renal failure (N17_N19)	10	194	2,1	Other viral diseases (B25_B34)	10	67	2,4	Renal failure (N17_N19)	10	61	1,9
Other Natural		3 711	40,0	Other Natural		1 207	42,8	Other Natural		1 423	44,3
Non-natural		1 189	12,8	Non-natural		203	7,2	Non-natural		500	15,6
All causes		**9 266**	**100,0**	**All causes**		**2 818**	**100,0**	**All causes**		**3 213**	**100,0**

Appendix P5- The ten leading underlying natural causes of death by district municipality of death occurrence, KwaZulu-Natal, 2019 (concluded)

uThukela		No	%	King Cetshwayo		No	%
Cerebrovascular diseases (I60_I69)	1	506	9,0	Tuberculosis (A15_A19)	1	413	6,8
Tuberculosis (A15_A19)	2	499	8,9	Diabetes mellitus (E10_E14)	2	354	5,8
Diabetes mellitus (E10_E14)	3	497	8,8	Cerebrovascular diseases (I60_I69)	3	309	5,1
Hypertensive diseases (I10_I15)	4	297	5,3	Human immunodeficiency virus [HIV] disease (B20_B24)	4	304	5,0
Human immunodeficiency virus [HIV] disease (B20_B24)	5	238	4,2	Hypertensive diseases (I10_I15)	5	264	4,3
Other viral diseases (B25_B34)	6	213	3,8	Other viral diseases (B25_B34)	6	215	3,5
Intestinal infectious diseases (A00_A09)	7	210	3,7	Influenza and pneumonia (J09_J18)	7	188	3,1
Influenza and pneumonia (J09_J18)	8	193	3,4	Other forms of heart disease (I30_I52)	8	157	2,6
Ischaemic heart diseases (I20_I25)	9	186	3,3	Other bacterial diseases (A30_A49)	9	141	2,3
Other forms of heart disease (I30_I52)	10	185	3,3	Renal failure (N17_N19)	10	133	2,2
Other Natural		1 727	30,7	Other Natural		2 635	43,3
Non-natural		882	15,7	Non-natural		974	16,0
All causes		**5 633**	**100,0**	**All causes**		**6 087**	**100,0**

Appendix P6- The ten leading underlying natural causes of death by district municipality of death occurrence, North West, 2019

Bojanala		No	%	Dr Kenneth Kaunda		No	%	Dr Ruth Segomotsi Mompati		No	%
Tuberculosis (A15_A19)	1	374	7,2	Human immunodeficiency virus [HIV] disease (B20_B24)	1	536	7,6	Other forms of heart disease (I30_I52)	1	308	7,2
Diabetes mellitus (E10_E14)	2	315	6,1	Tuberculosis (A15_A19)	2	474	6,7	Hypertensive diseases (I10_I15)	2	302	7,0
Hypertensive diseases (I10_I15)	3	304	5,9	Hypertensive diseases (I10_I15)	3	374	5,3	Other viral diseases (B25_B34)	3	296	6,9
Cerebrovascular diseases (I60_I69)	4	285	5,5	Cerebrovascular diseases (I60_I69)	4	324	4,6	Influenza and pneumonia (J09_J18)	4	276	6,4
Influenza and pneumonia (J09_J18)	5	251	4,8	Diabetes mellitus (E10_E14)	5	253	3,6	Human immunodeficiency virus [HIV] disease (B20_B24)	5	265	6,2
Other viral diseases (B25_B34)	6	246	4,7	Other viral diseases (B25_B34)	6	244	3,5	Tuberculosis (A15_A19)	6	256	6,0
Other forms of heart disease (I30_I52)	7	236	4,6	Influenza and pneumonia (J09_J18)	7	235	3,3	Diabetes mellitus (E10_E14)	7	180	4,2
Chronic lower respiratory diseases (J40_J47)	8	171	3,3	Ischaemic heart diseases (I20_I25)	8	221	3,1	Cerebrovascular diseases (I60_I69)	8	169	3,9
Human immunodeficiency virus [HIV] disease (B20_B24)	9	148	2,9	Chronic lower respiratory diseases (J40_J47)	9	221	3,1	Other acute lower respiratory infections (J20_J22)	9	88	2,0
Renal failure (N17_N19)	10	98	1,9	Other forms of heart disease (I30_I52)	10	220	3,1	Intestinal infectious diseases (A00_A09)	10	76	1,8
Other Natural		2 179	42,0	Other Natural		3 300	47,0	Other Natural		1 836	42,7
Non-natural		578	11,1	Non-natural		625	8,9	Non-natural		244	5,7
All causes		**5 185**	**100,0**	**All causes**		**7 027**	**100,0**	**All causes**		**4 296**	**100,0**

Appendix P6- The ten leading underlying natural causes of death by district municipality of death occurrence, North West, 2019 (concluded)

Ngaka Modiri Molema		No	%
Tuberculosis (A15_A19)	1	292	5,5
Hypertensive diseases (I10_I15)	2	247	4,7
Influenza and pneumonia (J09_J18)	3	235	4,4
Other forms of heart disease (I30_I52)	4	230	4,3
Diabetes mellitus (E10_E14)	5	197	3,7
Cerebrovascular diseases (I60_I69)	6	178	3,4
Other viral diseases (B25_B34)	7	169	3,2
Human immunodeficiency virus [HIV] disease (B20_B24)	8	144	2,7
Chronic lower respiratory diseases (J40_J47)	9	135	2,5
Intestinal infectious diseases (A00_A09)	10	98	1,8
Other Natural		2 897	54,6
Non-natural		487	9,2
All causes		**5 309**	**100,0**

Appendix P7- The ten leading underlying natural causes of death by district municipality of death occurrence, Gauteng, 2019

City of Johannesburg		No	%	City of Tshwane		No	%	Ekurhuleni		No	%
Cerebrovascular diseases (I60_I69)	1	1 026	3,6	Diabetes mellitus (E10_E14)	1	1 443	5,8	Diabetes mellitus (E10_E14)	1	673	4,1
Ischaemic heart diseases (I20_I25)	2	1 002	3,5	Other forms of heart disease (I30_I52)	2	1 363	5,5	Tuberculosis (A15_A19)	2	620	3,8
Tuberculosis (A15_A19)	3	919	3,2	Hypertensive diseases (I10_I15)	3	1 316	5,3	Cerebrovascular diseases (I60_I69)	3	602	3,7
Diabetes mellitus (E10_E14)	4	912	3,2	Ischaemic heart diseases (I20_I25)	4	1 170	4,7	Ischaemic heart diseases (I20_I25)	4	594	3,7
Influenza and pneumonia (J09_J18)	5	910	3,2	Cerebrovascular diseases (I60_I69)	5	1 086	4,4	Hypertensive diseases (I10_I15)	5	574	3,5
Human immunodeficiency virus [HIV] disease (B20_B24)	6	860	3,0	Tuberculosis (A15_A19)	6	969	3,9	Other forms of heart disease (I30_I52)	6	570	3,5
Other forms of heart disease (I30_I52)	7	849	3,0	Influenza and pneumonia (J09_J18)	7	918	3,7	Influenza and pneumonia (J09_J18)	7	563	3,5
Malignant neoplasms of digestive organs (C15_C26)	8	789	2,8	Malignant neoplasms of digestive organs (C15_C26)	8	793	3,2	Other diseases of the respiratory system (J95_J99)	8	553	3,4
Chronic lower respiratory diseases (J40_J47)	9	650	2,3	Other viral diseases (B25_B34)	9	750	3,0	Other viral diseases (B25_B34)	9	509	3,1
Other viral diseases (B25_B34)	10	577	2,0	Human immunodeficiency virus [HIV] disease (B20_B24)	10	692	2,8	Human immunodeficiency virus [HIV] disease (B20_B24)	10	439	2,7
Other Natural		16 242	56,8	Other Natural		11 990	48,2	Other Natural		8 510	52,4
Non-natural		3 851	13,5	Non-natural		2 407	9,7	Non-natural		2 019	12,4
All causes		**28 587**	**100,0**	**All causes**		**24 897**	**100,0**	**All causes**		**16 226**	**100,0**

Appendix P7- The ten leading underlying natural causes of death by district municipality of death occurrence, Gauteng, 2019 (concluded)

Sedibeng		No	%	West Rand		No	%
Influenza and pneumonia (J09_J18)	1	564	5,6	Tuberculosis (A15_A19)	1	202	4,9
Tuberculosis (A15_A19)	2	545	5,5	Ischaemic heart diseases (I20_I25)	2	157	3,8
Diabetes mellitus (E10_E14)	3	523	5,2	Cerebrovascular diseases (I60_I69)	3	148	3,6
Hypertensive diseases (I10_I15)	4	509	5,1	Other viral diseases (B25_B34)	4	135	3,3
Other forms of heart disease (I30_I52)	5	484	4,8	Diabetes mellitus (E10_E14)	5	130	3,1
Cerebrovascular diseases (I60_I69)	6	444	4,4	Influenza and pneumonia (J09_J18)	6	107	2,6
Ischaemic heart diseases (I20_I25)	7	357	3,6	Other forms of heart disease (I30_I52)	7	104	2,5
Chronic lower respiratory diseases (J40_J47)	8	283	2,8	Malignant neoplasms of digestive organs (C15_C26)	8	100	2,4
Malignant neoplasms of digestive organs (C15_C26)	9	224	2,2	Hypertensive diseases (I10_I15)	9	99	2,4
Other bacterial diseases (A30_A49)	10	223	2,2	Chronic lower respiratory diseases (J40_J47)	10	95	2,3
Other Natural		4 773	47,8	Other Natural		2 243	54
Non-natural		1 059	10,6	Non-natural		630	15,2
All causes		**9 988**	**100,0**	**All causes**		**4 150**	**100,0**

Appendix P8- The ten leading underlying natural causes of death by district municipality of death occurrence, Mpumalanga, 2019

Ehlanzeni		No	%	Gert Sibande		No	%	Nkangala		No	%
Tuberculosis (A15_A19)	1	729	6,9	Human immunodeficiency virus [HIV] disease (B20_B24)	1	502	6,3	Influenza and pneumonia (J09_J18)	1	470	6,9
Human immunodeficiency virus [HIV] disease (B20_B24)	2	699	6,6	Tuberculosis (A15_A19)	2	429	5,4	Other forms of heart disease (I30_I52)	2	383	5,6
Cerebrovascular diseases (I60_I69)	3	699	6,6	Diabetes mellitus (E10_E14)	3	406	5,1	Tuberculosis (A15_A19)	3	329	4,8
Diabetes mellitus (E10_E14)	4	643	6,0	Influenza and pneumonia (J09_J18)	4	377	4,8	Hypertensive diseases (I10_I15)	4	326	4,8
Influenza and pneumonia (J09_J18)	5	569	5,4	Hypertensive diseases (I10_I15)	5	368	4,7	Diabetes mellitus (E10_E14)	5	290	4,2
Ischaemic heart diseases (I20_I25)	6	515	4,8	Cerebrovascular diseases (I60_I69)	6	330	4,2	Cerebrovascular diseases (I60_I69)	6	264	3,9
Other viral diseases (B25_B34)	7	468	4,4	Other viral diseases (B25_B34)	7	277	3,5	Other viral diseases (B25_B34)	7	240	3,5
Hypertensive diseases (I10_I15)	8	415	3,9	Other forms of heart disease (I30_I52)	8	237	3,0	Ischaemic heart diseases (I20_I25)	8	213	3,1
Other forms of heart disease (I30_I52)	9	371	3,5	Intestinal infectious diseases (A00_A09)	9	208	2,6	Other acute lower respiratory infections (J20_J22)	9	193	2,8
Intestinal infectious diseases (A00_A09)	10	233	2,2	Ischaemic heart diseases (I20_I25)	10	193	2,4	Human immunodeficiency virus [HIV] disease (B20_B24)	10	177	2,6
Other Natural		4 356	41,0	Other Natural		3 514	44,4	Other Natural		3 225	47,2
Non-natural		934	8,8	Non-natural		1 067	13,5	Non-natural		720	10,5
All causes		**10 631**	**100,0**	**All causes**		**7 908**	**100,0**	**All causes**		**6 830**	**100,0**

Appendix P9- The ten leading underlying natural causes of death by district municipality of death occurrence, Limpopo, 2019

Capricorn		No	%	Mopani		No	%	Vhembe		No	%
Influenza and pneumonia (J09_J18)	1	675	8,2	Diabetes mellitus (E10_E14)	1	549	6,6	Diabetes mellitus (E10_E14)	1	401	7,3
Human immunodeficiency virus [HIV] disease (B20_B24)	2	623	7,6	Human immunodeficiency virus [HIV] disease (B20_B24)	2	390	4,7	Cerebrovascular diseases (I60_I69)	2	215	3,9
Diabetes mellitus (E10_E14)	3	583	7,1	Influenza and pneumonia (J09_J18)	3	382	4,6	Tuberculosis (A15_A19)	3	212	3,9
Hypertensive diseases (I10_I15)	4	475	5,8	Tuberculosis (A15_A19)	4	350	4,2	Hypertensive diseases (I10_I15)	4	171	3,1
Tuberculosis (A15_A19)	5	362	4,4	Cerebrovascular diseases (I60_I69)	5	342	4,1	Renal failure (N17_N19)	5	170	3,1
Cerebrovascular diseases (I60_I69)	6	340	4,1	Renal failure (N17_N19)	6	331	4,0	Other viral diseases (B25_B34)	6	156	2,8
Other viral diseases (B25_B34)	7	317	3,9	Other viral diseases (B25_B34)	7	310	3,7	Human immunodeficiency virus [HIV] disease (B20_B24)	7	139	2,5
Intestinal infectious diseases (A00_A09)	8	198	2,4	Other forms of heart disease (I30_I52)	8	301	3,6	Influenza and pneumonia (J09_J18)	8	135	2,5
Chronic lower respiratory diseases (J40_J47)	9	184	2,2	Hypertensive diseases (I10_I15)	9	280	3,4	Other forms of heart disease (I30_I52)	9	104	1,9
Other forms of heart disease (I30_I52)	10	155	1,9	Intestinal infectious diseases (A00_A09)	10	132	1,6	Other acute lower respiratory infections (J20_J22)	10	86	1,6
Other Natural		3 680	44,9	Other Natural		4 228	50,8	Other Natural		3 269	59,5
Non-natural		601	7,3	Non-natural		733	8,8	Non-natural		438	8,0
All causes		**8 193**	**100,0**	**All causes**		**8 328**	**100,0**	**All causes**		**5 496**	**100,0**

Appendix P9- The ten leading underlying natural causes of death by district municipality of death occurrence, Limpopo, 2019 (concluded)

Waterberg		No	%	Sekhukhune		No	%
Diabetes mellitus (E10_E14)	1	362	7,7	Cerebrovascular diseases (I60_I69)	1	985	13,3
Tuberculosis (A15_A19)	2	356	7,6	Influenza and pneumonia (J09_J18)	2	807	10,9
Influenza and pneumonia (J09_J18)	3	349	7,4	Diabetes mellitus (E10_E14)	3	552	7,5
Hypertensive diseases (I10_I15)	4	317	6,8	Hypertensive diseases (I10_I15)	4	509	6,9
Cerebrovascular diseases (I60_I69)	5	262	5,6	Other viral diseases (B25_B34)	5	417	5,6
Human immunodeficiency virus [HIV] disease (B20_B24)	6	226	4,8	Tuberculosis (A15_A19)	6	388	5,2
Other forms of heart disease (I30_I52)	7	186	4,0	Intestinal infectious diseases (A00_A09)	7	277	3,7
Other viral diseases (B25_B34)	8	177	3,8	Other forms of heart disease (I30_I52)	8	262	3,5
Intestinal infectious diseases (A00_A09)	9	169	3,6	Human immunodeficiency virus [HIV] disease (B20_B24)	9	197	2,7
Chronic lower respiratory diseases (J40_J47)	10	130	2,8	Other acute lower respiratory infections (J20_J22)	10	108	1,5
Other Natural		1 781	38,0	Other Natural	11	2 377	32,1
Non-natural		373	8,0	Non-natural	12	520	7,0
All causes		**4 688**	**100,0**	**All causes**		**7 399**	**100,0**

Appendix Q- Population group differences

The ten leading underlying natural causes of death by population group for 2019 are shown in Appendix Q1. The results show that five of the ten leading natural causes of death were common for the four population groups, namely *diabetes mellitus, cerebrovascular diseases, hypertensive disease, other forms of heart disease* and *chronic lower respiratory diseases*. These common natural causes of death had different ranks and different contributions to the overall number of deaths for each population group. For example, *diabetes mellitus* was the leading cause of death among the coloured population group and second for the India/Asian population group, accounting for 7,6% and 11,2% of all deaths in these population groups respectively. It was third among the black African population group (6,0%) and seventh among the white population group (3,8%).

Tuberculosis was the first leading underlying natural cause of death for black Africans, accounting for 6,7% of deaths while it ranked fifth for the coloured population, accounting for 6,0% of deaths in this population group. It was not part of the ten leading underlying natural causes of death for the white and Indian/Asian population groups. *Ischaemic heart diseases* were the leading underlying cause of death for the Indian/Asian and white population groups at 16,4% and 11,8% respectively. For the coloured population group, *Ischaemic heart diseases* were the second leading underlying cause of death at 7,0%.

Appendix Q1- The ten leading underlying natural causes of death by population group, 2019

Causes of death	Black African			White			Indian/Asian			Coloured			Unknown/Unspecified		
	Rank	Number	%	Rank	Number	%	Rank	Number	%	Rank	Number	Percentage	Rank	Number	%
Tuberculosis (A15_A19)	1	20 748	6,7	...	...	...	...	...	...	5	2 046	6,0	2	2 104	3,4
Human immunodeficiency virus [HIV] disease (B20_B24)	2	18 986	6,1	...	...	...	...	...	...	8	1 458	4,3	8	1 392	2,3
Diabetes mellitus (E10_E14)	3	18 736	6,0	7	1 661	3,8	2	1 103	11,2	1	2 593	7,6	3	2 098	3,4
Cerebrovascular diseases (I60_I69)	4	16 054	5,2	4	2 327	5,4	3	492	5,0	4	2 120	6,2	1	2 140	3,5
Hypertensive diseases (I10_I15)	5	15 547	5,0	8	1 453	3,3	5	324	3,3	6	1 659	4,8	7	1 509	2,4
Influenza and pneumonia (J09_J18)	6	13 168	4,2	6	1 688	3,9	9	223	2,3	...	...	...	6	1 511	2,4
Other viral diseases (B25_B34)	7	12 062	3,9	...	...	...	...	...	...	...	...	...	...	...	...
Other forms of heart disease (I30_I52)	8	10 509	3,4	2	2 604	6,0	4	402	4,1	10	844	2,5	9	1 382	2,2
Chronic lower respiratory diseases (J40_J47)	9	6 070	1,9	5	2 246	5,2	8	285	2,9	3	2 133	6,2	5	1 575	2,5
Renal failure (N17_N19)	10	6 031	1,9	10	1 033	2,4	7	289	2,9	...	...	...	...	...	...
Ischaemic heart diseases (I20_I25)	...	...	...	1	5 107	11,8	1	1 610	16,4	2	2 413	7,0	4	1 739	2,8
Malignant neoplasms of digestive organs (C15_C26)	...	...	...	3	2 489	5,7	6	318	3,2	9	1 420	4,1	10	1 008	1,6
Malignant neoplasms of respiratory and intrathoracic organs (C30_C39)	...	...	...	9	1 407	3,2	10	207	2,1	7	1 573	4,6	...	...	...
Other Natural		133 057	42,7		18 195	41,9		3 771	38,3		12 313	35,9		36 612	59,3
Non-natural		40 756	13,1		3 194	7,4		813	8,3		3 681	10,7		8 718	14,1
All causes		**311 724**	**100,0**		**43 404**	**100,0**		**9 837**	**100,0**		**34 253**	**100,0**		**61 788**	**100,0**