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Statistical release

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Tel: 012 310 8358

012 310 8093

Email: magdaj@statssa.gov.za

inadp@statssa.gov.za

Preface

This statistical release presents information on mortality and causes of death in South Africa for deaths that occurred in 2011 as well as information on death occurrences from 1997 to 2010 to show trends in mortality and causes of death. It is based on deaths collected through the South African civil registration system maintained by the Department of Home Affairs.



PJ Lehohla
Statistician-General

Table of contents

Preface	ii
Table of contents	iii
List of tables	vi
List of figures	vii
1. Introduction	1
1.1 Background	1
1.2 Objectives of this statistical release	1
1.3 Scope of this statistical release	1
1.4 Organisation and presentation of this statistical release.....	2
2. Data and methods	3
2.1 Data source	3
2.2 Data processing	3
2.3 Data analysis.....	5
2.4 Quality of data	5
2.4.1 Completeness of death registration	5
2.4.2 Late registrations	6
2.4.3 Timeliness of death registration	7
2.4.4 Completeness of information for selected variables	8
2.4.5 Quality of causes of death information.....	9
2.4.6 Assessment framework for death registration data.....	12
3. Registered deaths	15
3.1 Levels and trends of registered deaths	15
3.2 Age differentials.....	16
3.3 Sex differentials.....	18
3.4 Age and sex differentials	19
3.5 Population group differences in mortality	22
3.6 Marital status differences in mortality.....	23
3.7 Differences in mortality by smoking status.....	23
3.8 Differences in mortality by place or institution of death occurrence.....	24
3.9 Geographic variations in mortality	24
3.9.1 Differences by province, age and sex	24
3.9.2 Differences by district municipality, age and sex	25
4. Causes of death	27
4.1 Introduction.....	27
4.2 Reported causes of death	27
4.3 Method of ascertaining the cause of death	28
4.4 Main groups of the underlying causes of death	29
4.5 Natural and non-natural causes of death	32
4.6 Underlying natural causes of death.....	35
4.7 Non-natural causes of death	47
4.8 Comparison between immediate, contributing and underlying causes of death.....	53
5. Summary and concluding remarks	56
References	58

Appendices	59
Appendix A: Definitions	59
Appendix B: Death notification form (BI-1663).....	60
Appendix B1: Death notification form (DHA-1663A)	62
Appendix C: Number of deaths by age, sex and year of death, 1997–1999	66
Appendix C1: Number of deaths by age, sex and year of death, 2000–2002	67
Appendix C2: Number of deaths by age, sex and year of death, 2003–2005	68
Appendix C3: Number of deaths by age, sex and year of death, 2006–2008	69
Appendix C4: Number of deaths by age, sex and year of death, 2009–2011	70
Appendix D: List of ill-defined causes	71
Appendix E: Year-to-year annual percentage changes in number of deaths by sex, 1997–2011	72
Appendix F: Age specific death rates (ASDR) by year of death, 2007–2011	73
Appendix G: Sex ratios at death by year of death, 1997–2011.....	74
Appendix H: Number of deaths by province of death occurrence and province of usual residence of the deceased, 2011	75
Appendix H1: Percentage distribution of deaths by province of death occurrence and province of usual residence of the deceased, 2011	75
Appendix I: Number of deaths by age, province and district municipality of death occurrence, 2011	76
Appendix I1: Percentage distribution of deaths by age, province and district municipality of death occurrence, 2011	78
Appendix J: Number of deaths by sex, province and district municipality of death occurrence, 2011	81
Appendix K: All underlying causes of death, 2011.....	82
Appendix L: Detailed description of the broad groups of natural causes of death which were among the ten leading causes in 2011	86
Appendix M: The ten leading underlying natural causes of death by age and sex: South Africa, 2011	89
Appendix M1: The ten leading underlying natural causes of death by age and sex: Western Cape, 2011	90
Appendix M2: The ten leading underlying natural causes of death by age and sex: Eastern Cape, 2011	91
Appendix M3: The ten leading underlying natural causes of death by age and sex: Northern Cape, 2011	92
Appendix M4: The ten leading underlying natural causes of death by age and sex: Free State, 2011	93
Appendix M5: The ten leading underlying natural causes of death by age and sex: KwaZulu-Natal, 2011	94
Appendix M6: The ten leading underlying natural causes of death by age and sex: North West, 2011	95
Appendix M7: The ten leading underlying natural causes of death by age and sex: Gauteng, 2011	96
Appendix M8: The ten leading underlying natural causes of death by age and sex: Mpumalanga, 2011	97
Appendix M9: The ten leading underlying natural causes of death by age and sex: Limpopo, 2011	98
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), 2011	99
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), 2011.....	100
Appendix N2: Number of deaths by main groups of causes of death and district municipality of death occurrence (Gauteng, Mpumalanga and Limpopo), 2011	101
Appendix O: Percentage distribution of deaths by main groups of causes of death and district municipality of death occurrence (Western Cape, Eastern Cape and Northern Cape), 2011	102
Appendix O1: Percentage distribution of deaths by main groups of causes of death and district municipality of death occurrence (Free State, KwaZulu-Natal and North West), 2011.....	103
Appendix O2: Percentage distribution of deaths by main groups of causes of death and district municipality of death occurrence (Gauteng, Mpumalanga and Limpopo), 2011	104

Appendix P:	The ten leading underlying natural causes of death by district municipality of death occurrence, Western Cape, 2011	105
Appendix P1:	The ten leading underlying natural causes of death by district municipality of death occurrence, Eastern Cape, 2011	106
Appendix P2:	The ten leading underlying natural causes of death by district municipality of death occurrence, Northern Cape, 2011	108
Appendix P3:	The ten leading underlying natural causes of death by district municipality of death occurrence, Free State, 2011	109
Appendix P4:	The ten leading underlying natural causes of death by district municipality of death occurrence, KwaZulu-Natal, 2011	110
Appendix P5:	The ten leading underlying natural causes of death by district municipality of death occurrence, North West, 2011	112
Appendix P6:	The ten leading underlying natural causes of death by district municipality of death occurrence, Gauteng, 2011	113
Appendix P7:	The ten leading underlying natural causes of death by district municipality of death occurrence, Mpumalanga, 2011	114
Appendix P8:	The ten leading underlying natural causes of death by district municipality of death occurrence, Limpopo, 2011	115
Appendix Q:	Population group differences	116
Appendix Q1:	The ten leading underlying natural causes of death by population group, 2011	117

List of tables

Table 2.1:	Number of deaths published in April 2013 and late registrations processed in 2013 by year of death, 1997–2010.....	7
Table 2.2:	Distribution of deaths by the number of days it took to register the death, 2011	8
Table 2.3:	Percentage of deaths classified as unknown/unspecified for selected variables, 2011	9
Table 2.4:	Number of ill–defined causes of death by main groups of causes, 2011	10
Table 2.5:	Number of causes of death due to symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified by main groups of causes, 2011	12
Table 2.6:	Assessment of the 2011 South African death statistics from the civil registration system.....	14
Table 3.1:	Number and percentage distribution of deaths by age, 2011	16
Table 3.2:	Number and percentage distribution of deaths by population group, 2011	22
Table 3.3:	Number and percentage distribution of deaths by marital status, 2011	23
Table 3.4:	Number and percentage distribution of deaths by smoking status, 2011	23
Table 3.5:	Number and percentage distribution of deaths by place or institution of death occurrence, 2011	24
Table 3.6:	Distribution of deaths by province of death occurrence and province of usual residence of the deceased, 2011	25
Table 4.1:	Distribution of death notification forms by the number of causes entered on the form, 2011	28
Table 4.2:	Number and percentage distribution of deaths by method used to ascertain the cause of death, 2011	29
Table 4.3:	Distribution of deaths by main groups of causes of death, 2011	30
Table 4.4:	Number of natural and non-natural deaths by year of death, 1997–2011.....	32
Table 4.5:	The ten leading underlying natural causes of death, 2009–2011.....	36
Table 4.6:	The ten leading underlying natural causes of death for males and females, 2011	37
Table 4.7:	The ten leading underlying natural causes of death for broad age groups, 2011	40
Table 4.8:	The ten leading underlying natural causes of death for infants and children, 2011	42
Table 4.9:	The ten leading underlying natural causes of death for the population aged 15–24 years, 2011	43
Table 4.10:	The ten leading underlying natural causes of death in each province of death occurrence, 2011	45
Table 4.11:	Distribution of non-natural causes of death by broad groups, 2011.....	47
Table 4.12:	Distribution of deaths due to other external causes of accidental injury, 2011	48
Table 4.13:	Underlying non-natural causes of death by age group and sex, 2011	50
Table 4.14:	Underlying non-natural causes of death by province, 2011	52
Table 4.15:	Distribution of the 20 most commonly reported causes of death, 2011	54
Table 4.16:	Number and percentage of deaths selected as underlying or reported as immediate or contributing causes of death: 2011.....	55

List of figures

Figure 2.1: Percentage distribution of deaths classified by symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified and year of death, 1997-201111

Figure 3.1: Number of registered deaths by source of data and year of death, 1997–201115

Figure 3.2: Percentage distribution of deaths by age and year of death, 2007–201117

Figure 3.3: Percentage distribution of deaths by sex and year of death, 1997–201118

Figure 3.4: Crude Death Rates by year of death and sex, 2007–201119

Figure 3.5: Percentage distribution of deaths by age and sex, 201120

Figure 3.6: Median ages at death by sex and year of death, 1997–201121

Figure 3.7: Sex ratio at death by age and year of death, 2007–201122

Figure 4.1: Percentage distribution of deaths by main groups of causes of death, 2009–201131

Figure 4.2: Percentage distribution of natural and non-natural causes of death by year of death, 1997–201133

Figure 4.3: Percentage distribution of natural and non-natural causes of death by age, 201134

Figure 4.4: Distribution of deaths for the leading causes of death by year of death and sex, 2009–2011.....38

1. Introduction

1.1 Background

Statistics on mortality and causes of death provide information on the number of deaths as well as the number of deaths due to immediate, contributing and underlying causes of deaths. These data assist in the formulation of evidence-based health policies and decision-making as well as implementation of cost-effective health interventions for all. Causes of death statistics may also be used to determine preventive and curative measures or investments in research aimed at increasing the life expectancy of the population.

In South Africa, statistics from civil registrations are the only national source of information on causes of death. Civil registration in South Africa is a mandate of the Department of Home Affairs (DHA). The Births and Deaths registration Act 1992 (Act No. 51 of 1992), as amended, governs the registration of births and deaths in the country. The Act states that *'After a death occurs due to natural causes any person who was present at the time of death, or who became aware thereof, or who has charge of the burial concerned, shall give, as soon as practicable, notice of death'*. The Act further states that, if there is any doubt whether the death was not due to natural causes, such a death must be reported to a police officer. After an investigation as to the circumstances of a death due to other than natural causes, the medical practitioner concerned shall, as soon as he/she is satisfied that the corpse concerned is no longer required for the purposes of an examination, issue a prescribed certificate to that effect. After death registration is completed, a death certificate is issued to the informant. All death notification forms are then collected by Statistics South Africa (Stats SA) regularly for data processing, analysis and publication of statistical releases and data sets on mortality and causes of death.

The continued collaboration between Statistics South Africa, Department of Home Affairs and Department of Health has ensured continuous data from the civil registration system as well as improvement in the quality of mortality and causes of death data. This has resulted in the estimation of indicators used in the monitoring of the Millennium Development Goals such as the under-five mortality rate, infant mortality rate and maternal mortality ratio.

1.2 Objectives of this statistical release

The statistical release forms part of a regular series of publications on mortality and causes of death by Stats SA. The aims of this publication are as follows:

- To outline emerging trends spanning a 15-year period (1997–2011) and differentials in mortality by selected socio-demographic characteristics for deaths that occurred in 2011; and
- To present statistics on the causes of death for deaths that occurred in 2011, 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 2011 or earlier that reached Stats SA during the 2013 processing phase are covered. The main focus is on deaths that occurred in 2011. Deaths that occurred during the period 1997 to 2010 are also provided to show trends in mortality and causes of death. The number of deaths discussed in 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 organised into five sections. Section one provides the background and purpose of the release. Section two describes the data and methods applied in the release. Additionally, data quality assessment methods used in the evaluation of the mortality and causes of death data are discussed. The third section on registered deaths provides levels, trends and differentials in mortality with a particular focus on sex, age, marital status, population group, institution of death occurrence, smoking status and spatial analysis of death occurrence. Section four is devoted to the analysis of causes of death with emphasis on the underlying causes of death. Section five presents a summary of the findings and concluding remarks.

2. Data and methods

This section provides information on data sources, methodology used in processing data and data analysis methods applied. It also presents results of the assessments undertaken on the mortality and causes of death data.

2.1 Data source

Administrative records on mortality and causes of death from the Department of Home Affairs (DHA) are the exclusive data source for this release. The release primarily covers deaths that occurred in 2011 and were registered at the DHA. Deaths that occurred before 2011 are also included for trend analysis.

There are two forms currently used by the DHA in registering a death: Form BI-1663 which was introduced in 1998 and form DHA-1663 which was introduced in 2009 (see appendix B and B1). Form BI-1663 is being replaced by Form DHA-1663 but continues to be used in areas where it is still in stock. The data elements in these two forms were largely comparable which allowed for merging of data from these two forms into one dataset. The main difference with the two forms is the registration of perinatal deaths (stillbirths and deaths occurring within seven days of birth). DHA-1663 has a separate section on recording causes of death for perinatal deaths whereas BI-1663 collected causes of death for all deaths and stillbirths in one section. In 2011, 45,4% and 54,6% of deaths were from the BI-1663 and DHA-1663 forms respectively.

The Birth and Deaths Registration Act, 1992 (Act No, 51 of 1992), requires that all deaths be certified by a medical practitioner using a prescribed form. In instances where a person dies in remote areas where there are no medical practitioners within a reasonable distance to certify the death, a chief or a tribal leader completes a DHA-1680 form, which is then sent to the nearest DHA offices. The official at the DHA offices checks the form and once satisfied that there was no medical practitioner who could certify the death and that the death was a natural cause, then the official fills in the BI-1663 or DHA-1663 form.

For cases where the birth of the deceased was registered on the National Population Register (NPR) maintained by the DHA, the death gets registered on the NPR. The NPR only includes South African citizens and permanent residents whose birth records exist on the NPR. Death notification forms which Stats SA collects from DHA include forms for deaths captured on the NPR and also those which were not eligible for inclusion on the NPR (deaths for non-South African citizens and South African citizens whose births were not registered on the NPR). This is the reason why the number of deaths processed and published by Stats SA will always be higher than those included on the NPR.

During the 2013 data processing phase, Statistics South Africa (Stats SA) processed a total of 505 803 deaths that occurred in 2011. This figure is 3,7% higher than the number of deaths registered on the NPR (487 046) for deaths that occurred during the same period. Similar trends have been observed over the previous years where Stats SA reported higher number of deaths than the deaths on the NPR (refer to Figure 3.1).

2.2 Data processing

Stats SA collects completed death notification forms from the DHA head office for data processing, analysis, report writing and dissemination.

Processing of the death notification forms takes place at Stats SA Data Processing Centre. There are different stages involved in processing death notification forms from the time they are received from the DHA. Stages of data processing involve sorting forms by year of death, pasting labels of unique identifiers on each form, coding socio-demographic variables and the causes of death and data capturing.

Classification of the causes of death

Causes of death statistics in this release are compiled in accordance with the World Health Organization (WHO) regulations that require that member nations classify and code causes of death using the tenth revision of the International Classification of Diseases (ICD-10) (WHO, 2009). The International Classification of Diseases is the most widely used statistical classification system of diseases in the world. All member states of the United Nations, including South Africa, agreed to use ICD standard classification system. The National Health Information System of South Africa has also adopted it as a standard. The ICD-10 is published by the WHO and is revised from time to time. Currently, the tenth revision is under review.

The ICD-10 provides for the coding and classification of diseases and injuries and a wide variety of signs, symptoms and other abnormal findings. It also provides a framework for certifying the cause of death and the collection of internationally standardised mortality statistics. The ICD-10 contains approximately 8 000 categories of causes of death. It is organised into chapters covering communicable diseases, other diseases that may affect the whole body, localised diseases by site, developmental diseases, injuries and external causes. The quality of the causes of death data depends heavily on the completeness and quality in which the notification form was completed and on the accuracy of coding. There are well-established rules for assigning the causes of death and for coding.

ICD-10 coders at Stats SA follow a 'what you see is what you code' principle when coding information on causes of death. For diseases that are not coded in the ICD-10 manuals, Stats SA has outlined specific guidelines. In terms of the Stats SA coding procedures and guidelines, *immunosuppression* is coded as *immunodeficiency*, not as *human immunodeficiency virus (HIV) disease*. Certifying officials sometimes report the cause of death as *acquired immune suppression*. In terms of the Stats SA coding procedures, this term was interpreted as HIV disease and given an HIV code (B20-B24). If HIV was written on the form, this was also coded in the HIV group, as required by the ICD-10. Codes U51 and U52 were assigned to *multidrug-resistant tuberculosis* (MDR-TB) and *extensively drug-resistant tuberculosis* (XDR-TB) respectively, and included in the *tuberculosis* (A15-A19) broad group of causes of death. The processing of the 2011 data on causes of death used 4-character coding where sufficient details were provided to code up to these levels. However, this statistical release is based on three-character categories.

Generation of the underlying causes of death

The ICD-10 defines underlying cause of death 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, 2009: 1195). Under international rules for selecting the underlying cause from the reported conditions, every death is attributed to one (and only one) underlying cause based on information reported on the death certificate.

Stats SA uses a computerised coding system to derive the underlying causes of death using a software program called Automated Classification of Medical Entities (ACME, 2011) developed by the United States National Center for Health Statistics (NCHS). This program applies the WHO rules on the selection of the underlying cause of death. An additional software program called IRIS, which also derives the underlying cause of death, was used during 2011 data processing for comparison of results with the anticipation that IRIS will be used in future processing of causes of death data. About 95,2% of underlying causes derived by ACME and IRIS for 2011 data were the same.

The ACME program automatically derived the underlying cause of death for 93,9% of the individual death records processed in 2013. In instances where ACME did not derive the underlying cause, results from IRIS were used. In instances where both ACME and IRIS did not derive the underlying cause of death, experienced coders within Stats SA derived the underlying cause manually.

2.3 Data analysis

Descriptive analyses were used to produce this statistical release. Frequency tables, cross-tabulations and median ages at death were calculated. The median age at death by year of death provides a basic measure which facilitates the comparison of mortality experiences in a population over time. The median age at death is used to assess how early or late death occurs in a population. Lower median ages at death are an indication that mortality occurs mostly at earlier ages of life whereas higher median ages at death are an indication that mortality occurs mostly at later stages of life in a particular population.

Selected demographic indicators are also derived and included in this release. These include sex ratio at death (which shows the number of male deaths per 100 female deaths), crude death rate (number of deaths per 1 000 population) as well as age specific death rates (number of deaths in specified ages per 1 000 population in those ages).

Determining and monitoring the leading causes of death is considered a primary and important indicator of health status or quality of life. The best approach to determining the leading causes of death is to group deaths into standard categories based on the underlying cause of death code assigned to each death and then rank the underlying causes of death by cause of death categories. The ranking simply denotes the frequency of causes of death among those causes eligible to be ranked. For this release, the numbers of deaths in each broad group category were ranked from highest to lowest and results presented for the ten leading causes. The ranking excluded all deaths due to *symptoms and signs not elsewhere classified* as these are not useful for public health planning.

The categories were ranked from top to bottom with the top ranked cause as the leading cause of death. In instances where two causes had the exact number of deaths, they both received one rank and the next rank was skipped. For example, if two causes had the same frequency received then rank two was skipped and the following cause received rank three. Due to the high rate of violence in South Africa, natural and non-natural causes of deaths were ranked separately.

This release also presents tables on mortality and causes of death for district municipalities in the country, shown in the appendices. Information on local municipalities is also available on request. The demarcation used for boundaries are the 2011 municipal boundaries.

2.4 Quality of data

Quality of data on mortality and causes of death can suffer from a range of issues. These include incomplete registration of deaths, late registrations, partially completed forms, ill-defined cause of death and underreporting of causes especially in the case of HIV/AIDS. There is a body of literature on different frameworks used for the assessment of the quality of death registration data. For the purpose of this release, the framework proposed by Mahapatra et al. (2007) is used to assess the quality of the 2011 deaths and cause of death statistics from the civil registration system. The Analysing mortality level and cause-of-death data (ANACoD) by WHO (2013) was also used to assess the quality of causes of death.

2.4.1 Completeness of death registration

A number of methods have been developed for the evaluation of completeness of death registration. The main distinctions amongst the various methods are in input data requirement, underlying assumptions and limitations of each method. The implication of these differences is lack of consistency in resulting estimates. A combination of the General Growth Balance method (Hill, 1987) and the Synthetic Extinct Generations method (Bennett and Hourichi, 1981 and 1984) has been suggested for use in South Africa. Consequently, these methods have been used in the assessment of completeness of death registration in South Africa (Bah, 2005, Dorrington and Bradshaw, 2011).

The availability of the 2011 population census results has allowed the use of methods that employ intercensal growth rates to estimate the completeness of death reporting. Most critically, it allows the estimation of completeness to be provided for three 'intercensal' periods: 1996–2001, 2001–2007 and 2007–2011. Two methods were utilised to estimate the level of completeness of the deaths reported in this statistical release. The first method used was the Generalised Growth Balance (GGB) as proposed by Hill (1987), and thereafter the Synthetic Extinct Generation method (SEG) as illustrated by Bennett and Horiuchi (1981, 1984). These methods have previously been applied to estimate the completeness of death registration in South Africa in the intercensal periods 1996–2001 and 2001–2007 (Dorrington and Bradshaw, 2011). Although the main strength of the two methods is no assumption of stability, their sensitivity to age misreporting and change in census coverage is among known limitations (Hill, 2009). Given the well-documented age and sex structure deficiency of the 1996 and 2001 censuses, the assumptions of consistency in age reporting is unlikely to be met (Udjo, 2003; Moultrie and Dorrington, 2004). Equally, the assumption that recording of deaths does not vary with age, does not hold in the case of death recording in South Africa, particularly at younger ages.

The populations from the censuses undertaken in South Africa in Census 1996, 2001, 2011 and the 2007 Community Survey were moved to their respective mid-year points in preparation for the estimation. No migration was assumed for this exercise. The output from GGB is used as an initial input in the estimation process in the SEG (as recommended by Bennett and Horiuchi, 1981) to obtain consistent estimates by age.

Overall completeness for adult (15 years and older) death registration for the intercensal period 1996–2001 was estimated at 89%, while for the period 2001–2007 the level of completeness was 93% and for the 2007–2011 period it was estimated at 94%. This indicates that there has been an increase, though modest, in the registration of adult deaths. Estimation of the completeness of child deaths is an exercise that requires more time and could not be included in this release. The estimates will be provided in due course.

2.4.2 Late registrations

Late registrations in this release refer to deaths that occurred from the year 1997 to 2010 but were only processed in the 2013 processing phase. Information on the number of deaths published in April 2013 for the years 1997–2010 is provided in Table 2.1, additional forms received during the 2013 processing phase; and the overall number of deaths for each year as of September 2013.

Overall there were 4 560 additional forms received in the 2013 processing phase for deaths which occurred from 1997 to 2010. The majority of these late registrations (84,8%) were for deaths that occurred in 2010. However, this is a notable decrease in the number of late registrations compared to the previous years. For example, there were 8 786 late death registrations in 2010 and 5 044 in 2009. This could be attributed to improved registrations, decline in the number of deaths or the shorter period taken to process the 2011 deaths. There were fewer late registrations for the other years, representing less than 6% of the late registrations each year. The distribution of deaths from 1997 to 2011 by age and sex is provided in Appendices C (1997–1999), C.1 (2000–2002), C.2 (2003–2005), C.3 (2006–2008) and C.4 (2009–2011).

Table 2.1: Number of deaths published in April 2013 and late registrations processed in 2013 by year of death, 1997–2010

Year of death	Number of deaths published in April 2013	Additional forms received in the 2013 processing phase	Total number of deaths (by September 2013)
1997	317 170	25	317 195
1998	365 884	25	365 909
1999	381 858	24	381 882
2000	416 420	22	416 442
2001	455 126	62	455 188
2002	502 337	33	502 370
2003	556 998	36	557 034
2004	577 042	42	577 084
2005	598 321	33	598 354
2006	613 108	20	613 128
2007	604 360	46	604 406
2008	595 624	57	595 681
2009	579 711	267	579 978
2010	543 856	3 868	547 724
Total	7 107 815	4 560	7 112 375

2.4.3 Timeliness of death registration

Timeliness of death registration refers to the number of days it took to register a death from the date on which the death occurred to the date the death was registered at DHA. The Births and Deaths Registration Act, 1992 (Act No. 51 of 1992) recommends that notice of death should be given as soon as practicable. Table 2.2 shows the number of days it took for deaths which occurred in 2011 to be registered at the DHA.

In 2011, 13,0% of deaths were registered at the DHA within the day of death. By the first day after death, there were 40,3% of deaths that were registered and more than half (59,1%) of deaths were registered by the second day of death occurrence. A vast majority of deaths (90,1%) were registered within the first week in which they occurred and by the end of the first month of death occurrence, 97,7% deaths were registered. The timeliness of reporting deaths has improved slightly from the observation made for 2010 deaths. In 2010, 11,3% within the first day of death occurrence and 88,2% within the first week of death occurrence.

Table 2.2: Distribution of deaths by the number of days it took to register the death, 2011

Number of days	Number of deaths	Percentage	Cumulative percentage
Within a day of death	65 751	13,0	13,0
1 day	138 054	27,3	40,3
2 days	95 372	18,7	59,1
3 days	68 908	13,6	72,8
4 days	44 192	8,7	81,5
5 days	27 241	5,4	86,9
6 days	16 016	3,1	90,1
7–13 days	29 776	5,9	95,9
14–20 days	5 386	1,1	97,1
21–30 days	3 260	0,6	97,7
31–364 days	11 260	2,2	99,9
1 year+	587	0,1	100,0
Total	505 803	100,0	

2.4.4 Completeness of information for selected variables

This section gives an indication of the completeness of information for selected variables. For this release, completeness of information in any variable refers to the number of variables with values stated as unknown or unspecified, taking into consideration the applicable subset of the population. The unknown cases refer to cases where more than one option was selected on the form or where the information could not be classified according to specified categories. The unspecified cases refer to missing data for that variable.

Table 2.3 shows that less than 1% of deaths had unknown or unspecified information for age of deceased (0,5%), sex of the deceased (0,4%) and province death occurrence (0,5%). About 4,9% and 16,0% of forms had missing information on province of usual residence and province of birth respectively. On the one hand, there was a slight increase in missing information on sex and age compared to 2010 (0,2% for both age and sex). On the other hand, missing information on province of death, birth and usual residence of the deceased has decreased. This is more evident in the province of usual residence for the deceased, which decreased from 8,0 % in 2010 to 4,9% in 2011. A notable increase in missing information is observed for institution of death occurrence which increased from 16,2% in 2010 to 22,9% in 2011.

Incomplete information for population group of the deceased and the method used to ascertain the cause of death were 17,9% and 24,6% respectively. The decrease in the proportion of deaths with missing information on population group is a notable improvement in particular, considering that over the period 1997–2010 missing information on this variable was constant at around 25%.

About 44,7% of deaths had unknown or unspecified information on smoking status of the deceased (aged 16 and older). Although there has been an improvement in missing information for level of education, pregnancy status, occupation and the type of industry where the deceased worked, these variables remain poorly reported. In this release, no analyses were undertaken for all variables where more than half of the deaths had unknown or unspecified information. However, a dataset containing unit records of data on recorded deaths for 2011 is available on request from Stats SA, which allows for further analysis of these variables.

Table 2.3: Percentage of deaths classified as unknown/unspecified for selected variables, 2011

Variables	Applicable group	Percentage unknown or unspecified
Sex	All	0,4
Age	All	0,5
Province of death occurrence	All	0,5
Province of usual residence of deceased	All	4,9
Province of birth	All	16,0
Population group	All	17,9
Place or institution of death occurrence	All	22,9
Method used to ascertain cause of death	All	24,6
Smoking status	Aged 16 and older	44,7
Education	Aged 6 and older	50,7
Occupation	Aged 15 and older	54,8
Industry	Aged 15 and older (economically active)	59,6
Pregnancy status	Females aged 10–55	75,3

2.4.5 Quality of causes of death information

It is vital to evaluate the quality of causes-of-death data from the data processing to data analysis phases, in order to enhance its value in informing health policies and programmes. Data quality assessment in all stages ensures that errors in the mortality data are identified and corrected in all stages, where possible.

In processing the 2011 causes of death data, quality checks were put in place during different stages. After the data processing phase, data editing was carried out to check for consistencies in the data, more especially for age, sex, rare causes and unlikely causes for specific ages and sex. In instances where inconsistencies were identified, the record was returned to the data processing team to verify the information on the death notification form.

Once data editing was completed, the electronic tool, ANACoD version 1.1 was used to further analyse mortality levels and causes of death data. ANACoD provides relatively simple ways of analysing the internal validity and coherence of mortality data and shows how comparisons with other external sources of mortality data can be used to assess data consistency and plausibility.

ANACoD is also useful in calculating mortality rates such as crude death rates and age-specific mortality rates (including infant and under-5 mortality rates). The rates may be used to assess the completeness of death reporting, to examine the plausibility of the age and sex patterns of mortality and to compare the results of registered deaths with other sources.

ANACoD also calculates the distribution of ill-defined causes in the causes of death data by sex and age-group. Ill-defined causes of death are of no public health value and may make the cause of death information unreliable. Consequently, these need to be monitored continuously to check for areas of improvement in the quality of data. The ill-defined causes of death include deaths classified as *symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified (R00-R99); events of undetermined intent (Y10-Y34)* and other causes such as *malignant neoplasms of other and ill-defined sites; acute, chronic and unspecified renal failure; cardiac arrest; and heart failure* (see Appendix D for a complete list). However, these causes (with the exception of *symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified*) still help to describe the overall mortality due to broad diseases. For 2011 causes of death, a total of 24,4% of causes were attributed to ill-defined underlying cause of death. Males had 23,1% of deaths classified as ill-defined causes whilst females had 25,8%.

These percentages increased slightly compared to those reported in 2010. As such there has not been any improvement on the reporting of causes-of-death data.

The number and percentage of ill-defined causes of death by main groups of cause and sex as summarised by the ANACoD tool is shown in Table 2.4. Overall 55,5% of all ill-defined causes of death were *symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified* for both sexes. Ill-defined causes of deaths assigned to *diseases of the circulatory system* were 19,1% for males and 24,3% for females. The *ill-defined causes due to external causes of morbidity and mortality* was high amongst males at 8,1% compared to 2,1% amongst females. There are no notable differences in the proportions for males and females in 2011 as compared to 2010.

Table 2.4: Number of ill-defined causes of death by main groups of causes, 2011*

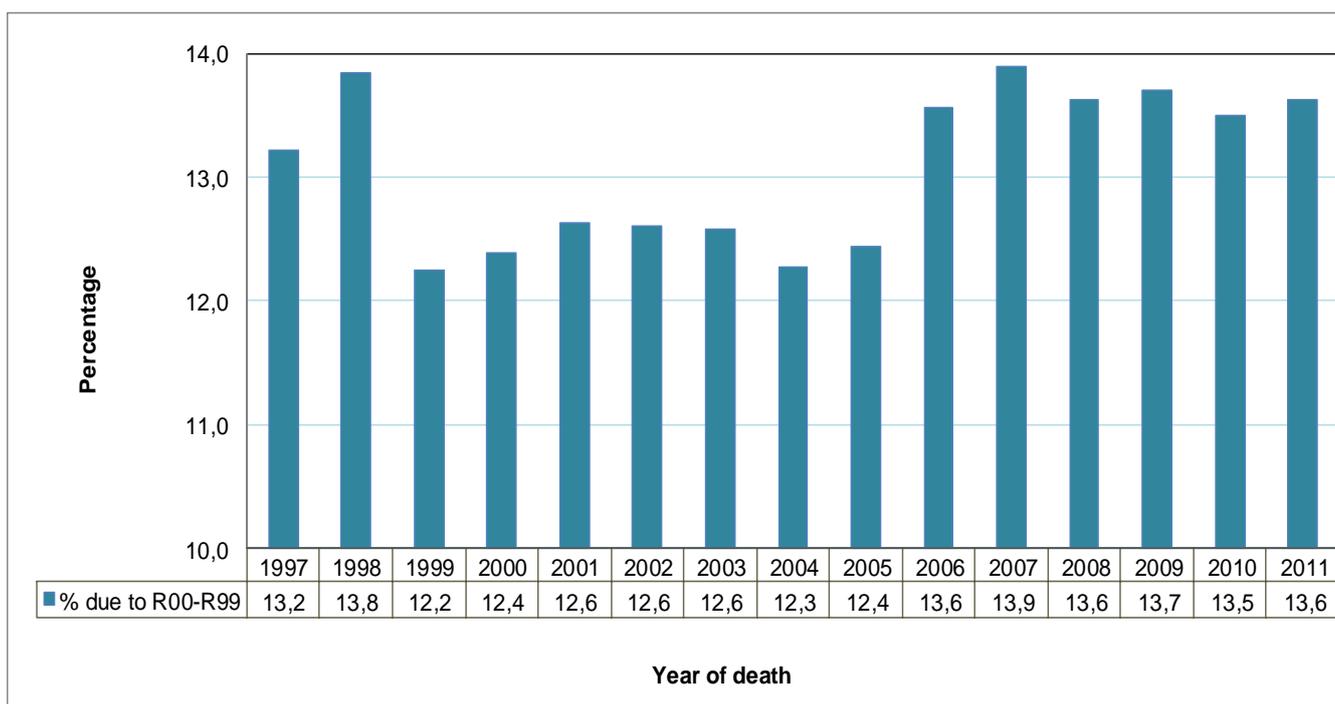
Causes of deaths (based on ICD-10)	Number			Percentage		
	Male	Female	Both sexes	Male	Female	Both sexes
Certain infectious and parasitic diseases (A00-B99)	2 589	3 066	5 655	4,3	4,9	4,6
Neoplasms (C00-D48)	1 789	1 865	3 654	3,0	3,0	3,0
Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism (D50-D89)	54	81	135	0,1	0,1	0,1
Endocrine, nutritional and metabolic diseases (E00-D90)	889	881	1 770	1,5	1,3	1,4
Diseases of the circulatory system (I00-I99)	11 435	15 223	26 658	19,1	24,3	21,8
Diseases of the respiratory system (J00-J99)	1 082	1 038	2 120	1,8	1,7	1,7
Diseases of the digestive system (K00-K93)	867	693	1 560	1,4	1,1	1,3
Diseases of the genitourinary system (N00-N99)	3 554	3 360	6 914	5,9	5,4	5,6
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99)	32 902	35 188	68 090	54,8	56,1	55,5
External causes of morbidity and mortality (V01-Y98)	4 832	1 326	6 158	8,1	2,1	5,0
Total of ill-defined	59 993	62 721	122 714	100,0	100,0	100,0

*Excluding 1 997 deaths with unspecified sex.

Due to the high number of ill-defined causes of death attributed to *symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified* (55,5%), it therefore becomes important to further analyse this group to identify specific causes affected and to monitor trends over time. This may possibly involve interventions to improve certification practices, or coding practices, or both.

Figure 2.1 shows the percentage distribution of deaths classified under *symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified* and year of death for the period 1997 to 2011. From 1997 up to 2011, there has been no clear indication of improvements in classification of causes of death in this category. The only notable improvement was observed between 1998 and 1999, where the proportion of deaths due to *symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified* was reduced from 13,8% in 1998 to 12,2% in 1999. In the years 1999 to 2005, deaths due to *symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified* hovered around 12,2% and 12,6%. The highest proportion of deaths due to *symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified* was highest in 2007 (13,9%). For 2011, the number of deaths due to *symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified* was 13,6%.

Figure 2.1: Percentage distribution of deaths classified by symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified and year of death, 1997–2011*



* Data for 1997–2010 have been updated to include late registrations processed in 2013.

Table 2.5 shows the number of deaths due to *symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified* by main groups of causes for 2011. About 94,9% of these deaths were due to the broad group *ill-defined and unknown cause of mortality (R95-R99)* and 4,6 % of these deaths were due to *general symptoms and signs (R50-R69)*, which is a group inclusive of causes such as *fever, headache, pain, fatigue and senility*.

Table 2.5: Number of causes of death due to symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified by main groups of causes, 2011

Underlying cause of death (based on ICD-10)	Frequency	Percentage
Symptoms and signs involving the circulatory and respiratory systems (R00-R09)	129	0,2
Symptoms and signs involving the digestive system and abdomen (R10-R19)	58	0,1
Symptoms and signs involving the skin and subcutaneous tissue (R20-R23)	2	0,0
Symptoms and signs involving the nervous and musculoskeletal systems (R25-R29)	5	0,0
Symptoms and signs involving the urinary system (R30-R39)	13	0,0
Symptoms and signs involving cognition, perception, emotional state and behaviour (R40-R46)	7	0,0
Symptoms and signs involving speech and voice (R47-R49)	4	0,0
General symptoms and signs (R50-R69)	3 171	4,6
Abnormal findings on examination of blood, without diagnosis (R70-R79)	38	0,1
Abnormal findings on examination of other body fluids, substances and tissues, without diagnosis (R83-R89)	24	0,0
Abnormal findings on diagnostic imaging and in function studies, without diagnosis (R90-R94)	11	0,0
Ill-defined and unknown causes of mortality (R95-R99)	64 912	94,9
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99)	68 374	100,0

2.4.6 Assessment framework for death registration data

The measure of how useful vital statistics will be depends on its quality measurement and its fitness for use. Quality assessment frameworks thus become a useful tool to measure the quality of data from civil registration systems. The assessment framework proposed by Mahapatra et al. (2007) is one amongst other methods which can be used to assess the quality of death registration data received from civil registration systems. This release adopts this framework to assess the quality of the 2011 death and cause of death. Both categories measure the level of accuracy, relevance and comparability. Additional measures include timeliness and accessibility.

Table 2.6 shows the results of the assessment of the 2011 South African death statistics from the civil registration system using the framework proposed by Mahapatra et al. (2007). In terms of completeness of death registration, about 94% of adult deaths which occurred during the 2007–2011 intercensal period were registered on the civil registration system. Both age and sex were generally well-reported with 0,5% missing age and 0,4% missing sex. The variables on population group and province of birth were not well reported with 17,9% of information missing for population group and 16,0% of information missing for birth province of the deceased. Relevance and comparability were regarded as complete. The tools used in coding causes of death for 2011 were similar to those used in previous years and the variables included in causes of death data for 2011 have been consistent over the years, thus ensuring that data are comparable over time.

Statistics on cause of death gives an indication that 46,3% of deaths in 2011 occurred within a health care facility. About 13,6% of deaths were assigned to ill-defined causes. The information on causes of death is highly relevant over time, based on provision of data for specified ages and sex.

Based on routine tabulations by sex and 5-year age groups as well as the fact that tabulation of cause-of-death information is provided for the nine provinces and 52 district municipalities in the country cause-of-death statistics is regarded as completely relevant. There was consistency in cause-specific mortality proportions over consecutive years and ICD-10 coding was used. As such cause-of-death statistics were also regarded as comparable.

Processing 2011 data on causes of death took nine months and the mean time from end of reference period to publication was 26 months. The data published on this release are available in a wide range of formats and can be accessed through Stats SA website and also by making use of Stats SA User Information Services.

Table 2.6: Assessment of the 2011 South African death statistics from the civil registration system*

General vital statistics		Cause-of-death statistics	
Criteria and indicators	Measure	Criteria and indicators	Measure
Accuracy (%) Completeness of death registration for adults (2007–2011) Missing data Sex Age Province of residence Province of birth Population group	94% 0,4% 0,5% 4,9% 16,0% 17,9%	Accuracy Proportion of deaths that occurred in healthcare facilities Proportion of deaths assigned to symptoms and signs of disease not elsewhere classified (R00-R99)	46,3% 13,6%
Relevance Routine tabulations by sex and 5-year age groups Deaths in children under five years tabulated by 0 and 1–4-year age group	100% 100%	Relevance Routine tabulation by sex and 5-year age groups Number of cause-of-death tabulation areas	100% 9 provinces and 52 district/metropolitan municipalities
Comparability Stability of key definitions over time Uniformity of definitions across areas	100% 100%	Comparability Consistency of cause-specific mortality proportions over consecutive years ICD coding for certification and coding of causes of deaths, revision used and code level to which tabulations are published	100% No coding for certification; coding causes of death using the tenth revision at 4/5-digit level
Timeliness Processing time Mean time from end of reference period to publication	9 months 26 months		
Accessibility Media – number of formats in which data are released Metadata Availability of user service	Two: website and compact discs Published with compact disc and available on request Email: info@statssa.gov.za / Tel: 012 310 8600 / Fax 012 310 8500 and 012 310 8495		

*Based on the framework proposed by Mahapatra et al. (2007).

3. Registered deaths

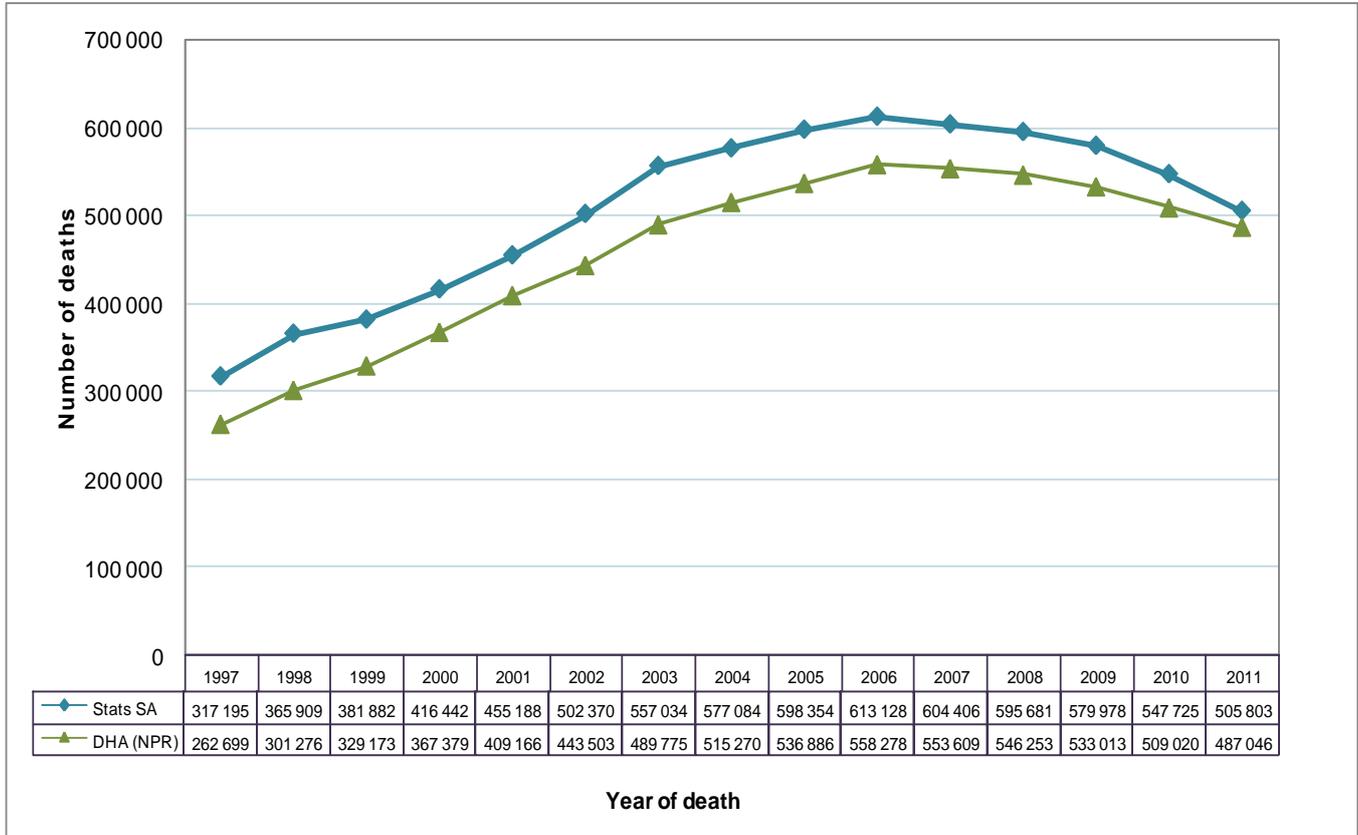
This section provides information on the distribution of deaths in 2011 by selected socio-demographic and geographic factors. These include age, sex, population group, place/institution where death occurred and geographic information (province and district/metropolitan municipalities). Distribution of deaths by smoking status of the deceased is also included. The section also shows levels and trends of registered deaths from 1997 to 2011.

3.1 Levels and trends of registered deaths

Figure 3.1 shows the number of deaths registered from 1997–2011 from two different sources, namely the National Population Register (NPR) maintained by the Department of Home Affairs (DHA) and deaths processed by Statistics South Africa (Stats SA) using death notification forms received from the DHA. Trends in the number of deaths included in the NPR and those processed by Stats SA follow a similar pattern over time, although the number of deaths processed by Stats SA is more than that on the NPR. As explained in Section 2 of this statistical release, only the deaths of South African citizens and permanent residents whose particulars were already on the NPR appear on the NPR while Stats SA reports on all deaths registered at the DHA. Consequently, Stats SA deaths are always expected to be higher than those on the NPR. For example, the number of deaths processed by Stats SA for 2011 was 505 803 compared to 487 046 recorded on the NPR for the same year, which is 3,9% more deaths processed by Stats SA in 2011.

According to Figure 3.1, the number of deaths increased from 1997 to 2006 and decreased from 2007 to 2011. It is further observed that the gap between the number of deaths on the NPR and those processed and published by Stats SA appears to have narrowed down in the recent years. This may result from an increase in the number of South African citizens being included on the NPR.

Figure 3.1: Number of registered deaths by source of data and year of death, 1997–2011*



*Data for 1997–2010 have been updated to include late registrations processed in 2013.

3.2 Age differentials

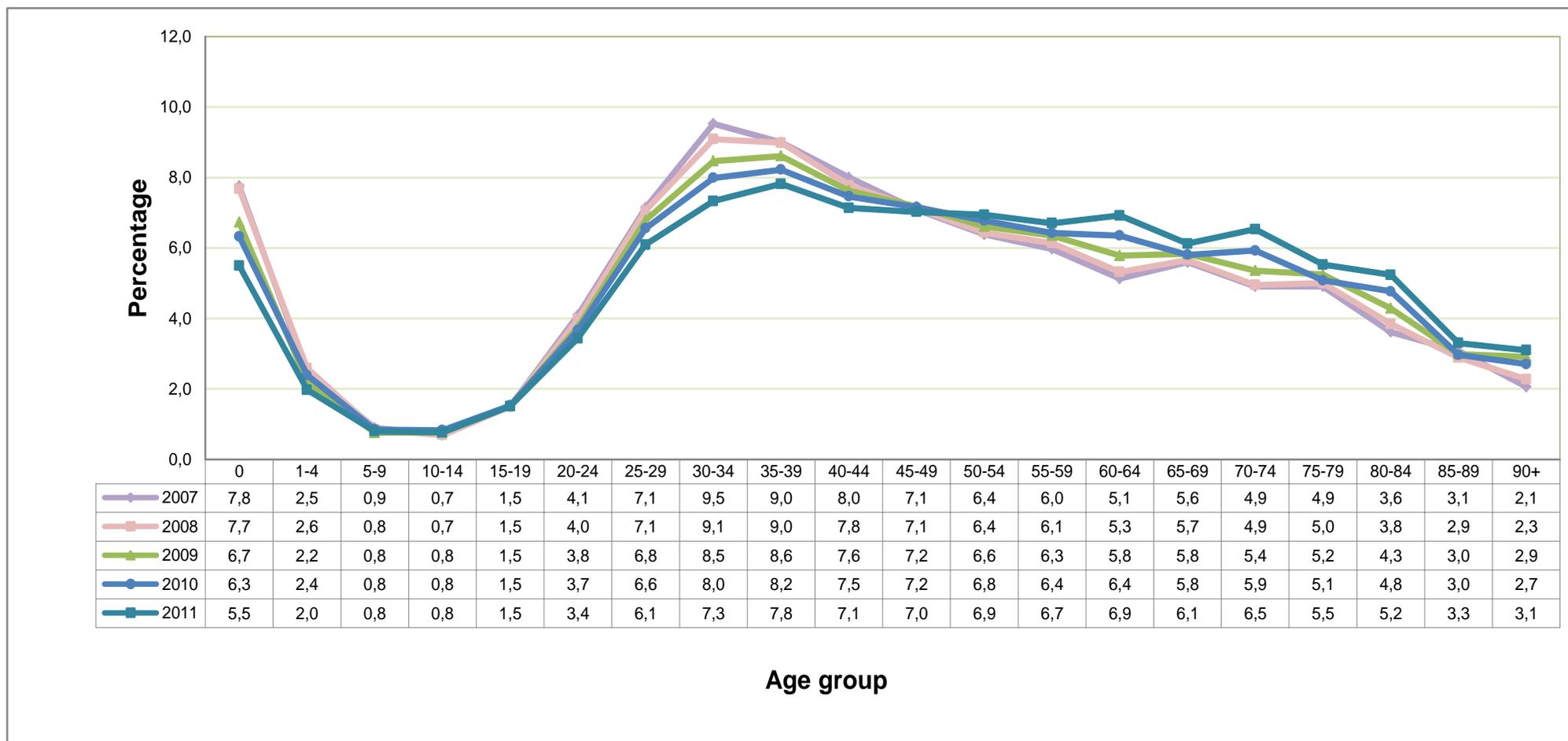
The distribution of deaths by age for 2011 is presented in Table 3.1. The highest percentage of deaths in 2011 occurred amongst age group 35–39 years (7,8%) followed by age group 30–34 years (7,3%). This shows a similar trend to that observed in 2010 whereby the number of deaths was highest amongst these two age groups (8,2% and 8,0% respectively). About 5,5% of deaths occurred before the first birthday. The lowest proportion of deaths were observed in age groups 5–9 years and 10–14 years, each representing 0,8% of all deaths in 2011.

Table 3.1: Number and percentage distribution of deaths by age, 2011

Age group	Number	Percentage
0	27 981	5,5
1–4	9 927	2,0
5–9	4 290	0,8
10–14	3 847	0,8
15–19	7 577	1,5
20–24	17 283	3,4
25–29	30 679	6,1
30–34	36 895	7,3
35–39	39 355	7,8
40–44	35 913	7,1
45–49	35 356	7,0
50–54	34 949	6,9
55–59	34 119	6,7
60–64	34 849	6,9
65–69	30 815	6,1
70–74	32 870	6,5
75–79	27 817	5,5
80–84	26 361	5,2
85–89	16 928	3,3
90+	15 591	3,1
Unspecified	2 401	0,5
Total	505 803	100,0

Figure 3.2 shows the distribution of deaths by age and year of death from 2007 to 2011. The figure shows that the percentage of deaths for children aged 0 was 7,8% in 2007 and has since decreased to 5,5 % in 2011. There was also a notable decrease in the percentage of deaths for age group 30–34 from 9,5% deaths in 2007 to 7,3% in 2011. The age pattern of mortality from 2007 to 2011 was generally the same, although there were notable increases in the proportion of deaths at older age groups and decreases at younger ages. Generally in all the years, the lowest percentage of deaths occurred in age groups 5–9 and 10–14 with each age group at less than 1% of deaths each year. The highest percentage of deaths observed in 2007 and 2008 were for age group 30–34 and in 2009–2011, the highest proportions were in age group 35–39.

Figure 3.2: Percentage distribution of deaths by age and year of death, 2007–2011*



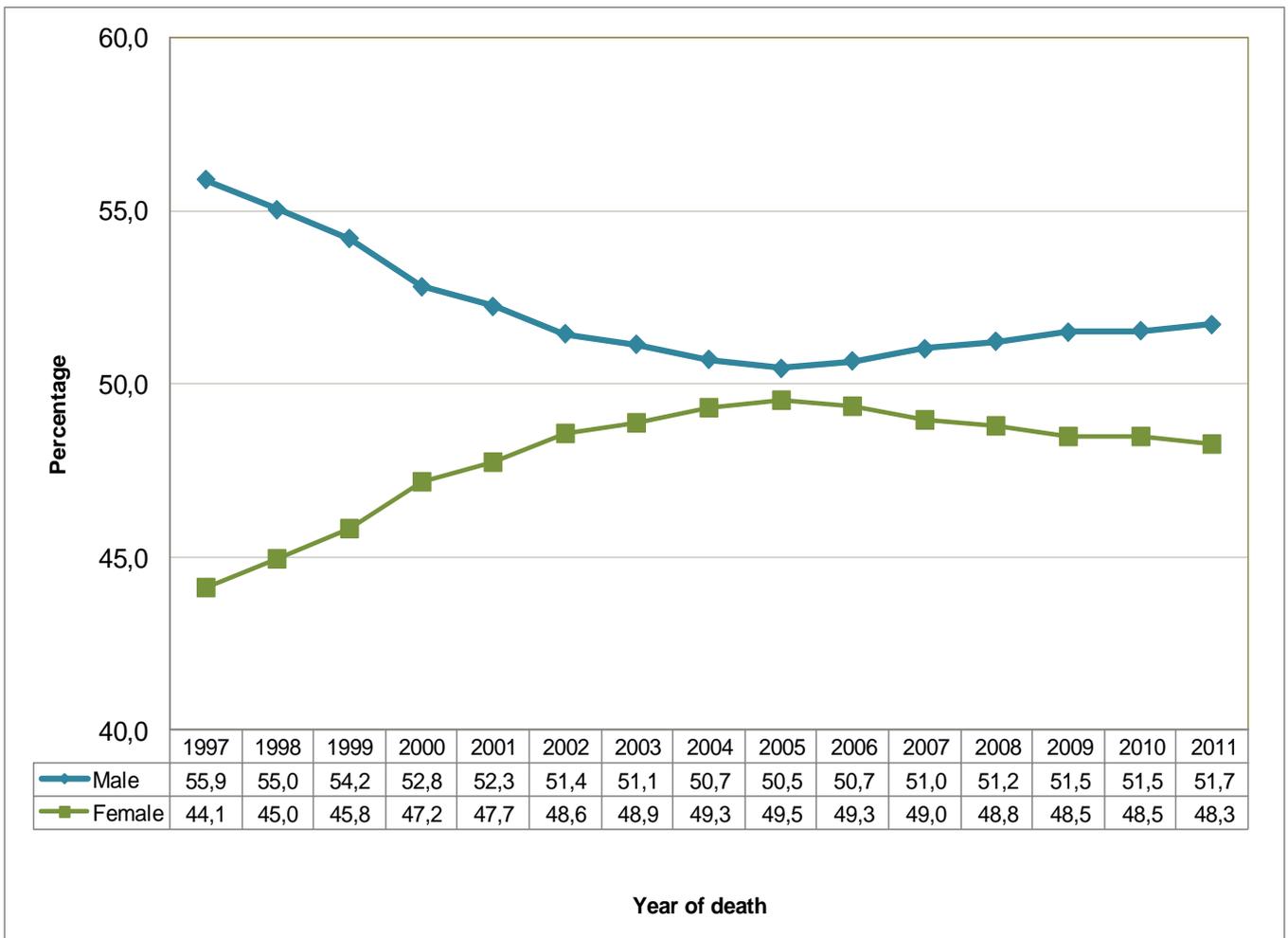
* (1) Excluding deaths with unspecified age (1 244 deaths in 2007; 1 056 in 2008; 1 487 in 2009; 1 307 in 2010, and 2 401 deaths in 2011).
 (2) Data for 2007–2010 have been updated to include late registrations processed in 2013.

3.3 Sex differentials

Figure 3.3 shows the percentage distribution of deaths by sex and year of death from 1997 to 2011. Throughout these years, the proportions of male deaths were always higher than those of female deaths. There was a huge gap in the proportion of male and female deaths in 1997, but this narrowed yearly until 2005, and broadened again thereafter. The gap was much wider between 1997 and 2001 when the difference between males and females was in the range of 4,6 percentage points (2001) to 11,8 percentage points (1997). For 2011, males constituted 51,7% and females constituted 48,7% of the deaths. The proportion of female deaths increased gradually over the years from 44,1% in 1997 to 49,5% in 2005. From 2006 to 2011, the proportion of female deaths declined slightly from 49,3% in 2006 to 48,3% in 2011. Conversely, the proportion of male deaths decreased from 55,9% in 1997 to 50,5% in 2005 and thereafter increased steadily from 50,7% in 2006 to 51,7% in 2011.

The annual percentage changes in the number of deaths and year of death are shown in Appendix E. Female deaths increased much more than male deaths between 1997 and 1998 and during 2004–2005. Over the period 2005–2006, male deaths increased at a higher rate than female deaths but since 2006–2007, female deaths decreased at a much higher pace than male deaths.

Figure 3.3: Percentage distribution of deaths by sex and year of death, 1997–2011*

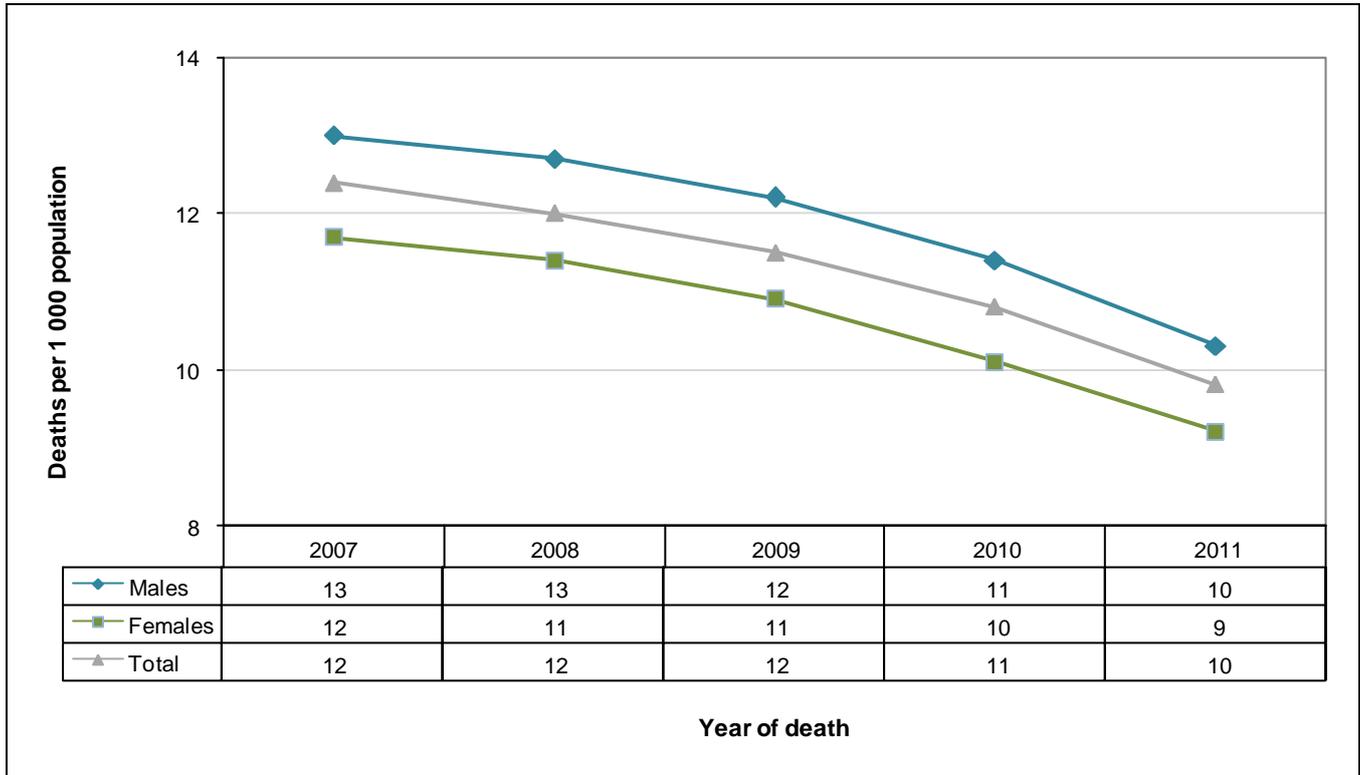


* (1) Excluding deaths with unspecified sex (1 031 in 1997; 1 931 in 1998; 2 079 in 1999; 1 727 in 2000; 1 650 in 2001, 1 947 in 2002; 1 977 in 2003; 1 621 in 2004; 1 721 in 2005; 1 743 in 2006, 998 in 2007; 841 in 2008; 1 147 in 2009, 1 166 in 2010; and 1 997 deaths in 2011).
 (2) Data for 1997–2010 have been updated to include late registrations processed in 2013.

Figure 3.4 gives the Crude Death Rates (CDR) by year of death and sex based on observed number of deaths. The CDR gives an indication of the number of deaths during a particular year per 1 000 population. The CDR shows that there was a constant decline in death rates for both males and females in the 5-year period (2007–2011). The CDR for males decreased from 13 deaths per 1 000 population in 2007 to 10 deaths per 1 000

population in 2011 and the CDR for females decreased from 12 deaths per 1 000 population in 2007 to 9 deaths per 1 000 population in 2011.

Figure 3.4: Crude Death Rates by year of death and sex, 2007–2011*



*Data for 2007–2010 have been updated to include late registrations processed in 2013.

In order to provide an indication of the age pattern of mortality over the five-year period taking into consideration the population size at each age, Age-Specific Death Rates (ASDRs) for the total population for the period 2007–2011 are presented in Appendix F. The graph in this appendix shows that following relatively high rates of death in infancy, death rates decline sharply through childhood. In 2011, children aged 5–9 years and 10–14 years had the lowest age-specific death rates. The ASDR increased gradually from around age group 25–29 until around age 60–64 years, where they began to increase more rapidly throughout the older age groups. Over the 5-year period, death rates generally declined annually with a higher proportion of the decreases occurring in the younger age groups, particularly among infants.

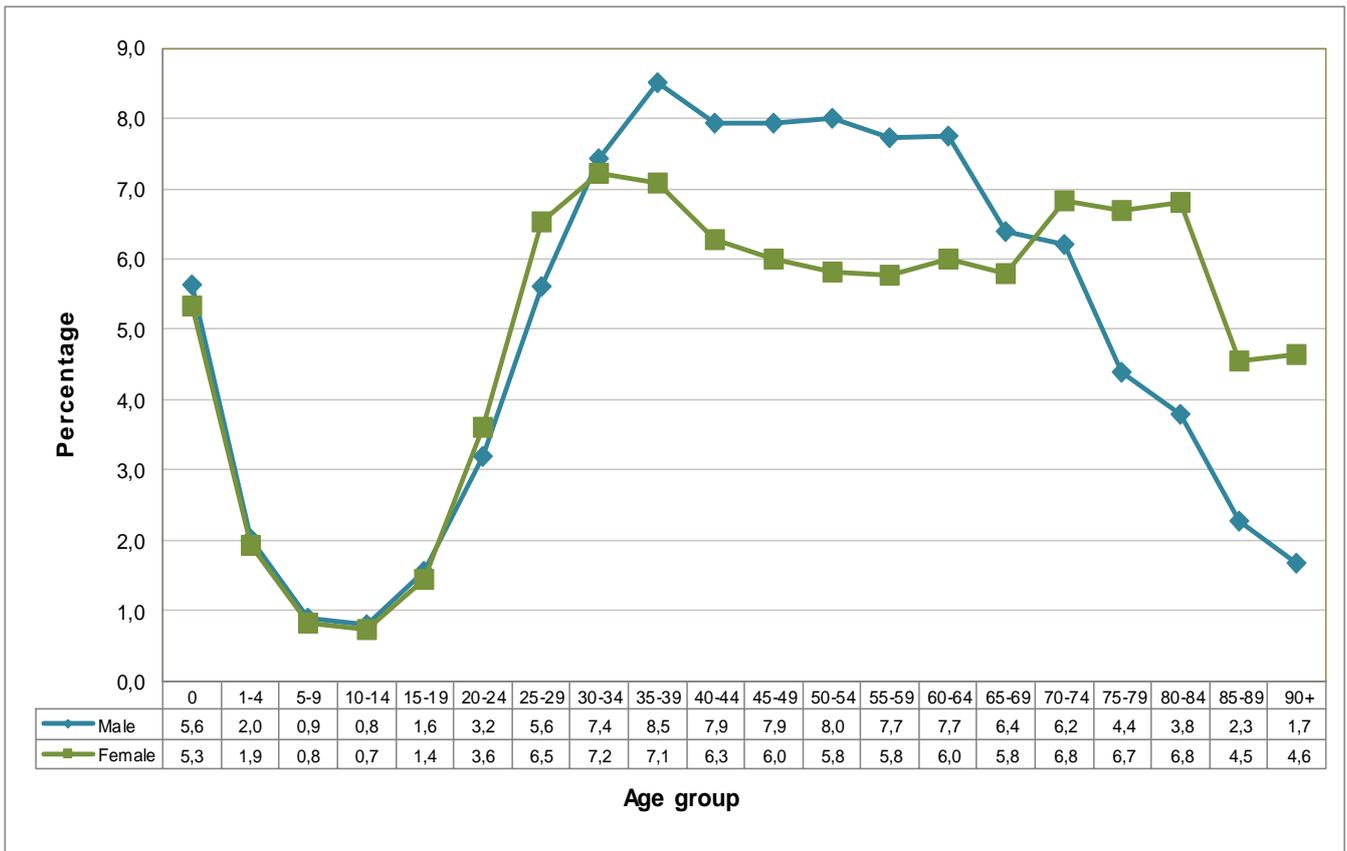
3.4 Age and sex differentials

Percentage distribution

The age and sex percentage distribution of deaths that occurred in 2011 is shown in Figure 3.5 (absolute numbers are provided in Appendix C.4). For both sexes, the proportion of deaths is lowest at age groups 5–9 and 10–14. While the age distribution for males and females appears largely similar, there are some distinct differences by age. At ages younger than 20 years the proportion of deaths was slightly higher for males as compared to females, but the proportions for women were higher at ages 20–24, 25–29 and then at much older ages (from age group 70–74). Male deaths also exceeded female deaths at ages 30–34 to 65–69.

On the one hand, the proportion of male deaths peaked at age group 35–39 (8,5% of all male deaths) and remained relatively high at age groups 40–44 and 50–54 (around 8,0% per age group). On the other hand, female deaths peaked at age groups 30–34 and 35–39 (7,2% and 7,1% respectively). The gap in the proportion for male and female deaths was highest between age groups 35–39 and 60–64 (proportion of males higher) and at much older ages (proportion of females higher). The differences between males and females were minimal at younger ages (from age 0 to age group 20–24).

Figure 3.5: Percentage distribution of deaths by age and sex, 2011*



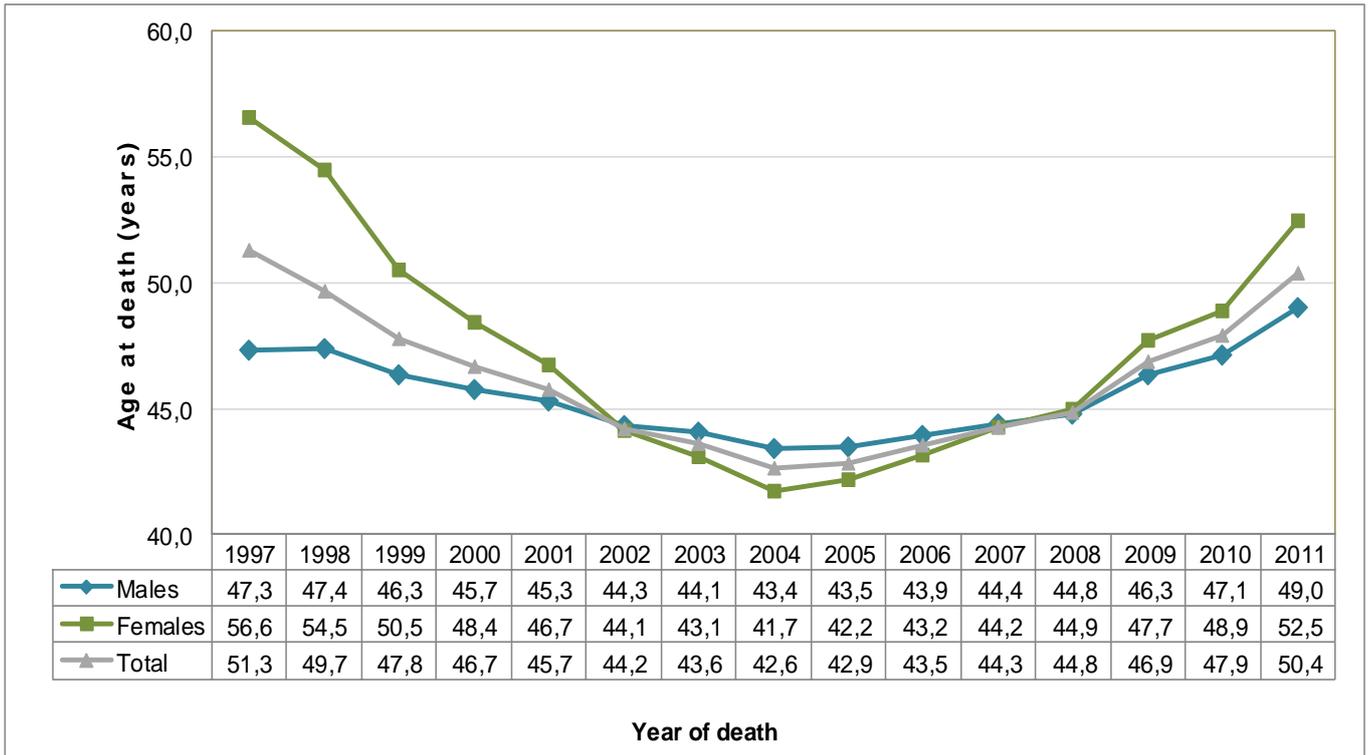
*Excluding 1 997 deaths with unspecified age and unspecified sex.

Median ages at death by sex

The median age at death shows how early or late mortality occurs in a population and specifies the age at which half of the reported deaths occur. The median age at death in 2011 was 49,0 years for males and 52,5 years for females. This gives an indication that on average males died at earlier ages than females (refer to figure 3.6). The median age at death for females was generally higher than that of males from 1997 to 2001, narrowing annually during this period. However, the gap increased again in 2003 but with the median age at death for males being higher than that of females. This means that from the years 2003 to 2006, mortality was occurring earlier among females as compared to males.

In 2007, the median age at death for males and females converged, with both sexes having a median age at death of about 44 years. After 2007, the median age at death for females was higher than that of males. Most notably, the median age at death for females decreased sharply from 56,6 years in 1997 to 41,7 years in 2004. This was the lowest median age for both males and females for the period 1997 to 2011. Since 2005, the median age at death for both males and females has increased, showing an improvement during this period.

Figure 3.6: Median ages at death by sex and year of death, 1997–2011*



* Data for 1997–2010 have been updated to include late registrations processed in 2013.

Sex ratios by age

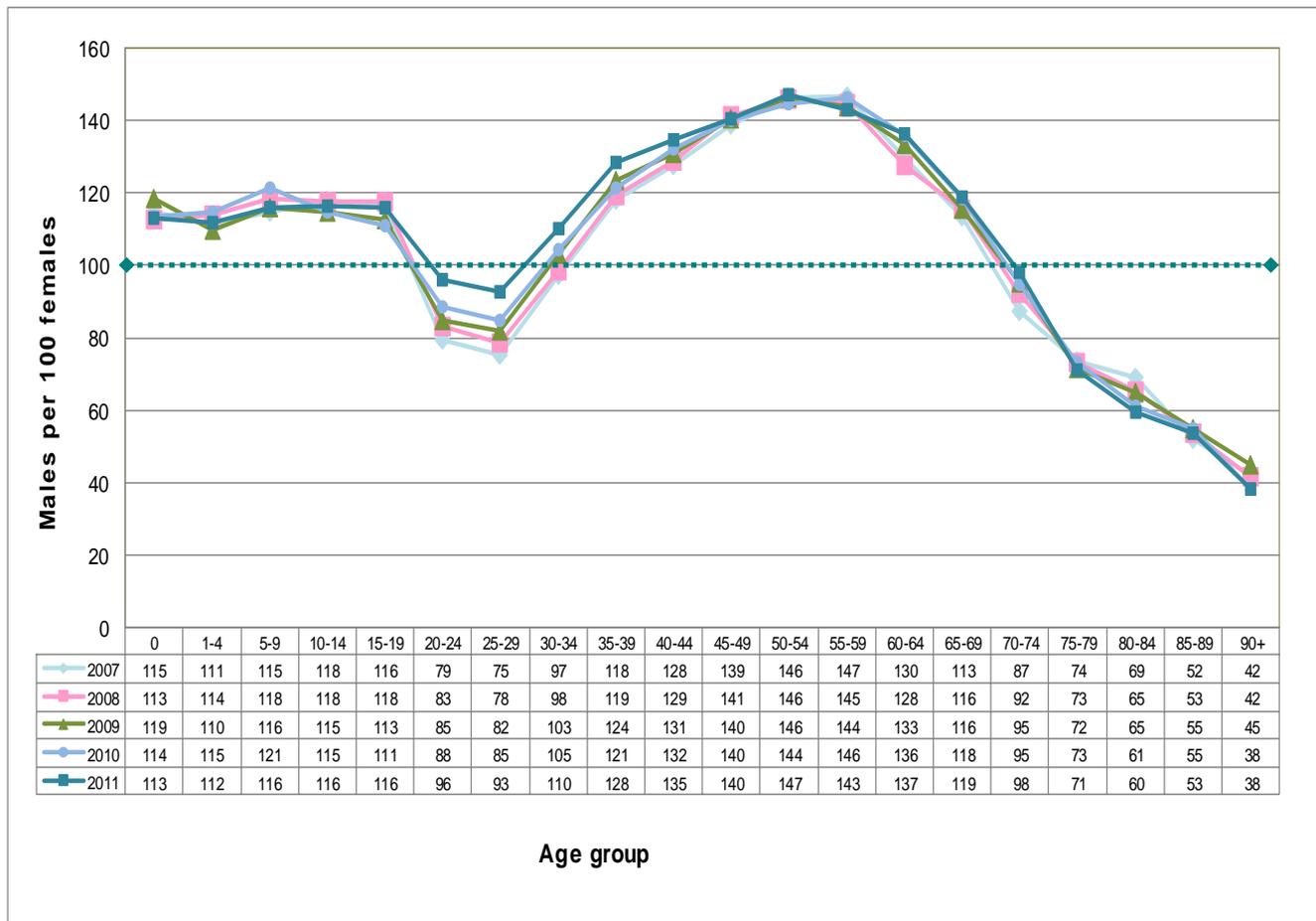
The sex ratio at death measures the ratio of male deaths to female deaths. When there are equal number of deaths among males and females the ratio is equal to 100, if there are more female deaths than males the ratio is less than 100.

In 2011, the overall sex ratio at death was 107 male deaths per 100 female deaths, indicating slightly more male deaths than female deaths (refer to Appendix G). Over the years, the sex ratios at death decreased notably from 127 male deaths per 100 female deaths in 1997 to 107 male deaths per 100 female deaths in 2011. Over the 15-year period (1997–2011), sex ratios declined from 1997 to 2005 and increased thereafter.

For the period 2007 to 2011, Figure 3.7 shows that there were more male deaths than female deaths from age groups 0–4 up to 15–19, after which there were more female deaths from age group 20–24 to age group 25–29. Male deaths exceeded female deaths again from age group 35–39 up to age group 65–69, after which there were more female deaths from age group 70–74 up to 90 years and older.

Sex ratios at death particularly increased at ages 20–24 and 25–29 between 2007 and 2011. For example, the sex ratio at death for those who died at ages 20–24 in 2007 was 79 male deaths per 100 female deaths. It increased to 96 male deaths per 100 female deaths in 2011. This is an indication that there was an improvement in female mortality in these ages over time.

Figure 3.7: Sex ratio at death by age and year of death, 2007–2011*



* (1) Excluding deaths with unspecified sex: (998 in 2007; 841 in 2008; 1 147 in 2009; 1 166 in 2010; and 1 997 deaths in 2011).
 (2) Data for 2007–2010 have been updated to include late registrations processed in 2013.

3.5 Population group differences in mortality

Table 3.2 shows the absolute number and percentage distribution of deaths by population group for 2011. The highest proportion of deaths was for black Africans (67,4%) and the lowest was for Indian/Asian (1,6%). About 7,7% of the deaths were from the coloured population group and 5,3% from the white population group. The reporting of population group was not good as 17,9% of the information on population group was unspecified or unknown on the death notification forms. As such, caution should be exercised when interpreting the results.

Table 3.2: Number and percentage distribution of deaths by population group, 2011

Population group	Number	Percentage
Black African	340 728	67,4
Coloured	39 037	7,7
Indian/Asian	7 924	1,6
White	26 724	5,3
Other	891	0,2
Unknown or unspecified	90 499	17,9
Total	505 803	100,0

3.6 Marital status differences in mortality

Table 3.3 shows the distribution of deaths by marital status in 2011. Almost half of the registered deaths in 2011 occurred among people who were never married (49,2%), followed by people who were married (23,2%). Deaths among the widowed persons were at 9,4% and the lowest percentage was among those who were divorced 1,8%. The marital status of the deceased at the time of death was unknown or unspecified in 16,4% of the deaths.

Table 3.3: Number and percentage distribution of deaths by marital status, 2011

Marital status	Number	Percentage
Never married	248 901	49,2
Married	117 413	23,2
Widowed	47 398	9,4
Divorced	8 902	1,8
Unknown or unspecified	83 189	16,4
Total	505 803	100,0

3.7 Differences in mortality by smoking status

The distribution of deaths by smoking status in 2011 is presented in Table 3.4. The results show that 15,4% of the deceased were smoking and 34,8% deaths occurred amongst people who were non-smokers. This also shows poor reporting of this information on the death notification forms. The proportion of deaths with unknown/unspecified smoking status was 44,7%. This declined notably in comparison to 2010 where the proportion was 53,6%.

Table 3.4: Number and percentage distribution of deaths by smoking status among those aged 16 years and older, 2011

Smoking status	Frequency	Percentage
Yes	70 572	15,4
No	159 117	34,8
Do not know	23 165	5,1
Unknown or unspecified	204 550	44,7
Total	457 404	100,0

3.8 Differences in mortality by place or institution of death occurrence

The distribution of deaths by place or institution of death occurrence for 2011 is shown in Table 3.5. The highest proportion of deaths (46,3%) occurred within a health care facility. This includes hospitals (42,6%); ER or outpatient (1,5%) and nursing homes (2,2%). This was followed by 26,0% of deaths that occurred at home and 1,9% of deaths that occurred upon arrival at a hospital. About 22,8% of the deaths had an unknown or unspecified institution of death.

Table 3.5: Number and percentage distribution of deaths by place or institution of death occurrence, 2011

Place of death	Number	Percentage
Hospital	215 324	42,6
Home	131 332	26,0
Nursing home	11 274	2,2
Dead on arrival	9 761	1,9
ER or outpatient	7 785	1,5
Other	14 899	2,9
Unknown or unspecified	115 428	22,8
Total	505 803	100,0

3.9 Geographic variations in mortality

This section provides information on the distribution of deaths by provinces and districts where the death occurred as well as the deceased’s usual place of residence. The information on district and province was derived based on the 2011 municipal boundaries. The number and the percentage distribution of deaths by province of death occurrence and province of usual residence of the deceased are provided in Appendix H and H1 respectively. Appendix I and I1 present the number and percentage distribution of deaths at provincial and district municipality levels by age, while the sex distribution is provided in Appendix J.

3.9.1 Differences by province, age and sex

Table 3.6 shows the distribution of deaths by province of death occurrence and province of usual residence of the deceased in 2011. With regard to province of death occurrence, KwaZulu-Natal had the highest proportion of deaths (20,7%), followed by Gauteng at 19,9% and then Eastern Cape at 14,4%. The lowest proportion of deaths were in Northern Cape (2,9%). There were 806 (0,2%) people whose deaths occurred outside South Africa. Similar patterns were observed for the deaths by province of usual residence of the deceased with KwaZulu-Natal having the highest proportion (19,9%) of people who died in the province of their usual residence, followed by Gauteng at 18,9% and Eastern Cape at 13,1%.

A cross tabulation of province of death occurrence and province of usual residence of the deceased (refer to Appendix H and H1) show that the majority of deaths occurred in the province of usual residence. For all the provinces, over 80% of deaths occurred within the province of usual residence, with Free State having the highest percentage (93,2%), followed by KwaZulu-Natal (92,0%). The highest proportion of people who died outside South Africa (28,9%) were residing mostly in Gauteng.

Subsequent analysis on geography focuses only on place of death occurrence, not on place of residence or place of birth of the deceased. The information on place of residence of the deceased, as well as their place of birth 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, 2011

Province	Province of death occurrence		Province of usual residence of deceased	
	Number	Percentage	Number	Percentage
Western Cape	45 743	9,0	43 317	8,6
Eastern Cape	73 035	14,4	66 447	13,1
Northern Cape	14 718	2,9	14 432	2,9
Free State	40 635	8,0	39 758	7,9
KwaZulu-Natal	104 652	20,7	100 879	19,9
North West	37 555	7,4	35 549	7,0
Gauteng	100 751	19,9	95 645	18,9
Mpumalanga	38 037	7,5	38 332	7,6
Limpopo	47 347	9,4	45 446	9,0
Foreign	806	0,2	1 193	0,2
Unspecified	2 524	0,5	24 805	4,9
Total	505 803	100,0	505 803	100,0

Appendix I and I1 present the number and percentages of deaths by age, province and district municipality of death occurrence for 2011. North West had the highest proportion (7,8%) of deaths for children aged 0, whilst Limpopo had the highest percentage of deaths among children aged 1–4 (3,1%). KwaZulu-Natal had the highest proportion of deaths in ages 5–14. For the age group 15–49, Mpumalanga had the highest proportion of deaths (45,4%) and Western Cape had the highest proportion of deaths for age groups 50–54 and 65 years and older (23,5% and 38,4% respectively).

With regard to sex ratios, all provinces except for Limpopo had sex ratios that exceeded 100. Western Cape had the highest sex ratio with 118 male deaths per 100 female deaths, followed by North West at 115 male deaths per 100 female deaths (refer to Appendix J). This means that more males were dying in these provinces compared to females. Limpopo had a sex ratio of 99 male deaths per 100 female deaths, thus indicating that there were slightly more female deaths compared to male deaths.

3.9.2 Differences by district municipality, age and sex

According to Appendix I, five metros had the highest number of deaths in the following order: City of Johannesburg (29 469), eThekweni (27 536), Ekurhuleni (26 724), City of Cape Town (26 466) and City of Tshwane (19 574). Three of these metros were in Gauteng, one in KwaZulu-Natal and one in the Western Cape. Of these five metros, Appendix I1 illustrates that more than 35% of deaths occurred in the 15–49 year age group except in Cape Town, where these deaths were amongst age group 65 years and older. Districts with the lowest number of deaths were found in Central Karoo and Namakwa, 871 and 1 078 respectively. In these two districts, children less than 15 years contributed to the low number of deaths comprising 6,2% of deaths in Central Karoo and 5,8% of deaths in Namakwa.

Percentage distributions by district show that Dr Ruth Segomotsi Mompati had the highest proportion of deaths (8,9%) for children aged 0. Among children aged 1–4, Vhembe district had the highest proportion of deaths (3,5%), whilst in ages 5–14 these were highest in Zululand (3,6%). Ehlanzeni district had the highest proportion of deaths in age group 15–49 (46,8%) and West Coast had the highest proportion of deaths for age group 50–54 (26,3%). In the oldest age group (65 years and older), the largest proportion of deaths were observed in Namakwa district (43,8%).

Further comparison of district information by sex shows that out of the 52 districts: ten districts had a sex ratio at death less than 100; one district had a sex ratio of 100 and 41 districts had a sex ratio exceeding 100. The districts

where female deaths were more than male deaths (sex ratio of less than 100) ranged from a sex ratio of 94 male deaths per 100 female deaths (Greater Sekhukhune) to 98 male deaths per 100 female deaths (Thabo Mofutsanyane). Of the 41 districts with a sex ratio of more than 100, these ranged from 101 male deaths per 100 female deaths (Chris Hani and Ehlanzeni district municipalities) to 130 male deaths per 100 female deaths (Overberg district municipality). It is also worth noting that for deaths which occurred outside South Africa, the sex ratio was 191 male deaths per 100 female deaths, showing that male deaths were almost twice the number of female deaths.

4. Causes of death

4.1 Introduction

This section presents information on causes of death for deaths that occurred in 2011 and were registered at the Department of Home Affairs (DHA). The information on causes of death provided is as recorded on death notification forms completed by medical practitioners and other certifying officials. Causes of death data in this publication are classified using the 10th revision of the International Classification of Diseases (ICD-10). The ICD, which is recommended by the World Health Organization (WHO), is mainly intended for the classification of diseases and injuries with a formal diagnosis. This allows for the systematic recording, analysis, interpretation and comparison of mortality and morbidity data collected in different countries at different times.

The information on causes of death is based mainly on the underlying causes of death. It is provided according to the 19 main groups (chapters) of the classification of death and broad age groups. Due to concerns over South Africa's levels of violence and deaths due to accidents, underlying causes of death are further divided into two groups: natural and non-natural causes of death. Non-natural causes of death cover all deaths that were not attributable, or may not have been attributable to natural causes. In terms of the Inquest Act, 1959 (Act No. 58 of 1959), these deaths are subjected to medico-legal investigation. An autopsy must be performed to establish the cause of death, and an inquest is compulsory. The results of the inquest are then sent to the Department of Home Affairs (DHA), which issues the final death certificate.

Analyses carried out in this section include describing causes of death by age, sex and province of occurrence. The causes of death are classified by main groups; natural and non-natural causes; and broad groups. Trend analysis for the period 1997–2011 was also done to establish patterns between the natural and non-natural causes of death. The last subsection provides a comparison of underlying, immediate and contributing causes of death. This analysis gives an overview of the recorded instances of multiple causes of death.

4.2 Reported causes of death

Information on diseases, injuries or complications that caused death is provided on the death notification form when a death is registered at the DHA. Forms BI-1663 and DHA-1663 were used to compile this statistical release. In both the forms, provision is made for a certifying official to record one or more causes on the death notification form.

Table 4.1 shows the number of causes of death reported on death notification forms for deaths that occurred in 2011. A total of 3 107 (0,6%) forms had no information provided for the cause of death. These were cases where causes of death were not specified on the form, where the deaths was still under investigation; where a doctor indicated that they were not in a position to certify; where a traditional leader completed a death report form; or where pages with causes of death information were missing.

ICD-10 codes R99 (*other ill-defined and unspecified causes of mortality*) and P96 (*other conditions originating in the perinatal period*) were used to code these deaths depending on the age of the deceased. Almost 58,7% of the death notification forms had one cause of death recorded on the death notification form and 25,7% had two causes of death recorded. About 10,9% of the forms had three causes and a total of 4,0% had four or more causes.

Table 4.1: Distribution of death notification forms by the number of causes entered on the form, 2011

Number of reported causes of death	Number of death notification forms	Percentage
No cause	3 107	0,6
One cause	296 963	58,7
Two causes	130 019	25,7
Three causes	55 253	10,9
Four causes	16 298	3,2
Five causes	4 099	0,8
Six causes	64	0,0
Total	505 803	100,0

4.3 Method of ascertaining the cause of death

The Births and Deaths Registration Act, 1992 (Act No. 51 of 1992) requires that all deaths be certified by a medical practitioner who must issue a prescribed certificate stating the cause of death. The DHA uses a death notification form which makes provision for a certifying official to indicate the method that was used to ascertain the cause of death. The BI-1663 form has five options to choose from for method used to ascertain cause of death with the sixth option being other. When the form was revised in 2009 as DHA-1663, one more option was added on the DHA-1663 form, which is 'post mortem examination'. In the case of perinatal deaths, there are three options in the DHA-1663 form for method used to ascertain death (refer to Appendix B1 section G.2). The resulting categories after combining comparable information in form BI-1663 and DHA-1663 are provided in Table 4.2.

Causes of death ascertained by trained medical personnel accounted for a total of 42,2% (25,9% by opinion of the attending medical practitioner; 8,2% by opinion of attending medical practitioner on duty; and 8,1% by opinion of registered professional nurse) followed by post mortem examination (15,7%). Nearly 10% of causes of death were ascertained by autopsy (8,6%). There were 7,5% causes of death which were ascertained by conducting an interview with a family member of the deceased to establish the cause of death.

A cross tabulation for the method used to ascertain cause of death and type of underlying cause (whether it was a natural or non-natural cause) showed that 71,7% of the non-natural causes of death had their causes ascertained through autopsy compared to the 2,2% for natural deaths (results not included in the release). As for type of causes indicated as a natural cause, the highest method for ascertaining a cause of death was opinion of attending medical practitioner (25,9%).

Table 4.2: Number and percentage distribution of deaths by method used to ascertain the cause of death, 2011

Method of ascertaining the cause of death	Frequency	Percentage
Autopsy	43 276	8,6
Post mortem examination	79 293	15,7
Opinion of attending medical practitioner	130 914	25,9
Opinion of attending medical practitioner on duty	41 474	8,2
Opinion of registered professional nurse	41 027	8,1
Interview of family member	38 160	7,5
Other	7 158	1,4
Autopsy results may be available later*	43	0,0
Autopsy not performed*	865	0,2
Unknown	3 913	0,8
Unspecified	119 680	23,7
Total	505 803	100,0

* For perinatal deaths only.

4.4 Main groups of the underlying causes of death

The ICD-10 classifies diseases and related health problems into 22 chapters, 19 of which are used in the reporting of information on underlying causes of death (see Table 4.3). The following chapters are thus excluded in this report:

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 purposes. 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 the percentage distribution of deaths by the 19 main groups (chapters) of the classification of causes of death. In 2011, *certain infections and parasitic diseases* were the most common main group of causes of death constituting 23,1% of all deaths. This group also includes 752 deaths due to *MDR-TB* and 164 deaths due to *XDR-TB*. These numbers have slightly declined in 2010 and 2011 with *MDR-TB* decreasing from 856 deaths in 2010 to 752 deaths in 2011 and deaths attributable to *XDR-TB* reduced from 171 in 2010 to 164 in 2011.

The second highest main group was *diseases of the circulatory system* (16,2%) and the third most frequent main group was *symptoms and signs not elsewhere classified* (13,6%), followed by *diseases of the respiratory system* (11,9%). The main group *external causes of morbidity and mortality* was at 9,1% and the rest of the other main groups made less than 10% contribution each to the main groups of underlying causes of death. The least common main groups were *diseases of the eye and adnexa* and *diseases of the ear and mastoid process* which were both less than 0,1%. The main group of *perinatal conditions* was 2,0% of all deaths and *pregnancy, childbirth and puerperium* was 0,2%.

Table 4.3: Distribution of deaths by main groups of causes of death, 2011

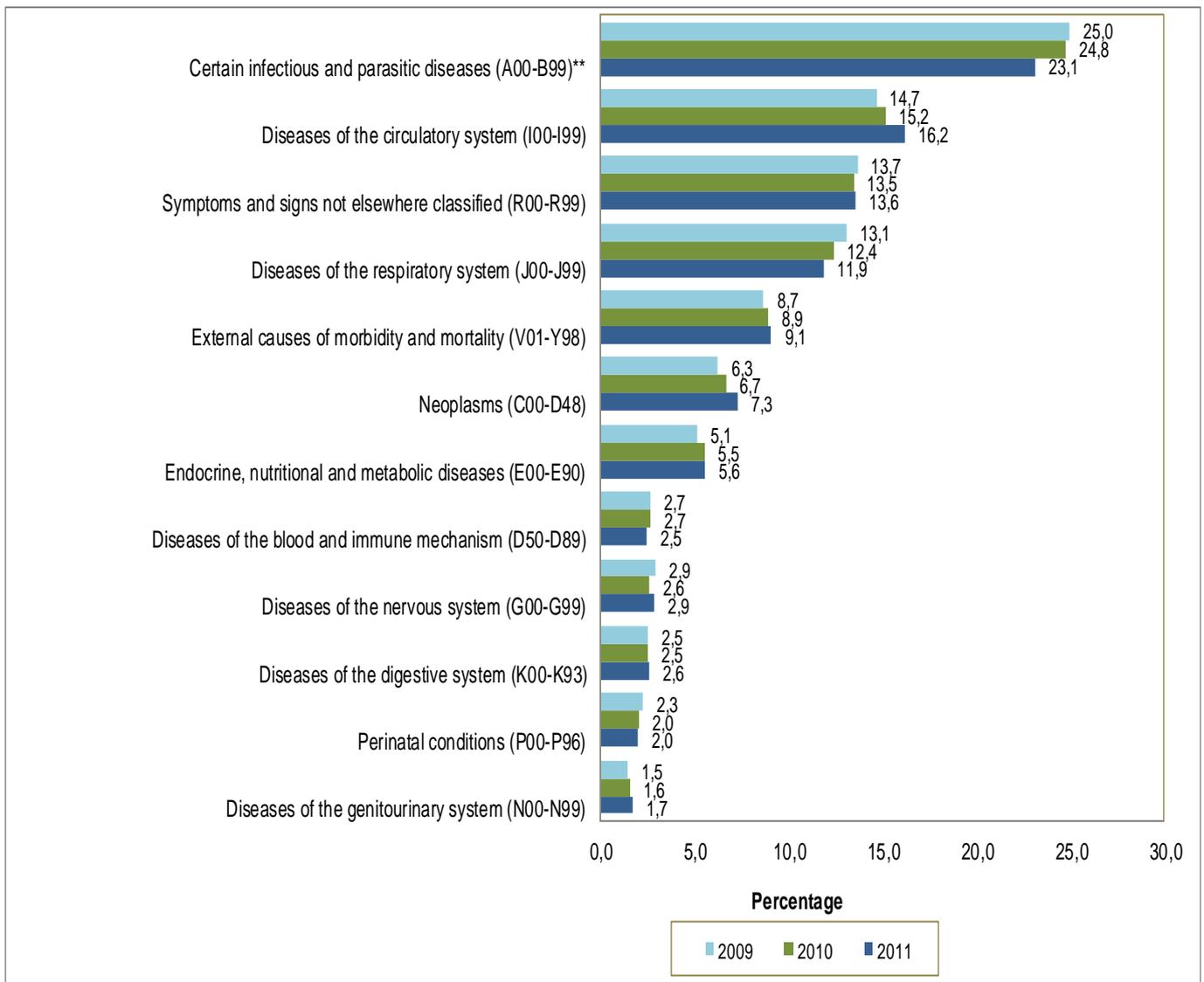
No.	Main groups of underlying causes of death (based on ICD-10)	Frequency	Percentage
1.	Certain infectious and parasitic diseases (A00-B99)*	117 071	23,1
2.	Neoplasms (C00-D48)	36 877	7,3
3.	Diseases of the blood and immune mechanism (D50-D89)	14 499	2,9
4.	Endocrine, nutritional and metabolic diseases (E00-E90)	28 141	5,6
5.	Mental and behavioural disorders (F00-F99)	1 731	0,3
6.	Diseases of the nervous system (G00-G99)	12 499	2,5
7.	Diseases of the eye and adnexa (H00-H59)	31	0,0
8.	Diseases of the ear and mastoid process (H60-H95)	62	0,0
9.	Diseases of the circulatory system (I00-I99)	82 058	16,2
10.	Diseases of the respiratory system (J00-J99)	60 235	11,9
11.	Diseases of the digestive system (K00-K93)	13 146	2,6
12.	Diseases of the skin and subcutaneous tissue (L00-L99)	891	0,2
13.	Diseases of the musculoskeletal system etc. (M00-M99)	1 790	0,4
14.	Diseases of the genitourinary system (N00-N99)	8 715	1,7
15.	Pregnancy, childbirth and puerperium (O00-O99)	1 250	0,2
16.	Perinatal conditions (P00-P96)	10 149	2,0
17.	Congenital malformations (Q00-Q99)	1 878	0,4
18.	Symptoms and signs not elsewhere classified (R00-R99)	68 790	13,6
19.	External causes of morbidity and mortality (V01-Y98)	45 990	9,1
Total		505 803	100,0

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

Trend analysis of deaths by main groups of causes of death is useful to measure the influence of the various main groups on deaths over time and provides a tool to measure public health interventions on some of the diseases.

Figure 4.1 shows the percentage distribution of deaths by selected main groups of causes of death and year of death occurrence from 2009 to 2011. *Certain infectious and parasitical diseases* main group was the most common group of causes of death at roughly 25% each year. However, there was a gradual decline in the proportion of deaths due to this main group over the three-year period from 25,0% in 2009 to 23,1% in 2011. *Diseases of the circulatory system* (the second most common main group) were on the increase from 14,7% in 2009 to 16,2% in 2011. *Diseases of the respiratory system* (the third most common group) decreased from 13,1% in 2009 to 11,9% in 2011. The ranking in the order of the most common to the least common main groups of cause of death has been almost the same for the three years, except for 2011 where *diseases of the digestive system* ranked higher than the *diseases of the nervous system*. Deaths due to *perinatal conditions* remained constant at around 2% during the three-year period.

Figure 4.1: Percentage distribution of deaths by main groups of causes of death, 2009–2011*



*Data for 2009 and 2010 have been updated to include late registrations processed in 2013.

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

4.5 Natural and non-natural causes of death

Due to the high levels of violence and deaths attributed to accidents, natural and non-natural underlying causes of death are treated as separate groups. Non-natural causes of death comprise all deaths that were not attributable, or may not have been attributable to natural causes. All causes of death from chapter 1 to 18 of ICD-10 are classified as natural causes and chapter 19 as non-natural causes.

Table 4.4 shows the actual number of natural and non-natural deaths by year of death from 1997 to 2011. Throughout all the years, the numbers 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 there was a decline. Further, one can see from the table that there has been an inconsistent pattern in the number of deaths due to non-natural causes up to 2007, but a steady decline since 2007.

Table 4.4: Number of natural and non-natural deaths by year of death, 1997–2011*

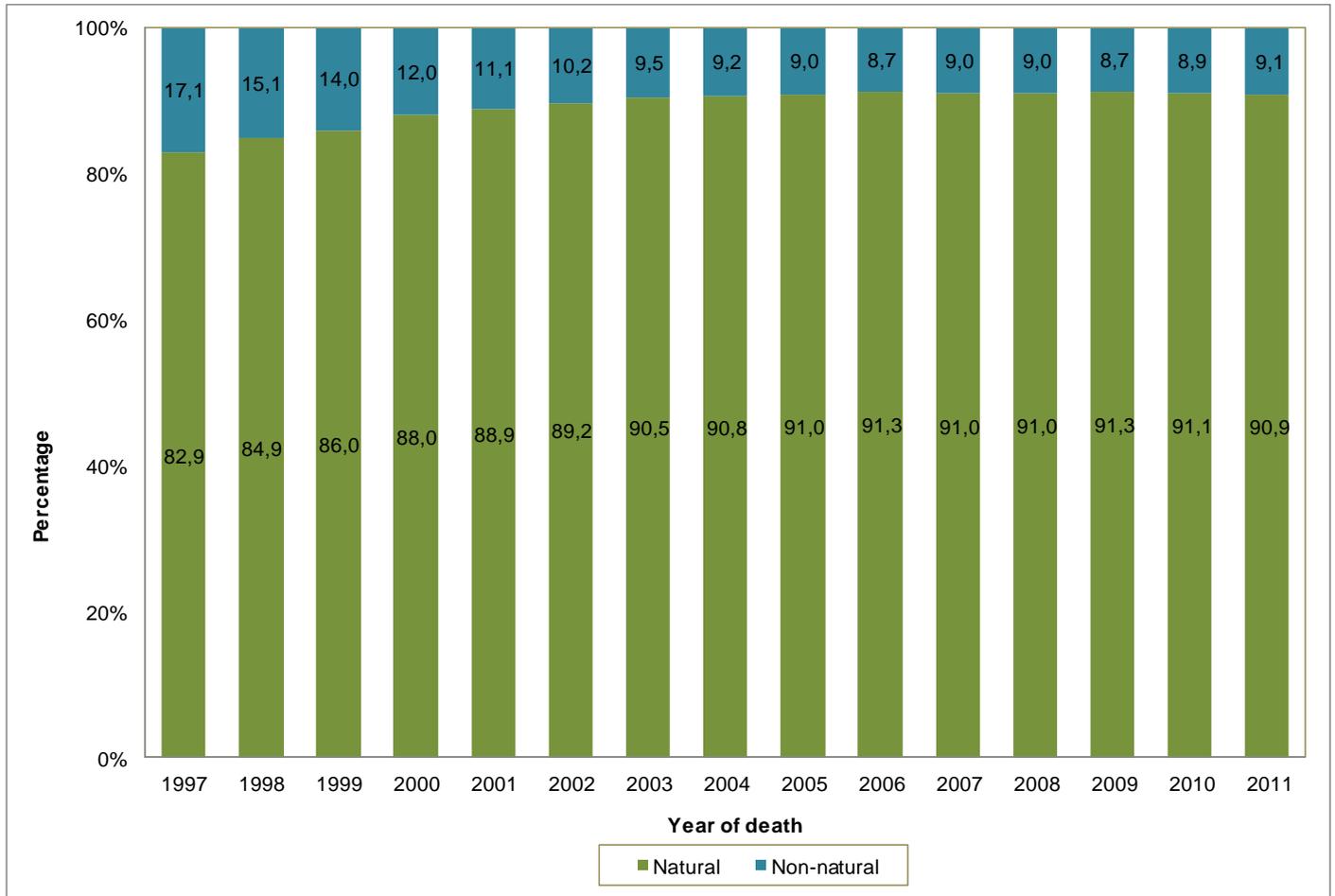
Year of death	Number of natural deaths	Number of non-natural deaths	Total
1997	263 097	54 098	317 195
1998	310 799	55 110	365 909
1999	328 545	53 337	381 882
2000	366 653	49 789	416 442
2001	404 834	50 354	455 188
2002	450 884	51 486	502 370
2003	504 181	52 853	557 034
2004	523 716	53 368	577 084
2005	544 376	53 978	598 354
2006	559 892	53 236	613 128
2007	549 908	54 498	604 406
2008	542 325	53 356	595 681
2009	529 649	50 329	579 978
2010	498 886	48 838	547 724
2011	459 813	45 990	505 803

*Data for 1997–2010 have been updated to include late registrations processed in 2013.

Figure 4.2 shows the percentage distribution of natural and non-natural causes of death by year of death for the period 1997 to 2011. The percentage of deaths due to natural causes was consistently above 80% each year. The percentage of deaths due to natural causes increased from 82,9% in 1997 to 91,3% in 2006 and then remained generally stable around 91,0% between 2007 and 2008. In 2009, the percentage of deaths due to natural causes increased to 91,3%. Since then, the proportion of deaths due to natural causes has decreased slightly. In 2011, 90,9% of deaths were due to natural causes.

Conversely, during 1997–2011, the percentage of deaths due to non-natural causes decreased from 17,1% in 1997 to 9,1% in 2011. The lowest percentage of deaths due to non-natural causes was recorded in 2006 and in 2009 with deaths due to non-natural causes at 8,7% each year.

Figure 4.2: Percentage distribution of natural and non-natural causes of death by year of death, 1997–2011*

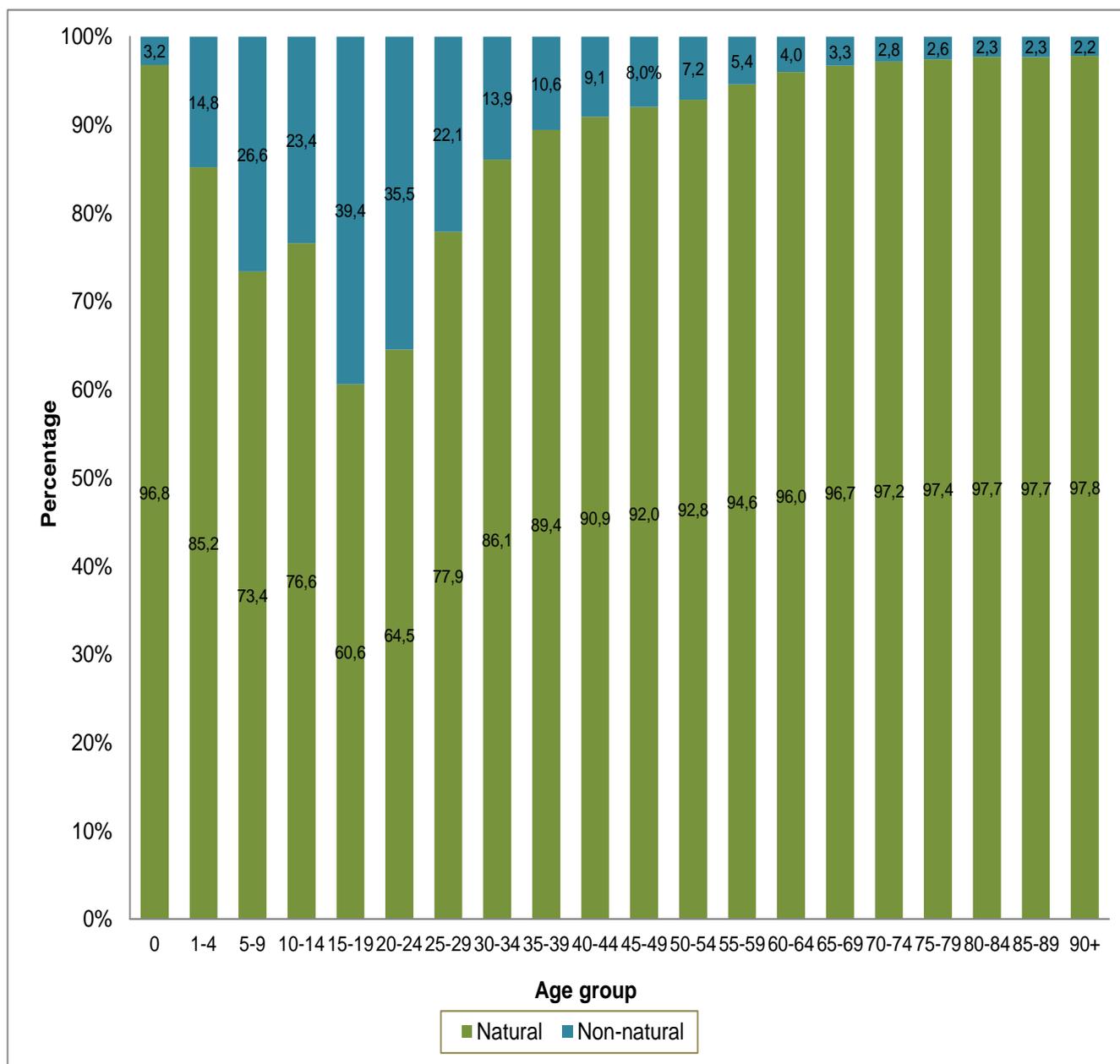


*Data for 1997–2010 have been updated to include late registrations processed in 2013.

Natural and non-natural causes of death by age

Figure 4.3 shows the percentage distribution of deaths due to natural and non-natural causes of death classified by age group for deaths that occurred in 2011. The pattern observed for both the natural and non-natural causes of death is that from age 0 to age group 5–9, the percentage of deaths attributed to natural causes decreased whilst the percentage of deaths due to non-natural causes increased with age for the same ages. From age group 15–19 years, the percentage of deaths due to non-natural causes decreased with age and the opposite was true for natural causes. The highest percentage of deaths due to natural causes was among those aged 0 (97,3%) and the highest percentage of deaths due to non-natural causes was for those in age group 15–19 (44,4%).

Figure 4.3: Percentage distribution of natural and non-natural causes of death by age, 2011*



* Excluding 2 401 deaths with unspecified age.

4.6 Underlying natural causes of death

This subsection presents information on the leading underlying natural causes of death. The ten leading causes are identified by ranking the causes of death by frequency among those eligible for ranking as described in Section 2. The ranking of the leading causes of death in this release excludes *symptoms, signs and abnormal findings, not elsewhere classified* as well as all non-natural deaths (*external causes of morbidity and mortality*). Non-natural causes will be discussed in the next subsection. The top-ranking causes determine the leading underlying natural causes of death.

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 2009–2011. Information for 2009 and 2010 were added in the analysis to show changes in the ten leading causes of death as well as the relative contribution of these causes to the total number of deaths. The table provides changes in the ten leading underlying causes of death by percentages and absolute numbers over the three-year period.

The distribution 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 2011 is shown in Appendix K while the breakdown of individual causes for the broad groups that were among the ten leading causes in 2011 is provided in Appendix L.

According to Table 4.5, *tuberculosis* was the leading cause of death in 2011 accounting for 10,7% of all deaths and was the leading cause of death over the 3-year period. *Influenza and pneumonia* also maintained its position as the second highest throughout the three-year period and accounted for 6,6% of all deaths in 2011. However, the actual number and proportion of deaths due to *tuberculosis* and *influenza and pneumonia* showed a decline over time. The percentage of deaths attributed to *tuberculosis* decreased from 12,0% in 2009 to 11,6% in 2010 and further to 10,7% in 2011. The percentage of deaths due to *influenza and pneumonia* decreased from 7,5% in 2009, then declined to 7,2% in 2010 and further to 6,6% in 2011.

Intestinal infectious diseases, which were ranked third in both 2009 (5,4%) and 2010 (5,0%), were overtaken by *cerebrovascular diseases* in 2011 (5,1%) to be the third leading causes of death. *Cerebrovascular diseases* moved from fifth place in 2009 (4,3%) and 2010 (4,5%) to third place in 2011. *Intestinal infectious diseases* were ranked sixth in 2011, accounting for 3,8% of all deaths. *Human immunodeficiency virus [HIV] disease* maintained the seventh position in the three-year period as well as *hypertensive diseases* which remained in the eighth position in the three-year period. Nine of the ten leading natural underlying causes of death were the same for the three years. The only exception was *certain disorders involving the immune mechanism* which moved out of the ten leading underlying causes of death and was replaced by *other viral diseases* in both 2010 and 2011, occupying the tenth and ninth ranking in 2010 and 2011, respectively.

Between 2010 and 2011, *intestinal infectious diseases* showed the greatest decline in the number of deaths (from 27 548 deaths in 2010 to 19 376 deaths in 2011), followed by declines observed for *influenza and pneumonia* (14,9%) and *tuberculosis* (14,5%). Among the ten leading causes the number of deaths increased only for *other viral diseases* (16,9%), *hypertensive diseases* (3,8%) and *cerebrovascular diseases* (3,7%).

Table 4.5: The ten leading underlying natural causes of death, 2009–2011*

Causes of death (based on ICD-10)	2009			2010			2011		
	Rank	Number	%	Rank	Number	%	Rank	Number	%
Tuberculosis (A15-A19)**	1	69 816	12,0	1	63 281	11,6	1	54 112	10,7
Influenza and pneumonia (J09-J18)	2	43 468	7,5	2	39 236	7,2	2	33 381	6,6
Cerebrovascular diseases (I60-I69)	5	25 065	4,3	5	24 816	4,5	3	25 732	5,1
Other forms of heart disease (I30-I52)	4	26 750	4,6	4	25 976	4,7	4	23 564	4,7
Diabetes mellitus (E10-E14)	6	20 687	3,6	6	21 612	3,9	5	20 171	4,0
Intestinal infectious diseases (A00-A09)	3	31 084	5,4	3	27 548	5	6	19 376	3,8
Human immunodeficiency virus [HIV] disease (B20-B24)	7	17 787	3,1	7	18 465	3,4	7	17 012	3,4
Hypertensive diseases (I10-I15)	8	15 489	2,7	8	14 961	2,7	8	15 529	3,1
Other viral diseases (B25-B34)	...	...	...	10	12 453	2,3	9	14 557	2,9
Chronic lower respiratory diseases (J40-J47)	9	14 343	2,5	9	13 176	2,4	10	13 084	2,6
Certain disorders involving the immune mechanism (D80-D89)	10	13 259	2,3	...	...	...	...	...	...
Other natural causes		251 901	43,4		237 362	43,3		223 295	44,1
Non-natural causes		50 329	8,7		48 838	8,9		45 990	9,1
All causes		579 978	100		547 724	100		505 803	100

*Data for 2009–2010 have been updated to include late registrations processed in 2013.

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

.... Category not in top ten.

Leading underlying natural causes of death by sex

Table 4.6 presents the ten leading underlying causes of death by sex in 2011. The first two leading causes of death for both sexes were *tuberculosis* and *influenza and pneumonia*. *Tuberculosis* accounted for 11,8% of all male deaths and 9,5% of female deaths. *Influenza and pneumonia* accounted for 6,7% of deaths amongst female deaths and 6,5% of deaths amongst male deaths. *Other forms of heart disease* (4,1%) were the third leading cause of death for males, while the third leading cause of death for females was *cerebrovascular diseases* (6,2%). *HIV disease* was ranked sixth amongst males (3,2%) and eighth amongst females (3,6%).

Eight of the ten leading underlying causes of deaths were common amongst the two sexes. One the one hand, *chronic lower respiratory diseases* (3,0%) and *ischaemic heart diseases* (2,6%) were among the ten leading underlying causes of death for males, but not for females. On the other hand, *hypertensive diseases* (4,0%) and *certain disorders involving the immune mechanism* (2,4%) were among the top ten underlying causes of death for females but not for males. The ten leading causes of death contributed 44,3% of the total deaths amongst males and 50,1% among females.

Table 4.6: The ten leading underlying natural causes of death for males and females, 2011*

Causes of death (based on ICD-10)	Male			Female		
	Rank	Number	%	Rank	Number	%
Tuberculosis (A15-A19)**	1	30 807	11,8	1	23 112	9,5
Influenza and pneumonia (J09-J18)	2	16 955	6,5	2	16 300	6,7
Other forms of heart disease (I30-I52)	3	10 796	4,1	4	12 731	5,2
Cerebrovascular diseases (I60-I69)	4	10 715	4,1	3	14 983	6,2
Intestinal infectious diseases (A00-A09)	5	9 147	3,5	6	10 132	4,2
Human immunodeficiency virus [HIV] disease (B20-B24)	6	8 255	3,2	8	8 702	3,6
Diabetes mellitus (E10-E14)	7	8 014	3,1	5	12 139	5
Chronic lower respiratory diseases (J40-J47)	8	7 812	3	...	...	...
Ischaemic heart diseases (I20-I25)	9	6 891	2,6	...	...	...
Other viral diseases (B25-B34)	10	6 590	2,5	9	7 914	3,3
Hypertensive diseases (I10-I15)	...	...	...	7	9 634	4
Certain disorders involving the immune mechanism (D80-D89)	...	...	...	10	5 728	2,4
Other natural causes		110 014	42,2		110 808	45,6
Non-natural causes		34 573	13,3		11 054	4,5
All causes		260 569	100		243 237	100

*Excluding 1 997 cases with unspecified sex.

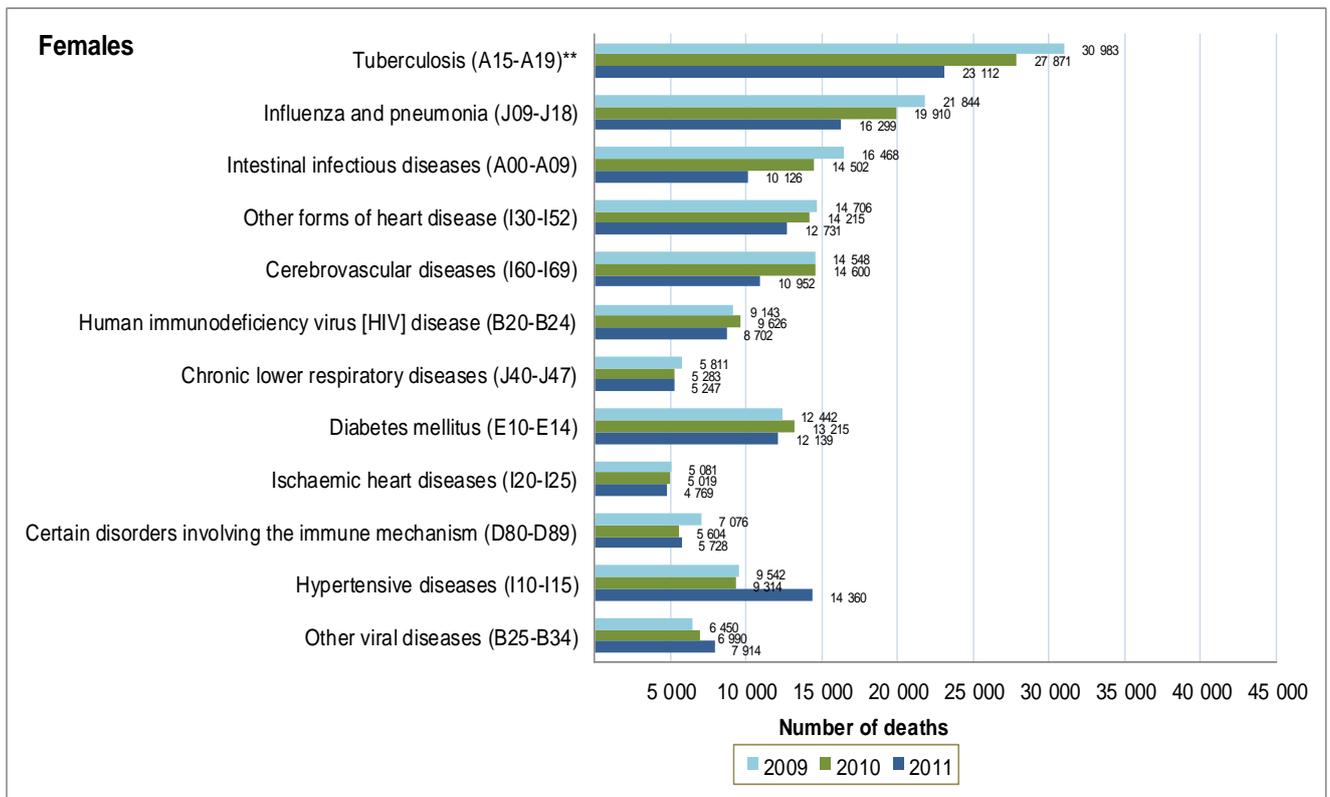
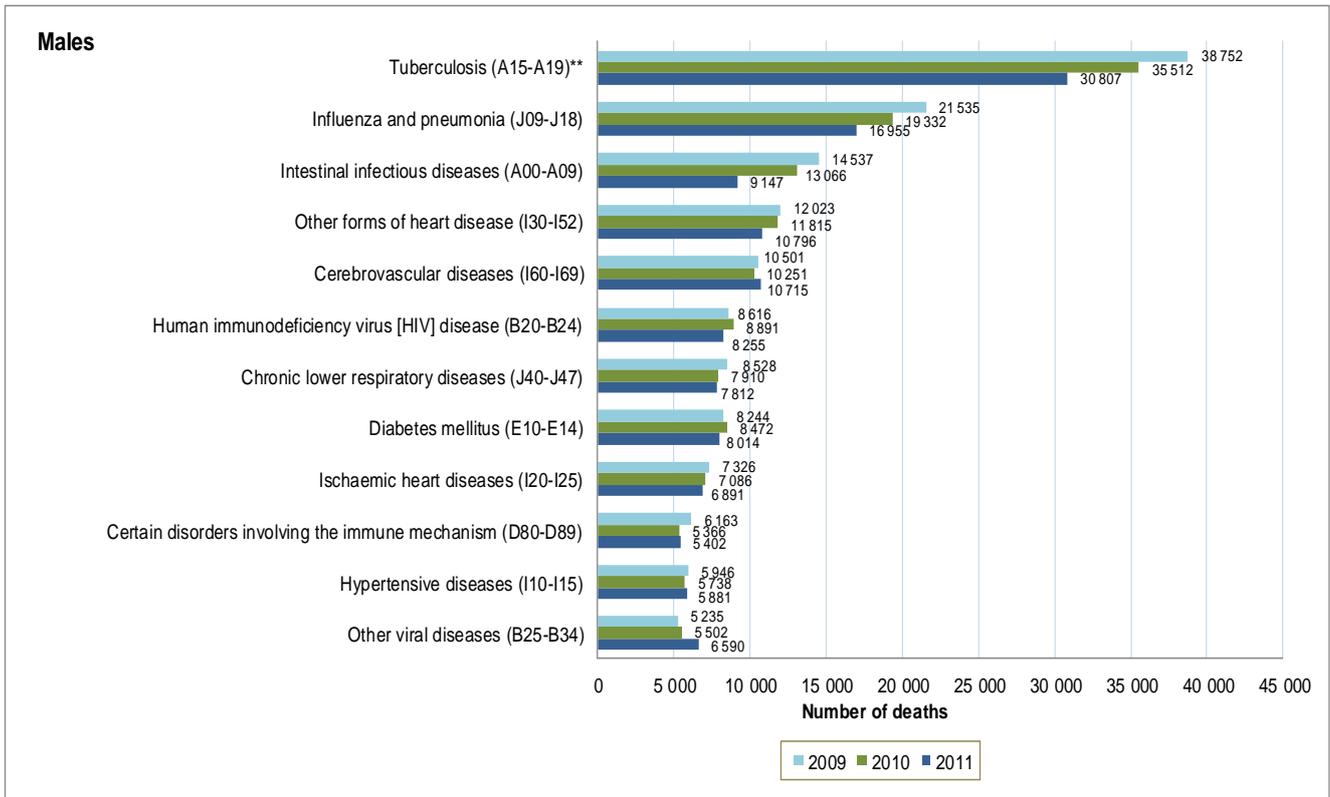
**Including deaths due to *MDR-TB* and *XDR-TB*.

...Category not in top ten.

Figure 4.4 shows the ten leading causes of death classified by sex for a three-year period (2009–2011). Over this period, *tuberculosis* remained the leading cause of death for both males and females. However, the number of male deaths attributed to *tuberculosis* always out-number female deaths due to this cause. *Influenza and pneumonia* was the second leading underlying cause of death for both males and females with roughly the same number of deaths due to the diseases for both sexes each year. *Intestinal infectious diseases* were the third leading cause of death for males in 2010 and moved to fifth place in 2011, and it was in the fourth position for females in 2010 and moved to sixth in 2011. It can also be seen from Figure 4.4 that deaths due to *other viral diseases* were on the increase for both males and females. Deaths due to this underlying cause were 5 235 in 2009, increasing to 5 502 deaths in 2010 and 6 590 deaths in 2011.

Further examination of the trends in the three-year period shows that there was a drop in the number of deaths due to *tuberculosis*, *influenza and pneumonia*, *intestinal infectious disease* and *other forms of heart disease* for males and females. However, there was a noticeable increase in the number of deaths due to *other viral diseases*.

Figure 4.4: Distribution of deaths for the leading causes of death by year of death and sex, 2009–2011*



*Data for 2009–2010 have been updated to include late registrations processed in 2013.

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

Leading underlying natural causes of death by age

Table 4.7 shows the ten leading underlying natural causes of death for broad age groups (0–14, 15–49, 50–64, and 65 years and older) for 2011. For each of these age groups, *intestinal infectious diseases, influenza and pneumonia* and *tuberculosis* were among the ten leading causes of death. However, the ranking of these causes varied greatly by age. For example, deaths due to *intestinal infectious diseases* were the first leading cause of death for age group 0–14 (13,6%) , sixth for age group 15–49 (3,6%) and tenth leading cause of death for both age groups 50–64 (2,5%) and 65 years and older (2,1%).

For age group 0–14, *influenza and pneumonia* was the second leading underlying cause of death responsible for 10,4% of deaths. *Respiratory and cardiovascular disorders specific to the perinatal period, other disorders originating in the perinatal period, malnutrition, disorders related to length of gestation and fetal growth and infections specific to the perinatal period* were on the ten leading underlying causes of death only for age group 0–14 and were ranked third, fourth, fifth, seventh and eighth respectively. *Other acute lower respiratory infections, other disorders originating in the perinatal period, malnutrition, other viral diseases and disorders related to length of gestation and fetal growth* were each responsible for less than 5% of deaths in the age group 0–14.

Tuberculosis was the first leading underlying cause of death for age group 15–49 (18,1%) followed by *influenza and pneumonia* (7,3%). The leading underlying cause of death for age group 50–64 was *tuberculosis* responsible for 10,6% of deaths in this age group. *Human immunodeficiency virus [HIV] disease* was the third leading underlying cause of death for this age group responsible for 6,6% of deaths. This was the only age group where this disease was among the ten leading underlying causes of death. Other underlying causes of death which affected this group only were *certain disorders involving the immune mechanism* (4,2%), ranked fifth and *inflammatory diseases of the central nervous system* (2,0%) ranked eighth.

The second leading underlying cause of death in this age group was *diabetes mellitus* (6,4%) followed by *cerebrovascular diseases* (6,2%). For the age group 65 years and older, the first leading underlying cause of death was *cerebrovascular diseases* (10,6%), followed by *other forms of heart disease* (8,4%). *Tuberculosis* was ranked eighth (3,2%).

For age groups 50–64 and 65 years and older, the ten leading underlying causes of death were the same with the difference only in the rankings. The only underlying cause of death which had the same ranking amongst the two groups was *intestinal infectious diseases* which were ranked tenth in both groups. *Cerebrovascular diseases, diabetes mellitus, hypertensive diseases, chronic lower respiratory diseases, ischaemic heart diseases and malignant neoplasm of digestive organs* were amongst the ten leading underlying causes of death for only age groups 60–64 and 65 years and older. This gives an indication that these diseases were dominant amongst the elderly.

Other acute lower respiratory infections, other disorders originating in the perinatal period, malnutrition, other viral diseases and disorders related to length of gestation and fetal growth were each responsible for less than 5% of deaths in the age group 0–14.

Table 4.7: The ten leading underlying natural causes of death for broad age groups, 2011

Causes of death (based on ICD-10)	0-14			15-49			50-64			65+		
	Rank	Number	%	Rank	Number	%	Rank	Number	%	Rank	Number	%
Intestinal infectious diseases (A00-A09)	1	6 250	13,6	6	7 248	3,6	10	2 638	2,5	10	3 186	2,1
Influenza and pneumonia (J09-J18)	2	4 771	10,4	2	14 759	7,3	4	5 919	5,7	5	7 822	5,2
Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	3	4 072	8,8	...	...	...	...	...	...	...	...	...
Other disorders originating in the perinatal period (P90-P96)	4	1 562	3,4	...	...	...	...	...	...	...	...	...
Malnutrition (E40-E46)	5	1 503	3,3	...	...	...	...	...	...	...	...	...
Tuberculosis (A15-A19)*	6	1 426	3,1	1	36 728	18,1	1	10 983	10,6	8	4 771	3,2
Disorders related to length of gestation and fetal growth (P05-P08)	7	1340	2,9	...	...	...	...	...	...	...	...	...
Infections specific to the perinatal period (P35-P39)	8	1090	2,4	...	...	...	...	...	...	...	...	...
Other viral diseases (B25-B34)	9	830	1,8	4	11226	5,5	...	...	...	...	...	...
Other acute lower respiratory infections (J20-J22)	10	800	1,7	10	3053	1,5	...	...	...	...	...	...
Human immunodeficiency virus [HIV] disease (B20-B24)	...	...	...	3	13431	6,6	...	...	...	...	...	...
Certain disorders involving the immune mechanism (D80-D89)	...	...	...	5	8473	4,2	...	...	...	...	...	...
Other forms of heart disease (I30-I52)	...	...	...	7	4 838	2,4	5	5 534	5,3	2	12 632	8,4
Inflammatory diseases of the central nervous system (G00-G09)	...	...	...	8	4133	2,0	...	...	...	...	...	...
Cerebrovascular diseases (I60-I69)	...	...	...	9	3 295	1,6	3	6 429	6,2	1	15 867	10,6
Diabetes mellitus (E10-E14)	...	...	...	...	...	...	2	6 648	6,4	3	11 026	7,3
Hypertensive diseases (I10-I15)	...	...	...	...	...	...	7	3 947	3,8	4	9 931	6,6
Chronic lower respiratory diseases (J40-J47)	...	...	...	...	...	...	6	4 104	3,9	7	6 801	4,5
Ischaemic heart diseases (I20-I25)	...	...	...	...	...	...	8	3 326	3,2	6	7 035	4,7
Malignant neoplasm of digestive organs (C15-C26)	...	...	...	...	...	...	9	3 293	3,2	9	4 627	3,1
Other natural causes		17 989	39,1		64 597	31,8		45 357	43,6		62 673	41,7
Non-natural causes		4 412	9,6		31 277	15,4		5 739	5,5		4 011	2,7
All causes		46 045	100,0		203 058	100,0		103 917	100,0		150 382	100,0

*Including deaths due to *MDR-TB* and *XDR-TB*.
 ... Category not in top ten.

Leading underlying natural causes of death for infants and children

The ten leading causes of death for neonatal deaths (less than 29 days), 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.

There was a total of 11 002 neonatal deaths in 2011. Deaths due to *respiratory and cardiovascular disorders specific to the perinatal period* maintained their position as the first leading underlying cause of death amongst neonates, accounting for 36,8% of all deaths in 2011. *Other disorders originating in the perinatal period* ranked second contributing 14,1% of deaths among neonates. Neonatal deaths mainly resulted from the main groups of *conditions originating in the perinatal period and congenital malformations, deformations and chromosomal abnormalities*. The ten leading underlying causes of death during the neonatal period constituted 90,3% of deaths in this age.

The leading underlying cause of death for those who died during the post-neonatal period was *intestinal infectious diseases* which accounted for 21,7% of deaths, followed by *influenza and pneumonia* which was responsible for 17,8% of deaths. The third leading underlying cause of death was *malnutrition* (4,7%) followed by *other acute lower respiratory infections* (3,1%). *Tuberculosis* was ranked eighth accounting for 1,9% of deaths and *HIV disease* (1,4%) occupied the tenth position.

Among infants the first leading underlying cause of deaths was *respiratory and cardiovascular disorders specific to the perinatal period* (14,6%). *Intestinal infectious diseases* (14,1%) were ranked second. These two underlying causes of death also occupied the first two ranks in the top ten leading underlying causes of death in 2010, but with a difference in the ranking.

For the age group 1–4 years, the leading underlying cause of death was *intestinal infectious diseases* (17,6%). *Influenza and pneumonia* was ranked second, accounting for 11,5% of deaths. The third leading underlying cause of death was *malnutrition* (6,7%), followed by *tuberculosis* (4,5%). *HIV disease* was ranked tenth (1,4%).

Table 4.8: The ten leading underlying natural causes of death for infants and children, 2011

Causes of death (based on ICD-10)	Neonatal (0-28 days)			Post-neonatal (29 days to 11 months)			Infants (Less than 1 year)			1-4 years		
	Rank	Number	%	Rank	Number	%	Rank	Number	%	Rank	Number	%
Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	1	4 049	36,8	...	...	...	1	4 072	14,6	...	...	...
Other disorders originating in the perinatal period (P90-P96)	2	1 555	14,1	...	...	...	4	1 562	5,6	...	...	...
Disorders related to length of gestation and fetal growth (P05-P08)	3	1 210	11,0	...	...	...	5	1 337	4,8	...	...	...
Infections specific to the perinatal period (P35-P39)	4	1 060	9,6	...	...	...	6	1 090	3,9	...	...	...
Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00-P04)	5	733	6,7	...	...	...	8	736	2,6	...	...	...
Haemorrhagic and haematological disorders of fetus and newborn (P50-P61)	6	410	3,7	...	...	...	...	...	...	...	...	...
Intestinal infectious diseases (A00-A09)	7	268	2,4	1	3 686	21,7	2	3 954	14,1	1	1 748	17,6
Other congenital malformations (Q80-Q89)	8	244	2,2	...	...	...	...	...	...	...	...	...
Digestive system disorders of fetus and newborn (P75-P78)	9	236	2,1	...	...	...	...	...	...	...	...	...
Congenital malformations of the circulatory system (Q20-Q28)	10	162	1,5	...	...	...	...	...	...	...	...	...
Influenza and pneumonia (J09-J18)	...	...	...	2	3 024	17,8	3	3 025	10,8	2	1 141	11,5
Malnutrition (E40-E46)	...	...	...	3	799	4,7	7	802	2,9	3	666	6,7
Other acute lower respiratory infections (J20-J22)	...	...	...	4	530	3,1	9	553	2,0	6	169	1,7
Other bacterial diseases (A30-A49)	...	...	...	5	475	2,8	10	478	1,7	9	147	1,5
Other diseases of the respiratory system (J95-J99)	...	...	...	6	353	2,1	...	...	...	...	...	...
Other viral diseases (B25-B34)	...	...	...	7	345	2,0	...	...	...	5	222	2,2
Tuberculosis (A15-A19)*	...	...	...	8	316	1,9	...	...	...	4	450	4,5
Metabolic disorders (E70-E90)	...	...	...	9	257	1,5	...	...	...	...	...	...
Human immunodeficiency virus [HIV] disease (B20-B24)	...	...	...	10	244	1,4	...	...	...	10	137	1,4
Other forms of heart disease (I30-I52)	...	...	...	...	...	...	...	...	...	7	166	1,7
Inflammatory diseases of the central nervous system (G00-G09)	...	...	...	...	...	...	...	...	...	8	148	1,5
Other natural causes	...	917	8,3	...	6 208	36,6	...	9 472	33,9	...	3 463	34,9
Non-natural causes	...	158	1,4	...	742	4,4	...	900	3,2	...	1 470	14,8
All causes	...	11 002	100,0	...	16 979	100,0	...	27 981	100,0	...	9 927	100,0

*Including deaths due to *MDR-TB* and *XDR-TB*. ... Category not in top ten.

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

The analysis on the causes of death among the population aged 15–24 years is recommended by the World Health Organization (WHO, 2009). Table 4.9 shows that the ten leading causes of death among population aged 15–24 in 2011. In the top three, *tuberculosis* was ranked as the first underlying cause of death accounting for 12,6% of deaths. In second place was *influenza and pneumonia* responsible for 5,1% of deaths and *HIV disease* was ranked third accounting for 4,3% of deaths.

Table 4.9: The ten leading underlying natural causes of death for the population aged 15–24 years, 2011

Causes of death (based on ICD-10)	15-24		
	Rank	Number	Percentage
Tuberculosis (A15-A19)*	1	3 120	12,6
Influenza and pneumonia (J09-J18)	2	1 277	5,1
Human immunodeficiency virus [HIV] disease (B20-B24)	3	1 065	4,3
Other viral diseases (B25-B34)	4	911	3,7
Intestinal infectious diseases (A00-A09)	5	703	2,8
Certain disorders involving the immune mechanism (D80-D89)	6	587	2,4
Inflammatory diseases of the central nervous system (G00-G09)	7	550	2,2
Other forms of heart disease (I30-I52)	8	449	1,8
Episodic and paroxysmal disorders (G40-G47)	9	320	1,3
Other acute lower respiratory infections (J20-J22)	10	252	1,0
Other natural causes		6 512	26,2
Non-natural causes		9 114	36,7
All causes		24 860	100,0

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

Leading underlying natural causes of death by province of death occurrence

Information on the ten leading underlying natural causes of death in each province of death occurrence for 2011 is shown in Table 4.10. For complete information on the distribution of the ten leading underlying causes of death by province and sex, refer to Appendices M to M9.

The leading underlying cause of death was *tuberculosis* in all provinces with the exception of Free State and Limpopo, where it was the second leading underlying cause of death in both provinces. In Free State and Limpopo, the leading cause of death was *influenza and pneumonia*, accounting for 10,8% and 11,4% of deaths in Free State and Limpopo respectively. The highest number and proportion of deaths due to *tuberculosis* occurred in KwaZulu-Natal (15 034) accounting for 14,4% of all deaths in the province. The second province with the highest proportion of deaths due to *tuberculosis* was Mpumalanga responsible for 13,4% of all deaths in the province. Western Cape had the least proportion of deaths due to *tuberculosis* (7,1%).

Tuberculosis, diabetes mellitus, hypertensive diseases, cerebrovascular diseases and other forms of heart disease were common in all the nine provinces, but the rank of these causes varied greatly among provinces. Table 4.10 further shows that with the exception of Western and Eastern Cape, the other seven provinces can be categorised into three groups with commonalities in the top three leading underlying causes of death with varying ranks. The first group includes Free State, North West and Gauteng, which had *tuberculosis, influenza and pneumonia* and *other forms of heart disease* as their top three leading underlying causes. The second group comprises Northern Cape and KwaZulu-Natal with *tuberculosis, influenza and pneumonia* and *cerebrovascular diseases*. Lastly, Mpumalanga and Limpopo provinces had *tuberculosis, influenza and pneumonia* and *intestinal infectious diseases* as the three most common causes of death. Western and Eastern Cape provinces had two top causes in common: *tuberculosis* and *cerebrovascular diseases*.

HIV disease featured in seven of the nine provinces. However, the rank of this disease varied widely between the seven provinces. The two provinces where *HIV disease* did not appear in the ten leading underlying causes of death were North West and Limpopo. The highest ranking for *HIV disease* was Northern Cape, where it was the fourth leading cause of death. It was ranked fifth in KwaZulu-Natal and Western Cape, eighth in Mpumalanga and Eastern Cape, ninth in Gauteng and tenth in Free State. However, the highest proportion of deaths due to *HIV disease* was observed in Western Cape (5,7%), followed by KwaZulu-Natal (4,7%) and Northern Cape (4,5%).

Table 4.10: The ten leading underlying natural causes of death in each province of death occurrence, 2011

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.	%	
Tuberculosis (A15-A19)*	1	3 225	7,1	1	8 315	11,4	1	1 246	8,5	2	3 903	9,6	1	15 034	14,4	1	4 235	11,3	1	8 438	8,4	1	5 103	13,4	2	4 311	9,1	
Diabetes mellitus (E10-E14)	2	2 897	6,3	7	2 527	3,5	10	381	2,6	8	1 169	2,9	6	4 925	4,7	9	1 168	3,1	5	3 603	3,6	6	1 513	4,0	5	1 879	4,0	
Cerebrovascular diseases (I60-I69)	3	2 832	6,2	2	3 378	4,6	3	689	4,7	5	1 973	4,9	2	5 753	5,5	4	1 740	4,6	4	4 678	4,6	4	2 161	5,7	4	2 384	5,0	
Ischaemic heart diseases (I20-I25)	4	2 766	6,0	...	...	...	...	...	...	...	...	...	10	2 471	2,4	...	...	...	6	2 863	2,8	...	...	...	...	...	...
Human immunodeficiency virus [HIV] disease (B20-B24)	5	2 590	5,7	8	2 264	3,1	4	660	4,5	10	850	2,1	5	4 956	4,7	...	...	...	9	2 667	2,6	8	1 308	3,4	...	...	...
Chronic lower respiratory diseases (J40-J47)	6	2 058	4,5	5	2 754	3,8	5	550	3,7	9	865	2,1	...	...	...	10	981	2,6	10	2343	2,3	...	...	...	10	792	1,7
Malignant neoplasm of digestive organs (C15-C26)	7	1 950	4,3
Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	8	1 833	4,0
Hypertensive diseases (I10-I15)	9	1 603	3,5	9	2 081	2,8	8	432	2,9	7	1 187	2,9	9	2 867	2,7	5	1 706	4,5	8	2 748	2,7	7	1 437	3,8	8	1 371	2,9	
Other forms of heart disease (I30-I52)	10	1 364	3,0	3	3 242	4,4	6	535	3,6	3	2 240	5,5	4	5 227	5,0	3	2 196	5,8	3	5 340	5,3	5	1 564	4,1	6	1 692	3,6	
Influenza and pneumonia (J09-J18)	...	...	...	4	2 903	4,0	2	761	5,2	1	4 376	10,8	3	5 280	5,0	2	3 149	8,4	2	7 159	7,1	2	3 083	8,1	1	5 376	11,4
Intestinal infectious diseases (A00-A09)	...	...	...	10	1 903	2,6	7	448	3,0	4	2 089	5,1	7	4 389	4,2	6	1 549	4,1	7	2 810	2,8	3	2 213	5,8	3	3 369	7,1
Other viral diseases (B25-B34)	...	...	...	6	2 569	3,5	...	...	...	...	...	...	8	4 164	4,0	7	1 360	3,6	...	...	...	10	1 194	3,1	7	1 636	3,5
Certain disorders involving the immune mechanism (D80-D89)	...	...	...	...	...	...	9	395	2,7	6	1 425	3,5	...	...	...	8	1 264	3,4	...	...	...	9	1 219	3,2	9	937	2,0
Other natural causes		17 311	37,8		34 130	46,7		7 386	50,2		17 430	42,9		40 309	38,5		15 445	41,1		48 362	48,0		13 877	36,5		19 812	41,8	
Non-natural causes		5 314	11,6		6 969	9,5		1 235	8,4		3 128	7,7		9 277	8,9		2 762	7,4		9 740	9,7		3 365	8,8		3 788	8,0	
All causes		45 743	100,0		73 035	100,0		14 718	100,0		40 635	100,0		104 652	100,0		37 555	100,0		100 751	100,0		38 037	100,0		47 347	100,0	

*Including deaths due to MDR-TB and XDR-TB. ... Category not in top ten.

Underlying causes of death by district municipality of death occurrence

Main group

The number and percentage distribution of deaths by main groups of underlying causes of death by district municipalities for 2011 are provided in Appendices N to N2 and Appendices O to O2 respectively. The main groups have been re-grouped into 11 groups to facilitate analysis at this level of geography. Similar information is available at local municipality level and may be requested from Statistics South Africa.

Deaths due to *certain infectious and parasitic diseases* were highest in KwaZulu-Natal (29,6%) and Mpumalanga (28,7%) and lowest in Western Cape (17,1%). About 70% of the districts had *certain infectious and parasitic diseases* as the leading main group of underlying causes of death. These include all districts in KwaZulu-Natal, North West and Mpumalanga and five of the districts in Eastern Cape (excluding Joe Gqabi, Alfred Nzo and OR Tambo). Other districts with *certain infectious and parasitic diseases* as the most common main group were Cape Winelands in Western Cape, Ekurhuleni and West Rand in Gauteng, and Capricorn, Greater Sekhukhune and Mopani in Limpopo.

Diseases of the circulatory system appeared as the second most common underlying main group of causes for all provinces with the exception of Western Cape where these were the leading main group, accounting for 20,2% of deaths. *Diseases of the circulatory system* were the most common underlying cause of death for all districts of Western Cape except Cape Winelands, where *certain infectious and parasitic diseases* were the most common underlying cause of death. Additionally, City of Tshwane and Sedibeng were part of this main group of diseases. Limpopo had *diseases of the respiratory system* as the second leading main groups of diseases.

Broad groups

Appendices P to P8 present information on the ten leading natural causes of death by district municipality. The leading cause in most (75%) of the districts was *tuberculosis*. It was the leading cause of death for all districts in Eastern Cape, North West and Mpumalanga. Four of the district municipalities (excluding Sedibeng) in Gauteng had *tuberculosis* as the leading cause of death. In Western Cape, *tuberculosis* was the leading cause of death in Central Karoo and West Coast, while in Northern Cape it was highest in Frances Baard, Pixley and Siyanda. In Free State, *tuberculosis* was the most common leading cause of death in Mangaung and Xhariep, while in Limpopo it was the leading cause for Mopani, Vhembe and Waterberg districts.

The second most prevalent leading cause of death was *influenza and pneumonia*, appearing in eight districts. These include John Taolo Gaetsewe (Northern Cape), Fezile Dabi, Lejweleputswa, Thabo Mofutsanyane (all three in Free State), Sedibeng (Gauteng), Capricorn and Greater Sekhukhune (both in Limpopo).

HIV disease, ischaemic heart diseases, cerebrovascular diseases, chronic lower respiratory diseases and diabetes mellitus were the leading causes of death in some districts. *HIV disease* was the leading cause of death in only two district municipalities, Cape Winelands in Western Cape (7,4%) and uMkhanyakude in KwaZulu-Natal (16,2%) *Chronic lower respiratory diseases* were the leading underlying cause of death for Namakwa district (4,1%) in Northern Cape. *Cerebrovascular diseases* was only in Eden district in Western Cape, and was responsible for 8,4% of the deaths. *Diabetes mellitus* was the number one leading cause of death in City of Cape Town (6,7%) whereas *ischaemic heart diseases* was the leading cause of death in Overberg (7,5%).

Underlying natural causes of death by population group

As in the case of previous releases, given the large proportion of unknown or unspecified cases, the ten leading underlying natural causes of death by population group are not discussed in this section. However, Appendices Q and Q.1 provide a discussion on the distribution of underlying causes of death by population group.

4.7 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 discusses 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.

The distributions of non-natural causes of death by broad groups in 2011 are shown in Table 4.11. There were 61,0% of non-natural causes of deaths from *other external causes of accidental injury*, which constituted 5,5% of the total causes of death. The second most common cause of non-natural deaths was *event of undetermined intent* (13,6%), followed by *transport accidents* (11,1%). *Complications of medical and surgical care*, *intentional self-harm* and *sequelae of external causes of morbidity and mortality* accounted for less than 1% each.

Table 4.11: Distribution of non-natural causes of death by broad groups, 2011

Causes of death (based on ICD-10, 1992)	Number	Percentage of non-natural causes	Percentage of all causes (N = 505 803)
Other external causes of accidental injury (W00-X59)	28 044	61,0	5,5
Event of undetermined intent (Y10-Y34)	6 275	13,6	1,2
Transport accidents (V01-V99)	5 088	11,1	1,0
Assault (X85-Y09)	4 888	10,6	1,0
Complications of medical and surgical care (Y40-Y84)	1 285	2,8	0,3
Intentional self-harm (X60-X84)	359	0,8	0,1
Sequelae of external causes of morbidity and mortality (Y85-Y89)	51	0,1	0,0
Total	45 990	100,0	

Since the broad group *other external causes of accidental injury* contained almost 61,0% of all non-natural deaths, it was considered necessary to further break down deaths due to this broad group. The breakdown of these deaths is presented in Table 4.12. It is observed that over half of the deaths (51,8%) were due to *accidental exposure to other and unspecified factors*. This includes accidents not elsewhere classified and exposure not elsewhere classified. *Other accidental threats to breathing* were the second most common cause of death, accounting for 15,0% of deaths in this group. Deaths due to *exposure to inanimate mechanical forces* came third, comprising 13,3% of deaths with a majority (97,8% results not shown) of these deaths *due to discharge from other and unspecified firearms*. The fourth highest proportion was *exposure to smoke, fire and flames* (8,0%).

Table 4.12: Distribution of deaths due to other external causes of accidental injury, 2011

Cause of death (based on ICD-10)	Number	Percentage
Accidental exposure to other and unspecified factors (X58-X59)	14 522	51,8
Other accidental threats to breathing (W75-W84)	4 217	15,0
Exposure to inanimate mechanical forces (W20-W49)	3 726	13,3
Exposure to smoke, fire and flames (X00-X09)	2 243	8,0
Accidental drowning and submersion (W65-W74)	1 583	5,6
Accidental poisoning by and exposure to noxious substances (X40-X49)	874	3,1
Exposure to forces of nature (X30-X39)	346	1,2
Exposure to electric current, radiation and extreme ambient air temperature and pressure (W85-W99)	279	1,0
Falls (W00-W19)	152	0,5
Contact with venomous animals and plants (X20-X29)	47	0,2
Exposure to animate mechanical forces (W50-W64)	37	0,1
Contact with heat and hot substances (X10-X19)	9	0,0
Overexertion, travel and privation (X50-X57)	9	0,0
Total	28 044	100,0

Non-natural causes of death by age and sex

The number and percentage distribution of underlying non-natural causes of death by age group and sex for 2011 are shown in Table 4.13. It can be seen from the table that for both sexes, the age group mostly affected by non-natural causes of death was the age group 15–49 where 15,4% of all deaths were due to non-natural causes. Most of these deaths in this age group were from the broad group *other external causes of death* which accounted for the highest proportion of deaths (58,2%). The age group least affected by non-natural causes was among those aged 65 years and older, with less than 3% of deaths occurring in this age group.

When comparing the two sexes, males were found to have a higher proportion of deaths due to non-natural causes as compared to females (13,2% for males and 4,5 % for females). The proportion of deaths due to non-natural causes were higher among males at all ages, with the difference particularly wide at age groups 15–49. About 23,1% of deaths among males 15–49 were due to non-natural causes compared to 6,2% of female deaths in the same age group. The most notable difference in non-natural causes of male and female deaths was concentrated on age group 15–49. For example, there were four times more male deaths than there were female deaths due to *other external causes of accidental injury* (14 715 vs. 3 398). Similarly, with deaths due to *assault*, there were seven times more male deaths than female deaths due to *assault* (3 816 vs. 484).

The most common non-natural cause of death for both males and females was *other external causes of accidental injury*. However, slightly more females (63,2%) died of *other external causes of accidental injury* compared to 60,2% of males. For almost all the female age groups (excluding 65 years and above), *transport accidents* were the second most common non-natural cause of death whereas for male age groups, the second most common cause was *event of undetermined intent* (except for age group 0–14). In terms of percentages, deaths due to *transport accidents* were higher amongst females (12,7%) than amongst males (10,6%).

There was a positive correlation of deaths due to *complications of medical and surgical care* and age. As age increases, deaths due to *complications of medical and surgical care* also increases. Deaths due to non-natural

causes followed the same trend for all age groups wherein there were more male deaths than female deaths. The exceptions were deaths due to *sequelae of external causes of morbidity and mortality* where the number of male deaths due to *sequelae of external causes of morbidity and mortality* were almost the same as female deaths.

Table 4.13: Underlying non-natural causes of death by age group and sex, 2011

Causes of death (based on the 10 th Revision, International Classification of Disease, 1992)	Number					Percentage				
	0-14	15-49	50-64	65+	Total	0-14	15-49	50-64	65+	Total
Both sexes*										
Transport accidents (V01-V99)	542	3 506	716	271	5 035	12,3	11,2	12,5	6,8	11,1
Other external causes of accidental injury (W00-X59)	3 264	18 189	3 517	2 717	27 687	74,0	58,2	61,3	67,7	60,9
Intentional self-harm (X60-X84)	5	290	44	19	358	0,1	0,9	0,8	0,5	0,8
Assault (X85-Y09)	75	4 324	321	128	4 848	1,7	13,8	5,6	3,2	10,7
Event of undetermined intent (Y10-Y34)	450	4 583	784	365	6 182	10,2	14,7	13,7	9,1	13,6
Complications of medical and surgical care (Y40-Y84)	76	362	345	496	1 279	1,7	1,2	6,0	12,4	2,8
Sequelae of external causes of morbidity and mortality (Y85-Y89)	0	23	12	15	50	0,0	0,1	0,2	0,4	0,1
Sub-total	4 412	31 277	5 739	4 011	45 439	100,0	100,0	100,0	100,0	100,0
Non-natural causes	4 412	31 277	5 739	4 011	45 439	9,6	15,4	5,5	2,7	9,0
Natural causes	41 633	171 781	98 178	146 371	457 963	90,4	84,6	94,5	97,3	91,0
All causes	46 045	203 058	103 917	150 382	503 402	100,0	100,0	100,0	100,0	100,0
Males**										
Transport accidents (V01-V99)	289	2 664	512	152	3 617	10,9	10,5	12,3	7,4	10,6
Other external causes of accidental injury (W00-X59)	2 010	14 715	2 577	1 324	20 626	75,7	58,0	61,7	64,7	60,2
Intentional self-harm (X60-X84)	2	234	34	13	283	0,1	0,9	0,8	0,6	0,8
Assault (X85-Y09)	49	3 816	257	71	4 193	1,8	15,0	6,2	3,5	12,2
Event of undetermined intent (Y10-Y34)	265	3 747	596	224	4 832	10,0	14,8	14,3	10,9	14,1
Complications of medical and surgical care (Y40-Y84)	41	187	191	254	673	1,5	0,7	4,6	12,4	2,0
Sequelae of external causes of morbidity and mortality (Y85-Y89)	0	20	9	9	38	0,0	0,1	0,2	0,4	0,1
Sub-total	2 656	25 383	4 176	2 047	34 262	100,0	100,0	100,0	100,0	100,0
Non-natural causes	2 656	25 383	4 176	2 047	34 262	11,0	23,1	6,9	3,2	13,2
Natural causes	21 509	84 295	56 711	62 539	225 054	89,0	76,9	93,1	96,8	86,8
All causes	24 165	109 678	60 887	64 586	259 316	100,0	100,0	100,0	100,0	100,0
Females***										
Transport accidents (V01-V99)	250	828	203	119	1 400	14,5	14,4	13,1	6,1	12,7
Other external causes of accidental injury (W00-X59)	1 232	3 398	933	1 389	6 952	71,3	59,0	60,3	70,9	63,2
Intentional self-harm (X60-X84)	3	56	10	6	75	0,2	1,0	0,6	0,3	0,7
Assault (X85-Y09)	26	484	61	57	628	1,5	8,4	3,9	2,9	5,7
Event of undetermined intent (Y10-Y34)	183	817	185	141	1 326	10,6	14,2	12,0	7,2	12,1
Complications of medical and surgical care (Y40-Y84)	35	174	153	240	602	2,0	3,0	9,9	12,3	5,5
Sequelae of external causes of morbidity and mortality (Y85-Y89)	0	3	3	6	12	0,0	0,1	0,2	0,3	0,1
Sub-total	1 729	5 760	1 548	1 958	10 995	100,0	100,0	100,0	100,0	100,0
Non-natural causes	1 729	5 760	1 548	1 958	10 995	8,1	6,2	3,6	2,3	4,5
Natural causes	19 609	86 979	41 311	83 741	231 640	91,9	93,8	96,4	97,7	95,5
All causes	21 338	92 739	42 859	85 699	242 635	100,0	100,0	100,0	100,0	100,0

* Excluding 2 401 cases with unspecified age, ** Excluding 1 253 cases with unspecified age; *** Excluding 602 cases with unspecified age.

Non-natural causes of death by province of death occurrence

Table 4.14 shows the distribution of the underlying non-natural causes of death by province for 2011. The highest proportion of deaths due to non-natural causes was observed in Western Cape (11,6%). Gauteng had the second highest proportion of deaths due to non-natural causes (9,7%), whilst Eastern Cape came third with 9,5% of deaths due to non-natural causes. The provinces with the lowest proportion of deaths due to non-natural causes were North West and Free State (7,4% and 7,7% respectively).

For all the provinces, with the exception of Limpopo, deaths due to *other external causes of accidental injury* accounted for more than 50% of non-natural deaths. In Limpopo, deaths due to *other external causes of accidental injury* were 48,4%. The highest proportion of deaths due to this cause were in Mpumalanga (77,1%), followed by Northern Cape (72,6%).

Three provinces (Western Cape, Eastern Cape and Northern Cape) had *assault* as the second most common underlying cause of non-natural death. KwaZulu-Natal, North West and Gauteng had *event of undetermined intent* as the second most common underlying cause of death, whilst Mpumalanga, Free State and Limpopo had *transport accidents* as the second most common underlying non-natural cause of death.

Deaths due to *transport accidents* were highest in Limpopo (31,8%) followed by Free State (16,3%) and Mpumalanga (12,1%). Amongst non-natural deaths due to *assault*, Western Cape (19,1%) had the highest proportion of deaths followed by Eastern Cape (16,0%), Free State (14,7%) and Northern Cape (14,6%). The lowest proportion of deaths due to *assault* were in Mpumalanga (3,5%) and Limpopo (4,3%). Deaths due to *intentional self-harm* were highest in Northern Cape (2,5%) and death due to *complications of medical and surgical care* were highest in Gauteng (3,9%).

Non-natural causes of death by district municipalities

Appendices O to O2 present the percentage distribution of deaths due to non-natural causes for each of the district municipalities. Non-natural causes of death are on the last column labelled *external causes of morbidity and mortality (V01-Y98)*.

Of the 52 district municipalities, Central Karoo in Western Cape had the highest proportion of deaths due to *external causes of morbidity and mortality* responsible for 16,4% of deaths. Dr Ruth Segomotsi Mompati in North West had the lowest proportion (5,4%) of deaths due to *external causes of morbidity and mortality*.

When using the national average of 9,1% as a benchmark, there were approximately 40% of districts (21) above the national average. The districts that had a proportion of 10% or more deaths due to *external causes of morbidity and mortality* were all districts in Western Cape (except Central Karoo), Buffalo City in Eastern Cape, West Rand in Gauteng, Waterberg in Limpopo and eThekweni in KwaZulu-Natal.

Table 4.14: Underlying non-natural causes of death by province, 2011

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)	480	9,0	835	12,0	63	5,1	510	16,3	935	10,1	314	11,4	287	2,9	408	12,1	1 205	31,8
Other external causes of accidental injury (W00-X59)	2 845	53,5	3 923	56,3	896	72,6	1 751	56,0	5 741	61,9	1 564	56,6	6 625	68,0	2 596	77,1	1 835	48,4
Intentional self-harm (X60-X84)	87	1,6	30	0,4	31	2,5	19	0,6	122	1,3	12	0,4	12	0,1	13	0,4	30	0,8
Assault (X85-Y09)	1 016	19,1	1 112	16,0	180	14,6	461	14,7	898	9,7	304	11,0	612	6,3	117	3,5	161	4,3
Event of undetermined intent (Y10-Y34)	687	12,9	912	13,1	37	3,0	278	8,9	1 323	14,3	491	17,8	1 805	18,5	173	5,1	508	13,4
Complications of medical and surgical care (Y40-Y84)	190	3,6	152	2,2	26	2,1	104	3,3	247	2,7	75	2,7	384	3,9	57	1,7	48	1,3
Sequelae of external causes of morbidity and mortality (Y85-Y89)	9	0,2	5	0,1	2	0,2	5	0,2	11	0,1	2	0,1	15	0,2	1	0,0	1	0,0
Sub-total	5 314	100,0	6 969	100,0	1 235	100,0	3 128	100,0	9 277	100,0	2 762	100,0	9 740	100,0	3 365	100,0	3 788	100,0
Non-natural causes	5 314	11,6	6 969	9,5	1 235	8,4	3 128	7,7	9 277	8,9	2 762	7,4	9 740	9,7	3 365	8,8	3 788	8,0
Natural causes	40 429	88,4	66 066	90,5	13 483	91,6	37 507	92,3	95 375	91,1	34 793	92,6	91 011	90,3	34 672	91,2	43 559	92,0
All causes	45 743	100,0	73 035	100,0	14 718	100,0	40 635	100,0	104 652	100,0	37 555	100,0	100 751	100,0	38 037	100,0	47 347	100,0

4.8 Comparison between immediate, contributing and underlying causes of death

Section G of both the old death notification form (BI-1663) and the new death notification form (DHA-1663) makes provision for the person determining the cause of death to enter the disease, injuries or complications that caused the death. The causes may be entered in Part 1 as immediate cause (final disease resulting in death), contributing causes (any causes leading to immediate cause) and underlying cause (conditions that initiated events leading to death). Part 2 is for other significant conditions which contributed to death, but not resulting in underlying cause. The maximum number of causes recorded on the death notification forms in 2011 was six. For deaths in 2011, there were 58,7% of forms which had only one cause entered on the death notification form.

Table 4.15 shows the 20 most commonly reported causes of death in 2011 as either immediate, contributing or underlying. The information considers the number of causes of death reported in each form irrespective of whether the cause was listed as underlying, immediate or contributing, and groups the causes according to broad groups of causes of death. The list includes natural and non-natural causes, as well as *deaths due to symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified*.

In 2011, the most frequently reported cause of death was *tuberculosis* and was entered in 69 510 death notification forms received. In terms of percentage distribution, about 11,6% of all death notification forms had *tuberculosis* recorded as either immediate, contributing or underlying cause of death. The second most commonly reported cause was *ill-defined and unknown causes of mortality* representing 62 574 (10,4%) of deaths. *Influenza and pneumonia* was the third most reported cause of death (9,7%), mentioned on 58 037 forms. *Other forms of heart disease* and *hypertensive diseases* were fourth and fifth respectively, with *other forms of heart disease* reported on 54 348 (9,0%) death notification forms and *hypertensive diseases* reported on 39 769 (6,6%) forms.

Other external causes of accidental injury was the only non-natural cause appearing among the twenty most commonly reported causes of death. It was ranked seventh and was reported on 28 816 (4,8%) death notification forms. *HIV disease* was ranked eighteenth and was reported on 17 588 (2,9%) forms. *Other viral diseases* were the ninth most commonly mentioned cause of death (4,5%), *diabetes mellitus* was the tenth (4,0%) and *other diseases of the respiratory system* was in seventeenth place (3,0%). *Chronic lower respiratory disease*, which was ranked tenth in the ten leading causes of death, was mentioned on 18 284 death notification forms. *Hypertensive diseases* which were ranked fifth were mentioned in 39 769 death notification forms.

Table 4.15: Distribution of the 20 most commonly reported causes of death, 2011

Rank	Causes of death (based on ICD-10)	Number of deaths in which the causes was reported	Percentage of all deaths
1	Tuberculosis (A15-A19)*	69 510	11,6
2	Ill-defined and unknown causes of mortality (R95-R99)	62 574	10,4
3	Influenza and pneumonia (J09-J18)	58 037	9,7
4	Other forms of heart disease (I30-I52)	54 348	9,0
5	Hypertensive diseases (I10-I15)	39 769	6,6
6	Cerebrovascular diseases (I60-I69)	34 201	5,7
7	Other external causes of accidental injury (W00-X59)	28 816	4,8
8	Intestinal infectious diseases (A00-A09)	25 545	4,3
9	Other viral diseases (B25-B34)	24 965	4,2
10	Diabetes mellitus (E10-E14)	23 868	4,0
11	Other bacterial diseases (A30-A49)	21 712	3,6
12	Renal failure (N17-N19)	21 595	3,6
13	Certain disorders involving the immune mechanism (D80-D89)	20 919	3,5
14	Chronic lower respiratory diseases (J40-J47)	18 284	3,0
15	Ischaemic heart diseases (I20-I25)	18 225	3,0
16	Metabolic disorders (E70-E90)	18 017	3,0
17	Other diseases of the respiratory system (J95-J99)	17 984	3,0
18	Human immunodeficiency virus [HIV] disease (B20-B24)	17 588	2,9
19	Other acute lower respiratory infections (J20-J22)	13 430	2,2
20	Malignant neoplasm of ill-defined, secondary and unspecified sites (C76-C80)	11 234	1,9

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

Table 4.16 provides 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. The main group *symptoms and signs not elsewhere classified (R00-R99)* which is for non-natural deaths was excluded in the table as the focus was on specified causes of death. It can be observed from the table that all the natural underlying causes of death that appeared among the ten leading causes of death in Table 4.5, also appeared among the 20 most commonly mentioned causes. 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.

Table 4.16 shows that where *tuberculosis (77,8%)*; *cerebrovascular diseases (75,2%)*, *diabetes mellitus (84,5%)*; *intestinal infectious diseases (75,9%)*; *HIV disease (96,7%)* and *chronic lower respiratory diseases (71,6%)* were mentioned, these were mostly selected as the underlying causes. The causes of death which when mentioned were least selected as the underlying causes were *other forms of heart diseases (43,4%)* and *hypertensive diseases (39,0%)*.

Table 4.16: Number and percentage of deaths selected as underlying or reported as immediate or contributing causes of death, 2011

Causes of death (ICD-10)	Underlying rank	Number of deaths			Percentage of any mention		
		Underlying	Immediate or contributing	Total recorded	Underlying	Immediate or contributing	Total recorded
Tuberculosis (A15-A19)*	1	54 112	15 398	69 510	77,8	22,2	100,0
Influenza and pneumonia (J09-J18)	2	33 381	24 656	58 037	57,5	42,5	100,0
Cerebrovascular diseases (I60-I69)	3	25 732	8 469	34 201	75,2	24,8	100,0
Other forms of heart disease (I30-I52)	4	23 564	30 784	54 348	43,4	56,6	100,0
Diabetes mellitus (E10-E14)	5	20 171	3 697	23 868	84,5	15,5	100,0
Intestinal infectious diseases (A00-A09)	6	19 376	6 169	25 545	75,9	24,1	100,0
Human immunodeficiency virus [HIV] disease (B20-B24)	7	17 012	576	17 588	96,7	3,3	100,0
Hypertensive diseases (I10-I15)	8	15 529	24 240	39 769	39,0	61	100,0
Other viral diseases (B25-B34)	9	14 557	10 408	24 965	58,3	41,7	100,0
Chronic lower respiratory diseases (J40-J47)	10	13 084	5 200	18 284	71,6	28,4	100,0

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

5. Summary and concluding remarks

Information on mortality and causes of death published in this release is based on data collected through the civil registration system in South Africa by the Department of Home Affairs. Statistics South Africa collects all the death notification forms from DHA for data processing, analysis and dissemination of statistics on mortality and causes of death

A total 505 803 deaths occurred in 2011, which was a decrease of 7,7% from 547 724 deaths that occurred in 2010. The findings indicate that the number of deaths in South Africa continues to decrease. This observation is supported by the Crude Death Rates (CDR) for the period 2007 to 2011 where CDR decreased over the five years. This decline in mortality is further supported by the increasing median ages at death which showed that mortality occurs later in life. In 2007, the median age was 44,3 years and rose to 50,4 years in 2011.

Mortality differentials by sex show that generally male deaths tend to occur earlier in life compared to female deaths as shown by the median ages. Similarly, the CDR remained higher for males compared to females throughout 2007–2011. The median age at death in 2011 was 49,0 years for males and 52,5 years for females. Age and sex differentials show that male deaths peaked at age group 35–39 and female deaths peaked at age groups 30–34 and 35–39.

Other differentials such as population group showed that about two-thirds of deaths which occurred in 2011 were for black Africans and almost half of the registered deaths in 2011 occurred among people who had never married. The results also indicate that less than half of the deaths occurred within a medical care facility. The highest proportion of deaths happened in KwaZulu-Natal (20,7%), followed by Gauteng (19,9%), then Eastern Cape (14,4%). In terms of population size, these provinces also have the largest population in the country. Less than 1% of deaths occurred outside South Africa. The majority of those who died in 2011 died in the provinces in which they usually lived.

The first three leading causes of natural deaths in 2011 were *tuberculosis*, *influenza and pneumonia* and *cerebrovascular diseases*. *Tuberculosis* maintained its rank as the number one leading cause of death in South Africa with 10,7% deaths, although deaths due to *tuberculosis* decreased annually in the recent years.

The second leading cause of death in 2011 was *influenza and pneumonia* (6,6%). The third leading cause of death for 2009 and 2010 was the same (*intestinal infectious diseases*). However, in 2011 this disease was ranked sixth, responsible for 3,8% of natural deaths. *Cerebrovascular diseases* (5,1%) was ranked third in 2011. Amongst the ten leading causes of death, *HIV disease* moved from seventh position in both 2009 and 2010 to eighth position in 2011, responsible for 3,4% of natural deaths in 2011.

Among the then leading causes of death, *intestinal infectious diseases* had the largest decrease of 29,7% deaths between 2010 and 2011. Deaths due to *tuberculosis* and *influenza and pneumonia* decreased by 14,5% and 14,9% respectively between 2010 and 2011. Increases in the number of deaths between 2010 and 2011 were noted among deaths due to *cerebrovascular diseases* (3,7%), *hypertensive diseases* (3,8%) and *other viral diseases* (16,9%).

With regards to sex differentials, *tuberculosis* and *influenza and pneumonia* were both ranked first and second respectively amongst the ten leading causes of death for both males and females. The third leading underlying cause of death for females was *cerebrovascular diseases* (6,2%), while for males, *other forms of heart disease* (4,1%) was ranked third. Age differentials show that *intestinal infectious diseases* was ranked as the first leading cause of death amongst those aged 0–14 years, responsible for 13,6% of deaths in this age group. *Tuberculosis* was ranked the first leading cause of death for adults (15–64 years) whilst for those aged 65 years and older *cerebrovascular diseases* were the leading cause of death.

At provincial level, the leading underlying cause of death was *tuberculosis* and in all provinces with the exception of Free State and Limpopo, where it ranked second in both provinces. In both Free State and Limpopo, the leading cause of death was *influenza and pneumonia* with 10,8% and 11,4% deaths attributed to *influenza and pneumonia* in these provinces respectively. For all districts in the provinces of Eastern Cape, North West and Mpumalanga *tuberculosis* was the most common underlying cause of death. KwaZulu-Natal and Gauteng had all but one district

each where *tuberculosis* was not the leading cause of death, whilst Northern Cape had two districts where *tuberculosis* was not the leading cause of death. Western Cape and Free State provinces had more than two-thirds of districts where *tuberculosis* was not ranked at the number one leading cause of death.

Deaths due to non-natural causes were mainly dominated by *other external causes of accidental injury* (61,0%) followed by *event of undetermined intent* (13,6%). *Transport accidents* and *assault* were responsible for 11,1% and 10,6% of all non-natural deaths in 2011, respectively. The ages that were mostly affected by non-natural causes were between 5–29 years, with males being more affected than females. Female deaths were mostly linked to *transport accidents*, while male deaths were mostly linked to *assaults*. Western Cape had the highest percentage of deaths associated with non-natural causes, with higher proportions due to assault compared to other provinces. Limpopo had the highest percentage of deaths due to *transport accidents* and remains the province with the highest number of *transport accidents* in the country.

Data on mortality and causes of death relies heavily on the quality of the input data, thus efforts in improving the quality of completing the death notification form cannot be emphasized enough. The release also addressed quality issues of data on mortality and causes of death from the South African civil registration system. Timely reporting of deaths was noted, with an indication that nearly 90% of deaths that are registered do get registered within a week of occurrence. About 94,0% of adult deaths were registered during 2007–2011. However, this release is published two years and four months from the end of 2011 which, although by international standards is adequate, can be improved. During the processing of 2011 data, the coding of information on causes of death was revised to go up to 4th-character and the data capturing systems were improved.

The number of deaths that were registered late decreased, with a total of 4 560 deaths that occurred between 1997 and 2010 but were registered in 2011. While the reporting of age, sex and province of death occurrence was very good, the analysis was compromised by the high proportion of missing information for other variables such as population group, province of residence of the deceased, education, smoking status, pregnancy status, occupation and industry. That said however, the reporting of population group improved in 2011.

The quality of information on causes of death remains a concern as the proportion of deaths assigned to ill-defined causes as there were no improvements in 2011. Additionally, as observed in other years less than 50% of deaths occurred in a medical care facility thus further compromising data quality issues. Statistics South Africa will continue its efforts to improve on the data quality and it is anticipated that the training of medical practitioners in completing death notification forms that was initiated by Stats SA in collaboration with the DHA and the Department of Health (DoH) during 2012–2013 will bear fruit in the near future.

Notwithstanding data quality issues highlighted above, the data on mortality and causes of death has proved to be a valuable source of data that can be used to assess the well-being and health status of the South Africa population with the aim of preventing and reducing premature mortality and improving the quality of life. Concerted efforts between the public, the DHA, the DoH, Stats SA and other key stakeholders are required for timely, accurate and relevant information on mortality and causes of death in the country.

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Appendices

Appendix A: Definitions

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 is the complete expulsion or extraction from its mother's womb of a product of conception, irrespective of the duration of the pregnancy, which after such separation, breathes or shows any other evidence of life.

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.

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 (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 B1: Death notification form (DHA-1663A)

G.P.-S. 09/09



REPUBLIC OF SOUTH AFRICA
DEPARTMENT OF HOME AFFAIRS

NOTICE OF DEATH / STILL BIRTH

[Births and Deaths Registration Act 51 of 1992]
[Regulations 11 and 14]

DHA-1663 A
Page 1 of 3

BARCODE

To be completed in full and submitted at the Department of Home Affairs' office by the informant or authorised funeral undertaker. The form to be completed in black ink with **BLOCK LETTERS**. Please mark with the CORRECT box, where required. All fields are **COMPULSORY**. Incomplete applications and applications that are not legible may be considered invalid. (Note: The fingerprints of the deceased, the informant and the undertaker must be taken by the undertaker)

Serial number

A. PARTICULARS OF THE DECEASED

Instructions: Section A to be filled out by **Authorised Medical Practitioner / Professional Nurse**, who is responsible for examining the body to determine the cause of death. The **Informant must verify**, and where necessary, complete in full the personal particulars and other information of the deceased below.

1. Was this a death or a still birth? 1.1 Death 1.2 Still birth

2. Identification of the deceased (tick one box):

2.1 The deceased was identified with an ID document / passport (if foreigner) produced by the family

2.2 Still born child

2.3 The features of the deceased do not seem to match the features on the ID document or passport of deceased

2.4 ID document or passport of the deceased was not presented. The deceased was identified through word of mouth

2.5 The deceased was already buried prior to the completion of this form

2.6 The deceased was unidentifiable: 2.6.1 Burnt 2.6.2 Decomposed 2.6.3 Other (specify) _____

2.6.4 DNA samples retrieved for identification purposes 2.6.5 Dental records taken for identification purposes

3. Date of Death / still birth

Y	Y	Y	Y	M	M	D	D
---	---	---	---	---	---	---	---

4.1 Place of Death/still birth (City/Town/Village)

4.2 Province of Death/still birth

5. Place of Registration of Death / still birth

6. If death occurred within 24 hours after birth, number of hours alive

7. Home telephone no.

8. Identity No. (Passport No. if foreigner)

9. Age at last birthday if DOB is unknown

10. Date of Birth if there is no ID number

Y	Y	Y	Y	M	M	D	D
---	---	---	---	---	---	---	---

11. Gender 11.1 Male 11.2 Female 11.3 Indeterminable

12. Surname

13. Previous / Maiden Surname

14. Forenames

15. Usual* Residential Address: Street

Town

Province

Postal code

16. Citizenship

16.1 Place of Birth (City / Town / Village) or Country of Birth, if abroad

16.2 Province of Birth

17. Marital Status of the deceased 17.1 Single 17.2 Married 17.3 Widowed 17.4 Divorced

18. Education level of deceased, (Specify only the highest class completed)

Non e	Gr R	Gr 1	Gr 2	Gr 3	Gr 4	Gr 5	Gr 6	Gr 7	Gr 8 Form 1	Gr 9 Form 2	Gr 10 Form 3 NTC 1	Gr 11 Form 4 NTC 2	Gr 12 Form 5 NTC 3	Univ Tech	Unk now n
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(mark with a)

19. Usual occupation of deceased (type of work done during most of working life)

20. Type of business / industry: (mark with a)

1. Agriculture, hunting, forestry and fishing	2. Mining and quarrying	3. Manufacturing	4. Electricity, gas and water supply	5. Construction	6. Wholesale and retail trade; repair of motor vehicles, motor cycles and personal and household goods; hotels and restaurants	7. Transport, storage and communication	8. Financial intermediation, insurance, real estate and business services	9. Community, social and personal services	10. Private households, exterritorial organisations, representatives of foreign governments & other activities not adequately defined
---	-------------------------	------------------	--------------------------------------	-----------------	--	---	---	--	---

21. Was the deceased a regular** smoker five years ago? (mark with a)

21.1 Yes 21.2 No 21.3 Do not know 21.4 Not applicable (minor)

* Where the deceased lived on most days. **Smoking tobacco on most days.

Left thumbprint of deceased

Right thumbprint of deceased

Appendix B1: Death notification form (DHA-1663A)- page 3 of 3

G.P.-S. 09/09



REPUBLIC OF SOUTH AFRICA
DEPARTMENT OF HOME AFFAIRS

NOTICE OF DEATH / STILL BIRTH

[Births and Deaths Registration Act 51 of 1992]
[Regulations 11 and 14]

DHA-1663 A
Page 3 of 3

BARCODE

Serial number

To be completed in full and submitted at the Department of Home Affairs' office by the informant or authorised funeral undertaker. The form to be completed in black ink with **BLOCK LETTERS**. Please mark with the **CORRECT** box, where required. **All fields are COMPULSORY**. Incomplete applications and applications that are not legible may be considered invalid. (Note: The fingerprints of the deceased, the informant and the undertaker must be taken by the undertaker)

E. PARTICULARS OF FUNERAL UNDERTAKER

Instructions: Section E to be completed by **Funeral Undertaker**. The undertaker must take his or her finger print, the finger print of the deceased and the informant. **Authorised Funeral Undertaker or Informant** may submit the completed form to the nearest Home Affairs office.

47. Name of Funeral Parlour

48. DHA Designation No. 49. Company Reg. No.

50. SARS Reg. No. (Income tax reference no.)

Details of Funeral Undertaker or Authorised Representative

51. Identity No. (Passport No. if foreigner)

52. Surname

53. Forenames

54. Business Address

Street

Town

Province Postal Code

Telephone No. (Office) Cellphone No.

55. Date of collection of corpse Y Y Y Y M M D D 56. Date of Cremation (if applicable) Y Y Y Y M M D D

57. Place of Burial (City / Town / Village) Province

58. Date of Burial Y Y Y Y M M D D 59. Grave No. (if available)

Name of person who collected the deceased:

60. Identity No. (Passport No. if foreigner)

61. Surname

62. Forenames

Place signed _____

Date signed Y Y Y Y M M D D Signature _____

Left thumbprint of funeral undertaker

Office stamp of funeral undertaker

F. FOR OFFICIAL USE ONLY

Registration of death approved, DHA-1663 received by (particulars of DHA official):

63. Identity No.

64. Surname

65. Forenames

66. Persal No.

Documents included with this notice:

Copy of the deceased's ID Copy of ID document of the informant

DHA - 6 (if applicable) DHA - 1680 (if applicable)

DHA-1663 was submitted by:

Informant Funeral Undertaker

Office stamp of DHA

Appendix B1: Death notification form (DHA-1663B)-page 1 of 1

NOTICE OF DEATH / STILL BIRTH

Confirmation for Medical and Health use Only
(After completion seal to ensure confidentiality)

DHA-1663 B
Page 1 of 1

To be completed in full and submitted at the Department of Home Affairs' office by the informant or authorised party. The form to be completed in black ink with **BLOCK LETTERS**. Please mark with the CORRECT box, where required.
All fields are COMPULSORY. Incomplete applications and applications that are not legible may be considered invalid.

File no _____ Date _____

G. MEDICAL CERTIFICATE OF CAUSE OF DEATH

Instructions: Section G is to be filled out by **Medical Practitioner / Professional Nurse / Forensic Pathologist**, who has determined the cause of death

PARTICULARS OF DECEASED

67. Identity No. (Passport No. if foreigner)

68. Gender 68.1 Male 68.2 Female 68.3 Indeterminable

69. Surname

70. Forenames

71. Population Group 71.1 African 71.2 White 71.3 Indian/Asian 71.4 Coloured 71.5 Other (specify) _____

72. Place of Death 72.1 Hospital/Inpatient 72.2 ER/Outpatient 72.3 DOA 72.4 Nursing Home 72.5 At Home 72.6 Other (specify) _____

73. Name of Health Facility/Practice

74. Facility Contact Telephone No. incl. Area Code

75. Patient File No.

76. Contact Person at Facility: Surname
Forenames
Role/Rank

G.1 FOR DEATHS OCCURRING AFTER ONE WEEK OF BIRTH

Instructions: Section G.1 is to be completed for all deaths that occurred after one week of birth

77. CAUSES OF DEATH

Part 1 Enter the disease, injuries or complications that caused the death. Do not enter the mode of dying, such as cardiac or respiratory arrest, shock or heart failure. List only one cause on each line

IMMEDIATE CAUSE (final disease or condition resulting in death)	a) Due to (or as a consequence of)	Approximate interval between onset and death (Days / Months / Years)	For office use only ICD-10
Sequentially list conditions, if any, leading to immediate cause.	b) Due to (or as a consequence of)		
Enter UNDERLYING CAUSE last (Disease or injury that initiated events resulting in death)	c) Due to (or as a consequence of)		
	d) Due to (or as a consequence of)		

Part 2 Other significant conditions contributing to death but not resulting in underlying cause given in Part 1

78. If a female, was she pregnant at the time of death or up to 42 days prior to death? () 82.1 Yes 82.2 No

79. Method used to ascertain the cause of death (tick all that apply):
 79.1 Autopsy 79.2 Post mortem examination 79.3 Opinion of attending medical practitioner 79.4 Opinion of attending medical practitioner on duty
 79.5 Opinion of registered professional nurse 79.6 Interview of family member 79.7 Other (specify) _____

G.2 FOR STILL BIRTHS AND DEATHS OCCURRING WITHIN ONE WEEK OF BIRTH (PERINATAL DEATHS)

Instructions: Section G.2 is to be completed for all still births and deaths that occurred within one week of birth (perinatal deaths)

Mother	Child
80. Identity Number <input type="text"/>	89. Type of death: <input type="checkbox"/> 89.1 Still birth <input type="checkbox"/> 89.2 Live birth
81. Date Of Birth <input type="text"/>	90. Birth weight (in grams) <input type="text"/>
82. Age of last birthday/ DoB unknown <input type="text"/>	91. This birth was: <input type="checkbox"/> 91.1 Single birth <input type="checkbox"/> 91.2 First twin <input type="checkbox"/> 91.3 Second twin <input type="checkbox"/> 91.4 Other multiple
83. Number of previous pregnancies resulting in: <input type="text"/> 83.1 Live births <input type="text"/> 83.2 Still births <input type="text"/> 83.3 Abortions	92. If still born, heartbeat ceased: <input type="checkbox"/> 92.1 Before labour <input type="checkbox"/> 92.2 During labour but before delivery <input type="checkbox"/> 92.3 Before delivery but not known whether before or during labour
84. Outcome of last previous pregnancy (tick one): <input type="checkbox"/> 84.1 Live birth <input type="checkbox"/> 84.2 Still birth <input type="checkbox"/> 84.3 Abortion	93. If death occurred within 24 hours after birth, number of hours alive <input type="text"/>
85. Date of last previous delivery <input type="text"/>	94. Attendant at birth: <input type="checkbox"/> 94.1 Physician <input type="checkbox"/> 94.2 Trained midwife <input type="checkbox"/> 94.3 Other trained person (specify) _____ <input type="checkbox"/> 94.4 Other (specify) _____
86. First day of last menstrual period <input type="text"/>	
Or, if unknown, estimated duration of pregnancy (in completed weeks) <input type="text"/>	
87. Method of delivery: <input type="checkbox"/> 87.1 Spontaneous <input type="checkbox"/> 87.4 Vacuum extractor <input type="checkbox"/> 87.2 Forceps delivery <input type="checkbox"/> 87.5 Caesarean section <input type="checkbox"/> 87.3 Forceps and rotation <input type="checkbox"/> 87.6 Other (specify) _____	
88. Antenatal care two or more visits: <input type="checkbox"/> 88.1 Yes <input type="checkbox"/> 88.2 No <input type="checkbox"/> 88.3 Unknown	

95. CAUSES OF DEATH

a. Main disease or conditions in foetus or infant _____

b. Other diseases or conditions in foetus or infant _____

c. Main maternal disease or condition affecting foetus or infant _____

d. Other maternal diseases or conditions affecting foetus or infant _____

e. Other relevant circumstances _____

96. Autopsy information ()
 96.1 Certified causes of death has been confirmed by autopsy 96.2 Autopsy information may be available later 96.3 Autopsy not performed

Appendix C: Number of deaths by age, sex and year of death, 1997–1999*

Age group	1997				1998				1999			
	Male	Female	Unsp.	Total	Male	Female	Unsp.	Total	Male	Female	Unsp.	Total
0	12 986	11 546	203	24 735	14 927	13 254	314	28 495	14 731	13 455	438	28 624
1-4	4 049	3 650	52	7 751	4 860	4 485	96	9 441	5 068	4 636	98	9 802
5-9	1 706	1 253	17	2 976	1 779	1 435	36	3 250	1 894	1 505	34	3 433
10-14	1 546	1 189	20	2 755	1 693	1 288	23	3 004	1 649	1 305	23	2 977
15-19	3 777	2 475	23	6 275	4 105	2 904	62	7 071	4 353	3 326	89	7 768
20-24	8 176	5 449	50	13 675	8 790	6 905	109	15 804	8 638	8 291	105	17 034
25-29	10 923	7 432	43	18 398	13 076	9 855	110	23 041	13 885	12 610	141	26 636
30-34	11 831	7 186	49	19 066	14 364	9 705	127	24 196	16 290	12 257	119	28 666
35-39	11 968	6 857	51	18 876	14 604	8 924	97	23 625	16 446	10 805	111	27 362
40-44	11 778	6 400	36	18 214	13 921	7 921	94	21 936	15 203	8 908	90	24 201
45-49	12 220	6 362	50	18 632	14 184	7 671	88	21 943	14 970	8 512	99	23 581
50-54	11 292	6 238	29	17 559	12 996	7 205	79	20 280	13 864	7 751	79	21 694
55-59	12 643	7 925	45	20 613	13 920	8 873	107	22 900	14 059	8 673	84	22 816
60-64	11 184	9 287	50	20 521	12 419	9 995	60	22 474	12 677	10 036	82	22 795
65-69	12 462	11 038	45	23 545	13 237	12 454	83	25 774	12 822	12 312	91	25 225
70-74	11 285	10 059	48	21 392	12 733	11 790	53	24 576	12 852	12 247	70	25 169
75-79	11 186	12 333	44	23 563	11 413	12 479	87	23 979	10 693	11 583	63	22 339
80-84	6 599	8 777	32	15 408	7 875	11 042	48	18 965	7 600	11 316	73	18 989
85-89	3 950	6 917	25	10 892	4 257	7 804	34	12 095	4 450	7 942	51	12 443
90+	2 028	4 730	13	6 771	2 363	5 560	29	7 952	2 210	5 380	30	7 620
Unspecified	3 110	2 362	106	5 578	2 821	2 092	195	5 108	1 491	1 108	109	2 708
Total	176 699	139 465	1 031	317 195	200 337	163 641	1 931	365 909	205 845	173 958	2 079	381 882

*Data for 1997–1999 have been updated with late registrations processed in 2013.

Appendix C1: Number of deaths by age, sex and year of death, 2000–2002*

Age group	2000				2001				2002			
	Male	Female	Unsp.	Total	Male	Female	Unsp.	Total	Male	Female	Unsp.	Total
0	15 001	13 523	351	28 875	15 466	14 070	307	29 843	17 869	16 190	338	34 397
1-4	5 380	4 918	86	10 384	5 877	5 301	78	11 256	6 319	5 678	87	12 084
5-9	1 998	1 595	29	3 622	2 122	1 706	28	3 856	2 400	1 962	17	4 379
10-14	1 722	1 337	36	3 095	1 748	1 467	22	3 237	1 867	1 485	24	3 376
15-19	4 319	3 484	72	7 875	4 476	3 911	62	8 449	4 735	4 287	58	9 080
20-24	8 877	9 873	84	18 834	8 939	10 925	85	19 949	9 571	12 482	109	22 162
25-29	15 076	15 720	105	30 901	16 844	19 280	108	36 232	18 636	23 308	133	42 077
30-34	18 483	15 802	108	34 393	20 912	18 726	109	39 747	23 894	23 523	145	47 562
35-39	18 548	13 599	95	32 242	21 087	15 862	101	37 050	24 079	19 441	124	43 644
40-44	17 124	11 010	77	28 211	19 338	12 852	94	32 284	21 588	15 494	113	37 195
45-49	16 121	9 562	78	25 761	17 899	10 941	62	28 902	19 294	12 652	111	32 057
50-54	15 287	9 096	64	24 447	16 893	10 142	74	27 109	18 608	11 250	102	29 960
55-59	13 932	8 873	74	22 879	14 560	9 127	65	23 752	15 403	10 009	71	25 483
60-64	14 235	11 256	67	25 558	15 109	12 069	66	27 244	16 169	12 703	81	28 953
65-69	12 588	12 066	52	24 706	13 017	12 799	64	25 880	13 744	13 282	63	27 089
70-74	13 117	14 139	67	27 323	14 042	15 123	60	29 225	13 790	15 471	62	29 323
75-79	10 351	11 536	48	21 935	10 849	12 037	61	22 947	11 096	12 835	70	24 001
80-84	8 484	12 639	32	21 155	9 163	13 910	47	23 120	9 540	14 194	60	23 794
85-89	4 681	8 228	27	12 936	4 580	8 360	31	12 971	4 374	8 317	34	12 725
90+	2 530	6 526	31	9 087	3 023	7 158	28	10 209	3 294	7 665	33	10 992
Unspecified	1 187	892	144	2 223	1 046	782	98	1 926	1 137	788	112	2 037
Total	219 041	195 674	1 727	416 442	219 041	195 674	1 727	455 188	257 407	243 016	1 947	502 370

*Data for 2000–2002 have been updated with late registrations processed in 2013.

Appendix C2: Number of deaths by age, sex and year of death, 2003–2005*

Age group	2003				2004				2005			
	Male	Female	Unsp.	Total	Male	Female	Unsp.	Total	Male	Female	Unsp.	Total
0	19 948	18 033	434	38 415	21 736	19 168	530	41 434	24 043	21 922	474	46 439
1-4	7 129	6 278	78	13 485	8 253	7 625	71	15 949	8 210	7 310	80	15 600
5-9	2 777	2 197	28	5 002	3 185	2 799	13	5 997	3 358	2 800	21	6 179
10-14	2 001	1 641	25	3 667	2 139	1 774	12	3 925	2 145	1 856	17	4 018
15-19	4 837	4 553	70	9 460	4 681	4 612	41	9 334	4 770	4 540	52	9 362
20-24	10 330	14 171	104	24 605	10 362	15 052	76	25 490	10 488	14 854	89	25 431
25-29	20 009	26 203	147	46 359	19 801	27 534	111	47 446	19 311	27 239	105	46 655
30-34	27 478	28 108	141	55 727	28 430	30 621	79	59 130	28 787	31 236	105	60 128
35-39	26 420	22 629	112	49 161	28 212	25 134	87	53 433	29 399	26 227	100	55 726
40-44	24 717	18 413	117	43 247	26 456	20 541	67	47 064	27 455	21 467	83	49 005
45-49	22 022	14 469	85	36 576	23 075	16 235	64	39 374	24 423	17 361	77	41 861
50-54	20 565	12 875	67	33 507	21 096	14 088	46	35 230	21 501	14 947	57	36 505
55-59	17 186	10 976	49	28 211	18 053	12 014	32	30 099	19 692	13 304	47	33 043
60-64	17 371	13 290	56	30 717	16 959	13 388	28	30 375	16 834	13 242	34	30 110
65-69	14 654	13 884	53	28 591	15 203	13 794	26	29 023	16 362	15 173	36	31 571
70-74	14 462	16 369	55	30 886	13 434	15 421	25	28 880	12 906	15 078	33	28 017
75-79	12 060	14 109	56	26 225	11 800	14 072	15	25 887	12 211	15 910	35	28 156
80-84	9 443	13 696	39	23 178	8 640	11 952	21	20 613	8 433	11 833	21	20 287
85-89	5 435	10 193	36	15 664	5 036	9 473	19	14 528	5 446	10 336	17	15 799
90+	3 380	8 147	18	11 545	3 287	7 478	14	10 779	3 287	7 883	15	11 185
Unspecified	1 658	941	207	2 806	1 922	928	244	3 094	1 975	1 079	223	3 277
Total	283 882	271 175	1 977	557 034	291 760	283 703	1 621	577 084	301 036	295 597	1 721	598 354

*Data for 2003–2005 have been updated with late registrations processed in 2013.

Appendix C3: Number of deaths by age, sex and year of death, 2006–2008*

Age group	2006				2007				2008			
	Male	Female	Unsp.	Total	Male	Female	Unsp.	Total	Male	Female	Unsp.	Total
0	25 484	22 080	725	48 289	24 817	21 654	414	46 885	24 071	21 365	296	45 732
1-4	8 385	7 566	117	16 068	7 810	7 016	47	14 873	8 192	7 186	31	15 409
5-9	3 024	2 548	17	5 589	2 866	2 499	4	5 369	2 723	2 299	6	5 028
10-14	2 386	1 914	14	4 314	2 245	1 901	2	4 148	2 226	1 889	2	4 117
15-19	4 846	4 596	38	9 480	4 883	4 200	15	9 098	4 850	4 126	26	9 002
20-24	10 865	14 805	97	25 767	10 922	13 743	50	24 715	10 718	12 902	41	23 661
25-29	19 008	26 148	82	45 238	18 509	24 589	67	43 165	18 461	23 542	43	42 046
30-34	28 882	31 018	93	59 993	28 392	29 127	67	57 586	26 817	27 262	55	54 134
35-39	29 490	26 097	78	55 665	29 426	24 889	48	54 363	29 104	24 371	47	53 522
40-44	28 114	21 856	73	50 043	27 114	21 214	47	48 375	26 089	20 227	28	46 344
45-49	25 149	17 958	45	43 152	24 884	17 900	43	42 827	24 808	17 552	31	42 391
50-54	22 798	15 614	40	38 452	22 912	15 658	17	38 587	22 754	15 573	21	38 348
55-59	20 649	14 188	41	34 878	21 442	14 623	23	36 088	21 602	14 949	19	36 570
60-64	17 068	13 348	25	30 441	17 501	13 485	10	30 996	17 757	13 920	16	31 693
65-69	17 757	15 816	24	33 597	17 957	15 846	9	33 812	18 068	15 620	10	33 698
70-74	13 594	15 610	26	29 230	13 832	15 839	8	29 679	14 163	15 319	2	29 484
75-79	12 727	17 022	24	29 773	12 596	17 086	4	29 686	12 582	17 211	4	29 797
80-84	8 951	12 346	20	21 317	8 912	12 930	3	21 845	9 034	13 865	1	22 900
85-89	6 147	12 031	11	18 189	6 362	12 213	2	18 577	5 987	11 204	1	17 192
90+	3 565	8 715	9	12 289	3 684	8 792	12	12 488	3 976	9 554	27	13 557
Unspecified	864	356	144	1 364	803	335	106	1 244	674	248	134	1 056
Total	309 753	301 632	1 743	613 128	307 869	295 539	998	604 406	304 656	290 184	841	595 681

*Data for 2006–2008 have been updated with late registrations processed in 2013.

Appendix C4: Number of deaths by age, sex and year of death, 2009–2011*

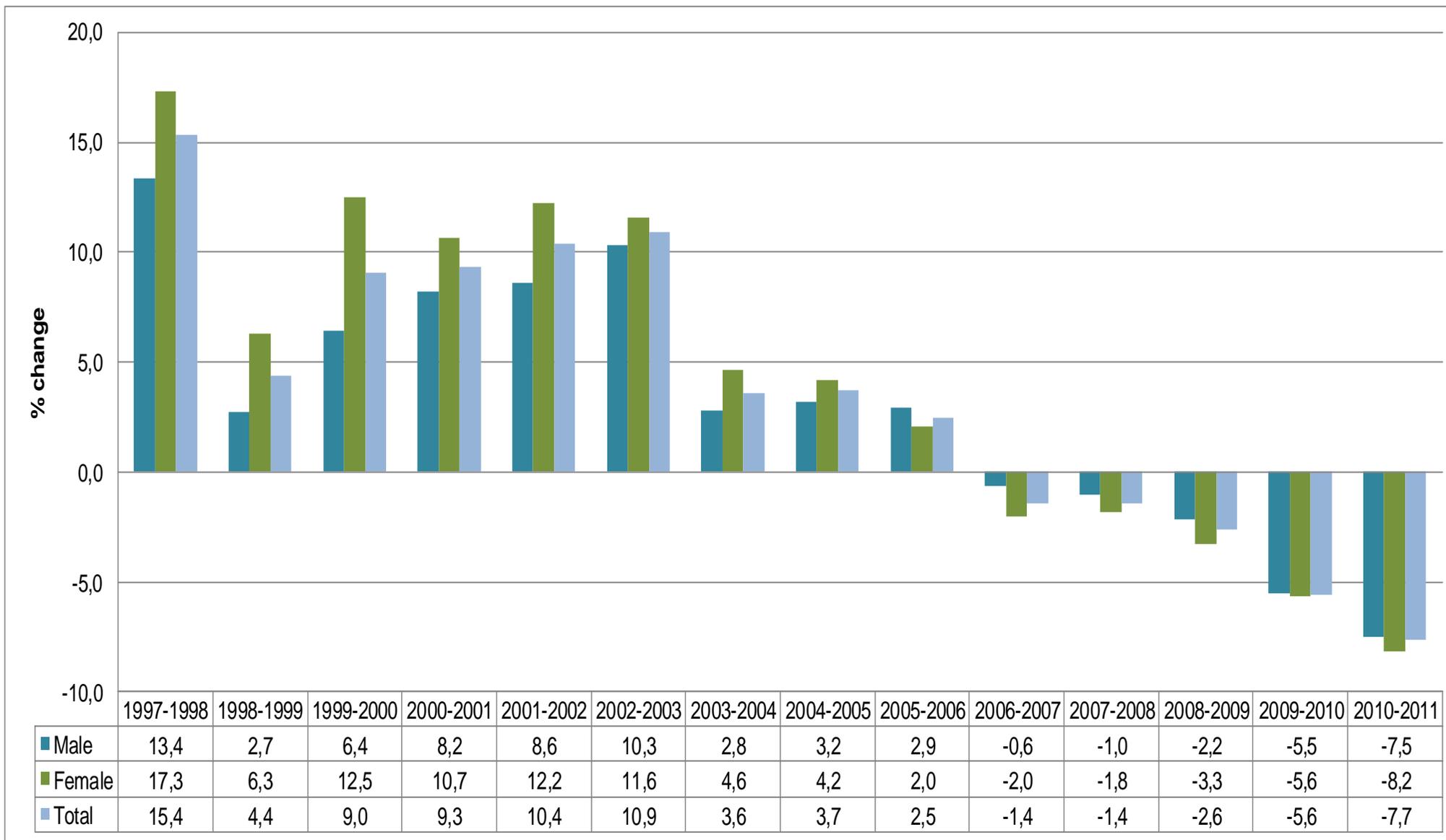
Age group	2009				2010				2011			
	Male	Female	Unsp.	Total	Male	Female	Unsp.	Total	Male	Female	Unsp.	Total
0	20 934	17 644	455	39 033	18 235	16 045	376	34 656	14 583	12 914	484	27 981
1-4	6 616	6 039	31	12 686	6 978	6 070	43	13 091	5 218	4 663	46	9 927
5-9	2 346	2 023	6	4 375	2 538	2 089	5	4 632	2 299	1 984	7	4 290
10-14	2 371	2 064	4	4 439	2 420	2 112	3	4 535	2 065	1 777	5	3 847
15-19	4 658	4 130	24	8 812	4 397	3 955	18	8 370	4 055	3 497	25	7 577
20-24	9 953	11 763	51	21 767	9 400	10 640	33	20 073	8 434	8 769	80	17 283
25-29	17 673	21 615	67	39 355	16 440	19 397	61	35 898	14 686	15 851	142	30 679
30-34	24 892	24 128	75	49 095	22 321	21 352	67	43 740	19 259	17 502	134	36 895
35-39	27 570	22 311	53	49 934	24 680	20 314	46	45 040	22 069	17 182	104	39 355
40-44	25 072	19 124	52	44 248	23 246	17 573	44	40 863	20 566	15 251	96	35 913
45-49	24 273	17 288	43	41 604	22 836	16 305	56	39 197	20 609	14 687	60	35 356
50-54	22 758	15 540	38	38 336	21 910	15 164	30	37 104	20 762	14 120	67	34 949
55-59	21 701	15 095	28	36 824	20 874	14 274	33	35 181	20 043	14 029	47	34 119
60-64	19 152	14 357	20	33 529	20 017	14 744	26	34 787	20 082	14 710	57	34 849
65-69	18 149	15 686	14	33 849	17 224	14 560	21	31 805	16 727	14 064	24	30 815
70-74	15 140	15 915	16	31 071	15 802	16 644	13	32 459	16 263	16 586	21	32 870
75-79	12 692	17 743	8	30 443	11 741	16 083	8	27 832	11 542	16 257	18	27 817
80-84	9 767	15 081	9	24 857	9 909	16 187	11	26 107	9 834	16 513	14	26 361
85-89	6 132	11 204	2	17 338	5 758	10 485	5	16 248	5 895	11 020	13	16 928
90+	5 245	11 650	1	16 896	4 078	10 713	8	14 799	4 325	11 259	7	15 591
Unspecified	1 008	329	150	1 487	818	230	259	1 307	1 253	602	546	2 401
Total	298 102	280 729	1 147	579 978	281 622	264 936	1 166	547 724	260 569	243 237	1 997	505 803

*Data for 2009–2010 have been updated with late registrations processed in 2013.

Appendix D: List of ill-defined causes

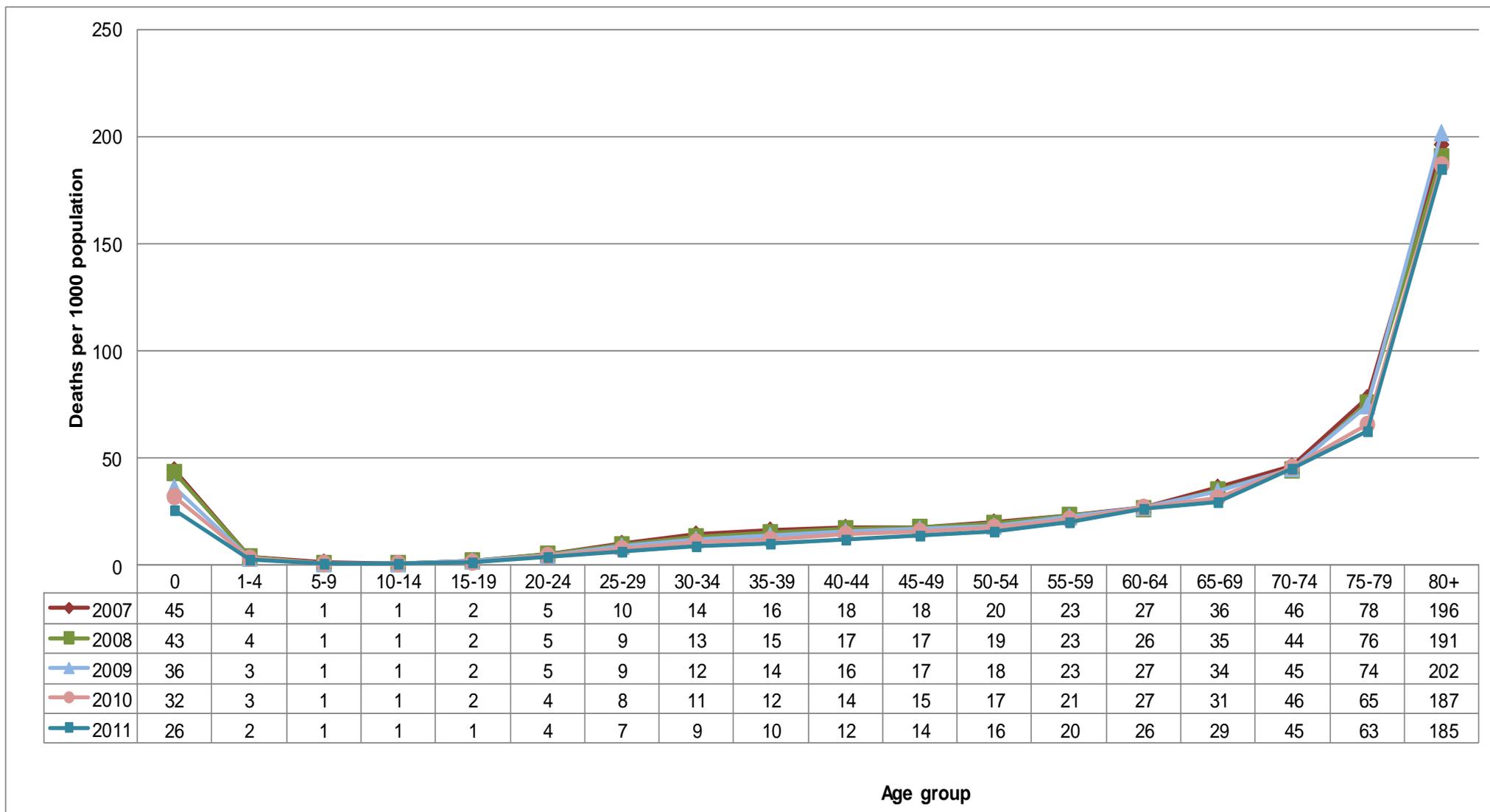
No.	3-character codes ill-defined causes of death (based on ICD-10)
1	Streptococcal septicaemia (A40)
2	Other septicaemia (A41)
3	Malignant neoplasm of other and ill-defined sites (C76)
4	Malignant neoplasm without specification of site (C80)
5	Malignant neoplasm of independent (primary) multiple sites (C97)
6	Disseminated intravascular coagulation [defibrination syndrome] (D65)
7	Volume depletion (E86)
8	Essential (primary) hypertension (I10)
9	Cardiac arrest (I46)
10	Heart failure (I50)
11	Complications and ill-defined descriptions of heart disease (I51)
12	Other and unspecified disorders of circulatory system (I99)
13	Pulmonary oedema (J81)
14	Respiratory failure, not elsewhere classified (J96)
15	Hepatic failure, not elsewhere classified (K72)
16	Acute renal failure (N17)
17	Chronic renal failure (N18)
18	Unspecified renal failure (N19)
19	Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99)
20	Event of undetermined intent (Y10-Y34)

Appendix E: Year-to-year annual percentage changes in number of deaths by sex, 1997–2011*



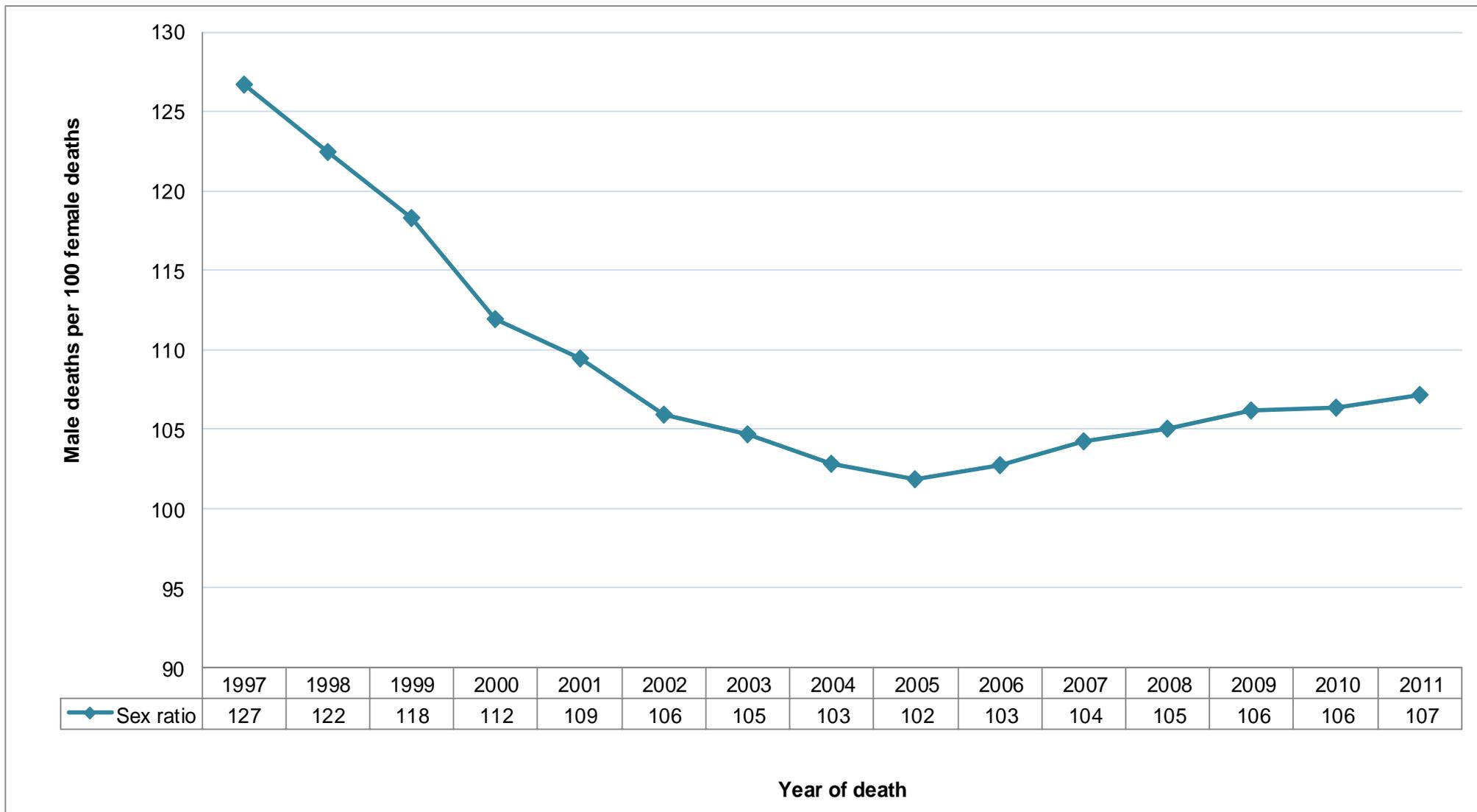
*Data for 1997–2010 have been updated to include late registrations processed in 2013.

Appendix F: Age specific death rates (ASDR) by year of death, 2007–2011*



*Data for 1997–2010 have been updated to include late registrations processed in 2013.

Appendix G: Sex ratios at death by year of death, 1997–2011*



*Data for 1997–2010 have been updated to include late registrations processed in 2013.

Appendix H: Number of deaths by province of death occurrence and province of usual residence of the deceased, 2011

Province of death occurrence	Province of usual residence of deceased											
	Western Cape	Eastern Cape	Northern Cape	Free State	KwaZulu-Natal	North West	Gauteng	Mpumalanga	Limpopo	Foreign	Unspecified	Total
Western Cape	41 921	471	136	71	762	99	298	100	170	46	1 669	45 743
Eastern Cape	345	62 755	101	147	1 670	100	813	266	131	76	6 631	73 035
Northern Cape	127	113	13 387	151	55	275	94	44	59	023	390	14 718
Free State	75	270	247	37 854	133	383	660	99	95	182	637	40 635
KwaZulu-Natal	299	1 760	33	140	96 325	87	626	461	105	068	4 748	104 652
North West	46	113	259	287	59	31 852	1 386	89	281	75	3 108	37 555
Gauteng	256	518	110	732	756	2 143	89 950	1 589	1 382	246	3 069	100 751
Mpumalanga	47	154	26	113	406	70	707	34 526	736	129	1 123	38 037
Limpopo	48	115	76	76	225	314	520	854	42 167	197	2 755	47 347
Foreign	34	15	8	92	48	24	233	33	13	133	173	806
Unspecified	119	163	49	95	440	202	358	271	307	18	502	2 524
Total	43 317	66 447	14 432	39 758	100 879	35 549	95 645	38 332	45 446	1 193	24 805	505 803

Appendix H1: Percentage distribution of deaths by province of death occurrence and province of usual residence of the deceased, 2011

Province of death occurrence	Province of usual residence of deceased											
	Western Cape	Eastern Cape	Northern Cape	Free State	KwaZulu-Natal	North West	Gauteng	Mpumalanga	Limpopo	Foreign	Unspecified	Total
Western Cape	91,6	1,0	0,3	0,2	1,7	0,2	0,7	0,2	0,4	0,1	3,6	100,0
Eastern Cape	0,5	85,9	0,1	0,2	2,3	0,1	1,1	0,4	0,2	0,1	9,1	100,0
Northern Cape	0,9	0,8	91,0	1,0	0,4	1,9	0,6	0,3	0,4	0,2	2,6	100,0
Free State	0,2	0,7	0,6	93,2	0,3	0,9	1,6	0,2	0,2	0,4	1,6	100,0
KwaZulu-Natal	0,3	1,7	0,0	0,1	92,0	0,1	0,6	0,4	0,1	0,1	4,5	100,0
North West	0,1	0,3	0,7	0,8	0,2	84,8	3,7	0,2	0,7	0,2	8,3	100,0
Gauteng	0,3	0,5	0,1	0,7	0,8	2,1	89,3	1,6	1,4	0,2	3,0	100,0
Mpumalanga	0,1	0,4	0,1	0,3	1,1	0,2	1,9	90,8	1,9	0,3	3,0	100,0
Limpopo	0,1	0,2	0,2	0,2	0,5	0,7	1,1	1,8	89,1	0,4	5,8	100,0
Foreign	4,2	1,9	1,0	11,4	6,0	3,0	28,9	4,1	1,6	16,5	21,5	100,0
Unspecified	4,7	6,5	1,9	3,8	17,4	8,0	14,2	10,7	12,2	0,7	19,9	100,0

Appendix I: Number of deaths by age, province and district municipality of death occurrence, 2011*

Province of death occurrence	District municipality of death occurrence	Age							
		0	1-4	5-14	15-49	50-64	65+	Unsp.	Total
Western Cape	Cape Winelands	274	72	41	2 011	1 657	2 568	26	6 649
	Central Karoo	38	7	9	304	210	301	2	871
	City of Cape Town	1 198	316	203	8 649	5 974	9 998	128	26 466
	Eden	185	39	38	1 410	1 279	2 086	14	5 051
	Overberg	84	22	21	672	479	932	3	2 213
	West Coast	128	34	21	995	867	1 250	5	3 300
	Unspecified	51	14	7	385	300	424	12	1 193
	Total	1 958	504	340	14 426	10 766	17 559	190	45 743
Eastern Cape	Joe Gqabi	209	71	71	1 706	962	1 452	15	4 486
	Alfred Nzo	249	125	144	2 671	1 142	1 928	15	6 274
	Amatole	403	228	250	5 436	2 876	5 651	36	14 880
	Buffalo city	375	122	131	4 233	2 434	3 560	19	10 874
	Cacadu	187	61	37	1 628	1 096	1 619	11	4 639
	Chris Hani	360	157	107	3 559	2 019	3 218	28	9 448
	Nelson Mandela Bay Metro	233	49	62	2 282	1 499	2 124	15	6 264
	O R Tambo	407	367	453	6 631	2 529	4 080	31	14 498
	Unspecified	55	29	26	599	344	614	5	1 672
	Total	2 478	1 209	1 281	28 745	14 901	24 246	175	73 035
Northern Cape	Frances Baard	211	99	44	1 483	899	1 066	13	3 815
	John Taolo Gaetsewe	200	60	38	1 007	463	636	4	2 408
	Namakwa	45	7	11	289	250	472	4	1 078
	Pixley ka Seme	217	69	42	1 514	965	1 203	16	4 026
	Siyanda	169	79	39	1 089	661	810	8	2 855
	Unspecified	48	18	7	195	120	144	4	536
	Total	890	332	181	5 577	3 358	4 331	49	14 718
Free State	Fezile Dabi	357	109	67	2 216	1 207	1 610	17	5 583
	Lejweleputswa	758	212	98	4 006	2 236	2 182	31	9 523
	Mangaung	666	160	123	4 166	2 388	2 762	28	10 293
	Thabo Mofutsanyane	1 006	246	181	5 074	2 325	2 851	59	11 742
	Xhariep	144	56	45	1 284	660	868	8	3 065
	Unspecified	32	8	6	180	88	112	3	429
	Total	2 963	791	520	16 926	8 904	10 385	146	40 635
KwaZulu-Natal	Amajuba	281	84	74	2 337	1 105	1 302	19	5 202
	Sisonke	336	126	151	2 743	1 139	1 453	26	5 974
	UMgungundlovu	385	135	185	4 767	2 169	3 069	13	10 723
	Ugu	415	218	294	4 596	1 894	2 931	31	10 379
	Umkhanyakude	218	98	149	2 003	746	1 191	15	4 420
	Umzinyathi	320	135	163	2 239	968	1 363	28	5 216
	Uthukela	422	172	186	3 205	1 347	1 909	25	7 266
	Uthungulu	577	171	220	4 054	1 513	2 146	77	8 758
	Zululand	594	212	282	3 629	1 333	1 844	35	7 929
	eThekwini	1 114	380	486	11 631	5 617	8 206	102	27 536
	iLembe	331	116	170	2 475	974	1 325	30	5 421
	Unspecified	232	122	146	2 563	1 106	1 626	33	5 828
Total	5 225	1 969	2 506	46 242	19 911	28 365	434	104 652	

*Excluding 2 524 deaths with unspecified province of death occurrence.

**Appendix I: Number of deaths by age, province and district municipality of death occurrence, 2011*
(concluded)**

Province of death occurrence	District municipality of death occurrence	Age							Unsp.	Total
		0	1-4	5-14	15-49	50-64	65+			
North West	Bojanala Platinum	930	293	195	5 281	2 702	3 836	72	13 309	
	Dr Kenneth Kaunda	616	158	96	3 059	1 763	2 132	36	7 860	
	Dr Ruth Segomotsi Mompati	507	178	74	2 173	1 085	1 646	14	5 677	
	Ngaka Modiri Molema	814	266	158	4 023	2 030	2 777	33	10 101	
	Unspecified	53	15	11	221	118	183	7	608	
	Total	2 920	910	534	14 757	7 698	10 574	162	37 555	
Gauteng	City of Johannesburg	2 038	445	321	11 336	6 256	8 779	294	29 469	
	City of Tshwane	1 010	428	214	7 063	4 261	6 557	41	19 574	
	Ekurhuleni	2 008	474	295	11 337	5 529	6 859	222	26 724	
	Sedibeng	666	187	102	4 627	2 770	3 242	29	11 623	
	West Rand	593	175	102	3 793	2 051	2 759	96	9 569	
	Unspecified	239	67	57	1 612	821	945	51	3 792	
	Total	6 554	1 776	1 091	39 768	21 688	29 141	733	100 751	
Mpu-malanga	Ehlanzeni	661	407	339	7 006	2 749	3 727	84	14 973	
	Gert Sibande	814	235	199	5 107	2 170	2 365	45	10 935	
	Nkangala	542	217	181	4 465	2 303	2 857	48	10 613	
	Unspecified	63	37	35	708	271	393	9	1 516	
	Total	2 080	896	754	17 286	7 493	9 342	186	38 037	
Limpopo	Capricorn	600	303	206	4 345	2 111	3 736	23	11 324	
	Greater Sekhukhune	382	286	170	3 395	1 534	2 837	17	8 621	
	Mopani	637	296	150	3 528	1 582	2 681	27	8 901	
	Vhembe	556	321	195	3 102	1 646	3 395	50	9 265	
	Waterberg	343	139	67	1 977	923	1 507	19	4 975	
	Unspecified	209	132	90	1 697	774	1 346	13	4 261	
	Total	2 727	1 477	878	18 044	8 570	15 502	149	47 347	
Foreign	Total	10	7	4	341	182	258	4	806	

*Excluding 2 524 deaths with unspecified province of death occurrence.

Appendix I1: Percentage distribution of deaths by age, province and district municipality of death occurrence, 2011*

Province of death occurrence	District municipality of death occurrence	Age							Unsp.	Total
		0	1-4	5-14	15-49	50-64	65+			
Western Cape	Cape Winelands	4,1	1,1	0,6	30,2	24,9	38,6	0,4	100,0	
	Central Karoo	4,4	0,8	1,0	34,9	24,1	34,6	0,2	100,0	
	City of Cape Town	4,5	1,2	0,8	32,7	22,6	37,8	0,5	100,0	
	Eden	3,7	0,8	0,8	27,9	25,3	41,3	0,3	100,0	
	Overberg	3,8	1,0	0,9	30,4	21,6	42,1	0,1	100,0	
	West Coast	3,9	1,0	0,6	30,2	26,3	37,9	0,2	100,0	
	Unspecified	4,3	1,2	0,6	32,3	25,1	35,5	1,0	100,0	
	Total	4,3	1,1	0,7	31,5	23,5	38,4	0,4	100,0	
Eastern Cape	Joe Gqabi	4,7	1,6	1,6	38,0	21,4	32,4	0,3	100,0	
	Alfred Nzo	4,0	2,0	2,3	42,6	18,2	30,7	0,2	100,0	
	Amatole	2,7	1,5	1,7	36,5	19,3	38,0	0,2	100,0	
	Buffalo city	3,4	1,1	1,2	38,9	22,4	32,7	0,2	100,0	
	Cacadu	4,0	1,3	0,8	35,1	23,6	34,9	0,2	100,0	
	Chris Hani	3,8	1,7	1,1	37,7	21,4	34,1	0,3	100,0	
	Nelson Mandela Bay Metro	3,7	0,8	1,0	36,4	23,9	33,9	0,2	100,0	
	O R Tambo	2,8	2,5	3,1	45,7	17,4	28,1	0,2	100,0	
	Unspecified	3,3	1,7	1,6	35,8	20,6	36,7	0,3	100,0	
	Total	3,4	1,7	1,8	39,4	20,4	33,2	0,2	100,0	
Northern Cape	Frances Baard	5,5	2,6	1,2	38,9	23,6	27,9	0,3	100,0	
	John Taolo Gaetsewe	8,3	2,5	1,6	41,8	19,2	26,4	0,2	100,0	
	Namakwa	4,2	0,6	1,0	26,8	23,2	43,8	0,4	100,0	
	Pixley ka Seme	5,4	1,7	1,0	37,6	24,0	29,9	0,4	100,0	
	Siyanda	5,9	2,8	1,4	38,1	23,2	28,4	0,3	100,0	
	Unspecified	9,0	3,4	1,3	36,4	22,4	26,9	0,7	100,0	
	Total	6,0	2,3	1,2	37,9	22,8	29,4	0,3	100,0	
Free State	Fezile Dabi	6,4	2,0	1,2	39,7	21,6	28,8	0,3	100,0	
	Lejweleputswa	8,0	2,2	1,0	42,1	23,5	22,9	0,3	100,0	
	Mangaung	6,5	1,6	1,2	40,5	23,2	26,8	0,3	100,0	
	Thabo Mofutsanyane	8,6	2,1	1,5	43,2	19,8	24,3	0,5	100,0	
	Xhariep	4,7	1,8	1,5	41,9	21,5	28,3	0,3	100,0	
	Unspecified	7,5	1,9	1,4	42,0	20,5	26,1	0,7	100,0	
	Total	7,3	1,9	1,3	41,7	21,9	25,6	0,4	100,0	
KwaZulu-Natal	Amajuba	5,4	1,6	1,4	44,9	21,2	25,0	0,4	100,0	
	Sisonke	5,6	2,1	2,5	45,9	19,1	24,3	0,4	100,0	
	UMgungundlovu	3,6	1,3	1,7	44,5	20,2	28,6	0,1	100,0	
	Ugu	4,0	2,1	2,8	44,3	18,2	28,2	0,3	100,0	
	Umkhanyakude	4,9	2,2	3,4	45,3	16,9	26,9	0,3	100,0	
	Umzinyathi	6,1	2,6	3,1	42,9	18,6	26,1	0,5	100,0	
	Uthukela	5,8	2,4	2,6	44,1	18,5	26,3	0,3	100,0	
	Uthungulu	6,6	2,0	2,5	46,3	17,3	24,5	0,9	100,0	
	Zululand	7,5	2,7	3,6	45,8	16,8	23,3	0,4	100,0	
	eThekwini	4,0	1,4	1,8	42,2	20,4	29,8	0,4	100,0	
	iLembe	6,1	2,1	3,1	45,7	18,0	24,4	0,6	100,0	
	Unspecified	4,0	2,1	2,5	44,0	19,0	27,9	0,6	100,0	
Total	5,0	1,9	2,4	44,2	19,0	27,1	0,4	100,0		

*Excluding 2 524 deaths with unspecified province of death occurrence.

Appendix I1: Percentage distribution of deaths by age, province and district municipality of death occurrence, 2011* (concluded)

Province of death occurrence	District municipality of death occurrence	Age							Total
		0	1-4	5-14	15-49	50-64	65+	Unsp.	
North West	Bojanala Platinum	7,0	2,2	1,5	39,7	20,3	28,8	0,5	100,0
	Dr Kenneth Kaunda	7,8	2,0	1,2	38,9	22,4	27,1	0,5	100,0
	Dr Ruth Segomotsi Mompati	8,9	3,1	1,3	38,3	19,1	29,0	0,2	100,0
	Ngaka Modiri Molema	8,1	2,6	1,6	39,8	20,1	27,5	0,3	100,0
	Unspecified	8,7	2,5	1,8	36,3	19,4	30,1	1,2	100,0
	Total		7,8	2,4	1,4	39,3	20,5	28,2	0,4	100,0
Gauteng	City of Johannesburg	6,9	1,5	1,1	38,5	21,2	29,8	1,0	100,0
	City of Tshwane	5,2	2,2	1,1	36,1	21,8	33,5	0,2	100,0
	Ekurhuleni	7,5	1,8	1,1	42,4	20,7	25,7	0,8	100,0
	Sedibeng	5,7	1,6	0,9	39,8	23,8	27,9	0,2	100,0
	West Rand	6,2	1,8	1,1	39,6	21,4	28,8	1,0	100,0
	Unspecified	6,3	1,8	1,5	42,5	21,7	24,9	1,3	100,0
	Total		6,5	1,8	1,1	39,5	21,5	28,9	0,7	100,0
Mpu-malanga	Ehlanzeni	4,4	2,7	2,3	46,8	18,4	24,9	0,6	100,0
	Gert Sibande	7,4	2,1	1,8	46,7	19,8	21,6	0,4	100,0
	Nkangala	5,1	2,0	1,7	42,1	21,7	26,9	0,5	100,0
	Unspecified	4,2	2,4	2,3	46,7	17,9	25,9	0,6	100,0
	Total		5,5	2,4	2,0	45,4	19,7	24,6	0,5	100,0
Limpopo	Capricorn	5,3	2,7	1,8	38,4	18,6	33,0	0,2	100,0
	Greater Sekhukhune	4,4	3,3	2,0	39,4	17,8	32,9	0,2	100,0
	Mopani	7,2	3,3	1,7	39,6	17,8	30,1	0,3	100,0
	Vhembe	6,0	3,5	2,1	33,5	17,8	36,6	0,5	100,0
	Waterberg	6,9	2,8	1,3	39,7	18,6	30,3	0,4	100,0
	Unspecified	4,9	3,1	2,1	39,8	18,2	31,6	0,3	100,0
	Total		5,8	3,1	1,9	38,1	18,1	32,7	0,3	100,0
Foreign	Total	1,2	0,9	0,5	42,3	22,6	32,0	0,5	100,0

*Excluding 2 524 deaths with unspecified province of death occurrence.

Appendix J: Number of deaths by sex, province and district municipality of death occurrence, 2011*

Province of death occurrence	District Municipality of death occurrence	Sex				Sex Ratio at death**
		Male	Female	Unspecified	Total	
Western Cape	Cape Winelands	3 577	3 059	13	6 649	117
	Central Karoo	425	443	3	871	96
	City of Cape Town	14 251	12 091	124	26 466	118
	Eden	2 692	2 356	3	5 051	114
	Overberg	1 250	961	2	2 213	130
	West Coast	1 834	1 462	4	3 300	125
	Unspecified	634	550	9	1 193	115
	Total	24 663	20 922	158	45 743	118
Eastern Cape	Joe Gqabi	2 296	2 177	13	4 486	105
	Alfred Nzo	3 078	3 179	17	6 274	97
	Amatole	7 650	7 191	39	14 880	106
	Buffalo city	5 621	5 231	22	10 874	107
	Cacadu	2 370	2 257	12	4 639	105
	Chris Hani	4 744	4 683	21	9 448	101
	Nelson Mandela Bay Metro	3 271	2 978	15	6 264	110
	O R Tambo	7 091	7 351	56	14 498	96
	Unspecified	835	833	4	1 672	100
	Total	36 956	35 880	199	73 035	103
Northern Cape	Frances Baard	1 971	1 821	23	3 815	108
	John Taolo Gaetsewe	1 325	1 080	3	2 408	123
	Namakwa	603	474	1	1 078	127
	Pixley ka Seme	2 073	1 936	17	4 026	107
	Siyanda	1 513	1 338	4	2 855	113
	Unspecified	278	256	2	536	109
	Total	7 763	6 905	50	14 718	112
Free State	Fezile Dabi	2 870	2 700	13	5 583	106
	Lejweleputswa	4 977	4 529	17	9 523	110
	Mangaung	5 344	4 907	42	10 293	109
	Thabo Mofutsanyane	5 794	5 933	15	11 742	98
	Xhariep	1 610	1 450	5	3 065	111
	Unspecified	242	185	2	429	131
	Total	20 837	19 704	94	40 635	106
KwaZulu-Natal	Amajuba	2 625	2 562	15	5 202	102
	Sisonke	2 943	3 011	20	5 974	98
	UMgungundlovu	5 461	5 234	28	10 723	104
	Ugu	5 239	5 116	24	10 379	102
	Umkhanyakude	2 219	2 167	34	4 420	102
	Umzinyathi	2 558	2 642	16	5 216	97
	Uthukela	3 572	3 668	26	7 266	97
	Uthungulu	4 422	4 308	28	8 758	103
	Zululand	3 871	4 033	25	7 929	96
	eThekwini	14 169	13 310	57	27 536	106
	iLembe	2 744	2 656	21	5 421	103
	Unspecified	2 934	2 864	30	5 828	102
Total	52 757	51 571	324	104 652	102	

*Excluding 2 524 deaths with unspecified province of death occurrence. ** Male deaths per 100 female deaths.

Appendix J: Number of deaths by sex, province and district municipality of death occurrence, 2011* (concluded)

Province of death occurrence	District Municipality of death occurrence	Sex				Sex Ratio at death**
		Male	Female	Unspecified	Total	
North West	Bojanala Platinum	7 160	6 108	41	13 309	117
	Dr Kenneth Kaunda	4 233	3 601	26	7 860	118
	Dr Ruth Segomotsi Mompoti	3 011	2 654	12	5 677	113
	Ngaka Modiri Molema	5 271	4 798	32	10 101	110
	Unspecified	313	289	6	608	108
	Total		19 988	17 450	117	37 555	115
Gauteng	City of Johannesburg	15 339	13 850	280	29 469	111
	City of Tshwane	10 252	9 263	59	19 574	111
	Ekurhuleni	14 017	12 535	172	26 724	112
	Sedibeng	6 118	5 489	16	11 623	111
	West Rand	5 154	4 317	98	9 569	119
	Unspecified	1 970	1 780	42	3 792	111
	Total		52 850	47 234	667	100 751	112
Mpumalanga	Ehlanzeni	7 492	7 406	75	14 973	101
	Gert Sibande	5 626	5 286	23	10 935	106
	Nkangala	5 574	5 016	23	10 613	111
	Unspecified	799	711	6	1 516	112
	Total		19 491	18 419	127	38 037	106
Limpopo	Capricorn	5 657	5 634	33	11 324	100
	Greater Sekhukhune	4 151	4 438	32	8 621	94
	Mopani	4 333	4 544	24	8 901	95
	Vhembe	4 550	4 696	19	9 265	97
	Waterberg	2 611	2 354	10	4 975	111
	Unspecified	2 149	2 097	15	4 261	102
	Total		23 451	23 763	133	47 347	99
Foreign	Total	528	276	2	806	191

*Excluding 2 524 deaths with unspecified province of death occurrence. ** Male deaths per 100 female deaths.

Appendix K: All underlying causes of death, 2011

Causes of death (based on the 10th revision, International Classification of Disease, 1992)	Number	Percent
All causes	505 803	100,0
Ill-defined and unknown causes of mortality (R95-R99)	65 327	12,9
Tuberculosis (A15-A19)	54 112	10,7
Influenza and pneumonia (J09-J18)	33 381	6,6
Other external causes of accidental injury (W00-X59)	28 044	5,5
Cerebrovascular diseases (I60-I69)	25 732	5,1
Other forms of heart disease (I30-I52)	23 564	4,7
Diabetes mellitus (E10-E14)	20 171	4,0
Intestinal infectious diseases (A00-A09)	19 376	3,8
Human immunodeficiency virus [HIV] disease (B20-B24)	17 012	3,4
Hypertensive diseases (I10-I15)	15 529	3,1
Other viral diseases (B25-B34)	14 557	2,9
Chronic lower respiratory diseases (J40-J47)	13 084	2,6
Ischaemic heart diseases (I20-I25)	11 942	2,4
Certain disorders involving the immune mechanism (D80-D89)	11 163	2,2
Malignant neoplasm of digestive organs (C15-C26)	9 409	1,9
Renal failure (N17-N19)	6 942	1,4
Other acute lower respiratory infections (J20-J22)	6 635	1,3
Event of undetermined intent (Y10-Y34)	6 275	1,2
Inflammatory diseases of the central nervous system (G00-G09)	5 879	1,2
Other bacterial diseases (A30-A49)	5 878	1,2
Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	5 245	1,0
Transport accidents (V01-V99)	5 088	1,0
Assault (X85-Y09)	4 888	1,0
Diseases of liver (K70-K77)	4 770	0,9
Malignant neoplasm of female genital organs (C51-C58)	4 312	0,9
Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	4 267	0,8
Other diseases of the respiratory system (J95-J99)	3 805	0,8
Metabolic disorders (E70-E90)	3 461	0,7
Malignant neoplasms of ill-defined, secondary & unspecified sites (C76-C80)	3 291	0,7
Episodic and paroxysmal disorders (G40-G47)	3 254	0,6
General symptoms and signs (R50-R69)	3 172	0,6
Protozoal diseases (B50-B64)	3 036	0,6
Malignant neoplasm of breast (C50)	2 985	0,6
Malignant neoplasm of male genital organs (C60-C63)	2 690	0,5
Aplastic and other anaemias (D60-D64)	2 639	0,5
Malignant neoplasms stated or presumed primary of lymphoid, haematopoietic & related tissue (C81-C96)	2 625	0,5
Pulmonary heart disease and diseases of pulmonary circulation (I26-I28)	2 559	0,5
Diseases of oesophagus, stomach and duodenum (K20-K31)	2 177	0,4
Noninfective enteritis and colitis (K50-K52)	2 060	0,4
Malnutrition (E40-E46)	1 848	0,4
Other disorders originating in the perinatal period (P90-P96)	1 648	0,3
Other respiratory diseases principally affecting the interstitium (J80-J84)	1 644	0,3
Disorders related to length of gestation and fetal growth (P05-P08)	1 442	0,3
Other diseases of intestines (K55-K63)	1 433	0,3
Diseases of arteries, arterioles and capillaries (I70-I79)	1 404	0,3

Appendix K: All underlying causes of death, 2011 (continued)

Causes of death (based on the 10th revision, International Classification of Disease, 1992)	Number	Percent
All causes	505 803	100,0
Malignant neoplasm of mesothelial and soft tissue (C45-C49)	1 341	0,3
Complications of medical and surgical care (Y40-Y84)	1 285	0,3
Mycoses (B35-B49)	1 213	0,2
Other disorders of glucose regulation and pancreatic internal secretion (E15-E16)	1 210	0,2
Other diseases of the digestive system (K90-K93)	1 160	0,2
Infections specific to the perinatal period (P35-P39)	1 109	0,2
Organic, including symptomatic, mental disorders (F00-F09)	1 093	0,2
Malignant neoplasm of lip, oral cavity and pharynx (C00-C14)	1 074	0,2
Other disorders of the nervous system (G90-G99)	1 044	0,2
Neoplasms of uncertain or unknown behaviour (D37-D48)	1 020	0,2
Disorders of gallbladder, biliary tract and pancreas (K80-K87)	966	0,2
Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00-P04)	851	0,2
Malignant neoplasm of urinary tract (C64-C68)	836	0,2
Arthropathies (M00-M25)	807	0,2
Other degenerative diseases of the nervous system (G30-G32)	766	0,2
Cerebral palsy and other paralytic syndromes (G80-G83)	737	0,1
Diseases of veins, lymphatic vessels and lymph nodes, not elsewhere classified (I80-I89)	687	0,1
E00-E14	650	0,1
Lung diseases due to external agents (J60-J70)	636	0,1
Sequelae of infectious and parasitic diseases (B90-B94)	616	0,1
Congenital malformations of the circulatory system (Q20-Q28)	558	0,1
Malignant neoplasm of skin (C43-C44)	546	0,1
Malignant neoplasm of eye, brain and other parts of central nervous system (C69-C72)	521	0,1
Other diseases of pleura (J90-J94)	486	0,1
Coagulation defects, purpura and other haemorrhagic conditions (D65-D69)	482	0,1
Other obstetric conditions, not elsewhere classified (O95-O99)	475	0,1
Malignant neoplasms of independent multiple sites (C97)	461	0,1
Chronic rheumatic heart diseases (I05-I09)	454	0,1
Haemorrhagic and haematological disorders of fetus and newborn (P50-P61)	424	0,1
Infections of the skin and subcutaneous tissue (L00-L08)	409	0,1
Soft tissue disorders (M60-M79)	402	0,1
Intentional self-harm (X60-X84)	359	0,1
Mental and behavioural disorders due to psychoactive substance use (F10-F19)	357	0,1
Other congenital malformations (Q80-Q89)	352	0,1
Systemic connective tissue disorders (M30-M36)	347	0,1
Other diseases of urinary system (N30-N39)	346	0,1
Other disorders of kidney and ureter (N25-N29)	322	0,1
Obesity and other hyperalimentation (E65-E68)	311	0,1
Extrapyramidal and movement disorders (G20-G26)	310	0,1
Chromosomal abnormalities, not elsewhere classified (Q90-Q99)	297	0,1
Disorders of thyroid gland (E00-E07)	286	0,1
Viral infections characterized by skin and mucous membrane lesions (B00-B09)	284	0,1
Renal tubulo-interstitial diseases (N10-N16)	283	0,1
Digestive system disorders of fetus and newborn (P75-P78)	283	0,1
Viral hepatitis (B15-B19)	279	0,1

Appendix K: All underlying causes of death, 2011 (continued)

Causes of death (based on the 10th revision, International Classification of Disease, 1992)	Number	Percent
All causes	505 803	100,0
Suppurative and necrotic conditions of lower respiratory tract (J85-J86)	278	0,1
Other disorders of the skin and subcutaneous tissue (L80-L99)	278	0,1
Diseases of male genital organs (N40-N51)	269	0,1
Glomerular diseases (N00-N08)	245	0,0
Viral infections of the central nervous system (A80-A89)	243	0,0
Congenital malformations of the nervous system (Q00-Q07)	237	0,0
Oedema, proteinuria and hypertensive disorders in pregnancy, childbirth and the puerperium (O10-O16)	229	0,0
Schizophrenia, schizotypal and delusional disorders (F20-F29)	226	0,0
Hernia (K40-K46)	211	0,0
Benign neoplasms (D10-D36)	205	0,0
Diseases of peritoneum (K65-K67)	197	0,0
Other congenital malformations of the digestive system (Q38-Q45)	187	0,0
Acute upper respiratory infections (J00-J06)	182	0,0
Systemic atrophies primarily affecting the central nervous system (G10-G13)	172	0,0
Polyneuropathies and other disorders of the peripheral nervous system (G60-G64)	166	0,0
Malignant neoplasm of thyroid and other endocrine glands (C73-C75)	165	0,0
Noninflammatory disorders of female genital tract (N80-N98)	150	0,0
Complications predominantly related to the puerperium (O85-O92)	150	0,0
Infections with a predominantly sexual mode of transmission (A50-A64)	148	0,0
Complications of labour and delivery (O60-O75)	148	0,0
Urticaria and erythema (L50-L54)	147	0,0
Other and unspecified disorders of the circulatory system (I95-I99)	136	0,0
Symptoms and signs involving the circulatory and respiratory systems (R00-R09)	129	0,0
Malignant neoplasm of bone and articular cartilage (C40-C41)	123	0,0
Osteopathies and chondropathies (M80-M94)	123	0,0
Disorders of other endocrine glands (E20-E35)	120	0,0
Other infectious diseases (B99)	117	0,0
Diseases of appendix (K35-K38)	116	0,0
Inflammatory diseases of female pelvic organs (N70-N77)	116	0,0
Pregnancy with abortive outcome (O00-O08)	111	0,0
Dorsopathies (M40-M54)	109	0,0
Other diseases of upper respiratory tract (J30-J39)	104	0,0
Congenital malformations and deformations of the musculoskeletal system (Q65-Q79)	99	0,0
Diseases of myoneural junction and muscle (G70-G73)	92	0,0
Other diseases of blood and blood-forming organs (D70-D77)	88	0,0
Arthropod-borne viral fevers and viral haemorrhagic fevers (A90-A99)	84	0,0
Other nutritional deficiencies (E50-E64)	84	0,0
Conditions involving the integument and temperature regulation of fetus and newborn (P80-P83)	80	0,0
Nutritional anaemias (D50-D53)	76	0,0
Other maternal disorders predominantly related to pregnancy (O20-O29)	76	0,0
Congenital malformations of the urinary system (Q60-Q64)	75	0,0
Helminthiasis (B65-B83)	74	0,0
Demyelinating diseases of the central nervous system (G35-G37)	61	0,0
Diseases of middle ear and mastoid (H65-H75)	60	0,0
Maternal care related to the fetus and amniotic cavity and possible delivery problems (O30-O48)	60	0,0
Symptoms and signs involving the digestive system and abdomen (R10-R19)	58	0,0
Diseases of oral cavity, salivary glands and jaws (K00-K14)	56	0,0
Congenital malformations of the respiratory system (Q30-Q34)	56	0,0
Haemolytic anaemias (D55-D59)	51	0,0

Appendix K: All underlying causes of death, 2011 (concluded)

Causes of death (based on the 10th revision, International Classification of Disease, 1992)	Number	Percent
Total	505 803	100,0
Acute rheumatic fever (I00-I02)	51	0,0
Sequelae of external causes of morbidity and mortality (Y85-Y89)	51	0,0
Abnormal findings on examination of blood, without diagnosis (R70-R79)	38	0,0
Dermatitis and eczema (L20-L30)	29	0,0
In situ neoplasms (D00-D09)	28	0,0
Disorders of breast (N60-N64)	28	0,0
Birth trauma (P10-P15)	24	0,0
Abnormal findings on examination of other body fluids, substances and tissues, without diagnosis (R83-R89)	24	0,0
Transitory endocrine and metabolic disorders specific to fetus and newborn (P70-P74)	20	0,0
Unspecified mental disorder (F99)	18	0,0
Nerve, nerve root and plexus disorders (G50-G59)	18	0,0
Behavioural syndromes associated with physiological disturbances and physical factors (F50-F59)	17	0,0
Bullous disorders (L10-L14)	17	0,0
Other spirochaetal diseases (A65-A69)	16	0,0
Urolithiasis (N20-N23)	14	0,0
Symptoms and signs involving the urinary system (R30-R39)	13	0,0
Disorders of eyelid, lacrimal system and orbit (H00-H06)	11	0,0
Abnormal findings on diagnostic imaging and in function studies, without diagnosis (R90-R94)	11	0,0
Certain zoonotic bacterial diseases (A20-A28)	9	0,0
Neurotic, stress-related and somatoform disorders (F40-F48)	8	0,0
Papulosquamous disorders (L40-L45)	8	0,0
Congenital malformations of eye, ear, face and neck (Q10-Q18)	8	0,0
Cleft lip and cleft palate (Q35-Q37)	8	0,0
Pediculosis, acariasis and other infestations (B85-B89)	7	0,0
Disorders of sclera, cornea, iris and ciliary body (H15-H22)	7	0,0
Symptoms and signs involving cognition, perception, emotional state and behaviour (R40-R46)	7	0,0
Rickettsioses (A75-A79)	6	0,0
Symptoms and signs involving the nervous and musculoskeletal systems (R25-R29)	5	0,0
Other diseases caused by chlamydiae (A70-A74)	4	0,0
Mood [affective] disorders (F30-F39)	4	0,0
Visual disturbances and blindness (H53-H54)	4	0,0
Symptoms and signs involving speech and voice (R47-R49)	4	0,0
Disorders of adult personality and behaviour (F60-F69)	3	0,0
Behavioural and emotional disorders with onset usually occurring in childhood and adolescence (F90-F98)	3	0,0
Disorders of conjunctiva (H10-H13)	3	0,0
Disorders of skin appendages (L60-L75)	3	0,0
Disorders of psychological development (F80-F89)	2	0,0
Other disorders of eye and adnexa (H55-H59)	2	0,0
Other disorders of the musculoskeletal system (M95-M99)	2	0,0
Symptoms and signs involving the skin and subcutaneous tissue (R20-R23)	2	0,0
Disorders of lens (H25-H28)	1	0,0
Disorders of choroid and retina (H30-H36)	1	0,0
Disorders of vitreous body and globe (H43-H45)	1	0,0
Disorders of ocular muscles, binocular movement, accommodation and refraction (H49-H52)	1	0,0
Diseases of external ear (H60-H62)	1	0,0
Other disorders of ear (H90-H95)	1	0,0
O94-O99	1	0,0
P20-P30	1	0,0
Congenital malformations of genital organs (Q50-Q56)	1	0,0

Appendix L: Detailed description of the broad groups of natural causes of death which were among the ten leading causes in 2011

Causes of death (based on ICD-10)		Number	%
Intestinal infectious diseases (A00-A09)			
A00	Cholera (A00)	6	0,0
A01	Typhoid and paratyphoid fevers (A01)	9	0,0
A02	Other salmonella infections(A02)	19	0,1
A03	Shigellosis (A03)	10	0,1
A04	Other bacterial intestinal infections (A04)	13	0,1
A05	Other bacterial foodborne intoxications (A05)	2	0,0
A06	Amoebiasis (A06)	30	0,2
A07	Other protozoal intestinal diseases (A07)	19	0,1
A08	Viral and other specified intestinal infections (A08)	49	0,3
A09	Diarrhoea and gastroenteritis of presumed infectious origin (A09)	19 211	99,2
Total		19 368	100,0
Tuberculosis (A15-A19)			
A15	Respiratory tuberculosis, bacteriologically and histologically confirmed (A15)	1	0,0
A16	Respiratory tuberculosis, not confirmed bacteriologically or histologically (A16)	43 281	80,0
A17	Tuberculosis of nervous system (A17)	3 000	5,5
A18	Tuberculosis of other organs (A18)	1 684	3,1
A19	Miliary tuberculosis (A19)	5 237	9,7
Drug-resistant tuberculosis			
U51	Multidrug-resistant tuberculosis (U51)	747	1,4
U52	Extensively drug-resistant tuberculosis (U52)	162	0,3
Total		54 112	100
Human immunodeficiency virus [HIV] disease (B20-B24)			
B20	Human immunodeficiency virus (HIV) disease resulting in infectious and parasitic diseases (B20)	11 242	66,1
B21	Human immunodeficiency virus (HIV) disease resulting in malignant neoplasms (B21)	454	2,7
B22	Human immunodeficiency virus (HIV) disease resulting in other specified diseases (B22)	986	5,8
B23	Human immunodeficiency virus (HIV) disease resulting in other conditions (B23)	2 051	12,1
B24	Unspecified human immunodeficiency virus (HIV) disease (B24)	2 279	13,4
Total		17 012	100,0
Other viral diseases (B25-B34)			
B25	Cytomegaloviral disease (B25)	60	0,4
B26	Mumps (B26)	3	0,0
B27	Infectious mononucleosis (B27)	4	0,0
B33	Other viral diseases, not elsewhere classified (B33)	14 310	98,3
B34	Viral infection of unspecified site (B34)	180	1,2
Total		14 557	100,0
Diabetes mellitus (E10-E14)			
E10	Insulin-dependent diabetes mellitus (E10)	232	1,2
E11	Non-insulin-dependent diabetes mellitus (E11)	1 112	5,5
E12	Malnutrition-related diabetes mellitus (E12)	11	0,1
E13	Other specified diabetes mellitus (E13)	1	0,0
E14	Unspecified diabetes mellitus (E14)	18 815	93,3
Total		20 171	100,0

Appendix L: Detailed description of the broad groups of natural causes of death which were among the ten leading causes in 2011 (continued)

Causes of death (based on ICD-10)		Number	%
Hypertensive diseases (I10-I15)			
I10	Essential (primary) hypertension (I10)	7 557	48,7
I11	Hypertensive heart disease (I11)	6 401	41,2
I12	Hypertensive renal disease (I12)	1 252	8,1
I13	Hypertensive heart and renal disease (I13)	319	2,1
Total		15 529	100,0
Other forms of heart disease (I30-I52)			
I30	Acute pericarditis (I30)	30	0,1
I31	Other diseases of pericardium (I31)	159	0,7
I33	Acute and subacute endocarditis (I33)	66	0,3
I34	Nonrheumatic mitral valve disorders (I34)	98	0,4
I35	Nonrheumatic aortic valve disorders (I35)	212	0,9
I36	Nonrheumatic tricuspid valve disorders (I36)	4	0,0
I38	Endocarditis, valve unspecified (I38)	188	0,8
I40	Acute myocarditis (I40)	38	0,2
I42	Cardiomyopathy (I42)	2 899	12,3
I44	Atrioventricular and left bundle-branch block (I44)	28	0,1
I45	Other conduction disorders (I45)	71	0,3
I46	Cardiac arrest (I46)	3 861	16,4
I47	Paroxysmal tachycardia (I47)	21	0,1
I48	Atrial fibrillation and flutter (I48)	338	1,4
I49	Other cardiac arrhythmias (I49)	298	1,3
I50	Heart failure (I50)	14 306	60,7
I51	Complications and ill-defined descriptions of heart disease (I51)	947	4,0
Total		23 564	100,0
Cerebrovascular diseases (I60-I69)			
I60	Subarachnoid haemorrhage (I60)	364	1,4
I61	Intracerebral haemorrhage (I61)	1 499	5,8
I62	Other nontraumatic intracranial haemorrhage (I62)	679	2,6
I63	Cerebral infarction (I63)	623	2,4
I64	Stroke, not specified as haemorrhage or infarction (I64)	21 507	83,6
I67	Other cerebrovascular diseases (I67)	763	3,0
I69	Sequelae of cerebrovascular disease (I69)	297	1,2
Total		25 732	100,0
Influenza and pneumonia (J09-J18)			
J09	Influenza due to identified avian influenza virus (J09)	21	0,1
J10	Influenza due to identified influenza virus (J10)	89	0,3
J11	Influenza, virus not identified (J11)	648	1,9
J12	Viral pneumonia, not elsewhere classified (J12)	46	0,1
J13	Pneumonia due to Streptococcus pneumoniae (J13)	6	0,0
J14	Pneumonia due to Haemophilus influenzae (J14)	4	0,0
J15	Bacterial pneumonia, not elsewhere classified (J15)	155	0,5
J16	Pneumonia due to other infectious organisms, not elsewhere classified (J16)	2	0,0
J18	Pneumonia, organism unspecified (J18)	32 410	97,1
Total		33 381	100,0

Appendix L: Detailed description of the broad groups of natural causes of death which were among the ten leading causes in 2011 (concluded)

Causes of death (based on ICD-10)		Number	%
	Chronic lower respiratory diseases (J40-J47)		
J40	Bronchitis, not specified as acute or chronic (J40)	535	4,1
J42	Unspecified chronic bronchitis (J42)	330	2,5
J43	Emphysema (J43)	838	6,4
J44	Other chronic obstructive pulmonary disease (J44)	6 716	51,3
J45	Asthma (J45)	3 736	28,6
J46	Status asthmaticus (J46)	729	5,6
J47	Bronchiectasis (J47)	200	1,5
Total		13 084	100,0

Appendix M: The ten leading underlying natural causes of death by age and sex: South Africa, 2011

All provinces, both sexes, all ages			All provinces, males, all ages			All provinces, females, all ages		
No.	%		No.	%		No.	%	
1	54 112	10,7	1	30 807	11,8	1	23 112	9,5
2	33 381	6,6	2	16 955	6,5	2	16 300	6,7
3	25 732	5,1	3	10 796	4,1	3	14 983	6,2
4	23 564	4,7	4	10 715	4,1	4	12 731	5,2
5	20 171	4,0	5	9 147	3,5	5	12 139	5,0
6	19 376	3,8	6	8 255	3,2	6	10 132	4,2
7	17 012	3,4	7	8 014	3,1	7	9 634	4,0
8	15 529	3,1	8	7 812	3,0	8	8 702	3,6
9	14 557	2,9	9	6 891	2,6	9	7 914	3,3
10	13 084	2,6	10	6 590	2,5	10	5 728	2,4
	223 295	44,1		110 014	42,2		110 808	45,6
	45 990	9,1		34 573	13,3		11 054	4,5
All causes	505 803	100,0	All causes	260 569	100,0	All causes	243 237	100,0
All provinces, both sexes, 0-14			All provinces, males, 0-14			All provinces, females, 0-14		
No.	%		No.	%		No.	%	
1	6 250	13,6	1	3 254	13,5	1	2 939	13,8
2	4 771	10,4	2	2 411	10,0	2	2 329	10,9
3	4 072	8,8	3	2 202	9,1	3	1 769	8,3
4	1 562	3,4	4	830	3,4	4	722	3,4
5	1 503	3,3	5	770	3,2	5	691	3,2
6	1 426	3,1	6	731	3,0	6	674	3,2
7	1 340	2,9	7	694	2,9	7	619	2,9
8	1 090	2,4	8	572	2,4	8	505	2,4
9	830	1,8	9	431	1,8	9	412	1,9
10	800	1,7	10	395	1,6	10	389	1,8
	17 989	39,1		9 219	38,2		8 560	40,1
	4 412	9,6		2 656	11,0		1 729	8,1
All causes	46 045	100,0	All causes	24 165	100,0	All causes	21 338	100,0
All provinces, both sexes, 15-49			All provinces, males, 15-49			All provinces, females, 15-49		
No.	%		No.	%		No.	%	
1	36 728	18,1	1	19 632	17,9	1	16 976	18,3
2	14 759	7,3	2	7 180	6,5	2	7 532	8,1
3	13 431	6,6	3	6 314	5,8	3	7 084	7,6
4	11 226	5,5	4	4 863	4,4	4	6 329	6,8
5	8 473	4,2	5	3 948	3,6	5	4 509	4,9
6	7 248	3,6	6	3 287	3,0	6	3 933	4,2
7	4 838	2,4	7	2 360	2,2	7	2 459	2,7
8	4 133	2,0	8	1 998	1,8	8	1 125	1,3
9	3 295	1,6	9	1 633	1,5	9	1 654	1,8
10	3 053	1,5	10	1 534	1,4	10	1 511	1,6
	64 597	31,8		31 546	28,8		32 867	35,4
	31 277	15,4		25 383	23,1		5 760	6,2
All causes	203 058	100,0	All causes	109 678	100,0	All causes	92 739	100,0
All provinces, both sexes, 50-64			All provinces, males, 50-64			All provinces, females, 50-64		
No.	%		No.	%		No.	%	
1	10 983	10,6	1	7 477	12,3	1	3 622	8,5
2	6 648	6,4	2	3 741	6,1	2	3 485	8,1
3	6 429	6,2	3	3 393	5,6	3	3 026	7,1
4	5 919	5,7	4	3 123	5,1	4	2 410	5,6
5	5 534	5,3	5	3 021	5,0	5	2 160	5,0
6	4 104	3,9	6	2 779	4,6	6	2 049	4,8
7	3 947	3,8	7	2 271	3,7	7	1 498	3,5
8	3 326	3,2	8	2 053	3,4	8	1 323	3,1
9	3 293	3,2	9	1 893	3,1	9	1 245	2,9
10	2 638	2,5	10	1 604	2,6	10	1 237	2,9
	45 357	43,6		25 356	41,6		19 256	44,9
	5 739	5,5		4 176	6,9		1 548	3,6
All causes	103 917	100,0	All causes	60 887	100,0	All causes	42 859	100,0
All provinces, both sexes, 65+			All provinces, males, 65+			All provinces, females, 65+		
No.	%		No.	%		No.	%	
1	15 867	10,6	1	5 609	8,7	1	10 244	12,0
2	12 632	8,4	2	5 029	7,8	2	7 598	8,9
3	11 026	7,3	3	3 858	6,0	3	7 159	8,4
4	9 931	6,6	4	3 837	5,9	4	6 641	7,7
5	7 822	5,2	5	3 571	5,5	5	4 245	5,0
6	7 035	4,7	6	3 537	5,5	6	3 494	4,1
7	6 801	4,5	7	3 286	5,1	7	2 960	3,5
8	4 771	3,2	8	2 850	4,4	8	2 223	2,6
9	4 627	3,1	9	2 400	3,7	9	1 999	2,3
10	3 186	2,1	10	2 132	3,3	10	1 917	2,2
	62 673	41,7		26 430	40,9		35 261	41,1
	4 011	2,7		2 047	3,2		1 958	2,3
All causes	150 382	100,0	All causes	64 586	100,0	All causes	85 699	100,0

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

Appendix M1: The ten leading underlying natural causes of death by age and sex: Western Cape, 2011

Western Cape, both sexes, all ages			Western Cape, males, all ages			Western Cape, females, all ages		
No.	%		No.	%		No.	%	
1	3 225	7,1	1	1 947	7,9	1	1 752	8,4
2	2 897	6,3	2	1 576	6,4	2	1 584	7,6
3	2 832	6,2	3	1 245	5,0	3	1 345	6,4
4	2 766	6,0	4	1 240	5,0	4	1 262	6,0
5	2 590	5,7	5	1 230	5,0	5	1 184	5,7
6	2 058	4,5	6	1 200	4,9	6	968	4,6
7	1 950	4,3	7	1 143	4,6	7	854	4,1
8	1 833	4,0	8	1 092	4,4	8	814	3,9
9	1 603	3,5	9	648	2,6	9	716	3,4
10	1 364	3,0	10	634	2,6	10	688	3,3
Other natural causes	17 311	37,8	Other natural causes	8 613	34,9	Other natural causes	8 570	41,0
Non-natural causes	5 314	11,6	Non-natural causes	4 095	16,6	Non-natural causes	1 185	5,7
All causes	45 743	100,0	All causes	24 663	100,0	All causes	20 922	100,0
Western Cape, both sexes, 0-14			Western Cape, males, 0-14			Western Cape, females, 0-14		
No.	%		No.	%		No.	%	
1	219	7,8	1	110	7,5	1	105	8,1
2	189	6,7	2	106	7,3	2	80	6,2
3	161	5,7	3	79	5,4	3	79	6,1
4	149	5,3	4	76	5,2	4	71	5,5
5	140	5,0	5	71	4,9	5	62	4,8
6	93	3,3	6	50	3,4	6	53	4,1
7	84	3,0	7	39	2,7	7	38	2,9
8	77	2,7	8	38	2,6	8	33	2,5
9	61	2,2	9	33	2,3	9	32	2,5
10	56	2,0	10	27	1,8	10	28	2,2
Other natural causes	1 194	42,6	Other natural causes	602	41,2	Other natural causes	571	44,0
Non-natural causes	379	13,5	Non-natural causes	231	15,8	Non-natural causes	145	11,2
All causes	2 802	100,0	All causes	1 462	100,0	All causes	1 297	100,0
Western Cape, both sexes, 15-49			Western Cape, males, 15-49			Western Cape, females, 15-49		
No.	%		No.	%		No.	%	
1	2 106	14,6	1	1 151	13,2	1	1 115	19,9
2	2 006	13,9	2	980	11,2	2	845	15,1
3	438	3,0	3	202	2,3	3	234	4,2
4	320	2,2	4	199	2,3	4	162	2,9
5	275	1,9	5	159	1,8	5	161	2,9
6	261	1,8	6	159	1,8	6	135	2,4
7	253	1,8	7	157	1,8	7	130	2,3
8	248	1,7	8	152	1,7	8	129	2,3
9	238	1,6	9	131	1,5	9	123	2,2
10	238	1,6	10	126	1,4	10	98	1,7
Other causes	4 257	29,5	Other natural causes	2 215	25,3	Other natural causes	1 837	32,7
Non-natural causes	3 786	26,2	Non-natural causes	3 115	35,6	Non-natural causes	644	11,5
All causes	14 426	100,0	All causes	8 746	100,0	All causes	5 613	100,0
Western Cape, both sexes, 50-64			Western Cape, males, 50-64			Western Cape, females, 50-64		
No.	%		No.	%		No.	%	
1	953	8,9	1	546	8,7	1	517	11,56
2	814	7,6	2	541	8,6	2	299	6,7
3	771	7,2	3	483	7,7	3	297	6,6
4	728	6,8	4	460	7,3	4	268	6,0
5	728	6,8	5	436	6,9	5	265	5,9
6	697	6,5	6	399	6,4	6	258	5,8
7	652	6,1	7	353	5,6	7	242	5,4
8	414	3,8	8	209	3,3	8	227	5,1
9	363	3,4	9	191	3,0	9	205	4,6
10	260	2,4	10	153	2,4	10	191	4,3
Other natural causes	3 765	35,0	Other natural causes	2 038	32,5	Other natural causes	1 550	34,7
Non-natural causes	621	5,8	Non-natural causes	467	7,4	Non-natural causes	153	3,4
All causes	10 766	100,0	All causes	6 276	100,0	All causes	4 472	100,0
Western Cape, both sexes, 65+			Western Cape, males, 65+			Western Cape, females, 65+		
No.	%		No.	%		No.	%	
1	1 853	10,6	1	893	11,1	1	1 122	11,8
2	1 755	10,0	2	730	9,1	2	1 106	11,6
3	1 704	9,7	3	619	7,7	3	861	9,1
4	1 080	6,2	4	597	7,4	4	662	7,0
5	1 009	5,7	5	532	6,6	5	530	5,6
6	997	5,7	6	498	6,2	6	464	4,9
7	879	5,0	7	428	5,3	7	458	4,8
8	843	4,8	8	349	4,3	8	345	3,6
9	510	2,9	9	347	4,3	9	304	3,2
10	428	2,4	10	219	2,7	10	268	2,8
Other natural causes	6 011	34,2	Other natural causes	2 586	32,1	Other natural causes	3 143	33,1
Non-natural causes	490	2,8	Non-natural causes	250	3,1	Non-natural causes	240	2,5
All causes	17 559	100,0	All causes	8 048	100,0	All causes	9 503	100,0

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

Appendix M2: The ten leading underlying natural causes of death by age and sex: Eastern Cape, 2011

Eastern Cape, both sexes, all ages			Eastern Cape, males, all ages			Eastern Cape, females, all ages		
No.	%		No.	%		No.	%	
1	8 315	11,4	1	4 696	12,7	1	3 600	10,0
2	3 378	4,6	2	1 582	4,3	2	2 013	5,6
3	3 242	4,4	3	1 494	4,0	3	1 768	4,9
4	2 903	4,0	4	1 469	4,0	4	1 648	4,6
5	2 754	3,8	5	1 361	3,7	5	1 542	4,3
6	2 569	3,5	6	1 093	3,0	6	1 398	3,9
7	2 527	3,5	7	981	2,7	7	1 369	3,8
8	2 264	3,1	8	917	2,5	8	1 168	3,3
9	2 081	2,8	9	889	2,4	9	1 167	3,3
10	1 903	2,6	10	876	2,4	10	1 018	2,8
Other natural causes	34 130	46,7	Other natural causes	16 349	44,2	Other natural causes	17 496	48,8
Non-natural causes	6 969	9,5	Non-natural causes	5 249	14,2	Non-natural causes	1 693	4,7
All causes	73 035	100,0	All causes	36 956	100,0	All causes	35 880	100,0
Eastern Cape, both sexes, 0-14			Eastern Cape, males, 0-14			Eastern Cape, females, 0-14		
No.	%		No.	%		No.	%	
1	587	11,8	1	316	12,1	1	267	11,5
2	443	8,9	2	234	9,0	2	204	8,8
3	238	4,8	3	121	4,6	3	108	4,7
4	177	3,6	4	84	3,2	4	92	4,0
5	155	3,1	5	79	3,0	5	76	3,3
6	129	2,6	6	71	2,7	6	53	2,3
7	97	2,0	7	44	1,7	7	52	2,2
8	80	1,6	8	38	1,5	8	42	1,8
9	77	1,5	9	37	1,4	9	39	1,7
10	75	1,5	10	36	1,4	10	38	1,6
Other natural causes	2 270	45,7	Other natural causes	1 176	45,1	Other natural causes	1 074	46,4
Non-natural causes	640	12,9	Non-natural causes	370	14,2	Non-natural causes	268	11,6
All causes	4 968	100,0	All causes	2 606	100,0	All causes	2 313	100,0
Eastern Cape, both sexes, 15-49			Eastern Cape, males, 15-49			Eastern Cape, females, 15-49		
No.	%		No.	%		No.	%	
1	5 067	17,6	1	2 618	17,3	1	2 433	17,9
2	2 055	7,1	2	838	5,5	2	1 364	10,1
3	1 785	6,2	3	687	4,5	3	945	7,0
4	1 227	4,3	4	565	3,7	4	677	5,0
5	1 144	4,0	5	546	3,6	5	576	4,2
6	720	2,5	6	301	2,0	6	415	3,1
7	593	2,1	7	279	1,8	7	311	2,3
8	531	1,8	8	258	1,7	8	307	2,3
9	383	1,3	9	223	1,5	9	196	1,4
10	371	1,3	10	197	1,3	10	192	1,4
Other natural causes	10 115	35,2	Other natural causes	4 706	31,2	Other natural causes	5 283	39,0
Non-natural causes	4 754	16,5	Non-natural causes	3 883	25,7	Non-natural causes	856	6,3
All causes	28 745	100,0	All causes	15 101	100,0	All causes	13 555	100,0
Eastern Cape, both sexes, 50-64			Eastern Cape, males, 50-64			Eastern Cape, females, 50-64		
No.	%		No.	%		No.	%	
1	1 845	12,4	1	1 282	14,7	1	563	9,1
2	805	5,4	2	514	5,9	2	473	7,7
3	802	5,4	3	419	4,8	3	410	6,6
4	744	5,0	4	393	4,5	4	322	5,2
5	741	5,0	5	348	4,0	5	278	4,5
6	563	3,8	6	328	3,8	6	229	3,7
7	491	3,3	7	324	3,7	7	215	3,5
8	480	3,2	8	201	2,3	8	191	3,1
9	356	2,4	9	196	2,3	9	165	2,7
10	355	2,4	10	191	2,2	10	165	2,7
Other natural causes	6 831	45,8	Other natural causes	3 880	44,6	Other natural causes	2 908	47,1
Non-natural causes	888	6,0	Non-natural causes	625	7,2	Non-natural causes	260	4,2
All causes	14 901	100,0	All causes	8 701	100,0	All causes	6 179	100,0
Eastern Cape, both sexes, 65+			Eastern Cape, males, 65+			Eastern Cape, females, 65+		
No.	%		No.	%		No.	%	
1	2 176	9,0	1	852	8,2	1	1 408	10,2
2	1 848	7,6	2	767	7,3	2	1 109	8,0
3	1 620	6,7	3	737	7,1	3	976	7,1
4	1 419	5,9	4	703	6,7	4	873	6,3
5	1 406	5,8	5	544	5,2	5	767	5,6
6	1 212	5,0	6	429	4,1	6	508	3,7
7	886	3,7	7	406	3,9	7	480	3,5
8	820	3,4	8	369	3,5	8	450	3,3
9	563	2,3	9	270	2,6	9	308	2,2
10	344	1,4	10	255	2,4	10	204	1,5
Other natural causes	11 313	46,7	Other natural causes	4 781	45,7	Other natural causes	6 395	46,4
Non-natural causes	639	2,6	Non-natural causes	338	3,2	Non-natural causes	301	2,2
All causes	24 246	100,0	All causes	10 451	100,0	All causes	13 779	100,0

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

Appendix M4: The ten leading underlying natural causes of death by age and sex: Free State, 2011

Free State, both sexes, all ages			Free State, males, all ages			Free State, females, all ages		
No.	%		No.	%		No.	%	
1	4 376	10,8	1	2 287	11,0	1	2 081	10,6
2	3 903	9,6	2	2 243	10,8	2	1 654	8,4
3	2 240	5,3	3	990	4,8	3	1 249	6,3
4	2 089	5,1	4	956	4,6	4	1 179	6,0
5	1 973	4,9	5	794	3,8	5	1 125	5,7
6	1 425	3,5	6	646	3,1	6	776	3,9
7	1 187	2,9	7	556	2,7	7	756	3,8
8	1 169	2,9	8	454	2,2	8	744	3,8
9	865	2,1	9	454	2,2	9	396	2,0
10	850	2,1	10	441	2,1	10	361	1,8
	17 430	42,9		8 678	41,6		8 607	43,7
	3 128	7,7		2 338	11,2		776	3,9
All causes	40 635	100,0	All causes	20 837	100,0	All causes	19 704	100,0
Free State, both sexes, 0-14			Free State, males, 0-14			Free State, females, 0-14		
No.	%		No.	%		No.	%	
1	660	15,4	1	337	15,1	1	319	15,9
2	636	14,9	2	319	14,3	2	316	15,7
3	421	9,9	3	226	10,1	3	192	9,6
4	254	5,9	4	134	6,0	4	118	5,9
5	148	3,5	5	81	3,6	5	66	3,3
6	140	3,3	6	75	3,4	6	65	3,2
7	109	2,6	7	53	2,4	7	59	2,9
8	101	2,4	8	49	2,2	8	56	2,8
9	98	2,3	9	42	1,9	9	47	2,3
10	66	1,5	10	40	1,8	10	33	1,6
	1 348	31,5		702	31,4		623	31,0
	293	6,9		178	8,0		115	5,7
All causes	4 274	100,0	All causes	2 236	100,0	All causes	2 009	100,0
Free State, both sexes, 15-49			Free State, males, 15-49			Free State, females, 15-49		
No.	%		No.	%		No.	%	
1	2 751	16,3	1	1 513	16,7	1	1 233	15,7
2	2 014	11,9	2	1 031	11,4	2	978	12,5
3	1 098	6,5	3	488	5,4	3	609	7,8
4	835	4,9	4	364	4,0	4	469	6,0
5	645	3,8	5	329	3,6	5	316	4,0
6	525	3,1	6	249	2,7	6	276	3,5
7	465	2,7	7	225	2,5	7	239	3,0
8	313	1,8	8	178	2,0	8	154	2,0
9	301	1,8	9	146	1,6	9	141	1,8
10	278	1,6	10	137	1,5	10	139	1,8
	5 538	32,7		2 686	29,7		2 836	36,2
	2 163	12,8		1 709	18,9		448	5,7
All causes	16 926	100,0	All causes	9 055	100,0	All causes	7 838	100,0
Free State, both sexes, 50-64			Free State, males, 50-64			Free State, females, 50-64		
No.	%		No.	%		No.	%	
1	895	10,1	1	544	10,7	1	354	9,3
2	827	9,3	2	541	10,7	2	309	8,1
3	623	7,0	3	314	6,2	3	297	7,8
4	578	6,5	4	281	5,5	4	282	7,4
5	403	4,5	5	222	4,4	5	242	6,3
6	338	3,8	6	165	3,3	6	182	4,8
7	330	3,7	7	161	3,2	7	165	4,3
8	321	3,6	8	155	3,1	8	118	3,1
9	238	2,7	9	140	2,8	9	110	2,9
10	208	2,3	10	122	2,4	10	99	2,6
	3 715	41,7		2 116	41,7		1 547	40,5
	428	4,8		314	6,2		112	2,9
All causes	8 904	100,0	All causes	5 075	100,0	All causes	3 817	100,0
Free State, both sexes, 65+			Free State, males, 65+			Free State, females, 65+		
No.	%		No.	%		No.	%	
1	1 117	10,8	1	434	9,9	1	738	12,3
2	1 110	10,7	2	394	9,0	2	683	11,4
3	824	7,9	3	372	8,5	3	476	7,9
4	700	6,7	4	266	6,1	4	433	7,2
5	609	5,9	5	233	5,3	5	428	7,1
6	458	4,4	6	224	5,1	6	224	3,7
7	420	4,0	7	176	4,0	7	172	2,9
8	260	2,5	8	145	3,3	8	154	2,6
9	219	2,1	9	131	3,0	9	121	2,0
10	213	2,1	10	121	2,8	10	99	1,7
	4 246	40,9		1 779	40,5		2 367	39,5
	209	2,0		116	2,6		93	1,6
All causes	10 385	100,0	All causes	4 391	100,0	All causes	5 988	100,0

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

Appendix M5: The ten leading underlying natural causes of death by age and sex: KwaZulu-Natal, 2011

KwaZulu-Natal, both sexes, all ages			KwaZulu-Natal, males, all ages			KwaZulu-Natal, females, all ages		
	No.	%		No.	%		No.	%
1 Tuberculosis (A15-A19)*	15 034	14.4	1 Tuberculosis (A15-A19)*	8 427	16.0	1 Tuberculosis (A15-A19)*	6 563	12.7
2 Cerebrovascular diseases (I60-I69)	5 753	5.5	2 Influenza and pneumonia (J09-J18)	2 732	5.2	2 Cerebrovascular diseases (I60-I69)	3 510	6.8
3 Influenza and pneumonia (J09-J18)	5 280	5.0	3 Human immunodeficiency virus [HIV] disease (B20-B24)	2 374	4.5	3 Diabetes mellitus (E10-E14)	3 162	6.1
4 Other forms of heart disease (I30-I52)	5 227	5.0	4 Other forms of heart disease (I30-I52)	2 312	4.4	4 Other forms of heart disease (I30-I52)	2 908	5.6
5 Human immunodeficiency virus [HIV] disease (B20-B24)	4 956	4.7	5 Cerebrovascular diseases (I60-I69)	2 238	4.2	5 Human immunodeficiency virus [HIV] disease (B20-B24)	2 569	5.0
6 Diabetes mellitus (E10-E14)	4 925	4.7	6 Intestinal infectious diseases (A00-A09)	2 090	4.0	6 Influenza and pneumonia (J09-J18)	2 531	4.9
7 Intestinal infectious diseases (A00-A09)	4 389	4.2	7 Other viral diseases (B25-B34)	1 913	3.6	7 Intestinal infectious diseases (A00-A09)	2 284	4.4
8 Other viral diseases (B25-B34)	4 164	4.0	8 Diabetes mellitus (E10-E14)	1 759	3.3	8 Other viral diseases (B25-B34)	2 231	4.3
9 Hypertensive diseases (I10-I15)	2 867	2.7	9 Ischaemic heart diseases (I20-I25)	1 369	2.6	9 Hypertensive diseases (I10-I15)	1 844	3.6
10 Ischaemic heart diseases (I20-I25)	2 471	2.4	10 Chronic lower respiratory diseases (J40-J47)	1 158	2.2	10 Ischaemic heart diseases (I20-I25)	1 101	2.1
Other natural causes	40 309	38.5	Other natural causes	19 362	36.7	Other natural causes	20 643	40.0
Non-natural causes	9 277	8.9	Non-natural causes	7 023	13.3	Non-natural causes	2 225	4.3
All causes	104 652	100.0	All causes	52 757	100.0	All causes	51 571	100.0
KwaZulu-Natal, both sexes, 0-14			KwaZulu-Natal, males, 0-14			KwaZulu-Natal, females, 0-14		
	No.	%		No.	%		No.	%
1 Intestinal infectious diseases (A00-A09)	1 288	13.3	1 Intestinal infectious diseases (A00-A09)	660	13.2	1 Intestinal infectious diseases (A00-A09)	621	13.5
2 Influenza and pneumonia (J09-J18)	874	9.0	2 Influenza and pneumonia (J09-J18)	429	8.6	2 Influenza and pneumonia (J09-J18)	439	9.6
3 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	764	7.9	3 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	394	7.9	3 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	349	7.6
4 Tuberculosis (A15-A19)*	437	4.5	4 Tuberculosis (A15-A19)*	232	4.6	4 Tuberculosis (A15-A19)*	205	4.5
5 Disorders related to length of gestation and fetal growth (P05-P08)	330	3.4	5 Disorders related to length of gestation and fetal growth (P05-P08)	165	3.3	5 Disorders related to length of gestation and fetal growth (P05-P08)	159	3.5
6 Other disorders originating in the perinatal period (P90-P96)	280	2.9	6 Other disorders originating in the perinatal period (P90-P96)	155	3.1	6 Malnutrition (E40-E46)	135	2.9
7 Malnutrition (E40-E46)	265	2.7	7 Infections specific to the perinatal period (P35-P39)	140	2.8	7 Other disorders originating in the perinatal period (P90-P96)	116	2.5
8 Infections specific to the perinatal period (P35-P39)	249	2.6	8 Malnutrition (E40-E46)	127	2.5	8 Human immunodeficiency virus [HIV] disease (B20-B24)	113	2.5
9 Other viral diseases (B25-B34)	208	2.1	9 Other viral diseases (B25-B34)	110	2.2	9 Infections specific to the perinatal period (P35-P39)	106	2.3
10 Human immunodeficiency virus [HIV] disease (B20-B24)	207	2.1	10 Human immunodeficiency virus [HIV] disease (B20-B24)	88	1.8	10 Other viral diseases (B25-B34)	94	2.0
Other natural causes	3 842	39.6	Other natural causes	1 923	38.5	Other natural causes	1 877	40.9
Non-natural causes	956	9.9	Non-natural causes	575	11.5	Non-natural causes	376	8.2
All causes	9 700	100.0	All causes	4 998	100.0	All causes	4 590	100.0
KwaZulu-Natal, both sexes, 15-49			KwaZulu-Natal, males, 15-49			KwaZulu-Natal, females, 15-49		
	No.	%		No.	%		No.	%
1 Tuberculosis (A15-A19)*	10 782	23.3	1 Tuberculosis (A15-A19)*	5 762	23.0	1 Tuberculosis (A15-A19)*	4 990	23.6
2 Human immunodeficiency virus [HIV] disease (B20-B24)	4 011	8.7	2 Human immunodeficiency virus [HIV] disease (B20-B24)	1 856	7.4	2 Human immunodeficiency virus [HIV] disease (B20-B24)	2 151	10.2
3 Other viral diseases (B25-B34)	3 343	7.2	3 Other viral diseases (B25-B34)	1 486	5.9	3 Other viral diseases (B25-B34)	1 842	8.7
4 Influenza and pneumonia (J09-J18)	2 327	5.0	4 Influenza and pneumonia (J09-J18)	1 196	4.8	4 Influenza and pneumonia (J09-J18)	1 124	5.3
5 Intestinal infectious diseases (A00-A09)	1 812	3.9	5 Intestinal infectious diseases (A00-A09)	881	3.5	5 Intestinal infectious diseases (A00-A09)	925	4.4
6 Certain disorders involving the immune mechanism (D80-D89)	1 479	3.2	6 Certain disorders involving the immune mechanism (D80-D89)	694	2.8	6 Certain disorders involving the immune mechanism (D80-D89)	779	3.7
7 Inflammatory diseases of the central nervous system (G00-G09)	1 086	2.3	7 Inflammatory diseases of the central nervous system (G00-G09)	513	2.1	7 Inflammatory diseases of the central nervous system (G00-G09)	572	2.7
8 Other forms of heart disease (I30-I52)	982	2.1	8 Other acute lower respiratory infections (J20-J22)	476	1.9	8 Other forms of heart disease (I30-I52)	519	2.5
9 Other acute lower respiratory infections (J20-J22)	877	1.9	9 Other forms of heart disease (I30-I52)	462	1.8	9 Other acute lower respiratory infections (J20-J22)	398	1.9
10 Cerebrovascular diseases (I60-I69)	676	1.5	10 Cerebrovascular diseases (I60-I69)	347	1.4	10 Protozoal diseases (B25-B64)	367	1.7
Other natural causes	12 467	27.0	Other natural causes	6 078	24.3	Other natural causes	6 322	29.9
Non-natural causes	6 400	13.8	Non-natural causes	5 267	21.1	Non-natural causes	1 121	5.3
All causes	46 242	100.0	All causes	25 018	100.0	All causes	21 110	100.0
KwaZulu-Natal, both sexes, 50-64			KwaZulu-Natal, males, 50-64			KwaZulu-Natal, females, 50-64		
	No.	%		No.	%		No.	%
1 Tuberculosis (A15-A19)*	2 599	13.1	1 Tuberculosis (A15-A19)*	1 754	15.2	1 Diabetes mellitus (E10-E14)	987	11.8
2 Diabetes mellitus (E10-E14)	1 690	8.5	2 Cerebrovascular diseases (I60-I69)	740	6.4	2 Tuberculosis (A15-A19)*	840	10.1
3 Cerebrovascular diseases (I60-I69)	1 418	7.1	3 Diabetes mellitus (E10-E14)	701	6.1	3 Cerebrovascular diseases (I60-I69)	678	8.1
4 Other forms of heart disease (I30-I52)	1 207	6.1	4 Other forms of heart disease (I30-I52)	699	6.1	4 Other forms of heart disease (I30-I52)	507	6.1
5 Influenza and pneumonia (J09-J18)	883	4.4	5 Influenza and pneumonia (J09-J18)	564	4.9	5 Hypertensive diseases (I10-I15)	402	4.8
6 Ischaemic heart diseases (I20-I25)	751	3.8	6 Ischaemic heart diseases (I20-I25)	511	4.4	6 Influenza and pneumonia (J09-J18)	317	3.8
7 Hypertensive diseases (I10-I15)	739	3.7	7 Chronic lower respiratory diseases (J40-J47)	423	3.7	7 Malignant neoplasm of female genital organs (C51-C58)	288	3.5
8 Human immunodeficiency virus [HIV] disease (B20-B24)	609	3.1	8 Human immunodeficiency virus [HIV] disease (B20-B24)	360	3.1	8 Intestinal infectious diseases (A00-A09)	271	3.2
9 Intestinal infectious diseases (A00-A09)	574	2.9	9 Hypertensive diseases (I10-I15)	337	2.9	9 Other viral diseases (B25-B34)	248	3.0
10 Chronic lower respiratory diseases (J40-J47)	573	2.9	10 Intestinal infectious diseases (A00-A09)	303	2.6	10 Human immunodeficiency virus [HIV] disease (B20-B24)	247	3.0
Other natural causes	7 770	39.0	Other natural causes	4 372	37.9	Other natural causes	3 240	38.8
Non-natural causes	1 098	5.5	Non-natural causes	779	6.7	Non-natural causes	318	3.8
All causes	19 911	100.0	All causes	11 543	100.0	All causes	8 343	100.0
KwaZulu-Natal, both sexes, 65+			KwaZulu-Natal, males, 65+			KwaZulu-Natal, females, 65+		
	No.	%		No.	%		No.	%
1 Cerebrovascular diseases (I60-I69)	3 618	12.8	1 Cerebrovascular diseases (I60-I69)	1 131	10.3	1 Cerebrovascular diseases (I60-I69)	2 485	14.3
2 Other forms of heart disease (I30-I52)	2 902	10.2	2 Other forms of heart disease (I30-I52)	1 078	9.8	2 Diabetes mellitus (E10-E14)	1 894	10.9
3 Diabetes mellitus (E10-E14)	2 714	9.6	3 Diabetes mellitus (E10-E14)	819	7.5	3 Other forms of heart disease (I30-I52)	1 824	10.5
4 Hypertensive diseases (I10-I15)	1 824	6.4	4 Tuberculosis (A15-A19)	639	5.8	4 Hypertensive diseases (I10-I15)	1 270	7.3
5 Ischaemic heart diseases (I20-I25)	1 394	4.9	5 Ischaemic heart diseases (I20-I25)	624	5.7	5 Ischaemic heart diseases (I20-I25)	770	4.7
6 Influenza and pneumonia (J09-J18)	1 179	4.2	6 Hypertensive diseases (I10-I15)	553	5.0	6 Influenza and pneumonia (J09-J18)	645	3.7
7 Tuberculosis (A15-A19)	1 156	4.1	7 Influenza and pneumonia (J09-J18)	534	4.9	7 Tuberculosis (A15-A19)	516	3.0
8 Chronic lower respiratory diseases (J40-J47)	937	3.3	8 Chronic lower respiratory diseases (J40-J47)	496	4.5	8 Intestinal infectious diseases (A00-A09)	460	2.6
9 Intestinal infectious diseases (A00-A09)	697	2.5	9 Malignant neoplasm of digestive organs (C15-C26)	315	2.9	9 Chronic lower respiratory diseases (J40-J47)	441	2.5
10 Malignant neoplasm of digestive organs (C15-C26)	691	2.4	10 Malignant neoplasm of male genital organs (C60-C63)	276	2.5	10 Malignant neoplasm of digestive organs (C15-C26)	375	2.2
Other natural causes	10 490	37.0	Other natural causes	4 130	37.7	Other natural causes	6 317	36.3
Non-natural causes	763	2.7	Non-natural causes	361	3.3	Non-natural causes	401	2.3
All causes	28 365	100.0	All causes	10 956	100.0	All causes	17 398	100.0

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

Appendix M6: The ten leading underlying natural causes of death by age and sex: North West, 2011

North West, both sexes, all ages			North West, males, all ages			North West, females, all ages					
	No.	%		No.	%		No.	%			
1	Tuberculosis (A15-A19)*	4 235	11,3	1	Tuberculosis (A15-A19)*	2 501	12,5	1	Tuberculosis (A15-A19)*	1 726	9,9
2	Influenza and pneumonia (J09-J18)	3 149	8,4	2	Influenza and pneumonia (J09-J18)	1 633	8,2	2	Influenza and pneumonia (J09-J18)	1 508	8,6
3	Other forms of heart disease (I30-I52)	2 196	5,8	3	Other forms of heart disease (I30-I52)	1 082	5,4	3	Other forms of heart disease (I30-I52)	1 110	6,4
4	Cerebrovascular diseases (I60-I69)	1 740	4,6	4	Cerebrovascular diseases (I60-I69)	834	4,2	4	Hypertensive diseases (I10-I15)	1 008	5,8
5	Hypertensive diseases (I10-I15)	1 706	4,5	5	Intestinal infectious diseases (A00-A09)	759	3,8	5	Cerebrovascular diseases (I60-I69)	902	5,2
6	Intestinal infectious diseases (A00-A09)	1 549	4,1	6	Other viral diseases (B25-B34)	707	3,5	6	Intestinal infectious diseases (A00-A09)	783	4,5
7	Other viral diseases (B25-B34)	1 360	3,6	7	Hypertensive diseases (I10-I15)	698	3,5	7	Diabetes mellitus (E10-E14)	688	3,9
8	Certain disorders involving the immune mechanism (D80-D89)	1 264	3,4	8	Certain disorders involving the immune mechanism (D80-D89)	642	3,2	8	Other viral diseases (B25-B34)	646	3,7
9	Diabetes mellitus (E10-E14)	1 168	3,1	9	Chronic lower respiratory diseases (J40-J47)	584	2,9	9	Certain disorders involving the immune mechanism (D80-D89)	622	3,6
10	Chronic lower respiratory diseases (J40-J47)	981	2,6	10	Diabetes mellitus (E10-E14)	480	2,4	10	Human immunodeficiency virus [HIV] disease (B20-B24)	473	2,7
	Other natural causes	15 445	41,1		Other natural causes	7 907	39,6		Other natural causes	7 393	42,4
	Non-natural causes	2 762	7,4		Non-natural causes	2 161	10,8		Non-natural causes	591	3,4
	All causes	37 555	100,0		All causes	19 988	100,0		All causes	17 450	100,0
North West, both sexes, 0-14			North West, males, 0-14			North West, females, 0-14					
	No.	%		No.	%		No.	%			
1	Intestinal infectious diseases (A00-A09)	711	16,3	1	Intestinal infectious diseases (A00-A09)	362	15,7	1	Intestinal infectious diseases (A00-A09)	345	17,1
2	Influenza and pneumonia (J09-J18)	571	13,1	2	Influenza and pneumonia (J09-J18)	282	12,3	2	Influenza and pneumonia (J09-J18)	286	14,2
3	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	423	9,7	3	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	246	10,7	3	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	164	8,1
4	Malnutrition (E40-E46)	194	4,4	4	Malnutrition (E40-E46)	106	4,6	4	Malnutrition (E40-E46)	86	4,3
5	Tuberculosis (A15-A19)*	168	3,8	5	Tuberculosis (A15-A19)*	90	3,9	5	Other disorders originating in the perinatal period (P90-P96)	81	4,0
6	Other disorders originating in the perinatal period (P90-P96)	160	3,7	6	Other disorders originating in the perinatal period (P90-P96)	75	3,3	6	Tuberculosis (A15-A19)*	77	3,8
7	Disorders related to length of gestation and fetal growth (P05-P08)	127	2,9	7	Disorders related to length of gestation and fetal growth (P05-P08)	66	2,9	7	Disorders related to length of gestation and fetal growth (P05-P08)	58	2,9
8	Infections specific to the perinatal period (P35-P39)	124	2,8	8	Infections specific to the perinatal period (P35-P39)	66	2,9	8	Infections specific to the perinatal period (P35-P39)	58	2,9
9	Other acute lower respiratory infections (J20-J22)	96	2,2	9	Other acute lower respiratory infections (J20-J22)	47	2,0	9	Other acute lower respiratory infections (J20-J22)	47	2,3
10	Other bacterial diseases (A30-A49)	74	1,7	10	Fetus and newborn affected by maternal factors and by complications of	39	1,7	10	Other bacterial diseases (A30-A49)	37	1,8
	Other natural causes	1 423	32,6		Other natural causes	718	31,2		Other natural causes	687	34,1
	Non-natural causes	293	6,7		Non-natural causes	202	8,8		Non-natural causes	90	4,5
	All causes	4 364	100,0		All causes	2 299	100,0		All causes	2 016	100,0
North West, both sexes, 15-49			North West, males, 15-49			North West, females, 15-49					
	No.	%		No.	%		No.	%			
1	Tuberculosis (A15-A19)*	2 801	19,0	1	Tuberculosis (A15-A19)*	1 541	19,5	1	Tuberculosis (A15-A19)*	1 254	18,4
2	Influenza and pneumonia (J09-J18)	1 506	10,2	2	Influenza and pneumonia (J09-J18)	734	9,3	2	Influenza and pneumonia (J09-J18)	770	11,3
3	Other viral diseases (B25-B34)	1 028	7,0	3	Other viral diseases (B25-B34)	525	6,6	3	Other viral diseases (B25-B34)	499	7,3
4	Certain disorders involving the immune mechanism (D80-D89)	949	6,4	4	Certain disorders involving the immune mechanism (D80-D89)	472	6,0	4	Certain disorders involving the immune mechanism (D80-D89)	477	7,0
5	Human immunodeficiency virus [HIV] disease (B20-B24)	689	4,7	5	Human immunodeficiency virus [HIV] disease (B20-B24)	322	4,1	5	Human immunodeficiency virus [HIV] disease (B20-B24)	366	5,4
6	Other forms of heart disease (I30-I52)	448	3,0	6	Other forms of heart disease (I30-I52)	211	2,7	6	Intestinal infectious diseases (A00-A09)	244	3,6
7	Intestinal infectious diseases (A00-A09)	447	3,0	7	Intestinal infectious diseases (A00-A09)	200	2,5	7	Other forms of heart disease (I30-I52)	235	3,4
8	Other acute lower respiratory infections (J20-J22)	256	1,7	8	Other acute lower respiratory infections (J20-J22)	133	1,7	8	Other bacterial diseases (A30-A49)	135	2,0
9	Other bacterial diseases (A30-A49)	220	1,5	9	Inflammatory diseases of the central nervous system (G00-G09)	106	1,3	9	Other acute lower respiratory infections (J20-J22)	122	1,8
10	Cerebrovascular diseases (I60-I69)	202	1,4	10	Cerebrovascular diseases (I60-I69)	93	1,2	10	Cerebrovascular diseases (I60-I69)	108	1,6
	Other natural causes	4 378	29,7		Other natural causes	2 063	26,1		Other natural causes	2 284	33,5
	Non-natural causes	1 833	12,4		Non-natural causes	1 510	19,1		Non-natural causes	320	4,7
	All causes	14 757	100,0		All causes	7 910	100,0		All causes	6 814	100,0
North West, both sexes, 50-64			North West, males, 50-64			North West, females, 50-64					
	No.	%		No.	%		No.	%			
1	Tuberculosis (A15-A19)	939	12,2	1	Tuberculosis (A15-A19)	651	13,9	1	Tuberculosis (A15-A19)	288	9,5
2	Influenza and pneumonia (J09-J18)	556	7,2	2	Influenza and pneumonia (J09-J18)	344	7,4	2	Influenza and pneumonia (J09-J18)	209	6,9
3	Other forms of heart disease (I30-I52)	516	6,7	3	Other forms of heart disease (I30-I52)	308	6,6	3	Other forms of heart disease (I30-I52)	208	6,9
4	Cerebrovascular diseases (I60-I69)	463	6,0	4	Cerebrovascular diseases (I60-I69)	270	5,8	4	Diabetes mellitus (E10-E14)	193	6,4
5	Hypertensive diseases (I10-I15)	396	5,1	5	Chronic lower respiratory diseases (J40-J47)	212	4,5	5	Hypertensive diseases (I10-I15)	192	6,4
6	Diabetes mellitus (E10-E14)	385	5,0	6	Hypertensive diseases (I10-I15)	204	4,4	6	Cerebrovascular diseases (I60-I69)	191	6,3
7	Chronic lower respiratory diseases (J40-J47)	315	4,1	7	Diabetes mellitus (E10-E14)	192	4,1	7	Malignant neoplasm of female genital organs (C51-C58)	111	3,7
8	Certain disorders involving the immune mechanism (D80-D89)	229	3,0	8	Malignant neoplasm of digestive organs (C15-C26)	142	3,0	8	Certain disorders involving the immune mechanism (D80-D89)	105	3,5
9	Other viral diseases (B25-B34)	208	2,7	9	Certain disorders involving the immune mechanism (D80-D89)	124	2,7	9	Chronic lower respiratory diseases (J40-J47)	103	3,4
10	Malignant neoplasm of digestive organs (C15-C26)	202	2,6	10	Ischaemic heart diseases (I20-I25)	119	2,5	10	Other viral diseases (B25-B34)	95	3,1
	Other natural causes	3 110	40,4		Other natural causes	1 806	38,7		Other natural causes	1 247	41,3
	Non-natural causes	379	4,9		Non-natural causes	299	6,4		Non-natural causes	80	2,6
	All causes	7 698	100,0		All causes	4 671	100,0		All causes	3 022	100,0
North West, both sexes, 65+			North West, males, 65+			North West, females, 65+					
	No.	%		No.	%		No.	%			
1	Other forms of heart disease (I30-I52)	1 175	11,1	1	Other forms of heart disease (I30-I52)	540	10,8	1	Hypertensive diseases (I10-I15)	720	12,9
2	Hypertensive diseases (I10-I15)	1 144	10,8	2	Cerebrovascular diseases (I60-I69)	468	9,3	2	Other forms of heart disease (I30-I52)	635	11,4
3	Cerebrovascular diseases (I60-I69)	1 068	10,1	3	Hypertensive diseases (I10-I15)	424	8,5	3	Cerebrovascular diseases (I60-I69)	599	10,8
4	Diabetes mellitus (E10-E14)	623	5,9	4	Chronic lower respiratory diseases (J40-J47)	274	5,5	4	Diabetes mellitus (E10-E14)	407	7,3
5	Influenza and pneumonia (J09-J18)	513	4,9	5	Influenza and pneumonia (J09-J18)	271	5,4	5	Influenza and pneumonia (J09-J18)	242	4,4
6	Chronic lower respiratory diseases (J40-J47)	455	4,3	6	Diabetes mellitus (E10-E14)	216	4,3	6	Chronic lower respiratory diseases (J40-J47)	181	3,3
7	Tuberculosis (A15-A19)	319	3,0	7	Tuberculosis (A15-A19)	215	4,3	7	Ischaemic heart diseases (I20-I25)	141	2,5
8	Ischaemic heart diseases (I20-I25)	307	2,9	8	Ischaemic heart diseases (I20-I25)	166	3,3	8	Intestinal infectious diseases (A00-A09)	114	2,1
9	Malignant neoplasm of digestive organs (C15-C26)	235	2,2	9	Malignant neoplasm of digestive organs (C15-C26)	147	2,9	9	Tuberculosis (A15-A19)	104	1,9
10	Intestinal infectious diseases (A00-A09)	201	1,9	10	Malignant neoplasm of male genital organs (C60-C63)	129	2,6	10	Malignant neoplasm of digestive organs (C15-C26)	88	1,6
	Other natural causes	4 303	40,7		Other natural causes	2 030	40,5		Other natural causes	2 230	40,1
	Non-natural causes	231	2,2		Non-natural causes	131	2,6		Non-natural causes	99	1,8
	All causes	10 574	100,0		All causes	5 011	100,0		All causes	5 560	100,0

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

Appendix M7: The ten leading underlying natural causes of death by age and sex: Gauteng, 2011

Gauteng, both sexes, all ages			Gauteng, males, all ages			Gauteng, females, all ages		
No.	%		No.	%		No.	%	
1	8 438	8,4	1	4 816	9,1	1	3 560	7,5
2	7 159	7,1	2	3 600	6,8	2	3 519	7,5
3	5 340	5,3	3	2 511	4,8	3	2 814	6,0
4	4 678	4,6	4	2 072	3,9	4	2 594	5,5
5	3 603	3,6	5	1 738	3,3	5	1 962	4,2
6	2 863	2,8	6	1 636	3,1	6	1 701	3,6
7	2 810	2,8	7	1 393	2,6	7	1 480	3,1
8	2 748	2,7	8	1 346	2,5	8	1 310	2,8
9	2 667	2,6	9	1 308	2,5	9	1 118	2,4
10	2 343	2,3	10	1 204	2,3	10	1 042	2,2
Other natural causes	48 362	48,0	Other natural causes	23 940	45,3	Other natural causes	23 834	50,5
Non-natural causes	9 740	9,7	Non-natural causes	7 286	13,8	Non-natural causes	2 300	4,9
All causes	100 751	100,0	All causes	52 850	100,0	All causes	47 234	100,0
Gauteng, both sexes, 0-14			Gauteng, males, 0-14			Gauteng, females, 0-14		
No.	%		No.	%		No.	%	
1	1 132	12,0	1	619	12,4	1	491	11,5
2	942	10,0	2	500	10,0	2	429	10,0
3	822	8,7	3	422	8,4	3	397	9,3
4	430	4,6	4	227	4,5	4	186	4,3
5	326	3,5	5	163	3,3	5	159	3,7
6	198	2,1	6	114	2,3	6	103	2,4
7	194	2,1	7	102	2,0	7	88	2,1
8	191	2,0	8	98	2,0	8	85	2,0
9	181	1,9	9	96	1,9	9	80	1,9
10	180	1,9	10	89	1,8	10	79	1,8
Other natural causes	3 990	42,4	Other natural causes	2 081	41,6	Other natural causes	1 851	43,2
Non-natural causes	835	8,9	Non-natural causes	489	9,8	Non-natural causes	336	7,8
All causes	9 421	100,0	All causes	5 000	100,0	All causes	4 284	100,0
Gauteng, both sexes, 15-49			Gauteng, males, 15-49			Gauteng, females, 15-49		
No.	%		No.	%		No.	%	
1	6 024	15,1	1	3 276	14,8	1	2 715	15,6
2	3 437	8,6	2	1 696	7,6	2	1 726	9,9
3	2 048	5,1	3	1 001	4,5	3	1 039	6,0
4	1 534	3,9	4	754	3,4	4	783	4,5
5	1 516	3,8	5	729	3,3	5	777	4,5
6	1 303	3,3	6	682	3,1	6	611	3,5
7	1 022	2,6	7	511	2,3	7	543	3,1
8	1 009	2,5	8	474	2,1	8	493	2,8
9	753	1,9	9	382	1,7	9	369	2,1
10	636	1,6	10	344	1,5	10	341	2,0
Other natural causes	13 942	35,1	Other natural causes	7 001	31,5	Other natural causes	6 823	39,3
Non-natural causes	6 544	16,5	Non-natural causes	5 345	24,1	Non-natural causes	1 156	6,7
All causes	39 768	100,0	All causes	22 195	100,0	All causes	17 376	100,0
Gauteng, both sexes, 50-64			Gauteng, males, 50-64			Gauteng, females, 50-64		
No.	%		No.	%		No.	%	
1	1 716	7,9	1	1 140	9,0	1	585	6,5
2	1 356	6,3	2	808	6,4	2	569	6,3
3	1 312	6,0	3	746	5,9	3	566	6,3
4	1 303	6,0	4	723	5,7	4	557	6,2
5	1 185	5,5	5	618	4,9	5	541	6,0
6	750	3,5	6	537	4,3	6	357	4,0
7	705	3,3	7	463	3,7	7	344	3,8
8	703	3,2	8	442	3,5	8	278	3,1
9	693	3,2	9	344	2,7	9	261	2,9
10	464	2,1	10	288	2,3	10	230	2,6
Other natural causes	10 273	47,4	Other natural causes	5 606	44,5	Other natural causes	4 402	48,8
Non-natural causes	1 228	5,7	Non-natural causes	894	7,1	Non-natural causes	329	3,6
All causes	21 688	100,0	All causes	12 609	100,0	All causes	9 019	100,0
Gauteng, both sexes, 65+			Gauteng, males, 65+			Gauteng, females, 65+		
No.	%		No.	%		No.	%	
1	2 587	8,9	1	1 008	7,9	1	1 632	10,0
2	2 581	8,9	2	961	7,6	2	1 578	9,6
3	1 892	6,5	3	944	7,4	3	1 159	7,1
4	1 774	6,1	4	741	5,8	4	1 148	7,0
5	1 720	5,9	5	741	5,8	5	845	5,2
6	1 505	5,2	6	657	5,2	6	811	4,9
7	1 333	4,6	7	572	4,5	7	592	3,6
8	1 040	3,6	8	560	4,4	8	467	2,9
9	643	2,2	9	507	4,0	9	335	2,0
10	586	2,0	10	351	2,8	10	326	2,0
Other natural causes	12 532	43,0	Other natural causes	5 201	40,9	Other natural causes	7 030	42,9
Non-natural causes	948	3,3	Non-natural causes	484	3,8	Non-natural causes	461	2,8
All causes	29 141	100,0	All causes	12 727	100,0	All causes	16 384	100,0

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

Appendix M8: The ten leading underlying natural causes of death by age and sex: Mpumalanga, 2011

Mpumalanga, both sexes, all ages			Mpumalanga, males, all ages			Mpumalanga, females, all ages		
	No.	%		No.	%		No.	%
1 Tuberculosis (A15-A19)*	5 103	13,4	1 Tuberculosis (A15-A19)*	2 852	14,6	1 Tuberculosis (A15-A19)*	2 238	12,2
2 Influenza and pneumonia (J09-J18)	3 083	8,1	2 Influenza and pneumonia (J09-J18)	1 607	8,2	2 Influenza and pneumonia (J09-J18)	1 468	8,0
3 Intestinal infectious diseases (A00-A09)	2 213	5,8	3 Intestinal infectious diseases (A00-A09)	1 070	5,5	3 Cerebrovascular diseases (I60-I69)	1 254	6,8
4 Cerebrovascular diseases (I60-I69)	2 161	5,7	4 Cerebrovascular diseases (I60-I69)	904	4,6	4 Intestinal infectious diseases (A00-A09)	1 132	6,1
5 Other forms of heart disease (I30-I52)	1 564	4,1	5 Other forms of heart disease (I30-I52)	713	3,7	5 Diabetes mellitus (E10-E14)	938	5,1
6 Diabetes mellitus (E10-E14)	1 513	4,0	6 Other viral diseases (B25-B34)	605	3,1	6 Hypertensive diseases (I10-I15)	854	4,6
7 Hypertensive diseases (I10-I15)	1 437	3,8	7 Human immunodeficiency virus [HIV] disease (B20-B24)	600	3,1	7 Other forms of heart disease (I30-I52)	850	4,6
8 Human immunodeficiency virus [HIV] disease (B20-B24)	1 308	3,4	8 Certain disorders involving the immune mechanism (D80-D89)	584	3,0	8 Human immunodeficiency virus [HIV] disease (B20-B24)	703	3,8
9 Certain disorders involving the immune mechanism (D80-D89)	1 219	3,2	9 Hypertensive diseases (I10-I15)	582	3,0	9 Certain disorders involving the immune mechanism (D80-D89)	635	3,4
10 Other viral diseases (B25-B34)	1 194	3,1	10 Diabetes mellitus (E10-E14)	572	2,9	10 Other viral diseases (B25-B34)	587	3,2
Other natural causes	13 877	36,5	Other natural causes	6 877	35,3	Other natural causes	6 941	37,7
Non-natural causes	3 365	8,8	Non-natural causes	2 525	13,0	Non-natural causes	819	4,4
All causes	38 037	100,0	All causes	19 491	100,0	All causes	18 419	100,0
Mpumalanga, both sexes, 0-14			Mpumalanga, males, 0-14			Mpumalanga, females, 0-14		
	No.	%		No.	%		No.	%
1 Intestinal infectious diseases (A00-A09)	733	19,7	1 Intestinal infectious diseases (A00-A09)	377	19,0	1 Intestinal infectious diseases (A00-A09)	347	20,4
2 Influenza and pneumonia (J09-J18)	432	11,6	2 Influenza and pneumonia (J09-J18)	218	11,0	2 Influenza and pneumonia (J09-J18)	212	12,4
3 Respiratory and cardiovascular disorders specific to the perinatal period (P20-)	327	8,8	3 Respiratory and cardiovascular disorders specific to the perinatal period (P20-)	185	9,3	3 Respiratory and cardiovascular disorders specific to the perinatal period (P20-)	131	7,7
4 Tuberculosis (A15-A19)*	160	4,3	4 Tuberculosis (A15-A19)*	88	4,4	4 Tuberculosis (A15-A19)*	72	4,2
5 Malnutrition (E40-E46)	109	2,9	5 Malnutrition (E40-E46)	61	3,1	5 Other acute lower respiratory infections (J20-J22)	58	3,4
6 Disorders related to length of gestation and fetal growth (P05-P08)	98	2,6	6 Other disorders originating in the perinatal period (P90-P96)	55	2,8	6 Disorders related to length of gestation and fetal growth (P05-P08)	50	2,9
7 Other disorders originating in the perinatal period (P90-P96)	96	2,6	7 Disorders related to length of gestation and fetal growth (P05-P08)	47	2,4	7 Malnutrition (E40-E46)	47	2,8
8 Other acute lower respiratory infections (J20-J22)	95	2,5	8 Other viral diseases (B25-B34)	40	2,0	8 Other disorders originating in the perinatal period (P90-P96)	41	2,4
9 Other viral diseases (B25-B34)	76	2,0	9 Other acute lower respiratory infections (J20-J22)	37	1,9	9 Human immunodeficiency virus [HIV] disease (B20-B24)	36	2,1
10 Fetus and newborn affected by maternal factors and by complications of	67	1,8	10 Fetus and newborn affected by maternal factors and by complications of	35	1,8	10 Other viral diseases (B25-B34)	35	2,1
Other natural causes	1 173	31,4	Other natural causes	620	31,2	Other natural causes	536	31,5
Non-natural causes	364	9,8	Non-natural causes	224	11,3	Non-natural causes	139	8,2
All causes	3 730	100,0	All causes	1 987	100,0	All causes	1 704	100,0
Mpumalanga, both sexes, 15-49			Mpumalanga, males, 15-49			Mpumalanga, females, 15-49		
	No.	%		No.	%		No.	%
1 Tuberculosis (A15-A19)*	3 452	20,0	1 Tuberculosis (A15-A19)*	1 779	19,9	1 Tuberculosis (A15-A19)*	1 667	20,0
2 Influenza and pneumonia (J09-J18)	1 569	9,1	2 Influenza and pneumonia (J09-J18)	746	8,4	2 Influenza and pneumonia (J09-J18)	820	9,9
3 Human immunodeficiency virus [HIV] disease (B20-B24)	1 017	5,9	3 Human immunodeficiency virus [HIV] disease (B20-B24)	455	5,1	3 Human immunodeficiency virus [HIV] disease (B20-B24)	560	6,7
4 Certain disorders involving the immune mechanism (D80-D89)	939	5,4	4 Other viral diseases (B25-B34)	451	5,0	4 Certain disorders involving the immune mechanism (D80-D89)	520	6,3
5 Other viral diseases (B25-B34)	898	5,2	5 Certain disorders involving the immune mechanism (D80-D89)	419	4,7	5 Other viral diseases (B25-B34)	446	5,4
6 Intestinal infectious diseases (A00-A09)	824	4,8	6 Intestinal infectious diseases (A00-A09)	377	4,2	6 Intestinal infectious diseases (A00-A09)	445	5,4
7 Inflammatory diseases of the central nervous system (G00-G09)	477	2,8	7 Other acute lower respiratory infections (J20-J22)	204	2,3	7 Inflammatory diseases of the central nervous system (G00-G09)	277	3,3
8 Other acute lower respiratory infections (J20-J22)	431	2,5	8 Inflammatory diseases of the central nervous system (G00-G09)	199	2,2	8 Other acute lower respiratory infections (J20-J22)	224	2,7
9 Other forms of heart disease (I30-I52)	344	2,0	9 Cerebrovascular diseases (I60-I69)	160	1,8	9 Other forms of heart disease (I30-I52)	194	2,3
10 Cerebrovascular diseases (I60-I69)	331	1,9	10 Other forms of heart disease (I30-I52)	149	1,7	10 Cerebrovascular diseases (I60-I69)	171	2,1
Other natural causes	4 731	27,4	Other natural causes	2 177	24,4	Other natural causes	2 547	30,6
Non-natural causes	2 273	13,1	Non-natural causes	1 817	20,3	Non-natural causes	444	5,3
All causes	17 286	100,0	All causes	8 933	100,0	All causes	8 315	100,0
Mpumalanga, both sexes, 50-64			Mpumalanga, males, 50-64			Mpumalanga, females, 50-64		
	No.	%		No.	%		No.	%
1 Tuberculosis (A15-A19)*	990	13,2	1 Tuberculosis (A15-A19)*	676	15,4	1 Tuberculosis (A15-A19)*	311	10,1
2 Influenza and pneumonia (J09-J18)	528	7,0	2 Influenza and pneumonia (J09-J18)	363	8,3	2 Diabetes mellitus (E10-E14)	298	9,6
3 Diabetes mellitus (E10-E14)	522	7,0	3 Cerebrovascular diseases (I60-I69)	273	6,2	3 Cerebrovascular diseases (I60-I69)	233	7,5
4 Cerebrovascular diseases (I60-I69)	507	6,8	4 Diabetes mellitus (E10-E14)	223	5,1	4 Hypertensive diseases (I10-I15)	188	6,1
5 Other forms of heart disease (I30-I52)	376	5,0	5 Other forms of heart disease (I30-I52)	206	4,7	5 Other forms of heart disease (I30-I52)	170	5,5
6 Hypertensive diseases (I10-I15)	374	5,0	6 Hypertensive diseases (I10-I15)	185	4,2	6 Influenza and pneumonia (J09-J18)	163	5,3
7 Intestinal infectious diseases (A00-A09)	298	4,0	7 Chronic lower respiratory diseases (J40-J47)	176	4,0	7 Intestinal infectious diseases (A00-A09)	123	4,0
8 Chronic lower respiratory diseases (J40-J47)	262	3,5	8 Intestinal infectious diseases (A00-A09)	175	4,0	8 Malignant neoplasm of female genital organs (C51-C58)	110	3,6
9 Other viral diseases (B25-B34)	187	2,5	9 Ischaemic heart diseases (I20-I25)	128	2,9	9 Human immunodeficiency virus [HIV] disease (B20-B24)	87	2,8
10 Certain disorders involving the immune mechanism (D80-D89)	187	2,5	10 Certain disorders involving the immune mechanism (D80-D89)	114	2,6	10 Other viral diseases (B25-B34)	87	2,8
Other natural causes	2 811	37,5	Other natural causes	1 538	35,1	Other natural causes	1 200	38,8
Non-natural causes	451	6,0	Non-natural causes	330	7,5	Non-natural causes	120	3,9
All causes	7 493	100,0	All causes	4 387	100,0	All causes	3 090	100,0
Mpumalanga, both sexes, 65+			Mpumalanga, males, 65+			Mpumalanga, females, 65+		
	No.	%		No.	%		No.	%
1 Cerebrovascular diseases (I60-I69)	1 307	14,0	1 Cerebrovascular diseases (I60-I69)	462	11,4	1 Cerebrovascular diseases (I60-I69)	843	16,0
2 Hypertensive diseases (I10-I15)	925	9,9	2 Hypertensive diseases (I10-I15)	334	8,2	2 Hypertensive diseases (I10-I15)	591	11,2
3 Other forms of heart disease (I30-I52)	797	8,5	3 Other forms of heart disease (I30-I52)	329	8,1	3 Diabetes mellitus (E10-E14)	513	9,7
4 Diabetes mellitus (E10-E14)	775	8,3	4 Tuberculosis (A15-A19)	293	7,2	4 Other forms of heart disease (I30-I52)	468	8,9
5 Influenza and pneumonia (J09-J18)	541	5,8	5 Influenza and pneumonia (J09-J18)	274	6,7	5 Influenza and pneumonia (J09-J18)	267	5,1
6 Tuberculosis (A15-A19)	479	5,1	6 Diabetes mellitus (E10-E14)	260	6,4	6 Intestinal infectious diseases (A00-A09)	216	4,1
7 Intestinal infectious diseases (A00-A09)	353	3,8	7 Chronic lower respiratory diseases (J40-J47)	206	5,1	7 Tuberculosis (A15-A19)	185	3,5
8 Chronic lower respiratory diseases (J40-J47)	318	3,4	8 Ischaemic heart diseases (I20-I25)	158	3,9	8 Ischaemic heart diseases (I20-I25)	133	2,5
9 Ischaemic heart diseases (I20-I25)	291	3,1	9 Intestinal infectious diseases (A00-A09)	137	3,4	9 Malignant neoplasm of female genital organs (C51-C58)	119	2,3
10 Other acute lower respiratory infections (J20-J22)	166	1,8	10 Malignant neoplasm of male genital organs (C60-C63)	116	2,9	10 Chronic lower respiratory diseases (J40-J47)	112	2,1
Other natural causes	3 152	33,7	Other natural causes	1 372	33,8	Other natural causes	1 706	32,4
Non-natural causes	238	2,5	Non-natural causes	122	3,0	Non-natural causes	116	2,2
All causes	9 342	100,0	All causes	4 063	100,0	All causes	5 269	100,0

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

Appendix M9: The ten leading underlying natural causes of death by age and sex: Limpopo, 2011

Limpopo, both sexes, all ages			Limpopo, males, all ages			Limpopo, females, all ages		
No.	%		No.	%		No.	%	
1	5 376	11,4	1	2 590	11,0	1	2 771	11,7
2	4 311	9,1	2	2 409	10,3	2	1 895	8,0
3	3 369	7,1	3	1 573	6,7	3	1 782	7,5
4	2 384	5,0	4	923	3,9	4	1 459	6,1
5	1 879	4,0	5	825	3,5	5	1 054	4,4
6	1 692	3,6	6	760	3,2	6	965	4,1
7	1 636	3,5	7	666	2,8	7	930	3,9
8	1 371	2,9	8	573	2,4	8	797	3,4
9	937	2,0	9	471	2,0	9	477	2,0
10	792	1,7	10	459	2,0	10	427	1,8
	19 812	41,8		9 487	40,5		10 151	42,7
	3 788	8,0		2 715	11,6		1 055	4,4
All causes	47 347	100,0	All causes	23 451	100,0	All causes	23 763	100,0
Limpopo, both sexes, 0-14			Limpopo, males, 0-14			Limpopo, females, 0-14		
No.	%		No.	%		No.	%	
1	892	17,6	1	454	17,1	1	430	18,1
2	713	14,0	2	361	13,6	2	345	14,6
3	407	8,0	3	229	8,6	3	164	6,9
4	199	3,9	4	106	4,0	4	93	3,9
5	130	2,6	5	62	2,3	5	68	2,9
6	125	2,5	6	62	2,3	6	57	2,4
7	96	1,9	7	51	1,9	7	50	2,1
8	92	1,8	8	41	1,5	8	42	1,8
9	81	1,6	9	40	1,5	9	35	1,5
10	68	1,3	10	39	1,5	10	31	1,3
	1 803	35,5		923	34,8		866	36,5
	476	9,4		286	10,8		190	8,0
All causes	5 082	100,0	All causes	2 654	100,0	All causes	2 371	100,0
Limpopo, both sexes, 15-49			Limpopo, males, 15-49			Limpopo, females, 15-49		
No.	%		No.	%		No.	%	
1	2 838	15,7	1	1 430	16,1	1	1 402	15,4
2	2 125	11,8	2	909	10,2	2	1 208	13,3
3	1 324	7,3	3	577	6,5	3	765	8,4
4	1 217	6,7	4	449	5,0	4	743	8,2
5	686	3,8	5	308	3,5	5	378	4,2
6	557	3,1	6	251	2,8	6	304	3,3
7	358	2,0	7	159	1,8	7	208	2,3
8	345	1,9	8	149	1,7	8	186	2,0
9	295	1,6	9	132	1,5	9	163	1,8
10	255	1,4	10	114	1,3	10	147	1,6
	5 604	31,1		2 541	28,5		3 053	33,5
	2 440	13,5		1 882	21,1		546	6,0
All causes	18 044	100,0	All causes	8 901	100,0	All causes	9 103	100,0
Limpopo, both sexes, 50-64			Limpopo, males, 50-64			Limpopo, females, 50-64		
No.	%		No.	%		No.	%	
1	910	10,6	1	643	12,2	1	282	8,6
2	863	10,1	2	581	11,0	2	267	8,1
3	540	6,3	3	283	5,4	3	257	7,8
4	482	5,6	4	271	5,1	4	228	6,9
5	470	5,5	5	253	4,8	5	199	6,0
6	368	4,3	6	198	3,8	6	170	5,2
7	321	3,7	7	183	3,5	7	138	4,2
8	267	3,1	8	156	3,0	8	126	3,8
9	219	2,6	9	147	2,8	9	120	3,6
10	188	2,2	10	128	2,4	10	63	1,9
	3 491	40,7		2 098	39,8		1 323	40,2
	451	5,3		332	6,3		118	3,6
All causes	8 570	100,0	All causes	5 273	100,0	All causes	3 291	100,0
Limpopo, both sexes, 65+			Limpopo, males, 65+			Limpopo, females, 65+		
No.	%		No.	%		No.	%	
1	1 665	10,7	1	731	11,2	1	1 100	12,3
2	1 660	10,7	2	559	8,5	2	934	10,4
3	1 042	6,7	3	419	6,4	3	632	7,1
4	980	6,3	4	410	6,3	4	560	6,3
5	862	5,6	5	315	4,8	5	547	6,1
6	678	4,4	6	272	4,2	6	410	4,6
7	427	2,8	7	268	4,1	7	156	1,7
8	381	2,5	8	225	3,4	8	155	1,7
9	267	1,7	9	180	2,7	9	153	1,7
10	260	1,7	10	144	2,2	10	125	1,4
	6 897	44,5		2 831	43,2		3 989	44,6
	383	2,5		192	2,9		191	2,1
All causes	15 502	100,0	All causes	6 546	100,0	All causes	8 952	100,0

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

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), 2011

Province of death	District municipality of death occurrence	Certain infectious and parasitic diseases	Neoplasms	Diseases of the blood and immune mechanism	Endocrine, nutritional and metabolic diseases	Diseases of the nervous system	Diseases of the circulatory system	Diseases of the respiratory system	Diseases of the digestive system	Perinatal conditions	Other natural causes	External causes of morbidity and mortality	Total
		A00–B99*	C00–D48	D50–D89	E00–E90	G00–G99	I00–I99	J00–J99	K00–K93	P00–P96	Other	V01–Y98	
Western Cape	Cape Winelands	1 272	1 050	49	500	110	1 256	649	194	99	722	748	6 649
	Central Karoo	154	101	11	52	16	182	98	17	21	76	143	871
	City of Cape Town	4 495	4 622	271	2 162	603	5 179	1 926	639	488	2 947	3 134	26 466
	Eden	819	864	63	408	101	1 180	516	132	84	369	515	5 051
	Overberg	324	417	18	155	40	490	211	45	26	212	275	2 213
	West Coast	554	530	35	221	66	741	343	57	68	312	373	3 300
	Unspecified	222	221	12	100	20	198	97	31	15	151	126	1 193
	Total	7 840	7 805	459	3 598	956	9 226	3 840	1 115	801	4 789	5 314	45 743
Eastern Cape	Joe Gqabi	831	180	212	161	112	610	544	107	47	1 318	364	4 486
	Alfred Nzo	1 090	114	140	139	119	394	429	89	81	3 246	433	6 274
	Amatole	3 365	768	378	660	460	2 397	2 126	305	90	2 877	1 454	14 880
	Buffalo city	2 576	1 344	235	658	264	1 969	1 130	287	82	988	1 341	10 874
	Cacadu	1 052	402	109	243	88	852	423	88	56	904	422	4 639
	Chris Hani	2 247	467	307	476	307	1 552	1 373	249	128	1 505	837	9 448
	Nelson Mandela Bay Metro	1 376	759	240	474	167	1 239	562	199	105	574	569	6 264
	O R Tambo	3 405	574	256	456	357	1 267	1 023	333	56	5 338	1 433	14 498
	Unspecified	341	90	52	63	41	248	191	33	11	486	116	1 672
		Total	16 283	4 698	1 929	3 330	1 915	10 528	7 801	1 690	656	17 236	6 969	73 035
Northern Cape	Frances Baard	789	300	190	196	83	603	445	129	68	685	327	3 815
	John Taolo Gaetsewe	343	81	47	53	38	193	345	16	74	1 041	177	2 408
	Namakwa	85	88	7	30	15	125	77	15	24	538	74	1 078
	Pixley ka Seme	817	355	132	284	94	770	539	131	94	475	335	4 026
	Siyanda	696	239	139	136	60	450	358	79	65	348	285	2 855
	Unspecified	91	24	13	26	10	60	67	15	15	178	37	536
		Total	2 821	1 087	528	725	300	2 201	1 831	385	340	3 265	1 235	14 718

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

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), 2011

Province of death	District municipality of death occurrence	Certain infectious and parasitic diseases	Neoplasms	Diseases of the blood and immune mechanism	Endocrine, nutritional and metabolic diseases	Diseases of the nervous system	Diseases of the circulatory system	Diseases of the respiratory system	Diseases of the digestive system	Perinatal conditions	Other natural causes	External causes of morbidity and mortality	Total
		A00–B99*	C00–D48	D50–D89	E00–E90	G00–G99	I00–I99	J00–J99	K00–K93	P00–P96	Other	V01–Y98	
Free State	Fezile Dabi	1 112	289	316	324	146	1 104	1 076	134	126	458	498	5 583
	Lejweleputswa	1 949	385	307	538	234	1 470	1 795	225	237	1 646	737	9 523
	Mangaung	1 876	843	365	424	195	1 452	1 155	256	236	2 705	786	10 293
	Thabo Mofutsanyane	2 966	464	630	696	295	2 087	2 030	339	346	1 082	807	11 742
	Xhariep	546	220	149	132	71	420	407	84	36	733	267	3 065
	Unspecified	91	23	18	26	7	68	75	11	12	65	33	429
	Total	8 540	2 224	1 785	2 140	948	6 601	6 538	1 049	993	6 689	3 128	40 635
KwaZulu-Natal	Amajuba	1 341	255	153	285	145	1 034	948	166	104	426	345	5 202
	Sisonke	1 815	243	175	366	179	763	672	150	140	1 036	435	5 974
	UMgungundlovu	2 898	809	183	787	246	1 863	986	329	138	1 526	958	10 723
	Ugu	3 493	504	229	649	272	1 592	1 169	266	139	1 244	822	10 379
	Umkhanyakude	1 745	225	54	192	86	561	244	103	66	789	355	4 420
	Umzinyathi	1 589	172	232	262	141	790	524	115	122	806	463	5 216
	Uthukela	2 048	298	376	392	217	1 460	863	184	165	622	641	7 266
	Uthungulu	2 788	424	242	487	213	1 198	757	277	285	1 221	866	8 758
	Zululand	2 890	280	176	362	265	929	812	165	176	1 242	632	7 929
	eThekwini	6 673	2 215	383	2 008	628	5 230	2 331	727	490	4 087	2 764	27 536
	iLembe	1 876	237	188	338	165	749	390	142	141	721	474	5 421
	Unspecified	1 803	330	94	306	147	945	572	119	69	921	522	5 828
Total	30 959	5 992	2 485	6 434	2 704	17 114	10 268	2 743	2 035	14 641	9 277	104 652	
North West	Bojanala Platinum	2 881	577	519	671	246	2 367	1 640	264	299	2 678	1 167	13 309
	Dr Kenneth Kaunda	2 106	774	294	376	161	1 243	863	200	223	976	644	7 860
	Dr Ruth Segomotsi Mompoti	1 383	245	413	252	98	946	923	97	157	858	305	5 677
	Ngaka Modiri Molema	2 440	405	335	486	198	1 826	1 845	233	338	1 403	592	10 101
	Unspecified	130	32	8	31	7	129	102	5	11	99	54	608
	Total	8 940	2 033	1 569	1 816	710	6 511	5 373	799	1 028	6 014	2 762	37 555

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

Appendix N2: Number of deaths by main groups of causes of death and district municipality of death occurrence (Gauteng, Mpumalanga and Limpopo), 2011

Province of death	District municipality of death occurrence	Certain infectious and parasitic diseases	Neoplasms	Diseases of the blood and immune mechanism	Endocrine, nutritional and metabolic diseases	Diseases of the nervous system	Diseases of the circulatory system	Diseases of the respiratory system	Diseases of the digestive system	Perinatal conditions	Other natural causes	External causes of morbidity and mortality	Total
		A00–B99*	C00–D48	D50–D89	E00–E90	G00–G99	I00–I99	J00–J99	K00–K93	P00–P96	Other	V01–Y98	
Gauteng	City of Johannesburg	5 113	2 981	700	1 256	711	4 303	2 885	753	906	6 949	2 912	29 469
	City of Tshwane	3 640	2 118	687	1 299	490	4 310	2 357	573	343	1 955	1 802	19 574
	Ekurhuleni	5 340	1 775	785	1 386	826	4 006	3 351	728	795	5 288	2 444	26 724
	Sedibeng	2 326	800	309	663	399	2 431	1 975	355	266	1 122	977	11 623
	West Rand	1 757	750	271	461	241	1 563	1 131	295	235	1 744	1 121	9 569
	Unspecified	764	392	138	175	111	541	386	97	83	621	484	3 792
	Total	18 940	8 816	2 890	5 240	2 778	17 154	12 085	2 801	2 628	17 679	9 740	100 751
Mpu–malanga	Ehlanzeni	5 009	805	582	787	509	2 321	1 629	457	245	1 407	1 222	14 973
	Gert Sibande	2 883	416	565	647	295	1 430	1 634	357	279	1 459	970	10 935
	Nkangala	2 596	465	367	639	225	2 046	1 658	278	177	1 143	1 019	10 613
	Unspecified	446	49	38	76	38	221	218	62	21	193	154	1 516
	Total	10 934	1 735	1 552	2 149	1 067	6 018	5 139	1 154	722	4 202	3 365	38 037
Limpopo	Capricorn	2 632	779	199	656	255	1 712	1 661	385	220	1 919	906	11 324
	Greater Sekhukhune	2 230	279	298	437	147	1 470	2 056	180	80	799	645	8 621
	Mopani	2 302	360	292	444	322	913	1 128	286	208	2 062	584	8 901
	Vhembe	1 839	445	158	588	144	883	825	294	196	3 208	685	9 265
	Waterberg	1 098	295	165	219	91	651	613	124	102	1 118	499	4 975
	Unspecified	1 080	161	125	220	89	569	742	82	64	660	469	4 261
	Total	11 181	2 319	1 237	2 564	1 048	6 198	7 025	1 351	870	9 766	3 788	47 347

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

Appendix O: Percentage distribution of deaths by main groups of causes of death and district municipality of death occurrence (Western Cape, Eastern Cape and Northern Cape), 2011

Province of death	District municipality of death occurrence	Certain infectious and parasitic diseases	Neoplasms	Diseases of the blood and immune mechanism	Endocrine, nutritional and metabolic diseases	Diseases of the nervous system	Diseases of the circulatory system	Diseases of the respiratory system	Diseases of the digestive system	Perinatal conditions	Other natural causes	External causes of morbidity and mortality	Total
		A00–B99*	C00–D48	D50–D89	E00–E90	G00–G99	I00–I99	J00–J99	K00–K93	P00–P96	Other	V01–Y98	
Western Cape	Cape Winelands	19,1	15,8	0,7	7,5	1,7	18,9	9,8	2,9	1,5	10,9	11,2	100,0
	Central Karoo	17,7	11,6	1,3	6,0	1,8	20,9	11,3	2,0	2,4	8,7	16,4	100,0
	City of Cape Town	17,0	17,5	1,0	8,2	2,3	19,6	7,3	2,4	1,8	11,1	11,8	100,0
	Eden	16,2	17,1	1,2	8,1	2,0	23,4	10,2	2,6	1,7	7,3	10,2	100,0
	Overberg	14,6	18,8	0,8	7,0	1,8	22,1	9,5	2,0	1,2	9,6	12,4	100,0
	West Coast	16,8	16,1	1,1	6,7	2,0	22,5	10,4	1,7	2,1	9,5	11,3	100,0
	Unspecified	18,6	18,5	1,0	8,4	1,7	16,6	8,1	2,6	1,3	12,7	10,6	100,0
Total		17,1	17,1	1,0	7,9	2,1	20,2	8,4	2,4	1,8	10,5	11,6	100,0
Eastern Cape	Joe Gqabi	18,5	4,0	4,7	3,6	2,5	13,6	12,1	2,4	1,0	29,4	8,1	100,0
	Alfred Nzo	17,4	1,8	2,2	2,2	1,9	6,3	6,8	1,4	1,3	51,7	6,9	100,0
	Amatole	22,6	5,2	2,5	4,4	3,1	16,1	14,3	2,0	0,6	19,3	9,8	100,0
	Buffalo city	23,7	12,4	2,2	6,1	2,4	18,1	10,4	2,6	0,8	9,1	12,3	100,0
	Cacadu	22,7	8,7	2,3	5,2	1,9	18,4	9,1	1,9	1,2	19,5	9,1	100,0
	Chris Hani	23,8	4,9	3,2	5,0	3,2	16,4	14,5	2,6	1,4	15,9	8,9	100,0
	Nelson Mandela Bay Metro	22,0	12,1	3,8	7,6	2,7	19,8	9,0	3,2	1,7	9,2	9,1	100,0
	O R Tambo	23,5	4,0	1,8	3,1	2,5	8,7	7,1	2,3	0,4	36,8	9,9	100,0
	Unspecified	20,4	5,4	3,1	3,8	2,5	14,8	11,4	2,0	0,7	29,1	6,9	100,0
Total		22,3	6,4	2,6	4,6	2,6	14,4	10,7	2,3	0,9	23,6	9,5	100,0
Northern Cape	Frances Baard	20,7	7,9	5,0	5,1	2,2	15,8	11,7	3,4	1,8	18,0	8,6	100,0
	John Taolo Gaetsewe	14,2	3,4	2,0	2,2	1,6	8,0	14,3	0,7	3,1	43,2	7,4	100,0
	Namakwa	7,9	8,2	0,6	2,8	1,4	11,6	7,1	1,4	2,2	49,9	6,9	100,0
	Pixley ka Seme	20,3	8,8	3,3	7,1	2,3	19,1	13,4	3,3	2,3	11,8	8,3	100,0
	Siyanda	24,4	8,4	4,9	4,8	2,1	15,8	12,5	2,8	2,3	12,2	10,0	100,0
	Unspecified	17,0	4,5	2,4	4,9	1,9	11,2	12,5	2,8	2,8	33,2	6,9	100,0
	Total		19,2	7,4	3,6	4,9	2,0	15,0	12,4	2,6	2,3	22,2	8,4	100,0

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

Appendix O1: Percentage distribution of deaths by main groups of causes of death and district municipality of death occurrence (Free State, KwaZulu-Natal and North West), 2011

Province of death	District municipality of death occurrence	Certain infectious and parasitic diseases	Neoplasms	Diseases of the blood and immune mechanism	Endocrine, nutritional and metabolic diseases	Diseases of the nervous system	Diseases of the circulatory system	Diseases of the respiratory system	Diseases of the digestive system	Perinatal conditions	Other natural causes	External causes of morbidity and mortality	Total
		A00–B99*	C00–D48	D50–D89	E00–E90	G00–G99	I00–I99	J00–J99	K00–K93	P00–P96	Other	V01–Y98	
Free State	Fezile Dabi	19,9	5,2	5,7	5,8	2,6	19,8	19,3	2,4	2,3	8,2	8,9	100,0
	Lejweleputswa	20,5	4,0	3,2	5,6	2,5	15,4	18,8	2,4	2,5	17,3	7,7	100,0
	Mangaung	18,2	8,2	3,5	4,1	1,9	14,1	11,2	2,5	2,3	26,3	7,6	100,0
	Thabo Mofutsanyane	25,3	4,0	5,4	5,9	2,5	17,8	17,3	2,9	2,9	9,2	6,9	100,0
	Xhariep	17,8	7,2	4,9	4,3	2,3	13,7	13,3	2,7	1,2	23,9	8,7	100,0
	Unspecified	21,2	5,4	4,2	6,1	1,6	15,9	17,5	2,6	2,8	15,2	7,7	100,0
	Total	21,0	5,5	4,4	5,3	2,3	16,2	16,1	2,6	2,4	16,5	7,7	100,0
KwaZulu-Natal	Amajuba	25,8	4,9	2,9	5,5	2,8	19,9	18,2	3,2	2,0	8,2	6,6	100,0
	Sisonke	30,4	4,1	2,9	6,1	3,0	12,8	11,2	2,5	2,3	17,3	7,3	100,0
	UMgungundlovu	27,0	7,5	1,7	7,3	2,3	17,4	9,2	3,1	1,3	14,2	8,9	100,0
	Ugu	33,7	4,9	2,2	6,3	2,6	15,3	11,3	2,6	1,3	12,0	7,9	100,0
	Umkhanyakude	39,5	5,1	1,2	4,3	1,9	12,7	5,5	2,3	1,5	17,9	8,0	100,0
	Umzinyathi	30,5	3,3	4,4	5,0	2,7	15,1	10,0	2,2	2,3	15,5	8,9	100,0
	Uthukela	28,2	4,1	5,2	5,4	3,0	20,1	11,9	2,5	2,3	8,6	8,8	100,0
	Uthungulu	31,8	4,8	2,8	5,6	2,4	13,7	8,6	3,2	3,3	13,9	9,9	100,0
	Zululand	36,4	3,5	2,2	4,6	3,3	11,7	10,2	2,1	2,2	15,7	8,0	100,0
	eThekwini	24,2	8,0	1,4	7,3	2,3	19,0	8,5	2,6	1,8	14,8	10,0	100,0
	iLembe	34,6	4,4	3,5	6,2	3,0	13,8	7,2	2,6	2,6	13,3	8,7	100,0
	Unspecified	30,9	5,7	1,6	5,3	2,5	16,2	9,8	2,0	1,2	15,8	9,0	100,0
Total	29,6	5,7	2,4	6,1	2,6	16,4	9,8	2,6	1,9	14,0	8,9	100,0	
North West	Bojanala Platinum	21,6	4,3	3,9	5,0	1,8	17,8	12,3	2,0	2,2	20,1	8,8	100,0
	Dr Kenneth Kaunda	26,8	9,8	3,7	4,8	2,0	15,8	11,0	2,5	2,8	12,4	8,2	100,0
	Dr Ruth Segomotsi Mompati	24,4	4,3	7,3	4,4	1,7	16,7	16,3	1,7	2,8	15,1	5,4	100,0
	Ngaka Modiri Molema	24,2	4,0	3,3	4,8	2,0	18,1	18,3	2,3	3,3	13,9	5,9	100,0
	Unspecified	21,4	5,3	1,3	5,1	1,2	21,2	16,8	0,8	1,8	16,3	8,9	100,0
	Total	23,8	5,4	4,2	4,8	1,9	17,3	14,3	2,1	2,7	16,0	7,4	100,0

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

Appendix O2: Percentage distribution of deaths by main groups of causes of death and district municipality of death occurrence (Gauteng, Mpumalanga and Limpopo), 2011

Province of death	District municipality of death occurrence	Certain infectious and parasitic diseases	Neoplasms	Diseases of the blood and immune mechanism	Endocrine, nutritional and metabolic diseases	Diseases of the nervous system	Diseases of the circulatory system	Diseases of the respiratory system	Diseases of the digestive system	Perinatal conditions	Other natural causes	External causes of morbidity and mortality	Total
		A00–B99*	C00–D48	D50–D89	E00–E90	G00–G99	I00–I99	J00–J99	K00–K93	P00–P96	Other	V01–Y98	
Gauteng	City of Johannesburg	17,4	10,1	2,4	4,3	2,4	14,6	9,8	2,6	3,1	23,6	9,9	100,0
	City of Tshwane	18,6	10,8	3,5	6,6	2,5	22,0	12,0	2,9	1,8	10,0	9,2	100,0
	Ekurhuleni	20,0	6,6	2,9	5,2	3,1	15,0	12,5	2,7	3,0	19,8	9,1	100,0
	Sedibeng	20,0	6,9	2,7	5,7	3,4	20,9	17,0	3,1	2,3	9,7	8,4	100,0
	West Rand	18,4	7,8	2,8	4,8	2,5	16,3	11,8	3,1	2,5	18,2	11,7	100,0
	Unspecified	20,1	10,3	3,6	4,6	2,9	14,3	10,2	2,6	2,2	16,4	12,8	100,0
	Total		18,8	8,8	2,9	5,2	2,8	17,0	12,0	2,8	2,6	17,5	9,7	100,0
Mpu-malanga	Ehlanzeni	33,5	5,4	3,9	5,3	3,4	15,5	10,9	3,1	1,6	9,4	8,2	100,0
	Gert Sibande	26,4	3,8	5,2	5,9	2,7	13,1	14,9	3,3	2,6	13,3	8,9	100,0
	Nkangala	24,5	4,4	3,5	6,0	2,1	19,3	15,6	2,6	1,7	10,8	9,6	100,0
	Unspecified	29,4	3,2	2,5	5,0	2,5	14,6	14,4	4,1	1,4	12,7	10,2	100,0
	Total		28,7	4,6	4,1	5,6	2,8	15,8	13,5	3,0	1,9	11,0	8,8	100,0
Limpopo	Capricorn	23,2	6,9	1,8	5,8	2,3	15,1	14,7	3,4	1,9	16,9	8,0	100,0
	Greater Sekhukhune	25,9	3,2	3,5	5,1	1,7	17,1	23,8	2,1	0,9	9,3	7,5	100,0
	Mopani	25,9	4,0	3,3	5,0	3,6	10,3	12,7	3,2	2,3	23,2	6,6	100,0
	Vhembe	19,8	4,8	1,7	6,3	1,6	9,5	8,9	3,2	2,1	34,6	7,4	100,0
	Waterberg	22,1	5,9	3,3	4,4	1,8	13,1	12,3	2,5	2,1	22,5	10,0	100,0
	Unspecified	25,3	3,8	2,9	5,2	2,1	13,4	17,4	1,9	1,5	15,5	11,0	100,0
	Total		23,6	4,9	2,6	5,4	2,2	13,1	14,8	2,9	1,8	20,6	8,0

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

Appendix P: The ten leading underlying natural causes of death by district municipality of death occurrence, Western Cape, 2011*

Cape Wineland		No.	%	Central Karoo		No.	%	City of Cape Town		No.	%
1	Human immunodeficiency virus [HIV] disease (B20-B24)	495	7,4	1	Tuberculosis (A15-A19)**	77	8,8	1	Diabetes mellitus (E10-E14)	1 764	6,7
2	Tuberculosis (A15-A19)**	473	7,1	2	Chronic lower respiratory diseases (J40-J47)	60	6,9	2	Tuberculosis (A15-A19)**	1 752	6,6
3	Cerebrovascular diseases (I60-I69)	454	6,8	3	Cerebrovascular diseases (I60-I69)	57	6,5	3	Ischaemic heart diseases (I20-I25)	1 601	6,0
4	Diabetes mellitus (E10-E14)	391	5,9	4	Human immunodeficiency virus [HIV] disease (B20-B24)	39	4,5	4	Human immunodeficiency virus [HIV] disease (B20-B24)	1 513	5,7
5	Chronic lower respiratory diseases (J40-J47)	389	5,9	4	Other forms of heart disease (I30-I52)	39	4,5	5	Cerebrovascular diseases (I60-I69)	1 425	5,4
6	Ischaemic heart diseases (I20-I25)	362	5,4	6	Hypertensive diseases (I10-I15)	38	4,4	6	Malignant neoplasm of digestive organs (C15-C26)	1 147	4,3
7	Malignant neoplasm of digestive organs (C15-C26)	268	4,0	7	Diabetes mellitus (E10-E14)	37	4,2	7	Hypertensive diseases (I10-I15)	1 022	3,9
8	Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	265	4,0	8	Ischaemic heart diseases (I20-I25)	34	3,9	8	Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	1 014	3,8
9	Hypertensive diseases (I10-I15)	193	2,9	9	Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	32	3,7	9	Chronic lower respiratory diseases (J40-J47)	984	3,7
10	Influenza and pneumonia (J09-J18)	173	2,6	10	Malignant neoplasm of digestive organs (C15-C26)	25	2,9	10	Other forms of heart disease (I30-I52)	767	2,9
	Other natural causes	2 438	36,7		Other natural causes	290	33,3		Other natural causes	10 343	39,1
	Non-natural causes	748	11,2		Non-natural causes	143	16,4		Non-natural causes	3 134	11,8
	All causes	6 649	100,0		All causes	871	100,0		All causes	26 466	100,0
Eden		No.	%	Overberg		No.	%	West Coast		No.	%
1	Cerebrovascular diseases (I60-I69)	424	8,4	1	Ischaemic heart diseases (I20-I25)	165	7,5	1	Tuberculosis (A15-A19)**	319	9,7
2	Tuberculosis (A15-A19)**	373	7,4	2	Cerebrovascular diseases (I60-I69)	148	6,7	2	Cerebrovascular diseases (I60-I69)	256	7,8
3	Ischaemic heart diseases (I20-I25)	330	6,5	3	Tuberculosis (A15-A19)**	144	6,5	3	Ischaemic heart diseases (I20-I25)	226	6,8
4	Diabetes mellitus (E10-E14)	327	6,5	4	Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	123	5,6	4	Chronic lower respiratory diseases (J40-J47)	196	5,9
5	Chronic lower respiratory diseases (J40-J47)	272	5,4	5	Diabetes mellitus (E10-E14)	120	5,4	5	Diabetes mellitus (E10-E14)	179	5,4
6	Human immunodeficiency virus [HIV] disease (B20-B24)	265	5,2	6	Chronic lower respiratory diseases (J40-J47)	116	5,2	6	Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	151	4,6
7	Malignant neoplasm of digestive organs (C15-C26)	216	4,3	7	Malignant neoplasm of digestive organs (C15-C26)	108	4,9	7	Malignant neoplasm of digestive organs (C15-C26)	126	3,8
8	Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	203	4,0	8	Human immunodeficiency virus [HIV] disease (B20-B24)	95	4,3	8	Human immunodeficiency virus [HIV] disease (B20-B24)	107	3,2
9	Other forms of heart disease (I30-I52)	200	4,0	9	Other forms of heart disease (I30-I52)	69	3,1	9	Hypertensive diseases (I10-I15)	105	3,2
10	Influenza and pneumonia (J09-J18)	169	3,3	10	Hypertensive diseases (I10-I15)	67	3,0	10	Other forms of heart disease (I30-I52)	105	3,2
	Other natural causes	1 757	34,8		Other natural causes	783	35,4		Other natural causes	1 157	35,1
	Non-natural causes	515	10,2		Non-natural causes	275	12,4		Non-natural causes	373	11,3
	All causes	5 051	100,0		All causes	2 213	100,0		All causes	3 300	100,0

*Excluding 1 193 cases with unspecified district municipality.

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

Appendix P1: The ten leading underlying natural causes of death by district municipality of death occurrence, Eastern Cape, 2011*

Alfred Nzo		No.	%	Amathole		No.	%	Buffalo City Metro		No.	%
1	Tuberculosis (A15-A19)**	557	8,9	1	Tuberculosis (A15-A19)**	1 606	10,8	1	Tuberculosis (A15-A19)**	1 571	14,4
2	Other viral diseases (B25-B34)	226	3,6	2	Chronic lower respiratory diseases (J40-J47)	869	5,8	2	Cerebrovascular diseases (I60-I69)	624	5,7
3	Intestinal infectious diseases (A00-A09)	167	2,7	3	Other forms of heart disease (I30-I52)	776	5,2	3	Other forms of heart disease (I30-I52)	549	5,0
4	Influenza and pneumonia (J09-J18)	164	2,6	4	Cerebrovascular diseases (I60-I69)	767	5,2	4	Diabetes mellitus (E10-E14)	529	4,9
5	Cerebrovascular diseases (I60-I69)	146	2,3	5	Influenza and pneumonia (J09-J18)	707	4,8	5	Malignant neoplasm of digestive organs (C15-C26)	485	4,5
6	Other forms of heart disease (I30-I52)	119	1,9	6	Other viral diseases (B25-B34)	575	3,9	6	Chronic lower respiratory diseases (J40-J47)	448	4,1
7	Certain disorders involving the immune mechanism (D80-D89)	104	1,7	7	Hypertensive diseases (I10-I15)	550	3,7	7	Influenza and pneumonia (J09-J18)	382	3,5
8	Other acute lower respiratory infections (J20-J22)	95	1,5	8	Human immunodeficiency virus [HIV] disease (B20-B24)	502	3,4	8	Hypertensive diseases (I10-I15)	373	3,4
9	Other diseases of the respiratory system (J95-J99)	79	1,3	9	Diabetes mellitus (E10-E14)	490	3,3	9	Other viral diseases (B25-B34)	339	3,1
10	Diabetes mellitus (E10-E14)	78	1,2	10	Intestinal infectious diseases (A00-A09)	434	2,9	10	Ischaemic heart diseases (I20-I25)	245	2,3
	Other natural causes	4 106	65,4		Other natural causes	6 150	41,3		Other natural causes	3 988	36,7
	Non-natural causes	433	6,9		Non-natural causes	1 454	9,8		Non-natural causes	1 341	12,3
	All causes	6 274	100,0		All causes	14 880	100,0		All causes	10 874	100,0
Cacadu		No.	%	Chris Hani		No.	%	Joe Gqabi		No.	%
1	Tuberculosis (A15-A19)**	586	12,6	1	Tuberculosis (A15-A19)**	1 246	13,2	1	Tuberculosis (A15-A19)**	374	8,3
2	Cerebrovascular diseases (I60-I69)	279	6,0	2	Other forms of heart disease (I30-I52)	588	6,2	2	Influenza and pneumonia (J09-J18)	291	6,5
3	Human immunodeficiency virus [HIV] disease (B20-B24)	251	5,4	3	Influenza and pneumonia (J09-J18)	541	5,7	3	Other forms of heart disease (I30-I52)	204	4,5
4	Other forms of heart disease (I30-I52)	205	4,4	4	Chronic lower respiratory diseases (J40-J47)	482	5,1	4	Certain disorders involving the immune mechanism (D80-D89)	194	4,3
5	Chronic lower respiratory diseases (J40-J47)	185	4,0	5	Cerebrovascular diseases (I60-I69)	446	4,7	5	Cerebrovascular diseases (I60-I69)	177	3,9
6	Diabetes mellitus (E10-E14)	172	3,7	6	Intestinal infectious diseases (A00-A09)	374	4,0	6	Intestinal infectious diseases (A00-A09)	141	3,1
7	Hypertensive diseases (I10-I15)	162	3,5	7	Diabetes mellitus (E10-E14)	364	3,9	7	Human immunodeficiency virus [HIV] disease (B20-B24)	122	2,7
8	Influenza and pneumonia (J09-J18)	159	3,4	8	Other viral diseases (B25-B34)	338	3,6	8	Diabetes mellitus (E10-E14)	121	2,7
9	Ischaemic heart diseases (I20-I25)	150	3,2	9	Hypertensive diseases (I10-I15)	283	3,0	9	Other viral diseases (B25-B34)	118	2,6
10	Malignant neoplasm of digestive organs (C15-C26)	115	2,5	10	Certain disorders involving the immune mechanism (D80-D89)	253	2,7	10	Hypertensive diseases (I10-I15)	109	2,4
	Other natural causes	1 953	42,1		Other natural causes	3 696	39,1		Other natural causes	2 271	50,6
	Non-natural causes	422	9,1		Non-natural causes	837	8,9		Non-natural causes	364	8,1
	All causes	4 639	100,0		All causes	9 448	100,0		All causes	4 486	100,0

*Excluding 1 672 cases with unspecified district municipality.

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

Appendix P1: The ten leading underlying natural causes of death by district municipality of death occurrence, Eastern Cape, 2011* (concluded)

Nelson Mandela Bay Metro		No.	%	O. R. Tambo		No.	%
1	Tuberculosis (A15-A19)**	788	12,6	1	Tuberculosis (A15-A19)**	1 428	9,8
2	Diabetes mellitus (E10-E14)	400	6,4	2	Other viral diseases (B25-B34)	708	4,9
3	Cerebrovascular diseases (I60-I69)	399	6,4	3	Human immunodeficiency virus [HIV] disease (B20-B24)	684	4,7
4	Hypertensive diseases (I10-I15)	318	5,1	4	Other forms of heart disease (I30-I52)	485	3,3
5	Chronic lower respiratory diseases (J40-J47)	294	4,7	5	Cerebrovascular diseases (I60-I69)	465	3,2
6	Human immunodeficiency virus [HIV] disease (B20-B24)	236	3,8	6	Influenza and pneumonia (J09-J18)	412	2,8
7	Other forms of heart disease (I30-I52)	228	3,6	7	Intestinal infectious diseases (A00-A09)	371	2,6
8	Ischaemic heart diseases (I20-I25)	217	3,5	8	Diabetes mellitus (E10-E14)	325	2,2
9	Malignant neoplasm of digestive organs (C15-C26)	210	3,4	9	Chronic lower respiratory diseases (J40-J47)	250	1,7
10	Certain disorders involving the immune mechanism (D80-D89)	201	3,2	10	Malignant neoplasm of digestive organs (C15-C26)	223	1,5
	Other natural causes	2 404	38,4		Other natural causes	7 714	53,2
	Non-natural causes	569	9,1		Non-natural causes	1 433	9,9
	All causes	6 264	100,0		All causes	14 498	100,0

*Excluding 1 672 cases with unspecified district municipality.

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

Appendix P2: The ten leading underlying natural causes of death by district municipality of death occurrence, Northern Cape, 2011*

Frances Baard		No.	%	John Taolo Gaetsewe		No.	%	Namakwa		No.	%
1	Tuberculosis (A15-A19)**	372	9,8	1	Influenza and pneumonia (J09-J18)	143	5,9	1	Chronic lower respiratory diseases (J40-J47)	44	4,1
2	Influenza and pneumonia (J09-J18)	232	6,1	2	Tuberculosis (A15-A19)**	134	5,6	2	Tuberculosis (A15-A19)**	41	3,8
3	Cerebrovascular diseases (I60-I69)	188	4,9	3	Other acute lower respiratory infections (J20-J22)	122	5,1	3	Cerebrovascular diseases (I60-I69)	34	3,2
4	Human immunodeficiency virus [HIV] disease (B20-B24)	171	4,5	4	Intestinal infectious diseases (A00-A09)	105	4,4	4	Ischaemic heart diseases (I20-I25)	31	2,9
5	Certain disorders involving the immune mechanism (D80-D89)	156	4,1	5	Human immunodeficiency virus [HIV] disease (B20-B24)	75	3,1	5	Other forms of heart disease (I30-I52)	24	2,2
6	Other forms of heart disease (I30-I52)	152	4,0	6	Other forms of heart disease (I30-I52)	62	2,6	6	Hypertensive diseases (I10-I15)	23	2,1
7	Hypertensive diseases (I10-I15)	140	3,7	7	Cerebrovascular diseases (I60-I69)	53	2,2	7	Human immunodeficiency virus [HIV] disease (B20-B24)	20	1,9
8	Intestinal infectious diseases (A00-A09)	111	2,9	8	Hypertensive diseases (I10-I15)	50	2,1	7	Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	20	1,9
8	Chronic lower respiratory diseases (J40-J47)	111	2,9	9	Chronic lower respiratory diseases (J40-J47)	36	1,5	9	Diabetes mellitus (E10-E14)	18	1,7
10	Diabetes mellitus (E10-E14)	108	2,8	10	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	30	1,2	10	Malignant neoplasm of digestive organs (C15-C26)	17	1,6
	Other natural causes	1 747	45,8		Other natural causes	1 421	59,0		Other natural causes	732	67,9
	Non-natural causes	327	8,6		Non-natural causes	177	7,4		Non-natural causes	74	6,9
	All causes	3 815	100,0		All causes	2 408	100,0		All causes	1 078	100,0
Pixley ka Seme		No.	%	Siyanda		No.	%				
1	Tuberculosis (A15-A19)**	397	9,9	1	Tuberculosis (A15-A19)**	263	9,2				
2	Cerebrovascular diseases (I60-I69)	260	6,5	2	Human immunodeficiency virus [HIV] disease (B20-B24)	194	6,8				
3	Influenza and pneumonia (J09-J18)	214	5,3	3	Chronic lower respiratory diseases (J40-J47)	160	5,6				
4	Other forms of heart disease (I30-I52)	200	5,0	4	Cerebrovascular diseases (I60-I69)	129	4,5				
5	Chronic lower respiratory diseases (J40-J47)	190	4,7	5	Influenza and pneumonia (J09-J18)	117	4,1				
6	Human immunodeficiency virus [HIV] disease (B20-B24)	182	4,5	6	Intestinal infectious diseases (A00-A09)	116	4,1				
7	Diabetes mellitus (E10-E14)	129	3,2	7	Certain disorders involving the immune mechanism (D80-D89)	114	4,0				
8	Ischaemic heart diseases (I20-I25)	123	3,1	8	Hypertensive diseases (I10-I15)	107	3,7				
9	Hypertensive diseases (I10-I15)	106	2,6	9	Diabetes mellitus (E10-E14)	94	3,3				
10	Malignant neoplasm of digestive organs (C15-C26)	88	2,2	10	Ischaemic heart diseases (I20-I25)	84	2,9				
	Other natural causes	1 802	44,8		Other natural causes	1 192	41,8				
	Non-natural causes	335	8,3		Non-natural causes	285	10,0				
	All causes	4 026	100,0		All causes	2 855	100,0				

*Excluding 536 cases with unspecified district municipality.

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

Appendix P3: The ten leading underlying natural causes of death by district municipality of death occurrence, Free State, 2011*

Fezile Dabi		No.	%	Lejweleputswa		No.	%	Mangaung Metro		No.	%
1	Influenza and pneumonia (J09-J18)	733	13,1	1	Influenza and pneumonia (J09-J18)	1 338	14,1	1	Tuberculosis (A15-A19)**	1 076	10,5
2	Tuberculosis (A15-A19)**	523	9,4	2	Tuberculosis (A15-A19)**	867	9,1	2	Influenza and pneumonia (J09-J18)	789	7,7
3	Other forms of heart disease (I30-I52)	408	7,3	3	Other forms of heart disease (I30-I52)	512	5,4	3	Cerebrovascular diseases (I60-I69)	536	5,2
4	Cerebrovascular diseases (I60-I69)	276	4,9	4	Intestinal infectious diseases (A00-A09)	502	5,3	4	Other forms of heart disease (I30-I52)	374	3,6
5	Intestinal infectious diseases (A00-A09)	263	4,7	5	Cerebrovascular diseases (I60-I69)	425	4,5	5	Intestinal infectious diseases (A00-A09)	330	3,2
6	Certain disorders involving the immune mechanism (D80-D89)	240	4,3	6	Hypertensive diseases (I10-I15)	266	2,8	6	Certain disorders involving the immune mechanism (D80-D89)	294	2,9
7	Hypertensive diseases (I10-I15)	215	3,9	7	Diabetes mellitus (E10-E14)	249	2,6	7	Hypertensive diseases (I10-I15)	256	2,5
8	Diabetes mellitus (E10-E14)	185	3,3	8	Certain disorders involving the immune mechanism (D80-D89)	221	2,3	8	Diabetes mellitus (E10-E14)	248	2,4
9	Chronic lower respiratory diseases (J40-J47)	139	2,5	9	Chronic lower respiratory diseases (J40-J47)	207	2,2	9	Ischaemic heart diseases (I20-I25)	183	1,8
10	Human immunodeficiency virus [HIV] disease (B20-B24)	136	2,4	10	Ischaemic heart diseases (I20-I25)	180	1,9	10	Renal failure (N17-N19)	179	1,7
	Other natural causes	1 967	35,2		Other natural causes	4 019	42,2		Other natural causes	5 242	50,9
	Non-natural causes	498	8,9		Non-natural causes	737	7,7		Non-natural causes	786	7,6
	All causes	5 583	100,0		All causes	9 523	100,0		All causes	10 293	100,0
Thabo Mofutsanyane		No.	%	Xhariep		No.	%				
1	Influenza and pneumonia (J09-J18)	1 202	10,2	1	Tuberculosis (A15-A19)**	303	9,9				
2	Tuberculosis (A15-A19)**	1 099	9,4	2	Influenza and pneumonia (J09-J18)	266	8,7				
3	Intestinal infectious diseases (A00-A09)	864	7,4	3	Cerebrovascular diseases (I60-I69)	155	5,1				
4	Other forms of heart disease (I30-I52)	803	6,8	4	Certain disorders involving the immune mechanism (D80-D89)	139	4,5				
5	Cerebrovascular diseases (I60-I69)	561	4,8	5	Other forms of heart disease (I30-I52)	125	4,1				
6	Certain disorders involving the immune mechanism (D80-D89)	520	4,4	6	Intestinal infectious diseases (A00-A09)	114	3,7				
7	Diabetes mellitus (E10-E14)	412	3,5	7	Chronic lower respiratory diseases (J40-J47)	80	2,6				
8	Other viral diseases (B25-B34)	398	3,4	8	Diabetes mellitus (E10-E14)	65	2,1				
9	Hypertensive diseases (I10-I15)	380	3,2	9	Hypertensive diseases (I10-I15)	53	1,7				
10	Human immunodeficiency virus [HIV] disease (B20-B24)	371	3,2	10	Ischaemic heart diseases (I20-I25)	51	1,7				
	Other natural causes	4 325	36,8		Other natural causes	1 447	47,2				
	Non-natural causes	807	6,9		Non-natural causes	267	8,7				
	All causes	11 742	100,0		All causes	3 065	100,0				

*Excluding 429 cases with unspecified district municipality.

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

Appendix P4: The ten leading underlying natural causes of death by district municipality of death occurrence, KwaZulu-Natal, 2011*

Amajuba		No.	%	eThekweni Metro		No.	%	iLembe		No.	%
1	Tuberculosis (A15-A19)**	756	14,5	1	Tuberculosis (A15-A19)**	3 372	12,2	1	Tuberculosis (A15-A19)**	903	16,7
2	Other forms of heart disease (I30-I52)	469	9,0	2	Other forms of heart disease (I30-I52)	1 722	6,3	2	Intestinal infectious diseases (A00-A09)	328	6,1
3	Influenza and pneumonia (J09-J18)	411	7,9	3	Diabetes mellitus (E10-E14)	1 629	5,9	3	Cerebrovascular diseases (I60-I69)	314	5,8
4	Other acute lower respiratory infections (J20-J22)	372	7,2	4	Cerebrovascular diseases (I60-I69)	1 379	5,0	4	Other viral diseases (B25-B34)	280	5,2
5	Cerebrovascular diseases (I60-I69)	271	5,2	5	Human immunodeficiency virus [HIV] disease (B20-B24)	1 213	4,4	5	Diabetes mellitus (E10-E14)	247	4,6
6	Intestinal infectious diseases (A00-A09)	231	4,4	6	Influenza and pneumonia (J09-J18)	1 157	4,2	6	Human immunodeficiency virus [HIV] disease (B20-B24)	235	4,3
7	Diabetes mellitus (E10-E14)	192	3,7	7	Ischaemic heart diseases (I20-I25)	1 143	4,2	7	Influenza and pneumonia (J09-J18)	170	3,1
8	Hypertensive diseases (I10-I15)	187	3,6	8	Intestinal infectious diseases (A00-A09)	765	2,8	8	Certain disorders involving the immune mechanism (D80-D89)	160	3,0
9	Renal failure (N17-N19)	121	2,3	9	Other viral diseases (B25-B34)	735	2,7	9	Other forms of heart disease (I30-I52)	153	2,8
10	Other viral diseases (B25-B34)	112	2,2	10	Hypertensive diseases (I10-I15)	696	2,5	10	Hypertensive diseases (I10-I15)	129	2,4
	Other natural causes	1 735	33,4		Other natural causes	10 961	39,8		Other natural causes	2 028	37,4
	Non-natural causes	345	6,6		Non-natural causes	2 764	10,0		Non-natural causes	474	8,7
	All causes	5 202	100,0		All causes	27 536	100,0		All causes	5 421	100,0
Sisonke		No.	%	Ugu		No.	%	uMgungundlovu		No.	%
1	Tuberculosis (A15-A19)**	965	16,2	1	Tuberculosis (A15-A19)**	1 684	16,2	1	Tuberculosis (A15-A19)**	1 201	11,2
2	Influenza and pneumonia (J09-J18)	338	5,7	2	Cerebrovascular diseases (I60-I69)	725	7,0	2	Human immunodeficiency virus [HIV] disease (B20-B24)	710	6,6
3	Other viral diseases (B25-B34)	328	5,5	3	Influenza and pneumonia (J09-J18)	611	5,9	3	Diabetes mellitus (E10-E14)	645	6,0
4	Cerebrovascular diseases (I60-I69)	314	5,3	4	Other viral diseases (B25-B34)	585	5,6	4	Cerebrovascular diseases (I60-I69)	566	5,3
5	Intestinal infectious diseases (A00-A09)	277	4,6	5	Human immunodeficiency virus [HIV] disease (B20-B24)	554	5,3	5	Hypertensive diseases (I10-I15)	456	4,3
6	Diabetes mellitus (E10-E14)	271	4,5	6	Diabetes mellitus (E10-E14)	500	4,8	6	Influenza and pneumonia (J09-J18)	445	4,1
7	Other forms of heart disease (I30-I52)	208	3,5	7	Intestinal infectious diseases (A00-A09)	465	4,5	7	Other forms of heart disease (I30-I52)	429	4,0
8	Chronic lower respiratory diseases (J40-J47)	185	3,1	8	Other forms of heart disease (I30-I52)	341	3,3	8	Intestinal infectious diseases (A00-A09)	367	3,4
9	Hypertensive diseases (I10-I15)	152	2,5	9	Hypertensive diseases (I10-I15)	308	3,0	9	Other viral diseases (B25-B34)	338	3,2
10	Certain disorders involving the immune mechanism (D80-D89)	144	2,4	10	Chronic lower respiratory diseases (J40-J47)	300	2,9	10	Ischaemic heart diseases (I20-I25)	311	2,9
	Other natural causes	2 357	39,5		Other natural causes	3 484	33,6		Other natural causes	4 297	40,1
	Non-natural causes	435	7,3		Non-natural causes	822	7,9		Non-natural causes	958	8,9
	All causes	5 974	100,0		All causes	10 379	100,0		All causes	10 723	100,0

*Excluding 5 828 cases with unspecified district municipality.

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

Appendix P4: The ten leading underlying natural causes of death by district municipality of death occurrence, KwaZulu-Natal, 2011* (concluded)

uMkhanyakude		No.	%	uMzinyathi		No.	%	uThukela		No.	%
1	Human immunodeficiency virus [HIV] disease (B20-B24)	714	16,2	1	Tuberculosis (A15-A19)**	775	14,9	1	Tuberculosis (A15-A19)**	988	13,6
2	Tuberculosis (A15-A19)**	616	13,9	2	Influenza and pneumonia (J09-J18)	305	5,8	2	Cerebrovascular diseases (I60-I69)	522	7,2
3	Cerebrovascular diseases (I60-I69)	247	5,6	3	Intestinal infectious diseases (A00-A09)	295	5,7	3	Influenza and pneumonia (J09-J18)	477	6,6
4	Intestinal infectious diseases (A00-A09)	166	3,8	4	Other forms of heart disease (I30-I52)	286	5,5	4	Intestinal infectious diseases (A00-A09)	462	6,4
5	Other viral diseases (B25-B34)	156	3,5	5	Cerebrovascular diseases (I60-I69)	274	5,3	5	Other forms of heart disease (I30-I52)	438	6,0
6	Other forms of heart disease (I30-I52)	141	3,2	6	Other viral diseases (B25-B34)	248	4,8	6	Certain disorders involving the immune mechanism (D80-D89)	329	4,5
7	Diabetes mellitus (E10-E14)	137	3,1	7	Certain disorders involving the immune mechanism (D80-D89)	203	3,9	7	Diabetes mellitus (E10-E14)	275	3,8
8	Hypertensive diseases (I10-I15)	124	2,8	8	Diabetes mellitus (E10-E14)	193	3,7	8	Ischaemic heart diseases (I20-I25)	263	3,6
9	Influenza and pneumonia (J09-J18)	108	2,4	9	Human immunodeficiency virus [HIV] disease (B20-B24)	158	3,0	9	Human immunodeficiency virus [HIV] disease (B20-B24)	226	3,1
10	Malignant neoplasm of female genital organs (C51-C58)	51	1,2	10	Hypertensive diseases (I10-I15)	106	2,0	10	Other acute lower respiratory infections (J20-J22)	204	2,8
	Other natural causes	1 605	36,3		Other natural causes	1 910	36,6		Other natural causes	2 441	33,6
	Non-natural causes	355	8,0		Non-natural causes	463	8,9		Non-natural causes	641	8,8
	All causes	4 420	100,0		All causes	5 216	100,0		All causes	7 266	100,0
uThungulu		No.	%	Zululand		No.	%				
1	Tuberculosis (A15-A19)**	1 270	14,5	1	Tuberculosis (A15-A19)**	1 622	20,5				
2	Influenza and pneumonia (J09-J18)	501	5,7	2	Other viral diseases (B25-B34)	457	5,8				
3	Other viral diseases (B25-B34)	462	5,3	3	Intestinal infectious diseases (A00-A09)	448	5,7				
4	Cerebrovascular diseases (I60-I69)	442	5,0	4	Influenza and pneumonia (J09-J18)	425	5,4				
5	Human immunodeficiency virus [HIV] disease (B20-B24)	418	4,8	5	Cerebrovascular diseases (I60-I69)	380	4,8				
6	Other forms of heart disease (I30-I52)	397	4,5	6	Other forms of heart disease (I30-I52)	329	4,1				
7	Diabetes mellitus (E10-E14)	364	4,2	7	Diabetes mellitus (E10-E14)	248	3,1				
8	Intestinal infectious diseases (A00-A09)	330	3,8	8	Other acute lower respiratory infections (J20-J22)	216	2,7				
9	Hypertensive diseases (I10-I15)	237	2,7	9	Human immunodeficiency virus [HIV] disease (B20-B24)	181	2,3				
10	Certain disorders involving the immune mechanism (D80-D89)	184	2,1	10	Inflammatory diseases of the central nervous system (G00-G09)	173	2,2				
	Other natural causes	3 287	37,5		Other natural causes	2 818	35,5				
	Non-natural causes	866	9,9		Non-natural causes	632	8,0				
	All causes	8 758	100,0		All causes	7 929	100,0				

*Excluding 5 828 cases with unspecified district municipality.

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

Appendix P5: The ten leading underlying natural causes of death by district municipality of death occurrence, North West, 2011*

Bojanala Platinum			No.	%	Dr Kenneth Kaunda			No.	%	Dr Ruth Segomotsi Mompoti			No.	%
1	Tuberculosis (A15-A19)**	1 204	9,0	1	Tuberculosis (A15-A19)**	1 088	13,8	1	Tuberculosis (A15-A19)**	573	10,1			
2	Influenza and pneumonia (J09-J18)	903	6,8	2	Influenza and pneumonia (J09-J18)	483	6,1	2	Influenza and pneumonia (J09-J18)	519	9,1			
3	Other forms of heart disease (I30-I52)	865	6,5	3	Cerebrovascular diseases (I60-I69)	386	4,9	3	Certain disorders involving the immune mechanism (D80-D89)	358	6,3			
4	Cerebrovascular diseases (I60-I69)	614	4,6	4	Other viral diseases (B25-B34)	289	3,7	4	Intestinal infectious diseases (A00-A09)	318	5,6			
5	Hypertensive diseases (I10-I15)	591	4,4	5	Hypertensive diseases (I10-I15)	283	3,6	5	Hypertensive diseases (I10-I15)	299	5,3			
6	Intestinal infectious diseases (A00-A09)	549	4,1	6	Other forms of heart disease (I30-I52)	259	3,3	6	Other forms of heart disease (I30-I52)	287	5,1			
7	Other viral diseases (B25-B34)	519	3,9	7	Human immunodeficiency virus [HIV] disease (B20-B24)	255	3,2	7	Cerebrovascular diseases (I60-I69)	260	4,6			
8	Diabetes mellitus (E10-E14)	479	3,6	8	Certain disorders involving the immune mechanism (D80-D89)	253	3,2	8	Other viral diseases (B25-B34)	259	4,6			
9	Certain disorders involving the immune mechanism (D80-D89)	413	3,1	9	Intestinal infectious diseases (A00-A09)	224	2,8	9	Other acute lower respiratory infections (J20-J22)	162	2,9			
10	Chronic lower respiratory diseases (J40-J47)	326	2,4	10	Diabetes mellitus (E10-E14)	214	2,7	10	Human immunodeficiency virus [HIV] disease (B20-B24)	156	2,7			
	Other natural causes	5 679	42,7		Other natural causes	3 482	44,3		Other natural causes	2 181	38,4			
	Non-natural causes	1 167	8,8		Non-natural causes	644	8,2		Non-natural causes	305	5,4			
	All causes	13 309	100,0		All causes	7 860	100,0		All causes	5 677	100,0			
Ngaka Modiri Molema			No.	%										
1	Tuberculosis (A15-A19)**	1 298	12,9											
2	Influenza and pneumonia (J09-J18)	1 180	11,7											
3	Other forms of heart disease (I30-I52)	726	7,2											
4	Hypertensive diseases (I10-I15)	505	5,0											
5	Cerebrovascular diseases (I60-I69)	456	4,5											
6	Intestinal infectious diseases (A00-A09)	443	4,4											
7	Diabetes mellitus (E10-E14)	327	3,2											
8	Chronic lower respiratory diseases (J40-J47)	311	3,1											
9	Other viral diseases (B25-B34)	274	2,7											
10	Certain disorders involving the immune mechanism (D80-D89)	236	2,3											
	Other natural causes	3 753	37,2											
	Non-natural causes	592	5,9											
	All causes	10 101	100,0											

*Excluding 608 cases with unspecified district municipality.

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

Appendix P6: The ten leading underlying natural causes of death by district municipality of death occurrence, Gauteng, 2011*

City of Johannesburg Metro			No.	%	City of Tshwane Metro			No.	%	Ekurhuleni Metro			No.	%
1	Tuberculosis (A15-A19)**	2 108	7,2	1	Tuberculosis (A15-A19)**	1 601	8,2	1	Tuberculosis (A15-A19)**	2 440	9,1			
2	Influenza and pneumonia (J09-J18)	1 597	5,4	2	Other forms of heart disease (I30-I52)	1 376	7,0	2	Influenza and pneumonia (J09-J18)	2 066	7,7			
3	Other forms of heart disease (I30-I52)	1 267	4,3	3	Influenza and pneumonia (J09-J18)	1 175	6,0	3	Other forms of heart disease (I30-I52)	1 229	4,6			
4	Cerebrovascular diseases (I60-I69)	1 141	3,9	4	Hypertensive diseases (I10-I15)	1 130	5,8	4	Cerebrovascular diseases (I60-I69)	938	3,5			
5	Human immunodeficiency virus [HIV] disease (B20-B24)	926	3,1	5	Diabetes mellitus (E10-E14)	950	4,9	4	Diabetes mellitus (E10-E14)	926	3,5			
6	Diabetes mellitus (E10-E14)	865	2,9	6	Cerebrovascular diseases (I60-I69)	827	4,2	6	Hypertensive diseases (I10-I15)	918	3,4			
7	Ischaemic heart diseases (I20-I25)	771	2,6	7	Ischaemic heart diseases (I20-I25)	689	3,5	7	Human immunodeficiency virus [HIV] disease (B20-B24)	763	2,9			
8	Chronic lower respiratory diseases (J40-J47)	719	2,4	8	Intestinal infectious diseases (A00-A09)	607	3,1	8	Intestinal infectious diseases (A00-A09)	747	2,8			
9	Malignant neoplasm of digestive organs (C15-C26)	669	2,3	9	Certain disorders involving the immune mechanism (D80-D89)	519	2,7	9	Other viral diseases (B25-B34)	660	2,5			
10	Other bacterial diseases (A30-A49)	594	2,0	10	Human immunodeficiency virus [HIV] disease (B20-B24)	512	2,6	10	Ischaemic heart diseases (I20-I25)	642	2,4			
	Other natural causes	15 900	54,0		Other natural causes	8 386	42,8		Other natural causes	12 951	48,5			
	Non-natural causes	2 912	9,9		Non-natural causes	1 802	9,2		Non-natural causes	2 444	9,1			
	All causes	29 469	100,0		All causes	19 574	100,0		All causes	26 724	100,0			
Sedibeng			No.	%	West Rand			No.	%					
1	Influenza and pneumonia (J09-J18)	1 421	12,2	1	Tuberculosis (A15-A19)**	858	9,0							
2	Tuberculosis (A15-A19)**	1 056	9,1	2	Influenza and pneumonia (J09-J18)	672	7,0							
3	Other forms of heart disease (I30-I52)	829	7,1	3	Other forms of heart disease (I30-I52)	470	4,9							
4	Hypertensive diseases (I10-I15)	593	5,1	4	Hypertensive diseases (I10-I15)	344	3,6							
5	Cerebrovascular diseases (I60-I69)	544	4,7	5	Ischaemic heart diseases (I20-I25)	326	3,4							
6	Intestinal infectious diseases (A00-A09)	492	4,2	6	Cerebrovascular diseases (I60-I69)	314	3,3							
7	Diabetes mellitus (E10-E14)	454	3,9	7	Intestinal infectious diseases (A00-A09)	295	3,1							
8	Ischaemic heart diseases (I20-I25)	291	2,5	8	Diabetes mellitus (E10-E14)	290	3,0							
9	Chronic lower respiratory diseases (J40-J47)	278	2,4	9	Other viral diseases (B25-B34)	237	2,5							
10	Inflammatory diseases of the central nervous system (G00-G09)	249	2,1	10	Chronic lower respiratory diseases (J40-J47)	221	2,3							
	Other natural causes	4 439	38,2		Other natural causes	4 421	46,2							
	Non-natural causes	977	8,4		Non-natural causes	1 121	11,7							
	All causes	11 623	100,0		All causes	9 569	100,0							

*Excluding 3 792 cases with unspecified district municipality.

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

Appendix P7: The ten leading underlying natural causes of death by district municipality of death occurrence, Mpumalanga, 2011*

Ehlanzeni		No.	%	Gert Sibande		No.	%	Nkangala		No.	%
1	Tuberculosis (A15-A19)**	2 429	16,2	1	Tuberculosis (A15-A19)**	1 320	12,1	1	Tuberculosis (A15-A19)**	1 158	10,9
2	Influenza and pneumonia (J09-J18)	973	6,5	2	Influenza and pneumonia (J09-J18)	964	8,8	2	Influenza and pneumonia (J09-J18)	1 016	9,6
3	Intestinal infectious diseases (A00-A09)	942	6,3	3	Intestinal infectious diseases (A00-A09)	729	6,7	3	Hypertensive diseases (I10-I15)	817	7,7
4	Cerebrovascular diseases (I60-I69)	865	5,8	4	Hypertensive diseases (I10-I15)	502	4,6	4	Other forms of heart disease (I30-I52)	590	5,6
5	Hypertensive diseases (I10-I15)	690	4,6	5	Certain disorders involving the immune mechanism (D80-D89)	463	4,2	5	Diabetes mellitus (E10-E14)	480	4,5
6	Human immunodeficiency virus [HIV] disease (B20-B24)	604	4,0	6	Diabetes mellitus (E10-E14)	434	4,0	6	Intestinal infectious diseases (A00-A09)	443	4,2
7	Diabetes mellitus (E10-E14)	545	3,6	7	Other forms of heart disease (I30-I52)	410	3,7	7	Human immunodeficiency virus [HIV] disease (B20-B24)	395	3,7
7	Other viral diseases (B25-B34)	540	3,6	8	Cerebrovascular diseases (I60-I69)	308	2,8	8	Cerebrovascular diseases (I60-I69)	322	3,0
9	Other forms of heart disease (I30-I52)	508	3,4	8	Other viral diseases (B25-B34)	304	2,8	9	Chronic lower respiratory diseases (J40-J47)	306	2,9
10	Certain disorders involving the immune mechanism (D80-D89)	469	3,1	10	Human immunodeficiency virus [HIV] disease (B20-B24)	273	2,5	10	Other viral diseases (B25-B34)	297	2,8
	Other natural causes	5 186	34,6		Other natural causes	4 258	38,9		Other natural causes	3 770	35,5
	Non-natural causes	1 222	8,2		Non-natural causes	970	8,9		Non-natural causes	1 019	9,6
	All causes	14 973	100,0		All causes	10 935	100,0		All causes	10 613	100,0

*Excluding 1 516 cases with unspecified district municipality.

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

Appendix P8: The ten leading underlying natural causes of death by district municipality of death occurrence, Limpopo, 2011*

Capricorn				Greater Sekhukhune				Mopani			
		No.	%			No.	%			No.	%
1	Influenza and pneumonia (J09-J18)	1 263	11,2	1	Influenza and pneumonia (J09-J18)	1 789	20,8	1	Tuberculosis (A15-A19)**	914	10,3
2	Tuberculosis (A15-A19)**	1 067	9,4	2	Intestinal infectious diseases (A00-A09)	818	9,5	2	Influenza and pneumonia (J09-J18)	759	8,5
3	Hypertensive diseases (I10-I15)	707	6,2	3	Tuberculosis (A15-A19)**	682	7,9	3	Intestinal infectious diseases (A00-A09)	746	8,4
4	Intestinal infectious diseases (A00-A09)	687	6,1	4	Cerebrovascular diseases (I60-I69)	591	6,9	4	Other viral diseases (B25-B34)	320	3,6
5	Diabetes mellitus (E10-E14)	518	4,6	5	Hypertensive diseases (I10-I15)	438	5,1	4	Diabetes mellitus (E10-E14)	318	3,6
6	Other forms of heart disease (I30-I52)	448	4,0	6	Other viral diseases (B25-B34)	381	4,4	6	Cerebrovascular diseases (I60-I69)	295	3,3
7	Other viral diseases (B25-B34)	365	3,2	7	Other forms of heart disease (I30-I52)	324	3,8	7	Other forms of heart disease (I30-I52)	286	3,2
8	Cerebrovascular diseases (I60-I69)	338	3,0	8	Diabetes mellitus (E10-E14)	301	3,5	8	Inflammatory diseases of the central nervous system (G00-G09)	246	2,8
9	Human immunodeficiency virus [HIV] disease (B20-B24)	263	2,3	9	Certain disorders involving the immune mechanism (D80-D89)	250	2,9	9	Hypertensive diseases (I10-I15)	235	2,6
10	Chronic lower respiratory diseases (J40-J47)	237	2,1	10	Chronic lower respiratory diseases (J40-J47)	147	1,7	10	Certain disorders involving the immune mechanism (D80-D89)	231	2,6
	Other natural causes	4 525	40,0		Other natural causes	2 255	26,2		Other natural causes	3 967	44,6
	Non-natural causes	906	8,0		Non-natural causes	645	7,5		Non-natural causes	584	6,6
	All causes	11 324	100,0		All causes	8 621	100,0		All causes	8 901	100,0
Vhembe				Waterberg							
		No.	%			No.	%			No.	%
1	Tuberculosis (A15-A19)**	715	7,7	1	Tuberculosis (A15-A19)**	494	9,9				
2	Intestinal infectious diseases (A00-A09)	568	6,1	2	Influenza and pneumonia (J09-J18)	428	8,6				
3	Influenza and pneumonia (J09-J18)	525	5,7	3	Other viral diseases (B25-B34)	216	4,3				
4	Diabetes mellitus (E10-E14)	427	4,6	4	Intestinal infectious diseases (A00-A09)	206	4,1				
5	Cerebrovascular diseases (I60-I69)	325	3,5	5	Other forms of heart disease (I30-I52)	185	3,7				
6	Other forms of heart disease (I30-I52)	305	3,3	6	Hypertensive diseases (I10-I15)	174	3,5				
7	Other viral diseases (B25-B34)	205	2,2	7	Cerebrovascular diseases (I60-I69)	150	3,0				
8	Hypertensive diseases (I10-I15)	188	2,0	8	Diabetes mellitus (E10-E14)	142	2,9				
9	Diseases of liver (K70-K77)	175	1,9	9	Certain disorders involving the immune mechanism (D80-D89)	120	2,4				
10	Other bacterial diseases (A30-A49)	148	1,6	10	Ischaemic heart diseases (I20-I25)	107	2,2				
	Other natural causes	4 999	54,0		Other natural causes	2 254	45,3				
	Non-natural causes	685	7,4		Non-natural causes	499	10,0				
	All causes	9 265	100,0		All causes	4 975	100,0				

*Excluding 4 261 cases with unspecified district municipality.

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

Appendix Q: Population group differences

There were about 17,9% of death notification forms with missing population group information. This was the proportion of deaths where population group was either unspecified or unknown. Although, the percentage of missing information has declined from previous years (around 25% per year since 1997), the analysis was only limited to the appendix section due to the high proportion of missing information. Accordingly, these results do not provide sufficient information to be useful for policy formulation and planning purposes. As such, the results should be interpreted and used with caution.

Appendix Q1 shows the breakdown of the ten leading underlying natural causes of death by population group for 2011. The top ten leading underlying causes of death common for population groups was *cerebrovascular diseases*, *other forms of heart diseases*, *diabetes mellitus* and *hypertensive diseases* although their rankings varied by population group. On the one, hand, *tuberculosis* was among the ten leading underlying causes of death for all population groups except for the white population. On the other hand, *ischaemic heart diseases* appeared in other population groups excluding for the black Africans. Additionally, *intestinal infectious diseases*, *other viral diseases* and *certain disorders of the immune mechanism* were only present in the ten leading causes of death for the black African population.

When considering the top three leading causes among the population groups, *tuberculosis* was the first leading underlying cause of death for both black Africans (12,9%) and the coloured population group (8,0%). *Influenza and pneumonia* was the second highest (7,6%) amongst the black African population while for the coloured population, *diabetes mellitus* (6,7%) was ranked second. The third leading cause of death for both black Africans and the coloured population were *cerebrovascular diseases*.

Among the white population, *ischaemic heart diseases* were ranked first, responsible for 11,3% of deaths. The second leading cause of death among the white population was *other forms of heart disease* responsible for 7,1% of deaths. *Cerebrovascular diseases* were ranked third (6,8%).

Diabetes mellitus was the leading underlying cause of death among the Indian/Asian population group, responsible for 13,5% of deaths in this population group, while *ischaemic heart diseases* were the second leading cause of death (13,0%). The third leading cause of death among the Indian/Asian population group were *other forms of heart disease*, accounting for 7,9% of deaths.

Human immunodeficiency virus [HIV] disease was ranked sixth (4,2%) amongst black Africans and was ranked eighth (3,9%) amongst coloured population. It was not in the top ten leading underlying causes of death for the white and Indian/Asian population groups.

Non-natural causes of death was highest amongst the coloured population group (10,6%) and was less than 10% for the rest of the other population groups.

Appendix Q1: The ten leading underlying natural causes of death by population group, 2011

Causes of death (based on ICD-10)	Black African			White			Indian or Asian			Coloured			Other/Unknown/Unspecified		
	Rank	No.	%	Rank	No.	%	Rank	No.	%	Rank	No.	%	Rank	No.	%
Tuberculosis (A15-A19)*	1	43 894	12,9	...	...	...	10	179	2,3	1	2 141	8,0	1	7 669	8,4
Influenza and pneumonia (J09-J18)	2	25 931	7,6	6	1 651	4,2	9	209	2,6	...	...	...	2	4 798	5,3
Cerebrovascular diseases (I60-I69)	3	17 170	5,0	3	2 654	6,8	4	479	6,0	3	1 680	6,3	3	3 749	4,1
Intestinal infectious diseases (A00-A09)	4	15 854	4,7	...	...	...	...	...	...	...	...	...	6	2 860	3,1
Other forms of heart disease (I30-I52)	5	15 810	4,6	2	2 784	7,1	3	629	7,9	10	800	3,0	4	3 541	3,9
Human immunodeficiency virus [HIV] disease (B20-B24)	6	14 154	4,2	...	...	...	...	...	...	8	1 040	3,9	...	...	...
Diabetes mellitus (E10-E14)	7	12 831	3,8	7	1 543	4,0	1	1 068	13,5	2	1 790	6,7	5	2 939	3,2
Other viral diseases (B25-B34)	8	12 061	3,5	...	...	...	...	...	...	...	...	...	9	2 209	2,4
Hypertensive diseases (I10-I15)	9	10 928	3,2	9	977	2,5	5	283	3,6	6	1 067	4,0	8	2 274	2,5
Certain disorders involving the immune mechanism (D80-D89)	10	9 207	2,7	...	...	...	...	...	...	...	...	...	...	...	...
Ischaemic heart diseases (I20-I25)	...	...	...	1	4 399	11,3	2	1 034	13,0	5	1 364	5,1	10	1 800	2,0
Chronic lower respiratory diseases (J40-J47)	...	...	...	4	2 119	5,4	7	260	3,3	4	1 664	6,2	7	2 295	2,5
Malignant neoplasm of digestive organs (C15-C26)	...	...	...	5	2 075	5,3	6	273	3,4	9	985	3,7	...	...	...
Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	...	...	...	8	1 352	3,5	...	...	...	7	1 059	4,0	...	...	...
Renal failure (N17-N19)	...	...	...	10	847	2,2	8	241	3,0	...	...	...	...	...	...
Other natural causes		130 315	38,2		15 174	38,9		2 543	32,1		10 296	38,5		50 865	55,7
Non-natural causes		32 573	9,6		3 462	8,9		726	9,2		2 838	10,6		6 391	7,0
All causes		340 728	100,0		39 037	100,0		7 924	100,0		26 724	100,0		91 390	100,0

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