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Mortality and causes of death in South Africa, 2007: Findings from death notification

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Preface

This statistical release presents data on mortality and causes of death based on all death notification forms received from the Department of Home Affairs for deaths that occurred in 2007. Reference is also made to the 1997–2006 data to provide information on trends in mortality, based on updated information that includes late registrations processed in 2008/9. The release also presents tables on mortality and causes of death for district municipalities.

As with previous releases, this release employed strict ICD-10 coding procedures, based on a principle of 'what you see is what you code'. An automated procedure was used to determine the underlying cause of death.

Pali Lehohla
Statistician-General

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Acknowledgements

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1. Introduction

1.1 Background

Accurate and timely mortality statistics are needed for policy formulation, implementation and monitoring of health interventions aimed at increasing life expectancy and improving the health status of the population. The level of mortality is one of the indicators of the well-being and health status of a population, hence its inclusion, among others, in the construction of human development indices, the Millennium Development Goals (MDGs), and in the multi-dimensional approach to the measurement of poverty.

The World Health Organization (2007) has indicated that countries need to know how many people are born and die each year – and the main causes of their deaths – in order to have well-functioning health systems and that the only way to count everyone and to track all births and deaths is through civil registration. The registration of deaths in South Africa is governed by the Births and Deaths Registration Act, 1992 (Act No. 51 of 1992) and is administered by the Department of Home Affairs.

Statistics South Africa (Stats SA), in close collaboration with the Department of Home Affairs (DHA) and the Department of Health (DOH), annually produces information on mortality and causes of death from the civil registration system in South Africa. Concerted efforts to improve the registration of vital events and the quality of data from civil registration system have resulted in a remarkable improvement of this system in the country.

1.2 Aims and objectives of this statistical release

This release is part of a regular series by Stats SA on mortality and causes of death in South Africa, based on data collected through the civil registration system. It has three main aims:

- To outline emerging trends and differentials of mortality by selected demographic and geographic characteristics in 2007.
- To present statistics on the causes of death in 2007 focusing on the underlying causes of death. The information on the underlying causes of death can be used for public health interventions.
- To provide contextual information on the data and methods used in order to support further specialist analysis of the data available from death notification forms.

1.3 Scope and limitations of this statistical release

This release is based on information on mortality and causes of death from the civil registration system. It covers all death notification forms that had reached Stats SA during the 2008/9 processing phase, including mainly deaths that occurred in 2007. It also includes information on late registrations for deaths that occurred during the period 1997–2006. 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 are provided in Appendix A.

Despite improved death registration in South Africa, particularly the introduction of a new death notification form in 1998, there are still some limitations that affect the quality of the information and overall coverage of deaths. Some factors limiting the accuracy and completeness of data obtained from the death notification forms are:

- The data are subject to content errors and omissions. For example, even though provision is made on the death notification form to record deceased's information on education, occupation and type of business or industry, smoking and pregnancy status, these variables have not been analysed in this release, due to lack of completeness of the information.

- Under-registration of deaths, particularly in rural areas and among children. This leads to lower estimates of the total number of deaths that have occurred in the country and may lead to under-estimation of some causes of death. Deriving estimates of completeness of death registration in the country is a complex issue and is not part of this release. However, the release provides an indication of completeness of the information published for deaths that occurred between 2003 and 2007, taking into consideration late registrations for the years 2003–2006.

- The causes of death may also be misreported on the form. This happens when an incorrect cause of death is recorded.

- The causes of death reported on the form may not be detailed (i.e. an ill-defined cause of death). For example, the certifying officials sometimes write 'natural causes' instead of stating the actual cause. The quality of the reported information is determined largely by the diligence and integrity of the certifying official – physician, forensic pathologist, professional nurse or in some rural areas traditional headman.

Extensive assessment of the quality of the information reported on the death notification forms is beyond the scope of this release, and no adjustments were made for misclassification of underlying causes of death due to inadequacies of certification.

1.4 Organisation and presentation of this statistical release

The remainder of this release is organised as follows:

Section 2 describes the data and methods used to provide the results in this release. Issues related to the completeness of the processed information and other aspects of data quality are discussed.

Section 3 reports on the overall levels, patterns, and trends of mortality. Specific emphasis is placed on age and sex. The distributions of deaths by population group, marital status, place of death and province of death are also reported in this section.

Section 4 provides information on the underlying causes of death. The analysis distinguishes between natural and non-natural causes of death and then focuses on the leading underlying causes of death in each category. Information on multiple causes of death is also included.

Summary and concluding remarks are presented in Section 5.

2. Data and methods

2.1 Data

Data source

This release is based on information recorded on death notification forms received from the Department of Home Affairs (DHA) for deaths that occurred in 2007 and were registered at DHA, including late registrations for the period 1997–2006. The death notification form that is currently being used (Form BI-1663) was introduced in 1998, replacing the BI-7 and BI-12 forms that were previously used. A copy of Form BI-1663 is shown in Appendix B.

Death registration takes place at the DHA. After a death is registered, the DHA issues a death certificate and where applicable, updates the national population register (NPR). The forms are then collected by Stats SA for processing, including those captured on the NPR as well as those not eligible for inclusion in the NPR. Therefore, the number of deaths captured by Stats SA is not identical to the number of deaths recorded on the NPR for the same period. For any particular year, the number of death notification forms processed by Stats SA is usually higher than the number of deaths recorded on the NPR.

Stats SA processed a total of 601 133 deaths that occurred in 2007 during the 2008/9 processing phase. This figure is 8,7% higher than the number of 2007 deaths recorded on the NPR (553 144). However, the number of 2007 deaths processed by Stats SA was 1,8% lower than the updated 2006 deaths (612 462) processed. The corresponding figure for the national population register was -0,9% (from 558 002 deaths in 2006 to 553 144 deaths in 2007). Both sources show a decrease in the number of deaths between 2006 and 2007.

Completeness of registration

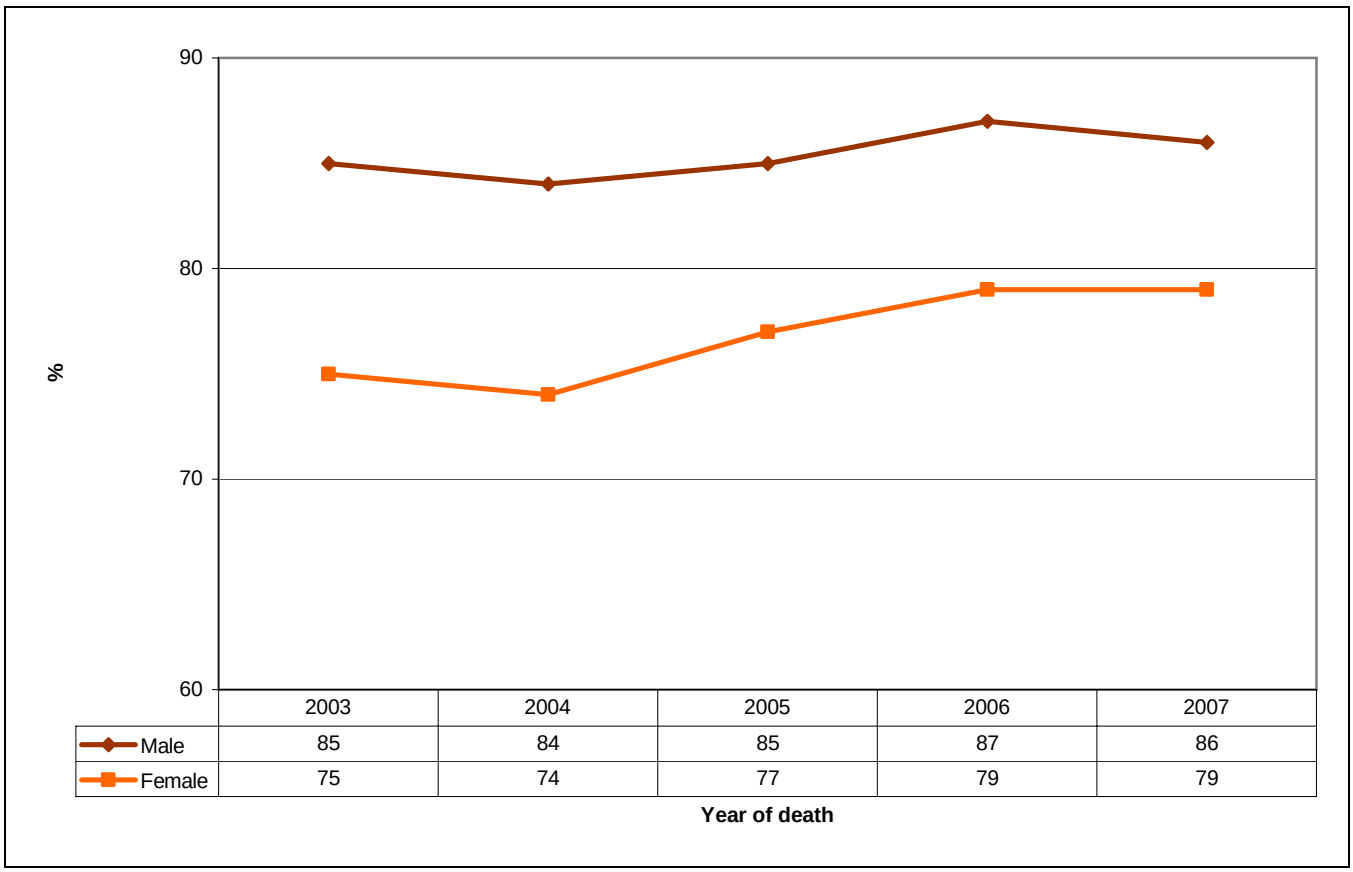
The level of completeness of the deaths reported in this statistical release was estimated by using the Preston and Hill (1980) method. Further details on the choice of this method can be found in the report on *Mortality and causes of death in South Africa, 2003 and 2004: Findings from death notification, Statistical release P0309.3* (Stats SA, 2006). This method was chosen mainly because it is able to provide annual completeness estimates and has minimal input requirements compared to other methods that were considered.

Readers are, however, cautioned against the interpretation of the completeness estimate derived from the Preston and Hill (1980) method. The method assumes a stable and closed population, which is not the case in South Africa. In addition, it assumes that the recording of deaths does not vary with age, which may not necessarily be true. Furthermore, the method provides estimates of completeness of published information for deaths from age five. Other methods (e.g., Bennett and Horiuchi (1981; 1984) and Hill (1987), which provide one estimate of completeness of death registration over an intercensal period, will be considered after the population census scheduled to be carried out in 2011 has been conducted.

Figure 2.1 shows the estimates of death registration completeness from 2003 to 2007. The estimates were based on mid-year population estimates (medium variant) derived by Statistics South Africa (2008) and registered deaths that occurred between 2003 and 2007 (including late registrations). The figure shows that the completeness of death registration has generally improved moderately during the five-year period. In 2003, 85% of male deaths and 75% of female deaths were registered. These figures increased to 86% for male deaths and 79% for female deaths in 2007. Completeness of death registration has remained largely the same between 2006 and 2007. It is further observed that records of male deaths were more complete than female deaths throughout the years and that the gap in completeness of death registration between males and females decreased with time (from a difference of ten (10) percentage points in 2003 to a difference of seven (7) percentage points in 2007.

It is important to note that these estimates of completeness of the published mortality and causes of death information provide an indication of deaths that might never be registered, possible late death registrations, and those that had been registered at the DHA but had not reached Stats SA during the current processing phase.

Figure 2.1: Completeness of death registration by sex and year of death, 2003–2007*



	2003	2004	2005	2006	2007
Male	85	84	85	87	86
Female	75	74	77	79	79

*Data on deaths for 2003–2006 updated to include late registrations.

Completeness of information for selected variables

Other indicators of completeness of information published in this release are based on the percentage of cases where information was unknown or unspecified for specific variables, taking into consideration the applicable sub-set of the population. Table 2.1 shows that less than 1% of deaths had unknown or unspecified information for sex (0,2%) and for age (0,2%). Over 10% of the deaths had unknown or unspecified information on place of death (15,0%) and marital status (17,3%). For a relatively large percentage of deaths (25,9%), the population group was not recorded. More than half of all deaths had unknown or unspecified information on education, smoking status, pregnancy status, industry and occupation.

In this release, no analyses were undertaken for all variables where more than half of the deaths had unknown or unspecified information. However, unit records of data that include these variables are provided for further analysis. A dataset containing unit records of data on recorded deaths for 2007 is available on a compact disc (*Mortality and causes of death from death notification, South Africa: 2007)* on request from Stats SA (Stats SA, 2009).

Table 2.1: Percentage of deaths classified as unknown/unspecified for selected variables, 2007

Variables	Applicable group	% unknown or unspecified
Age	All	0,2
Sex	All	0,2
Place of death	All	15,0
Marital status	All	17,3
Population group	All	25,9
Education	Aged 6 and older	54,8
Smoking status	Aged 16 and older	55,3
Industry	Aged 15 and older	64,6
Pregnancy status	Females aged 10–55	65,4
Occupation	Aged 15 and older	73,6

Late registrations

The current processing phase (2008/9) included death notification forms for deaths that occurred in 2007 and additional death notification forms for the years 1997–2006 that had not been received by Stats SA in the previous processing phases. Table 2.2 provides information on the number of deaths published in October 2008 for the years 1997–2006; additional forms received during the current processing phase for these years; and the overall number of deaths for each year as of August 2009.

In total, 23 245 additional death notification forms for 1997–2006 were processed during 2008/9 (excluding duplicates). This is a substantial increase from a total of 3 542 late registrations processed in the last processing phase. This increase partly resulted from late registrations and partly due to close collaboration during the current processing phase between the DHA and Stats SA in ensuring that all forms at the DHA reached Stats SA for processing. The majority of these (60,6%) were late registrations for the years 2004–2006.

Table 2.2: Number of deaths published in October 2008 and late registrations processed in 2008/9 processing phase by year of death, 1997–2006

Year of death	Number of deaths published in October 2008	Additional forms received in the 2008/9 processing phase	Total number of deaths (by August 2009)
1997	316 559	572	**317 131**
1998	365 109	743	**365 852**
1999	381 037	783	**381 820**
2000	414 768	1 215	**415 983**
2001	453 509	1 338	**454 847**
2002	500 082	1 949	**502 031**
2003	554 199	2 570	**556 769**
2004	572 620	4 080	**576 700**
2005	593 337	4 717	**598 054**
2006	607 184	5 278	**612 462**
Total		**23 245**	

This release will use the updated information for all comparative analyses undertaken between 2007 data and data from previous years. The distribution of these updated deaths (deaths published in October 2008 and additional deaths received during the 2008/9 processing phase) from 1997–2006 by age and sex is provided in Appendices C, C.1, C.2 and C.3.

2.2 Methods

The registration of death takes place at the Department of Home Affairs, in collaboration with the Department of Health for the certification of causes of death. Processing of the forms takes place at Statistics South Africa. The processes include sorting forms by date of death and surname of the deceased, pasting labels of unique identifiers on each form, coding socio-demographic variables and causes of death, data capturing and analysis of data.

Data in this release are presented in tables and graphs, which show frequencies, percentage distributions, median ages and sex ratios. Median ages at death are used to measure the tempo of mortality, which indicates how rapidly or slowly, or how early or late mortality occurs in the population. Medians are preferred over means since the distribution of mortality in age-time or duration-time is likely to be skewed. However, both medians and means may be influenced by the quality of age reporting.

Data on mortality and causes of death are also provided by province of death occurrence, which was derived from information on place names. These data are presented as percentage distributions and death rates. For the calculation of death rates by province of death occurrence, population estimates tabulated by place of enumeration (defacto) for each province are used. The province of death occurrence indicates the province where death actually occurred and defacto population reflects the actual place where a person was found at the time of enumeration. The 2007 defacto population at mid-year was estimated by using the 2007 Community Survey defacto population as input into MOVEPOP (population analysis spreadsheet).

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 from Statistics South Africa. The boundaries for local municipalities and district municipalities are in line with the 2005 demarcations.

Classification of the causes of death

Mortality statistics released in this document are compiled in accordance with WHO regulations that require that member nations classify and code causes of death in accordance with the current revision of the ICD-10 (WHO, 1992). The approach followed in this release is therefore consistent with international best practice. The causes of death data presented were coded by procedures described in the Stats SA manual *Guidelines for coders using ICD-10*[1] (Stats SA, 2002). The ICD-10 coding provides the basic guidance used in virtually all countries to code and classify causes of death data. It provides information on coding in terms of disease, injury and poisoning categories. It also provides the rules for selecting the underlying cause of death from the several diagnoses that may be reported on the death notification form, as well as definitions, tabulation lists, guidelines for the death notification form, and regulations on the use of the classification. The ICD-10 contains approximately 8 000 categories of causes of death. The classification has been constructed for convenience and its usage is not mandatory. The ICD-10 has been adopted by member states, and in South Africa, the National Health Information System of South Africa has also adopted it as its standard.

In November 2003, Stats SA, the South African Medical Association, the Cancer Association of South Africa, the Medical Research Council, and the National Department of Health held a workshop where certain decisions were taken regarding coding problems, including the coding of immunosuppression as immunodeficiency. In terms of the Stats SA coding procedures and guidelines, immunosuppression was not coded as HIV, but as immunodeficiency, which has a separate ICD-10 code. There is no code for immunosuppression in the ICD-10 manuals. However, certifying officials sometimes reported the underlying cause of death as ‘acquired immune suppression’. There is no code in the ICD-10 for ‘acquired immune suppression’. In terms of the Stats SA coding procedures, this term was interpreted as HIV disease and given an HIV code (group B20–B24). If HIV was written on the form, this was also

[1] ICD-10 is the tenth revision of the International Classification of Diseases developed by the World Health Organisation (WHO), which is followed worldwide in order to have a uniform way of classifying morbidity as well as causes of death.

coded in the HIV group, as required by the ICD-10. This approach followed the principle of 'what you see is what you code'.

The ICD-10 methodology also allows for the extension of classifications and codes. Many countries have developed unique codes and categories to reflect specific public health concerns. In South Africa, unique codes (Y67, Y68, Y37, Y38 and Y39) have been introduced for causes of death related to *herbal poisoning, enemas by traditional doctors, mine accidents, accidents in sports*, and *circumcision* respectively. Codes U51 and U52 are used for coding *multidrug-resistant tuberculosis* and *extensively drug-resistant tuberculosis*, respectively.

Changes in coding methodology of non-natural causes of death

During the current processing phase, there were some changes made on coding non-natural causes, specifically on coding *event of undetermined intent (Y10-Y34)* and *other external causes of accidental injury (W00-X59)*. Previously, the majority of non-natural causes (about two-thirds) were coded to *event of undetermined intent*, mainly *unspecified event (Y34)*. However, improvements were made regarding appropriate analysis of information on causes of death recorded on the death notification form. For example, in the previous processing phases, if a death was specified as *accident* on the death notification form, it was coded *unspecified event (Y34)*, but is currently coded as *exposure to unspecified factor (X59)*, which includes *accident not elsewhere classified.* Another example is *gunshot wound*, which was previously coded predominantly to *other and unspecified firearm discharge (Y24)*, but is now coded as *discharge from other and unspecified firearms (W34)* which includes *gunshot wound not otherwise specified or shot not otherwise specified*. This change in coding methodology affects two broad groups *Y10-Y34* and *W00-X59* by reducing the number of deaths resulting from *Y10-Y34* and increasing the number of deaths due to *W00-X59*. Other broad groups of non-natural causes are not affected by this revision.

Automated generation of the underlying causes of death

Once the causes of death given on the death notification forms were coded, the underlying causes of death were derived automatically, using a software program called Automated Classification of Medical Entities (ACME 2000.05) developed by the United States National Center for Health Statistics (NCHS). The ACME program applies World Health Organization rules on the selection of underlying causes of death. The ACME program is used as the international standard in the automated coding of causes of death.

The ACME program automatically derived the underlying cause of death for 98,3% of all records processed in 2008/9. The ACME system provides an editing user interface for cases to be resolved manually. This was required for some of the causes of death that are considered by the system as rare causes, such as cholera.

Ranking the underlying causes of death

Ranking the underlying causes of death is useful for illustrating the relative burden of cause-specific mortality. The ranking simply denotes the frequency of causes of death among those causes eligible to be ranked, and does not reflect the causes of death in terms of their importance from a public health point of view. Due to concerns about violence and deaths due to accidents in South Africa, natural and non-natural causes have been ranked separately.

In ranking natural underlying causes of death, *symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified* (R00–R99) were excluded. This group includes all ill-defined conditions, for which no diagnosis classifiable elsewhere is recorded. For practical purposes, these categories could be designated as not otherwise specified, unknown aetiology or transient. Table 2.3 shows the number of deaths that fell in these categories and were therefore excluded from ranking of natural underlying causes of death.

The table shows that 13,9% of all deaths were classified under *symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified*. Over 90% (93,9%) of these were *ill-defined and unknown causes of mortality*, a group which includes *sudden infant death syndrome*, *other sudden death with causes unknown*, *unattended death*, and *any other ill-defined and unspecified causes of mortality*. Although in some cases these causes would have been among the ten leading underlying causes, they are excluded from the ranking, as the information cannot be effectively utilised for public health policy and planning purposes.

Table 2.3: Number and percentage distribution of deaths due to symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified, 2007

Causes of death (based on the Tenth Revision, International Classification of Disease, 1992): Chapter 18 causes	Number	%
Symptoms and signs involving the circulatory and respiratory systems (R00-R09)	774	0,9
Symptoms and signs involving the digestive system and abdomen (R10-R19)	390	0,5
Symptoms and signs involving the skin and subcutaneous tissue (R20-R23)	9	0,0
Symptoms and signs involving the nervous and musculoskeletal systems (R25-R29)	16	0,0
Symptoms and signs involving the urinary system (R30-R39)	16	0,0
Symptoms and signs involving cognition, perception, emotional state and behaviour (R40-R46)	31	0,0
Symptoms and signs involving speech and voice (R47-R49)	14	0,0
General symptoms and signs (R50-R69)	3 771	4,5
Abnormal findings on examination of blood, without diagnosis (R70-R79)	53	0,1
Abnormal findings on examination of urine, without diagnosis (R80-R82)	2	0,0
Abnormal findings on examination of other body fluids, substances and tissues, without diagnosis (R83-R89)	14	0,0
Abnormal findings on diagnostic imaging and in function studies, without diagnosis (R90-R94)	39	0,0
Ill-defined and unknown causes of mortality (R95-R99)	78 307	93,9
Subtotal	**83 436**	**100,0**
Symptoms and signs (R00-R99)	83 436	13,9
Other causes	517 697	86,1
All causes	**601 133**	**100,0**

The causes of death were ranked according to the number of deaths assigned to the selected causes of death (excluding those due to *symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified*). The top-ranking causes determine the leading causes of death. Causes that had the same number of deaths received the same rank and a rank was skipped for the next cause. For example, if two causes of death had the same frequencies and were the top-ranking causes, they both received rank one, and the next cause received rank three.

It is important to note that the method of ranking underlying causes of death used in this release is not identical to the NCHS ranking list, as the suitability of the NCHS ranking list has not been established for South African circumstances. The NCHS ranking list is a well-established list that has become the standard used by the United States of America and other countries.

3. Overall levels, patterns and differentials of mortality

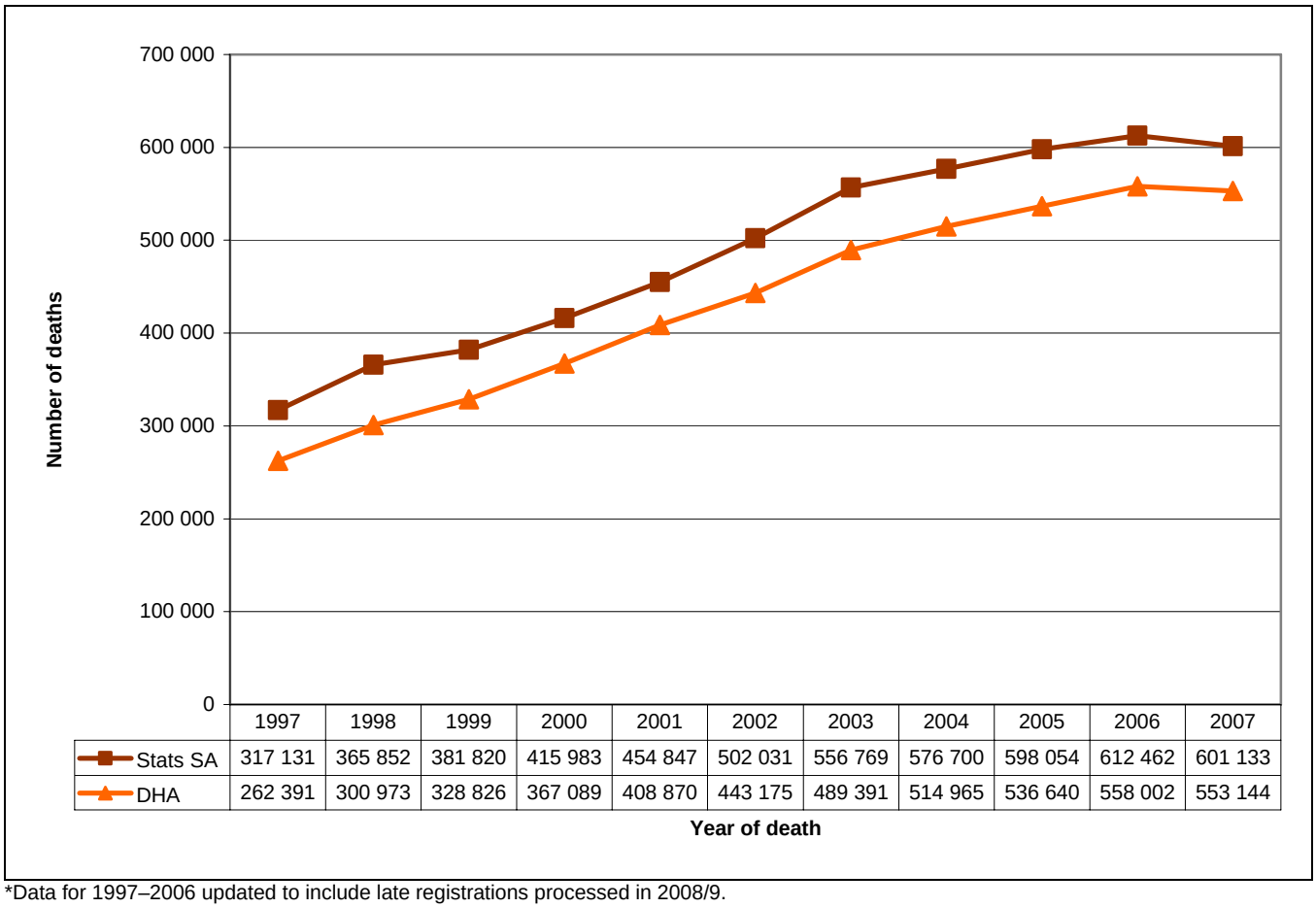
This section reports on the distribution of deaths that occurred in 2007 by age, sex, population group, marital status, place of death, and province of death. The overall number of deaths is also provided by year of death for the period 1997–2006 to show trends in the number of deaths using updated data that include late registrations processed in 2008/9. The analyses on the number of deaths exclude stillbirths.

3.1 The levels and trends of registered deaths

Figure 3.1 shows the number of registered deaths processed by Stats SA and those recorded on the National Population Register (NPR) maintained by the Department of Home Affairs (DHA) for the period 1997–2007. Overall, the number of deaths processed by Stats SA was always higher than that recorded on the NPR, as discussed in Section 2.1. It is also observed that the number of registered deaths for both sources increased consistently for each year from 1997 to 2006, after which there was a decline in 2007.

The number of deaths processed by Stats SA in 2007 was 601 133, indicating a decrease of 1,8% from a total of 612 462 deaths that occurred in 2006. The number of deaths on the NPR declined by 0,9% between 2006 and 2007. In addition, the crude death rates (age and sex standardised) for observed and adjusted deaths also show a decline between 2006 and 2007 (see Appendix D). These results may indicate the start of a decline in the number of deaths in the country. However, conclusive statements about the course of mortality can be made only after the processing of late registrations and observing a similar trend over a few years.

Figure 3.1: Number of registered deaths by source of data and year of death, 1997–2007*



	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Stats SA	317 131	365 852	381 820	415 983	454 847	502 031	556 769	576 700	598 054	612 462	601 133
DHA	262 391	300 973	328 826	367 089	408 870	443 175	489 391	514 965	536 640	558 002	553 144

*Data for 1997–2006 updated to include late registrations processed in 2008/9.

3.2 Age differentials

In the previous releases, ages 0 to 4 were grouped into one age group. However, in this release, this age group has been separated into infant deaths (aged 0) and child deaths (aged 1–4). Therefore, caution has to be exercised in the comparison of information of age in this release and previous releases.

Table 3.1 shows that the highest number of deaths that occurred in 2007 was among those aged 30–34 years, comprising 9,5% of all deaths. This was followed by those aged 35–39 (9,0%) and then those aged 40–44 (8,0%). About 7,7% of all deaths occurred in age 0. The lowest percentage of deaths was among those aged 10–14 years (0,7%) and those aged 5–9 (0,9%). Although the number of deaths between 2006 and 2007 has decreased, the percentage distribution of deaths by age group remains largely the same for these years.

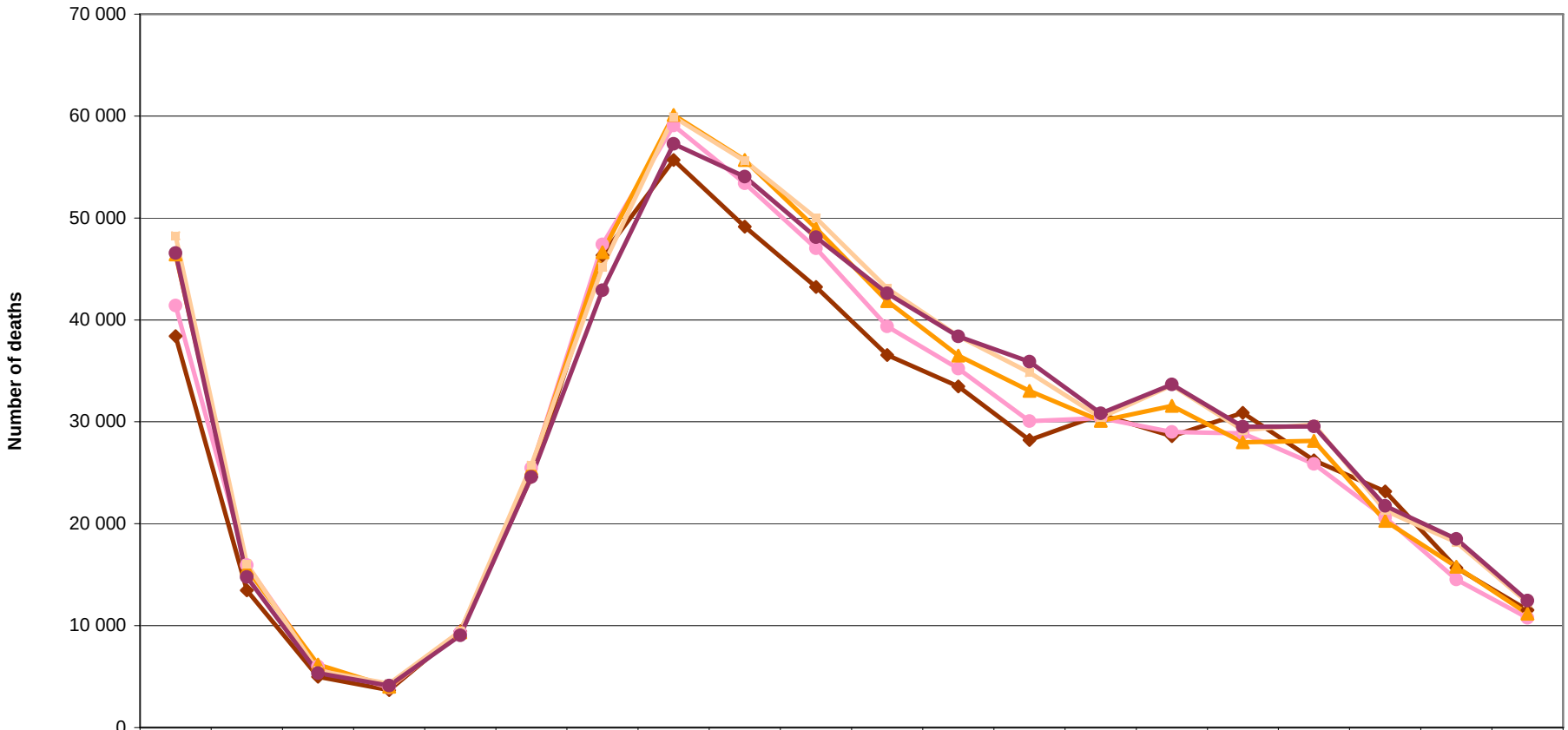
Table 3.1: Number and percentage distribution of deaths by age, 2007

Age group	Number	Percentage
0	46 546	7,7
1-4	14 782	2,5
5-9	5 347	0,9
10-14	4 127	0,7
15-19	9 038	1,5
20-24	24 588	4,1
25-29	42 901	7,1
30-34	57 267	9,5
35-39	54 061	9,0
40-44	48 125	8,0
45-49	42 609	7,1
50-54	38 374	6,4
55-59	35 887	6,0
60-64	30 841	5,1
65-69	33 658	5,6
70-74	29 524	4,9
75-79	29 543	4,9
80-84	21 754	3,6
85-89	18 501	3,1
90+	12 445	2,1
Unspecified	1 215	0,2
Total	**601 133**	**100,0**

Figure 3.2 shows the distribution of deaths by age for the five-year period (2003–2007) to provide an indication of the age pattern of mortality over time. It is observed that the age pattern of mortality was generally the same for all these years, although a bit inconsistent from age group 60–64. For all the years, the lowest number of deaths occurred in age groups 5–9 and 10–14. The highest number occurred in age group 30–34. The same pattern was observed over the 2003–2006 period.

The differences between the years show that compared to 2006 deaths, the number of deaths in 2007 declined in all age groups below 55 years, but generally increased afterwards. The number of deaths decreased the greatest in the following age groups: 1–4 (7,9%); 25–29 (5,1%); 15–19 (4,5%); 20–24 (4,4%) and 30–34 (4,4%). It is further observed that differences between the years were the largest in age 0 and from age group 25–29; while between age groups 1–4 and 20–24 the differences were minimal.

Figure 3.2: Number of deaths by age and year of death, 2003–2007*



	0	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90+
2003	38 405	13 476	4 998	3 667	9 455	24 590	46 330	55 682	49 136	43 219	36 554	33 483	28 200	30 712	28 584	30 873	26 221	23 173	15 663	11 544
2004	41 414	15 940	5 995	3 923	9 326	25 470	47 407	59 077	53 389	47 021	39 361	35 215	30 079	30 354	29 000	28 866	25 873	20 605	14 523	10 772
2005	46 427	15 596	6 177	4 016	9 357	25 412	46 630	60 095	55 696	48 975	41 833	36 489	33 027	30 101	31 564	28 003	28 139	20 272	15 792	11 176
2006	48 239	16 058	5 584	4 311	9 467	25 726	45 191	59 916	55 597	49 981	43 102	38 407	34 837	30 407	33 579	29 196	29 750	21 298	18 179	12 275
2007	46 546	14 782	5 347	4 127	9 038	24 588	42 901	57 267	54 061	48 125	42 609	38 374	35 887	30 841	33 658	29 524	29 543	21 754	18 501	12 445

Age group

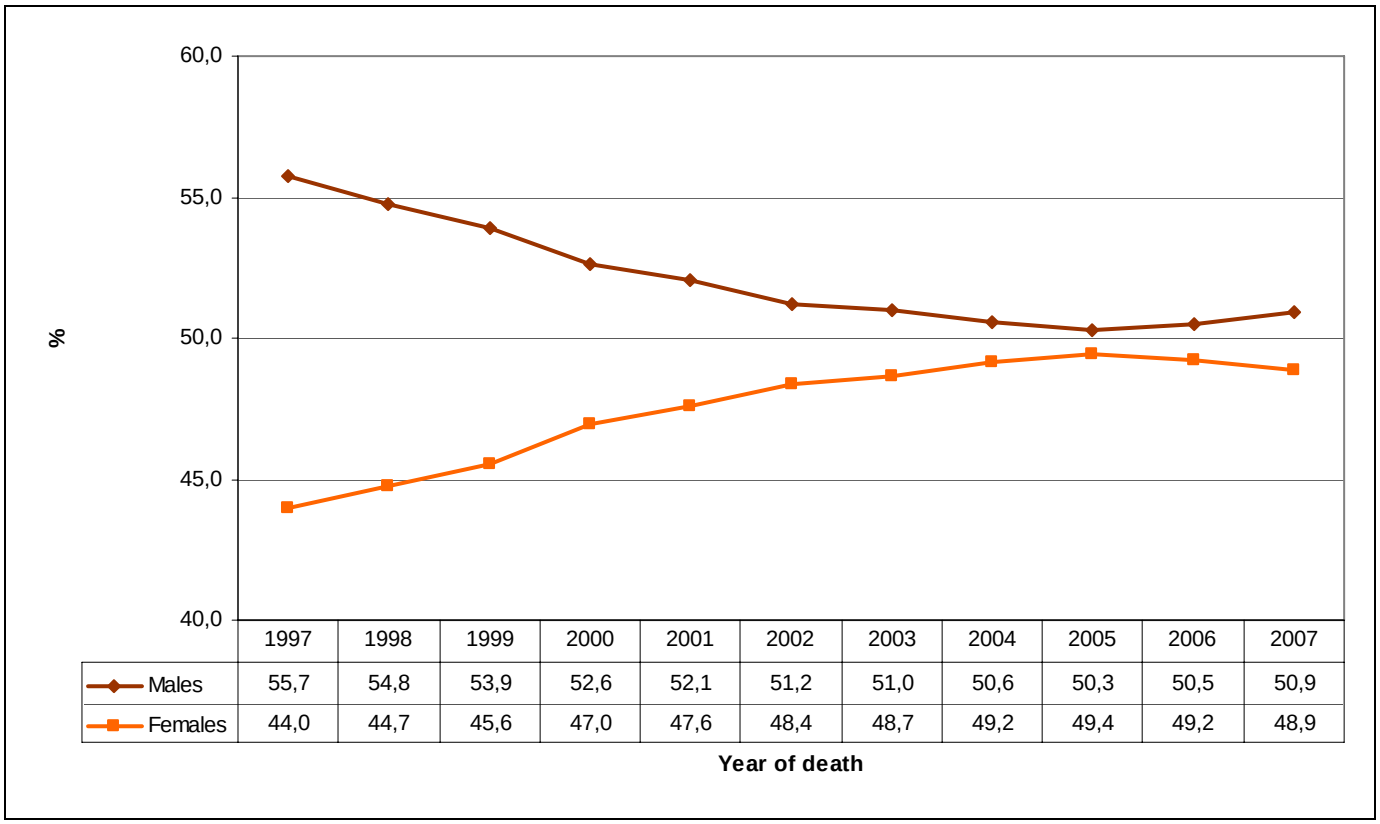
* (1) Excluding deaths with unspecified age (2 804 deaths in 2003; 3 090 deaths in 2004; 3 277 deaths in 2005; 1 362 deaths in 2006 and 1 215 deaths in 2007).
(2) Data for 2003–2006 updated to include late registrations processed in 2008/9.

3.3 Sex differentials

There were slightly more male (50,9%) than female deaths (48,9%) for 2007. About 0,2% of the deaths had unspecified information on the sex of the deceased. Between 2006 and 2007, the number of deaths for both males and females decreased, with a much higher decrease observed for females (2,4%) as compared to males (1,0%).

The percentage distribution of deaths by sex from 1997–2007 indicates that the gap between male and female deaths generally narrowed down over time, up to 2005, after which it started to widen slightly again (see Figure 3.3). In 1997, there was a difference of 11,7 percentage points between male and female deaths, the difference declining to 4,5 percentage points in 2001 and then to 0,9 percentage points in 2005. The difference increased to 2,0 percentage points in 2007.

Figure 3.3: Percentage distribution of deaths by sex and year of death, 1997–2007*



	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Males	55,7	54,8	53,9	52,6	52,1	51,2	51,0	50,6	50,3	50,5	50,9
Females	44,0	44,7	45,6	47,0	47,6	48,4	48,7	49,2	49,4	49,2	48,9

* (1) Excluding deaths with unspecified sex (1 028 deaths in 1997; 1 928 deaths in 1998; 2 077 deaths in 1999; 1 719 deaths in 2000; 1 645 deaths in 2001, 1 943 deaths in 2002; 1 971 deaths in 2003; 1 615 deaths in 2004; 1 717 deaths in 2005; 1 739 deaths in 2006 and 978 deaths in 2007).
(2) Data for 1997–2006 updated to include late registrations processed in 2008/9.

3.4 Age and sex differentials

Percentage distribution

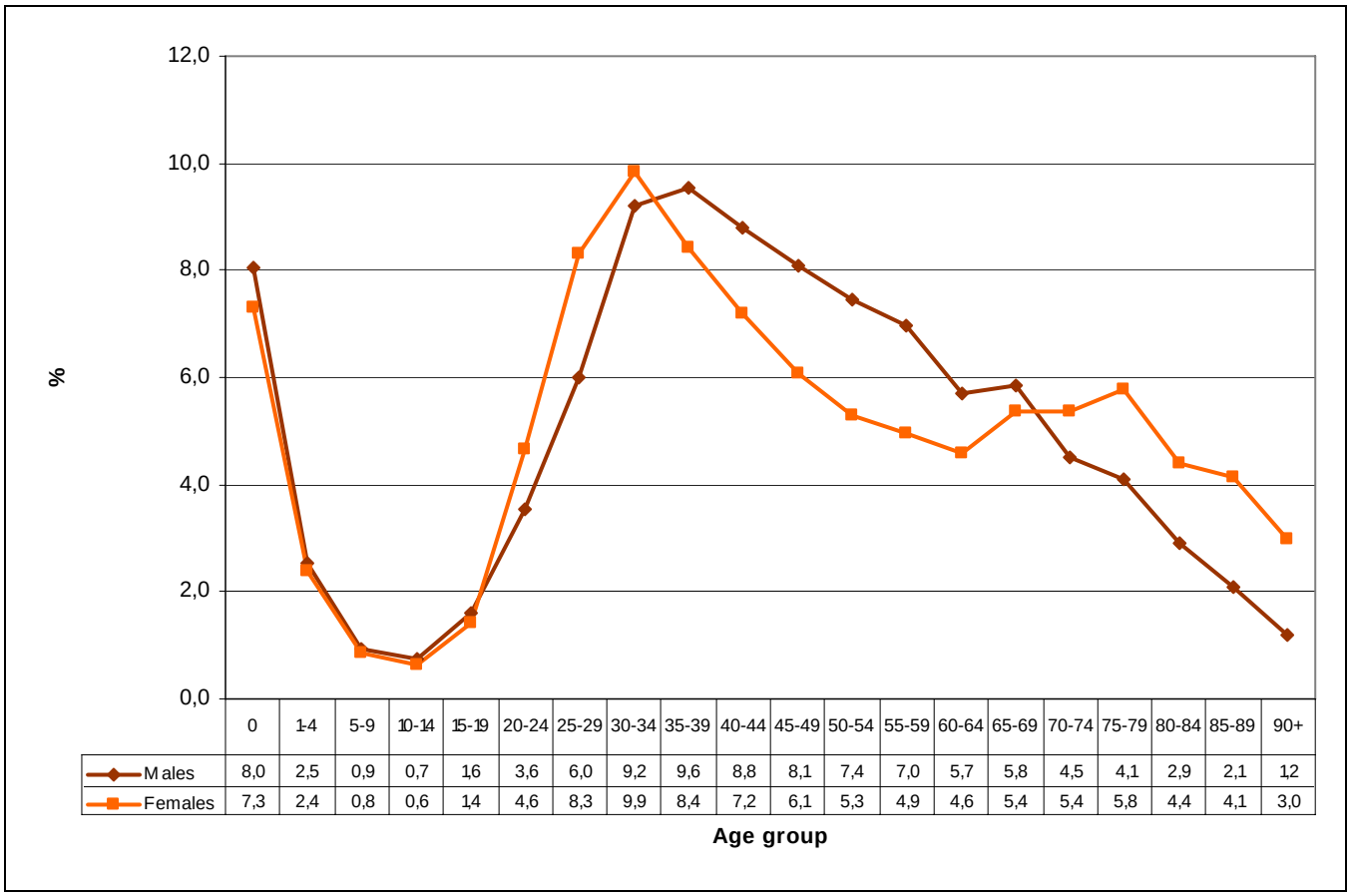
The age and sex distribution of deaths that occurred in 2007 is shown in Table 3.2 (numbers) and Figure 3.4 (percentages). The highest percentage of male deaths occurred among those aged 35–39 (9,6%), followed by age group 30–34 (9,2%). For female deaths, the highest percentage of deaths was among those aged 30–34 (9,9%), followed by those aged 35–39 (8,4%). Approximately 8,0% and 7,3% of male and female deaths, respectively, occurred at age 0. For both males and females, the lowest percentage of deaths occurred among those aged 10–14. Female exceeded male proportions at ages 20 to 34 and from age 70. Age specific death rates for the total population for the period 2003–2007 (deaths unadjusted for incompleteness) are shown in Appendix E to provide an indication of the age pattern of mortality over the five-year period, taking into consideration population size at each age.

Table 3.2: Number of deaths by age and sex, 2007*

Age group	Males	Females
0	24 638	21 498
1-4	7 768	6 968
5-9	2 854	2 489
10-14	2 233	1 892
15-19	4 859	4 164
20-24	10 875	13 664
25-29	18 405	24 430
30-34	28 245	28 959
35-39	29 258	24 756
40-44	26 973	21 108
45-49	24 761	17 805
50-54	22 790	15 567
55-59	21 316	14 548
60-64	17 410	13 422
65-69	17 878	15 771
70-74	13 771	15 745
75-79	12 534	17 005
80-84	8 872	12 880
85-89	6 339	12 160
90+	3 670	8 763
Unspecified	785	327
Total	**306 234**	**293 921**

*Excluding 978 deaths with unspecified sex.

Figure 3.4: Percentage distribution of deaths by age and sex, 2007*



*Excluding 2 090 deaths with unspecified age and unspecified sex

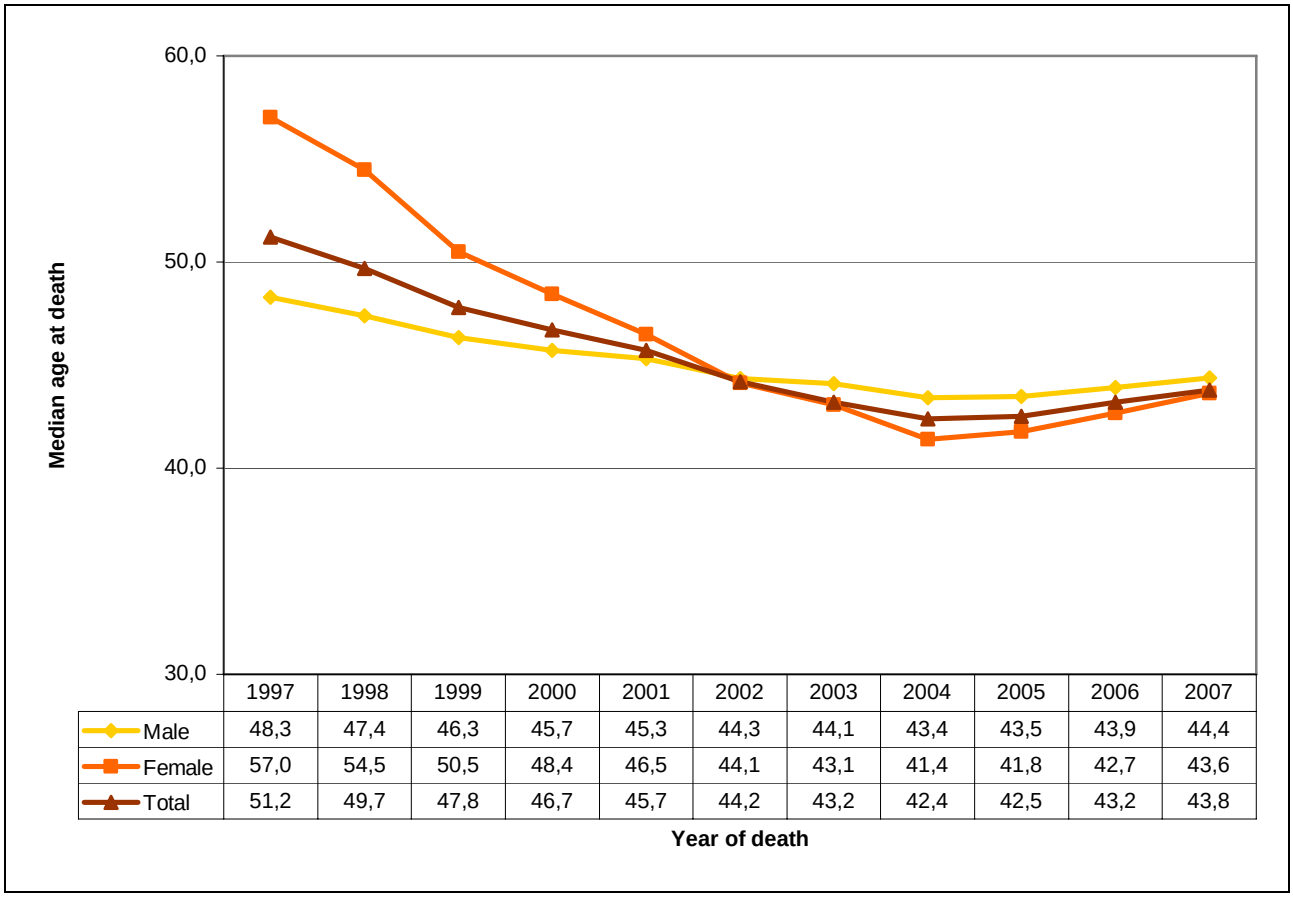
Median ages at death by sex

The median ages at death by sex are presented in Figure 3.5. Median ages show how early or late mortality occurs in the population and specifies the age at which half of the reported deaths occur. Lower median ages at death indicate that mortality is occurring earlier while higher median ages indicate that mortality is occurring later.

Generally, the median ages at death for both males and females decreased from 1997 and reached their lowest level in 2004. That is, in 2004, mortality was occurring at earlier ages than it was in 2003 and in the previous years. The decrease was more pronounced for females. From 2004, the median ages increased again (though slightly), indicating decreasing mortality.

The median ages at death for females was higher than that of males from 1997 to 2001, showing that mortality was occurring earlier for males and later for females. The median ages then converged in 2002, after which they deviated again, with median ages higher for males than for females. By 2007, the median age at death for both males and females was around 44 years.

Figure 3.5: Median ages at death by sex and year of death, 2003–2007*



	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Male	48,3	47,4	46,3	45,7	45,3	44,3	44,1	43,4	43,5	43,9	44,4
Female	57,0	54,5	50,5	48,4	46,5	44,1	43,1	41,4	41,8	42,7	43,6
Total	51,2	49,7	47,8	46,7	45,7	44,2	43,2	42,4	42,5	43,2	43,8

Sex ratios by age

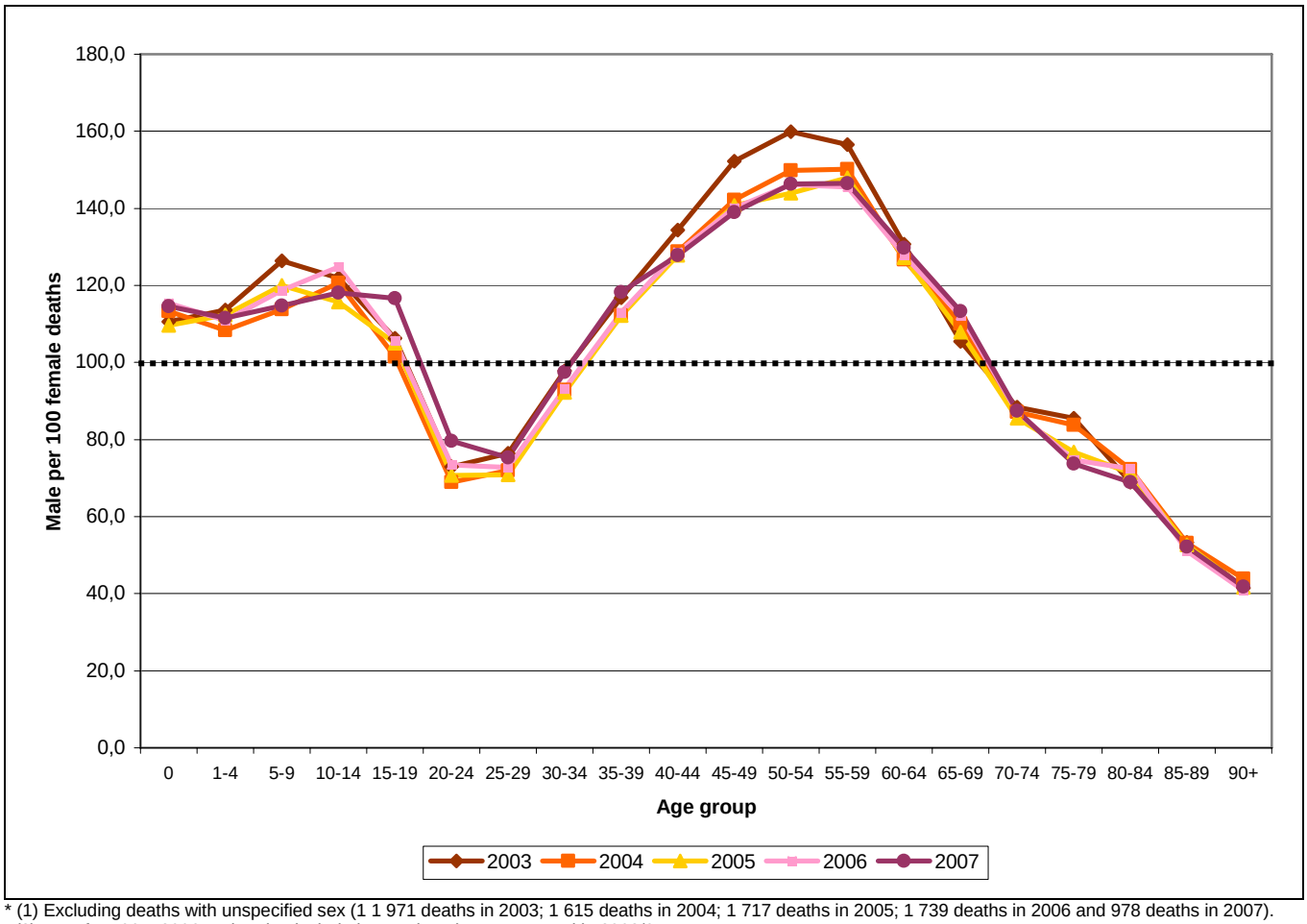
The sex ratio of deaths (the number of male deaths per 100 female deaths) is another measure that shows the relative number of male to female deaths. A ratio of 100 indicates that there is an equal number of male and female deaths, a number less than 100 indicates more female death occurrences; and a number more than 100 indicates more male death occurrences.

The overall sex ratio of 2007 deaths was 104 male deaths per 100 female deaths, indicating slightly more male than female deaths. This is a small increase from the ratio of 103 male deaths per 100 female deaths observed in 2006. Figure 3.6 shows the sex ratios of 2003–2007 deaths by age. Values

above the dotted line (sex ratios more than 100) indicate a higher number of male than female deaths while those below the dotted line (sex ratios less than 100) indicate a higher number of female than male deaths. It is observed that the age pattern of sex ratios was similar during the period 2003–2007. Generally, there were more male than female deaths from age 0 up to age group 15–19, after which there were more female than male deaths from age group 20–24 up to age group 30–34. Male deaths exceeded female deaths again from age group 35–39 up to age group 65–69, after which there were more female than male deaths. Sex ratios consistently declined with age from age group 55–59.

Sex ratios at age groups 20–24, 25–29 and 30–34 (the young ages where sex ratios are below 100) for 2007 death were higher than those for 2006. The differences in deaths for males and for females between 2006 and 2007 (not shown) indicated that from age group 15–19 up to 35–39, female deaths decreased much more than male deaths. For example, in age group 15–19, female deaths decreased by 9,2% while male deaths in the same age group increased by 0,3%.

Figure 3.6: Sex ratios by age and year of death, 2003–2007*



* (1) Excluding deaths with unspecified sex (1 1 971 deaths in 2003; 1 615 deaths in 2004; 1 717 deaths in 2005; 1 739 deaths in 2006 and 978 deaths in 2007).
(2) Data for 1997–2006 updated to include late registrations processed in 2008/9

3.5 Population group differences in mortality

Table 3.3 shows that compared to other population groups, black Africans contributed the highest percentage of registered deaths (62,5%) while Indian or Asians had the lowest percentage of deaths (1,3%). However, about a quarter (25,9%) of registered deaths in 2007 had population group classified as 'other', unspecified or unknown. Therefore, the results on population groups have to be treated with caution due to this high percentage of unknown, unspecified, or 'other' population groups.

Table 3.3: Number and percentage distribution of deaths by population group, 2007

Population group	Number	Percentage
Black African	375 503	62,5
Coloured	26 031	4,3
Indian or Asian	7 894	1,3
White	35 854	6,0
Other, Unknown or unspecified	155 851	25,9
Total	**601 133**	**100,0**

3.6 Marital status differences in mortality

The informant reporting a death had to indicate the marital status of the deceased. Table 3.4 shows that just less than half (49,1%) of the deceased were never married at the time of death. About a quarter (24,1%) of the deceased were married or living as married at the time of death while less than 10% were widowed or divorced (8,1% and 1,5%, respectively).

Table 3.4: Number and percentage distribution of deaths by marital status, 2007

Marital status	Number	Percentage
Never married	294 887	49,1
Married or living as married	144 578	24,1
Widowed	48 876	8,1
Divorced	8 979	1,5
Unknown or unspecified	103 813	17,3
Total	**601 133**	**100,0**

3.7 Differences in mortality by place of death

Table 3.5 shows that the highest number of deaths occurred in hospitals (42,1%), followed by those which occurred at home (32,2%). The lowest percentage of deaths (1,7%) occurred in hospital emergency rooms.

Table 3.5: Number and percentage distribution of deaths by place of death, 2007

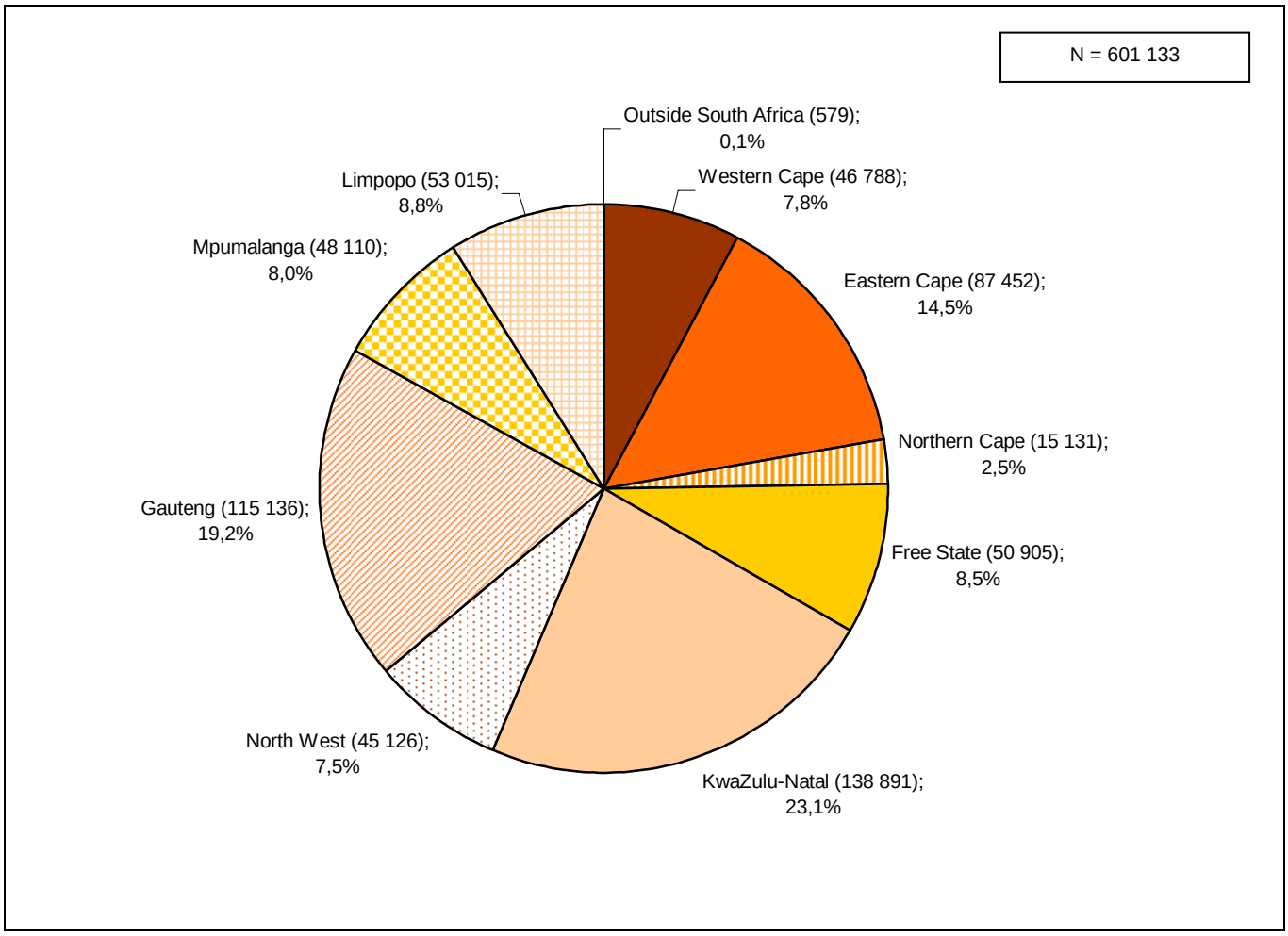
Place of death	Number	Percentage
Hospital	253 372	42,1
ER or Outpatient	10 513	1,7
Dead on arrival	14 955	2,5
Nursing home	12 591	2,1
Home	193 361	32,2
Other	26 215	4,4
Unknown or unspecified	90 126	15,0
Total	**601 133**	**100,0**

3.8 Provincial differences in mortality

This last subsection on mortality provides information on the distribution of deaths by province. The province of death occurrence was derived based on the 2005 boundaries, as opposed to the previous years when it was based on the 2001 boundaries.

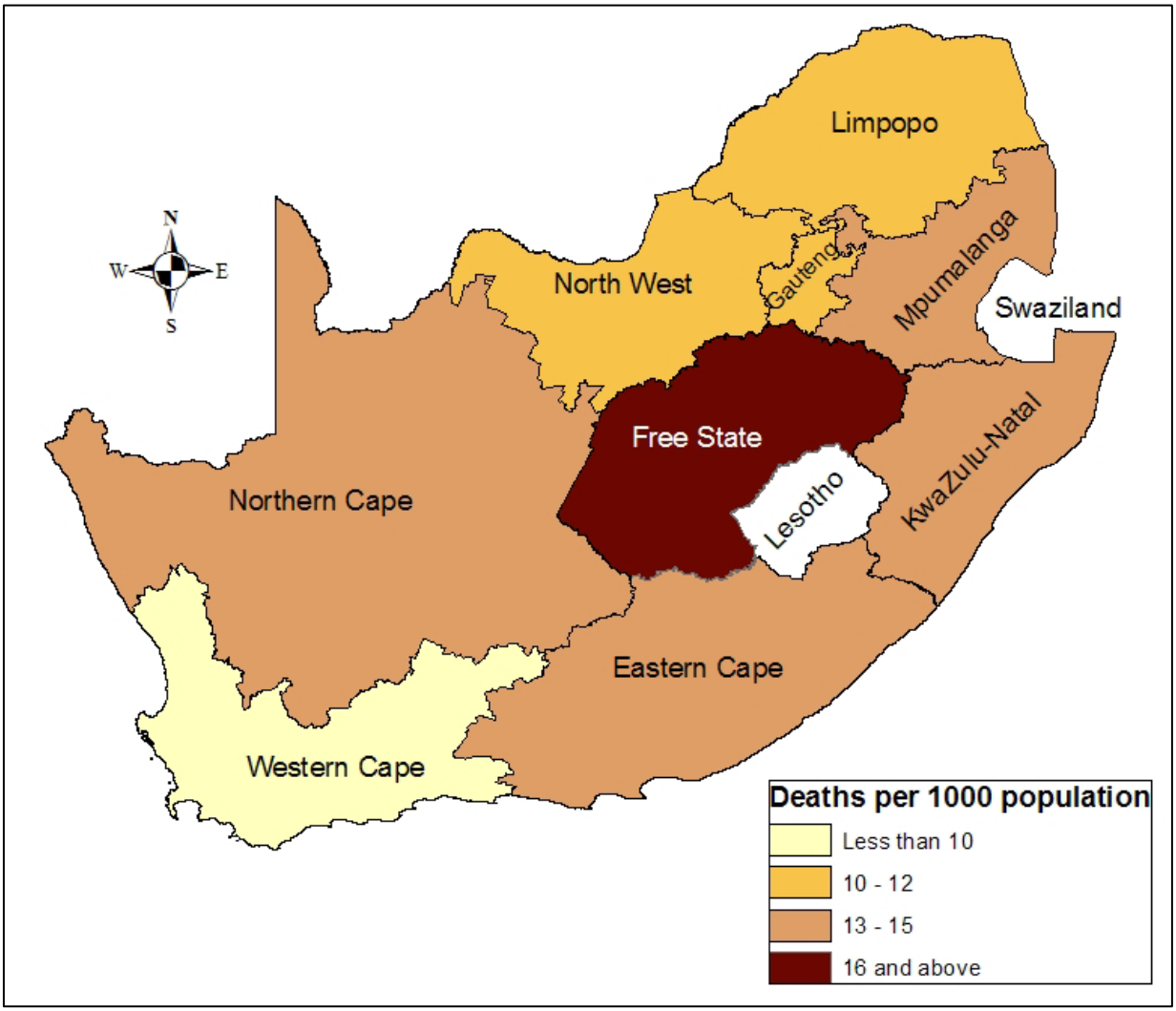
It is observed from Figure 3.7 that 23,1% of deaths occurred in KwaZulu-Natal, followed by Gauteng (19,2%) and Eastern Cape (14,5%). The lowest percentage of deaths occurred in Northern Cape (2,5%) and less than 1% of deaths occurred outside South Africa. It is important to note that the distribution of deaths by province of occurrence is largely similar to the distribution of the South African population by province.

Figure 3.7: Number and percentage distribution of deaths by province of death occurrence, 2007



For a meaningful comparison of mortality between provinces, age-sex standardised death rates were calculated for each province, taking into consideration the population size of each province. The age and sex structure of the total population of South Africa in 2007 was used to standardise the death rates, illustrated in Figure 3.8. The lowest standardised death rate in 2007 was observed in Western Cape (8 deaths per 1 000 population) and the highest in Free State (17 deaths per 1 000 deaths). The standardised death rates in North West, Gauteng and Limpopo were between 10 and 12 deaths per 1 000 population while those in Northern Cape, Eastern Cape, Mpumalanga and KwaZulu-Natal were between 13 and 15 deaths per 1 000 population. However, these rates need to be interpreted with caution, given the level of incompleteness of death registration (which has not been adjusted for), which may differ between provinces. The distributions of deaths by age and by sex according to district municipalities are shown in Appendix F and Appendix G, respectively.

Figure 3.8: Age-sex standardised death rates by province of death occurrence, 2007



4. Causes of death in South Africa

4.1 Introduction

Information on causes of death from the death notification system is presented in this section. The section provides a breakdown of deaths according to the 19 main groups (chapters) of the classification of death and an age breakdown of the proportion of deaths due to natural and non-natural causes. This is followed by an analysis of natural deaths that considers the leading underlying causes, ranked as described in Section 2 of this release. This analysis is undertaken for the South African population as a whole and by sex, age and province.

In view of the concern in South Africa about levels of violence and deaths due to accidents, non-natural underlying causes of death are treated as a separate group. Non-natural causes of death comprise all deaths that were not attributable, or may not have been attributable to natural causes. In terms of the Inquests Act (Act No. 58 of 1959), these deaths are subject 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, which issues the final death certificate.

The last subsection provides a comparison between 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 a death notification form when a death is registered at the Department of Home Affairs. Provision is made for one or more causes to be recorded on the form (see copy of Form BI-1663 in Appendix B). Table 4.1 shows information on the number of causes of death reported on each death notification form for deaths that occurred in 2007. Less than 1% of the forms had no cause of death recorded. This mainly includes cases in which only the first page of the death notification form was received by Stats SA. About three in five (60,3%) death notification forms had only one cause recorded on the form and just over a quarter (26,6%) had two causes recorded. Less than 1% (0,7%) had five or more causes recorded.

Table 4.1: Distribution of death notification forms by the number of causes entered on the form, 2007

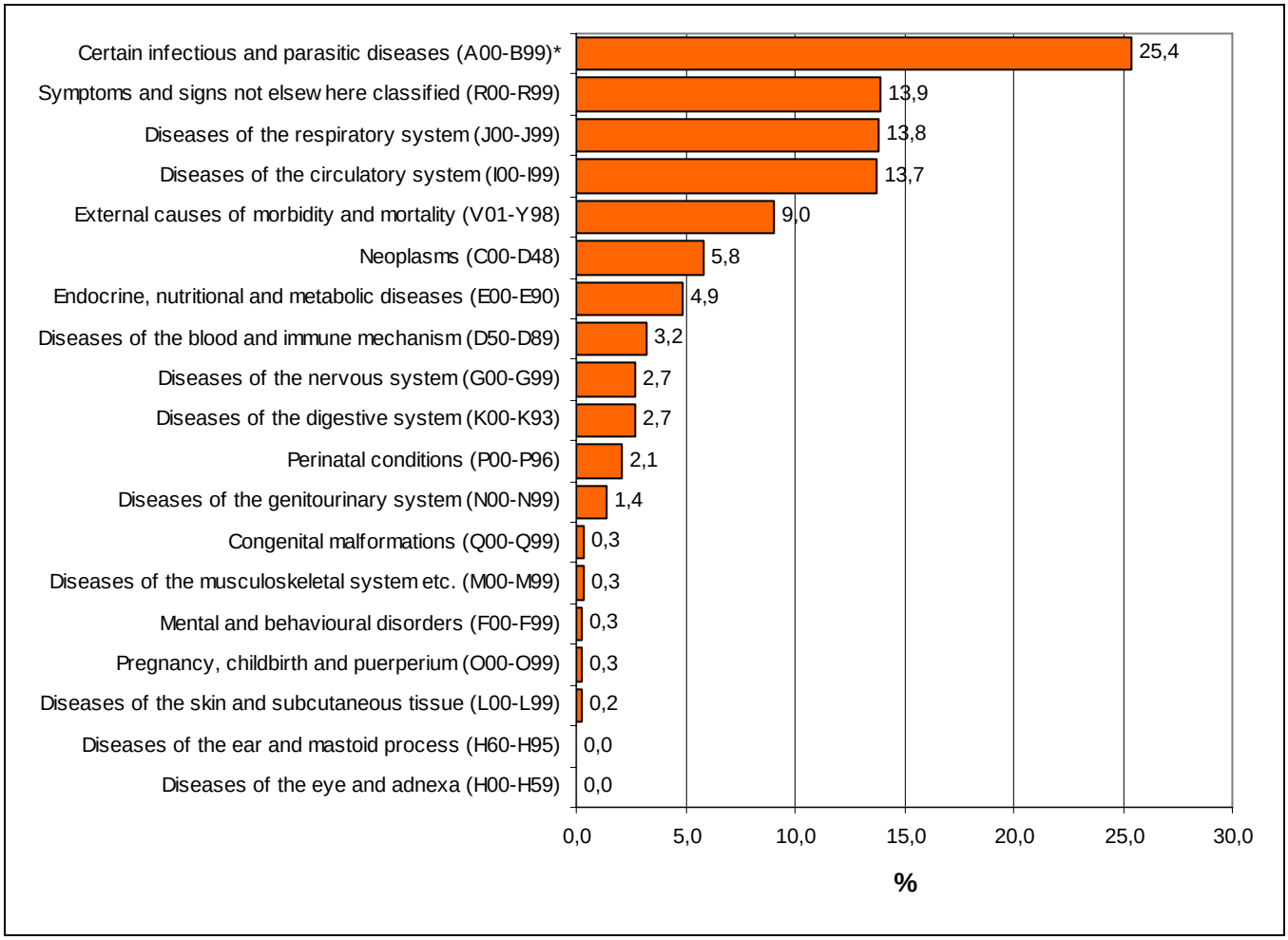
Number of reported causes of death	Number of death notification forms	Percentage
No cause given	387	0,1
One cause	362 430	60,3
Two causes	159 885	26,6
Three causes	58 355	9,7
Four causes	16 137	2,7
Five or more causes	3 939	0,7
Total	**601 133**	**100,0**

4.3 Main groups of the underlying causes of death

Figure 4.1 shows the percentage distribution of deaths by the 19 main groups (chapters) of the classification of causes of death. The top ranking main group of causes of death in 2007 (as has been the case in the previous years) was *certain infections and parasitic diseases*, comprising a quarter (25,4%) of all deaths. This group also includes 597 deaths due to *multidrug-resistant tuberculosis* and 84 deaths due to *extensively drug-resistant tuberculosis*.

The second most common main group of causes of death was *symptoms and signs not elsewhere classified* (13,9%), followed by *diseases of the respiratory system* (13,8%) and *diseases of the circulatory system* (13,7%). Less than 10% of the deaths were due to *external causes of morbidity and mortality* (9,0%). *Neoplasms* comprise 5,8% of all deaths, *perinatal conditions* contributed 2,1% of all deaths, while *pregnancy, childbirth and puerperium* contributed 0,3% of all deaths.

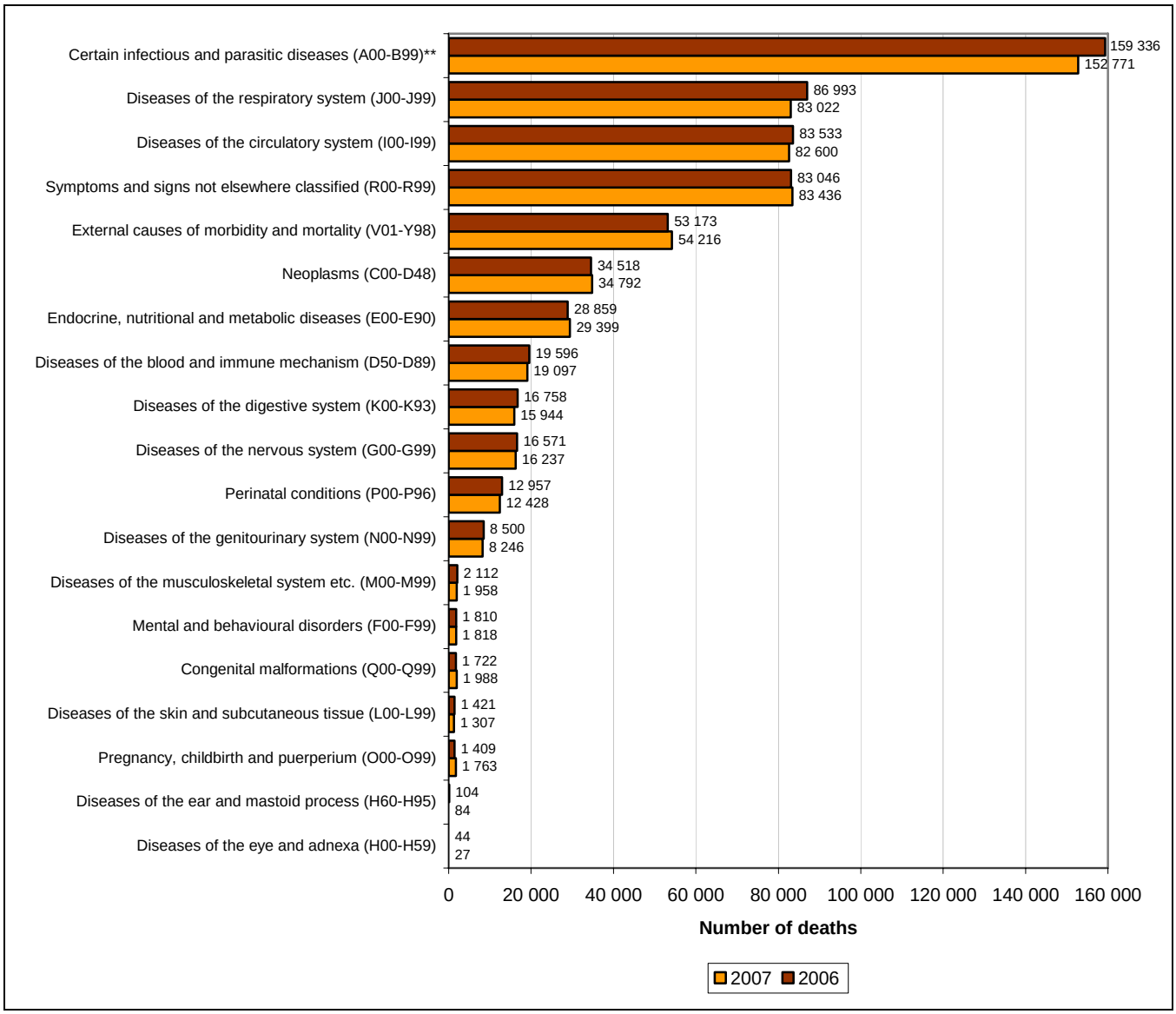
Figure 4.1: Percentage distribution of deaths by main groups of causes of death, 2007



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

The number of deaths by main groups of death for 2006 and 2007 is shown in Figure 4.2 to show changes in the number of deaths by main groups of death between 2006 and 2007. For the majority of main causes, the number of deaths decreased between 2006 and 2007. *Certain infectious and parasitic diseases* decreased by 4,1%; *diseases of the respiratory system* by 4,6% while *diseases of the circulatory system* decreased by 1,1%. Other notable decreases are those related to *diseases of the digestive system* (4,9%) and *perinatal conditions* (4,1%). Increases in the number of deaths between 2006 and 2007 are observed for *pregnancy, childbirth and puerperium* (25,1%), *congenital malformations* (15,4%), *external causes of morbidity and mortality* (2,0%), *endocrine, nutritional and metabolic diseases* (1,9%) and *neoplasms* (0,8%). Although the number of deaths by main groups have increased or decreased between 2006 and 2007, the percentage distribution of the main groups for both years has remained largely the same.

Figure 4.2: Number of deaths by main groups of causes of death and year of death, 2006* and 2007



*Data for 2006 updated to include late registrations processed in 2008/9.
**Including deaths due to MDR-TB and XDR-TB.

4.4 Natural and non-natural causes of death

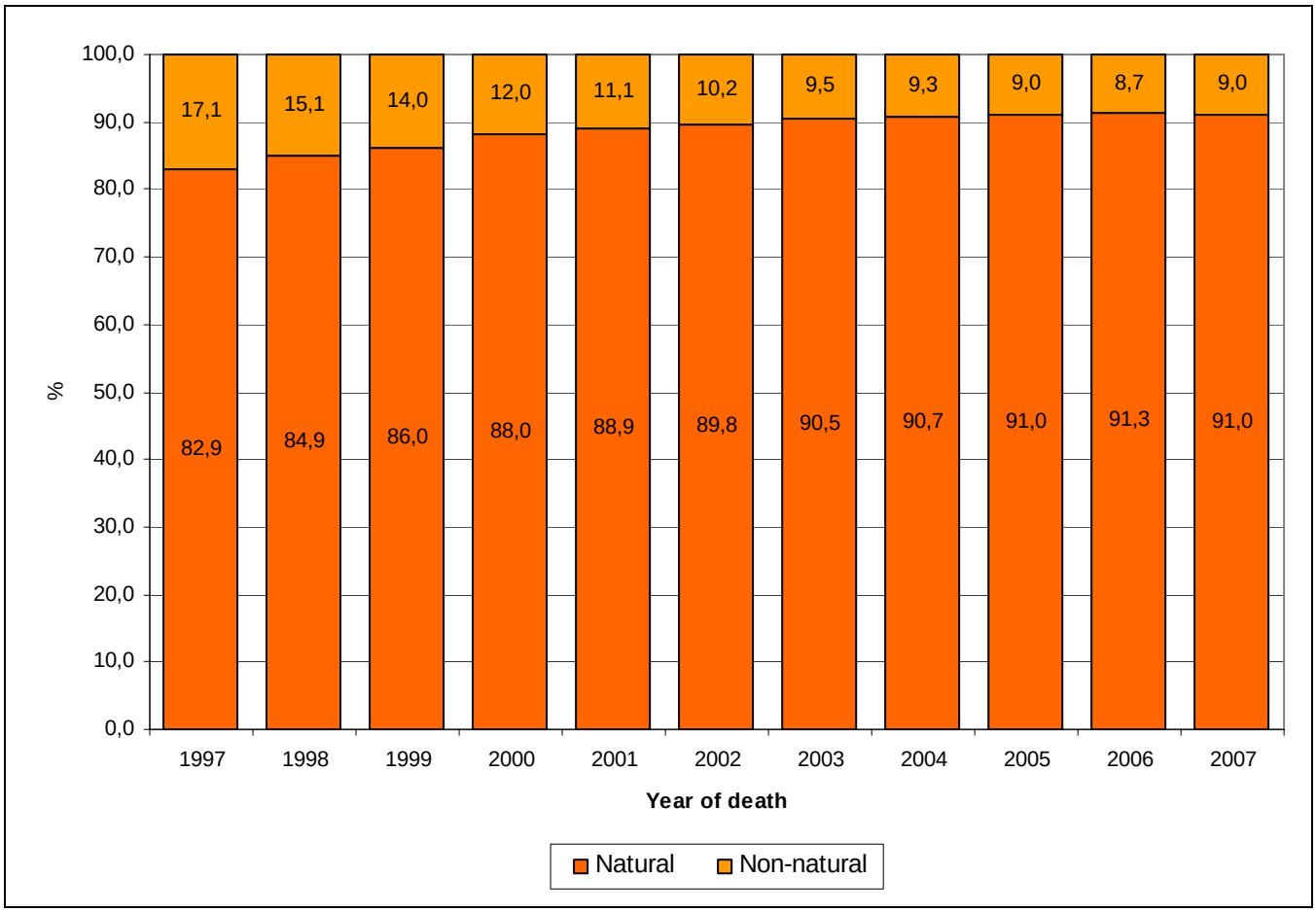
Table 4.2 and Figure 4.3 show natural and non-natural deaths from 1997 to 2007. It is observed that throughout the years, the majority of deaths (over 80% for all years) were due to natural causes. The percentage of deaths due to natural causes has consistently increased over time, with a slight decrease in 2007 and vice versa for non-natural deaths. In 2007, 9,0% of deaths were due to non-natural causes and 91,0% due to natural causes. Between 2006 and 2007, natural deaths decreased by 2,2% while non-natural deaths increased by 2,0%. The reverse was observed between 2005 and 2006 where natural deaths increased by 2,8% and non-natural deaths decreased by 1,4%.

Table 4.2: Number of natural and non-natural deaths by year of death, 1997–2007*

Year of death	Number of natural deaths	Number of non-natural deaths	Total
1997	263 039	54 092	317 131
1998	310 745	55 107	365 852
1999	328 487	53 333	381 820
2000	366 238	49 745	415 983
2001	404 517	50 330	454 847
2002	450 575	51 456	502 031
2003	503 940	52 829	556 769
2004	523 354	53 346	576 700
2005	544 109	53 945	598 054
2006	559 289	53 173	612 462
2007	546 917	54 216	601 133

*Data for 1997–2006 updated to include late registrations processed in 2008/9.

Figure 4.3: Percentage distribution of natural and non-natural causes of death by year of death, 1997–2007*



*Data for 1997–2006 updated to include late registrations processed in 2008/9.

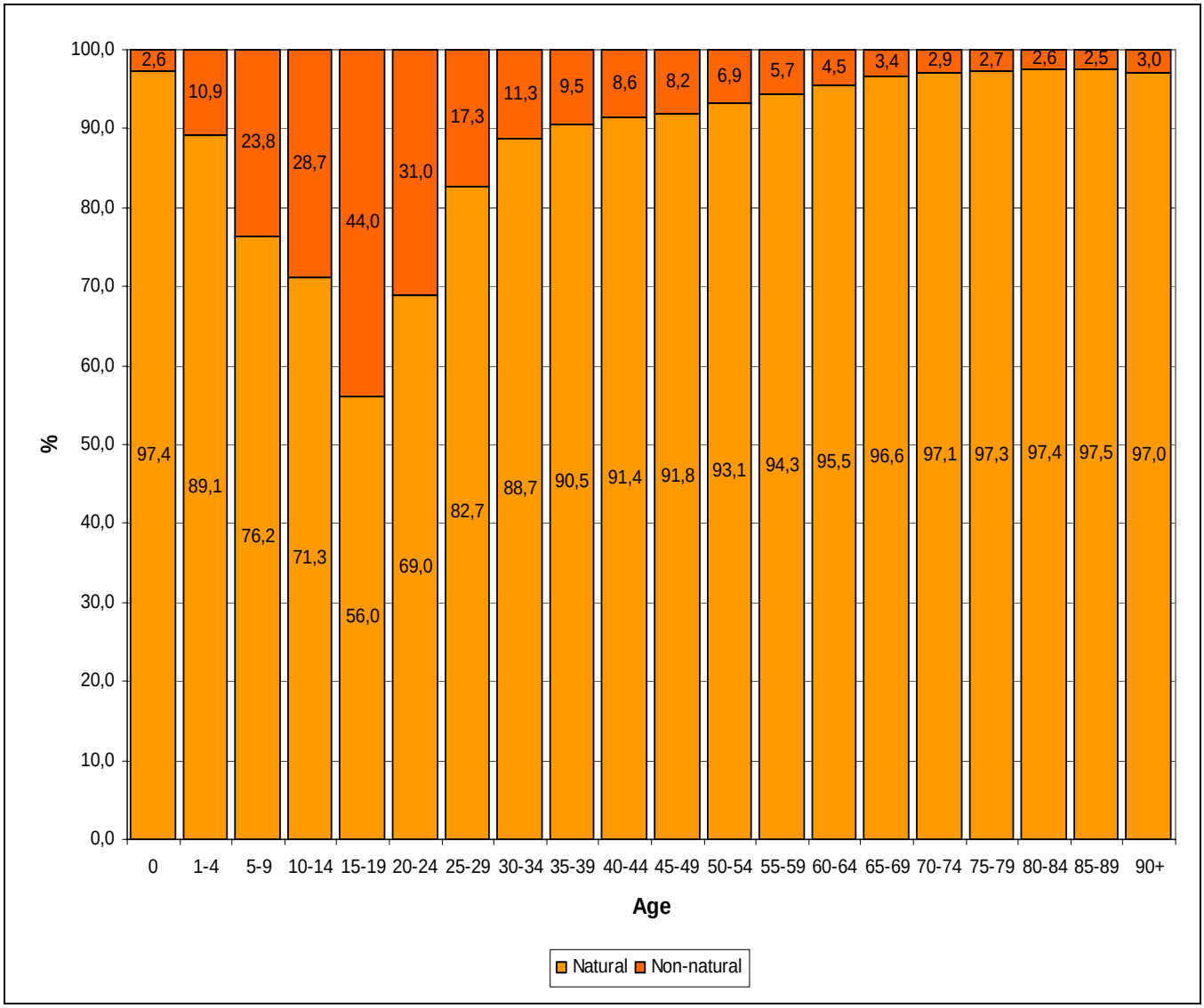
Natural and non-natural causes of death by age

Table 4.3 and Figure 4.4 show the number and the percentage distribution of deaths, respectively, due to natural and non-natural causes of death classified by age group for deaths that occurred in 2007. The figure shows that the age group that is mostly affected by non-natural causes is 15–19, whereby 44,0% of the deaths were due to non-natural causes. Other ages with higher proportions of deaths due to non-natural causes were age groups 20–24 (31,0%), 10–14 (28,7%) and 5–9 (23,8%). Ages least affected by non-natural deaths are younger (less than 0) and older ages (70 and older) where 3% of the deaths or less were due to non-natural causes of death.

Table 4.3: Number of natural and non-natural causes of deaths by age, 2007

Age group	Number of natural deaths	Number of non-natural deaths	Total
0	45 315	1 231	**46 546**
1-4	13 174	1 608	**14 782**
5-9	4 077	1 270	**5 347**
10-14	2 941	1 186	**4 127**
15-19	5 060	3 978	**9 038**
20-24	16 959	7 629	**24 588**
25-29	35 480	7 421	**42 901**
30-34	50 796	6 471	**57 267**
35-39	48 914	5 147	**54 061**
40-44	43 970	4 155	**48 125**
45-49	39 107	3 502	**42 609**
50-54	35 742	2 632	**38 374**
55-59	33 839	2 048	**35 887**
60-64	29 446	1 395	**30 841**
65-69	32 502	1 156	**33 658**
70-74	28 672	852	**29 524**
75-79	28 759	784	**29 543**
80-84	21 197	557	**21 754**
85-89	18 035	466	**18 501**
90+	12 073	372	**12 445**
Unspecified	859	356	**1 215**
Total	**546 917**	**54 216**	**601 133**

Figure 4.4: Percentage distribution of natural and non-natural causes of death by age, 2007



4.5 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 by frequency among those eligible for ranking as described in Section 2. The top-ranking causes determine the leading natural underlying causes of death.

Overall pattern of the leading underlying natural causes of death

The ten leading underlying causes of death in South Africa in 2006 and 2007 are shown in Table 4.4. Information for 2006 is provided to show changes in the ten leading causes of death between 2006 and 2007 and also to show the changes in absolute numbers for these leading causes. The ranks of all the broad groups of causes of death (including non-natural causes) for 2007 are shown in Appendix H while the breakdown of individual causes for the broad groups that were among the ten leading causes in 2007 is provided in Appendix I.

Table 4.4 shows that nine of the ten leading causes of death in 2006 and 2007 were the same and had the same rank; with the exceptions of *ischaemic heart diseases* which were among the ten leading causes in 2006 but not in 2007 and *hypertensive diseases* which were among the ten leading causes in 2007 but not in 2006. *Tuberculosis* was the leading cause of death in both years, accounting for 12,7% and 12,8% of all deaths in 2006 and 2007, respectively. *Influenza and pneumonia* was the second leading underlying cause of death, followed by *intestinal infectious diseases*, *other forms of heart disease* and *cerebrovascular diseases.* These five leading causes of death for both years accounted for over a third of all deaths occurring in South Africa. *Human immunodeficiency virus (HIV) disease* was the ninth leading cause of death, accounting for 2,4% of all deaths in 2006 and 2,2% of all deaths in 2007. *Certain disorders involving the immune mechanism* (99,2% classified to *other immunodeficiencies*) were the eighth leading cause of death, accounting for 2,6% of deaths in 2006 and 2,5% of deaths in 2007. The percentage distribution of each of the ten leading causes for both years is largely the same.

Comparison of deaths (absolute numbers) between 2006 and 2007 shows that there was a decline in the number of deaths for each of the leading causes in Table 4.4, with the exception of *diabetes mellitus* and *hypertensive diseases*, which increased by 2,4% and 5,7%, respectively. The highest decrease between these years was for *HIV disease*, which declined by 9,5%, followed by *influenza and pneumonia* (6,7%) and then *intestinal infectious diseases* (5,5%). The number of deaths due to *tuberculosis* declined by 1,1%.

Table 4.4: The ten leading underlying natural causes of death, 2006* and 2007

Causes of death (based on the Tenth Revision, International Classification of Diseases, 1992)	2006			2007		
	Rank	Number	%	Rank	Number	%
Tuberculosis (A15-A19)**	1	77 578	12,7	1	76 761	12,8
Influenza and pneumonia (J10-J18)	2	53 301	8,7	2	49 722	8,3
Intestinal infectious diseases (A00-A09)	3	39 569	6,5	3	37 398	6,2
Other forms of heart disease (I30-I52)	4	26 825	4,4	4	26 030	4,3
Cerebrovascular diseases (I60-I69)	5	25 396	4,1	5	25 321	4,2
Diabetes mellitus (E10-E14)	6	19 660	3,2	6	20 139	3,4
Chronic lower respiratory diseases (J40-J47)	7	15 923	2,6	7	15 313	2,5
Certain disorders involving the immune mechanism (D80-D89)	8	15 863	2,6	8	15 253	2,5
Human immunodeficiency virus [HIV] disease (B20-B24)	9	14 935	2,4	9	13 521	2,2
Ischaemic heart diseases (I20-I25)	10	13 094	2,1	11***	12 506	2,1
Hypertensive diseases (I10-I15)	11***	12 656	2,1	10	13 381	2,2
Other natural causes		244 489	39,9		241 572	40,2
Non-natural cause		53 173	8,7		54 216	9,0
All causes		**612 462**	**100,0**		**601 133**	**100,0**

*Data for 2006 updated to include late registrations processed in 2008/9;
** Including deaths due to *MDR-TB* and *XDR-TB*;
*** Figures shown for illustrative purposes

Leading underlying natural causes of death by sex

The distribution of the ten leading underlying natural causes of death in 2007 by sex is shown in Table 4.5. Overall, nine of the ten leading causes were the same for both sexes, although with different ranks. On one hand, *ischaemic heart diseases* were among the ten leading cause of death for males, but not for females. On the other hand, *hypertensive diseases* were among the top ten underlying causes of death for females but not for males.

The three leading causes of death (*tuberculosis, influenza and pneumonia and intestinal infectious diseases)* were similar in rank for both sexes, representing over a quarter of all deaths for each sex. While the ranks may be the same, the contribution of each cause differs for each sex. For example, although *tuberculosis* was the leading underlying cause of death for males and for females, it accounted for 13,6% of male deaths and 11,9% of female deaths. *Other forms of heart diseases* were the fourth leading cause of death for the males, followed by *cerebrovascular diseases*. The positions of these two causes were reversed for females.

Human immunodeficiency virus (HIV) disease was the tenth leading cause of death for males (accounting for 2,0% of all deaths), but, the ninth leading cause of death among females (accounting for 2,5% of all deaths). *Certain disorders involving the immune mechanism* was the ninth and eighth leading cause of death for males (2,3%) and females (2,8%), respectively.

Differences in the number of deaths between 2006 (updated) and 2007, indicate that relatively high declines were observed for *HIV disease* (12,8% for males and 5,7% for females); *influenza and pneumonia* (5.4% for males and 7,7% for females), *intestinal infectious diseases* (4,6% for males and 6,0% for females) and *certain disorders involving the immune mechanism* (declined by 7,4% for females and increased by 0,8% for males). Increases in the number of deaths were observed for *cerebrovascular diseases* (2,3% for males), *diabetes mellitus* (1,8% for males and 3,0% for females) and *hypertensive diseases* (5,7% for females).

Table 4.5: The ten leading underlying natural causes of death for males and females, 2007*

Causes of death (Based on the Tenth Revision, International Classification of Disease, 1992)	Males			Females		
	Rank	Number	%	Rank	Number	%
Tuberculosis (A15-A19)**	1	41 769	13,6	1	34 893	11,9
Influenza and pneumonia (J10-J18)	2	24 062	7,9	2	25 564	8,7
Intestinal infectious diseases (A00-A09)	3	17 146	5,6	3	20 159	6,9
Other forms of heart disease (I30-I52)	4	11 580	3,8	5	14 427	4,9
Cerebrovascular diseases (I60-I69)	5	10 770	3,5	4	14 545	4,9
Chronic lower respiratory diseases (J40-J47)	6	9 085	3,0	10	6 221	2,1
Diabetes mellitus (E10-E14)	7	7 805	2,5	6	12 334	4,2
Ischaemic heart diseases (I20-I25)	8	7 271	2,4	…	…	…
Certain disorders involving the immune mechanism (D80-D89)	9	7 094	2,3	8	8 144	2,8
Human immunodeficiency virus [HIV] disease (B20-B24)	10	6 013	2,0	9	7 485	2,5
Hypertensive diseases (I10-I15)	…	…	…	7	8 323	2,8
Other natural causes		122 358	40,0		128 982	43,9
Non-natural causes		41 281	13,5		12 844	4,4
All causes		**306 234**	**100,0**		**293 921**	**100,0**

*Excluding 978 cases with unspecified sex
**Including deaths due to *MDR-TB* and *XDR-TB*
… Category not in top ten

Leading underlying natural causes of death by age

The ten leading causes of death classified by broad age groups 0–14, 15–49, 50–64 and 65 years and older for 2007 are given in Table 4.6. Underlying natural causes of death that were common for all these age groups were *intestinal infectious diseases*, *influenza and pneumonia* and *tuberculosis*. However, the ranks of these causes differed by age. For example, *intestinal infectious diseases* was in position one for those aged 0–14 (contributing 19,6% of all deaths in this age group) but was in position three for those aged 15–49 (contributing 5,8%), seventh for those aged 50–64 (contributing 3,5%) and tenth for those aged 65 years and older (contributing 2,4%).

Table 4.6: The ten leading underlying natural causes of death for broad age groups, 2007

Causes of death (based on the Tenth Revision, International Classification of Diseases, 1992)	0-14			15-49			50-64			65+		
	Rank	Number	%	Rank	Number	%	Rank	Number	%	Rank	Number	%
Intestinal infectious diseases (A00-A09)	1	13 896	19,6	3	16 261	5,8	7	3 658	3,5	10	3 532	2,4
Influenza and pneumonia (J10-J18)	2	9 586	13,5	2	25 715	9,2	2	6 687	6,4	5	7 649	5,3
Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	3	6 193	8,7	…	…	…	…	…	…	…	…	…
Tuberculosis (A15-A19)*	4	2 560	3,6	1	57 291	20,6	1	12 159	11,6	9	4 578	3,1
Malnutrition (E40-E46)	5	1 914	2,7	…	…	…	…	…	…	…	…	…
Disorders related to length of gestation and foetal growth (P05-P08)	6	1 778	2,5	…	…	…	…	…	…	…	…	…
Other disorders originating in the perinatal period (P90-P96)	7	1 431	2,0	…	…	…	…	…	…	…	…	…
Infections specific to the perinatal period (P35-P39)	8	1 416	2,0	…	…	…	…	…	…	…	…	…
Certain disorders involving the immune mechanism (D80-D89)	9	1 355	1,9	4	11 741	4,2	…	…	…	…	…	…
Other acute lower respiratory infections (J20-J22)	10	1 260	1,8	10	4 074	1,5	…	…	…	…	…	…
Human immunodeficiency virus [HIV] disease (B20-B24)	…	…	…	5	11 058	4,0	…	…	…	…	…	…
Other viral diseases (B25-B34)	…	…	…	6	7 384	2,7	…	…	…	…	…	…
Inflammatory diseases of the central nervous system (G00-G09)	…	…	…	7	6 762	2,4	…	…	…	…	…	…
Other forms of heart disease (I30-I52)	…	…	…	8	6 199	2,2	5	5 692	5,4	2	13 509	9,3
Cerebrovascular diseases (I60-I69)	…	…	…	9	4 108	1,5	4	6 379	6,1	1	14 697	10,1
Diabetes mellitus (E10-E14)	…	…	…	…	…	…	3	6 570	6,3	3	10 604	7,3
Chronic lower respiratory diseases (J40-J47)	…	…	…	…	…	…	6	4 572	4,4	6	7 195	4,9
Ischaemic heart diseases (I20-I25)	…	…	…	…	…	…	8	3 602	3,4	7	7 164	4,9
Hypertensive diseases (I10-I15)	…	…	…	…	…	…	9	3 595	3,4	4	7 890	5,4
Malignant neoplasms of digestive organs (C15-C26)	…	…	…	…	…	…	10	3 234	3,1	8	4 658	3,2
Other natural causes		24 118	34,1		89 693	32,2		42 879	40,8		59 762	41,1
Non-natural		5 295	7,5		38 303	13,7		6 075	5,8		4 187	2,9
All causes		**70 802**	**100,0**		**278 589**	**100,0**		**105 102**	**100,0**		**145 425**	**100,0**

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

The leading underlying cause of death for those aged 0–14 years was *intestinal infectious diseases*, followed by *influenza and pneumonia*. Amongst those aged 15–49 and 50–64, *tuberculosis* and *influenza and pneumonia* were the first two leading causes of death. C*erebrovascular diseases* and *other forms of heart disease* were the first two leading causes of death for those aged 65 years and older. Although the ranks differ, the ten leading causes of death for those aged 50–64 were similar to those aged 65 years and older.

Human immunodeficiency virus [HIV] disease was among the ten leading causes of death for those aged 0–14 in 2006, but, it does not appear as one of the ten leading causes in this age group in 2007. It continues to be the fifth leading cause of death for the 15–49 age group in 2007. *Certain disorders involving the immune* mechanism were among the ten leading causes of death for those aged 0 to 49. *Diabetes mellitus, chronic lower respiratory diseases, ischaemic heart diseases, hypertensive diseases* and *malignant neoplasms of digestive organs* were among the ten leading causes of death only for those aged 50 years and older. *Respiratory and cardiovascular disorders specific to the perinatal period, malnutrition, disorders related to length of gestation and foetal growth, disorders originating in the perinatal period and infections specific to the perinatal period* were among the top ten causes of death only for those aged 0–14 while *HIV diseases* and *other viral diseases* were among the ten leading causes of death only for those aged 15–49.

In terms of the changes in the number of deaths between 2006 and 2007, *human immunodeficiency virus (HIV) disease* decreased by 24,2% for those aged 0–14 and by 8,7% for those aged 15–49 while *influenza and pneumonia* decreased by 9,3% and 9,8% for those aged 0–14 and 15–49, respectively. Increases were observed for *certain disorders involving the immune mechanism* for those aged 0–14 (9,1%) but the number decreased by 5,3% for those aged 15–49. Deaths due to *malnutrition* decreased by 13,6% for those aged 0–14. For the older ages, deaths due to *ischaemic heart diseases* declined by 6,9% and 5,0% for those aged 50–64 and 65 and older, respectively while those due to *hypertensive diseases* increased (4,6% for those aged 50–64 and 6,7% for those aged 65 years and older). Deaths due to *tuberculosis* reduced for all broad age group, with the exception of the 50–64 age group, which increased by 1,5%.

Leading underlying natural causes of infants and children

Table 4.7 shows the differences in 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 those aged 1–4 years. Infant deaths are composed of both neonatal and post-neonatal deaths.

The leading cause of death for neonatal deaths in 2007 was *respiratory and cardiovascular disorders specific to the perinatal period*, accounting for 45,1% of all neonatal deaths. This was followed by *disorders related to length of gestation and foetal growth* (12,4%), and *other disorders originating in the perinatal period* (10,2%) and then *infections specific to the perinatal period* (10,0%). For the post-neonatal period, the leading causes of death were *intestinal infectious diseases,* accounting for 28,0% of deaths in this period, followed by *influenza and pneumonia*, accounting for 20,5% of deaths. *Certain disorders involving the immune mechanism* ranked sixth and *tuberculosis* seventh.

For overall infant deaths, the leading cause of death was *intestinal infectious diseases*, followed by *influenza and pneumonia* and then *respiratory and cardiovascular disorders specific to the perinatal period*, all accounting for close to half (48,5%) of infant deaths. Five underlying natural causes of death that were common for infants and children were: *intestinal infectious diseases*, *influenza and pneumonia, malnutrition, other acute lower respiratory infections* and *certain disorders involving the immune mechanism*. About 20,6% and almost a quarter (24,0%) of deaths occurring to infants and children aged 1–4 years, respectively, were due to *intestinal infectious diseases*, the leading cause of death for these two age groups.

Malnutrition was the third leading cause of death for those aged 1–4 years and the seventh leading cause for those aged less than one year. For those aged 1–4 years, *certain disorders involving the immune mechanism* was the fifth leading cause of death while *human immunodeficiency virus [HIV] disease* was the eighth.

Table 4.7: The ten leading underlying natural causes of death for infants and children, 2007

Causes of death (based on the Tenth Revision, International Classification of Diseases, 1992)	Neonatal			Post-neonatal			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	6 048	45,1	…	…	…	3	6 187	13,3	…	…	…
Disorders related to length of gestation and foetal growth (P05-P08)	2	1 661	12,4	…	…	…	4	1 775	3,8	…	…	…
Other disorders originating in the perinatal period (P90-P96)	3	1 366	10,2	…	…	…	5	1 427	3,1	…	…	…
Infections specific to the perinatal period (P35-P39)	4	1 343	10,0	…	…	…	6	1 415	3,0	…	…	…
Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00-P04)	5	591	4,4	…	…	…	…	…	…	…	…	…
Haemorrhagic and haematological disorders of foetus and newborn (P50-P61)	6	351	2,6	…	…	…	…	…	…	…	…	…
Intestinal infectious diseases (A00-A09)	7	284	2,1	1	9 288	28,0	1	9 572	20,6	1	3 547	24,0
Digestive system disorders of foetus and newborn (P75-P78)	8	276	2,1	…	…	…	…	…	…	…	…	…
Other congenital malformations (Q80-Q89)	9	203	1,5	…	…	…	…	…	…	…	…	…
Transitory endocrine and metabolic disorders specific to foetus and newborn (P70-P74)	10	200	1,5	…	…	…	…	…	…	…	…	…
Influenza and pneumonia (J10-J18)	…	…	…	2	6 799	20,5	2	6 799	14,6	2	1 977	13,4
Malnutrition (E40-E46)	…	…	…	3	962	2,9	7	972	2,1	3	886	6,0
Protozoal diseases (B50-B64)	…	…	…	4	924	2,8	8	926	2,0	…	…	…
Other acute lower respiratory infections (J20-J22)	…	…	…	5	877	2,6	9	900	1,9	7	261	1,8
Certain disorders involving the immune mechanism (D80-D89)	…	…	…	6	740	2,2	10	756	1,6	5	378	2,6
Tuberculosis (A15-A19)	…	…	…	7	710	2,1	…	…	…	4	802	5,4
Other bacterial diseases (A30-A49)	…	…	…	8	660	2,0	…	…	…	…	…	…
Metabolic disorders (E70-E90)	…	…	…	9	613	1,8	…	…	…	10	190	1,3
Other viral diseases (B25-B34)	…	…	…	10	513	1,5	…	…	…	9	240	1,6
Inflammatory diseases of the central nervous system (G00-G09)	…	…	…	…	…	…	…	…	…	6	281	1,9
Human immunodeficiency virus [HIV] disease (B20-B24)	…	…	…	…	…	…	…	…	…	8	246	1,7
Other natural causes		919	6,9		9 987	30,1		14 586	31,3		4 366	29,5
Non-natural causes		163	1,2		1 068	3,2		1 231	2,6		1 608	10,9
All causes		**13 405**	**100,0**		**33 141**	**100,0**		**46 546**	**100,0**		**14 782**	**100,0**

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

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

The World Health Organization suggested in the ICD-10 recommendations that the 15–24 age group must also be included in the analysis for international comparison (see Table 4.8). *Tuberculosis* was the leading cause of death, accounting for 15,2% of deaths in this age group. This was followed by *influenza and pneumonia* (6,8%) and then *intestinal and infectious diseases* (4,6%). *Certain disorders involving the immune mechanism* and *HIV disease* were the fourth and fifth leading causes of death, respectively, each accounting for almost 3% of deaths in this age group.

Table 4.8: The ten leading underlying natural causes of death for population aged 15–24 years, 2007

Causes of death (based on the Tenth Revision, International Classification of Diseases, 1992)	15-24 years		
	Rank	Number	%
Tuberculosis (A15-A19)*	1	5 105	15,2
Influenza and pneumonia (J10-J18)	2	2 279	6,8
Intestinal infectious diseases (A00-A09)	3	1 533	4,6
Certain disorders involving the immune mechanism (D80-D89)	4	975	2,9
Human immunodeficiency virus [HIV] disease (B20-B24)	5	934	2,8
Inflammatory diseases of the central nervous system (G00-G09)	6	844	2,5
Other viral diseases (B25-B34)	7	651	1,9
Other forms of heart disease (I30-I52)	8	599	1,8
Other acute lower respiratory infections (J20-J22)	9	366	1,1
Episodic and paroxysmal disorders (G40-G47)	10	329	1,0
Other natural causes		8 404	25,0
Non-natural		11 607	34,5
All causes		**33 626**	**100,0**

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

Leading underlying natural causes of death by province

Table 4.9 shows the provincial differences in the ranking of the ten leading underlying causes of death for 2007. Detailed information on the distribution of the ten leading underlying causes by provinces, sex and age is provided in Appendices J to J.9.

Tuberculosis was the leading cause of death in seven provinces and the second leading cause of death in the remaining two provinces (Free State and Limpopo). In these two provinces, *influenza and pneumonia* was the leading cause of death. *Tuberculosis* accounted for 17,3% of all deaths in KwaZulu-Natal, and for 13,5% of deaths in Eastern Cape.

The causes of death that were common for all the nine provinces were *tuberculosis, diabetes mellitus, cerebrovascular diseases, other forms of heart* disease and *influenza and pneumonia*. However, the ranks of these causes differed widely between provinces. For example, while *influenza and pneumonia* was the first leading cause of death in Limpopo (contributing 11,5% of all deaths in this province), it was the tenth leading cause in Western Cape (contributing 2,7% of deaths).

HIV disease was among the ten leading causes of death in Western Cape, Free State, KwaZulu-Natal, Gauteng and Mpumalanga while *certain disorders involving the immune mechanism* were among the ten leading causes in all provinces except Western Cape and KwaZulu-Natal. *Malignant neoplasms of digestive organs* were among the ten leading causes of death only in Western Cape and Eastern Cape while *malignant neoplasms of respiratory and intrathoracic organs* were among the ten leading causes only in Western Cape.

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

Table 4.9: The ten leading underlying natural causes of death in each province, 2007

Causes of death (based on the Tenth Revision, International Classification of Diseases, 1992)	Western Cape			Eastern Cape			Northern Cape			Free State			KwaZulu-Natal			North West			Gauteng			Mpumalanga			Limpopo		
	**	No.	%	**	No.	%	**	No.	%	**	No.	%	**	No.	%	**	No.	%	**	No.	%	**	No.	%	**	No.	%
Tuberculosis (A15-A19)	1	4 648	9,9	1	11 836	13,5	1	1 688	11,2	2	6 097	12,0	1	24 078	17,3	1	5 642	12,5	1	10 928	9,5	1	6 806	14,1	2	4 981	9,4
Ischaemic heart diseases (I20-I25)	2	2 750	5,9	…	…	…	9	392	2,6	…	…	…	9	2 774	2,0	…	…	…	8	2 772	2,4	…	…	…	…	…	…
Diabetes mellitus (E10-E14)	3	2 676	5,7	7	2 726	3,1	8	432	2,9	7	1 246	2,4	6	5 075	3,7	9	1 062	2,4	6	3 739	3,2	7	1 414	2,9	6	1 756	3,3
Cerebrovascular diseases (I60-I69)	4	2 544	5,4	6	3 353	3,8	3	669	4,4	6	1 909	3,8	4	6 455	4,6	5	1 694	3,8	5	4 184	3,6	4	2 278	4,7	5	2 219	4,2
Chronic lower respiratory diseases (J40-J47)	5	2 018	4,3	4	3 835	4,4	6	581	3,8	9	1 076	2,1	…	…	…	8	1 092	2,4	…	…	…	9	981	2,0	9	1 025	1,9
Other forms of heart disease (I30-I52)	6	1 750	3,7	5	3 510	4,0	5	603	4,0	4	2 486	4,9	5	5 083	3,7	4	2 452	5,4	3	5 758	5,0	6	1 946	4,0	4	2 422	4,6
Malignant neoplasm of digestive organs (C15-C26)	7	1 708	3,7	10	1 894	2,2	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	8	1 595	3,4	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
Human immunodeficiency virus [HIV] disease (B20-B24)	9	1 530	3,3	…	…	…	…	…	…	10	989	1,9	7	4 475	3,2	…	…	…	9	2 596	2,3	10	943	2,0	…	…	…
Influenza and pneumonia (J10-J18)	10	1 279	2,7	2	4 482	5,1	2	1 107	7,3	1	7 054	13,9	3	8 973	6,5	2	4 765	10,6	2	10 727	9,3	2	5 230	10,9	1	6 087	11,5
Intestinal infectious diseases (A00-A09)	…	…	…	3	3 879	4,4	4	651	4,3	3	3 919	7,7	2	9 870	7,1	3	2 983	6,6	4	5 710	5,0	3	4 779	9,9	3	4 786	9,0
Certain disorders involving the immune mechanism (D80-D89)	…	…	…	8	2 304	2,6	7	458	3,0	5	1 992	3,9	…	…	…	6	1 381	3,1	7	3 046	2,6	5	1 985	4,1	8	1 196	2,3
Hypertensive diseases (I10-I15)	…	…	…	9	1 993	2,3	10	390	2,6	8	1 180	2,3	…	…	…	7	1 346	3,0	10	2 425	2,1	8	1 128	2,3	7	1 242	2,3
Other viral diseases (B25-B34)	…	…	…	…	…	…	…	…	…	…	…	…	8	2 944	2,1	10	896	2,0	…	…	…	…	…	…	…	…	…
Other acute lower respiratory infections (J20-J22)	…	…	…	…	…	…	…	…	…	…	…	…	10	2 700	1,9	…	…	…	…	…	…	…	…	…	…	…	…
Inflammatory diseases of the central nervous system (G00-G09)	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	10	721	1,4
Other natural causes		17 383	37,2		39 539	45,2		6 715	44,4		19 473	38,3		55 102	39,7		18 379	40,7		51 360	44,6		16 767	34,9		22 910	43,2
Non-natural causes		6 907	14,8		8 101	9,3		1 445	9,5		3 484	6,8		11 362	8,2		3 434	7,6		11 891	10,3		3 853	8,0		3 670	6,9
All causes		**46 788**	**100,0**		**87 452**	**100,0**		**15 131**	**100,0**		**50 905**	**100,0**		**138 891**	**100,0**		**45 126**	**100,0**		**115 136**	**100,0**		**48 110**	**100,0**		**53 015**	**100,0**

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

Underlying natural causes of death by district municipalities

The underlying natural causes of death by district municipalities are provided in Appendix L and Appendix M. Appendix L provides the number of deaths by main groups of death for each district municipality while Appendix M shows the ten leading underlying natural causes of death by district municipality. Information by local municipality is available on request from Stats SA.

With the exception of Western Cape, *certain infectious and parasitic diseases* were the most common main group of death in all provinces and for most district municipalities. In Alfred Nzo in Eastern Cape and Kgalagadi in Northern Cape, the most common main group of death was *diseases of the respiratory system*, while *diseases of the circulatory system* were the most common main group of death in Namakwa in Northern Cape.

In Western Cape, the most common main group of death for all district municipalities was *diseases of the circulatory system*, except in Central Karoo where the main cause was *external causes of morbidity and mortality (non-natural causes of death).*

Information on the ten leading natural causes of death by district municipality shows that *tuberculosis* was the leading cause of death in many district municipalities: all in Western Cape and Mpumalanga; all in Eastern Cape except Alfred Nzo; three out of five in Northern Cape; ten out of eleven in KwaZulu-Natal; three out of four in North West and five out of six in Gauteng. The exceptions were the district municipalities in Free State and Limpopo, where most people died due to *influenza and pneumonia.* This cause was leading in four out of five district municipalities in Free State and in three out of five in Limpopo. Other diseases that appeared as leading underlying causes were: *other diseases of the respiratory system* (Alfred Nzo in Eastern Cape); *ischaemic heart diseases* (Namakwa in Northern Cape); *human immunodeficiency virus (HIV) disease* (Umkhanyakude in KwaZulu-Natal) and *intestinal infectious diseases* (Mopani in Limpopo).

HIV disease was among the ten leading underlying causes of death in all provinces, except Limpopo. In Western Cape, *HIV disease* was among the ten leading causes in five out of six district municipalities, two out of seven in Eastern Cape, two out of five in Northern Cape, three out of five in Free State, six out of eleven in KwaZulu-Natal, two out of four in North West, one out of six in Gauteng and one out of three in Mpumalanga.

4.6 Non-natural causes of death

This subsection discusses non-natural causes of death. When completing death notification forms, medical practitioners are expected to specify whether the deceased died from natural or non-natural causes. In addition, information on specific causes of death provided on the form, and the resulting ICD-10 code, can be used to determine whether the death was due to natural or non-natural causes. This release uses the specified cause of death and the corresponding ICD-10 code to classify a death as natural or non-natural. All external causes of morbidity and mortality (codes V01 up to Y98) are treated as non-natural causes of death.

All broad groups of non-natural causes are reported in this sub-section, not just the ten leading underlying causes of death as provided for natural causes. In addition, the percentages calculated for each cause are based on all non-natural causes of death, not all causes (natural and non-natural) as was the case in the analysis of natural causes of death. Readers are reminded that coding methodology of non-natural causes changed during the current processing phase (see section 2.2 of this release), which has changed the number of deaths associated with *event of undetermined intent* and *other external causes of accidental injury* considerably, compared to the previous years.

In 2007, non-natural causes of death represented 9,0% of all causes of death. The number of non-natural deaths increased by 2,0% between 2006 and 2007 and the percentage contribution of non-natural deaths to the total number of deaths also increased from that observed in 2006 (8,7%).

Table 4.10 shows the broad groups of non-natural causes and the associated number of deaths. It is observed that non-natural causes of death resulted mainly from *other external causes of accidental injury* (37,2%) and *event of undetermined intent* (37,1%). The third most common cause of non-natural deaths was *transport accidents* (11,3%), followed by *assault* (10,4%) and then *complications of medical and surgical care* (3,0%). Less than 1% of non-natural deaths were due to *intentional self-harm* (0,8%) and *sequelae of external causes of morbidity and mortality* (0,2%).

Table 4.10: Distribution of non-natural causes of death by broad groups, 2007

Causes of death (Based on the Tenth Revision, International Classification of Disease, 1992)	Number	%
Other external causes of accidental injury (W00-X59)	20 177	37,2
Event of undetermined intent (Y10-Y34)	20 128	37,1
Transport accidents (V01-V99)	6 153	11,3
Assault (X85-Y09)	5 648	10,4
Complications of medical and surgical care (Y40-Y84)*	1 603	3,0
Intentional self-harm (X60-X84)	421	0,8
Sequelae of external causes of morbidity and mortality (Y85-Y89)	86	0,2
Total	**54 216**	**100,0**

*Including mine accidents, circumcision and accidents in sports

Non-natural causes of death by sex and age groups

This subsection reports on the distribution of non-natural causes of death by sex and broad age groups (0–14, 15–49, 50–64 and 65 and older) for deaths that occurred in 2007 (see Table 4.11). The percentages for both sexes may not be similar to the one presented in Table 4.10 as the deaths that did not have information on age are excluded in this subsection.

Compared to females, males had a higher proportion of deaths due to non-natural causes (13,4% for males and 4,4% for females). For males 11,9% and 11,0% of non-natural deaths were due to *assault* and *transport accidents*, respectively while for female deaths, 12,5% of non-natural deaths were due to *transport accidents* and 5,5% due to *assault.* The percentage of deaths due to *assault* for males was about twice as much as for females. The opposite was true for deaths in which *complications of medical and surgical care* were underlying, with about 6% of female non-natural deaths and 2% male non-natural deaths due to this cause. For each of the sexes, *intentional self-harm* and *sequelae of external causes of morbidity and mortality* were uncommon.

The age group mostly affected by non-natural causes of death was the age group 15–49 where 13,7% of all deaths were due to non-natural causes. The age group least affected by non-natural causes was 65 years and older where less than 3% of deaths in this age group were due to non-natural causes. Excluding *other external causes of accidental injury* and *complications of medical and surgical care*), it is observed that among those aged 0–14 years, *transport accidents* (12,7%) and *complications of medical and surgical care* (10,5%) were the most common causes of non-natural deaths. Among those aged 15–49, *assault* (13,0%) and *transport accidents* (11,2%) were common for both sexes. *Transport accidents* were also common among those aged 50 and older

Table 4.11: Underlying non-natural causes of death by age group and sex, 2007

Causes of death (based on the Tenth 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*										
Other external causes of accidental injury (W00-X59)	2 216	13 466	2 264	2 119	20 065	41,9	35,2	37,3	50,6	37,3
Event of undetermined intent (Y10-Y34)	1 737	14 684	2 353	1 209	19 983	32,8	38,3	38,7	28,9	37,1
Transport accidents (V01-V99)	675	4 301	782	352	6 110	12,7	11,2	12,9	8,4	11,3
Assault (X85-Y09)	102	4 984	373	140	5 599	1,9	13,0	6,1	3,3	10,4
Complications of medical and surgical care (Y40-Y84)****	556	473	237	334	1 600	10,5	1,2	3,9	8,0	3,0
Intentional self-harm (X60-X84)	8	342	49	19	418	0,2	0,9	0,8	0,5	0,8
Sequelae of external causes of morbidity and mortality (Y85-Y89)	1	53	17	14	85	0,0	0,1	0,3	0,3	0,2
Subtotal	5 295	38 303	6 075	4 187	53 860	100,0	100,0	100,0	100,0	100,0
Non-natural causes	5 295	38 303	6 075	4 187	53 860	7,5	13,7	5,8	2,9	9,0
Natural causes	65 507	240 286	99 027	141 238	546 058	92,5	86,3	94,2	97,1	91,0
All causes	**70 802**	**278 589**	**105 102**	**145 425**	**599 918**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**
Males**										
Other external causes of accidental injury (W00-X59)	1 326	11 075	1 693	1 036	15 130	42,6	35,5	37,8	47,1	36,9
Event of undetermined intent (Y10-Y34)	1 026	11 823	1 725	692	15 266	33,0	37,9	38,6	31,5	37,2
Transport accidents (V01-V99)	396	3 345	552	212	4 505	12,7	10,7	12,3	9,6	11,0
Assault (X85-Y09)	65	4 428	300	85	4 878	2,1	14,2	6,7	3,9	11,9
Complications of medical and surgical care (Y40-Y84)****	291	241	152	157	841	9,4	0,8	3,4	7,1	2,1
Intentional self-harm (X60-X84)	6	259	38	10	313	0,2	0,8	0,8	0,5	0,8
Sequelae of external causes of morbidity and mortality (Y85-Y89)	0	39	14	8	61	0,0	0,1	0,3	0,4	0,1
Subtotal	3 110	31 210	4 474	2 200	40 994	100,0	100,0	100,0	100,0	100,0
Non-natural causes	3 110	31 210	4 474	2 200	40 994	8,3	21,8	7,3	3,5	13,4
Natural causes	34 383	112 166	57 042	60 864	264 455	91,7	78,2	92,7	96,5	86,6
All causes	**37 493**	**143 376**	**61 516**	**63 064**	**305 449**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**
Females***										
Other external causes of accidental injury (W00-X59)	887	2 379	569	1 082	4 917	40,9	33,7	35,6	54,5	38,4
Event of undetermined intent (Y10-Y34)	705	2 847	627	516	4 695	32,5	40,4	39,2	26,0	36,7
Transport accidents (V01-V99)	277	953	230	139	1 599	12,8	13,5	14,4	7,0	12,5
Assault (X85-Y09)	36	546	73	55	710	1,7	7,7	4,6	2,8	5,5
Complications of medical and surgical care (Y40-Y84)****	261	231	85	177	754	12,0	3,3	5,3	8,9	5,9
Intentional self-harm (X60-X84)	2	82	11	9	104	0,1	1,2	0,7	0,5	0,8
Sequelae of external causes of morbidity and mortality (Y85-Y89)	1	14	3	6	24	0,0	0,2	0,2	0,3	0,2
Subtotal	2 169	7 052	1 598	1 984	12 803	100,0	100,0	100,0	100,0	100,0
Non-natural causes	2 169	7 052	1 598	1 984	12 803	6,6	5,2	3,7	2,4	4,4
Natural causes	30 678	127 834	41 939	80 340	280 791	93,4	94,8	96,3	97,6	95,6
All causes	**32 847**	**134 886**	**43 537**	**82 324**	**293 594**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**

* Excluding 1 215 cases with unspecified age, ** Excluding 785 cases with unspecified age; *** Excluding 327 cases with unspecified age; **** Including mine accidents, circumcision and accidents in sports.

Non-natural causes of death by province

The distribution of the underlying non-natural causes of death by province for 2007 is shown in Table 4.12. Western Cape (14,8%) had the highest proportion of deaths due to non-natural causes, followed by Gauteng (10,3%); and then Northern Cape (9,5) and Eastern Cape (9,3%). The lowest percentages of deaths due to non-natural causes were observed in Free State (6,8%) and Limpopo (6,9%).

With the exception of Limpopo, the most common causes of non-natural deaths were *other external causes of accidental injury* and *events of undetermined intent.* In Limpopo, the most common causes were *other external causes of accidental injury* and *transport accidents.* The least common causes in all provinces were *complications of medical and surgical care, intentional self-harm* and *sequelae of external causes of morbidity and mortality*. Less than 5% of non-natural deaths were attributed to each of these causes in each province.

The highest proportion of deaths due to *assault* was observed in Northern Cape (19,5% of non-natural deaths), Eastern Cape (16,9%) and Western Cape (15,5%). Over 30% of all non-natural deaths were due to *transport accidents* in Limpopo, the province which always has the highest proportion of non-natural deaths due to this cause. Higher proportions of deaths due to *transport accidents* were also observed in Northern Cape (17,2%), Free State (14,3%) and North West (14,2%). Gauteng had the lowest percentage of non-natural deaths due to *transport accidents* (6,2%).

Table 4.12: Underlying non-natural causes of death by province, 2007

Causes of death (based on the Tenth Revision, International Classification of Disease, 1992	Western Cape		Eastern Cape		Northern Cape		Free State		KwaZulu-Natal		North West		Gauteng		Mpumalanga		Limpopo	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Other external causes of accidental injury (W00-X59)	2 260	32,7	3 045	37,6	542	37,5	1 375	39,5	4 674	41,1	1 322	38,5	4 782	40,2	1 022	26,5	1 127	30,7
Event of undetermined intent (Y10-Y34)	2 780	40,2	2 480	30,6	314	21,7	1 019	29,2	4 031	35,5	1 170	34,1	5 317	44,7	2 007	52,1	1 001	27,3
Transport accidents (V01-V99)	635	9,2	966	11,9	248	17,2	497	14,3	944	8,3	488	14,2	741	6,2	455	11,8	1 152	31,4
Assault (X85-Y09)	1 070	15,5	1 366	16,9	282	19,5	457	13,1	1 102	9,7	332	9,7	636	5,3	192	5,0	207	5,6
Complications of medical and surgical care (Y40-Y84)*	117	1,7	182	2,2	21	1,5	105	3,0	438	3,9	104	3,0	372	3,1	128	3,3	136	3,7
Intentional self-harm (X60-X84)	36	0,5	56	0,7	37	2,6	29	0,8	127	1,1	12	0,3	33	0,3	47	1,2	43	1,2
Sequelae of external causes of morbidity and mortality (Y85-Y89)	9	0,1	6	0,1	1	0,1	2	0,1	46	0,4	6	0,2	10	0,1	2	0,1	4	0,1
Subtotal	6 907	100,0	8 101	100,0	1 445	100,0	3 484	100,0	11 362	100,0	3 434	100,0	11 891	100,0	3 853	100,0	3 670	100,0
Non-natural causes	6 907	14,8	8 101	9,3	1 445	9,5	3 484	6,8	11 362	8,2	3 434	7,6	11 891	10,3	3 853	8,0	3 670	6,9
Natural causes	39 881	85,2	79 351	90,7	13 686	90,5	47 421	93,2	127 529	91,8	41 692	92,4	103 245	89,7	44 257	92,0	49 345	93,1
All causes	46 788	100,0	87 452	100,0	15 131	100,0	50 905	100,0	138 891	100,0	45 126	100,0	115 136	100,0	48 110	100,0	53 015	100,0

*Including mine accidents, circumcision and accidents in sports.

4.7 Comparison between underlying, immediate and contributing causes of death

The death notification form makes provision for reporting one or more causes of death on each form. As noted in Table 4.1, the majority of forms for 2007 deaths (about 60%) had just one cause of death indicated. However, a considerable number recorded at least two causes of death (36,6%). A cause recorded on the form can be indicated as immediate, contributing or underlying.

Table 4.13 shows the total number of times specific causes of death were recorded on the 2007 death notification forms as either underlying, immediate or contributing causes for the 25 most commonly reported 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*.

Tuberculosis was the most frequently recorded cause of death in 2007, mentioned in close to 90 000 (88 559) death notification forms as either an underlying, immediate or contributing cause. That is, 14,7% of all forms had *tuberculosis* recorded (as either underlying, immediate or contributing cause) on the form. *Influenza and pneumonia* was the second most reported cause of death (13,5%), mentioned in 81 010 forms. Nearly 80 000 forms had *ill-defined and unknown causes of mortality* recorded (13,2%). *Other external causes of accidental injury* were the twelfth most commonly mentioned causes (3,5%) and *human immunodeficiency virus [HIV] disease* the twenty first (2,3%).

Table 4.13: Distribution of most commonly reported causes of death, 2007

Rank	Cause of Death	Number of deaths in which the cause was reported	% of all deaths
1	Tuberculosis (A15-A19)*	88 559	14,7
2	Influenza and pneumonia (J10-J18)	81 010	13,5
3	Ill-defined and unknown causes of mortality (R95-R99)	79 126	13,2
4	Other forms of heart diseases (I30-I52)	56 023	9,3
5	Intestinal infectious diseases (A00-A09)	42 091	7,0
6	Cerebrovascular diseases (I60-I69)	34 674	5,8
7	Hypertensive diseases (I10-I15)	33 858	5,6
8	Certain disorders involving the immune mechanism (D80-D89)	28 894	4,8
9	Metabolic disorders (E70-E88)	24 225	4,0
10	Diabetes mellitus (E10-E14)	22 224	3,7
11	Other diseases of the respiratory system (J95-J99)	21 287	3,5
12	Other external causes of accidental injury (W00-X59)	21 170	3,5
13	Chronic lower respiratory diseases (J40-J47)	20 846	3,5
14	Events of undetermined intent (Y10-Y34)	20 441	3,4
15	General symptoms and signs (R50-R69)	19 764	3,3
16	Other bacterial diseases (A30-49)	19 132	3,2
17	Other viral diseases (B25-B34)	19 049	3,2
18	Renal failure (N17-N19)	18 443	3,1
19	Ischaemic heart diseases (I20-I25)	18 342	3,1
20	Inflammatory diseases of the central nervous system (G00-G09)	14 580	2,4
21	Human immunodeficiency virus [HIV] disease (B20-B24)	13 725	2,3
22	Other acute lower respiratory infections (J20-J22)	13 471	2,2
23	Malignant neoplasms of digestive organs (C15-C26)	9 978	1,7
24	Malignant neoplasms of ill-defined, secondary and unspecified sites (C76-C80)	9 899	1,6
25	Diseases of liver (K70-K77)	9 820	1,6

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

Table 4.14 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, excluding the main group of *symptoms and signs not elsewhere classified (R00-R99)*. Only the twelve leading underlying causes of death (ranks including natural and non-natural causes) are illustrated. Within each category, the counts of underlying causes and immediate or contributing causes are not duplicated, so that they can be summed up to equal the total number of times a specific cause of death was recorded on a death notification form. For example, 76 761 deaths had *tuberculosis* as the underlying cause and another 11 798 deaths had it as an immediate or contributing cause. This gives a total of 88 559 death notification forms that had *tuberculosis* mentioned on them.

It is observed that over 80% of cases where the following causes were mentioned they were also selected as the underlying cause: *tuberculosis, intestinal infectious diseases, other external causes of accidental injury, diabetes mellitus, events of undetermined intent*, and *human immunodeficiency virus [HIV] disease.* In less than half of the cases where *other forms of heart disease* and *hypertensive diseases* were mentioned, they were selected as the underlying causes.

Table 4.14: Number and percentage of deaths selected as underlying or reported as immediate or contributing causes of death: 2007

Causes of death (based on the Tenth Revision, International Classification of Disease, 1992)	Under-lying rank	Number of deaths			Percentage of any mention		
		Underlying	Immediate or contributing	Total recorded	Underlying	Immediate or contributing	Total recorded
Tuberculosis (A15-A19)*	1	76 761	11 798	88 559	86,7	13,3	100,0
Influenza and pneumonia (J10-J18)	2	49 722	31 288	81 010	61,4	38,6	100,0
Intestinal infectious diseases (A00-A09)	3	37 398	4 693	42 091	88,9	11,1	100,0
Other forms of heart disease (I30-I52)	4	26 030	29 993	56 023	46,5	53,5	100,0
Cerebrovascular diseases (I60-I69)	5	25 321	9 353	34 674	73,0	27,0	100,0
Other external causes of accidental injury (W00-X59)	6	20 177	993	21 170	95,3	4,7	100,0
Diabetes mellitus (E10-E14)	7	20 139	2 085	22 224	90,6	9,4	100,0
Events of undetermined intent (Y10-Y34)	8	20 128	313	20 441	98,5	1,5	100,0
Chronic lower respiratory diseases (J40-J47)	9	15 313	5 533	20 846	73,5	26,5	100,0
Certain disorders involving the immune mechanism (D80-D89)	10	15 253	13 641	28 894	52,8	47,2	100,0
Human immunodeficiency virus [HIV] disease (B20-B24)	11	13 521	204	13 725	98,5	1,5	100,0
Hypertensive diseases (I10-I15)	12	13 381	20 477	33 858	39,5	60,5	100,0

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

5. Summary and concluding remarks

This statistical release provides information on mortality and causes of death based on data collected through the civil registration system in South Africa. The information can be used for policy formulation; and implementation and monitoring of health interventions aimed at improving the health status and increasing life expectancy of the population.

The main finding from this release is that the number of deaths in 2007 has declined in the country, as also evidenced by the decline in the number of deaths in the national population register and the decline in crude death rates. The median ages also provide evidence of the decline in mortality, indicated by the increasing median ages at death from 2005. The decline in the number of deaths between 2006 and 2007 was observed in all ages below 55 years. The number of deaths also declined for both males and females, with the decline much higher among females (2,4%) than among males (1,0%). The greatest decrease was observed in age groups 1–4 and 15–34.

The majority of deaths occurred among the black African population group and most deaths occurred in health facilities even though a substantial proportion (about one in three) still occurred at home. Age and sex standardised death rates showed that the highest mortality was in Free State and the lowest in Western Cape.

A great majority of deaths were due to natural causes, mainly *certain infectious and parasitic diseases.* However, between 2006 and 2007, the number of deaths due to natural causes declined while those due to non-natural causes increased. A higher percentage of males died due to non-natural causes, as compared to females, as were those aged 5–24 compared to other ages.

Tuberculosis continued to be the leading cause of death in South Africa, accounting for over 10% of deaths in the country. *Influenza and pneumonia* was the second leading cause, followed by *intestinal infectious diseases, other forms of heart disease* and *cerebrovascular diseases. Human immunodeficiency virus (HIV) disease* was the ninth leading cause of death, accounting for about 2,2% of all deaths occurring in 2007. Deaths due to *HIV disease*, however, declined by almost 10% between 2006 and 2007 while those due to *influenza and pneumonia* declined by 6,7%; and those due *intestinal infectious diseases* declined by 5,5%.

The analysis on causes of death, according to sex, shows that nine of the ten leading causes were similar for males and females. The difference between the leading causes of death for males and females was that *hypertensive diseases* were among the ten leading causes of death for females only and *ischaemic heart diseases* were among the ten leading causes only for the males. *HIV disease* was the ninth and the tenth leading cause of death for females and males, respectively. Differences by provinces show that with the exception of Free State and Limpopo, *tuberculosis* was the leading cause of death in all provinces and *influenza and pneumonia* the leading cause in the other two provinces.

For the first time, the release provided mortality and causes of death for district municipalities. The results show that *tuberculosis* was the leading cause of death in many district municipalities. Other leading causes of death were *influenza and pneumonia; intestinal infectious diseases; other diseases of the respiratory system; ischaemic heart diseases;* and *HIV disease.*

Intestinal infectious diseases were the leading causes of death for infants in the post-neonatal period, among those aged 1–4 years and for the population aged 0–14; while *respiratory and cardiovascular disorders specific to the perinatal period* was the leading cause of death for infants in the neonatal period, accounting for nearly half of deaths in this group. *Tuberculosis* was the leading cause of death in age groups 15–24, 15–49 and 50–64 and *cerebrovascular* diseases the leading cause in the 65 and older age group.

The findings on non-natural causes indicate that the most common causes were *other external causes of accidental injury* and *events of undetermined intent. Transport accidents* and *assault* each contributed to about one in ten of non-natural deaths. The proportion of deaths due to *assault* was higher among males while that due to *transport accidents* was higher among females. Furthermore, the

highest proportion of deaths due to *assault* was in Northern Cape, Eastern Cape and Western Cape, while those due to *transport accidents* were particularly high in Limpopo where about one in three non-natural deaths were due to this cause.

The production of mortality and causes of death information from civil registration depend on the quality of input data. It also emphasises the need for enhanced efforts to register deaths and attribute causes. As such, the areas of improvement in the information on mortality and causes of death include completeness of death registration; accurate and fully completed information on the death notification forms; and correct and detailed certification of causes of death. Some improvements have been observed over time. However, further concerted efforts between the public, the Department of Home Affairs, the Department of Health and Stats SA are needed for timely, accurate and relevant information on mortality and causes of death in the country.

To facilitate further analysis of data on mortality and causes of death, Stats SA provides a dataset on a compact disc and on the Stats SA website. The dataset includes variables presented in this statistical release, as well as several others that are not part of the release, with the expectation that further expert analyses of the data will assist to improve the quality of the data.

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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), formally or 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 B: Death notification form (BI-1663)

REPUBLIC OF SOUTH AFRICA **BI - 1663**
DEPARTMENT OF HOME AFFAIRS

NOTIFICATION / REGISTER OF DEATH / STILL BIRTH

in terms of the Births and Deaths Registration Act, 1992 (Act No. 51 of 1992)

Space for Bar Code

* *Must be completed in black ink (please tick* ✓ *where applicable)*
* *Please refer to instructions*
FILE No: DATE: SERIAL No: A 0 1857265

A PARTICULARS OF DECEASED INDIVIDUAL / **STILLBORN CHILD**

Identity number of deceased
Date of death (Y Y Y Y M M D D)
Date of birth (Y Y Y Y M M D D)
Age at last birthday ___ years
Surname
Maiden Name (If female)
Forenames
Sex
If death occurred within 24 hours after birth No. of hours alive

MARITAL STATUS OF DECEASED Single ☐ Civil Marriage ☐ Living as married ☐ Widowed ☐ Religious Law Marriage ☐ Divorced ☐ Customary Marriage ☐

Left thumb print of deceased

PLACE OF BIRTH (municipal district or country if abroad) _____
PLACE OF DEATH (City / Town / Village) _____
PLACE OF REGISTRATION OF DEATH _____
CITIZENSHIP OF DECEASED _____

B PARTICULARS OF INFORMANT

Identity number
Initials and Surname
Relationship to deceased Parent ☐ Spouse ☐ Child ☐ Other kin ☐ Other (specify) ☐
Postal address
Postal Code
Dialling Code
Was the next of kin of the deceased a smoker* during the past five years? Yes ☐ No ☐ Refuse to answer ☐
Telephone No.
Date ..... Signature .....

Left thumb print of informant

CANCELLED

C PARTICULARS OF FUNERAL UNDERTAKER

Initials and Surname
Designation No.
Place of burial / cremation _____
Date ..... Signature .....

Office Stamp of Funeral Undertaker

D CERTIFICATE BY ATTENDING MEDICAL PRACTITIONER / PROFESSIONAL NURSE

I, the undersigned, hereby certify that the deceased named in Section A, to the best of my knowledge and belief, died solely and exclusively due to NATURAL CAUSES specified in Section G ☐

I, the undersigned, am not in the position to certify that the deceased died exclusively due to natural causes ☐

Postal Address
Postal Code
....
INITIALS AND SURNAME SIGNATURE
SAMDC / SANC Reg. No.
Date signed (Y Y Y Y M M D D)

CERTIFICATE BY DISTRICT SURGEON / FORENSIC PATHOLOGIST

I, the undersigned, hereby certify that a medicolegal post-mortem examination has been conducted on the body of the person whose particulars are given in Section A and that the body is no longer required for the purpose of the Inquest Act, 1959 (Act No. 58 of 1959) and that the cause of death is:

Unnatural ☐ Under investigation ☐
Natural (Cause of Death as indicated in Section G) ☐

Postal Address
Postal Code
Initials and Surname
Place of post-mortem ..... Date (Y Y Y Y M M D D)
Mortuary Reference .....
Signature ..... Date signed (Y Y Y Y M M D D)
SAMDC Reg. No.

E FOR OFFICIAL USE ONLY

Registration of death approved and burial order issued
Initials and Surname of Registrar
Address
Force No. / Designation No.
Persal No.
Office Stamp ▷
Date ..... Signature .....

* Someone who smokes tobacco on most days

PARAGON 225639 (H)

Appendix B: Reverse side of the DNF

NOTIFICATION / REGISTER OF DEATH / STILL BIRTH **BI - 1663**
Page 2

INFORMATION FOR MEDICAL AND HEALTH USE ONLY
(After completion *seal* to ensure confidentiality)

Space for Bar Code

SERIAL No: A01857265

FILE No: DATE:

F DEMOGRAPHIC DETAILS

Initials and Surname of deceased

Identity Number

Place of death 1. Hospital: (Inpatient ☐ ER/ Outpatient ☐ DOA ☐) 2. Nursing Home ☐ 3. **Home** ☐ 4. **Other (Specify)** ☐

FACILITY NAME (If not institution, give street and number) .....

Usual residential address of deceased # ..... Suburb

Town / Village

Name of Plot, Farm, etc..... Census Enumerator Area

Street name and number .....

Magist. Dist. .....

Deceased's Education (Specify ✓ only highest class completed/achieved)

None	Gr1	Gr2	Gr3	Gr4	Gr5	Gr6	Gr7	Gr8 Form 1	Gr9 Form 2	Gr10 Form 3 NTC1	Gr11 Form 4 NTC2	Gr12 Form 5 NTC3	Univ Tech	CODE

Postal Code

Province .....

Country .....

USUAL OCCUPATION OF DECEASED (give type of work done during most of working life. Do not use retired)

TYPE OF BUSINESS / INDUSTRY **(e.g. Mining, Farming)** refer to instructions

Was the deceased a smoker* five years ago? (✓) : Yes ☐ No ☐ Do not know ☐ **Not applicable (minor)** ☐

CANCELLED

G MEDICAL CERTIFICATE OF CAUSE 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.

Approximate interval between onset and Death (Days/Months/Years)

FOR OFFICE USE ONLY ICD-10

IMMEDIATE CAUSE (Final disease or condition resulting in death)
a. _____ Due to (or as a consequence of)

Sequentially list conditions, if any, leading to immediate cause. Enter UNDERLYING CAUSE last (Disease or injury that initiated events resulting in death)
b. _____ Due to (or as a consequence of)
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 the underlying cause given in Part 1. _____

If a **female**, was she pregnant 42 days prior to death? (✓) : Yes ☐ No ☐

If **stillborn**, please write mass in grams

Do you consider the deceased to be: African ☐ White ☐ Indian ☐ Coloured ☐ Other ☐ (Specify) _____

Method of ascertainment of cause of death:

1. Autopsy ☐ 2. Opinion of attending medical practitioner ☐ 3. Opinion of **attending medical practitioner on duty** ☐
4. Opinion of registered professional nurse ☐ 5. Interview of family member ☐
6. Other ☐ (Specify) _____

Where someone lived on most days

* Someone who smokes tobacco on most days

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	202	**24 734**	14 925	13 254	314	**28 493**	14 731	13 455	438	**28 624**
1-4	4 049	3 650	52	**7 751**	4 859	4 485	96	**9 440**	5 068	4 636	98	**9 802**
5-9	1 705	1 252	17	**2 974**	1 779	1 435	36	**3 250**	1 894	1 505	34	**3 433**
10-14	1 546	1 189	19	**2 754**	1 693	1 288	23	**3 004**	1 649	1 305	23	**2 977**
15-19	3 776	2 475	23	**6 274**	4 105	2 902	62	**7 069**	4 352	3 323	88	**7 763**
20-24	8 175	5 446	49	**13 670**	8 790	6 901	109	**15 800**	8 637	8 284	105	**17 026**
25-29	10 921	7 424	43	**18 388**	13 075	9 849	110	**23 034**	13 884	12 601	141	**26 626**
30-34	11 830	7 184	49	**19 063**	14 363	9 700	126	**24 189**	16 287	12 254	119	**28 660**
35-39	11 965	6 852	51	**18 868**	14 601	8 915	97	**23 613**	16 444	10 801	111	**27 356**
40-44	11 778	6 397	36	**18 211**	13 921	7 920	94	**21 935**	15 201	8 906	90	**24 197**
45-49	12 217	6 361	50	**18 628**	14 182	7 670	87	**21 939**	14 968	8 510	98	**23 576**
50-54	11 288	6 236	29	**17 553**	12 995	7 203	79	**20 277**	13 859	7 750	79	**21 688**
55-59	12 641	7 922	45	**20 608**	13 920	8 873	107	**22 900**	14 055	8 672	84	**22 811**
60-64	11 182	9 287	50	**20 519**	12 415	9 993	59	**22 467**	12 677	10 035	82	**22 794**
65-69	12 459	11 037	45	**23 541**	13 236	12 453	83	**25 772**	12 820	12 311	91	**25 222**
70-74	11 285	10 057	48	**21 390**	12 732	11 790	53	**24 575**	12 852	12 246	70	**25 168**
75-79	11 183	12 332	44	**23 559**	11 412	12 479	87	**23 978**	10 692	11 583	63	**22 338**
80-84	6 599	8 776	32	**15 407**	7 875	11 042	48	**18 965**	7 600	11 316	73	**18 989**
85-89	3 950	6 916	25	**10 891**	4 256	7 804	34	**12 094**	4 449	7 942	51	**12 442**
90+	2 028	4 730	13	**6 771**	2 362	5 560	29	**7 951**	2 210	5 380	30	**7 620**
Unspecified	3 109	2 362	106	**5 577**	2 821	2 091	195	**5 107**	1 491	1 108	109	**2 708**
Total	**176 672**	**139 431**	**1 028**	**317 131**	**200 317**	**163 607**	**1 928**	**365 852**	**205 820**	**173 923**	**2 077**	**381 820**

*Data updated to include late registrations processed in 2008/9.

Appendix C.1: 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	14 998	13 523	351	**28 872**	15 465	14 070	307	**29 842**	17 866	16 186	338	**34 390**
1-4	5 378	4 917	86	**10 381**	5 875	5 299	78	**11 252**	6 316	5 675	87	**12 078**
5-9	1 997	1 593	29	**3 619**	2 118	1 706	28	**3 852**	2 398	1 961	17	**4 376**
10-14	1 714	1 333	36	**3 083**	1 745	1 460	22	**3 227**	1 866	1 483	24	**3 373**
15-19	4 313	3 471	72	**7 856**	4 470	3 902	62	**8 434**	4 733	4 281	58	**9 072**
20-24	8 859	9 852	83	**18 794**	8 931	10 906	83	**19 920**	9 568	12 468	109	**22 145**
25-29	15 052	15 683	105	**30 840**	16 834	19 255	108	**36 197**	18 623	23 284	132	**42 039**
30-34	18 468	15 782	108	**34 358**	20 892	18 710	109	**39 711**	23 866	23 502	145	**47 513**
35-39	18 531	13 574	94	**32 199**	21 068	15 843	100	**37 011**	24 061	19 424	124	**43 609**
40-44	17 102	10 995	77	**28 174**	19 322	12 838	94	**32 254**	21 567	15 478	113	**37 158**
45-49	16 098	9 546	78	**25 722**	17 881	10 933	62	**28 876**	19 278	12 641	110	**32 029**
50-54	15 267	9 087	64	**24 418**	16 883	10 132	72	**27 087**	18 593	11 241	102	**29 936**
55-59	13 915	8 862	72	**22 849**	14 544	9 121	65	**23 730**	15 394	10 000	71	**25 465**
60-64	14 220	11 244	66	**25 530**	15 097	12 057	66	**27 220**	16 158	12 698	79	**28 935**
65-69	12 579	12 055	52	**24 686**	13 011	12 790	64	**25 865**	13 736	13 275	63	**27 074**
70-74	13 111	14 127	67	**27 305**	14 035	15 120	60	**29 215**	13 786	15 469	62	**29 317**
75-79	10 348	11 526	48	**21 922**	10 846	12 034	61	**22 941**	11 090	12 831	70	**23 991**
80-84	8 481	12 634	31	**21 146**	9 161	13 906	47	**23 114**	9 535	14 188	60	**23 783**
85-89	4 680	8 222	27	**12 929**	4 580	8 358	31	**12 969**	4 373	8 315	34	**12 722**
90+	2 530	6 524	30	**9 084**	3 022	7 156	28	**10 206**	3 294	7 662	33	**10 989**
Unspecified	1 185	888	143	**2 216**	1 044	782	98	**1 924**	1 137	788	112	**2 037**
Total	**218 826**	**195 438**	**1 719**	**415 983**	**236 824**	**216 378**	**1 645**	**454 847**	**257 238**	**242 850**	**1 943**	**502 031**

*Data updated to include late registrations processed in 2008/9.

Appendix C.2: 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	19 945	18 026	434	**38 405**	21 723	19 161	530	**41 414**	24 032	21 921	474	**46 427**
1-4	7 125	6 273	78	**13 476**	8 250	7 619	71	**15 940**	8 207	7 309	80	**15 596**
5-9	2 774	2 196	28	**4 998**	3 183	2 799	13	**5 995**	3 357	2 799	21	**6 177**
10-14	2 001	1 641	25	**3 667**	2 138	1 773	12	**3 923**	2 145	1 854	17	**4 016**
15-19	4 836	4 549	70	**9 455**	4 678	4 608	40	**9 326**	4 766	4 539	52	**9 357**
20-24	10 327	14 159	104	**24 590**	10 359	15 035	76	**25 470**	10 483	14 840	89	**25 412**
25-29	20 003	26 182	145	**46 330**	19 790	27 507	110	**47 407**	19 301	27 224	105	**46 630**
30-34	27 457	28 086	139	**55 682**	28 408	30 590	79	**59 077**	28 773	31 217	105	**60 095**
35-39	26 408	22 616	112	**49 136**	28 190	25 113	86	**53 389**	29 389	26 209	98	**55 696**
40-44	24 706	18 398	115	**43 219**	26 435	20 519	67	**47 021**	27 433	21 459	83	**48 975**
45-49	22 013	14 456	85	**36 554**	23 070	16 227	64	**39 361**	24 407	17 351	75	**41 833**
50-54	20 555	12 861	67	**33 483**	21 088	14 081	46	**35 215**	21 493	14 939	57	**36 489**
55-59	17 179	10 972	49	**28 200**	18 038	12 009	32	**30 079**	19 681	13 299	47	**33 027**
60-64	17 369	13 287	56	**30 712**	16 946	13 380	28	**30 354**	16 830	13 237	34	**30 101**
65-69	14 649	13 882	53	**28 584**	15 188	13 787	25	**29 000**	16 361	15 167	36	**31 564**
70-74	14 458	16 360	55	**30 873**	13 427	15 414	25	**28 866**	12 900	15 070	33	**28 003**
75-79	12 059	14 106	56	**26 221**	11 793	14 065	15	**25 873**	12 204	15 900	35	**28 139**
80-84	9 441	13 693	39	**23 173**	8 639	11 945	21	**20 605**	8 427	11 824	21	**20 272**
85-89	5 435	10 192	36	**15 663**	5 034	9 470	19	**14 523**	5 444	10 331	17	**15 792**
90+	3 380	8 146	18	**11 544**	3 285	7 473	14	**10 772**	3 285	7 876	15	**11 176**
Unspecified	1 657	940	207	**2 804**	1 920	928	242	**3 090**	1 975	1 079	223	**3 277**
Total	**283 777**	**271 021**	**1 971**	**556 769**	**291 582**	**283 503**	**1 615**	**576 700**	**300 893**	**295 444**	**1 717**	**598 054**

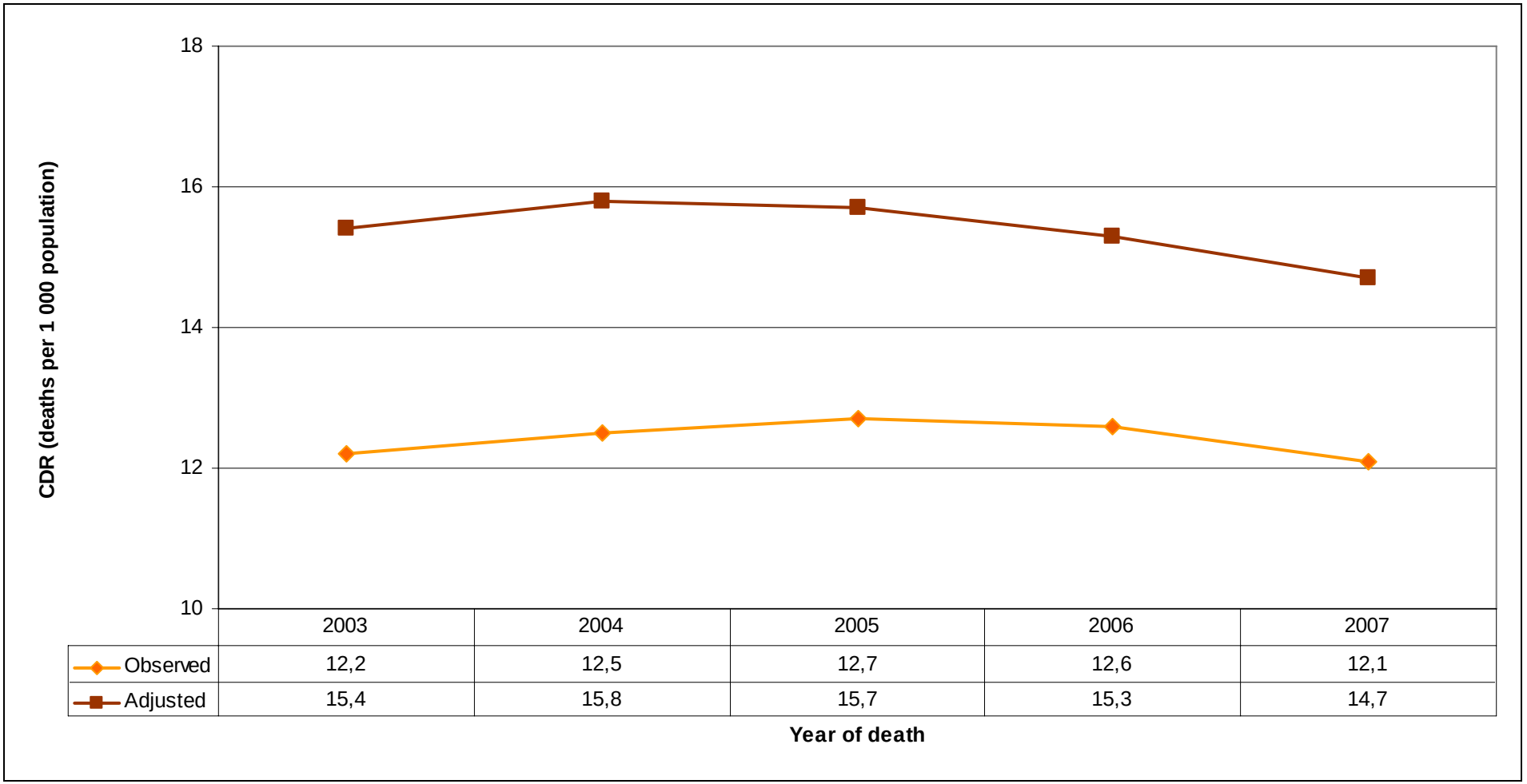
*Data updated to include late registrations processed in 2008/9.

Appendix C.3: Number of deaths by age, sex and year of death, 2006–2007*

Age group	2006				2007			
	Male	Female	Unsp.	Total	Male	Female	Unsp.	Total
0	25 460	22 055	724	48 239	24 638	21 498	410	**46 546**
1-4	8 380	7 561	117	16 058	7 768	6 968	46	**14 782**
5-9	3 021	2 546	17	5 584	2 854	2 489	4	**5 347**
10-14	2 385	1 912	14	4 311	2 233	1 892	2	**4 127**
15-19	4 844	4 585	38	9 467	4 859	4 164	15	**9 038**
20-24	10 851	14 779	96	25 726	10 875	13 664	49	**24 588**
25-29	18 988	26 121	82	45 191	18 405	24 430	66	**42 901**
30-34	28 851	30 972	93	59 916	28 245	28 959	63	**57 267**
35-39	29 454	26 066	77	55 597	29 258	24 756	47	**54 061**
40-44	28 076	21 832	73	49 981	26 973	21 108	44	**48 125**
45-49	25 123	17 934	45	43 102	24 761	17 805	43	**42 609**
50-54	22 779	15 588	40	38 407	22 790	15 567	17	**38 374**
55-59	20 627	14 170	40	34 837	21 316	14 548	23	**35 887**
60-64	17 048	13 334	25	30 407	17 410	13 422	9	**30 841**
65-69	17 746	15 809	24	33 579	17 878	15 771	9	**33 658**
70-74	13 576	15 594	26	29 196	13 771	15 745	8	**29 524**
75-79	12 713	17 013	24	29 750	12 534	17 005	4	**29 543**
80-84	8 944	12 334	20	21 298	8 872	12 880	2	**21 754**
85-89	6 145	12 023	11	18 179	6 339	12 160	2	**18 501**
90+	3 558	8 708	9	12 275	3 670	8 763	12	**12 445**
Unspecified	862	356	144	1 362	785	327	103	**1 215**
Total	**309 431**	**301 292**	**1 739**	**612 462**	**306 234**	**293 921**	**978**	**601 133**

*Data for 2006 updated to include late registrations processed in 2008/9.

Appendix D: Crude Death Rates (CDR)[2] by year of death, 2003–2007*

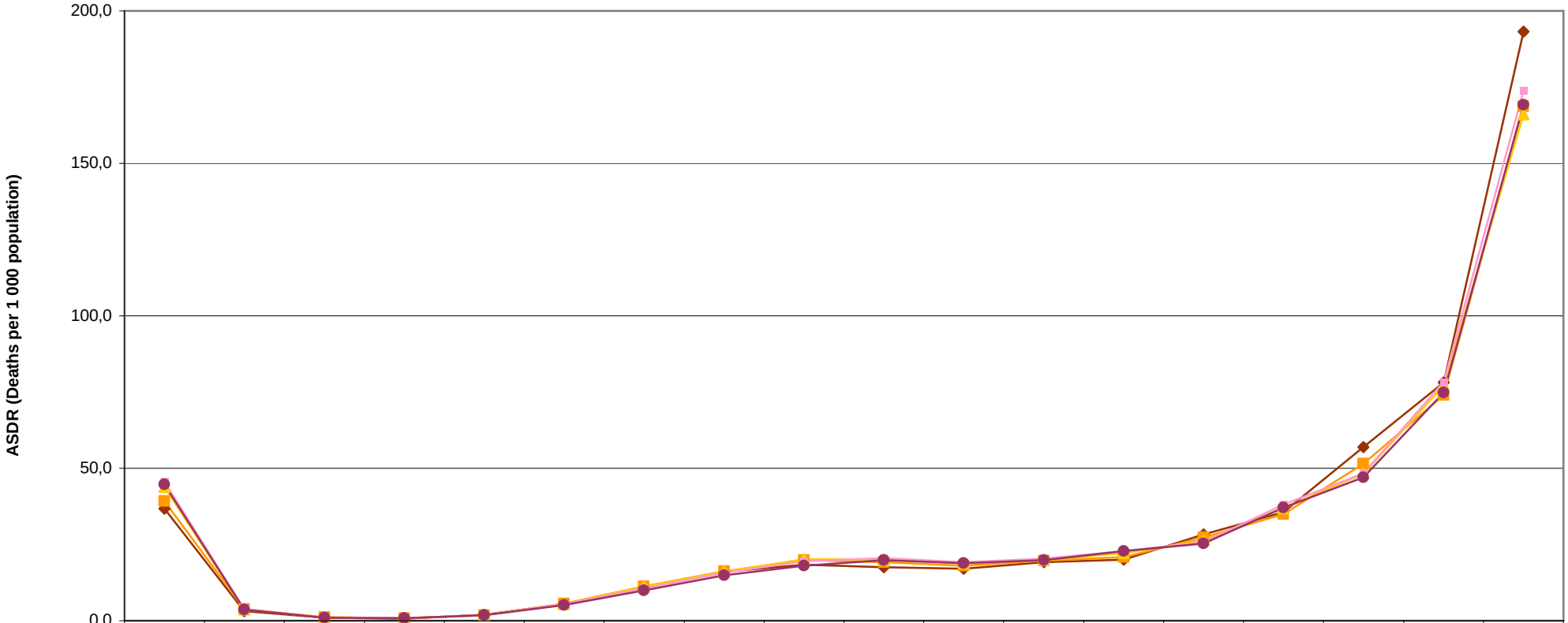


	2003	2004	2005	2006	2007
Observed	12,2	12,5	12,7	12,6	12,1
Adjusted	15,4	15,8	15,7	15,3	14,7

*Data for 2003-2006 updated to include late registrations processed in 2008/9.

2 Crude death rates for each year were calculated by dividing the number of deaths occurring in each year by the total population for that specific year, multiplied by 1 000. The mid-year population estimates (Stats SA, 2008) were used for these calculations

Appendix E: Age specific death rates (ASDR) [3] by year of death, 2003–2007*



	0	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80+
2003	36,7	3,2	0,9	0,7	1,9	5,4	11,1	16,0	18,4	17,6	17,1	19,2	20,1	28,4	35,7	57,0	78,1	193,3
2004	39,3	3,8	1,1	0,7	1,9	5,6	11,3	16,3	19,8	19,1	18,0	19,8	20,8	27,3	35,0	51,5	73,9	168,7
2005	43,9	3,7	1,2	0,8	1,8	5,5	11,1	16,1	20,2	20,0	18,8	19,9	22,2	26,3	36,9	48,1	77,1	166,0
2006	45,6	3,8	1,1	0,8	1,9	5,5	10,6	15,8	19,5	20,5	19,2	20,4	22,8	25,7	38,1	48,3	78,3	173,8
2007	44,7	3,6	1,0	0,8	1,8	5,2	9,9	14,9	18,1	19,8	18,9	19,8	22,9	25,3	37,1	47,1	74,8	169,2

*Data for 2003-2006 updated to include late registrations processed in 2008/9.

[3] Age specific death rates for each year were calculated by dividing the number of deaths occurring in each age group by the total population for that specific age group, multiplied by 1 000. The mid-year population estimates (Stats SA, 2008) were used for these calculations.

Appendix F: Number of deaths by age and district municipality, 2007

Province of death	District municipality of death	Age							
		0	1-4	5-14	15-49	50-64	65+	Unsp.	Total
Western Cape	Cape Winelands	379	71	56	2 237	1 554	2 102	7	**6 406**
	Central Karoo	54	18	14	376	213	277	2	**954**
	City of Cape Town	1 607	346	256	10 684	6 173	10 128	123	**29 317**
	Eden	313	66	54	1 814	1 071	1 876	13	**5 207**
	Overberg	104	25	17	589	371	706	6	**1 818**
	West Coast	189	32	31	1 103	682	1 046	3	**3 086**
	Total	**2 646**	**558**	**428**	**16 803**	**10 064**	**16 135**	**154**	**46 788**
Eastern Cape	Alfred Nzo	155	74	87	2 131	746	1 210	4	**4 407**
	Amatole	1 175	495	436	11 972	5 053	8 845	18	**27 994**
	Cacadu	393	100	50	2 143	1 008	1 541	3	**5 238**
	Chris Hani	524	178	162	4 884	1 933	3 734	5	**11 420**
	Nelson Mandela Bay Metro	1 023	268	156	6 832	3 289	4 001	23	**15 592**
	O.R. Tambo	573	407	422	8 603	2 655	4 489	31	**17 180**
	Ukhahlamba	255	116	89	2 578	962	1 616	5	**5 621**
	Total	**4 098**	**1 638**	**1 402**	**39 143**	**15 646**	**25 436**	**89**	**87 452**
Northern Cape	Frances Baard	377	119	74	2 565	1 219	1 480	6	**5 840**
	Kgalagadi	343	92	30	1 284	521	619	0	**2 889**
	Namakwa	51	12	12	311	214	397	0	**997**
	Pixley ka Seme	213	58	20	1 057	587	693	1	**2 629**
	Siyanda	246	59	33	1 203	536	699	0	**2 776**
	Total	**1 230**	**340**	**169**	**6 420**	**3 077**	**3 888**	**7**	**15 131**
Free State	Fezile Dabi	756	197	108	3 528	1 453	1 668	7	**7 717**
	Lejweleputswa	1 197	361	147	6 479	2 201	1 986	13	**12 384**
	Motheo	1 153	295	170	7 188	2 905	3 297	3	**15 011**
	Thabo Mofutsanyane	1 512	387	224	6 842	2 398	2 576	17	**13 956**
	Xhariep	115	34	20	903	378	386	1	**1 837**
	Total	**4 733**	**1 274**	**669**	**24 940**	**9 335**	**9 913**	**41**	**50 905**
KwaZulu-Natal	Amajuba	712	171	135	3 765	1 201	1 267	19	**7 270**
	eThekwini	2 702	876	859	20 916	7 089	9 032	159	**41 633**
	iLembe	452	156	153	3 639	1 084	1 377	7	**6 868**
	Sisonke	440	191	126	3 319	990	1 307	9	**6 382**
	Ugu	765	287	274	6 201	1 812	2 715	16	**12 070**
	UMgungundlovu	706	289	262	8 179	2 755	3 467	9	**15 667**
	Umkhanyakude	347	176	152	3 605	951	1 466	46	**6 743**
	Umzinyathi	781	213	169	4 036	1 253	1 829	31	**8 312**
	Uthukela	927	295	184	5 124	1 599	1 911	12	**10 052**
	Uthungulu	1 036	333	298	7 047	1 918	2 429	93	**13 154**
	Zululand	1 005	336	234	5 644	1 569	1 930	22	**10 740**
	Total	**9 873**	**3 323**	**2 846**	**71 475**	**22 221**	**28 730**	**423**	**138 891**
North West	Bojanala	1 461	462	187	6 364	2 367	3 361	18	**14 220**
	Central	1 275	389	175	5 037	1 908	2 584	12	**11 380**
	Dr Kenneth Kaunda	1 420	356	160	5 785	2 269	2 534	48	**12 572**
	Dr Ruth Segomotsi Mompati	809	248	77	3 069	1 174	1 573	4	**6 954**
	Total	**4 965**	**1 455**	**599**	**20 255**	**7 718**	**10 052**	**82**	**45 126**

Appendix F: Number of deaths by age and district municipality, 2007 (concluded)

Province of death	District municipality of death	Age							
		0	1-4	5-14	15-49	50-64	65+	Unsp.	Total
Gauteng	City of Johannesburg	2 993	679	422	17 052	6 786	9 504	115	**37 551**
	City of Tshwane	2 184	705	336	10 670	4 780	7 227	39	**25 941**
	Ekurhuleni	3 679	824	417	15 346	5 380	6 113	58	**31 817**
	Metsweding	103	31	17	487	188	236	3	**1 065**
	Sedibeng	988	227	162	4 953	2 131	2 458	20	**10 939**
	West Rand	883	218	95	3 652	1 412	1 520	43	**7 823**
	Total	**10 830**	**2 684**	**1 449**	**52 160**	**20 677**	**27 058**	**278**	**115 136**
Mpumalanga	Ehlanzeni	1 255	681	453	10 937	3 284	3 960	43	**20 613**
	Gert Sibande	1 625	433	266	7 603	2 351	2 489	24	**14 791**
	Nkangala	1 053	396	203	6 093	2 216	2 724	21	**12 706**
	Total	**3 933**	**1 510**	**922**	**24 633**	**7 851**	**9 173**	**88**	**48 110**
Limpopo	Capricorn	1 219	474	265	6 318	2 390	4 323	3	**14 992**
	Greater Sekhukhune	733	431	225	4 796	1 844	3 207	14	**11 250**
	Mopani	921	520	231	5 144	1 812	2 788	17	**11 433**
	Vhembe	797	370	187	3 684	1 521	3 159	10	**9 728**
	Waterberg	566	198	79	2 513	820	1 427	9	**5 612**
	Total	**4 236**	**1 993**	**987**	**22 455**	**8 387**	**14 904**	**53**	**53 015**

Appendix G: Number of deaths by sex and district municipality, 2007

Province of death	District municipality of death	Sex			
		Male	Female	Unspecified	Total
Western Cape	Cape Winelands	3 554	2 840	12	**6 406**
	Central Karoo	533	420	1	**954**
	City of Cape Town	16 122	13 132	63	**29 317**
	Eden	2 961	2 242	4	**5 207**
	Overberg	1 043	774	1	**1 818**
	West Coast	1 770	1 310	6	**3 086**
	Total	**25 983**	**20 718**	**87**	**46 788**
Eastern Cape	Alfred Nzo	2 097	2 306	4	**4 407**
	Amatole	13 781	14 173	40	**27 994**
	Cacadu	2 667	2 568	3	**5 238**
	Chris Hani	5 381	6 025	14	**11 420**
	Nelson Mandela Bay Metro	8 132	7 452	8	**15 592**
	O.R. Tambo	8 083	9 056	41	**17 180**
	Ukhahlamba	2 715	2 896	10	**5 621**
	Total	**42 856**	**44 476**	**120**	**87 452**
Northern Cape	Frances Baard	3 084	2 750	6	**5 840**
	Kgalagadi	1 437	1 448	4	**2 889**
	Namakwa	533	462	2	**997**
	Pixley ka Seme	1 326	1 298	5	**2 629**
	Siyanda	1 524	1 249	3	**2 776**
	Total	**7 904**	**7 207**	**20**	**15 131**
Free State	Fezile Dabi	3 960	3 753	4	**7 717**
	Lejweleputswa	6 403	5 972	9	**12 384**
	Motheo	7 710	7 285	16	**15 011**
	Thabo Mofutsanyane	6 903	7 042	11	**13 956**
	Xhariep	921	912	4	**1 837**
	Total	**25 897**	**24 964**	**44**	**50 905**
KwaZulu-Natal	Amajuba	3 521	3 724	25	**7 270**
	eThekwini	21 164	20 416	53	**41 633**
	iLembe	3 401	3 462	5	**6 868**
	Sisonke	3 089	3 274	19	**6 382**
	Ugu	5 938	6 124	8	**12 070**
	UMgungundlovu	7 631	8 017	19	**15 667**
	Umkhanyakude	3 276	3 459	8	**6 743**
	Umzinyathi	4 030	4 266	16	**8 312**
	Uthukela	5 005	5 041	6	**10 052**
	Uthungulu	6 531	6 583	40	**13 154**
	Zululand	5 270	5 455	15	**10 740**
	Total	**68 856**	**69 821**	**214**	**138 891**
North West	Bojanala	7 515	6 678	27	**14 220**
	Central	5 731	5 624	25	**11 380**
	Dr Kenneth Kaunda	6 678	5 874	20	**12 572**
	Dr Ruth Segomotsi Mompati	3 474	3 473	7	**6 954**
	Total	**23 398**	**21 649**	**79**	**45 126**

Appendix G: Number of deaths by sex and district municipality, 2007 (concluded)

Province of death	District municipality of death	Sex			
		Male	Female	Unspecified	Total
Gauteng	City of Johannesburg	19 700	17 742	109	**37 551**
	City of Tshwane	13 762	12 142	37	**25 941**
	Ekurhuleni	16 722	15 017	78	**31 817**
	Metsweding	553	509	3	**1 065**
	Sedibeng	5 758	5 161	20	**10 939**
	West Rand	4 255	3 551	17	**7 823**
	Total	**60 750**	**54 122**	**264**	**115 136**
Mpumalanga	Ehlanzeni	10 293	10 280	40	**20 613**
	Gert Sibande	7 442	7 328	21	**14 791**
	Nkangala	6 568	6 111	27	**12 706**
	Total	**24 303**	**23 719**	**88**	**48 110**
Limpopo	Capricorn	7 398	7 584	10	**14 992**
	Greater Sekhukhune	5 326	5 906	18	**11 250**
	Mopani	5 588	5 836	9	**11 433**
	Vhembe	4 789	4 927	12	**9 728**
	Waterberg	2 808	2 792	12	**5 612**
	Total	**25 909**	**27 045**	**61**	**53 015**

Appendix H: All underlying causes of death, 2007

Causes of death (based on the Tenth Revision, International Classification of Diseases, 1992)	Number	Percent
All causes	**601 133**	**100,0**
Ill-defined and unknown causes of mortality (R95-R99)	78 307	13,0
Tuberculosis (A15-A19)	76 761	12,8
Influenza and pneumonia (J10-J18)	49 722	8,3
Intestinal infectious diseases (A00-A09)	37 398	6,2
Other forms of heart disease (I30-I52)	26 030	4,3
Cerebrovascular diseases (I60-I69)	25 321	4,2
Other external causes of accidental injury (W00-X59)	20 177	3,4
Diabetes mellitus (E10-E14)	20 139	3,4
Event of undetermined intent (Y10-Y34)	20 128	3,3
Chronic lower respiratory diseases (J40-J47)	15 313	2,5
Certain disorders involving the immune mechanism (D80-D89)	15 253	2,5
Human immunodeficiency virus [HIV] disease (B20-B24)	13 521	2,2
Hypertensive diseases (I10-I15)	13 381	2,2
Ischaemic heart diseases (I20-I25)	12 506	2,1
Other viral diseases (B25-B34)	9 534	1,6
Malignant neoplasm of digestive organs (C15-C26)	9 446	1,6
Inflammatory diseases of the central nervous system (G00-G09)	9 046	1,5
Other acute lower respiratory infections (J20-J22)	7 553	1,3
Renal failure (N17-N19)	6 523	1,1
Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	6 208	1,0
Transport accidents (V01-V99)	6 153	1,0
Assault (X85-Y09)	5 648	0,9
Diseases of liver (K70-K77)	5 500	0,9
Other bacterial diseases (A30-A49)	5 485	0,9
Other diseases of the respiratory system (J95-J99)	5 309	0,9
Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	5 146	0,9
Metabolic disorders (E70-E90)	4 764	0,8
Protozoal diseases (B50-B64)	4 744	0,8
Episodic and paroxysmal disorders (G40-G47)	3 771	0,6
General symptoms and signs (R50-R69)	3 771	0,6
Malignant neoplasm of female genital organs (C51-C58)	3 765	0,6
Mycoses (B35-B49)	3 559	0,6
Noninfective enteritis and colitis (K50-K52)	3 497	0,6
Aplastic and other anaemias (D60-D64)	3 240	0,5
Malignant neoplasms of ill-defined, secondary & unspecified sites (C76-C80)	2 952	0,5
Malignant neoplasm of breast (C50)	2 746	0,5
Diseases of oesophagus, stomach and duodenum (K20-K31)	2 647	0,4
Pulmonary heart disease and diseases of pulmonary circulation (I26-I28)	2 566	0,4
Malignant neoplasms stated or presumed primary of lymphoid, haematopoietic & related tissue (C81-C96)	2 390	0,4
Other respiratory diseases principally affecting the interstitium (J80-J84)	2 376	0,4
Malignant neoplasm of male genital organs (C60-C63)	2 299	0,4
Malnutrition (E40-E46)	2 296	0,4
Disorders related to length of gestation and foetal growth (P05-P08)	1 781	0,3
Other disorders of glucose regulation and pancreatic internal secretion (E15-E16)	1 642	0,3
Complications of medical and surgical care (Y40-Y84)	1 603	0,3
Diseases of arteries, arterioles and capillaries (I70-I79)	1 554	0,3
Other diseases of intestines (K55-K63)	1 463	0,2
Other disorders originating in the perinatal period (P90-P96)	1 435	0,2
Infections specific to the perinatal period (P35-P39)	1 416	0,2
Malignant neoplasm of mesothelial and soft tissue (C45-C49)	1 332	0,2
Lung diseases due to external agents (J60-J70)	1 156	0,2
Other diseases of the digestive system (K90-K93)	1 081	0,2
Malignant neoplasm of lip, oral cavity and pharynx (C00-C14)	1 044	0,2

Appendix H: All underlying causes of death, 2007 (continued)

Causes of death (based on the Tenth Revision, International Classification of Diseases, 1992)	Number	Percent
All causes	601 133	100,0
Other disorders of the nervous system (G90-G99)	1 041	0,2
Organic, including symptomatic, mental disorders (F00-F09)	1 032	0,2
Disorders of gallbladder, biliary tract and pancreas (K80-K87)	1 011	0,2
Neoplasms of uncertain or unknown behaviour (D37-D48)	926	0,2
Other degenerative diseases of the nervous system (G30-G32)	793	0,1
Arthropathies (M00-M25)	787	0,1
Malignant neoplasm of urinary tract (C64-C68)	786	0,1
Other diseases of pleura (J90-J94)	782	0,1
Symptoms and signs involving the circulatory and respiratory systems (R00-R09)	774	0,1
Other obstetric conditions, not elsewhere classified (O95-O99)	768	0,1
Cerebral palsy and other paralytic syndromes (G80-G83)	736	0,1
Congenital malformations of the circulatory system (Q20-Q28)	632	0,1
Diseases of veins, lymphatic vessels and lymph nodes, not elsewhere classified (I80-I89)	631	0,1
Other disorders of the skin and subcutaneous tissue (L80-L99)	631	0,1
Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00-P04)	598	0,1
Soft tissue disorders (M60-M79)	554	0,1
Malignant neoplasm of skin (C43-C44)	536	0,1
Sequelae of infectious and parasitic diseases (B90-B94)	497	0,1
Malignant neoplasms of independent multiple sites (C97)	475	0,1
Malignant neoplasm of eye, brain and other parts of central nervous system (C69-C72)	469	0,1
Infections of the skin and subcutaneous tissue (L00-L08)	462	0,1
Chronic rheumatic heart diseases (I05-I09)	456	0,1
Intentional self-harm (X60-X84)	421	0,1
Renal tubulo-interstitial diseases (N10-N16)	404	0,1
Viral infections characterized by skin and mucous membrane lesions (B00-B09)	401	0,1
Coagulation defects, purpura and other haemorrhagic conditions (D65-D69)	398	0,1
Suppurative and necrotic conditions of lower respiratory tract (J85-J86)	396	0,1
Symptoms and signs involving the digestive system and abdomen (R10-R19)	390	0,1
Haemorrhagic and haematological disorders of foetus and newborn (P50-P61)	360	0,1
Mental and behavioural disorders due to psychoactive substance use (F10-F19)	350	0,1
Diseases of peritoneum (K65-K67)	343	0,1
Other congenital malformations of the digestive system (Q38-Q45)	324	0,1
Systemic connective tissue disorders (M30-M36)	321	0,1
Other congenital malformations (Q80-Q89)	321	0,1
Extrapyramidal and movement disorders (G20-G26)	301	0,1
Digestive system disorders of foetus and newborn (P75-P78)	292	0,0
Acute upper respiratory infections (J00-J06)	284	0,0
Glomerular diseases (N00-N08)	277	0,0
Oedema, proteinuria and hypertensive disorders in pregnancy, childbirth and the puerperium (O10-O16)	275	0,0
Other diseases of urinary system (N30-N39)	273	0,0
Congenital malformations of the nervous system (Q00-Q07)	272	0,0
Schizophrenia, schizotypal and delusional disorders (F20-F29)	271	0,0
Viral hepatitis (B15-B19)	268	0,0
Diseases of male genital organs (N40-N51)	258	0,0
Viral infections of the central nervous system (A80-A89)	240	0,0
Chromosomal abnormalities, not elsewhere classified (Q90-Q99)	237	0,0
Obesity and other hyperalimentation (E65-E68)	219	0,0
Complications predominantly related to the puerperium (O85-O92)	212	0,0
Disorders of thyroid gland (E00-E07)	211	0,0
Transitory endocrine and metabolic disorders specific to foetus and newborn (P70-P74)	211	0,0
Polyneuropathies and other disorders of the peripheral nervous system (G60-G64)	205	0,0
Complications of labour and delivery (O60-O75)	187	0,0
Benign neoplasms (D10-D36)	181	0,0

Appendix H: All underlying causes of death, 2007 (continued)

Causes of death (based on the Tenth Revision, International Classification of Diseases, 1992)	Number	Percent
All causes	601 133	100,0
Hernia (K40-K46)	173	0,0
Other disorders of kidney and ureter (N25-N29)	170	0,0
Inflammatory diseases of female pelvic organs (N70-N77)	168	0,0
Dorsopathies (M40-M54)	162	0,0
Other infectious diseases (B99)	161	0,0
Malignant neoplasm of bone and articular cartilage (C40-C41)	159	0,0
Systemic atrophies primarily affecting the central nervous system (G10-G13)	152	0,0
Pregnancy with abortive outcome (O00-O08)	151	0,0
Diseases of appendix (K35-K38)	139	0,0
Malignant neoplasm of thyroid and other endocrine glands (C73-C75)	135	0,0
Osteopathies and chondropathies (M80-M94)	132	0,0
Other diseases of upper respiratory tract (J30-J39)	131	0,0
Noninflammatory disorders of female genital tract (N80-N98)	128	0,0
Other and unspecified disorders of the circulatory system (I95-I99)	126	0,0
Urticaria and erythema (L50-L54)	112	0,0
Infections with a predominantly sexual mode of transmission (A50-A64)	109	0,0
Other maternal disorders predominantly related to pregnancy (O20-O29)	102	0,0
Conditions involving the integument and temperature regulation of foetus and newborn (P80-P83)	100	0,0
Diseases of oral cavity, salivary glands and jaws (K00-K14)	90	0,0
Diseases of myoneural junction and muscle (G70-G73)	88	0,0
Nutritional anaemias (D50-D53)	86	0,0
Sequelae of external causes of morbidity and mortality (Y85-Y89)	86	0,0
Congenital malformations and deformations of the musculoskeletal system (Q65-Q79)	79	0,0
Diseases of middle ear and mastoid (H65-H75)	78	0,0
Disorders of other endocrine glands (E20-E35)	74	0,0
Demyelinating diseases of the central nervous system (G35-G37)	73	0,0
Maternal care related to the foetus and amniotic cavity and possible delivery problems (O30-O48)	68	0,0
Dermatitis and eczema (L20-L30)	67	0,0
Haemolytic anaemias (D55-D59)	64	0,0
Helminthiases (B65-B83)	61	0,0
Other diseases of blood and blood-forming organs (D70-D77)	56	0,0
Other nutritional deficiencies (E50-E64)	54	0,0
Congenital malformations of the urinary system (Q60-Q64)	54	0,0
Abnormal findings on examination of blood, without diagnosis (R70-R79)	53	0,0
Congenital malformations of the respiratory system (Q30-Q34)	49	0,0
Unspecified mental disorder (F99)	46	0,0
Mood [affective] disorders (F30-F39)	44	0,0
Neurotic, stress-related and somatoform disorders (F40-F48)	40	0,0
Abnormal findings on diagnostic imaging and in function studies, without diagnosis (R90-R94)	39	0,0
Nerve, nerve root and plexus disorders (G50-G59)	31	0,0
Symptoms and signs involving cognition, perception, emotional state and behaviour (R40-R46)	31	0,0
Acute rheumatic fever (I00-I02)	29	0,0
Behavioural syndromes associated with physiological disturbances and physical factors (F50-F59)	28	0,0
Birth trauma (P10-P15)	27	0,0
Disorders of breast (N60-N64)	25	0,0
Urolithiasis (N20-N23)	20	0,0
Arthropod-borne viral fevers and viral haemorrhagic fevers (A90-A99)	19	0,0
Bullous disorders (L10-L14)	19	0,0
Symptoms and signs involving the nervous and musculoskeletal systems (R25-R29)	16	0,0
Symptoms and signs involving the urinary system (R30-R39)	16	0,0
Symptoms and signs involving speech and voice (R47-R49)	14	0,0
Abnormal findings on examination of other body fluids, substances and tissues, without diagnosis (R83-R89)	14	0,0
Visual disturbances and blindness (H53-H54)	11	0,0

Appendix H: All underlying causes of death, 2007 (concluded)

Causes of death (based on the Tenth Revision, International Classification of Diseases, 1992)	Number	Percent
All causes	601 133	100,0
Papulosquamous disorders (L40-L45)	11	0,0
Symptoms and signs involving the skin and subcutaneous tissue (R20-R23)	9	0,0
Other spirochaetal diseases (A65-A69)	7	0,0
Congenital malformations of eye, ear, face and neck (Q10-Q18)	7	0,0
Cleft lip and cleft palate (Q35-Q37)	7	0,0
Disorders of sclera, cornea, iris and ciliary body (H15-H22)	6	0,0
Congenital malformations of genital organs (Q50-Q56)	6	0,0
In situ neoplasms (D00-D09)	5	0,0
Disorders of adult personality and behaviour (F60-F69)	5	0,0
Certain zoonotic bacterial diseases (A20-A28)	4	0,0
Disorders of eyelid, lacrimal system and orbit (H00-H06)	4	0,0
Other disorders of ear (H90-H95)	4	0,0
Disorders of skin appendages (L60-L75)	4	0,0
Disorders of vitreous body and globe (H43-H45)	3	0,0
Disorders of psychological development (F80-F89)	2	0,0
Disorders of conjunctiva (H10-H13)	2	0,0
Diseases of external ear (H60-H62)	2	0,0
Other disorders of the musculoskeletal system (M95-M99)	2	0,0
Abnormal findings on examination of urine, without diagnosis (R80-R82)	2	0,0
Other diseases caused by chlamydiae (A70-A74)	1	0,0
Pediculosis, acariasis and other infestations (B85-B89)	1	0,0
Disorders of ocular muscles, binocular movement, accommodation and refraction (H49-H52)	1	0,0
Radiation-related disorders of the skin and subcutaneous tissue (L55-L59)	1	0,0

Appendix I: Detailed description of the broad groups of natural causes of death which were among the ten leading causes in 2007

	Causes of death (based on the Tenth Revision, International Classification of Disease, 1992)	Number	%
	Intestinal infectious diseases (A00–A09)		
A00	Cholera (A00)	0	0,0
A01	Typhoid and paratyphoid fevers (A01)	21	0,1
A02	Other salmonella infections(A02)	26	0,1
A03	Shigellosis (A03)	13	0,0
A04	Other bacterial intestinal infections (A04)	6	0,0
A05	Other bacterial food-borne intoxications (A05)	1	0,0
A06	Amoebiasis (A06)	46	0,1
A07	Other protozoal intestinal diseases (A07)	16	0,0
A08	Viral and other specified intestinal infections (A08)	78	0,2
A09	Diarrhoea and gastroenteritis of presumed infectious origin (A09)	37 191	99,4
	Total	**37 398**	**100,0**
	Tuberculosis (A15–A19)		
A16	Respiratory tuberculosis, not confirmed bacteriologically or histologically (A16)	65 323	85,1
A17	Tuberculosis of nervous system (A17)	3 851	5,0
A18	Tuberculosis of other organs (A18)	1 898	2,5
A19	Miliary tuberculosis (A19)	5 008	6,5
	Drug-resistant tuberculosis		
U51	Multidrug-resistant tuberculosis	597	0,8
U52	Extensively drug-resistant tuberculosis	84	0,1
	Total	**76 761**	**100,0**
	Human immunodeficiency virus [HIV] disease (B20-B24)		
B20	Human immunodeficiency virus (HIV) disease resulting in infectious and parasitic diseases (B20)	6 507	48,1
B21	Human immunodeficiency virus (HIV) disease resulting in malignant neoplasms (B21)	221	1,6
B22	Human immunodeficiency virus (HIV) disease resulting in other specified diseases (B22)	4 211	31,1
B23	Human immunodeficiency virus (HIV) disease resulting in other conditions (B23)	1 063	7,9
B24	Unspecified human immunodeficiency virus (HIV) disease (B24)	1 519	11,2
	Total	**13 521**	**100,0**
	Certain disorders involving the immune mechanism (D80-D89)		
D80	Immunodeficiency with predominantly antibody defects (D80)	3	0,0
D81	Combined immunodeficiencies (D81)	7	0,0
D82	Immunodeficiency associated with other major defects (D82)	14	0,1
D83	Common variable immunodeficiency (D83)	42	0,3
D84	Other immunodeficiencies (D84)	15 134	99,2
D86	Sarcoidosis (D86)	35	0,2
D89	Other disorders involving the immune mechanism, not elsewhere classified (D89)	18	0,1
	Total	**15 253**	**100,0**
	Diabetes mellitus (E10-E14)		
E10	Insulin-dependent diabetes mellitus (E10)	265	1,3
E11	Non-insulin-dependent diabetes mellitus (E11)	1 010	5,0
E12	Malnutrition-related diabetes mellitus (E12)	5	0,0
E13	Other specified diabetes mellitus (E13)	0	0,0
E14	Unspecified diabetes mellitus (E14)	18 859	93,6
	Total	**20 139**	**100,0**

Appendix I: Detailed description of the broad groups of natural causes of death which were among the ten leading causes in 2007 (continued)

	Causes of death (based on the Tenth Revision, International Classification of Disease, 1992)	Number	%
	Hypertensive diseases (I10-I15)		
I10	Essential (primary) hypertension (I10)	5 958	44,5
I11	Hypertensive heart disease (I11)	6 279	46,9
I12	Hypertensive renal disease (I12)	899	6,7
I13	Hypertensive heart and renal disease (I13)	245	1,8
I15	Secondary hypertension (I15)	0	0,0
	Total	**13 381**	**100,0**
	Other forms of heart disease (I30-I52)		
I30	Acute pericarditis (I30)	10	0,0
I31	Other diseases of pericardium (I31)	230	0,9
I33	Acute and subacute endocarditis (I33)	56	0,2
I34	Nonrheumatic mitral valve disorders (I34)	122	0,5
I35	Nonrheumatic aortic valve disorders (I35)	177	0,7
I36	Nonrheumatic tricuspid valve disorders (I36)	3	0,0
I37	Pulmonary valve disorders (I37)	7	0,0
I38	Endocarditis, valve unspecified (I38)	203	0,8
I40	Acute myocarditis (I40)	47	0,2
I42	Cardiomyopathy (I42)	3 584	13,8
I44	Atrioventricular and left bundle-branch block (I44)	23	0,1
I45	Other conduction disorders (I45)	55	0,2
I46	Cardiac arrest (I46)	3 623	13,9
I47	Paroxysmal tachycardia (I47)	31	0,1
I48	Atrial fibrillation and flutter (I48)	358	1,4
I49	Other cardiac arrhythmias (I49)	265	1,0
I50	Heart failure (I50)	16 465	63,3
I51	Complications and ill-defined descriptions of heart disease (I51)	771	3,0
	Total	**26 030**	**100,0**
	Cerebrovascular diseases (I60-I69)		
I60	Subarachnoid haemorrhage (I60)	418	1,7
I61	Intracerebral haemorrhage (I61)	1 422	5,6
I62	Other nontraumatic intracranial haemorrhage (I62)	653	2,6
I63	Cerebral infarction (I63)	480	1,9
I64	Stroke, not specified as haemorrhage or infarction (I64)	21 564	85,2
I65	Occlusion and stenosis of precerebral arteries, not resulting in cerebral infarction (I65)	0	0,0
I66	Occlusion and stenosis of cerebral arteries, not resulting in cerebral infarction (I66)	0	0,0
I67	Other cerebrovascular diseases (I67)	582	2,3
I69	Sequelae of cerebrovascular disease (I69)	202	0,8
	Total	**25 321**	**100,0**
	Influenza and pneumonia (J10-J18)		
J10	Influenza due to identified influenza virus (J10)	30	0,1
J11	Influenza, virus not identified (J11)	544	1,1
J12	Viral pneumonia, not elsewhere classified (J12)	38	0,1
J13	Pneumonia due to Streptococcus pneumoniae (J13)	11	0,0
J14	Pneumonia due to Haemophilus influenzae (J14)	2	0,0
J15	Bacterial pneumonia, not elsewhere classified (J15)	399	0,8
J16	Pneumonia due to other infectious organisms, not elsewhere classified (J16)	8	0,0
J18	Pneumonia, organism unspecified (J18)	48 690	97,9
	Total	**49 722**	**100,0**

Appendix I: Detailed description of the broad groups of natural causes of death which were among the ten leading causes in 2007 (concluded)

Causes of death (based on the Tenth Revision, International Classification of Disease, 1992)		Number	%
	Chronic lower respiratory diseases (J40-J47)		
J40	Bronchitis, not specified as acute or chronic (J40)	1 019	6,7
J41	Simple and mucopurulent chronic bronchitis (J41)	14	0,1
J42	Unspecified chronic bronchitis (J42)	553	3,6
J43	Emphysema (J43)	957	6,2
J44	Other chronic obstructive pulmonary disease (J44)	6 324	41,3
J45	Asthma (J45)	5 066	33,1
J46	Status asthmaticus (J46)	1 162	7,6
J47	Bronchiectasis (J47)	218	1,4
	Total	**15 313**	**100,0**

Appendix J: The ten leading underlying natural causes of death by age and sex: South Africa, 2007

	All provinces, both sexes, all ages	No.	%
1	Tuberculosis (A15-A19)*	76 761	12,8
2	Influenza and pneumonia (J10-J18)	49 722	8,3
3	Intestinal infectious diseases (A00-A09)	37 398	6,2
4	Other forms of heart disease (I30-I52)	26 030	4,3
5	Cerebrovascular diseases (I60-I69)	25 321	4,2
6	Diabetes mellitus (E10-E14)	20 139	3,4
7	Chronic lower respiratory diseases (J40-J47)	15 313	2,5
8	Certain disorders involving the immune mechanism (D80-D89)	15 253	2,5
9	Human immunodeficiency virus [HIV] disease (B20-B24)	13 521	2,2
10	Hypertensive diseases (I10-I15)	13 381	2,2
	Other causes	254 078	42,3
	Non-natural causes	54 216	9,0
	All causes	601 133	100,0

	All provinces, both sexes, 0-14	No.	%
1	Intestinal infectious diseases (A00-A09)	13 896	19,6
2	Influenza and pneumonia (J10-J18)	9 586	13,5
3	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	6 193	8,7
4	Tuberculosis (A15-A19)*	2 560	3,6
5	Malnutrition (E40-E46)	1 914	2,7
6	Disorders related to length of gestation and fetal growth (P05-P08)	1 778	2,5
7	Other disorders originating in the perinatal period (P90-P96)	1 431	2,0
8	Infections specific to the perinatal period (P35-P39)	1 416	2,0
9	Certain disorders involving the immune mechanism (D80-D89)	1 355	1,9
10	Other acute lower respiratory infections (J20-J22)	1 260	1,8
	Other causes	24 118	34,1
	Non-natural causes	5 295	7,5
	All causes	70 802	100,0

	All provinces, both sexes, 15-49	No.	%
1	Tuberculosis (A15-A19)*	57 291	20,6
2	Influenza and pneumonia (J10-J18)	25 715	9,2
3	Intestinal infectious diseases (A00-A09)	16 261	5,8
4	Certain disorders involving the immune mechanism (D80-D89)	11 741	4,2
5	Human immunodeficiency virus [HIV] disease (B20-B24)	11 058	4,0
6	Other viral diseases (B25-B34)	7 384	2,7
7	Inflammatory diseases of the central nervous system (G00-G09)	6 762	2,4
8	Other forms of heart disease (I30-I52)	6 199	2,2
9	Cerebrovascular diseases (I60-I69)	4 108	1,5
10	Other acute lower respiratory infections (J20-J22)	4 074	1,5
	Other causes	89 693	32,2
	Non-natural causes	38 303	13,7
	All causes	278 589	100,0

	All provinces, both sexes, 50-64	No.	%
1	Tuberculosis (A15-A19)*	12 159	11,6
2	Influenza and pneumonia (J10-J18)	6 687	6,4
3	Diabetes mellitus (E10-E14)	6 570	6,3
4	Cerebrovascular diseases (I60-I69)	6 379	6,1
5	Other forms of heart disease (I30-I52)	5 692	5,4
6	Chronic lower respiratory diseases (J40-J47)	4 572	4,4
7	Intestinal infectious diseases (A00-A09)	3 658	3,5
8	Ischaemic heart diseases (I20-I25)	3 602	3,4
9	Hypertensive diseases (I10-I15)	3 595	3,4
10	Malignant neoplasm of digestive organs (C15-C26)	3 234	3,1
	Other causes	42 879	40,8
	Non-natural causes	6 075	5,8
	All causes	105 102	100,0

	All provinces, both sexes, 65+	No.	%
1	Cerebrovascular diseases (I60-I69)	14 697	10,1
2	Other forms of heart disease (I30-I52)	13 509	9,3
3	Diabetes mellitus (E10-E14)	10 604	7,3
4	Hypertensive diseases (I10-I15)	7 890	5,4
5	Influenza and pneumonia (J10-J18)	7 649	5,3
6	Chronic lower respiratory diseases (J40-J47)	7 195	4,9
7	Ischaemic heart diseases (I20-I25)	7 164	4,9
8	Malignant neoplasm of digestive organs (C15-C26)	4 658	3,2
9	Tuberculosis (A15-A19)*	4 578	3,1
10	Intestinal infectious diseases (A00-A09)	3 532	2,4
	Other causes	59 762	41,1
	Non-natural causes	4 187	2,9
	All causes	145 425	100,0

	All provinces, males, all ages	No.	%
1	Tuberculosis (A15-A19)*	41 769	13,6
2	Influenza and pneumonia (J10-J18)	24 062	7,9
3	Intestinal infectious diseases (A00-A09)	17 146	5,6
4	Other forms of heart disease (I30-I52)	11 580	3,8
5	Cerebrovascular diseases (I60-I69)	10 770	3,5
6	Chronic lower respiratory diseases (J40-J47)	9 085	3,0
7	Diabetes mellitus (E10-E14)	7 805	2,5
8	Ischaemic heart diseases (I20-I25)	7 271	2,4
9	Certain disorders involving the immune mechanism (D80-D89)	7 094	2,3
10	Human immunodeficiency virus [HIV] disease (B20-B24)	6 013	2,0
	Other causes	122 358	40,0
	Non-natural causes	41 281	13,5
	All causes	306 234	100,0

	All provinces, males, 0-14	No.	%
1	Intestinal infectious diseases (A00-A09)	7 350	19,6
2	Influenza and pneumonia (J10-J18)	4 763	12,7
3	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	3 463	9,2
4	Tuberculosis (A15-A19)*	1 359	3,6
5	Disorders related to length of gestation and fetal growth (P05-P08)	983	2,6
6	Malnutrition (E40-E46)	976	2,6
7	Other disorders originating in the perinatal period (P90-P96)	791	2,1
8	Infections specific to the perinatal period (P35-P39)	753	2,0
9	Certain disorders involving the immune mechanism (D80-D89)	705	1,9
10	Inflammatory diseases of the central nervous system (G00-G09)	633	1,7
	Other causes	12 607	33,6
	Non-natural causes	3 110	8,3
	All causes	37 493	100,0

	All provinces, males, 15-49	No.	%
1	Tuberculosis (A15-A19)*	29 371	20,5
2	Influenza and pneumonia (J10-J18)	11 729	8,2
3	Intestinal infectious diseases (A00-A09)	6 581	4,6
4	Certain disorders involving the immune mechanism (D80-D89)	5 156	3,6
5	Human immunodeficiency virus [HIV] disease (B20-B24)	4 740	3,3
6	Inflammatory diseases of the central nervous system (G00-G09)	3 107	2,2
7	Other viral diseases (B25-B34)	3 030	2,1
8	Other forms of heart disease (I30-I52)	2 913	2,0
9	Other acute lower respiratory infections (J20-J22)	2 006	1,4
10	Cerebrovascular diseases (I60-I69)	1 968	1,4
	Other causes	41 565	29,0
	Non-natural causes	31 210	21,8
	All causes	143 376	100,0

	All provinces, males, 50-64	No.	%
1	Tuberculosis (A15-A19)*	8 120	13,2
2	Influenza and pneumonia (J10-J18)	4 053	6,6
3	Cerebrovascular diseases (I60-I69)	3 380	5,5
4	Other forms of heart disease (I30-I52)	3 074	5,0
5	Chronic lower respiratory diseases (J40-J47)	3 036	4,9
6	Diabetes mellitus (E10-E14)	2 919	4,7
7	Ischaemic heart diseases (I20-I25)	2 498	4,1
8	Malignant neoplasm of digestive organs (C15-C26)	2 070	3,4
9	Intestinal infectious diseases (A00-A09)	1 856	3,0
10	Hypertensive diseases (I10-I15)	1 682	2,7
	Other causes	24 354	39,6
	Non-natural causes	4 474	7,3
	All causes	61 516	100,0

	All provinces, males, 65+	No.	%
1	Cerebrovascular diseases (I60-I69)	5 345	8,5
2	Other forms of heart disease (I30-I52)	5 277	8,4
3	Chronic lower respiratory diseases (J40-J47)	4 165	6,6
4	Ischaemic heart diseases (I20-I25)	3 611	5,7
5	Diabetes mellitus (E10-E14)	3 551	5,6
6	Influenza and pneumonia (J10-J18)	3 468	5,5
7	Tuberculosis (A15-A19)*	2 820	4,5
8	Hypertensive diseases (I10-I15)	2 518	4,0
9	Malignant neoplasm of digestive organs (C15-C26)	2 437	3,9
10	Malignant neoplasm of male genital organs (C60-C63)	1 814	2,9
	Other causes	25 858	41,0
	Non-natural causes	2 200	3,5
	All causes	63 064	100,0

	All provinces, females, all ages	No.	%
1	Tuberculosis (A15-A19)*	34 893	11,9
2	Influenza and pneumonia (J10-J18)	25 564	8,7
3	Intestinal infectious diseases (A00-A09)	20 159	6,9
4	Cerebrovascular diseases (I60-I69)	14 545	4,9
5	Other forms of heart disease (I30-I52)	14 427	4,9
6	Diabetes mellitus (E10-E14)	12 334	4,2
7	Hypertensive diseases (I10-I15)	8 323	2,8
8	Certain disorders involving the immune mechanism (D80-D89)	8 144	2,8
9	Human immunodeficiency virus [HIV] disease (B20-B24)	7 485	2,5
10	Chronic lower respiratory diseases (J40-J47)	6 221	2,1
	Other causes	128 982	43,9
	Non-natural causes	12 844	4,4
	All causes	293 921	100,0

	All provinces, females, 0-14	No.	%
1	Intestinal infectious diseases (A00-A09)	6 486	19,7
2	Influenza and pneumonia (J10-J18)	4 774	14,5
3	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	2 630	8,0
4	Tuberculosis (A15-A19)*	1 196	3,6
5	Malnutrition (E40-E46)	930	2,8
6	Disorders related to length of gestation and fetal growth (P05-P08)	771	2,3
7	Certain disorders involving the immune mechanism (D80-D89)	648	2,0
7	Infections specific to the perinatal period (P35-P39)	648	2,0
9	Other acute lower respiratory infections (J20-J22)	640	1,9
10	Other disorders originating in the perinatal period (P90-P96)	615	1,9
	Other causes	11 340	34,5
	Non-natural causes	2 169	6,6
	All causes	32 847	100,0

	All provinces, females, 15-49	No.	%
1	Tuberculosis (A15-A19)*	27 848	20,6
2	Influenza and pneumonia (J10-J18)	13 955	10,3
3	Intestinal infectious diseases (A00-A09)	9 656	7,2
4	Certain disorders involving the immune mechanism (D80-D89)	6 576	4,9
5	Human immunodeficiency virus [HIV] disease (B20-B24)	6 309	4,7
6	Other viral diseases (B25-B34)	4 340	3,2
7	Inflammatory diseases of the central nervous system (G00-G09)	3 645	2,7
8	Other forms of heart disease (I30-I52)	3 273	2,4
9	Cerebrovascular diseases (I60-I69)	2 138	1,6
10	Other acute lower respiratory infections (J20-J22)	2 059	1,5
	Other causes	48 035	35,6
	Non-natural causes	7 052	5,2
	All causes	134 886	100,0

	All provinces, females, 50-64	No.	%
1	Tuberculosis (A15-A19)*	4 031	9,3
2	Diabetes mellitus (E10-E14)	3 651	8,4
3	Cerebrovascular diseases (I60-I69)	2 998	6,9
4	Influenza and pneumonia (J10-J18)	2 629	6,0
5	Other forms of heart disease (I30-I52)	2 615	6,0
6	Hypertensive diseases (I10-I15)	1 913	4,4
7	Intestinal infectious diseases (A00-A09)	1 799	4,1
8	Chronic lower respiratory diseases (J40-J47)	1 534	3,5
9	Malignant neoplasm of female genital organs (C51-C58)	1 254	2,9
10	Malignant neoplasm of digestive organs (C15-C26)	1 164	2,7
	Other causes	18 351	42,2
	Non-natural causes	1 598	3,7
	All causes	43 537	100,0

	All provinces, females, 65+	No.	%
1	Cerebrovascular diseases (I60-I69)	9 350	11,4
2	Other forms of heart disease (I30-I52)	8 229	10,0
3	Diabetes mellitus (E10-E14)	7 053	8,6
4	Hypertensive diseases (I10-I15)	5 371	6,5
5	Influenza and pneumonia (J10-J18)	4 179	5,1
6	Ischaemic heart diseases (I20-I25)	3 552	4,3
7	Chronic lower respiratory diseases (J40-J47)	3 030	3,7
8	Malignant neoplasm of digestive organs (C15-C26)	2 218	2,7
9	Intestinal infectious diseases (A00-A09)	2 198	2,7
10	Tuberculosis (A15-A19)*	1 752	2,1
	Other causes	33 408	40,6
	Non-natural causes	1 984	2,4
	All causes	82 324	100,0

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

Appendix J.1: The ten leading underlying natural causes of death by age and sex: Western Cape, 2007

	Western Cape, both sexes, all ages	No.	%
1	Tuberculosis (A15-A19)*	4 648	9,9
2	Ischaemic heart diseases (I20-I25)	2 750	5,9
3	Diabetes mellitus (E10-E14)	2 676	5,7
4	Cerebrovascular diseases (I60-I69)	2 544	5,4
5	Chronic lower respiratory diseases (J40-J47)	2 018	4,3
6	Other forms of heart disease (I30-I52)	1 750	3,7
7	Malignant neoplasm of digestive organs (C15-C26)	1 708	3,7
8	Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	1 595	3,4
9	Human immunodeficiency virus [HIV] disease (B20-B24)	1 530	3,3
10	Influenza and pneumonia (J10-J18)	1 279	2,7
	Other natural causes	17 383	37,2
	Non-natural causes	6 907	14,8
	All causes	46 788	100,0

	Western Cape, males, all ages	No.	%
1	Tuberculosis (A15-A19)*	2 820	10,9
2	Ischaemic heart diseases (I20-I25)	1 565	6,0
3	Chronic lower respiratory diseases (J40-J47)	1 206	4,6
4	Cerebrovascular diseases (I60-I69)	1 097	4,2
5	Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	1 069	4,1
6	Diabetes mellitus (E10-E14)	1 066	4,1
7	Malignant neoplasm of digestive organs (C15-C26)	980	3,8
8	Other forms of heart disease (I30-I52)	818	3,1
9	Human immunodeficiency virus [HIV] disease (B20-B24)	705	2,7
10	Influenza and pneumonia (J10-J18)	650	2,5
	Other natural causes	8 588	33,1
	Non-natural causes	5 419	20,9
	All causes	25 983	100,0

	Western Cape, females, all ages	No.	%
1	Tuberculosis (A15-A19)*	1 813	8,8
2	Diabetes mellitus (E10-E14)	1 610	7,8
3	Cerebrovascular diseases (I60-I69)	1 445	7,0
4	Ischaemic heart diseases (I20-I25)	1 185	5,7
5	Other forms of heart disease (I30-I52)	931	4,5
6	Human immunodeficiency virus [HIV] disease (B20-B24)	822	4,0
7	Chronic lower respiratory diseases (J40-J47)	811	3,9
8	Hypertensive diseases (I10-I15)	763	3,7
9	Malignant neoplasm of digestive organs (C15-C26)	726	3,5
10	Influenza and pneumonia (J10-J18)	623	3,0
	Other natural causes	8 512	41,1
	Non-natural causes	1 477	7,1
	All causes	20 718	100,0

	Western Cape, both sexes, 0-14	No.	%
1	Intestinal infectious diseases (A00-A09)	442	12,2
2	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	331	9,1
3	Influenza and pneumonia (J10-J18)	224	6,2
4	Disorders related to length of gestation and fetal growth (P05-P08)	173	4,8
5	Other disorders originating in the perinatal period (P90-P96)	153	4,2
6	Human immunodeficiency virus [HIV] disease (B20-B24)	103	2,8
7	Infections specific to the perinatal period (P35-P39)	86	2,4
8	Tuberculosis (A15-A19)*	80	2,2
8	Congenital malformations of the circulatory system (Q20-Q28)	80	2,2
10	Certain disorders involving the immune mechanism (D80-D89)	61	1,7
	Other natural causes	1 311	36,1
	Non-natural causes	588	16,2
	All causes	3 632	100,0

	Western Cape, males, 0-14	No.	%
1	Intestinal infectious diseases (A00-A09)	232	12,2
2	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	176	9,2
3	Influenza and pneumonia (J10-J18)	113	5,9
4	Disorders related to length of gestation and fetal growth (P05-P08)	101	5,3
5	Other disorders originating in the perinatal period (P90-P96)	85	4,5
6	Human immunodeficiency virus [HIV] disease (B20-B24)	49	2,6
7	Tuberculosis (A15-A19)*	42	2,2
8	Congenital malformations of the circulatory system (Q20-Q28)	39	2,0
9	Infections specific to the perinatal period (P35-P39)	38	2,0
10	Certain disorders involving the immune mechanism (D80-D89)	31	1,6
	Other natural causes	659	34,6
	Non-natural causes	342	17,9
	All causes	1 907	100,0

	Western Cape, females, 0-14	No.	%
1	Intestinal infectious diseases (A00-A09)	207	12,3
2	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	149	8,8
3	Influenza and pneumonia (J10-J18)	106	6,3
4	Disorders related to length of gestation and fetal growth (P05-P08)	70	4,1
5	Other disorders originating in the perinatal period (P90-P96)	63	3,7
6	Human immunodeficiency virus [HIV] disease (B20-B24)	54	3,2
7	Infections specific to the perinatal period (P35-P39)	45	2,7
8	Congenital malformations of the circulatory system (Q20-Q28)	39	2,3
9	Tuberculosis (A15-A19)*	38	2,3
10	Certain disorders involving the immune mechanism (D80-D89)	29	1,7
	Other natural causes	642	38,0
	Non-natural causes	246	14,6
	All causes	1 688	100,0

	Western Cape, both sexes, 15-49	No.	%
1	Tuberculosis (A15-A19)*	3 268	19,4
2	Human immunodeficiency virus [HIV] disease (B20-B24)	1 282	7,6
3	Other viral diseases (B25-B34)	443	2,6
4	Influenza and pneumonia (J10-J18)	353	2,1
5	Certain disorders involving the immune mechanism (D80-D89)	344	2,0
6	Cerebrovascular diseases (I60-I69)	315	1,9
7	Chronic lower respiratory diseases (J40-J47)	301	1,8
8	Ischaemic heart diseases (I20-I25)	291	1,7
9	Other forms of heart disease (I30-I52)	274	1,6
10	Diabetes mellitus (E10-E14)	270	1,6
	Other natural causes	4 585	27,3
	Non-natural causes	5 077	30,2
	All causes	16 803	100,0

	Western Cape, males, 15-49	No.	%
1	Tuberculosis (A15-A19)*	1 894	18,0
2	Human immunodeficiency virus [HIV] disease (B20-B24)	581	5,5
3	Ischaemic heart diseases (I20-I25)	209	2,0
4	Influenza and pneumonia (J10-J18)	197	1,9
5	Chronic lower respiratory diseases (J40-J47)	187	1,8
6	Other forms of heart disease (I30-I52)	169	1,6
7	Other viral diseases (B25-B34)	168	1,6
8	Malignant neoplasm of digestive organs (C15-C26)	159	1,5
9	Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	154	1,5
10	Certain disorders involving the immune mechanism (D80-D89)	148	1,4
	Other natural causes	2 420	23,0
	Non-natural causes	4 231	40,2
	All causes	10 517	100,0

	Western Cape, females, 15-49	No.	%
1	Tuberculosis (A15-A19)*	1 363	21,8
2	Human immunodeficiency virus [HIV] disease (B20-B24)	698	11,2
3	Other viral diseases (B25-B34)	275	4,4
4	Certain disorders involving the immune mechanism (D80-D89)	195	3,1
5	Cerebrovascular diseases (I60-I69)	171	2,7
6	Influenza and pneumonia (J10-J18)	155	2,5
7	Diabetes mellitus (E10-E14)	139	2,2
8	Malignant neoplasm of breast (C50)	132	2,1
9	Malignant neoplasm of female genital organs (C51-C58)	117	1,9
10	Chronic lower respiratory diseases (J40-J47)	114	1,8
	Other natural causes	2 057	32,9
	Non-natural causes	840	13,4
	All causes	6 256	100,0

	Western Cape, both sexes, 50-64	No.	%
1	Tuberculosis (A15-A19)*	946	9,4
2	Diabetes mellitus (E10-E14)	879	8,7
3	Chronic lower respiratory diseases (J40-J47)	721	7,2
4	Ischaemic heart diseases (I20-I25)	717	7,1
5	Cerebrovascular diseases (I60-I69)	632	6,3
6	Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	620	6,2
7	Malignant neoplasm of digestive organs (C15-C26)	596	5,9
8	Other forms of heart disease (I30-I52)	326	3,2
9	Hypertensive diseases (I10-I15)	302	3,0
10	Malignant neoplasm of breast (C50)	186	1,8
	Other natural causes	3 436	34,1
	Non-natural causes	703	7,0
	All causes	10 064	100,0

	Western Cape, males, 50-64	No.	%
1	Tuberculosis (A15-A19)*	648	10,8
2	Ischaemic heart diseases (I20-I25)	486	8,1
3	Chronic lower respiratory diseases (J40-J47)	435	7,2
4	Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	433	7,2
5	Diabetes mellitus (E10-E14)	394	6,6
6	Malignant neoplasm of digestive organs (C15-C26)	375	6,2
7	Cerebrovascular diseases (I60-I69)	339	5,6
8	Other forms of heart disease (I30-I52)	191	3,2
9	Hypertensive diseases (I10-I15)	145	2,4
10	Malignant neoplasms of ill-defined, secondary & unspecified sites (C76-C80)	119	2,0
	Other natural causes	1 916	31,9
	Non-natural causes	527	8,8
	All causes	6 008	100,0

	Western Cape, females, 50-64	No.	%
1	Diabetes mellitus (E10-E14)	485	12,0
2	Tuberculosis (A15-A19)*	294	7,3
3	Cerebrovascular diseases (I60-I69)	292	7,2
4	Chronic lower respiratory diseases (J40-J47)	286	7,1
5	Ischaemic heart diseases (I20-I25)	231	5,7
6	Malignant neoplasm of digestive organs (C15-C26)	221	5,5
7	Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	187	4,6
8	Malignant neoplasm of breast (C50)	183	4,5
9	Hypertensive diseases (I10-I15)	157	3,9
10	Malignant neoplasm of female genital organs (C51-C58)	137	3,4
	Other natural causes	1 400	34,6
	Non-natural causes	175	4,3
	All causes	4 048	100,0

	Western Cape, both sexes, 65+	No.	%
1	Ischaemic heart diseases (I20-I25)	1 741	10,8
2	Cerebrovascular diseases (I60-I69)	1 591	9,9
3	Diabetes mellitus (E10-E14)	1 525	9,5
4	Other forms of heart disease (I30-I52)	1 111	6,9
5	Chronic lower respiratory diseases (J40-J47)	979	6,1
6	Malignant neoplasm of digestive organs (C15-C26)	851	5,3
7	Hypertensive diseases (I10-I15)	786	4,9
8	Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	761	4,7
9	Influenza and pneumonia (J10-J18)	511	3,2
10	Tuberculosis (A15-A19)*	339	2,1
	Other natural causes	5 496	34,1
	Non-natural causes	444	2,8
	All causes	16 135	100,0

	Western Cape, males, 65+	No.	%
1	Ischaemic heart diseases (I20-I25)	870	11,7
2	Cerebrovascular diseases (I60-I69)	613	8,2
3	Chronic lower respiratory diseases (J40-J47)	572	7,7
4	Diabetes mellitus (E10-E14)	540	7,3
5	Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	482	6,5
6	Malignant neoplasm of digestive organs (C15-C26)	445	6,0
7	Other forms of heart disease (I30-I52)	441	5,9
8	Malignant neoplasm of male genital organs (C60-C63)	335	4,5
9	Hypertensive diseases (I10-I15)	258	3,5
10	Tuberculosis (A15-A19)*	226	3,0
	Other natural causes	2 412	32,4
	Non-natural causes	240	3,2
	All causes	7 434	100,0

	Western Cape, females, 65+	No.	%
1	Diabetes mellitus (E10-E14)	985	11,3
2	Cerebrovascular diseases (I60-I69)	978	11,2
3	Ischaemic heart diseases (I20-I25)	871	10,0
4	Other forms of heart disease (I30-I52)	670	7,7
5	Hypertensive diseases (I10-I15)	528	6,1
6	Chronic lower respiratory diseases (J40-J47)	407	4,7
7	Malignant neoplasm of digestive organs (C15-C26)	404	4,6
8	Influenza and pneumonia (J10-J18)	287	3,3
9	Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	278	3,2
10	Malignant neoplasm of breast (C50)	215	2,5
	Other natural causes	2 869	33,0
	Non-natural causes	203	2,3
	All causes	8 695	100,0

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

Appendix J.2: The ten leading underlying natural causes of death by age and sex: Eastern Cape, 2007

	Eastern Cape, both sexes, all ages	No.	%
1	Tuberculosis (A15-A19)*	11 836	13,5
2	Influenza and pneumonia (J10-J18)	4 482	5,1
3	Intestinal infectious diseases (A00-A09)	3 879	4,4
4	Chronic lower respiratory diseases (J40-J47)	3 835	4,4
5	Other forms of heart disease (I30-I52)	3 510	4,0
6	Cerebrovascular diseases (I60-I69)	3 353	3,8
7	Diabetes mellitus (E10-E14)	2 726	3,1
8	Certain disorders involving the immune mechanism (D80-D89)	2 304	2,6
9	Hypertensive diseases (I10-I15)	1 993	2,3
10	Malignant neoplasm of digestive organs (C15-C26)	1 894	2,2
	Other natural causes	39 539	45,2
	Non-natural causes	8 101	9,3
	All causes	87 452	100,0

	Eastern Cape, males, all ages	No.	%
1	Tuberculosis (A15-A19)*	6 253	14,6
2	Chronic lower respiratory diseases (J40-J47)	2 207	5,1
3	Influenza and pneumonia (J10-J18)	1 987	4,6
4	Intestinal infectious diseases (A00-A09)	1 686	3,9
5	Cerebrovascular diseases (I60-I69)	1 440	3,4
6	Other forms of heart disease (I30-I52)	1 401	3,3
7	Malignant neoplasm of digestive organs (C15-C26)	1 006	2,3
8	Diabetes mellitus (E10-E14)	988	2,3
9	Certain disorders involving the immune mechanism (D80-D89)	900	2,1
10	Other diseases of the respiratory system (J95-J99)	794	1,9
	Other natural causes	18 075	42,2
	Non-natural causes	6 119	14,3
	All causes	42 856	100,0

	Eastern Cape, females, all ages	No.	%
1	Tuberculosis (A15-A19)*	5 573	12,5
2	Influenza and pneumonia (J10-J18)	2 489	5,6
3	Intestinal infectious diseases (A00-A09)	2 181	4,9
4	Other forms of heart disease (I30-I52)	2 106	4,7
5	Cerebrovascular diseases (I60-I69)	1 913	4,3
6	Diabetes mellitus (E10-E14)	1 738	3,9
7	Chronic lower respiratory diseases (J40-J47)	1 626	3,7
8	Certain disorders involving the immune mechanism (D80-D89)	1 403	3,2
9	Hypertensive diseases (I10-I15)	1 292	2,9
10	Other viral diseases (B25-B34)	1 007	2,3
	Other natural causes	21 186	47,6
	Non-natural causes	1 962	4,4
	All causes	44 476	100,0

	Eastern Cape, both sexes, 0-14	No.	%
1	Intestinal infectious diseases (A00-A09)	1 288	18,0
2	Influenza and pneumonia (J10-J18)	811	11,4
3	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	400	5,6
4	Tuberculosis (A15-A19)*	314	4,4
5	Certain disorders involving the immune mechanism (D80-D89)	205	2,9
6	Malnutrition (E40-E46)	194	2,7
7	Infections specific to the perinatal period (P35-P39)	105	1,5
7	Other disorders originating in the perinatal period (P90-P96)	105	1,5
9	Other acute lower respiratory infections (J20-J22)	104	1,5
10	Human immunodeficiency virus [HIV] disease (B20-B24)	101	1,4
	Other natural causes	2 727	38,2
	Non-natural causes	784	11,0
	All causes	7 138	100,0

	Eastern Cape, males, 0-14	No.	%
1	Intestinal infectious diseases (A00-A09)	680	18,2
2	Influenza and pneumonia (J10-J18)	389	10,4
3	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	222	5,9
4	Tuberculosis (A15-A19)*	169	4,5
5	Certain disorders involving the immune mechanism (D80-D89)	109	2,9
6	Malnutrition (E40-E46)	102	2,7
7	Other disorders originating in the perinatal period (P90-P96)	63	1,7
8	Infections specific to the perinatal period (P35-P39)	60	1,6
9	Other acute lower respiratory infections (J20-J22)	56	1,5
10	Other bacterial diseases (A30-A49)	55	1,5
	Other natural causes	1 376	36,9
	Non-natural causes	453	12,1
	All causes	3 734	100,0

	Eastern Cape, females, 0-14	No.	%
1	Intestinal infectious diseases (A00-A09)	599	17,8
2	Influenza and pneumonia (J10-J18)	419	12,5
3	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	173	5,1
4	Tuberculosis (A15-A19)*	145	4,3
5	Certain disorders involving the immune mechanism (D80-D89)	96	2,9
6	Malnutrition (E40-E46)	92	2,7
7	Human immunodeficiency virus [HIV] disease (B20-B24)	62	1,8
8	Other acute lower respiratory infections (J20-J22)	47	1,4
9	Other bacterial diseases (A30-A49)	44	1,3
10	Inflammatory diseases of the central nervous system (G00-G09)	43	1,3
	Other natural causes	1 311	39,0
	Non-natural causes	330	9,8
	All causes	3 361	100,0

	Eastern Cape, both sexes, 15-49	No.	%
1	Tuberculosis (A15-A19)*	8 082	20,6
2	Influenza and pneumonia (J10-J18)	2 012	5,1
3	Certain disorders involving the immune mechanism (D80-D89)	1 817	4,6
4	Intestinal infectious diseases (A00-A09)	1 762	4,5
5	Other viral diseases (B25-B34)	1 414	3,6
6	Human immunodeficiency virus [HIV] disease (B20-B24)	1 331	3,4
7	Inflammatory diseases of the central nervous system (G00-G09)	854	2,2
8	Other forms of heart disease (I30-I52)	785	2,0
9	Chronic lower respiratory diseases (J40-J47)	781	2,0
10	Other diseases of the respiratory system (J95-J99)	664	1,7
	Other natural causes	13 954	35,6
	Non-natural causes	5 687	14,5
	All causes	39 143	100,0

	Eastern Cape, males, 15-49	No.	%
1	Tuberculosis (A15-A19)*	3 928	20,4
2	Influenza and pneumonia (J10-J18)	825	4,3
3	Intestinal infectious diseases (A00-A09)	660	3,4
4	Certain disorders involving the immune mechanism (D80-D89)	650	3,4
5	Other viral diseases (B25-B34)	548	2,8
6	Human immunodeficiency virus [HIV] disease (B20-B24)	506	2,6
7	Chronic lower respiratory diseases (J40-J47)	427	2,2
8	Inflammatory diseases of the central nervous system (G00-G09)	380	2,0
9	Other forms of heart disease (I30-I52)	330	1,7
10	Other diseases of the respiratory system (J95-J99)	316	1,6
	Other natural causes	6 020	31,3
	Non-natural causes	4 660	24,2
	All causes	19 250	100,0

	Eastern Cape, females, 15-49	No.	%
1	Tuberculosis (A15-A19)*	4 146	20,9
2	Influenza and pneumonia (J10-J18)	1 185	6,0
3	Certain disorders involving the immune mechanism (D80-D89)	1 166	5,9
4	Intestinal infectious diseases (A00-A09)	1 099	5,5
5	Other viral diseases (B25-B34)	861	4,3
6	Human immunodeficiency virus [HIV] disease (B20-B24)	825	4,2
7	Inflammatory diseases of the central nervous system (G00-G09)	473	2,4
8	Other forms of heart disease (I30-I52)	455	2,3
9	Chronic lower respiratory diseases (J40-J47)	353	1,8
10	Other diseases of the respiratory system (J95-J99)	346	1,7
	Other natural causes	7 913	39,9
	Non-natural causes	1 013	5,1
	All causes	19 835	100,0

	Eastern Cape, both sexes, 50-64	No.	%
1	Tuberculosis (A15-A19)*	2 114	13,5
2	Chronic lower respiratory diseases (J40-J47)	967	6,2
3	Diabetes mellitus (E10-E14)	876	5,6
4	Cerebrovascular diseases (I60-I69)	818	5,2
5	Other forms of heart disease (I30-I52)	760	4,9
6	Malignant neoplasm of digestive organs (C15-C26)	580	3,7
7	Influenza and pneumonia (J10-J18)	568	3,6
8	Hypertensive diseases (I10-I15)	535	3,4
9	Ischaemic heart diseases (I20-I25)	390	2,5
10	Intestinal infectious diseases (A00-A09)	385	2,5
	Other natural causes	6 751	43,1
	Non-natural causes	902	5,8
	All causes	15 646	100,0

	Eastern Cape, males, 50-64	No.	%
1	Tuberculosis (A15-A19)*	1 390	15,6
2	Chronic lower respiratory diseases (J40-J47)	646	7,3
3	Cerebrovascular diseases (I60-I69)	429	4,8
4	Diabetes mellitus (E10-E14)	364	4,1
5	Malignant neoplasm of digestive organs (C15-C26)	357	4,0
6	Other forms of heart disease (I30-I52)	345	3,9
7	Influenza and pneumonia (J10-J18)	317	3,6
8	Ischaemic heart diseases (I20-I25)	257	2,9
9	Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	249	2,8
10	Hypertensive diseases (I10-I15)	217	2,4
	Other natural causes	3 709	41,6
	Non-natural causes	627	7,0
	All causes	8 907	100,0

	Eastern Cape, females, 50-64	No.	%
1	Tuberculosis (A15-A19)*	723	10,7
2	Diabetes mellitus (E10-E14)	512	7,6
3	Other forms of heart disease (I30-I52)	415	6,2
4	Cerebrovascular diseases (I60-I69)	389	5,8
5	Chronic lower respiratory diseases (J40-J47)	321	4,8
6	Hypertensive diseases (I10-I15)	318	4,7
7	Influenza and pneumonia (J10-J18)	251	3,7
8	Malignant neoplasm of digestive organs (C15-C26)	223	3,3
9	Intestinal infectious diseases (A00-A09)	202	3,0
10	Malignant neoplasm of female genital organs (C51-C58)	159	2,4
	Other natural causes	2 946	43,7
	Non-natural causes	275	4,1
	All causes	6 734	100,0

	Eastern Cape, both sexes, 65+	No.	%
1	Cerebrovascular diseases (I60-I69)	2 096	8,2
2	Chronic lower respiratory diseases (J40-J47)	2 001	7,9
3	Other forms of heart disease (I30-I52)	1 899	7,5
4	Diabetes mellitus (E10-E14)	1 470	5,8
5	Tuberculosis (A15-A19)*	1 312	5,2
6	Hypertensive diseases (I10-I15)	1 220	4,8
7	Influenza and pneumonia (J10-J18)	1 086	4,3
8	Malignant neoplasm of digestive organs (C15-C26)	1 022	4,0
9	Ischaemic heart diseases (I20-I25)	793	3,1
10	Other diseases of the respiratory system (J95-J99)	574	2,3
	Other natural causes	11 255	44,2
	Non-natural causes	708	2,8
	All causes	25 436	100,0

	Eastern Cape, males, 65+	No.	%
1	Chronic lower respiratory diseases (J40-J47)	1 089	10,0
2	Cerebrovascular diseases (I60-I69)	806	7,4
3	Tuberculosis (A15-A19)*	757	6,9
4	Other forms of heart disease (I30-I52)	690	6,3
5	Malignant neoplasm of digestive organs (C15-C26)	476	4,4
6	Diabetes mellitus (E10-E14)	469	4,3
7	Influenza and pneumonia (J10-J18)	455	4,2
8	Hypertensive diseases (I10-I15)	388	3,6
9	Ischaemic heart diseases (I20-I25)	356	3,3
10	Other diseases of the respiratory system (J95-J99)	241	2,2
	Other natural causes	4 821	44,2
	Non-natural causes	363	3,3
	All causes	10 911	100,0

	Eastern Cape, females, 65+	No.	%
1	Cerebrovascular diseases (I60-I69)	1 290	8,9
2	Other forms of heart disease (I30-I52)	1 207	8,3
3	Diabetes mellitus (E10-E14)	1 001	6,9
4	Chronic lower respiratory diseases (J40-J47)	912	6,3
5	Hypertensive diseases (I10-I15)	832	5,7
6	Influenza and pneumonia (J10-J18)	631	4,3
7	Tuberculosis (A15-A19)*	555	3,8
8	Malignant neoplasm of digestive organs (C15-C26)	546	3,8
9	Ischaemic heart diseases (I20-I25)	437	3,0
10	Other diseases of the respiratory system (J95-J99)	333	2,3
	Other natural causes	6 433	44,3
	Non-natural causes	344	2,4
	All causes	14 521	100,0

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

Appendix J.3: The ten leading underlying natural causes of death by age and sex: Northern Cape, 2007

	Northern Cape, both sexes, all ages	No.	%
1	Tuberculosis (A15-A19)*	1 688	11,2
2	Influenza and pneumonia (J10-J18)	1 107	7,3
3	Cerebrovascular diseases (I60-I69)	669	4,4
4	Intestinal infectious diseases (A00-A09)	651	4,3
5	Other forms of heart disease (I30-I52)	603	4,0
6	Chronic lower respiratory diseases (J40-J47)	581	3,8
7	Certain disorders involving the immune mechanism (D80-D89)	458	3,0
8	Diabetes mellitus (E10-E14)	432	2,9
9	Ischaemic heart diseases (I20-I25)	392	2,6
10	Hypertensive diseases (I10-I15)	390	2,6
	Other natural causes	6 715	44,4
	Non-natural causes	1 445	9,5
	All causes	15 131	100,0

	Northern Cape, males, all ages	No.	%
1	Tuberculosis (A15-A19)*	956	12,1
2	Influenza and pneumonia (J10-J18)	561	7,1
3	Chronic lower respiratory diseases (J40-J47)	368	4,7
4	Intestinal infectious diseases (A00-A09)	319	4,0
5	Other forms of heart disease (I30-I52)	270	3,4
6	Cerebrovascular diseases (I60-I69)	266	3,4
7	Ischaemic heart diseases (I20-I25)	215	2,7
8	Certain disorders involving the immune mechanism (D80-D89)	204	2,6
9	Diabetes mellitus (E10-E14)	169	2,1
10	Human immunodeficiency virus [HIV] disease (B20-B24)	167	2,1
	Other natural causes	3 330	42,1
	Non-natural causes	1 079	13,7
	All causes	7 904	100,0

	Northern Cape, females, all ages	No.	%
1	Tuberculosis (A15-A19)*	730	10,1
2	Influenza and pneumonia (J10-J18)	546	7,6
3	Cerebrovascular diseases (I60-I69)	402	5,6
4	Other forms of heart disease (I30-I52)	333	4,6
5	Intestinal infectious diseases (A00-A09)	330	4,6
6	Diabetes mellitus (E10-E14)	263	3,6
7	Certain disorders involving the immune mechanism (D80-D89)	254	3,5
8	Hypertensive diseases (I10-I15)	248	3,4
9	Chronic lower respiratory diseases (J40-J47)	213	3,0
10	Human immunodeficiency virus [HIV] disease (B20-B24)	187	2,6
	Other natural causes	3 336	46,3
	Non-natural causes	365	5,1
	All causes	7 207	100,0

	Northern Cape, both sexes, 0-14	No.	%
1	Intestinal infectious diseases (A00-A09)	304	17,5
2	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	181	10,4
3	Influenza and pneumonia (J10-J18)	174	10,0
4	Disorders related to length of gestation and fetal growth (P05-P08)	72	4,1
4	Other disorders originating in the perinatal period (P90-P96)	72	4,1
6	Malnutrition (E40-E46)	61	3,5
7	Tuberculosis (A15-A19)*	58	3,3
8	Other diseases of the respiratory system (J95-J99)	39	2,2
9	Certain disorders involving the immune mechanism (D80-D89)	34	2,0
10	Other acute lower respiratory infections (J20-J22)	32	1,8
	Other natural causes	578	33,2
	Non-natural causes	134	7,7
	All causes	1 739	100,0

	Northern Cape, males, 0-14	No.	%
1	Intestinal infectious diseases (A00-A09)	167	17,8
2	Influenza and pneumonia (J10-J18)	97	10,3
3	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	90	9,6
4	Other disorders originating in the perinatal period (P90-P96)	44	4,7
5	Malnutrition (E40-E46)	31	3,3
6	Tuberculosis (A15-A19)*	28	3,0
6	Disorders related to length of gestation and fetal growth (P05-P08)	28	3,0
8	Other acute lower respiratory infections (J20-J22)	23	2,4
9	Other diseases of the respiratory system (J95-J99)	19	2,0
10	Infections specific to the perinatal period (P35-P39)	17	1,8
	Other natural causes	309	32,9
	Non-natural causes	86	9,2
	All causes	939	100,0

	Northern Cape, females, 0-14	No.	%
1	Intestinal infectious diseases (A00-A09)	135	17,2
2	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	88	11,2
3	Influenza and pneumonia (J10-J18)	77	9,8
4	Disorders related to length of gestation and fetal growth (P05-P08)	41	5,2
5	Tuberculosis (A15-A19)*	30	3,8
6	Malnutrition (E40-E46)	28	3,6
6	Other disorders originating in the perinatal period (P90-P96)	28	3,6
8	Certain disorders involving the immune mechanism (D80-D89)	23	2,9
9	Other diseases of the respiratory system (J95-J99)	19	2,4
10	Other bacterial diseases (A30-A49)	11	1,4
	Other natural causes	258	32,8
	Non-natural causes	48	6,1
	All causes	786	100,0

	Northern Cape, both sexes, 15-49	No.	%
1	Tuberculosis (A15-A19)*	1 232	19,2
2	Influenza and pneumonia (J10-J18)	549	8,6
3	Certain disorders involving the immune mechanism (D80-D89)	359	5,6
4	Human immunodeficiency virus [HIV] disease (B20-B24)	286	4,5
5	Intestinal infectious diseases (A00-A09)	210	3,3
6	Other forms of heart disease (I30-I52)	132	2,1
6	Other acute lower respiratory infections (J20-J22)	132	2,1
8	Other viral diseases (B25-B34)	106	1,7
9	Chronic lower respiratory diseases (J40-J47)	100	1,6
10	Cerebrovascular diseases (I60-I69)	93	1,4
	Other natural causes	2 222	34,6
	Non-natural causes	999	15,6
	All causes	6 420	100,0

	Northern Cape, males, 15-49	No.	%
1	Tuberculosis (A15-A19)*	664	19,7
2	Influenza and pneumonia (J10-J18)	255	7,6
3	Certain disorders involving the immune mechanism (D80-D89)	159	4,7
4	Human immunodeficiency virus [HIV] disease (B20-B24)	128	3,8
5	Intestinal infectious diseases (A00-A09)	86	2,6
6	Other forms of heart disease (I30-I52)	64	1,9
7	Chronic lower respiratory diseases (J40-J47)	60	1,8
8	Other acute lower respiratory infections (J20-J22)	53	1,6
9	Other viral diseases (B25-B34)	45	1,3
10	Inflammatory diseases of the central nervous system (G00-G09)	44	1,3
	Other natural causes	1 031	30,6
	Non-natural causes	779	23,1
	All causes	3 368	100,0

	Northern Cape, females, 15-49	No.	%
1	Tuberculosis (A15-A19)*	566	18,6
2	Influenza and pneumonia (J10-J18)	294	9,6
3	Certain disorders involving the immune mechanism (D80-D89)	200	6,6
4	Human immunodeficiency virus [HIV] disease (B20-B24)	158	5,2
5	Intestinal infectious diseases (A00-A09)	124	4,1
6	Other acute lower respiratory infections (J20-J22)	79	2,6
7	Other forms of heart disease (I30-I52)	68	2,2
8	Other viral diseases (B25-B34)	60	2,0
9	Cerebrovascular diseases (I60-I69)	57	1,9
10	Protozoal diseases (B50-B64)	51	1,7
	Other natural causes	1 172	38,5
	Non-natural causes	219	7,2
	All causes	3 048	100,0

	Northern Cape, both sexes, 50-64	No.	%
1	Tuberculosis (A15-A19)*	284	9,2
2	Chronic lower respiratory diseases (J40-J47)	227	7,4
3	Influenza and pneumonia (J10-J18)	189	6,1
4	Cerebrovascular diseases (I60-I69)	179	5,8
5	Diabetes mellitus (E10-E14)	152	4,9
6	Other forms of heart disease (I30-I52)	137	4,5
7	Ischaemic heart diseases (I20-I25)	125	4,1
8	Malignant neoplasm of digestive organs (C15-C26)	114	3,7
9	Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	97	3,2
10	Hypertensive diseases (I10-I15)	85	2,8
	Other natural causes	1 298	42,2
	Non-natural causes	190	6,2
	All causes	3 077	100,0

	Northern Cape, males, 50-64	No.	%
1	Tuberculosis (A15-A19)*	179	10,1
2	Chronic lower respiratory diseases (J40-J47)	146	8,2
3	Influenza and pneumonia (J10-J18)	109	6,1
4	Cerebrovascular diseases (I60-I69)	91	5,1
5	Ischaemic heart diseases (I20-I25)	74	4,2
6	Other forms of heart disease (I30-I52)	71	4,0
7	Malignant neoplasm of digestive organs (C15-C26)	69	3,9
8	Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	68	3,8
9	Diabetes mellitus (E10-E14)	66	3,7
10	Diseases of liver (K70-K77)	40	2,2
	Other natural causes	721	40,6
	Non-natural causes	144	8,1
	All causes	1 778	100,0

	Northern Cape, females, 50-64	No.	%
1	Tuberculosis (A15-A19)*	105	8,1
2	Cerebrovascular diseases (I60-I69)	88	6,8
3	Diabetes mellitus (E10-E14)	86	6,6
4	Chronic lower respiratory diseases (J40-J47)	81	6,2
5	Influenza and pneumonia (J10-J18)	80	6,2
6	Other forms of heart disease (I30-I52)	66	5,1
7	Ischaemic heart diseases (I20-I25)	51	3,9
8	Malignant neoplasm of female genital organs (C51-C58)	47	3,6
8	Hypertensive diseases (I10-I15)	47	3,6
10	Malignant neoplasm of digestive organs (C15-C26)	45	3,5
	Other natural causes	556	42,8
	Non-natural causes	46	3,5
	All causes	1 298	100,0

	Northern Cape, both sexes, 65+	No.	%
1	Cerebrovascular diseases (I60-I69)	396	10,2
2	Other forms of heart disease (I30-I52)	324	8,3
3	Hypertensive diseases (I10-I15)	266	6,8
4	Chronic lower respiratory diseases (J40-J47)	251	6,5
5	Diabetes mellitus (E10-E14)	224	5,8
6	Ischaemic heart diseases (I20-I25)	210	5,4
7	Influenza and pneumonia (J10-J18)	195	5,0
8	Malignant neoplasm of digestive organs (C15-C26)	120	3,1
9	Tuberculosis (A15-A19)*	113	2,9
10	Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	87	2,2
	Other natural causes	1 584	40,7
	Non-natural causes	118	3,0
	All causes	3 888	100,0

	Northern Cape, males, 65+	No.	%
1	Chronic lower respiratory diseases (J40-J47)	160	8,8
2	Cerebrovascular diseases (I60-I69)	138	7,6
3	Other forms of heart disease (I30-I52)	131	7,2
4	Ischaemic heart diseases (I20-I25)	104	5,7
5	Influenza and pneumonia (J10-J18)	100	5,5
6	Hypertensive diseases (I10-I15)	92	5,1
7	Tuberculosis (A15-A19)*	85	4,7
8	Malignant neoplasm of male genital organs (C60-C63)	74	4,1
9	Diabetes mellitus (E10-E14)	71	3,9
10	Malignant neoplasm of digestive organs (C15-C26)	63	3,5
	Other natural causes	729	40,2
	Non-natural causes	66	3,6
	All causes	1 813	100,0

	Northern Cape, females, 65+	No.	%
1	Cerebrovascular diseases (I60-I69)	257	12,4
2	Other forms of heart disease (I30-I52)	193	9,3
3	Hypertensive diseases (I10-I15)	174	8,4
4	Diabetes mellitus (E10-E14)	153	7,4
5	Ischaemic heart diseases (I20-I25)	106	5,1
6	Influenza and pneumonia (J10-J18)	95	4,6
7	Chronic lower respiratory diseases (J40-J47)	91	4,4
8	Malignant neoplasm of digestive organs (C15-C26)	57	2,7
9	Intestinal infectious diseases (A00-A09)	45	2,2
10	Malignant neoplasm of female genital organs (C51-C58)	42	2,0
	Other natural causes	809	39,0
	Non-natural causes	52	2,5
	All causes	2 074	100,0

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

Appendix J.4: The ten leading underlying natural causes of death by age and sex: Free State, 2007

	Free State, both sexes, all ages	No.	%
1	Influenza and pneumonia (J10-J18)	7 054	13,9
2	Tuberculosis (A15-A19)*	6 097	12,0
3	Intestinal infectious diseases (A00-A09)	3 919	7,7
4	Other forms of heart disease (I30-I52)	2 486	4,9
5	Certain disorders involving the immune mechanism (D80-D89)	1 992	3,9
6	Cerebrovascular diseases (I60-I69)	1 909	3,8
7	Diabetes mellitus (E10-E14)	1 246	2,4
8	Hypertensive diseases (I10-I15)	1 180	2,3
9	Chronic lower respiratory diseases (J40-J47)	1 076	2,1
10	Human immunodeficiency virus [HIV] disease (B20-B24)	989	1,9
	Other natural causes	19 473	38,3
	Non-natural causes	3 484	6,8
	All causes	50 905	100,0

	Free State, males, all ages	No.	%
1	Influenza and pneumonia (J10-J18)	3 549	13,7
2	Tuberculosis (A15-A19)*	3 333	12,9
3	Intestinal infectious diseases (A00-A09)	1 807	7,0
4	Other forms of heart disease (I30-I52)	1 086	4,2
5	Certain disorders involving the immune mechanism (D80-D89)	911	3,5
6	Cerebrovascular diseases (I60-I69)	825	3,2
7	Chronic lower respiratory diseases (J40-J47)	675	2,6
8	Human immunodeficiency virus [HIV] disease (B20-B24)	543	2,1
9	Diabetes mellitus (E10-E14)	482	1,9
10	Hypertensive diseases (I10-I15)	436	1,7
	Other natural causes	9 637	37,2
	Non-natural causes	2 613	10,1
	All causes	25 897	100,0

	Free State, females, all ages	No.	%
1	Influenza and pneumonia (J10-J18)	3 493	14,0
2	Tuberculosis (A15-A19)*	2 762	11,1
3	Intestinal infectious diseases (A00-A09)	2 108	8,4
4	Other forms of heart disease (I30-I52)	1 398	5,6
5	Cerebrovascular diseases (I60-I69)	1 084	4,3
6	Certain disorders involving the immune mechanism (D80-D89)	1 080	4,3
7	Diabetes mellitus (E10-E14)	764	3,1
8	Hypertensive diseases (I10-I15)	744	3,0
9	Human immunodeficiency virus [HIV] disease (B20-B24)	446	1,8
10	Chronic lower respiratory diseases (J40-J47)	401	1,6
	Other natural causes	9 814	39,3
	Non-natural causes	870	3,5
	All causes	24 964	100,0

	Free State, both sexes, 0-14	No.	%
1	Influenza and pneumonia (J10-J18)	1 350	20,2
2	Intestinal infectious diseases (A00-A09)	1 333	20,0
3	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	568	8,5
4	Malnutrition (E40-E46)	247	3,7
5	Disorders related to length of gestation and fetal growth (P05-P08)	222	3,3
6	Tuberculosis (A15-A19)*	196	2,9
7	Certain disorders involving the immune mechanism (D80-D89)	157	2,4
8	Other disorders originating in the perinatal period (P90-P96)	129	1,9
9	Other acute lower respiratory infections (J20-J22)	127	1,9
10	Protozoal diseases (B50-B64)	123	1,8
	Other natural causes	1 872	28,0
	Non-natural causes	352	5,3
	All causes	6 676	100,0

	Free State, males, 0-14	No.	%
1	Intestinal infectious diseases (A00-A09)	729	20,5
2	Influenza and pneumonia (J10-J18)	699	19,7
3	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	310	8,7
4	Disorders related to length of gestation and fetal growth (P05-P08)	131	3,7
5	Malnutrition (E40-E46)	112	3,2
6	Tuberculosis (A15-A19)*	104	2,9
7	Certain disorders involving the immune mechanism (D80-D89)	84	2,4
8	Other disorders originating in the perinatal period (P90-P96)	69	1,9
9	Other acute lower respiratory infections (J20-J22)	62	1,7
10	Infections specific to the perinatal period (P35-P39)	59	1,7
	Other natural causes	990	27,9
	Non-natural causes	205	5,8
	All causes	3 554	100,0

	Free State, females, 0-14	No.	%
1	Influenza and pneumonia (J10-J18)	644	20,8
2	Intestinal infectious diseases (A00-A09)	601	19,4
3	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	252	8,1
4	Malnutrition (E40-E46)	135	4,4
5	Tuberculosis (A15-A19)*	91	2,9
5	Disorders related to length of gestation and fetal growth (P05-P08)	91	2,9
7	Protozoal diseases (B50-B64)	73	2,4
7	Certain disorders involving the immune mechanism (D80-D89)	73	2,4
9	Other acute lower respiratory infections (J20-J22)	65	2,1
10	Other disorders originating in the perinatal period (P90-P96)	59	1,9
	Other natural causes	868	28,0
	Non-natural causes	147	4,7
	All causes	3 099	100,0

	Free State, both sexes, 15-49	No.	%
1	Tuberculosis (A15-A19)*	4 679	18,8
2	Influenza and pneumonia (J10-J18)	3 826	15,3
3	Intestinal infectious diseases (A00-A09)	1 829	7,3
4	Certain disorders involving the immune mechanism (D80-D89)	1 545	6,2
5	Human immunodeficiency virus [HIV] disease (B20-B24)	787	3,2
6	Other forms of heart disease (I30-I52)	670	2,7
7	Inflammatory diseases of the central nervous system (G00-G09)	489	2,0
8	Other viral diseases (B25-B34)	393	1,6
9	Aplastic and other anaemias (D60-D64)	386	1,5
10	Mycoses (B35-B49)	358	1,4
	Other natural causes	7 594	30,4
	Non-natural causes	2 384	9,6
	All causes	24 940	100,0

	Free State, males, 15-49	No.	%
1	Tuberculosis (A15-A19)*	2 401	19,4
2	Influenza and pneumonia (J10-J18)	1 797	14,5
3	Intestinal infectious diseases (A00-A09)	722	5,8
4	Certain disorders involving the immune mechanism (D80-D89)	660	5,3
5	Human immunodeficiency virus [HIV] disease (B20-B24)	419	3,4
6	Other forms of heart disease (I30-I52)	290	2,3
7	Inflammatory diseases of the central nervous system (G00-G09)	235	1,9
8	Other viral diseases (B25-B34)	166	1,3
9	Mycoses (B35-B49)	163	1,3
10	Cerebrovascular diseases (I60-I69)	162	1,3
	Other natural causes	3 492	28,2
	Non-natural causes	1 888	15,2
	All causes	12 395	100,0

	Free State, females, 15-49	No.	%
1	Tuberculosis (A15-A19)*	2 277	18,2
2	Influenza and pneumonia (J10-J18)	2 025	16,2
3	Intestinal infectious diseases (A00-A09)	1 107	8,8
4	Certain disorders involving the immune mechanism (D80-D89)	885	7,1
5	Other forms of heart disease (I30-I52)	379	3,0
6	Human immunodeficiency virus [HIV] disease (B20-B24)	368	2,9
7	Aplastic and other anaemias (D60-D64)	276	2,2
8	Inflammatory diseases of the central nervous system (G00-G09)	253	2,0
9	Other viral diseases (B25-B34)	227	1,8
10	Mycoses (B35-B49)	195	1,6
	Other natural causes	4 043	32,3
	Non-natural causes	496	4,0
	All causes	12 531	100,0

	Free State, both sexes, 50-64	No.	%
1	Influenza and pneumonia (J10-J18)	1 055	11,3
2	Tuberculosis (A15-A19)*	988	10,6
3	Other forms of heart disease (I30-I52)	627	6,7
4	Cerebrovascular diseases (I60-I69)	554	5,9
5	Diabetes mellitus (E10-E14)	442	4,7
6	Intestinal infectious diseases (A00-A09)	407	4,4
7	Chronic lower respiratory diseases (J40-J47)	347	3,7
8	Hypertensive diseases (I10-I15)	327	3,5
9	Certain disorders involving the immune mechanism (D80-D89)	253	2,7
10	Malignant neoplasm of digestive organs (C15-C26)	229	2,5
	Other natural causes	3 621	38,8
	Non-natural causes	485	5,2
	All causes	9 335	100,0

	Free State, males, 50-64	No.	%
1	Tuberculosis (A15-A19)*	676	12,3
2	Influenza and pneumonia (J10-J18)	653	11,9
3	Other forms of heart disease (I30-I52)	321	5,8
4	Cerebrovascular diseases (I60-I69)	277	5,0
5	Chronic lower respiratory diseases (J40-J47)	244	4,4
6	Intestinal infectious diseases (A00-A09)	208	3,8
7	Diabetes mellitus (E10-E14)	200	3,6
8	Malignant neoplasm of digestive organs (C15-C26)	158	2,9
9	Hypertensive diseases (I10-I15)	149	2,7
10	Certain disorders involving the immune mechanism (D80-D89)	145	2,6
	Other natural causes	2 109	38,3
	Non-natural causes	368	6,7
	All causes	5 508	100,0

	Free State, females, 50-64	No.	%
1	Influenza and pneumonia (J10-J18)	401	10,5
2	Tuberculosis (A15-A19)*	312	8,2
3	Other forms of heart disease (I30-I52)	306	8,0
4	Cerebrovascular diseases (I60-I69)	277	7,2
5	Diabetes mellitus (E10-E14)	242	6,3
6	Intestinal infectious diseases (A00-A09)	198	5,2
7	Hypertensive diseases (I10-I15)	178	4,7
8	Malignant neoplasm of female genital organs (C51-C58)	113	3,0
9	Certain disorders involving the immune mechanism (D80-D89)	107	2,8
10	Chronic lower respiratory diseases (J40-J47)	103	2,7
	Other natural causes	1 469	38,4
	Non-natural causes	117	3,1
	All causes	3 823	100,0

	Free State, both sexes, 65+	No.	%
1	Other forms of heart disease (I30-I52)	1 130	11,4
2	Cerebrovascular diseases (I60-I69)	1 016	10,2
3	Influenza and pneumonia (J10-J18)	816	8,2
4	Hypertensive diseases (I10-I15)	675	6,8
5	Diabetes mellitus (E10-E14)	615	6,2
6	Chronic lower respiratory diseases (J40-J47)	457	4,6
7	Ischaemic heart diseases (I20-I25)	373	3,8
8	Intestinal infectious diseases (A00-A09)	348	3,5
9	Malignant neoplasm of digestive organs (C15-C26)	269	2,7
10	Tuberculosis (A15-A19)*	231	2,3
	Other natural causes	3 734	37,7
	Non-natural causes	249	2,5
	All causes	9 913	100,0

	Free State, males, 65+	No.	%
1	Other forms of heart disease (I30-I52)	446	10,1
2	Influenza and pneumonia (J10-J18)	394	8,9
3	Cerebrovascular diseases (I60-I69)	382	8,7
4	Chronic lower respiratory diseases (J40-J47)	287	6,5
5	Hypertensive diseases (I10-I15)	207	4,7
6	Diabetes mellitus (E10-E14)	201	4,6
7	Ischaemic heart diseases (I20-I25)	183	4,1
8	Malignant neoplasm of digestive organs (C15-C26)	150	3,4
9	Tuberculosis (A15-A19)*	149	3,4
10	Intestinal infectious diseases (A00-A09)	147	3,3
	Other natural causes	1 722	39,0
	Non-natural causes	143	3,2
	All causes	4 411	100,0

	Free State, females, 65+	No.	%
1	Other forms of heart disease (I30-I52)	683	12,4
2	Cerebrovascular diseases (I60-I69)	634	11,5
3	Hypertensive diseases (I10-I15)	468	8,5
4	Influenza and pneumonia (J10-J18)	422	7,7
5	Diabetes mellitus (E10-E14)	414	7,5
6	Intestinal infectious diseases (A00-A09)	201	3,7
7	Ischaemic heart diseases (I20-I25)	190	3,5
8	Chronic lower respiratory diseases (J40-J47)	170	3,1
9	Malignant neoplasm of digestive organs (C15-C26)	119	2,2
10	Renal failure (N17-N19)	103	1,9
	Other natural causes	1 990	36,2
	Non-natural causes	106	1,9
	All causes	5 500	100,0

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

Appendix J.5: The ten leading underlying natural causes of death by age and sex: KwaZulu-Natal, 2007

	KwaZulu-Natal, both sexes, all ages	No.	%
1	Tuberculosis (A15-A19)*	24 078	17,3
2	Intestinal infectious diseases (A00-A09)	9 870	7,1
3	Influenza and pneumonia (J10-J18)	8 973	6,5
4	Cerebrovascular diseases (I60-I69)	6 455	4,6
5	Other forms of heart disease (I30-I52)	5 083	3,7
6	Diabetes mellitus (E10-E14)	5 075	3,7
7	Human immunodeficiency virus [HIV] disease (B20-B24)	4 475	3,2
8	Other viral diseases (B25-B34)	2 944	2,1
9	Ischaemic heart diseases (I20-I25)	2 774	2,0
10	Other acute lower respiratory infections (J20-J22)	2 700	1,9
	Other natural causes	55 102	39,7
	Non-natural causes	11 362	8,2
	All causes	138 891	100,0

	KwaZulu-Natal, males, all ages	No.	%
1	Tuberculosis (A15-A19)*	12 765	18,5
2	Intestinal infectious diseases (A00-A09)	4 440	6,4
3	Influenza and pneumonia (J10-J18)	4 283	6,2
4	Cerebrovascular diseases (I60-I69)	2 513	3,6
5	Other forms of heart disease (I30-I52)	2 234	3,2
6	Human immunodeficiency virus [HIV] disease (B20-B24)	1 991	2,9
7	Diabetes mellitus (E10-E14)	1 810	2,6
8	Ischaemic heart diseases (I20-I25)	1 603	2,3
9	Other acute lower respiratory infections (J20-J22)	1 465	2,1
10	Chronic lower respiratory diseases (J40-J47)	1 427	2,1
	Other natural causes	25 732	37,4
	Non-natural causes	8 593	12,5
	All causes	68 856	100,0

	KwaZulu-Natal, females, all ages	No.	%
1	Tuberculosis (A15-A19)*	11 285	16,2
2	Intestinal infectious diseases (A00-A09)	5 414	7,8
3	Influenza and pneumonia (J10-J18)	4 674	6,7
4	Cerebrovascular diseases (I60-I69)	3 941	5,6
5	Diabetes mellitus (E10-E14)	3 265	4,7
6	Other forms of heart disease (I30-I52)	2 845	4,1
7	Human immunodeficiency virus [HIV] disease (B20-B24)	2 479	3,6
8	Other viral diseases (B25-B34)	1 706	2,4
9	Hypertensive diseases (I10-I15)	1 587	2,3
10	Inflammatory diseases of the central nervous system (G00-G09)	1 384	2,0
	Other natural causes	28 488	40,8
	Non-natural causes	2 753	3,9
	All causes	69 821	100,0

	KwaZulu-Natal, both sexes, 0-14	No.	%
1	Intestinal infectious diseases (A00-A09)	3 296	20,5
2	Influenza and pneumonia (J10-J18)	1 832	11,4
3	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	1 433	8,9
4	Tuberculosis (A15-A19)*	907	5,7
5	Disorders related to length of gestation and fetal growth (P05-P08)	462	2,9
6	Malnutrition (E40-E46)	370	2,3
7	Infections specific to the perinatal period (P35-P39)	349	2,2
8	Human immunodeficiency virus [HIV] disease (B20-B24)	324	2,0
9	Other acute lower respiratory infections (J20-J22)	307	1,9
10	Inflammatory diseases of the central nervous system (G00-G09)	290	1,8
	Other natural causes	5 262	32,8
	Non-natural causes	1 210	7,5
	All causes	16 042	100,0

	KwaZulu-Natal, males, 0-14	No.	%
1	Intestinal infectious diseases (A00-A09)	1 704	19,9
2	Influenza and pneumonia (J10-J18)	928	10,8
3	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	861	10,0
4	Tuberculosis (A15-A19)*	504	5,9
5	Disorders related to length of gestation and fetal growth (P05-P08)	235	2,7
6	Malnutrition (E40-E46)	190	2,2
7	Infections specific to the perinatal period (P35-P39)	186	2,2
8	Human immunodeficiency virus [HIV] disease (B20-B24)	166	1,9
9	Inflammatory diseases of the central nervous system (G00-G09)	160	1,9
10	Other acute lower respiratory infections (J20-J22)	151	1,8
	Other natural causes	2 767	32,3
	Non-natural causes	723	8,4
	All causes	8 575	100,0

	KwaZulu-Natal, females, 0-14	No.	%
1	Intestinal infectious diseases (A00-A09)	1 581	21,5
2	Undefined	939	12,8
3	Influenza and pneumonia (J10-J18)	894	12,1
4	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	552	7,5
5	Tuberculosis (A15-A19)*	402	5,5
6	Disorders related to length of gestation and fetal growth (P05-P08)	220	3,0
7	Malnutrition (E40-E46)	180	2,4
8	Infections specific to the perinatal period (P35-P39)	160	2,2
9	Human immunodeficiency virus [HIV] disease (B20-B24)	156	2,1
10	Other acute lower respiratory infections (J20-J22)	154	2,1
	Other natural causes	1 642	22,3
	Non-natural causes	483	6,6
	All causes	7 363	100,0

	KwaZulu-Natal, both sexes, 15-49	No.	%
1	Tuberculosis (A15-A19)*	18 794	26,3
2	Influenza and pneumonia (J10-J18)	4 847	6,8
3	Intestinal infectious diseases (A00-A09)	4 773	6,7
4	Human immunodeficiency virus [HIV] disease (B20-B24)	3 676	5,1
5	Other viral diseases (B25-B34)	2 326	3,3
6	Inflammatory diseases of the central nervous system (G00-G09)	2 100	2,9
7	Certain disorders involving the immune mechanism (D80-D89)	1 856	2,6
8	Other acute lower respiratory infections (J20-J22)	1 668	2,3
9	Other forms of heart disease (I30-I52)	1 155	1,6
10	Cerebrovascular diseases (I60-I69)	1 076	1,5
	Other natural causes	21 214	29,7
	Non-natural causes	7 990	11,2
	All causes	71 475	100,0

	KwaZulu-Natal, males, 15-49	No.	%
1	Tuberculosis (A15-A19)*	9 463	26,3
2	Influenza and pneumonia (J10-J18)	2 178	6,1
3	Intestinal infectious diseases (A00-A09)	1 982	5,5
4	Human immunodeficiency virus [HIV] disease (B20-B24)	1 584	4,4
5	Inflammatory diseases of the central nervous system (G00-G09)	963	2,7
6	Other viral diseases (B25-B34)	941	2,6
7	Other acute lower respiratory infections (J20-J22)	892	2,5
8	Certain disorders involving the immune mechanism (D80-D89)	777	2,2
9	Other forms of heart disease (I30-I52)	538	1,5
10	Cerebrovascular diseases (I60-I69)	501	1,4
	Other natural causes	9 617	26,7
	Non-natural causes	6 548	18,2
	All causes	35 984	100,0

	KwaZulu-Natal, females, 15-49	No.	%
1	Tuberculosis (A15-A19)*	9 315	26,3
2	Intestinal infectious diseases (A00-A09)	2 789	7,9
3	Influenza and pneumonia (J10-J18)	2 665	7,5
4	Human immunodeficiency virus [HIV] disease (B20-B24)	2 092	5,9
5	Other viral diseases (B25-B34)	1 383	3,9
6	Inflammatory diseases of the central nervous system (G00-G09)	1 134	3,2
7	Certain disorders involving the immune mechanism (D80-D89)	1 077	3,0
8	Other acute lower respiratory infections (J20-J22)	776	2,2
9	Other forms of heart disease (I30-I52)	615	1,7
10	Protozoal diseases (B50-B64)	614	1,7
	Other natural causes	11 540	32,6
	Non-natural causes	1 437	4,1
	All causes	35 437	100,0

	KwaZulu-Natal, both sexes, 50-64	No.	%
1	Tuberculosis (A15-A19)*	3 163	14,2
2	Diabetes mellitus (E10-E14)	1 678	7,6
3	Cerebrovascular diseases (I60-I69)	1 572	7,1
4	Other forms of heart disease (I30-I52)	1 164	5,2
5	Influenza and pneumonia (J10-J18)	1 077	4,8
6	Intestinal infectious diseases (A00-A09)	967	4,4
7	Ischaemic heart diseases (I20-I25)	893	4,0
8	Chronic lower respiratory diseases (J40-J47)	699	3,1
9	Hypertensive diseases (I10-I15)	693	3,1
10	Malignant neoplasm of digestive organs (C15-C26)	517	2,3
	Other natural causes	8 607	38,7
	Non-natural causes	1 191	5,4
	All causes	22 221	100,0

	KwaZulu-Natal, males, 50-64	No.	%
1	Tuberculosis (A15-A19)*	2 102	16,4
2	Cerebrovascular diseases (I60-I69)	830	6,5
3	Diabetes mellitus (E10-E14)	702	5,5
4	Other forms of heart disease (I30-I52)	672	5,2
5	Influenza and pneumonia (J10-J18)	638	5,0
6	Ischaemic heart diseases (I20-I25)	604	4,7
7	Chronic lower respiratory diseases (J40-J47)	489	3,8
8	Intestinal infectious diseases (A00-A09)	486	3,8
9	Malignant neoplasm of digestive organs (C15-C26)	340	2,6
10	Hypertensive diseases (I10-I15)	315	2,5
	Other natural causes	4 808	37,4
	Non-natural causes	862	6,7
	All causes	12 848	100,0

	KwaZulu-Natal, females, 50-64	No.	%
1	Tuberculosis (A15-A19)*	1 060	11,3
2	Diabetes mellitus (E10-E14)	976	10,4
3	Cerebrovascular diseases (I60-I69)	742	7,9
4	Other forms of heart disease (I30-I52)	492	5,3
5	Intestinal infectious diseases (A00-A09)	481	5,1
6	Influenza and pneumonia (J10-J18)	438	4,7
7	Hypertensive diseases (I10-I15)	378	4,0
8	Ischaemic heart diseases (I20-I25)	289	3,1
9	Malignant neoplasm of female genital organs (C51-C58)	234	2,5
10	Chronic lower respiratory diseases (J40-J47)	209	2,2
	Other natural causes	3 737	39,9
	Non-natural causes	328	3,5
	All causes	9 364	100,0

	KwaZulu-Natal, both sexes, 65+	No.	%
1	Cerebrovascular diseases (I60-I69)	3 765	13,1
2	Diabetes mellitus (E10-E14)	2 670	9,3
3	Other forms of heart disease (I30-I52)	2 634	9,2
4	Ischaemic heart diseases (I20-I25)	1 480	5,2
5	Hypertensive diseases (I10-I15)	1 398	4,9
6	Influenza and pneumonia (J10-J18)	1 200	4,2
7	Tuberculosis (A15-A19)*	1 131	3,9
8	Chronic lower respiratory diseases (J40-J47)	1 007	3,5
9	Intestinal infectious diseases (A00-A09)	808	2,8
10	Malignant neoplasm of digestive organs (C15-C26)	700	2,4
	Other natural causes	11 063	38,5
	Non-natural causes	874	3,0
	All causes	28 730	100,0

	KwaZulu-Natal, males, 65+	No.	%
1	Cerebrovascular diseases (I60-I69)	1 163	10,4
2	Other forms of heart disease (I30-I52)	967	8,6
3	Diabetes mellitus (E10-E14)	782	7,0
4	Ischaemic heart diseases (I20-I25)	723	6,5
5	Tuberculosis (A15-A19)*	655	5,8
6	Chronic lower respiratory diseases (J40-J47)	569	5,1
7	Influenza and pneumonia (J10-J18)	528	4,7
8	Hypertensive diseases (I10-I15)	373	3,3
9	Malignant neoplasm of digestive organs (C15-C26)	353	3,1
10	Renal failure (N17-N19)	262	2,3
	Other natural causes	4 451	39,7
	Non-natural causes	383	3,4
	All causes	11 209	100,0

	KwaZulu-Natal, females, 65+	No.	%
1	Cerebrovascular diseases (I60-I69)	2 602	14,9
2	Diabetes mellitus (E10-E14)	1 888	10,8
3	Other forms of heart disease (I30-I52)	1 667	9,5
4	Hypertensive diseases (I10-I15)	1 025	5,9
5	Ischaemic heart diseases (I20-I25)	757	4,3
6	Influenza and pneumonia (J10-J18)	672	3,8
7	Intestinal infectious diseases (A00-A09)	552	3,2
8	Tuberculosis (A15-A19)*	471	2,7
9	Chronic lower respiratory diseases (J40-J47)	438	2,5
10	Malignant neoplasm of digestive organs (C15-C26)	347	2,0
	Other natural causes	6 604	37,7
	Non-natural causes	491	2,8
	All causes	17 514	100,0

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

Appendix J.6: The ten leading underlying natural causes of death by age and sex: North West, 2007

	North West, both sexes, all ages	No.	%
1	Tuberculosis (A15-A19)*	5 642	12,5
2	Influenza and pneumonia (J10-J18)	4 765	10,6
3	Intestinal infectious diseases (A00-A09)	2 983	6,6
4	Other forms of heart disease (I30-I52)	2 452	5,4
5	Cerebrovascular diseases (I60-I69)	1 694	3,8
6	Certain disorders involving the immune mechanism (D80-D89)	1 381	3,1
7	Hypertensive diseases (I10-I15)	1 346	3,0
8	Chronic lower respiratory diseases (J40-J47)	1 092	2,4
9	Diabetes mellitus (E10-E14)	1 062	2,4
10	Other viral diseases (B25-B34)	896	2,0
	Other natural causes	18 379	40,7
	Non-natural causes	3 434	7,6
	All causes	45 126	100,0
	North West, both sexes, 0-14	**No.**	**%**
1	Intestinal infectious diseases (A00-A09)	1 481	21,1
2	Influenza and pneumonia (J10-J18)	1 195	17,0
3	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	632	9,0
4	Malnutrition (E40-E46)	274	3,9
5	Tuberculosis (A15-A19)*	236	3,4
6	Disorders related to length of gestation and fetal growth (P05-P08)	207	2,9
7	Certain disorders involving the immune mechanism (D80-D89)	150	2,1
8	Infections specific to the perinatal period (P35-P39)	145	2,1
9	Other acute lower respiratory infections (J20-J22)	138	2,0
10	Other disorders originating in the perinatal period (P90-P96)	132	1,9
	Other natural causes	2 082	29,7
	Non-natural causes	347	4,9
	All causes	7 019	100,0
	North West, both sexes, 15-49	**No.**	**%**
1	Tuberculosis (A15-A19)*	4 085	20,2
2	Influenza and pneumonia (J10-J18)	2 412	11,9
3	Certain disorders involving the immune mechanism (D80-D89)	1 020	5,0
4	Intestinal infectious diseases (A00-A09)	1 001	4,9
5	Other viral diseases (B25-B34)	700	3,5
6	Other forms of heart disease (I30-I52)	629	3,1
7	Human immunodeficiency virus [HIV] disease (B20-B24)	603	3,0
8	Inflammatory diseases of the central nervous system (G00-G09)	399	2,0
9	Other diseases of the respiratory system (J95-J99)	309	1,5
10	Cerebrovascular diseases (I60-I69)	285	1,4
	Other natural causes	6 403	31,6
	Non-natural causes	2 409	11,9
	All causes	20 255	100,0
	North West, both sexes, 50-64	**No.**	**%**
1	Tuberculosis (A15-A19)*	1 019	13,2
2	Influenza and pneumonia (J10-J18)	590	7,6
3	Other forms of heart disease (I30-I52)	582	7,5
4	Cerebrovascular diseases (I60-I69)	439	5,7
5	Chronic lower respiratory diseases (J40-J47)	351	4,5
6	Diabetes mellitus (E10-E14)	348	4,5
7	Hypertensive diseases (I10-I15)	342	4,4
8	Intestinal infectious diseases (A00-A09)	264	3,4
9	Certain disorders involving the immune mechanism (D80-D89)	189	2,4
10	Ischaemic heart diseases (I20-I25)	168	2,2
	Other natural causes	3 031	39,3
	Non-natural causes	395	5,1
	All causes	7 718	100,0
	North West, both sexes, 65+	**No.**	**%**
1	Other forms of heart disease (I30-I52)	1 187	11,8
2	Cerebrovascular diseases (I60-I69)	964	9,6
3	Hypertensive diseases (I10-I15)	858	8,5
4	Influenza and pneumonia (J10-J18)	563	5,6
5	Diabetes mellitus (E10-E14)	543	5,4
6	Chronic lower respiratory diseases (J40-J47)	471	4,7
7	Ischaemic heart diseases (I20-I25)	300	3,0
8	Tuberculosis (A15-A19)	294	2,9
9	Intestinal infectious diseases (A00-A09)	236	2,3
10	Malignant neoplasm of digestive organs (C15-C26)	191	1,9
	Other natural causes	4 194	41,7
	Non-natural causes	251	2,5
	All causes	10 052	100,0

	North West, males, all ages	No.	%
1	Tuberculosis (A15-A19)*	3 169	13,5
2	Influenza and pneumonia (J10-J18)	2 355	10,1
3	Intestinal infectious diseases (A00-A09)	1 408	6,0
4	Other forms of heart disease (I30-I52)	1 139	4,9
5	Cerebrovascular diseases (I60-I69)	836	3,6
6	Certain disorders involving the immune mechanism (D80-D89)	708	3,0
7	Chronic lower respiratory diseases (J40-J47)	673	2,9
8	Hypertensive diseases (I10-I15)	510	2,2
9	Diabetes mellitus (E10-E14)	412	1,8
10	Other viral diseases (B25-B34)	370	1,6
	Other natural causes	9 152	39,1
	Non-natural causes	2 666	11,4
	All causes	23 398	100,0
	North West, males, 0-14	**No.**	**%**
1	Intestinal infectious diseases (A00-A09)	790	21,7
2	Influenza and pneumonia (J10-J18)	592	16,2
3	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	362	9,9
4	Malnutrition (E40-E46)	136	3,7
5	Tuberculosis (A15-A19)*	122	3,3
6	Disorders related to length of gestation and fetal growth (P05-P08)	110	3,0
7	Certain disorders involving the immune mechanism (D80-D89)	80	2,2
8	Other disorders originating in the perinatal period (P90-P96)	72	2,0
9	Infections specific to the perinatal period (P35-P39)	68	1,9
10	Other acute lower respiratory infections (J20-J22)	64	1,8
	Other natural causes	1 050	28,8
	Non-natural causes	200	5,5
	All causes	3 646	100,0
	North West, males, 15-49	**No.**	**%**
1	Tuberculosis (A15-A19)*	2 149	20,8
2	Influenza and pneumonia (J10-J18)	1 096	10,6
3	Certain disorders involving the immune mechanism (D80-D89)	491	4,8
4	Intestinal infectious diseases (A00-A09)	373	3,6
5	Other forms of heart disease (I30-I52)	288	2,8
6	Other viral diseases (B25-B34)	273	2,6
7	Human immunodeficiency virus [HIV] disease (B20-B24)	251	2,4
8	Inflammatory diseases of the central nervous system (G00-G09)	189	1,8
9	Cerebrovascular diseases (I60-I69)	150	1,5
10	Other diseases of the respiratory system (J95-J99)	145	1,4
	Other natural causes	2 935	28,4
	Non-natural causes	1 988	19,2
	All causes	10 328	100,0
	North West, males, 50-64	**No.**	**%**
1	Tuberculosis (A15-A19)*	682	14,8
2	Influenza and pneumonia (J10-J18)	373	8,1
3	Other forms of heart disease (I30-I52)	317	6,9
4	Cerebrovascular diseases (I60-I69)	238	5,2
5	Chronic lower respiratory diseases (J40-J47)	234	5,1
6	Hypertensive diseases (I10-I15)	156	3,4
7	Diabetes mellitus (E10-E14)	149	3,2
8	Intestinal infectious diseases (A00-A09)	142	3,1
9	Ischaemic heart diseases (I20-I25)	127	2,8
10	Certain disorders involving the immune mechanism (D80-D89)	126	2,7
	Other natural causes	1 767	38,3
	Non-natural causes	300	6,5
	All causes	4 611	100,0
	North West, males, 65+	**No.**	**%**
1	Other forms of heart disease (I30-I52)	507	10,7
2	Cerebrovascular diseases (I60-I69)	443	9,3
3	Chronic lower respiratory diseases (J40-J47)	307	6,5
4	Influenza and pneumonia (J10-J18)	291	6,1
5	Hypertensive diseases (I10-I15)	290	6,1
6	Tuberculosis (A15-A19)*	212	4,5
7	Diabetes mellitus (E10-E14)	185	3,9
8	Ischaemic heart diseases (I20-I25)	161	3,4
9	Malignant neoplasm of male genital organs (C60-C63)	131	2,8
10	Malignant neoplasm of digestive organs (C15-C26)	111	2,3
	Other natural causes	1 965	41,3
	Non-natural causes	153	3,2
	All causes	4 756	100,0

	North West, females, all ages	No.	%
1	Tuberculosis (A15-A19)*	2 465	11,4
2	Influenza and pneumonia (J10-J18)	2 395	11,1
3	Intestinal infectious diseases (A00-A09)	1 570	7,3
4	Other forms of heart disease (I30-I52)	1 311	6,1
5	Cerebrovascular diseases (I60-I69)	858	4,0
6	Hypertensive diseases (I10-I15)	835	3,9
7	Certain disorders involving the immune mechanism (D80-D89)	672	3,1
8	Diabetes mellitus (E10-E14)	650	3,0
9	Other viral diseases (B25-B34)	524	2,4
10	Chronic lower respiratory diseases (J40-J47)	419	1,9
	Other natural causes	9 189	42,4
	Non-natural causes	761	3,5
	All causes	21 649	100,0
	North West, females, 0-14	**No.**	**%**
1	Intestinal infectious diseases (A00-A09)	688	20,7
2	Influenza and pneumonia (J10-J18)	596	17,9
3	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	259	7,8
4	Malnutrition (E40-E46)	136	4,1
5	Tuberculosis (A15-A19)*	112	3,4
6	Disorders related to length of gestation and fetal growth (P05-P08)	95	2,9
7	Infections specific to the perinatal period (P35-P39)	76	2,3
8	Other acute lower respiratory infections (J20-J22)	73	2,2
9	Certain disorders involving the immune mechanism (D80-D89)	69	2,1
10	Metabolic disorders (E70-E90)	59	1,8
	Other natural causes	1 021	30,7
	Non-natural causes	146	4,4
	All causes	3 330	100,0
	North West, females, 15-49	**No.**	**%**
1	Tuberculosis (A15-A19)*	1 930	19,5
2	Influenza and pneumonia (J10-J18)	1 310	13,2
3	Intestinal infectious diseases (A00-A09)	626	6,3
4	Certain disorders involving the immune mechanism (D80-D89)	529	5,3
5	Other viral diseases (B25-B34)	425	4,3
6	Human immunodeficiency virus [HIV] disease (B20-B24)	351	3,5
7	Other forms of heart disease (I30-I52)	340	3,4
8	Inflammatory diseases of the central nervous system (G00-G09)	209	2,1
9	Other diseases of the respiratory system (J95-J99)	163	1,6
10	Other acute lower respiratory infections (J20-J22)	139	1,4
	Other natural causes	3 458	34,9
	Non-natural causes	419	4,2
	All causes	9 899	100,0
	North West, females, 50-64	**No.**	**%**
1	Tuberculosis (A15-A19)*	337	10,8
2	Other forms of heart disease (I30-I52)	264	8,5
3	Influenza and pneumonia (J10-J18)	217	7,0
4	Cerebrovascular diseases (I60-I69)	201	6,5
5	Diabetes mellitus (E10-E14)	199	6,4
6	Hypertensive diseases (I10-I15)	186	6,0
7	Intestinal infectious diseases (A00-A09)	122	3,9
8	Chronic lower respiratory diseases (J40-J47)	117	3,8
9	Malignant neoplasm of female genital organs (C51-C58)	90	2,9
10	Certain disorders involving the immune mechanism (D80-D89)	63	2,0
	Other natural causes	1 215	39,1
	Non-natural causes	95	3,1
	All causes	3 106	100,0
	North West, females, 65+	**No.**	**%**
1	Other forms of heart disease (I30-I52)	680	12,8
2	Hypertensive diseases (I10-I15)	568	10,7
3	Cerebrovascular diseases (I60-I69)	521	9,8
4	Diabetes mellitus (E10-E14)	358	6,8
5	Influenza and pneumonia (J10-J18)	271	5,1
6	Chronic lower respiratory diseases (J40-J47)	164	3,1
7	Ischaemic heart diseases (I20-I25)	139	2,6
8	Intestinal infectious diseases (A00-A09)	133	2,5
9	Malignant neoplasm of female genital organs (C51-C58)	83	1,6
10	Tuberculosis (A15-A19)	82	1,5
	Other natural causes	2 197	41,5
	Non-natural causes	97	1,8
	All causes	5 293	100,0

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

Appendix J.7: The ten leading underlying natural causes of death by age and sex: Gauteng, 2007

	Gauteng, both sexes, all ages	No.	%
1	Tuberculosis (A15-A19)*	10 928	9,5
2	Influenza and pneumonia (J10-J18)	10 727	9,3
3	Other forms of heart disease (I30-I52)	5 758	5,0
4	Intestinal infectious diseases (A00-A09)	5 710	5,0
5	Cerebrovascular diseases (I60-I69)	4 184	3,6
6	Diabetes mellitus (E10-E14)	3 739	3,2
7	Certain disorders involving the immune mechanism (D80-D89)	3 046	2,6
8	Ischaemic heart diseases (I20-I25)	2 772	2,4
9	Human immunodeficiency virus [HIV] disease (B20-B24)	2 596	2,3
10	Hypertensive diseases (I10-I15)	2 425	2,1
	Other natural causes	51 360	44,6
	Non-natural causes	11 891	10,3
	All causes	115 136	100,0

	Gauteng, males, all ages	No.	%
1	Tuberculosis (A15-A19)*	6 074	10,0
2	Influenza and pneumonia (J10-J18)	5 366	8,8
3	Intestinal infectious diseases (A00-A09)	2 784	4,6
4	Other forms of heart disease (I30-I52)	2 669	4,4
5	Cerebrovascular diseases (I60-I69)	1 869	3,1
6	Ischaemic heart diseases (I20-I25)	1 696	2,8
7	Certain disorders involving the immune mechanism (D80-D89)	1 588	2,6
8	Diabetes mellitus (E10-E14)	1 586	2,6
9	Chronic lower respiratory diseases (J40-J47)	1 327	2,2
10	Malignant neoplasm of digestive organs (C15-C26)	1 202	2,0
	Other natural causes	25 427	41,9
	Non-natural causes	9 162	15,1
	All causes	60 750	100,0

	Gauteng, females, all ages	No.	%
1	Influenza and pneumonia (J10-J18)	5 334	9,9
2	Tuberculosis (A15-A19)*	4 830	8,9
3	Other forms of heart disease (I30-I52)	3 079	5,7
4	Intestinal infectious diseases (A00-A09)	2 895	5,3
5	Cerebrovascular diseases (I60-I69)	2 314	4,3
6	Diabetes mellitus (E10-E14)	2 153	4,0
7	Hypertensive diseases (I10-I15)	1 471	2,7
8	Certain disorders involving the immune mechanism (D80-D89)	1 454	2,7
9	Human immunodeficiency virus [HIV] disease (B20-B24)	1 425	2,6
10	Ischaemic heart diseases (I20-I25)	1 075	2,0
	Other natural causes	25 384	46,9
	Non-natural causes	2 708	5,0
	All causes	54 122	100,0

	Gauteng, both sexes, 0-14	No.	%
1	Intestinal infectious diseases (A00-A09)	2 410	16,1
2	Influenza and pneumonia (J10-J18)	1 835	12,3
3	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	1 680	11,2
4	Infections specific to the perinatal period (P35-P39)	467	3,1
5	Other disorders originating in the perinatal period (P90-P96)	425	2,8
6	Malnutrition (E40-E46)	320	2,1
7	Other viral diseases (B25-B34)	310	2,1
8	Tuberculosis (A15-A19)*	298	2,0
9	Protozoal diseases (B50-B64)	277	1,9
9	Certain disorders involving the immune mechanism (D80-D89)	277	1,9
	Other natural causes	5 641	37,7
	Non-natural causes	1 023	6,8
	All causes	14 963	100,0

	Gauteng, males, 0-14	No.	%
1	Intestinal infectious diseases (A00-A09)	1 272	15,9
2	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	922	11,5
3	Influenza and pneumonia (J10-J18)	894	11,2
4	Infections specific to the perinatal period (P35-P39)	256	3,2
5	Other disorders originating in the perinatal period (P90-P96)	237	3,0
6	Other viral diseases (B25-B34)	168	2,1
7	Malnutrition (E40-E46)	159	2,0
8	Tuberculosis (A15-A19)*	150	1,9
9	Certain disorders involving the immune mechanism (D80-D89)	146	1,8
10	Disorders related to length of gestation and fetal growth (P05-P08)	143	1,8
	Other natural causes	3 042	38,1
	Non-natural causes	604	7,6
	All causes	7 993	100,0

	Gauteng, females, 0-14	No.	%
1	Intestinal infectious diseases (A00-A09)	1 119	16,3
2	Influenza and pneumonia (J10-J18)	931	13,6
3	Respiratory and cardiovascular disorders specific to the perinatal period	730	10,7
4	Infections specific to the perinatal period (P35-P39)	208	3,0
5	Other disorders originating in the perinatal period (P90-P96)	183	2,7
6	Malnutrition (E40-E46)	157	2,3
7	Protozoal diseases (B50-B64)	153	2,2
8	Tuberculosis (A15-A19)*	148	2,2
9	Other viral diseases (B25-B34)	140	2,0
10	Certain disorders involving the immune mechanism (D80-D89)	131	1,9
	Other natural causes	2 540	37,1
	Non-natural causes	413	6,0
	All causes	6 853	100,0

	Gauteng, both sexes, 15-49	No.	%
1	Tuberculosis (A15-A19)*	8 376	16,1
2	Influenza and pneumonia (J10-J18)	5 843	11,2
3	Certain disorders involving the immune mechanism (D80-D89)	2 340	4,5
4	Intestinal infectious diseases (A00-A09)	2 268	4,3
5	Human immunodeficiency virus [HIV] disease (B20-B24)	2 107	4,0
6	Other forms of heart disease (I30-I52)	1 655	3,2
7	Inflammatory diseases of the central nervous system (G00-G09)	1 549	3,0
8	Other viral diseases (B25-B34)	1 126	2,2
9	Cerebrovascular diseases (I60-I69)	802	1,5
10	Renal failure (N17-N19)	626	1,2
	Other natural causes	16 798	32,2
	Non-natural causes	8 670	16,6
	All causes	52 160	100,0

	Gauteng, males, 15-49	No.	%
1	Tuberculosis (A15-A19)*	4 448	15,6
2	Influenza and pneumonia (J10-J18)	2 866	10,0
3	Certain disorders involving the immune mechanism (D80-D89)	1 196	4,2
4	Intestinal infectious diseases (A00-A09)	1 023	3,6
5	Human immunodeficiency virus [HIV] disease (B20-B24)	898	3,1
6	Other forms of heart disease (I30-I52)	828	2,9
7	Inflammatory diseases of the central nervous system (G00-G09)	727	2,5
8	Other viral diseases (B25-B34)	515	1,8
9	Cerebrovascular diseases (I60-I69)	408	1,4
10	Renal failure (N17-N19)	363	1,3
	Other natural causes	8 196	28,7
	Non-natural causes	7 074	24,8
	All causes	28 542	100,0

	Gauteng, females, 15-49	No.	%
1	Tuberculosis (A15-A19)*	3 909	16,6
2	Influenza and pneumonia (J10-J18)	2 970	12,6
3	Intestinal infectious diseases (A00-A09)	1 237	5,3
4	Human immunodeficiency virus [HIV] disease (B20-B24)	1 205	5,1
5	Certain disorders involving the immune mechanism (D80-D89)	1 142	4,9
6	Other forms of heart disease (I30-I52)	820	3,5
7	Inflammatory diseases of the central nervous system (G00-G09)	819	3,5
8	Other viral diseases (B25-B34)	608	2,6
9	Cerebrovascular diseases (I60-I69)	394	1,7
10	Protozoal diseases (B50-B64)	343	1,5
	Other natural causes	8 491	36,1
	Non-natural causes	1 590	6,8
	All causes	23 528	100,0

	Gauteng, both sexes, 50-64	No.	%
1	Tuberculosis (A15-A19)*	1 777	8,6
2	Influenza and pneumonia (J10-J18)	1 469	7,1
3	Other forms of heart disease (I30-I52)	1 337	6,5
4	Diabetes mellitus (E10-E14)	1 194	5,8
5	Cerebrovascular diseases (I60-I69)	1 159	5,6
6	Ischaemic heart diseases (I20-I25)	762	3,7
7	Malignant neoplasm of digestive organs (C15-C26)	688	3,3
8	Chronic lower respiratory diseases (J40-J47)	681	3,3
9	Hypertensive diseases (I10-I15)	644	3,1
10	Intestinal infectious diseases (A00-A09)	541	2,6
	Other natural causes	9 134	44,2
	Non-natural causes	1 291	6,2
	All causes	20 677	100,0

	Gauteng, males, 50-64	No.	%
1	Tuberculosis (A15-A19)*	1 162	9,6
2	Influenza and pneumonia (J10-J18)	907	7,5
3	Other forms of heart disease (I30-I52)	737	6,1
4	Cerebrovascular diseases (I60-I69)	626	5,2
5	Ischaemic heart diseases (I20-I25)	570	4,7
6	Diabetes mellitus (E10-E14)	567	4,7
7	Malignant neoplasm of digestive organs (C15-C26)	440	3,6
8	Chronic lower respiratory diseases (J40-J47)	437	3,6
9	Hypertensive diseases (I10-I15)	307	2,5
10	Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	285	2,4
	Other natural causes	5 074	42,0
	Non-natural causes	981	8,1
	All causes	12 093	100,0

	Gauteng, females, 50-64	No.	%
1	Diabetes mellitus (E10-E14)	627	7,3
2	Tuberculosis (A15-A19)*	613	7,2
3	Other forms of heart disease (I30-I52)	598	7,0
4	Influenza and pneumonia (J10-J18)	559	6,5
5	Cerebrovascular diseases (I60-I69)	533	6,2
6	Hypertensive diseases (I10-I15)	337	3,9
7	Malignant neoplasm of female genital organs (C51-C58)	281	3,3
8	Intestinal infectious diseases (A00-A09)	256	3,0
9	Malignant neoplasm of digestive organs (C15-C26)	248	2,9
10	Chronic lower respiratory diseases (J40-J47)	243	2,8
	Other natural causes	3 964	46,3
	Non-natural causes	310	3,6
	All causes	8 569	100,0

	Gauteng, both sexes, 65+	No.	%
1	Other forms of heart disease (I30-I52)	2 582	9,5
2	Cerebrovascular diseases (I60-I69)	2 191	8,1
3	Diabetes mellitus (E10-E14)	1 936	7,2
4	Ischaemic heart diseases (I20-I25)	1 669	6,2
5	Influenza and pneumonia (J10-J18)	1 552	5,7
6	Hypertensive diseases (I10-I15)	1 367	5,1
7	Chronic lower respiratory diseases (J40-J47)	1 203	4,4
8	Malignant neoplasm of digestive organs (C15-C26)	1 001	3,7
9	Renal failure (N17-N19)	647	2,4
10	Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	491	1,8
	Other natural causes	11 575	42,8
	Non-natural causes	844	3,1
	All causes	27 058	100,0

	Gauteng, males, 65+	No.	%
1	Other forms of heart disease (I30-I52)	1 004	8,4
2	Ischaemic heart diseases (I20-I25)	879	7,4
3	Cerebrovascular diseases (I60-I69)	815	6,8
4	Diabetes mellitus (E10-E14)	730	6,1
5	Influenza and pneumonia (J10-J18)	688	5,8
6	Chronic lower respiratory diseases (J40-J47)	675	5,7
7	Malignant neoplasm of digestive organs (C15-C26)	558	4,7
8	Malignant neoplasm of male genital organs (C60-C63)	457	3,8
9	Hypertensive diseases (I10-I15)	441	3,7
10	Renal failure (N17-N19)	325	2,7
	Other natural causes	4 913	41,2
	Non-natural causes	453	3,8
	All causes	11 938	100,0

	Gauteng, females, 65+	No.	%
1	Other forms of heart disease (I30-I52)	1 578	10,4
2	Cerebrovascular diseases (I60-I69)	1 376	9,1
3	Diabetes mellitus (E10-E14)	1 206	8,0
4	Hypertensive diseases (I10-I15)	926	6,1
5	Influenza and pneumonia (J10-J18)	863	5,7
6	Ischaemic heart diseases (I20-I25)	790	5,2
7	Chronic lower respiratory diseases (J40-J47)	528	3,5
8	Malignant neoplasm of digestive organs (C15-C26)	442	2,9
9	Renal failure (N17-N19)	322	2,1
10	Malignant neoplasm of breast (C50)	308	2,0
	Other natural causes	6 382	42,2
	Non-natural causes	391	2,6
	All causes	15 112	100,0

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

Appendix J.8: The ten leading underlying natural causes of death by age and sex: Mpumalanga, 2007

	Mpumalanga, both sexes, all ages	No.	%
1	Tuberculosis (A15-A19)*	6 806	14,1
2	Influenza and pneumonia (J10-J18)	5 230	10,9
3	Intestinal infectious diseases (A00-A09)	4 779	9,9
4	Cerebrovascular diseases (I60-I69)	2 278	4,7
5	Certain disorders involving the immune mechanism (D80-D89)	1 985	4,1
6	Other forms of heart disease (I30-I52)	1 946	4,0
7	Diabetes mellitus (E10-E14)	1 414	2,9
8	Hypertensive diseases (I10-I15)	1 128	2,3
9	Chronic lower respiratory diseases (J40-J47)	981	2,0
10	Human immunodeficiency virus [HIV] disease (B20-B24)	943	2,0
	Other natural causes	16 767	34,9
	Non-natural causes	3 853	8,0
	All causes	48 110	100,0

	Mpumalanga, males, all ages	No.	%
1	Tuberculosis (A15-A19)*	3 648	15,0
2	Influenza and pneumonia (J10-J18)	2 533	10,4
3	Intestinal infectious diseases (A00-A09)	2 156	8,9
4	Cerebrovascular diseases (I60-I69)	1 013	4,2
5	Certain disorders involving the immune mechanism (D80-D89)	991	4,1
6	Other forms of heart disease (I30-I52)	895	3,7
7	Diabetes mellitus (E10-E14)	550	2,3
8	Chronic lower respiratory diseases (J40-J47)	532	2,2
9	Other acute lower respiratory infections (J20-J22)	447	1,8
10	Hypertensive diseases (I10-I15)	430	1,8
	Other natural causes	8 179	33,7
	Non-natural causes	2 929	12,1
	All causes	24 303	100,0

	Mpumalanga, females, all ages	No.	%
1	Tuberculosis (A15-A19)*	3 153	13,3
2	Influenza and pneumonia (J10-J18)	2 686	11,3
3	Intestinal infectious diseases (A00-A09)	2 613	11,0
4	Cerebrovascular diseases (I60-I69)	1 265	5,3
5	Other forms of heart disease (I30-I52)	1 051	4,4
6	Certain disorders involving the immune mechanism (D80-D89)	992	4,2
7	Diabetes mellitus (E10-E14)	864	3,6
8	Hypertensive diseases (I10-I15)	697	2,9
9	Human immunodeficiency virus [HIV] disease (B20-B24)	562	2,4
10	Inflammatory diseases of the central nervous system (G00-G09)	513	2,2
	Other natural causes	8 410	35,5
	Non-natural causes	913	3,8
	All causes	23 719	100,0

	Mpumalanga, both sexes, 0-14	No.	%
1	Intestinal infectious diseases (A00-A09)	1 635	25,7
2	Influenza and pneumonia (J10-J18)	1 025	16,1
3	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	454	7,1
4	Tuberculosis (A15-A19)*	249	3,9
5	Other acute lower respiratory infections (J20-J22)	202	3,2
6	Disorders related to length of gestation and fetal growth (P05-P08)	188	3,0
7	Malnutrition (E40-E46)	161	2,5
8	Certain disorders involving the immune mechanism (D80-D89)	151	2,4
9	Protozoal diseases (B50-B64)	127	2,0
10	Inflammatory diseases of the central nervous system (G00-G09)	118	1,9
	Other natural causes	1 641	25,8
	Non-natural causes	414	6,5
	All causes	6 365	100,0

	Mpumalanga, males, 0-14	No.	%
1	Intestinal infectious diseases (A00-A09)	879	26,5
2	Influenza and pneumonia (J10-J18)	478	14,4
3	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	246	7,4
4	Tuberculosis (A15-A19)*	121	3,6
5	Disorders related to length of gestation and fetal growth (P05-P08)	113	3,4
6	Malnutrition (E40-E46)	89	2,7
7	Other acute lower respiratory infections (J20-J22)	84	2,5
8	Certain disorders involving the immune mechanism (D80-D89)	78	2,3
9	Inflammatory diseases of the central nervous system (G00-G09)	67	2,0
10	Protozoal diseases (B50-B64)	60	1,8
	Other natural causes	861	25,9
	Non-natural causes	244	7,3
	All causes	3 320	100,0

	Mpumalanga, females, 0-14	No.	%
1	Intestinal infectious diseases (A00-A09)	751	25,0
2	Influenza and pneumonia (J10-J18)	543	18,1
3	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	200	6,7
4	Tuberculosis (A15-A19)*	128	4,3
5	Other acute lower respiratory infections (J20-J22)	116	3,9
6	Certain disorders involving the immune mechanism (D80-D89)	73	2,4
7	Malnutrition (E40-E46)	72	2,4
7	Disorders related to length of gestation and fetal growth (P05-P08)	72	2,4
9	Protozoal diseases (B50-B64)	65	2,2
10	Inflammatory diseases of the central nervous system (G00-G09)	51	1,7
	Other natural causes	764	25,4
	Non-natural causes	168	5,6
	All causes	3 003	100,0

	Mpumalanga, both sexes, 15-49	No.	%
1	Tuberculosis (A15-A19)*	5 220	21,2
2	Influenza and pneumonia (J10-J18)	2 798	11,4
3	Intestinal infectious diseases (A00-A09)	2 156	8,8
4	Certain disorders involving the immune mechanism (D80-D89)	1 525	6,2
5	Human immunodeficiency virus [HIV] disease (B20-B24)	762	3,1
6	Inflammatory diseases of the central nervous system (G00-G09)	724	2,9
7	Other viral diseases (B25-B34)	510	2,1
8	Cerebrovascular diseases (I60-I69)	474	1,9
9	Other acute lower respiratory infections (J20-J22)	465	1,9
10	Other forms of heart disease (I30-I52)	457	1,9
	Other natural causes	6 864	27,9
	Non-natural causes	2 678	10,9
	All causes	24 633	100,0

	Mpumalanga, males, 15-49	No.	%
1	Tuberculosis (A15-A19)*	2 638	21,7
2	Influenza and pneumonia (J10-J18)	1 263	10,4
3	Intestinal infectious diseases (A00-A09)	833	6,8
4	Certain disorders involving the immune mechanism (D80-D89)	716	5,9
5	Inflammatory diseases of the central nervous system (G00-G09)	319	2,6
6	Human immunodeficiency virus [HIV] disease (B20-B24)	299	2,5
7	Other viral diseases (B25-B34)	236	1,9
8	Cerebrovascular diseases (I60-I69)	222	1,8
9	Other forms of heart disease (I30-I52)	214	1,8
10	Other acute lower respiratory infections (J20-J22)	210	1,7
	Other natural causes	3 064	25,2
	Non-natural causes	2 148	17,7
	All causes	12 162	100,0

	Mpumalanga, females, 15-49	No.	%
1	Tuberculosis (A15-A19)*	2 577	20,7
2	Influenza and pneumonia (J10-J18)	1 528	12,3
3	Intestinal infectious diseases (A00-A09)	1 318	10,6
4	Certain disorders involving the immune mechanism (D80-D89)	807	6,5
5	Human immunodeficiency virus [HIV] disease (B20-B24)	462	3,7
6	Inflammatory diseases of the central nervous system (G00-G09)	404	3,2
7	Other viral diseases (B25-B34)	273	2,2
8	Other acute lower respiratory infections (J20-J22)	255	2,1
9	Cerebrovascular diseases (I60-I69)	252	2,0
10	Other forms of heart disease (I30-I52)	243	2,0
	Other natural causes	3 794	30,5
	Non-natural causes	523	4,2
	All causes	12 436	100,0

	Mpumalanga, both sexes, 50-64	No.	%
1	Tuberculosis (A15-A19)*	999	12,7
2	Influenza and pneumonia (J10-J18)	761	9,7
3	Cerebrovascular diseases (I60-I69)	551	7,0
4	Intestinal infectious diseases (A00-A09)	494	6,3
5	Diabetes mellitus (E10-E14)	478	6,1
6	Other forms of heart disease (I30-I52)	406	5,2
7	Chronic lower respiratory diseases (J40-J47)	295	3,8
8	Hypertensive diseases (I10-I15)	282	3,6
9	Certain disorders involving the immune mechanism (D80-D89)	254	3,2
10	Ischaemic heart diseases (I20-I25)	184	2,3
	Other natural causes	2 700	34,4
	Non-natural causes	447	5,7
	All causes	7 851	100,0

	Mpumalanga, males, 50-64	No.	%
1	Tuberculosis (A15-A19)*	667	14,4
2	Influenza and pneumonia (J10-J18)	472	10,2
3	Cerebrovascular diseases (I60-I69)	295	6,4
4	Intestinal infectious diseases (A00-A09)	247	5,3
5	Other forms of heart disease (I30-I52)	221	4,8
6	Diabetes mellitus (E10-E14)	210	4,5
7	Chronic lower respiratory diseases (J40-J47)	184	4,0
8	Certain disorders involving the immune mechanism (D80-D89)	161	3,5
9	Hypertensive diseases (I10-I15)	135	2,9
10	Ischaemic heart diseases (I20-I25)	129	2,8
	Other natural causes	1 571	33,9
	Non-natural causes	340	7,3
	All causes	4 632	100,0

	Mpumalanga, females, 50-64	No.	%
1	Tuberculosis (A15-A19)*	332	10,3
2	Influenza and pneumonia (J10-J18)	289	9,0
3	Diabetes mellitus (E10-E14)	268	8,3
4	Cerebrovascular diseases (I60-I69)	256	8,0
5	Intestinal infectious diseases (A00-A09)	247	7,7
6	Other forms of heart disease (I30-I52)	185	5,8
7	Hypertensive diseases (I10-I15)	147	4,6
8	Chronic lower respiratory diseases (J40-J47)	111	3,5
9	Certain disorders involving the immune mechanism (D80-D89)	93	2,9
10	Malignant neoplasm of female genital organs (C51-C58)	81	2,5
	Other natural causes	1 099	34,2
	Non-natural causes	106	3,3
	All causes	3 214	100,0

	Mpumalanga, both sexes, 65+	No.	%
1	Cerebrovascular diseases (I60-I69)	1 238	13,5
2	Other forms of heart disease (I30-I52)	1 041	11,3
3	Diabetes mellitus (E10-E14)	684	7,5
4	Hypertensive diseases (I10-I15)	669	7,3
5	Influenza and pneumonia (J10-J18)	632	6,9
6	Intestinal infectious diseases (A00-A09)	489	5,3
7	Chronic lower respiratory diseases (J40-J47)	362	3,9
8	Tuberculosis (A15-A19)*	330	3,6
9	Ischaemic heart diseases (I20-I25)	306	3,3
10	Malignant neoplasm of digestive organs (C15-C26)	197	2,1
	Other natural causes	2 926	31,9
	Non-natural causes	299	3,3
	All causes	9 173	100,0

	Mpumalanga, males, 65+	No.	%
1	Cerebrovascular diseases (I60-I69)	487	11,8
2	Other forms of heart disease (I30-I52)	439	10,6
3	Influenza and pneumonia (J10-J18)	310	7,5
4	Diabetes mellitus (E10-E14)	239	5,8
5	Hypertensive diseases (I10-I15)	223	5,4
6	Tuberculosis (A15-A19)*	216	5,2
7	Chronic lower respiratory diseases (J40-J47)	206	5,0
8	Intestinal infectious diseases (A00-A09)	194	4,7
9	Ischaemic heart diseases (I20-I25)	166	4,0
10	Malignant neoplasm of digestive organs (C15-C26)	109	2,6
	Other natural causes	1 353	32,8
	Non-natural causes	185	4,5
	All causes	4 127	100,0

	Mpumalanga, females, 65+	No.	%
1	Cerebrovascular diseases (I60-I69)	751	14,9
2	Other forms of heart disease (I30-I52)	602	11,9
3	Diabetes mellitus (E10-E14)	445	8,8
3	Hypertensive diseases (I10-I15)	445	8,8
5	Influenza and pneumonia (J10-J18)	322	6,4
6	Intestinal infectious diseases (A00-A09)	295	5,8
7	Chronic lower respiratory diseases (J40-J47)	156	3,1
8	Ischaemic heart diseases (I20-I25)	139	2,8
9	Tuberculosis (A15-A19)*	114	2,3
10	Malignant neoplasm of female genital organs (C51-C58)	92	1,8
	Other natural causes	1 569	31,1
	Non-natural causes	114	2,3
	All causes	5 044	100,0

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

Appendix J.9: The ten leading underlying natural causes of death by age and sex: Limpopo, 2007

	Limpopo, both sexes, all ages	No.	%
1	Influenza and pneumonia (J10-J18)	6 087	11,5
2	Tuberculosis (A15-A19)*	4 981	9,4
3	Intestinal infectious diseases (A00-A09)	4 786	9,0
4	Other forms of heart disease (I30-I52)	2 422	4,6
5	Cerebrovascular diseases (I60-I69)	2 219	4,2
6	Diabetes mellitus (E10-E14)	1 756	3,3
7	Hypertensive diseases (I10-I15)	1 242	2,3
8	Certain disorders involving the immune mechanism (D80-D89)	1 196	2,3
9	Chronic lower respiratory diseases (J40-J47)	1 025	1,9
10	Inflammatory diseases of the central nervous system (G00-G09)	721	1,4
	Other natural causes	22 910	43,2
	Non-natural causes	3 670	6,9
	All causes	53 015	100,0

	Limpopo, males, all ages	No.	%
1	Influenza and pneumonia (J10-J18)	2 769	10,7
2	Tuberculosis (A15-A19)*	2 716	10,5
3	Intestinal infectious diseases (A00-A09)	2 170	8,4
4	Other forms of heart disease (I30-I52)	1 054	4,1
5	Cerebrovascular diseases (I60-I69)	901	3,5
6	Diabetes mellitus (E10-E14)	734	2,8
7	Chronic lower respiratory diseases (J40-J47)	666	2,6
8	Hypertensive diseases (I10-I15)	561	2,2
9	Certain disorders involving the immune mechanism (D80-D89)	494	1,9
10	Diseases of liver (K70-K77)	384	1,5
	Other natural causes	10 815	41,7
	Non-natural causes	2 645	10,2
	All causes	25 909	100,0

	Limpopo, females, all ages	No.	%
1	Influenza and pneumonia (J10-J18)	3 315	12,3
2	Intestinal infectious diseases (A00-A09)	2 608	9,6
3	Tuberculosis (A15-A19)*	2 260	8,4
4	Other forms of heart disease (I30-I52)	1 367	5,1
5	Cerebrovascular diseases (I60-I69)	1 317	4,9
6	Diabetes mellitus (E10-E14)	1 022	3,8
7	Certain disorders involving the immune mechanism (D80-D89)	700	2,6
8	Hypertensive diseases (I10-I15)	681	2,5
9	Inflammatory diseases of the central nervous system (G00-G09)	373	1,4
10	Malignant neoplasm of female genital organs (C51-C58)	370	1,4
	Other natural causes	12 010	44,4
	Non-natural causes	1 022	3,8
	All causes	27 045	100,0

	Limpopo, both sexes, 0-14	No.	%
1	Intestinal infectious diseases (A00-A09)	1 703	23,6
2	Influenza and pneumonia (J10-J18)	1 140	15,8
3	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	513	7,1
4	Malnutrition (E40-E46)	228	3,2
5	Tuberculosis (A15-A19)*	222	3,1
6	Inflammatory diseases of the central nervous system (G00-G09)	160	2,2
7	Disorders related to length of gestation and fetal growth (P05-P08)	120	1,7
8	Certain disorders involving the immune mechanism (D80-D89)	89	1,2
9	Protozoal diseases (B50-B64)	84	1,2
10	Other disorders originating in the perinatal period (P90-P96)	80	1,1
	Other natural causes	2 434	33,7
	Non-natural causes	443	6,1
	All causes	7 216	100,0

	Limpopo, males, 0-14	No.	%
1	Intestinal infectious diseases (A00-A09)	897	23,5
2	Influenza and pneumonia (J10-J18)	573	15,0
3	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	274	7,2
4	Malnutrition (E40-E46)	127	3,3
5	Tuberculosis (A15-A19)*	119	3,1
6	Inflammatory diseases of the central nervous system (G00-G09)	95	2,5
7	Disorders related to length of gestation and fetal growth (P05-P08)	74	1,9
8	Certain disorders involving the immune mechanism (D80-D89)	51	1,3
9	Metabolic disorders (E70-E90)	43	1,1
9	Other disorders originating in the perinatal period (P90-P96)	43	1,1
	Other natural causes	1 273	33,3
	Non-natural causes	253	6,6
	All causes	3 822	100,0

	Limpopo, females, 0-14	No.	%
1	Intestinal infectious diseases (A00-A09)	801	23,9
2	Influenza and pneumonia (J10-J18)	564	16,8
3	Respiratory and cardiovascular disorders specific to the perinatal period (P20-	226	6,7
4	Tuberculosis (A15-A19)*	102	3,0
5	Malnutrition (E40-E46)	101	3,0
6	Inflammatory diseases of the central nervous system (G00-G09)	63	1,9
7	Protozoal diseases (B50-B64)	52	1,5
8	Disorders related to length of gestation and fetal growth (P05-P08)	45	1,3
9	Other acute lower respiratory infections (J20-J22)	40	1,2
10	Certain disorders involving the immune mechanism (D80-D89)	38	1,1
	Other natural causes	1 135	33,8
	Non-natural causes	188	5,6
	All causes	3 355	100,0

	Limpopo, both sexes, 15-49	No.	%
1	Tuberculosis (A15-A19)*	3 515	15,7
2	Influenza and pneumonia (J10-J18)	3 064	13,6
3	Intestinal infectious diseases (A00-A09)	2 071	9,2
4	Certain disorders involving the immune mechanism (D80-D89)	927	4,1
5	Inflammatory diseases of the central nervous system (G00-G09)	468	2,1
6	Other forms of heart disease (I30-I52)	438	2,0
7	Noninfective enteritis and colitis (K50-K52)	383	1,7
8	Other viral diseases (B25-B34)	363	1,6
9	Protozoal diseases (B50-B64)	315	1,4
10	Cerebrovascular diseases (I60-I69)	306	1,4
	Other natural causes	8 249	36,7
	Non-natural causes	2 356	10,5
	All causes	22 455	100,0

	Limpopo, males, 15-49	No.	%
1	Tuberculosis (A15-A19)*	1 760	16,6
2	Influenza and pneumonia (J10-J18)	1 247	11,7
3	Intestinal infectious diseases (A00-A09)	829	7,8
4	Certain disorders involving the immune mechanism (D80-D89)	352	3,3
5	Inflammatory diseases of the central nervous system (G00-G09)	201	1,9
6	Other forms of heart disease (I30-I52)	188	1,8
7	Noninfective enteritis and colitis (K50-K52)	155	1,5
8	Diseases of liver (K70-K77)	154	1,5
9	Cerebrovascular diseases (I60-I69)	149	1,4
10	Diabetes mellitus (E10-E14)	136	1,3
	Other natural causes	3 596	33,9
	Non-natural causes	1 851	17,4
	All causes	10 618	100,0

	Limpopo, females, 15-49	No.	%
1	Influenza and pneumonia (J10-J18)	1 817	15,4
2	Tuberculosis (A15-A19)*	1 751	14,8
3	Intestinal infectious diseases (A00-A09)	1 240	10,5
4	Certain disorders involving the immune mechanism (D80-D89)	574	4,9
5	Inflammatory diseases of the central nervous system (G00-G09)	267	2,3
6	Other forms of heart disease (I30-I52)	249	2,1
7	Other viral diseases (B25-B34)	228	1,9
7	Noninfective enteritis and colitis (K50-K52)	228	1,9
9	Protozoal diseases (B50-B64)	201	1,7
10	Diabetes mellitus (E10-E14)	160	1,4
	Other natural causes	4 603	38,9
	Non-natural causes	505	4,3
	All causes	11 823	100,0

	Limpopo, both sexes, 50-64	No.	%
1	Tuberculosis (A15-A19)*	856	10,2
2	Influenza and pneumonia (J10-J18)	789	9,4
3	Diabetes mellitus (E10-E14)	518	6,2
4	Intestinal infectious diseases (A00-A09)	476	5,7
5	Cerebrovascular diseases (I60-I69)	469	5,6
6	Hypertensive diseases (I10-I15)	384	4,6
7	Other forms of heart disease (I30-I52)	347	4,1
8	Chronic lower respiratory diseases (J40-J47)	283	3,4
9	Malignant neoplasm of digestive organs (C15-C26)	187	2,2
10	Diseases of liver (K70-K77)	164	2,0
	Other natural causes	3 457	41,2
	Non-natural causes	457	5,4
	All causes	8 387	100,0

	Limpopo, males, 50-64	No.	%
1	Tuberculosis (A15-A19)*	606	12,0
2	Influenza and pneumonia (J10-J18)	469	9,3
3	Diabetes mellitus (E10-E14)	264	5,2
4	Cerebrovascular diseases (I60-I69)	250	5,0
5	Intestinal infectious diseases (A00-A09)	241	4,8
6	Hypertensive diseases (I10-I15)	220	4,4
6	Chronic lower respiratory diseases (J40-J47)	220	4,4
8	Other forms of heart disease (I30-I52)	194	3,9
9	Diseases of liver (K70-K77)	114	2,3
10	Malignant neoplasm of digestive organs (C15-C26)	113	2,2
	Other natural causes	2 029	40,3
	Non-natural causes	314	6,2
	All causes	5 034	100,0

	Limpopo, females, 50-64	No.	%
1	Influenza and pneumonia (J10-J18)	320	9,5
2	Diabetes mellitus (E10-E14)	254	7,6
3	Tuberculosis (A15-A19)*	250	7,5
4	Intestinal infectious diseases (A00-A09)	235	7,0
5	Cerebrovascular diseases (I60-I69)	219	6,5
6	Hypertensive diseases (I10-I15)	164	4,9
7	Other forms of heart disease (I30-I52)	153	4,6
8	Malignant neoplasm of female genital organs (C51-C58)	112	3,3
9	Malignant neoplasm of digestive organs (C15-C26)	74	2,2
10	Certain disorders involving the immune mechanism (D80-D89)	64	1,9
	Other natural causes	1 364	40,7
	Non-natural causes	143	4,3
	All causes	3 352	100,0

	Limpopo, both sexes, 65+	No.	%
1	Other forms of heart disease (I30-I52)	1 591	10,7
2	Cerebrovascular diseases (I60-I69)	1 432	9,6
3	Influenza and pneumonia (J10-J18)	1 090	7,3
4	Diabetes mellitus (E10-E14)	931	6,2
5	Hypertensive diseases (I10-I15)	646	4,3
6	Intestinal infectious diseases (A00-A09)	533	3,6
7	Chronic lower respiratory diseases (J40-J47)	460	3,1
8	Tuberculosis (A15-A19)*	384	2,6
9	Malignant neoplasm of digestive organs (C15-C26)	307	2,1
10	Ischaemic heart diseases (I20-I25)	278	1,9
	Other natural causes	6 854	46,0
	Non-natural causes	398	2,7
	All causes	14 904	100,0

	Limpopo, males, 65+	No.	%
1	Other forms of heart disease (I30-I52)	647	10,1
2	Cerebrovascular diseases (I60-I69)	495	7,7
3	Influenza and pneumonia (J10-J18)	476	7,4
4	Diabetes mellitus (E10-E14)	330	5,2
5	Chronic lower respiratory diseases (J40-J47)	297	4,6
6	Hypertensive diseases (I10-I15)	245	3,8
7	Tuberculosis (A15-A19)*	230	3,6
8	Intestinal infectious diseases (A00-A09)	201	3,1
9	Malignant neoplasm of digestive organs (C15-C26)	172	2,7
10	Malignant neoplasm of male genital organs (C60-C63)	160	2,5
	Other natural causes	2 934	45,9
	Non-natural causes	212	3,3
	All causes	6 399	100,0

	Limpopo, females, 65+	No.	%
1	Other forms of heart disease (I30-I52)	944	11,1
2	Cerebrovascular diseases (I60-I69)	936	11,0
3	Influenza and pneumonia (J10-J18)	614	7,2
4	Diabetes mellitus (E10-E14)	601	7,1
5	Hypertensive diseases (I10-I15)	401	4,7
6	Intestinal infectious diseases (A00-A09)	332	3,9
7	Chronic lower respiratory diseases (J40-J47)	163	1,9
8	Tuberculosis (A15-A19)*	154	1,8
9	Malignant neoplasm of female genital organs (C51-C58)	140	1,6
10	Malignant neoplasm of digestive organs (C15-C26)	135	1,6
	Other natural causes	3 896	45,8
	Non-natural causes	186	2,2
	All causes	8 502	100,0

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

Appendix K: Population group differences

Due to a large proportion (25,9%) of death notification forms that did not specify population group, readers are advised to treat the breakdowns of deaths by population group with caution as they may not be very accurate.

Appendix K.1 provides the breakdown of the ten leading causes of death by population group (including cases where population group was reported as unknown, unspecified or 'other') for 2007 deaths.

The ten leading causes of death that were common to all four population groups were *influenza and pneumonia, other forms of heart disease, cerebrovascular diseases, diabetes mellitus, hypertensive diseases* and *chronic lower respiratory diseases.* However, these common causes of death had different ranks and different contributions to the overall number of deaths. For example, *influenza and pneumonia* was the second leading cause of death among black Africans, contributing 9,6% of deaths in this group and was the seventh leading cause among coloureds, contributing 3,4% of the deaths.

Tuberculosis was the leading underlying natural cause of death for black African and coloured population groups, accounting for 14,8% and 9,8%, respectively, of all deaths in these groups. The leading underlying natural cause of death for the white and Indian/Asian population groups was *ischaemic heart diseases*, contributing 12,3% of deaths for the white population group and 13,6% of deaths for the Indian/Asian population group. *Diabetes mellitus* was the second leading cause of death for both Indian/Asian and coloured population groups.

Intestinal infectious diseases, certain disorders involving the immune mechanism, and *human immunodeficiency virus [HIV] disease* were among the ten leading causes of natural deaths only for the black African population group while *ischaemic heart diseases* and *malignant neoplasms of digestive organs* were among the ten leading underlying causes of natural deaths for all population groups, except for the black African population group. In addition, *tuberculosis* was among the leading underlying natural cause of death for all population groups, except the white population group, ranking first among black Africans and coloureds and seventh among Indian/Asians. *Malignant neoplasms of respiratory and intrathoracic organs* were among the ten leading underlying causes of death only for the white and coloured population groups while *renal failure* was among the ten leading underlying causes of death only for the white and Indian/Asian population groups.

The percentages of deaths due to non-natural causes were highest among the coloured population group (13,0%) and the Indian/Asians (11,1%). The lowest was among the black African (9,2%) and the white (9,8%) population groups.

Appendix K.1: The ten leading underlying natural causes of death by population group, 2007

Causes of death (based on the Tenth Revision, International Classification of Diseases, 1992)	Black African			White			Indian/Asian			Coloured			Unknown/unspecified		
	Rank	Number	%	Rank	Number	%	Rank	Number	%	Rank	Number	%	Rank	Number	%
Tuberculosis (A15-A19)	1	55 624	14,8	…	…	…	7	244	3,1	1	2557	9,8	1	18 023	11,6
Influenza and pneumonia (J10-J18)	2	36 027	9,6	6	1 703	4,7	6	251	3,2	7	898	3,4	2	10 843	7,0
Intestinal infectious diseases (A00-A09)	3	28 251	7,5	…	…	…	…	…	…	…	…	…	3	8 363	5,4
Other forms of heart disease (I30-I52)	4	16 211	4,3	2	2 490	6,9	3	566	7,2	6	1 038	4,0	4	5 725	3,7
Cerebrovascular diseases (I60-I69)	5	15 678	4,2	3	2 252	6,3	4	429	5,4	3	1 486	5,7	5	5 476	3,5
Certain disorders involving the immune mechanism (D80-D89)	6	11 248	3,0	…	…	…	…	…	…	…	…	…	8	3 520	2,3
Diabetes mellitus (E10-E14)	7	11 230	3,0	7	1 549	4,3	2	1 050	13,3	2	1 651	6,3	6	4 659	3,0
Human immunodeficiency virus [HIV] disease (B20-B24)	8	9 863	2,6	…	…	…	…	…	…	…	…	…	9	3 018	1,9
Hypertensive diseases (I10-I15)	9	8 650	2,3	10	806	2,2	8	225	2,9	9	837	3,2	10	2 863	1,8
Chronic lower respiratory diseases (J40-J47)	10	8 033	2,1	5	1 839	5,1	5	255	3,2	5	1428	5,5	7	3 758	2,4
Ischaemic heart diseases (I20-I25)	…	…	…	1	4 410	12,3	1	1075	13,6	4	1476	5,7	…	…	…
Malignant neoplasm of digestive organs (C15-C26)	…	…	…	4	1 911	5,3	9	222	2,8	10	827	3,2	…	…	…
Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	…	…	…	8	1 266	3,5	…	…	…	8	893	3,4	…	…	…
Renal failure (N17-N19)	…	…	…	9	819	2,3	10	221	2,8	…	…	…	…	…	…
Other natural causes	…	140 171	37,3		13 288	37,1		2476	31,4		9557	36,7		77 688	49,8
Non-natural causes	…	34 517	9,2		3 521	9,8		880	11,1		3383	13,0		11 915	7,6
All causes		**375 503**	**100,0**		**35 854**	**100,0**		**7 894**	**100,0**		**26 031**	**100,0**		**155 851**	**100,0**

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

Appendix L: Number of deaths by main groups of causes of death and district municipality (Western Cape, Eastern Cape and Northern Cape), 2007

Province of death	District municipality of death	Certain infectious and parasitic diseases A00-B99	Diseases of the respiratory system J00-J99	Diseases of the circulatory system I00-I99	External causes of morbidity and mortality V01-Y98	Neoplasms C00-D48	Endocrine, nutritional and metabolic diseases E00-E90	Diseases of the blood and immune mechanism D50-D89	Diseases of the nervous system G00-G99	Diseases of the digestive system K00-K93	Perinatal conditions P00-P96	Other causes	Total
Western Cape	Cape Winelands	1 124	607	1 155	891	893	354	68	106	147	135	926	**6 406**
	Central Karoo	155	117	169	190	111	43	27	28	12	21	81	**954**
	City of Cape Town	5 373	2 342	5 538	4 354	4 297	2 115	375	671	678	457	3 117	**29 317**
	Eden	978	493	1 129	757	737	297	83	127	131	131	344	**5 207**
	Overberg	281	167	364	268	289	118	20	37	46	25	203	**1 818**
	West Coast	555	307	686	447	379	177	62	61	63	79	270	**3 086**
	Total	**8 466**	**4 033**	**9 041**	**6 907**	**6 706**	**3 104**	**635**	**1 030**	**1 077**	**848**	**4 941**	**46 788**
Eastern Cape	Alfred Nzo	681	744	225	328	59	94	203	91	73	15	1 894	**4 407**
	Amatole	6 670	3 670	3 986	2 770	1 950	1 353	877	821	684	190	5 023	**27 994**
	Cacadu	1 157	622	921	599	417	248	217	102	110	98	747	**5 238**
	Chris Hani	2 785	2 060	1 663	969	571	449	341	381	286	116	1 799	**11 420**
	Nelson Mandela Bay Metro	3 964	1 761	2 512	1 594	1 440	919	544	390	472	246	1 750	**15 592**
	O.R. Tambo	4 170	1 766	1 132	1 553	537	426	364	453	396	79	6 304	**17 180**
	Ukhahlamba	1 205	1 082	644	288	171	178	202	168	112	35	1 536	**5 621**
	Total	**20 632**	**11 705**	**11 083**	**8 101**	**5 145**	**3 667**	**2 748**	**2 406**	**2 133**	**779**	**19 053**	**87 452**
Northern Cape	Frances Baard	1 359	656	855	548	521	308	331	128	234	105	795	**5 840**
	Kgalagadi	402	609	267	159	91	77	30	59	49	106	1 040	**2 889**
	Namakwa	122	115	257	121	118	51	22	19	32	29	111	**997**
	Pixley ka Seme	628	421	465	271	200	165	83	42	62	66	226	**2 629**
	Siyanda	630	462	410	346	218	129	89	66	68	89	269	**2 776**
	Total	**3 141**	**2 263**	**2 254**	**1 445**	**1 148**	**730**	**555**	**314**	**445**	**395**	**2 441**	**15 131**

Appendix L.1: Number of deaths by main groups of causes of death and district municipality (Free State, KwaZulu-Natal and North West), 2007

Province of death	District municipality of death	Certain infectious and parasitic diseases A00-B99	Diseases of the respiratory system J00-J99	Diseases of the circulatory system I00-I99	External causes of morbidity and mortality V01-Y98	Neoplasms C00-D48	Endocrine, nutritional and metabolic diseases E00-E90	Diseases of the blood and immune mechanism D50-D89	Diseases of the nervous system G00-G99	Diseases of the digestive system K00-K93	Perinatal conditions P00-P96	Other causes	Total
Free State	Fezile Dabi	2 037	1 449	1 254	600	363	476	433	182	221	204	498	**7 717**
	Lejweleputswa	3 568	2 780	1 338	770	372	548	518	310	303	264	1 613	**12 384**
	Motheo	3 239	1 992	1 707	1 125	1 037	612	618	277	321	289	3 794	**15 011**
	Thabo Mofutsanyane	3 743	3 064	2 120	824	429	682	886	381	364	397	1 066	**13 956**
	Xhariep	442	406	261	165	84	66	115	35	45	26	192	**1 837**
	Total	**13 029**	**9 691**	**6 680**	**3 484**	**2 285**	**2 384**	**2 570**	**1 185**	**1 254**	**1 180**	**7 163**	**50 905**
KwaZulu-Natal	Amajuba	2 269	1 673	912	439	212	404	227	187	197	217	533	**7 270**
	eThekwini	11 643	3 796	5 791	4 189	2 335	2 360	654	1 323	1 019	880	7 643	**41 633**
	iLembe	2 623	626	838	607	210	319	138	135	217	147	1 008	**6 868**
	Sisonke	2 131	890	597	444	167	253	130	201	140	105	1 324	**6 382**
	Ugu	4 328	1 440	1 635	982	460	811	413	308	273	229	1 191	**12 070**
	UMgungundlovu	4 798	1 781	2 240	1 188	743	863	308	489	445	167	2 645	**15 667**
	Umkhanyakude	2 766	491	706	477	216	156	48	87	93	71	1 632	**6 743**
	Umzinyathi	2 616	864	932	574	210	338	183	260	188	265	1 882	**8 312**
	Uthukela	3 350	1 664	1 502	739	314	515	413	357	299	205	694	**10 052**
	Uthungulu	4 847	1 357	1 337	1 104	446	638	312	393	352	356	2 012	**13 154**
	Zululand	3 867	1 132	951	619	274	366	239	371	362	230	2 329	**10 740**
	Total	**45 238**	**15 714**	**17 441**	**11 362**	**5 587**	**7 023**	**3 065**	**4 111**	**3 585**	**2 872**	**22 893**	**138 891**
North West	Bojanala	3 206	2 244	2 258	1 243	440	705	575	270	237	301	2 741	**14 220**
	Central	2 816	2 253	1 606	661	330	527	448	333	318	417	1 671	**11 380**
	Dr Kenneth Kaunda	3 667	1 776	1 635	1 170	749	480	327	272	275	331	1 890	**12 572**
	Dr Ruth Segomotsi Mompati	1 776	1 244	925	360	267	194	354	151	148	218	1 317	**6 954**
	Total	**11 465**	**7 517**	**6 424**	**3 434**	**1 786**	**1 906**	**1 704**	**1 026**	**978**	**1 267**	**7 619**	**45 126**

Appendix L.2: Number of deaths by main groups of causes of death and district municipality (Gauteng, Mpumalanga and Limpopo), 2007

Province of death	District municipality of death	Certain infectious and parasitic diseases A00-B99	Diseases of the respiratory system J00-J99	Diseases of the circulatory system I00-I99	External causes of morbidity and mortality V01-Y98	Neoplasms C00-D48	Endocrine, nutritional and metabolic diseases E00-E90	Diseases of the blood and immune mechanism D50-D89	Diseases of the nervous system G00-G99	Diseases of the digestive system K00-K93	Perinatal conditions P00-P96	Other causes	Total
Gauteng	City of Johannesburg	7 599	4 078	4 968	4 097	3 204	1 574	1 043	962	933	895	8 198	**37 551**
	City of Tshwane	5 200	3 413	4 863	2 732	2 597	1 699	940	714	724	624	2 435	**25 941**
	Ekurhuleni	7 006	4 676	3 779	3 038	1 416	1 389	1 181	1 097	766	1 168	6 301	**31 817**
	Metsweding	215	144	223	148	45	61	111	30	16	8	64	**1 065**
	Sedibeng	2 213	2 382	1 881	1 097	616	660	307	420	294	315	754	**10 939**
	West Rand	1 897	1 112	832	779	327	310	301	216	156	257	1 636	**7 823**
	Total	**24 130**	**15 805**	**16 546**	**11 891**	**8 205**	**5 693**	**3 883**	**3 439**	**2 889**	**3 267**	**19 388**	**115 136**
Mpumalanga	Ehlanzeni	7 187	3 184	2 542	1 480	801	865	837	701	785	325	1 906	**20 613**
	Gert Sibande	4 243	2 711	1 569	1 065	450	696	1 005	397	574	396	1 685	**14 791**
	Nkangala	3 257	2 307	2 230	1 308	514	752	527	412	310	208	881	**12 706**
	Total	**14 687**	**8 202**	**6 341**	**3 853**	**1 765**	**2 313**	**2 369**	**1 510**	**1 669**	**929**	**4 472**	**48 110**
Limpopo	Capricorn	3 402	2 428	1 967	1 142	793	734	425	398	510	281	2 912	**14 992**
	Greater Sekhukhune	2 587	2 565	2 121	700	329	596	486	254	399	103	1 110	**11 250**
	Mopani	2 431	1 323	1 003	681	343	425	226	269	457	171	4 104	**11 433**
	Vhembe	2 107	916	891	656	433	569	185	186	420	211	3 154	**9 728**
	Waterberg	1 361	819	729	491	242	240	235	104	116	124	1 151	**5 612**
	Total	**11 888**	**8 051**	**6 711**	**3 670**	**2 140**	**2 564**	**1 557**	**1 211**	**1 902**	**890**	**12 431**	**53 015**

Appendix M: The ten leading underlying natural causes of death by district municipality, Western Cape, 2007

	Cape Winelands	No.	%
1	Tuberculosis (A15-A19)	669	10,4
2	Cerebrovascular diseases (I60-I69)	376	5,9
3	Chronic lower respiratory diseases (J40-J47)	349	5,4
4	Ischaemic heart diseases (I20-I25)	321	5,0
5	Diabetes mellitus (E10-E14)	312	4,9
6	Malignant neoplasm of digestive organs (C15-C26)	232	3,6
7	Other forms of heart disease (I30-I52)	226	3,5
8	Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	207	3,2
9	Human immunodeficiency virus [HIV] disease (B20-B24)	185	2,9
10	Influenza and pneumonia (J10-J18)	156	2,4
	Other natural causes	2 482	38,7
	Non-natural causes	891	13,9
	All causes	6 406	100,0

	Central Karoo	No.	%
1	Tuberculosis (A15-A19)	94	9,9
2	Chronic lower respiratory diseases (J40-J47)	66	6,9
3	Other forms of heart disease (I30-I52)	57	6,0
4	Cerebrovascular diseases (I60-I69)	44	4,6
5	Influenza and pneumonia (J10-J18)	39	4,1
6	Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	34	3,6
7	Ischaemic heart diseases (I20-I25)	33	3,5
8	Malignant neoplasm of digestive organs (C15-C26)	28	2,9
9	Diabetes mellitus (E10-E14)	27	2,8
10	Human immunodeficiency virus [HIV] disease (B20-B24)	25	2,6
	Other natural causes	317	33,2
	Non-natural causes	190	19,9
	All causes	954	100,0

	City of Cape Town	No.	%
1	Tuberculosis (A15-A19)	2 839	9,7
2	Diabetes mellitus (E10-E14)	1 864	6,4
3	Ischaemic heart diseases (I20-I25)	1 752	6,0
4	Cerebrovascular diseases (I60-I69)	1 460	5,0
5	Chronic lower respiratory diseases (J40-J47)	1 170	4,0
6	Malignant neoplasm of digestive organs (C15-C26)	1 072	3,7
7	Human immunodeficiency virus [HIV] disease (B20-B24)	1 016	3,5
8	Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	1 010	3,4
9	Other forms of heart disease (I30-I52)	1 009	3,4
10	Hypertensive diseases (I10-I15)	847	2,9
	Other natural causes	10 924	37,3
	Non-natural causes	4 354	14,9
	All causes	29 317	100,0

	Eden	No.	%
1	Tuberculosis (A15-A19)	545	10,5
2	Cerebrovascular diseases (I60-I69)	342	6,6
3	Ischaemic heart diseases (I20-I25)	329	6,3
4	Diabetes mellitus (E10-E14)	238	4,6
5	Other forms of heart disease (I30-I52)	219	4,2
6	Human immunodeficiency virus [HIV] disease (B20-B24)	208	4,0
7	Chronic lower respiratory diseases (J40-J47)	207	4,0
8	Malignant neoplasm of digestive organs (C15-C26)	206	4,0
9	Influenza and pneumonia (J10-J18)	201	3,9
10	Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	168	3,2
	Other natural causes	1 787	34,3
	Non-natural causes	757	14,5
	All causes	5 207	100,0

	Overberg	No.	%
1	Tuberculosis (A15-A19)	161	8,9
2	Ischaemic heart diseases (I20-I25)	109	6,0
3	Other forms of heart disease (I30-I52)	103	5,7
4	Diabetes mellitus (E10-E14)	96	5,3
5	Cerebrovascular diseases (I60-I69)	95	5,2
6	Chronic lower respiratory diseases (J40-J47)	75	4,1
7	Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	74	4,1
8	Malignant neoplasm of digestive organs (C15-C26)	69	3,8
9	Influenza and pneumonia (J10-J18)	53	2,9
10	Human immunodeficiency virus [HIV] disease (B20-B24)	44	2,4
	Other natural causes	671	36,9
	Non-natural causes	268	14,7
	All causes	1 818	100,0

	West Coast	No.	%
1	Tuberculosis (A15-A19)	340	11,0
2	Cerebrovascular diseases (I60-I69)	227	7,4
3	Ischaemic heart diseases (I20-I25)	206	6,7
4	Chronic lower respiratory diseases (J40-J47)	151	4,9
5	Diabetes mellitus (E10-E14)	139	4,5
6	Other forms of heart disease (I30-I52)	136	4,4
7	Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	102	3,3
8	Malignant neoplasm of digestive organs (C15-C26)	101	3,3
9	Influenza and pneumonia (J10-J18)	96	3,1
10	Intestinal infectious diseases (A00-A09)	58	1,9
	Other natural causes	1 083	35,1
	Non-natural causes	447	14,5
	All causes	3 086	100,0

Appendix M.1: The ten leading underlying natural causes of death by district municipality, Eastern Cape, 2007

	Alfred Nzo	No.	%
1	Other diseases of the respiratory system (J95-J99)	417	9,5
2	Tuberculosis (A15-A19)	347	7,9
3	Intestinal infectious diseases (A00-A09)	252	5,7
4	Certain disorders involving the immune mechanism (D80-D89)	187	4,2
5	Other acute lower respiratory infections (J20-J22)	124	2,8
6	Influenza and pneumonia (J10-J18)	109	2,5
7	Cerebrovascular diseases (I60-I69)	83	1,9
8	Chronic lower respiratory diseases (J40-J47)	72	1,6
9	Other forms of heart disease (I30-I52)	69	1,6
10	Inflammatory diseases of the central nervous system (G00-G09)	66	1,5
	Other natural causes	2 353	53,4
	Non-natural causes	328	7,4
	All causes	4 407	100,0

	Amatole	No.	%
1	Tuberculosis (A15-A19)	3 911	14,0
2	Chronic lower respiratory diseases (J40-J47)	1 507	5,4
3	Other forms of heart disease (I30-I52)	1 348	4,8
4	Cerebrovascular diseases (I60-I69)	1 230	4,4
5	Influenza and pneumonia (J10-J18)	1 182	4,2
6	Intestinal infectious diseases (A00-A09)	1 180	4,2
7	Diabetes mellitus (E10-E14)	1 052	3,8
8	Malignant neoplasm of digestive organs (C15-C26)	797	2,8
9	Hypertensive diseases (I10-I15)	781	2,8
10	Certain disorders involving the immune mechanism (D80-D89)	699	2,5
	Other natural causes	11 537	41,2
	Non-natural causes	2 770	9,9
	All causes	27 994	100,0

	Cacadu	No.	%
1	Tuberculosis (A15-A19)	624	11,9
2	Influenza and pneumonia (J10-J18)	293	5,6
3	Other forms of heart disease (I30-I52)	268	5,1
4	Cerebrovascular diseases (I60-I69)	261	5,0
5	Human immunodeficiency virus [HIV] disease (B20-B24)	241	4,6
6	Chronic lower respiratory diseases (J40-J47)	236	4,5
7	Certain disorders involving the immune mechanism (D80-D89)	203	3,9
8	Ischaemic heart diseases (I20-I25)	188	3,6
9	Diabetes mellitus (E10-E14)	153	2,9
10	Hypertensive diseases (I10-I15)	147	2,8
	Other natural causes	2 025	38,7
	Non-natural causes	599	11,4
	All causes	5 238	100,0

	Chris Hani	No.	%
1	Tuberculosis (A15-A19)	1 501	13,1
2	Influenza and pneumonia (J10-J18)	816	7,1
3	Intestinal infectious diseases (A00-A09)	693	6,1
4	Chronic lower respiratory diseases (J40-J47)	692	6,1
5	Other forms of heart disease (I30-I52)	681	6,0
6	Cerebrovascular diseases (I60-I69)	490	4,3
7	Diabetes mellitus (E10-E14)	334	2,9
8	Other viral diseases (B25-B34)	328	2,9
9	Malignant neoplasm of digestive organs (C15-C26)	260	2,3
10	Certain disorders involving the immune mechanism (D80-D89)	256	2,2
	Other natural causes	4 400	38,5
	Non-natural causes	969	8,5
	All causes	11 420	100,0

	Nelson Mandela	No.	%
1	Tuberculosis (A15-A19)	2 753	17,7
2	Influenza and pneumonia (J10-J18)	870	5,6
3	Diabetes mellitus (E10-E14)	723	4,6
4	Chronic lower respiratory diseases (J40-J47)	659	4,2
5	Cerebrovascular diseases (I60-I69)	637	4,1
6	Ischaemic heart diseases (I20-I25)	627	4,0
7	Hypertensive diseases (I10-I15)	579	3,7
8	Other forms of heart disease (I30-I52)	516	3,3
9	Certain disorders involving the immune mechanism (D80-D89)	485	3,1
10	Intestinal infectious diseases (A00-A09)	449	2,9
	Other natural causes	5 700	36,6
	Non-natural causes	1 594	10,2
	All causes	15 592	100,0

	O.R. Tambo	No.	%
1	Tuberculosis (A15-A19)	2 025	11,8
2	Intestinal infectious diseases (A00-A09)	911	5,3
3	Influenza and pneumonia (J10-J18)	690	4,0
4	Other viral diseases (B25-B34)	546	3,2
5	Chronic lower respiratory diseases (J40-J47)	515	3,0
6	Cerebrovascular diseases (I60-I69)	459	2,7
7	Human immunodeficiency virus [HIV] disease (B20-B24)	372	2,2
8	Other forms of heart disease (I30-I52)	342	2,0
9	Diabetes mellitus (E10-E14)	297	1,7
10	Certain disorders involving the immune mechanism (D80-D89)	293	1,7
	Other natural causes	9 177	53,4
	Non-natural causes	1 553	9,0
	All causes	17 180	100,0

	Ukhahlamba		
1	Tuberculosis (A15-A19)	675	12,0
2	Influenza and pneumonia (J10-J18)	522	9,3
3	Other diseases of the respiratory system (J95-J99)	290	5,2
4	Other forms of heart disease (I30-I52)	286	5,1
5	Intestinal infectious diseases (A00-A09)	253	4,5
6	Cerebrovascular diseases (I60-I69)	193	3,4
7	Certain disorders involving the immune mechanism (D80-D89)	181	3,2
8	Chronic lower respiratory diseases (J40-J47)	154	2,7
9	Other viral diseases (B25-B34)	117	2,1
10	Diabetes mellitus (E10-E14)	114	2,0
	Other natural causes	2 548	45,3
	Non-natural causes	288	5,1
	All causes	5 621	100,0

Appendix M.2: The ten leading underlying natural causes of death by district municipality, Northern Cape, 2007

	Frances Baard	No.	%
1	Tuberculosis (A15-A19)	803	13,8
2	Influenza and pneumonia (J10-J18)	321	5,5
3	Certain disorders involving the immune mechanism (D80-D89)	289	4,9
4	Cerebrovascular diseases (I60-I69)	258	4,4
5	Intestinal infectious diseases (A00-A09)	249	4,3
6	Other forms of heart disease (I30-I52)	203	3,5
7	Diabetes mellitus (E10-E14)	192	3,3
8	Chronic lower respiratory diseases (J40-J47)	180	3,1
9	Hypertensive diseases (I10-I15)	175	3,0
10	Ischaemic heart diseases (I20-I25)	143	2,4
	Other natural causes	2 479	42,4
	Non-natural causes	548	9,4
	All causes	5 840	100,0

	Kgalagadi	No.	%
1	Influenza and pneumonia (J10-J18)	338	11,7
2	Intestinal infectious diseases (A00-A09)	178	6,2
3	Tuberculosis (A15-A19)	151	5,2
4	Other forms of heart disease (I30-I52)	123	4,3
5	Other acute lower respiratory infections (J20-J22)	115	4,0
6	Other diseases of the respiratory system (J95-J99)	98	3,4
7	Cerebrovascular diseases (I60-I69)	78	2,7
8	Hypertensive diseases (I10-I15)	40	1,4
9	Diabetes mellitus (E10-E14)	39	1,3
10	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	33	1,1
	Other natural causes	1 537	53,2
	Non-natural causes	159	5,5
	All causes	2 889	100,0

	Namakwa	No.	%
1	Ischaemic heart diseases (I20-I25)	75	7,5
2	Tuberculosis (A15-A19)	70	7,0
3	Cerebrovascular diseases (I60-I69)	69	6,9
4	Chronic lower respiratory diseases (J40-J47)	62	6,2
5	Other forms of heart disease (I30-I52)	60	6,0
6	Diabetes mellitus (E10-E14)	43	4,3
7	Malignant neoplasm of digestive organs (C15-C26)	33	3,3
8	Hypertensive diseases (I10-I15)	29	2,9
9	Influenza and pneumonia (J10-J18)	28	2,8
10	Malignant neoplasm of respiratory and intrathoracic organs (C30-39)	25	2,5
	Other natural causes	382	38,3
	Non-natural causes	121	12,1
	All causes	997	100,0

	Pixley ka Seme	No.	%
1	Tuberculosis (A15-A19)	318	12,1
2	Influenza and pneumonia (J10-J18)	181	6,9
3	Undefined	177	6,7
4	Chronic lower respiratory diseases (J40-J47)	149	5,7
5	Other forms of heart disease (I30-I52)	136	5,2
6	Cerebrovascular diseases (I60-I69)	129	4,9
7	Human immunodeficiency virus [HIV] disease (B20-B24)	109	4,1
8	Intestinal infectious diseases (A00-A09)	98	3,7
9	Diabetes mellitus (E10-E14)	86	3,3
10	Ischaemic heart diseases (I20-I25)	75	2,9
	Other natural causes	900	34,2
	Non-natural causes	271	10,3
	All causes	2 629	100,0

	Siyanda	No.	%
1	Tuberculosis (A15-A19)	346	12,5
2	Influenza and pneumonia (J10-J18)	239	8,6
3	Chronic lower respiratory diseases (J40-J47)	161	5,8
4	Cerebrovascular diseases (I60-I69)	135	4,9
5	Human immunodeficiency virus [HIV] disease (B20-B24)	120	4,3
6	Intestinal infectious diseases (A00-A09)	111	4,0
7	Other forms of heart disease (I30-I52)	81	2,9
8	Ischaemic heart diseases (I20-I25)	78	2,8
9	Hypertensive diseases (I10-I15)	76	2,7
10	Certain disorders involving the immune mechanism (D80-D89)	72	2,6
	Other natural causes	1 011	36,4
	Non-natural causes	346	12,5
	All causes	2 776	100,0

Appendix M.3: The ten leading underlying natural causes of death by district municipality, Free State, 2007

	Fezile Dabi	No.	%
1	Influenza and pneumonia (J10-J18)	1 003	13,0
2	Tuberculosis (A15-A19)	888	11,5
3	Intestinal infectious diseases (A00-A09)	664	8,6
4	Other forms of heart disease (I30-I52)	441	5,7
5	Certain disorders involving the immune mechanism (D80-D89)	326	4,2
6	Cerebrovascular diseases (I60-I69)	315	4,1
7	Hypertensive diseases (I10-I15)	263	3,4
8	Diabetes mellitus (E10-E14)	256	3,3
9	Chronic lower respiratory diseases (J40-J47)	188	2,4
10	Other viral diseases (B25-B34)	153	2,0
	Other natural causes	2 620	34,0
	Non-natural causes	600	7,8
	All causes	7 717	100,0

	Lejweleputswa	No.	%
1	Influenza and pneumonia (J10-J18)	2 156	17,4
2	Tuberculosis (A15-A19)	1 718	13,9
3	Intestinal infectious diseases (A00-A09)	1 101	8,9
4	Other forms of heart disease (I30-I52)	498	4,0
5	Cerebrovascular diseases (I60-I69)	383	3,1
6	Certain disorders involving the immune mechanism (D80-D89)	300	2,4
7	Human immunodeficiency virus [HIV] disease (B20-B24)	290	2,3
8	Diabetes mellitus (E10-E14)	243	2,0
9	Inflammatory diseases of the central nervous system (G00-G09)	210	1,7
10	Aplastic and other anaemias (D60-D64)	205	1,7
	Other natural causes	4 510	36,4
	Non-natural causes	770	6,2
	All causes	12 384	100,0

	Motheo	No.	%
1	Tuberculosis (A15-A19)	1 666	11,1
2	Influenza and pneumonia (J10-J18)	1 439	9,6
3	Intestinal infectious diseases (A00-A09)	637	4,2
4	Cerebrovascular diseases (I60-I69)	563	3,8
5	Certain disorders involving the immune mechanism (D80-D89)	534	3,6
6	Other forms of heart disease (I30-I52)	502	3,3
7	Hypertensive diseases (I10-I15)	323	2,2
8	Human immunodeficiency virus [HIV] disease (B20-B24)	322	2,1
9	Diabetes mellitus (E10-E14)	322	2,1
10	Malignant neoplasm of digestive organs (C15-C26)	247	1,6
	Other natural causes	7 331	48,8
	Non-natural causes	1 125	7,5
	All causes	15 011	100,0

	Thabo Mofutsanyane	No.	%
1	Influenza and pneumonia (J10-J18)	2 133	15,3
2	Tuberculosis (A15-A19)	1 564	11,2
3	Intestinal infectious diseases (A00-A09)	1 392	10,0
4	Other forms of heart disease (I30-I52)	957	6,9
5	Certain disorders involving the immune mechanism (D80-D89)	729	5,2
6	Cerebrovascular diseases (I60-I69)	559	4,0
7	Diabetes mellitus (E10-E14)	388	2,8
8	Chronic lower respiratory diseases (J40-J47)	380	2,7
9	Hypertensive diseases (I10-I15)	354	2,5
10	Human immunodeficiency virus [HIV] disease (B20-B24)	314	2,2
	Other natural causes	4 362	31,3
	Non-natural causes	824	5,9
	All causes	13 956	100,0

	Xhariep	No.	%
1	Influenza and pneumonia (J10-J18)	323	17,6
2	Tuberculosis (A15-A19)	261	14,2
3	Intestinal infectious diseases (A00-A09)	125	6,8
4	Certain disorders involving the immune mechanism (D80-D89)	103	5,6
5	Cerebrovascular diseases (I60-I69)	89	4,8
6	Other forms of heart disease (I30-I52)	88	4,8
7	Chronic lower respiratory diseases (J40-J47)	59	3,2
8	Hypertensive diseases (I10-I15)	44	2,4
9	Diabetes mellitus (E10-E14)	37	2,0
10	Ischaemic heart diseases (I20-I25)	27	1,5
	Other natural causes	516	28,1
	Non-natural causes	165	9,0
	All causes	1 837	100,0

Appendix M.4: The ten leading underlying natural causes of death by district municipality, KwaZulu-Natal, 2007

	Amajuba	No.	%
1	Tuberculosis (A15-A19)	1 244	17,1
2	Influenza and pneumonia (J10-J18)	854	11,7
3	Intestinal infectious diseases (A00-A09)	623	8,6
4	Other acute lower respiratory infections (J20-J22)	584	8,0
5	Cerebrovascular diseases (I60-I69)	367	5,0
6	Other forms of heart disease (I30-I52)	313	4,3
7	Diabetes mellitus (E10-E14)	272	3,7
8	Certain disorders involving the immune mechanism (D80-D89)	182	2,5
9	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	128	1,8
10	Hypertensive diseases (I10-I15)	118	1,6
	Other natural causes	2 146	29,5
	Non-natural causes	439	6,0
	All causes	7 270	100,0

	eThekwini	No.	%
1	Tuberculosis (A15-A19)	6 540	15,7
2	Intestinal infectious diseases (A00-A09)	2 331	5,6
3	Influenza and pneumonia (J10-J18)	2 005	4,8
4	Cerebrovascular diseases (I60-I69)	1 800	4,3
5	Diabetes mellitus (E10-E14)	1 774	4,3
6	Other forms of heart disease (I30-I52)	1 588	3,8
7	Ischaemic heart diseases (I20-I25)	1 452	3,5
8	Human immunodeficiency virus [HIV] disease (B20-B24)	1 050	2,5
9	Inflammatory diseases of the central nervous system (G00-G09)	865	2,1
10	Chronic lower respiratory diseases (J40-J47)	694	1,7
	Other natural causes	17 345	41,7
	Non-natural causes	4 189	10,1
	All causes	41 633	100,0

	iLembe	No.	%
1	Tuberculosis (A15-A19)	1 413	20,6
2	Intestinal infectious diseases (A00-A09)	570	8,3
3	Cerebrovascular diseases (I60-I69)	407	5,9
4	Influenza and pneumonia (J10-J18)	313	4,6
5	Diabetes mellitus (E10-E14)	236	3,4
6	Other viral diseases (B25-B34)	233	3,4
7	Human immunodeficiency virus [HIV] disease (B20-B24)	230	3,3
8	Other forms of heart disease (I30-I52)	194	2,8
9	Chronic lower respiratory diseases (J40-J47)	139	2,0
10	Certain disorders involving the immune mechanism (D80-D89)	113	1,6
	Other natural causes	2 413	35,1
	Non-natural causes	607	8,8
	All causes	6 868	100,0

	Sisonke	No.	%
1	Tuberculosis (A15-A19)	980	15,4
2	Intestinal infectious diseases (A00-A09)	568	8,9
3	Influenza and pneumonia (J10-J18)	428	6,7
4	Cerebrovascular diseases (I60-I69)	296	4,6
5	Chronic lower respiratory diseases (J40-J47)	228	3,6
6	Other viral diseases (B25-B34)	219	3,4
7	Human immunodeficiency virus [HIV] disease (B20-B24)	182	2,9
8	Diabetes mellitus (E10-E14)	160	2,5
9	Other forms of heart disease (I30-I52)	144	2,3
10	Inflammatory diseases of the central nervous system (G00-G09)	130	2,0
	Other natural causes	2 603	40,8
	Non-natural causes	444	7,0
	All causes	6 382	100,0

	Ugu	No.	%
1	Tuberculosis (A15-A19)	2 426	20,1
2	Intestinal infectious diseases (A00-A09)	915	7,6
3	Influenza and pneumonia (J10-J18)	777	6,4
4	Cerebrovascular diseases (I60-I69)	746	6,2
5	Diabetes mellitus (E10-E14)	655	5,4
6	Chronic lower respiratory diseases (J40-J47)	389	3,2
7	Certain disorders involving the immune mechanism (D80-D89)	371	3,1
8	Human immunodeficiency virus [HIV] disease (B20-B24)	349	2,9
9	Other forms of heart disease (I30-I52)	348	2,9
10	Other viral diseases (B25-B34)	280	2,3
	Other natural causes	3 832	31,7
	Non-natural causes	982	8,1
	All causes	12 070	100,0

	UMgungundlovu	No.	%
1	Tuberculosis (A15-A19)	2 764	17,6
2	Intestinal infectious diseases (A00-A09)	967	6,2
3	Influenza and pneumonia (J10-J18)	944	6,0
4	Cerebrovascular diseases (I60-I69)	741	4,7
5	Diabetes mellitus (E10-E14)	635	4,1
6	Other forms of heart disease (I30-I52)	631	4,0
7	Ischaemic heart diseases (I20-I25)	402	2,6
8	Hypertensive diseases (I10-I15)	371	2,4
9	Other acute lower respiratory infections (J20-J22)	362	2,3
10	Other viral diseases (B25-B34)	309	2,0
	Other natural causes	6 353	40,6
	Non-natural causes	1 188	7,6
	All causes	15 667	100,0

	Umkhanyakude	No.	%
1	Human immunodeficiency virus [HIV] disease (B20-B24)	1 150	17,1
2	Tuberculosis (A15-A19)	1 014	15,0
3	Influenza and pneumonia (J10-J18)	356	5,3
4	Cerebrovascular diseases (I60-I69)	312	4,6
5	Intestinal infectious diseases (A00-A09)	294	4,4
6	Other viral diseases (B25-B34)	207	3,1
7	Other forms of heart disease (I30-I52)	203	3,0
8	Hypertensive diseases (I10-I15)	109	1,6
9	Diabetes mellitus (E10-E14)	105	1,6
10	Chronic lower respiratory diseases (J40-J47)	76	1,1
	Other natural causes	2 440	36,2
	Non-natural causes	477	7,1
	All causes	6 743	

	Umzinyathi	No.	%
1	Tuberculosis (A15-A19)	1 575	18,9
2	Intestinal infectious diseases (A00-A09)	629	7,6
3	Influenza and pneumonia (J10-J18)	550	6,6
4	Cerebrovascular diseases (I60-I69)	366	4,4
5	Other forms of heart disease (I30-I52)	363	4,4
6	Diabetes mellitus (E10-E14)	221	2,7
7	Inflammatory diseases of the central nervous system (G00-G09)	181	2,2
8	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	158	1,9
9	Other viral diseases (B25-B34)	144	1,7
10	Certain disorders involving the immune mechanism (D80-D89)	129	1,6
	Other natural causes	3 422	41,2
	Non-natural causes	574	6,9
	All causes	8 312	100,0

	Uthukela	No.	%
1	Tuberculosis (A15-A19)	1 543	15,4
2	Intestinal infectious diseases (A00-A09)	1 176	11,7
3	Influenza and pneumonia (J10-J18)	1 134	11,3
4	Cerebrovascular diseases (I60-I69)	587	5,8
5	Other forms of heart disease (I30-I52)	544	5,4
6	Certain disorders involving the immune mechanism (D80-D89)	349	3,5
7	Diabetes mellitus (E10-E14)	330	3,3
8	Other acute lower respiratory infections (J20-J22)	281	2,8
9	Inflammatory diseases of the central nervous system (G00-G09)	262	2,6
10	Other viral diseases (B25-B34)	249	2,5
	Other natural causes	2 858	28,4
	Non-natural causes	739	7,4
	All causes	10 052	100,0

	Uthungulu	No.	%
1	Tuberculosis (A15-A19)	2 447	18,6
2	Influenza and pneumonia (J10-J18)	895	6,8
3	Human immunodeficiency virus [HIV] disease (B20-B24)	803	6,1
4	Intestinal infectious diseases (A00-A09)	786	6,0
5	Cerebrovascular diseases (I60-I69)	462	3,5
6	Diabetes mellitus (E10-E14)	456	3,5
7	Other forms of heart disease (I30-I52)	444	3,4
8	Other viral diseases (B25-B34)	352	2,7
9	Hypertensive diseases (I10-I15)	292	2,2
10	Inflammatory diseases of the central nervous system (G00-G09)	286	2,2
	Other natural causes	4 827	36,7
	Non-natural causes	1 104	8,4
	All causes	13 154	100,0

	Zululand	No.	%
1	Tuberculosis (A15-A19)	2 132	19,9
2	Intestinal infectious diseases (A00-A09)	1 011	9,4
3	Influenza and pneumonia (J10-J18)	717	6,7
4	Cerebrovascular diseases (I60-I69)	371	3,5
5	Other forms of heart disease (I30-I52)	311	2,9
6	Other viral diseases (B25-B34)	260	2,4
7	Inflammatory diseases of the central nervous system (G00-G09)	254	2,4
8	Diabetes mellitus (E10-E14)	231	2,2
9	Other acute lower respiratory infections (J20-J22)	206	1,9
10	Certain disorders involving the immune mechanism (D80-D89)	182	1,7
	Other natural causes	4 446	41,4
	Non-natural causes	619	5,8
	All causes	10 740	100,0

Appendix M.5: The ten leading underlying natural causes of death by district municipality, North West, 2007

	Bojanala	No.	%
1	Influenza and pneumonia (J10-J18)	1 364	9,6
2	Tuberculosis (A15-A19)	1 310	9,2
3	Other forms of heart disease (I30-I52)	1 028	7,2
4	Intestinal infectious diseases (A00-A09)	1 005	7,1
5	Cerebrovascular diseases (I60-I69)	541	3,8
6	Certain disorders involving the immune mechanism (D80-D89)	497	3,5
7	Hypertensive diseases (I10-I15)	479	3,4
8	Diabetes mellitus (E10-E14)	393	2,8
9	Other viral diseases (B25-B34)	339	2,4
10	Chronic lower respiratory diseases (J40-J47)	307	2,2
	Other natural causes	5 714	40,2
	Non-natural causes	1 243	8,7
	All causes	14 220	100,0

	Central	No.	%
1	Tuberculosis (A15-A19)	1 486	13,1
2	Influenza and pneumonia (J10-J18)	1 432	12,6
3	Intestinal infectious diseases (A00-A09)	743	6,5
4	Other forms of heart disease (I30-I52)	600	5,3
5	Cerebrovascular diseases (I60-I69)	449	3,9
6	Hypertensive diseases (I10-I15)	391	3,4
7	Chronic lower respiratory diseases (J40-J47)	379	3,3
8	Diabetes mellitus (E10-E14)	328	2,9
9	Certain disorders involving the immune mechanism (D80-D89)	325	2,9
10	Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	202	1,8
	Other natural causes	4 384	38,5
	Non-natural causes	661	5,8
	All causes	11 380	100,0

	Dr. Kenneth Kaunda	No.	%
1	Tuberculosis (A15-A19)	1 970	15,7
2	Influenza and pneumonia (J10-J18)	1 203	9,6
3	Intestinal infectious diseases (A00-A09)	702	5,6
4	Other forms of heart disease (I30-I52)	477	3,8
5	Cerebrovascular diseases (I60-I69)	452	3,6
6	Other viral diseases (B25-B34)	278	2,2
7	Hypertensive diseases (I10-I15)	274	2,2
8	Chronic lower respiratory diseases (J40-J47)	274	2,2
9	Ischaemic heart diseases (I20-I25)	271	2,2
10	Human immunodeficiency virus [HIV] disease (B20-B24)	267	2,1
	Other natural causes	5 234	41,6
	Non-natural causes	1 170	9,3
	All causes	12 572	100,0

	Dr. Ruth Segomotsi-Mompati	No.	%
1	Tuberculosis (A15-A19)	876	12,6
2	Influenza and pneumonia (J10-J18)	766	11,0
3	Intestinal infectious diseases (A00-A09)	533	7,7
4	Other forms of heart disease (I30-I52)	347	5,0
5	Certain disorders involving the immune mechanism (D80-D89)	294	4,2
6	Cerebrovascular diseases (I60-I69)	252	3,6
7	Hypertensive diseases (I10-I15)	202	2,9
8	Other acute lower respiratory infections (J20-J22)	163	2,3
9	Human immunodeficiency virus [HIV] disease (B20-B24)	160	2,3
10	Chronic lower respiratory diseases (J40-J47)	132	1,9
	Other natural causes	2 869	41,3
	Non-natural causes	360	5,2
	All causes	6 954	100,0

Appendix M.6: The ten leading underlying natural causes of death by district municipality, Gauteng, 2007

	City of Johannesburg	No.	%
1	Tuberculosis (A15-A19)	3 267	8,7
2	Influenza and pneumonia (J10-J18)	2 669	7,1
3	Other forms of heart disease (I30-I52)	1 586	4,2
4	Human immunodeficiency virus [HIV] disease (B20-B24)	1 375	3,7
5	Intestinal infectious diseases (A00-A09)	1 298	3,5
6	Cerebrovascular diseases (I60-I69)	1 191	3,2
7	Diabetes mellitus (E10-E14)	1 124	3,0
8	Ischaemic heart diseases (I20-I25)	883	2,4
9	Certain disorders involving the immune mechanism (D80-D89)	806	2,1
10	Malignant neoplasm of digestive organs (C15-C26)	736	2,0
	Other natural causes	18 519	49,3
	Non-natural causes	4 097	10,9
	All causes	37 551	100,0

	City of Tshwane	No.	%
1	Tuberculosis (A15-A19)	2 265	8,7
2	Influenza and pneumonia (J10-J18)	1 905	7,3
3	Other forms of heart disease (I30-I52)	1 778	6,9
4	Intestinal infectious diseases (A00-A09)	1 292	5,0
5	Cerebrovascular diseases (I60-I69)	1 091	4,2
6	Diabetes mellitus (E10-E14)	1 061	4,1
7	Ischaemic heart diseases (I20-I25)	830	3,2
8	Hypertensive diseases (I10-I15)	769	3,0
9	Certain disorders involving the immune mechanism (D80-D89)	765	2,9
10	Malignant neoplasm of digestive organs (C15-C26)	645	2,5
	Other natural causes	10 808	41,7
	Non-natural causes	2 732	10,5
	All causes	25 941	100,0

	Ekurhuleni	No.	%
1	Tuberculosis (A15-A19)	3 384	10,6
2	Influenza and pneumonia (J10-J18)	3 367	10,6
3	Intestinal infectious diseases (A00-A09)	1 706	5,4
4	Other forms of heart disease (I30-I52)	1 377	4,3
5	Cerebrovascular diseases (I60-I69)	1 083	3,4
6	Certain disorders involving the immune mechanism (D80-D89)	907	2,9
7	Diabetes mellitus (E10-E14)	860	2,7
8	Inflammatory diseases of the central nervous system (G00-G09)	757	2,4
9	Other viral diseases (B25-B34)	600	1,9
10	Ischaemic heart diseases (I20-I25)	588	1,8
	Other natural causes	14 150	44,5
	Non-natural causes	3 038	9,5
	All causes	31 817	100,0

	Metsweding	No.	%
1	Tuberculosis (A15-A19)	116	10,9
2	Certain disorders involving the immune mechanism (D80-D89)	106	10,0
3	Other forms of heart disease (I30-I52)	88	8,3
4	Influenza and pneumonia (J10-J18)	82	7,7
5	Intestinal infectious diseases (A00-A09)	78	7,3
6	Hypertensive diseases (I10-I15)	50	4,7
7	Diabetes mellitus (E10-E14)	43	4,0
8	Ischaemic heart diseases (I20-I25)	39	3,7
9	Chronic lower respiratory diseases (J40-J47)	36	3,4
10	Cerebrovascular diseases (I60-I69)	30	2,8
	Other natural causes	249	23,4
	Non-natural causes	148	13,9
	All causes	1 065	100,0

	Sedibeng	No.	%
1	Influenza and pneumonia (J10-J18)	1 913	17,5
2	Tuberculosis (A15-A19)	984	9,0
3	Intestinal infectious diseases (A00-A09)	818	7,5
4	Other forms of heart disease (I30-I52)	668	6,1
5	Cerebrovascular diseases (I60-I69)	543	5,0
6	Diabetes mellitus (E10-E14)	448	4,1
7	Hypertensive diseases (I10-I15)	309	2,8
8	Inflammatory diseases of the central nervous system (G00-G09)	303	2,8
9	Ischaemic heart diseases (I20-I25)	264	2,4
10	Chronic lower respiratory diseases (J40-J47)	247	2,3
	Other natural causes	3 345	30,6
	Non-natural causes	1 097	10,0
	All causes	10 939	100,0

	West Rand	No.	%
1	Tuberculosis (A15-A19)	912	11,7
2	Influenza and pneumonia (J10-J18)	791	10,1
3	Intestinal infectious diseases (A00-A09)	518	6,6
4	Other forms of heart disease (I30-I52)	261	3,3
5	Certain disorders involving the immune mechanism (D80-D89)	253	3,2
6	Cerebrovascular diseases (I60-I69)	246	3,1
7	Diabetes mellitus (E10-E14)	203	2,6
8	Other viral diseases (B25-B34)	173	2,2
9	Ischaemic heart diseases (I20-I25)	168	2,1
10	Chronic lower respiratory diseases (J40-J47)	153	2,0
	Other natural causes	3 366	43,0
	Non-natural causes	779	10,0
	All causes	7 823	100,0

Appendix M.7: The ten leading underlying natural causes of death by district municipality, Mpumalanga, 2007

	Ehlanzeni	No.	%		Gert Sibande	No.	%		Nkangala	No.	%
1	Tuberculosis (A15-A19)	3 307	16,0	1	Tuberculosis (A15-A19)	1 986	13,4	1	Tuberculosis (A15-A19)	1 513	11,9
2	Intestinal infectious diseases (A00-A09)	2 462	11,9	2	Influenza and pneumonia (J10-J18)	1 722	11,6	2	Influenza and pneumonia (J10-J18)	1 503	11,8
3	Influenza and pneumonia (J10-J18)	2 005	9,7	3	Intestinal infectious diseases (A00-A09)	1 326	9,0	3	Intestinal infectious diseases (A00-A09)	991	7,8
4	Cerebrovascular diseases (I60-I69)	1 234	6,0	4	Certain disorders involving the immune mechanism (D80-D89)	893	6,0	4	Other forms of heart disease (I30-I52)	788	6,2
5	Certain disorders involving the immune mechanism (D80-D89)	689	3,3	5	Other forms of heart disease (I30-I52)	501	3,4	5	Cerebrovascular diseases (I60-I69)	556	4,4
6	Other forms of heart disease (I30-I52)	657	3,2	6	Cerebrovascular diseases (I60-I69)	488	3,3	6	Diabetes mellitus (E10-E14)	467	3,7
7	Diabetes mellitus (E10-E14)	534	2,6	7	Diabetes mellitus (E10-E14)	413	2,8	7	Hypertensive diseases (I10-I15)	452	3,6
8	Inflammatory diseases of the central nervous system (G00-G09)	505	2,4	8	Chronic lower respiratory diseases (J40-J47)	336	2,3	8	Certain disorders involving the immune mechanism (D80-D89)	403	3,2
9	Human immunodeficiency virus [HIV] disease (B20-B24)	500	2,4	9	Hypertensive diseases (I10-I15)	316	2,1	9	Chronic lower respiratory diseases (J40-J47)	366	2,9
10	Other acute lower respiratory infections (J20-J22)	442	2,1	10	Noninfective enteritis and colitis (K50-K52)	296	2,0	10	Ischaemic heart diseases (I20-I25)	281	2,2
	Other natural causes	6 798	33,0		Other natural causes	5 449	36,8		Other natural causes	4 078	32,1
	Non-natural causes	1 480	7,2		Non-natural causes	1 065	7,2		Non-natural causes	1 308	10,3
	All causes	20 613	100,0		All causes	14 791	100,0		All causes	12 706	100,0

Appendix M.8: The ten leading underlying natural causes of death by district municipality, Limpopo, 2007

	Capricorn	No.	%
1	Influenza and pneumonia (J10-J18)	1 803	12,0
2	Tuberculosis (A15-A19)	1 396	9,3
3	Intestinal infectious diseases (A00-A09)	1 334	8,9
4	Other forms of heart disease (I30-I52)	623	4,2
5	Cerebrovascular diseases (I60-I69)	559	3,7
6	Diabetes mellitus (E10-E14)	536	3,6
7	Hypertensive diseases (I10-I15)	477	3,2
8	Chronic lower respiratory diseases (J40-J47)	349	2,3
9	Certain disorders involving the immune mechanism (D80-D89)	336	2,2
10	Inflammatory diseases of the central nervous system (G00-G09)	222	1,5
	Other natural causes	6 215	41,5
	Non-natural causes	1 142	7,6
	All causes	14 992	100,0

	Greater Sekhukhune	No.	%
1	Influenza and pneumonia (J10-J18)	1 982	17,6
2	Intestinal infectious diseases (A00-A09)	1 124	10,0
3	Tuberculosis (A15-A19)	1 100	9,8
4	Other forms of heart disease (I30-I52)	903	8,0
5	Cerebrovascular diseases (I60-I69)	628	5,6
6	Certain disorders involving the immune mechanism (D80-D89)	422	3,8
7	Diabetes mellitus (E10-E14)	414	3,7
8	Hypertensive diseases (I10-I15)	410	3,6
9	Chronic lower respiratory diseases (J40-J47)	330	2,9
10	Diseases of oesophagus, stomach and duodenum (K20-K31)	189	1,7
	Other natural causes	3 048	27,1
	Non-natural causes	700	6,2
	All causes	11 250	100,0

	Mopani	No.	%
1	Intestinal infectious diseases (A00-A09)	1 037	9,1
2	Influenza and pneumonia (J10-J18)	1 003	8,8
3	Tuberculosis (A15-A19)	923	8,1
4	Cerebrovascular diseases (I60-I69)	433	3,8
5	Other forms of heart disease (I30-I52)	323	2,8
6	Diabetes mellitus (E10-E14)	276	2,4
7	Noninfective enteritis and colitis (K50-K52)	241	2,1
8	Inflammatory diseases of the central nervous system (G00-G09)	195	1,7
9	Certain disorders involving the immune mechanism (D80-D89)	155	1,4
10	Chronic lower respiratory diseases (J40-J47)	132	1,2
	Other natural causes	6 034	52,8
	Non-natural causes	681	6,0
	All causes	11 433	100,0

	Vhembe	No.	%
1	Tuberculosis (A15-A19)	955	9,8
2	Intestinal infectious diseases (A00-A09)	805	8,3
3	Influenza and pneumonia (J10-J18)	688	7,1
4	Cerebrovascular diseases (I60-I69)	390	4,0
5	Diabetes mellitus (E10-E14)	384	3,9
6	Other forms of heart disease (I30-I52)	323	3,3
7	Diseases of liver (K70-K77)	191	2,0
8	Other bacterial diseases (A30-A49)	136	1,4
9	Malignant neoplasm of digestive organs (C15-C26)	134	1,4
10	Renal failure (N17-N19)	115	1,2
	Other natural causes	4 951	50,9
	Non-natural causes	656	6,7
	All causes	9 728	100,0

	Waterberg	No.	%
1	Influenza and pneumonia (J10-J18)	611	10,9
2	Tuberculosis (A15-A19)	607	10,8
3	Intestinal infectious diseases (A00-A09)	486	8,7
4	Other forms of heart disease (I30-I52)	250	4,5
5	Cerebrovascular diseases (I60-I69)	209	3,7
6	Certain disorders involving the immune mechanism (D80-D89)	188	3,3
7	Diabetes mellitus (E10-E14)	146	2,6
8	Hypertensive diseases (I10-I15)	145	2,6
9	Chronic lower respiratory diseases (J40-J47)	102	1,8
10	Ischaemic heart diseases (I20-I25)	100	1,8
	Other natural causes	2 277	40,6
	Non-natural causes	491	8,7
	All causes	5 612	100,0