

# Statistical release

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### Mortality and causes of death in South Africa, 2005: Findings from death notification

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## Mortality and causes of death in South Africa, 2005: 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 2005. Reference is also made to the 1997–2004 mortality data to provide information on trends, based on updated information that includes late registrations processed in 2006.

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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## 1. Introduction

### 1.1 Background

Accurate mortality statistics are needed for policy formulation, implementation and monitoring of health interventions aimed at increasing life expectancy and improvements in health. 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 systematic collection and processing of mortality data in South Africa is an ongoing process. Concerted efforts to improve the quality of data have resulted in a dramatic improvement of the death registration system in South Africa over the last decade.

### 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. It has three main aims:

- To outline emerging trends and differentials of mortality by selected demographic and geographic characteristics in 2005.
- To present statistics on the causes of death in 2005 based on information from the death notification forms. The main focus is on the underlying causes of death, as this information is 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 the death notification forms.

### 1.3 Scope and limitations of this statistical release

This release is based on the information that had reached Stats SA during the 2006 processing phase. The number of deaths discussed in this release excludes stillbirths. Several technical terms are used in this release. The definitions of these terms 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 from the death notification forms are subject to content errors and omissions. Even though provision is made on the death notification form to record marital status, education, occupation, and industrial sector in which the person worked, these variables have not been analysed in this release, due to lack of completeness. Location of death could be provided at the level of province only.
- Another limitation of the data used in this study is the probable 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 an under-estimation of some causes of death. Thus, it is not possible to calculate mortality rates using this data without first adjusting for the incompleteness of reporting. Deriving estimates of completeness of death registration in the country is a complex issue and is not part of this release. However, the report provides an indication of completeness of the information published for 2005.
- The causes of death may also be misreported on the form. This happens when an incorrect cause of death is given. Furthermore, the causes of death reported on the form may not be detailed (i.e. an ill-defined cause of death). The quality of the reported information is determined largely by the diligence and integrity of the certifying official – physician, professional nurse or in some rural areas

traditional headman. For example, the certifying officials sometimes write 'natural causes' instead of stating the actual cause.

- The codes used for children aged below one year have to be treated with caution. Due to the large volume of data that needed to be processed from 1997 onwards, Stats SA decided to use P-codes for all children under the age of one year, without taking into consideration specific age in days, weeks or months at death. From the next processing phase (covering 2006 deaths), coding will take into consideration the exact age at death for all infants.

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.

This release covers mortality and causes of death broadly, and hence does not focus specifically on HIV and AIDS. It does, however, provide indirect evidence that HIV may be contributing to the increase in the level of mortality for prime-aged adults, given the increase in the number of deaths due to associated diseases. The data captured through this exercise can contribute to detailed studies in which the incidence of deaths due to AIDS-related conditions is estimated.

#### **1.4 Organisation and presentation of this 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. The section also provides an overview of the data processing and the methods used to determine the underlying causes of death.

Section 3 reports on the overall levels, patterns, and trends of mortality. Specific emphasis is placed on age, sex and geographic differences.

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.

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 2005. The death notification form that is currently being used (Form BI-1663) was introduced in 1998. This form replaced the BI-7 and BI-12 forms that were previously used. An example of the new death notification form (Form BI-1663) is shown in Appendix B.

Death registration takes place at the DHA, using BI-1663 form. After a death is registered, the DHA issues a death certificate and where applicable, updates the population register. The forms are then collected by Stats SA for processing. It should be noted that the number of deaths captured by Stats SA from the forms received is not identical to the number of deaths recorded on the population register for the same period. According to the DHA, there are often delays in sending death notification forms from the provinces, such that not all forms received by the DHA reach Stats SA on time for processing for any specific year. In addition, deaths of people without identification numbers are not recorded on the population register, but are included in the information published by Stats SA. As such, the number of deaths for any particular year, based on death notification forms processed by Stats SA, is usually higher than the number of deaths recorded on the population register at the DHA.

For the 2006 processing phase, a total of 591 213 deaths that occurred in 2005 were recorded at the DHA and processed by Stats SA. This figure is 10,3% more than the number of deaths recorded on the population register (536 213 deaths) during the same period. The percentage increase in the number of deaths between 2004 and 2005 processed by Stats SA was 3,3% (from 572 350 deaths in 2004 to 591 213 in 2005) and 4,2% for those recorded on the population register at the DHA (from 514 571 deaths in 2004 to 536 213 death in 2005).

#### **Completeness of information**

The registration of deaths has improved significantly over the last decade as a direct result of the government's efforts to improve the vital registration system. Estimates of the completeness of adult death registration suggest that the completeness of death registration increased from 73% in 1997 to 87% in 2004 for males and from 63% in 1997 to 82% in 2004 for females (Stats SA, 2006). These estimates were based on an indirect demographic method developed by Preston and Hill (1980).

To provide estimates of the level of completeness of the deaths reported in this statistical release, Preston and Hill (1980) method was also used. 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 based on the fact that the method is able to provide annual completeness estimates and that it has minimal input requirements compared to other methods that were considered. However, readers are cautioned against the interpretation of the completeness estimate derived from the Preston and Hill 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. It should also be noted that this method provides estimates of completeness of published information for deaths from age five.

The estimate of completeness of the number of deaths published in this release based on the Preston and Hill method (1980), is about 90% for males and 88% for females for deaths that occurred in 2005. These estimates are slightly higher than those observed for deaths in 2004 that were published in 2006 (87% for males and 82% for females). 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 processing phase.

Another indicator of completeness of information published in this release is based on the percentage of cases where information was unspecified or unknown for specific variables. For a relatively large percentage of deaths (25,5%), the population group was not recorded. Less than 1% of deaths had unspecified or unknown information for sex (0,3%) and for age (0,5%).

### **Late registrations**

The current processing phase (2006) included death notification forms for deaths that occurred in 2005 and additional death notification forms for the years 1997–2004 that had not been received by Stats SA in the previous processing phases. Table 2.1 provides information on the number of deaths published in May 2006 for the years 1997–2004, additional forms received in the current processing phase for these years and the overall number of deaths for each year as of November 2006. In total, 7 491 additional death notification forms for 1997–2004 were received in the 2006 processing phase. The majority of these (64,9%) were deaths that occurred in 2004. Very few or no additional forms were received for 1997–1999.

**Table 2.1: Number of deaths published in May 2006 and late registrations processed in 2006 processing phase by year of death: 1997–2004**

<b>Year of death</b>	<b>Number of deaths published in May 2006</b>	<b>Additional forms received in the 2006 processing phase</b>	<b>Total number of deaths (by November 2006)</b>
1997	316 505	2	316 507
1998	365 053	0	365 053
1999	380 982	0	380 982
2000	413 736	795	414 531
2001	452 896	508	453 404
2002	499 494	431	499 925
2003	552 825	893	553 718
2004	567 488	4 862	572 350

Given that 7 491 additional forms for 1997–2004 were received and processed by Stats SA during the current processing phase, this release will use the updated information for all comparative analyses undertaken between 2005 data and other previous years. The distribution of these updated deaths (deaths published in May 2006 and additional deaths received during the 2006 processing phase) from 1997–2004 by age and sex is provided in Appendices C and C.1.

A dataset containing information on recorded deaths for 2005 and updated deaths for 1997–2004 is available on a compact disc (*Mortality and causes of death from death notification, South Africa: 1997–2005*) on request from Stats SA (Stats SA, 2007).

## **2.2 Methods**

### **Overview of data processing**

The death notification forms were collected by Stats SA from the Department of Home Affairs. The forms were then sorted by year of death, month, day and finally by surname of the deceased in alphabetical order. The main purpose was to identify and remove duplicates. Most of the duplicates were identified during this stage. During data processing, unique identifiers (serial numbers) were developed for each form for the purpose of tracking the forms through the capturing and processing phases. Because of the complexity of the coding of diseases, Stats SA decided that all variables, except the actual causes of death, should be coded, to expedite the process. Thereafter, the causes of death were manually coded. Causes of death coding followed a two-step process entailing initial coding and then verification by more experienced coders. Afterwards the data were captured and duplicates

verified to ensure that all the death notification forms identified as duplicates during sorting were indeed duplicates, and to identify any that were mistakenly taken out as duplicates.

### ***Classification of the causes of death***

The causes of death data presented in this release were coded by procedures described in the Stats SA manual *Guidelines for coders using ICD-10*<sup>1</sup> (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 certificate, 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. However, the ICD-10 has been adopted by member states, and the National Health Information System of South Africa has adopted it as its standard.

Mortality statistics released in this document are compiled in accordance with WHO regulations that specify 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. However, some researchers, especially those analysing causes of death over a long period spanning several revisions of the ICD codes, have reclassified individual causes of death into what these researchers have considered to be appropriate groups. In some instances, the main purpose of the regrouping was to remove the effect of different versions of the ICD coding system. For example, in the ICD-9 coding system, respiratory failure was grouped under the chapter on 'Symptoms, signs and ill-defined conditions', while in ICD-10, respiratory failure was placed in the chapter on 'Diseases of the respiratory system'.

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 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.

Coding the causes of death entailed a coder assigning an ICD-10 code for each cause of death recorded on the death notification form. An experienced coder then checked and confirmed the allocated codes.

### ***Automated generation of the underlying causes of death***

More medical information may be reported on the death notification form than that reflected in the underlying cause of death. This information is referred to as multiple causes and is entered on the form. The underlying cause is determined by:

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<sup>1</sup> 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.

- the sequence of the conditions listed on the form, or
- the provisions of the ICD-10 and associated rules and modifications.

Once the causes of death given on the death notification forms had been coded as described above, the underlying causes of death were derived automatically, using a software program called Automated Classification of Medical Entities (ACME 2004.02) 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.

For more information on the ACME program and an evaluation of the coding quality, the reader is referred to the following websites:

[www.cdc.gov/nchs/](http://www.cdc.gov/nchs/)

[www.who.int/classifications/icd/en/](http://www.who.int/classifications/icd/en/)

[www.who.int/classifications/network/en/](http://www.who.int/classifications/network/en/)

The Stats SA coding manual prescribes the use of three-character codes while the ACME program requires four-character codes in deriving the underlying cause of death. A conversion program was therefore applied to the codes for the ACME system to recognise the data as valid input. In most of the cases, the fourth character was '9' or '8', indicating that the detail of the coded disease was not specified.

While the automatic system did not resolve all coded cases for the current processing phase, it did so for an overwhelming majority of cases. The underlying causes of death were automatically derived for 99,2% of the records. The underlying causes for the remaining cases were manually derived. The preparation of the ACME 2001 input file involved the following:

- a) Conversion of the captured ICD-10 codes into the required ACME format.
- b) Comparison of coded value sets for up to five causes of death (cause A, B, C, D and other causes of death, with the associated injury when necessary) with the valid value sets in the ACME instruction manual, and editing where necessary.

ACME input data exclude stillbirths. 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) are 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 2.2 shows the number of deaths that fell in these categories and were therefore excluded from ranking of natural underlying causes of death.

Most of these cases (91,4%) were ill-defined and unknown causes of mortality, a group which includes causes such as 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.

A total of 72 411 deaths were excluded from the analysis of deaths for 2005, in terms of identifying the leading underlying causes of death. The overall percentage of all deaths with *symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified*, as an underlying cause of death for 2005 was 12,2%. In 1997 and 1998, the percentages were 13,1% and 13,7% respectively. This indicates a decrease in the percentage of deaths with *symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified*.

**Table 2.2: Number and percentage distribution of deaths due to symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified: 2005**

<b>ICD-10 Chapter 18 causes</b>	<b>Number</b>	<b>%</b>
Symptoms and signs involving the circulatory and respiratory systems (R00–R09)	725	1,0
Symptoms and signs involving the digestive system and abdomen (R10–R19)	349	0,5
Symptoms and signs involving the skin and subcutaneous tissue (R20–R23)	12	0,0
Symptoms and signs involving the nervous and musculoskeletal systems (R25–R29)	15	0,0
Symptoms and signs involving the urinary system (R30–R39)	14	0,0
Symptoms and signs involving cognition, perception, emotional state and behaviour (R40–R46)	54	0,1
Symptoms and signs involving speech and voice (R47–R49)	5	0,0
General symptoms and signs (R50–R69)	4 962	6,9
Abnormal findings on examination of blood without diagnosis (R70–R79)	53	0,1
Abnormal findings on examination of urine without diagnosis (R80–R82)	1	0,0
Abnormal findings on examination of other fluids, substances and tissues without diagnosis (R83–R89)	17	0,0
Abnormal findings on diagnostic imaging in function studies without diagnosis (R90–R94)	14	0,0
Ill-defined and unknown causes of mortality (R95–R99)	66 190	91,4
<b>Subtotal</b>	<b>72 411</b>	<b>100,0</b>
Symptoms and signs (R00–R99)	72 411	12,2
Other causes	518 802	87,8
<b>All causes</b>	<b>591 213</b>	<b>100,0</b>

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 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.

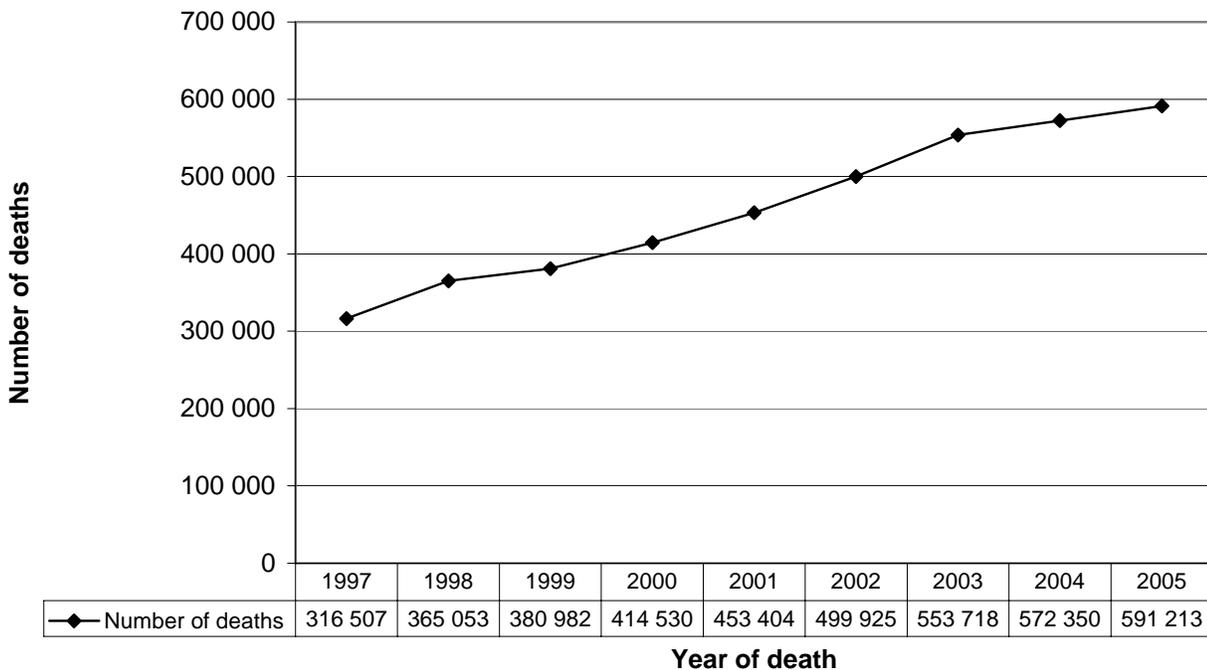
### 3. Overall levels, patterns and differentials of mortality

This section reports on the distribution of deaths that occurred in 2005 by age, sex, population group, province, place of death, smoking status of the deceased and pregnancy status of deceased women. The overall number of deaths is also provided by year of death for the period 1997–2005 to show trends in the number of deaths. Information pertaining to 1997–2004 deaths refers to updated data that include late registrations processed in 2006. The analyses on the number of deaths exclude stillbirths.

#### 3.1 The levels and trends of registered deaths

The overall number of registered deaths has increased consistently for each year from 1997 to 2005 as shown in Figure 3.1. In 2005, there were 591 213 deaths, indicating an increase of 3,3% from the total of 572 350 deaths that occurred in 2004. The increase in the number of deaths from one year to another may partly be attributed to improvements in death registration and population growth.

Figure 3.1: Distribution of registered deaths by year of death: 1997–2005\*



\*Data for 1997–2004 updated to include late registrations processed in 2006.

#### 3.2 Age differentials

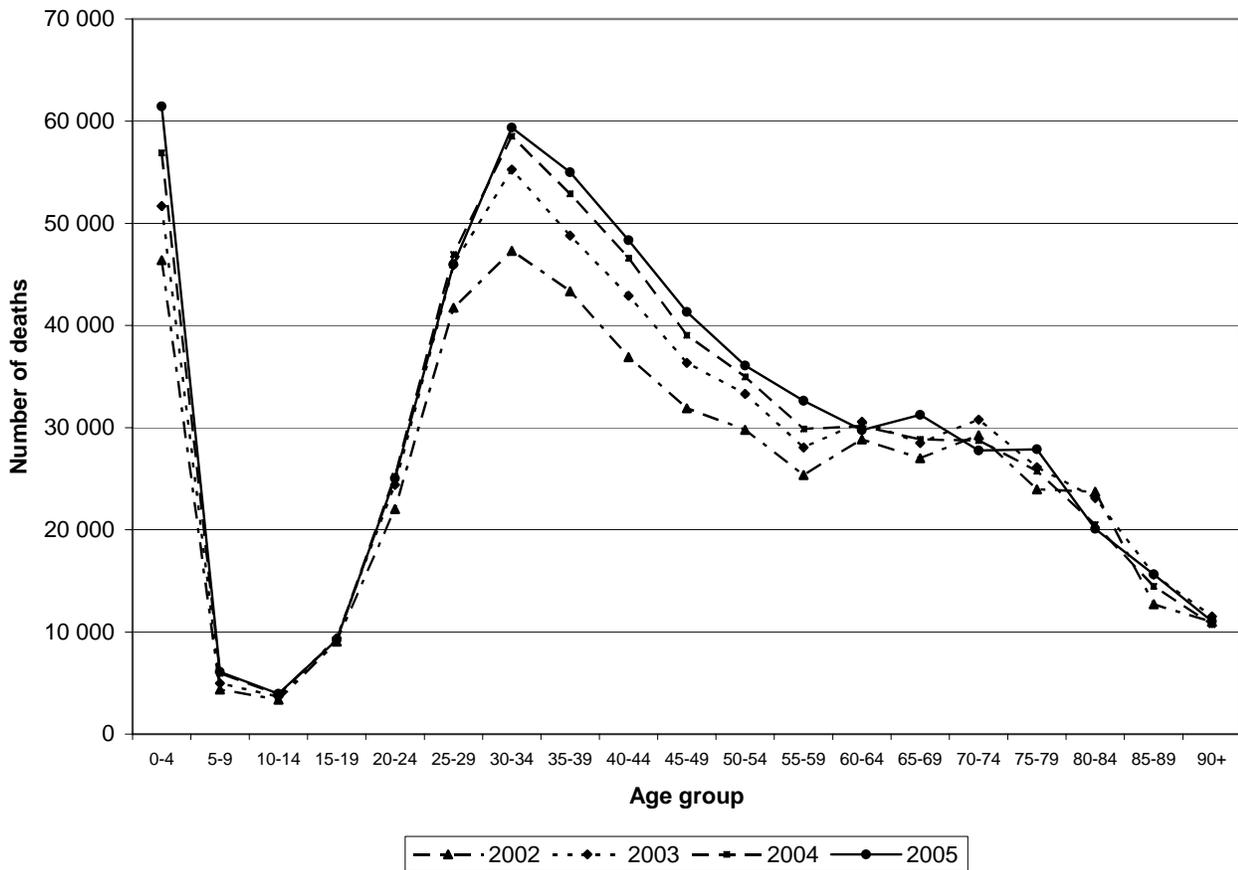
The highest number of deaths that occurred in 2005 was among those aged 0–4 years, followed by those aged 30–34 years (see Table 3.1). The lowest number of deaths was among those aged 10–14 years. From age group 0–4, the number of deaths decreased drastically up to age group 5–9, reached the lowest level in age group 10–14, after which there was an increase in the number of deaths up to age group 30–34. The number of deaths then generally declined with age.

Comparative data for 2002–2004 indicate that the age pattern of mortality is generally the same as that observed in 2005 (see Figure 3.2). The main difference is that while the highest number of deaths in 2005 was observed in age group 0–4 followed by age group 30–34, more deaths occurred in age group 30–34 followed by age group 0–4 during 2002–2004. For all the years, the lowest number of deaths occurred in age group 10–14.

**Table 3.1: Number and percentage distribution of deaths by age, 2005**

Age group	Number	Percentage
0-4	61 461	10,4
5-9	6 098	1,0
10-14	3 968	0,7
15-19	9 224	1,6
20-24	25 029	4,2
25-29	45 982	7,8
30-34	59 360	10,0
35-39	55 011	9,3
40-44	48 367	8,2
45-49	41 323	7,0
50-54	36 094	6,1
55-59	32 640	5,5
60-64	29 749	5,0
65-69	31 247	5,3
70-74	27 757	4,7
75-79	27 884	4,7
80-84	20 098	3,4
85-89	15 648	2,6
90+	11 051	1,9
Unspecified	3 222	0,5
<b>Total</b>	<b>591 213</b>	<b>100,0</b>

**Figure 3.2: Distribution of deaths by age, 2002-2005\***



\*Excluding deaths with unspecified age (2 029 deaths in 2002; 2 791 deaths in 2003; 3 073 deaths in 2004 and 3 222 deaths in 2005). Data for 2002-2004 updated to include late registrations processed in 2006.

### 3.3 Age and sex differentials

There were slightly more male (50,3%) than female deaths (49,4%). About 0,3% of the deaths had unspecified information on the sex of the deceased. Between 2004 and 2005, female deaths increased by 3,9% (from 281 185 deaths in 2004 to 292 017 deaths in 2005), while male deaths increased by 2,7% (from 289 567 deaths in 2004 to 297 517 deaths in 2005). The updated information on age and sex distribution for deaths from 1997 to 2004 is shown in Appendices C and C.1.

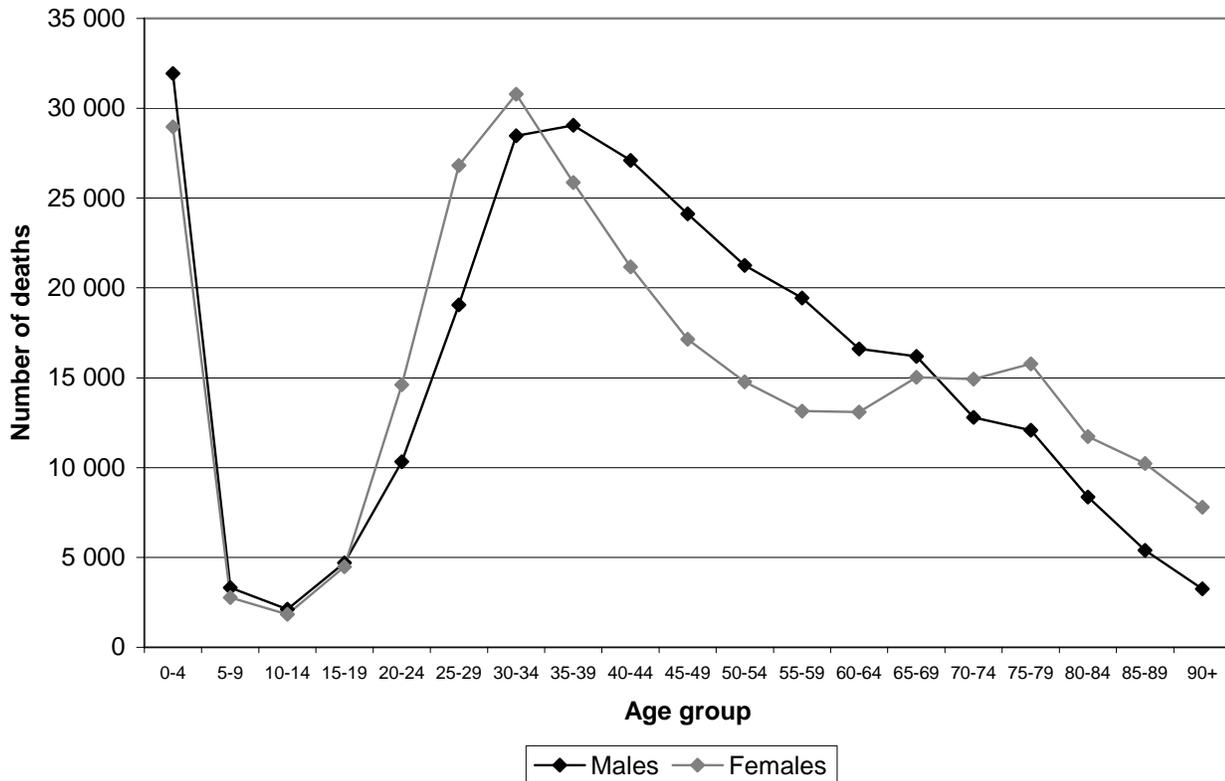
The age and sex patterns of deaths are shown in Table 3.2 and Figure 3.3. Among male deaths, the highest number occurred to those aged 0–4, followed by those aged 35–39. For female deaths, the highest was among those aged 30–34, followed by those aged 0–4. For both males and females, the lowest number of deaths occurred among those aged 10–14. Crude measures of age specific death rates for the total population, males and females (unadjusted for incompleteness) are shown in Appendix D to provide an indication of the age pattern of mortality by taking into consideration the males, females and total population at each age group.

**Table 3.2: Number and percentage distribution of deaths by age and sex, 2005\***

Age group	Number		Percentage	
	Males	Females	Males	Females
0–4	31 941	28 977	10,7	9,9
5–9	3 315	2 762	1,1	0,9
10–14	2 119	1 833	0,7	0,6
15–19	4 691	4 482	1,6	1,5
20–24	10 330	14 614	3,5	5,0
25–29	19 055	26 823	6,4	9,2
30–34	28 472	30 786	9,6	10,5
35–39	29 048	25 870	9,8	8,9
40–44	27 107	21 180	9,1	7,3
45–49	24 114	17 135	8,1	5,9
50–54	21 261	14 777	7,1	5,1
55–59	19 445	13 148	6,5	4,5
60–64	16 615	13 100	5,6	4,5
65–69	16 184	15 028	5,4	5,1
70–74	12 801	14 923	4,3	5,1
75–79	12 081	15 768	4,1	5,4
80–84	8 355	11 722	2,8	4,0
85–89	5 401	10 230	1,8	3,5
90+	3 244	7 793	1,1	2,7
Unspecified	1 938	1 066	0,7	0,4
<b>Total</b>	<b>297 517</b>	<b>292 017</b>	<b>100,0</b>	<b>100,0</b>

\*Excluding 1 679 deaths with unspecified sex.

**Figure 3.3: Distribution of deaths by age and sex, 2005\***



\*Excluding a total of 4 683 cases with unknown sex and unknown age; known sex and unknown age; and known age and unknown sex.

**Sex ratios**

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 are an equal number of male and female deaths, a number less than 100 indicates more female deaths and a number more than 100 indicates more male deaths. The overall sex ratio of deaths is 102 male deaths per 100 female deaths, indicating slightly more male deaths than female deaths.

Table 3.3 shows that there were more male deaths than female deaths from age group 0–4 up to 15–19, after which there were more female 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 deaths. Sex ratios consistently declined with age from age group 55–59.

**Table 3.3: Distribution of sex ratios by age, 2005**

Age group	Sex ratio
0-4	110
5-9	120
10-14	116
15-19	105
20-24	71
25-29	71
30-34	92
35-39	112
40-44	128
45-49	141
50-54	144
55-59	148
60-64	127
65-69	108
70-74	86
75-79	77
80-84	71
85-89	53
90+	42
Unspecified	182
<b>Total</b>	<b>102</b>

### 3.4 Population group differences in mortality

About a quarter of registered deaths in 2005 had population group classified as 'other', unspecified or unknown. As in the previous years, the results on population groups have to be treated with caution as a result of this high percentage of unknown, unspecified, or 'other' population groups.

The distribution provided in Table 3.4 shows that compared to other population groups, black Africans had the highest number of registered deaths (63,1%). For all population groups, except the white population group, there was an increase in the number of deaths registered in 2005 when compared with 2004 data. The highest increase of 4,0% (from 358 588 deaths in 2004 to 372 973 deaths in 2005) was observed among black Africans. The group with the second highest increase was the Indians/Asians, with an increase of 3,1% (from 7 141 deaths in 2004 to 7 362 deaths in 2005) and then the coloured population with an increase of 2,4% (from 24 933 deaths in 2004 to 25 531 deaths in 2005). The number of deaths for the white population group decreased by 1,8% (from 35 404 deaths in 2004 to 34 776 deaths in 2005).

**Table 3.4: Number and percentage distribution of deaths by population group, 2005**

Population Group	Number	Percentage
Black African	372 973	63,1
Coloured	25 531	4,3
Indian/Asian	7 362	1,2
White	34 776	5,9
'Other', unspecified or unknown	150 571	25,5
<b>Total</b>	<b>591 213</b>	<b>100,0</b>

### 3.5 Differences in mortality by province

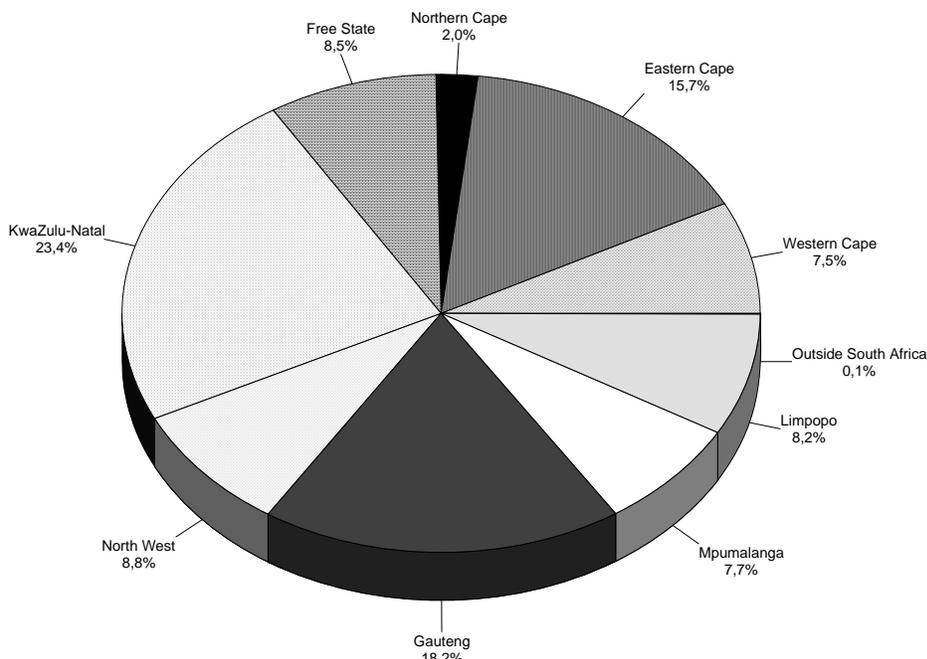
Information on the distribution of deaths by province is provided in Table 3.5 and Figure 3.4. Nearly one quarter (23,4%) of the deaths occurred in KwaZulu-Natal, followed by Gauteng (18,2%) and Eastern Cape (15,7%). The lowest percentage of deaths occurred in Northern Cape (2,0%). Less than 1% of deaths occurred outside South Africa. It is important to note that the distribution of deaths by province to a large extent represents the distribution of the total population by province.

The distribution of deaths by province in 2005 is almost similar to that observed in 2004 in terms of percentages and rank (from highest to lowest in the number of deaths). Furthermore, the number of deaths has increased between 2004 and 2005 in all provinces, except in Northern Cape where the number of deaths decreased by 3,1% (from 12 445 deaths in 2004 to 12 058 deaths in 2005).

**Table 3.5: Number and percentage distribution of deaths by province of death, 2005**

Province of death	Number	Percentage
Western Cape	44 396	7,5
Eastern Cape	92 915	15,7
Northern Cape	12 058	2,0
Free State	50 210	8,5
KwaZulu-Natal	138 206	23,4
North West	52 055	8,8
Gauteng	107 528	18,2
Mpumalanga	45 234	7,7
Limpopo	48 222	8,2
Outside South Africa	389	0,1
<b>Total</b>	<b>591 213</b>	<b>100,0</b>

**Figure 3.4: Percentage distribution of deaths by province, 2005**



### 3.6 Differences in mortality by place of death

Table 3.6 shows that the highest number of deaths occurred in hospitals, followed by those which occurred at home. The lowest percentage of deaths (1,7%) occurred in hospital emergency rooms. This pattern is similar to that observed in 2004.

**Table 3.6: Number and percentage distribution of deaths by place of death, 2005**

Place of death	Number	Percentage
Hospital	246 329	41,7
Emergency room/Outpatient	10 017	1,7
Dead on arrival	14 844	2,5
Nursing home	13 549	2,3
Home	196 392	33,2
Other	25 346	4,3
Unspecified or unknown	84 736	14,3
<b>Total</b>	<b>591 213</b>	<b>100,0</b>

## 4. Causes of death in South Africa

### 4.1 Introduction

This section presents information on the causes of death for individual deaths, excluding stillbirths, which occurred in 2005. Firstly, it provides information on the number of causes of death recorded on the death notification forms. It then gives a breakdown of deaths according to the selected 19 main groups (chapters) of 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 according to the leading underlying causes, using the ranking described in Section 2 of this release. This analysis is undertaken for the South African population as a whole, for males and females, for various age groups and for the nine provinces of the country.

Non-natural underlying causes of death are then treated as a separate group, in view of the concern in South Africa about levels of violence and deaths due to accidents. 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 Inquest 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 basically gives an overview of the recorded instances of multiple causes of death.

It is important to note that where reference is made to the data of 1997–2004, information refers to updated data that include late registrations processed in 2006.

### 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. Table 4.1 provides information on the number of causes of death reported on each death notification form for deaths that occurred in 2005. The majority of forms (60,4%) had one cause recorded per form and about a quarter (26,8%) had two causes recorded. Less than 1% of the forms had five or more causes reported on one form. Only 0,1% of the forms had no cause of death given. This mainly includes cases in which only the first page of the death notification form was received by Stats SA. The percentage distribution of the number of death notification forms by the number of causes entered on the form for 2005 is almost similar to that observed in 2004.

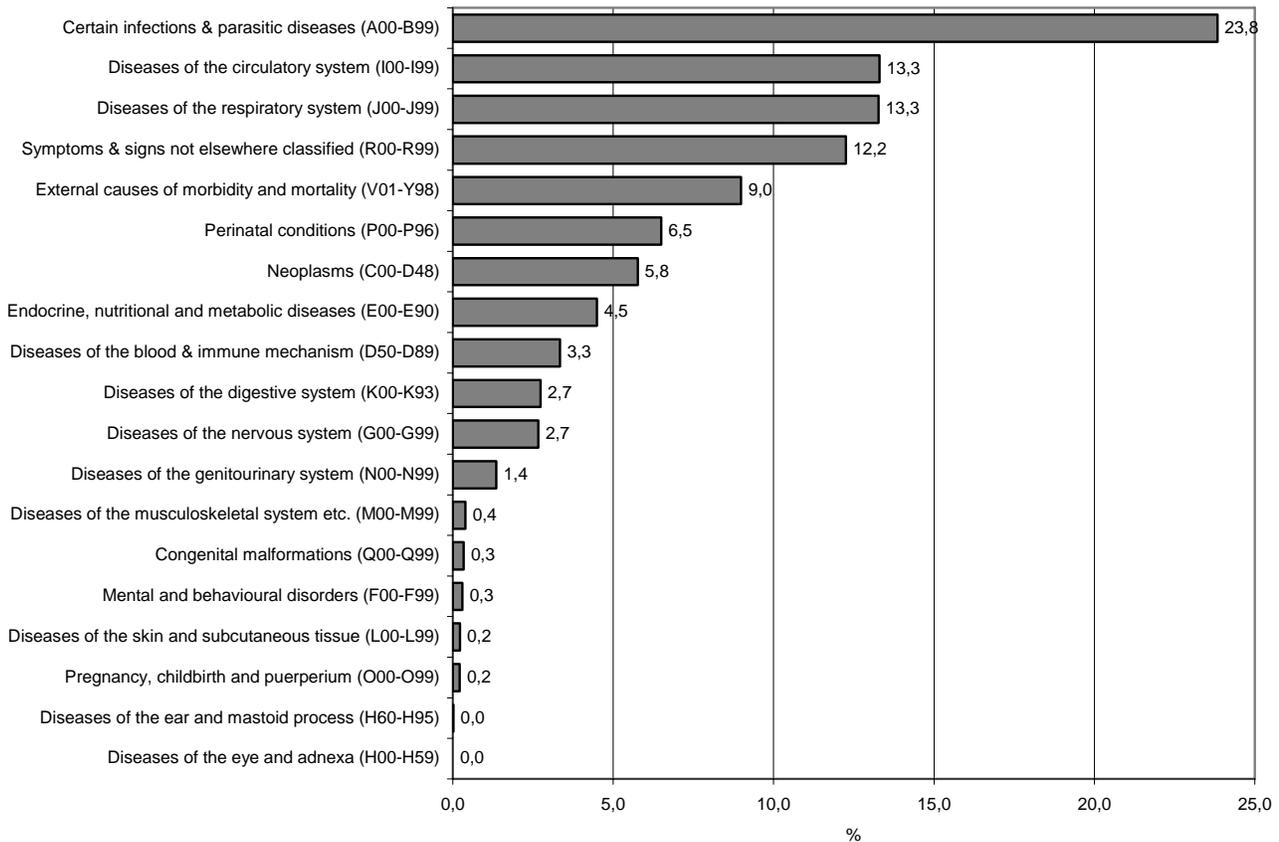
**Table 4.1: Distribution of death notification forms by the number of causes entered on the form, 2005**

Number of reported causes of death	Number of death notification forms	Percentage
No cause given	375	0,1
One cause	357 088	60,4
Two causes	158 168	26,8
Three causes	56 495	9,6
Four causes	15 315	2,6
Five or more causes	3 772	0,6
<b>Total</b>	<b>591 213</b>	<b>100,0</b>

### 4.3 Overview of the underlying causes of death

This subsection gives an overview of the underlying causes of death for the 19 main groups (chapters) of classification of causes of death (excluding *injury, poisoning and certain consequences of external causes (S00–T98), factors influencing health status and contact with health services (Z00–Z99) and codes for special purposes (U00–U99)*. Figure 4.1 shows these 19 groups ranked by the most common causes of death. The most common cause of death in 2005 was *certain infections and parasitic diseases*, comprising almost a quarter (23,8%) of all deaths. This was followed by *diseases of the circulatory system* and then *diseases of the respiratory system*. About half (50,4%) of all deaths were due to these three causes. The five most common causes of death in 2005 classified by the 19 main groups remain the same as those observed in 2004.

**Figure 4.1: Main groups of causes of death, 2005**



### 4.4 Natural and non-natural causes of death

The distribution of natural and non-natural causes of death from 1997 to 2005 is shown in Table 4.2 and Figure 4.2. It is observed that throughout the years, the majority of deaths were natural deaths. More than 90% of all deaths from 2003 to 2005 were due to natural causes. The percentage of deaths due to natural causes has consistently increased over time and vice versa for non-natural deaths.

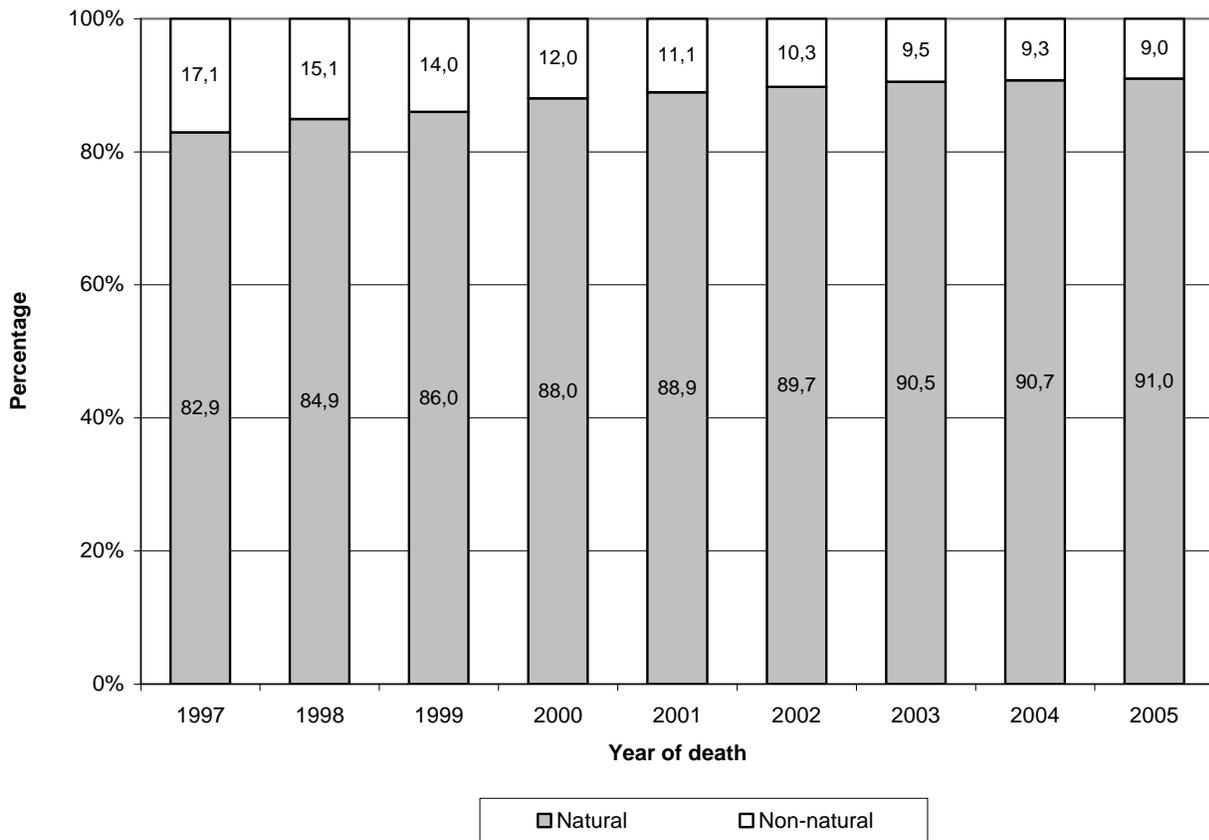
The number of natural deaths increased steadily from 262 457 in 1997 to 538 085 in 2005. However, non-natural deaths have more or less remained constant at between 50 000 and 55 000 deaths per year. The overall increase in the number of deaths over time is largely influenced by the increase in the number of natural deaths. Between 2004 and 2005, natural deaths increased by 3,6% while the number of non-natural deaths increased by 0,3%.

**Table 4.2: Number and percentage distribution of natural and non-natural deaths, 1997–2005\***

Year of death	Number of deaths			Percentage		
	Natural	Non-natural	Total	Natural	Non-natural	Total
1997	262 457	54 050	316 507	82,9	17,1	100,0
1998	310 010	55 043	365 053	84,9	15,1	100,0
1999	327 703	53 279	380 982	86,0	14,0	100,0
2000	364 895	49 635	414 530	88,0	12,0	100,0
2001	403 174	50 230	453 404	88,9	11,1	100,0
2002	448 617	51 308	499 925	89,7	10,3	100,0
2003	501 157	52 561	553 718	90,5	9,5	100,0
2004	519 381	52 969	572 350	90,7	9,3	100,0
2005	538 085	53 128	591 213	91,0	9,0	100,0

\*Data for 1997–2004 updated to include late registrations processed in 2006.

**Figure 4.2: Percentage distribution of natural and non-natural causes of death, 2005\***



\*Data for 1997–2004 updated to include late registrations processed in 2006.

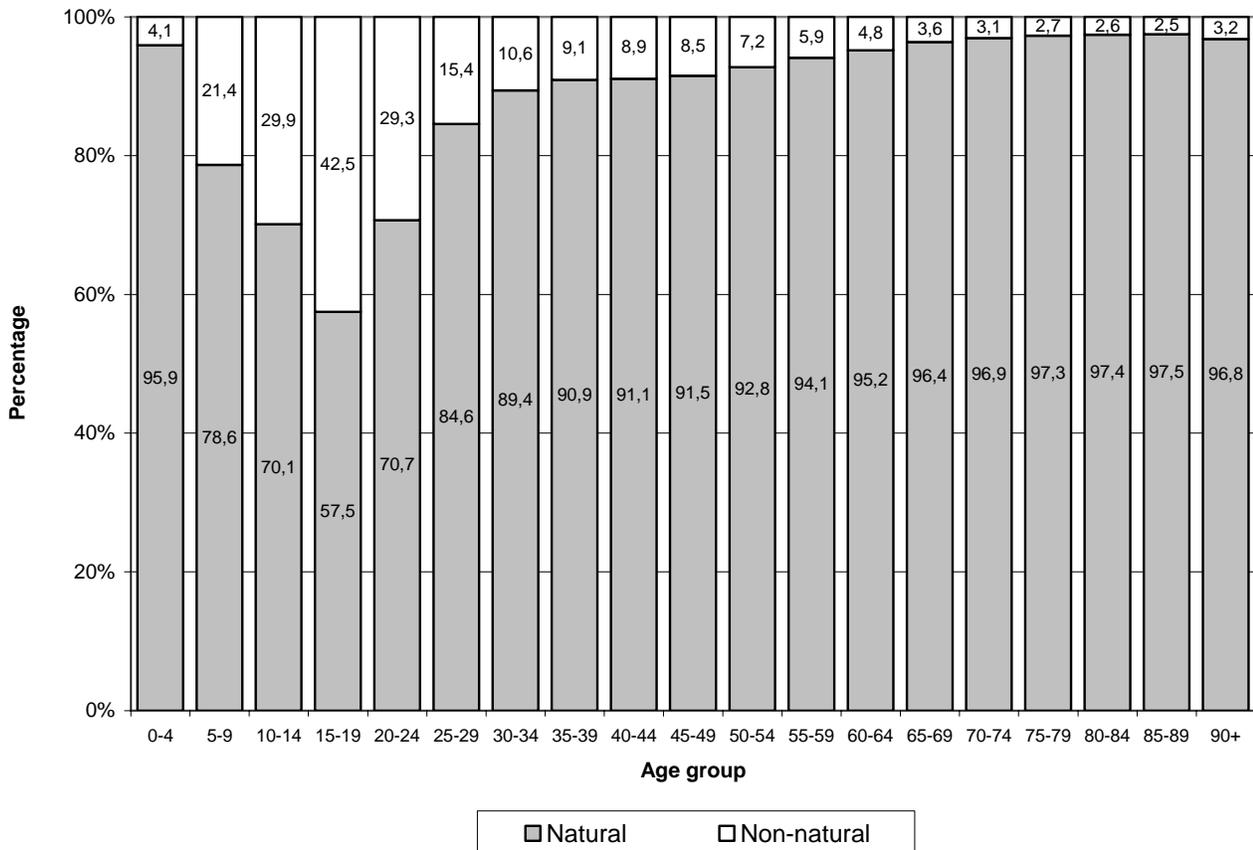
**Natural and non-natural causes of death by age**

The 2005 percentage of deaths due to natural and non-natural causes of death classified by age group is given in Table 4.3 and Figure 4.3. Compared to other ages, age groups 5–9, 10–14, 15–19, 20–24 and 25–29 had a higher proportion of non-natural causes; where in each case more than 15% of deaths resulted from non-natural causes. Overall, 42,5% of deaths in age group 15–19 resulted from non-natural causes. From this age group, the percentage of deaths due to non-natural causes consistently decreased with age. The distribution of natural and non-natural deaths by age observed in 2005 is almost similar to that observed in 2004.

**Table 4.3: Number and percentage distribution of natural and non-natural causes of deaths by age, 2005**

Age group	Number of deaths			Percentage		
	Natural	Non-natural	Total	Natural	Non-natural	Total
0-4	58 940	2 521	61 461	95,9	4,1	100,0
5-9	4 796	1 302	6 098	78,6	21,4	100,0
10-14	2 782	1 186	3 968	70,1	29,9	100,0
15-19	5 304	3 920	9 224	57,5	42,5	100,0
20-24	17 687	7 342	25 029	70,7	29,3	100,0
25-29	38 889	7 093	45 982	84,6	15,4	100,0
30-34	53 068	6 292	59 360	89,4	10,6	100,0
35-39	50 001	5 010	55 011	90,9	9,1	100,0
40-44	44 041	4 326	48 367	91,1	8,9	100,0
45-49	37 820	3 503	41 323	91,5	8,5	100,0
50-54	33 485	2 609	36 094	92,8	7,2	100,0
55-59	30 706	1 934	32 640	94,1	5,9	100,0
60-64	28 316	1 433	29 749	95,2	4,8	100,0
65-69	30 109	1 138	31 247	96,4	3,6	100,0
70-74	26 908	849	27 757	96,9	3,1	100,0
75-79	27 128	756	27 884	97,3	2,7	100,0
80-84	19 578	520	20 098	97,4	2,6	100,0
85-89	15 258	390	15 648	97,5	2,5	100,0
90+	10 697	354	11 051	96,8	3,2	100,0
Unspecified	2 572	650	3 222	79,8	20,2	100,0
<b>Total</b>	<b>538 085</b>	<b>53 128</b>	<b>591 213</b>	<b>91,0</b>	<b>9,0</b>	<b>100,0</b>

**Figure 4.3: Percentage distribution of natural and non-natural causes of death by age, 2005\***



\*Excluding 3 222 cases with unspecified age.

#### 4.5 Underlying natural causes of death

This subsection provides detailed information on natural causes of death. This detailed information is referred to as the broad groups (blocks) of underlying causes of death. Specifically, focus is placed on the ten leading causes of death. It should be noted that the ranking of the leading causes of death in this release excludes *symptoms, signs and abnormal findings, not elsewhere classified* as indicated in Section 2. Furthermore, the percentages calculated for each cause relate to all causes of death, including natural and non-natural causes.

##### Overall pattern of the leading underlying natural causes of death

Table 4.4 shows the ten leading causes of death in South Africa in 2005 and comparable figures for 2004. Complete rankings of all causes for 2005 are shown in Appendix E. A detailed description of the broad groups of natural causes of death which were among the ten leading causes in 2005 is provided in Appendix F. Appendix G shows the ten leading underlying natural causes of death for 1997–2003.

It is observed that, as in previous years, *tuberculosis* was the leading cause of death in 2005, accounting for 12,5% of all deaths. *Influenza and pneumonia* was second, followed by *intestinal infectious diseases, cerebrovascular diseases and other forms of heart disease*. These first five leading causes of death accounted for a third (33,2%) of all deaths occurring in South Africa in 2005.

It is important to note that the ten leading causes of death in 2005, the ranking of these causes, as well as the proportions of all deaths for these causes were the same as those observed in 2004. With the exception of *cerebrovascular diseases and certain disorders involving the immune system*, the number of deaths associated with all ten leading causes of death has increased between 2004 and 2005. *Human immunodeficiency virus [HIV] disease* has increased by 8,1% and *diabetes mellitus* by 7,9%. The number of deaths associated with *cerebrovascular diseases* decreased by 3,1%.

**Table 4.4: The ten leading underlying natural causes of death, 2004 and 2005\***

Causes of death (Based on the Tenth Revision, International Classification of Disease, 1992)	Rank	2005		2004*	
		Number	%	Number	%
Tuberculosis (A15–A19)	1	73 903	12,5	70 355	12,3
Influenza and pneumonia (J10–J18)	2	45 596	7,7	45 580	8,0
Intestinal infectious diseases (A00–A09)	3	28 548	4,8	26 740	4,7
Cerebrovascular diseases (I60–I69)	4	24 437	4,1	25 226	4,4
Other forms of heart diseases (I30–I52)	5	23 963	4,1	23 925	4,2
Diabetes mellitus (E10–E14)	6	18 423	3,1	17 071	3,0
Certain disorders involving the immune mechanism (D80–D89)	7	16 171	2,7	16 226	2,8
Chronic lower respiratory diseases (J40–J47)	8	15 738	2,7	15 521	2,7
Respiratory and cardiovascular disorders specific to the perinatal period (P20–P29)	9	15 457	2,6	13 478	2,4
Human immunodeficiency virus [HIV] disease (B20–B24)	10	14 532	2,5	13 440	2,3
Other natural causes		261 317	44,2	251 819	44,0
Non-natural causes		53 128	9,0	52 969	9,3
<b>All causes</b>		<b>591 213</b>	<b>100,0</b>	<b>572 350</b>	<b>100,0</b>

\*Data for 2004 updated to include late registrations processed in 2006.

##### Leading underlying natural causes of death by sex

The ten leading underlying natural causes of death for males and females for 2005 are shown in Table 4.5. There are some similarities as well as differences in the causes of death and the rankings of the causes for males and females.

Similarities: the first three leading causes of death for each sex were *tuberculosis, influenza and pneumonia* and *intestinal infectious diseases*. These first three leading causes of death accounted for about a quarter of all deaths for each sex (24,6% for males and 25,5% for females).

Differences: while *chronic lower respiratory diseases* and *ischaemic heart diseases* were among the ten leading causes of death for males, they were not among the top ten causes for females. *Human immunodeficiency virus [HIV] disease* and *hypertensive diseases* were among the top ten causes for females but not for males.

The ten leading causes of death for males and females observed in 2005 were also the ten leading causes of death in 2004. In addition, the rankings of the first six leading causes for each sex were the same.

**Table 4.5: The ten leading underlying natural causes of death for males and females, 2005\***

Causes of death (Based on the Tenth Revision, International Classification of Disease, 1992)	Males			Females		
	Rank	Number	%	Rank	Number	%
Tuberculosis (A15–A19)	1	39 954	13,4	1	33 798	11,6
Influenza and pneumonia (J10–J18)	2	21 398	7,2	2	24 101	8,3
Intestinal infectious diseases (A00–A09)	3	12 003	4,0	3	16 480	5,6
Other forms of heart disease (I30–I52)	4	10 745	3,6	5	13 175	4,5
Cerebrovascular diseases (I60–I69)	5	10 273	3,5	4	14 135	4,8
Chronic lower respiratory diseases (J40–J47)	6	9 244	3,1	...	...	...
Respiratory and cardiovascular disorders specific to the perinatal period (P20–P29)	7	7 960	2,7	10	7 343	2,5
Ischaemic heart diseases (I20–I25)	8	7 401	2,5	...	...	...
Certain disorders involving the immune mechanism (D80–D89)	9	7 055	2,4	7	9 084	3,1
Diabetes mellitus (E10–E14)	10	7 044	2,4	6	11 372	3,9
Human immunodeficiency virus [HIV] disease (B20–B24)	...	...	...	8	7 640	2,6
Hypertensive diseases (I10–I15)	...	...	...	9	7 563	2,6
Other natural causes		124 387	41,8		134 417	46,0
Non-natural causes		40 053	13,5		12 909	4,4
<b>All causes</b>		<b>297 517</b>	<b>100,0</b>		<b>292 017</b>	<b>100,0</b>

\*Excluding 1 679 cases with unspecified sex  
 ... 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 2005 are given in Table 4.6. For each of these age groups, *intestinal infectious diseases*, *influenza and pneumonia* and *tuberculosis* were among the ten leading causes of death. However, the ranking of these causes differed by age. For example, *tuberculosis* ranked first for those aged 15–49 years and those aged 50–64 years, but ranked ninth for those 65 years and older.

For the specific age group, *respiratory and cardiovascular disorders specific to the perinatal period* ranked first among those aged 0–14 years. *Cerebrovascular diseases* were the top leading cause of death for those aged 65 years and older.

*Human immunodeficiency virus [HIV] disease*, *other viral diseases* and *inflammatory diseases of the central nervous system* were among the ten leading causes of death only for those aged 15–49 years as was the case in 2003 and 2004. Furthermore, *other forms of heart disease*, *cerebrovascular diseases* and *chronic lower respiratory diseases* were among the ten leading causes of death for all age groups except for those aged 0–14 years.

Although the ranking and number of deaths associated with each cause differed, the ten leading causes of death for those aged 50–64 years and those aged 65 years and older were the same. In addition, *diabetes mellitus*, *ischaemic heart diseases*, *malignant neoplasms of digestive organs* and *hypertensive diseases* were among the ten leading causes of death only in these age groups.

**Table 4.6: The ten leading underlying natural causes of death for each age group, 2005\***

Causes of death (Based on the Tenth Revision, International Classification of Disease, 1992)	0-14 years		15-49 years		50-64 years		65 years and older	
	Rank	Number	Rank	Number	Rank	Number	Rank	Number
Respiratory & cardiovascular disorders – perinatal (P20-P29)	1	15 182	...	...	...	...	...	...
Digestive system disorders of foetus & newborn (P75-P78)	2	9 852	...	...	...	...	...	...
Other disorders originating in the perinatal period (P90-P96)	3	6 027	...	...	...	...	...	...
Intestinal infectious diseases (A00-A09)	4	4 530	3	17 618	8	3 386	10	2 899
Influenza & pneumonia (J10-J18)	5	2 809	2	29 416	2	6 373	6	6 836
Infections specific to the perinatal period (P35-P39)	6	2 491	...	...	...	...	...	...
Malnutrition (E40-E46)	7	1 906	...	...	...	...	...	...
Tuberculosis (A15-A19)	8	1 832	1	56 192	1	11 257	9	4 222
Certain disorders involving the immune mechanism (D80-D89)	9	1 808	4	12 558	...	...	...	3.2
Disorders related to length of gestation & foetal growth (P05-P08)	10	1 630	2.3	...	...	...	...	...
Certain disorders involving the immune mechanism (D80-D89)	...	...	...	...	...	...	...	...
Human immunodeficiency virus [HIV] disease (B20-B24)	...	...	5	11 960	...	...	...	...
Other viral diseases (B25-B34)	...	...	6	7 836	...	...	...	...
Inflammatory diseases of the central nervous system (G00-G09)	...	...	7	6 424	...	...	...	...
Other forms of heart disease (I30-I52)	...	...	8	6 234	5	5 258	2	12 025
Cerebrovascular diseases (I60-I69)	...	...	9	4 252	3	6 054	1	13 982
Chronic lower respiratory diseases (J40-J47)	...	...	10	3 825	6	4 615	5	6 998
Diabetes mellitus (E10-E14)	...	...	...	...	4	6 014	3	9 494
Ischaemic heart diseases (I20-I25)	...	...	...	...	7	3 718	4	7 277
Malignant neoplasms of digestive organs (C15-C26)	...	...	...	...	9	3 258	8	4 611
Hypertensive diseases (I10-I15)	...	...	...	...	10	3 205	7	6 827
Other natural causes	...	18 451	...	90 495	...	39 369	...	54 507
Non-natural causes	...	5 009	...	37 486	...	5 976	...	4 007
<b>All causes</b>		<b>71 527</b>		<b>284 296</b>		<b>98 483</b>		<b>133 685</b>
		<b>100.0</b>		<b>100.0</b>		<b>100.0</b>		<b>100.0</b>

\*Excluding 3 222 cases with unspecified age  
 ... Category not in top ten

### **Leading underlying natural causes of infant and child mortality**

Table 4.7 shows the differences in the ten leading causes of death for infants (aged below one year), those aged 1–4 years and those aged 15–24 years for 2005. The 15–24 year age group has been included as suggested in the ICD-10 recommendations for purposes of international comparison. Information on neonatal and post-neonatal deaths is not discussed in this section but is provided in Appendix H.

The cause of death that was common to all of these three age groups was *certain disorders involving the immune mechanism*. This disease ranked sixth among infants, fifth among those aged 1–4 years and fourth for those aged 15–24 years. The leading cause of death for infants was *respiratory and cardiovascular disorders specific to the perinatal period*, accounting for almost one-third of all deaths occurring during this age. This disease also ranked first among infants in 2004.

*Intestinal infectious diseases* were the leading cause of death for those aged 1–4 years. Nearly a quarter (23,6%) of children aged 1–4 years died as a result of this disease. The second leading cause was *influenza and pneumonia*, followed by *malnutrition* and *tuberculosis*. *Human immunodeficiency virus [HIV] disease* ranked sixth. As in the previous years, it is important to note that while *human immunodeficiency virus [HIV] disease* was not among the ten leading causes of death in the 0–14 age group, it came out as one of the ten leading causes of death for children aged 1–4 years.

For the 15–24 age group, the leading cause of death was *tuberculosis*, followed by *influenza and pneumonia*, *intestinal infectious diseases*, and *certain disorders involving the immune mechanism*. *Human immunodeficiency virus [HIV] disease* ranked fifth in this age group, constituting 3,1% of all deaths.

The ten leading causes of death for these three age groups remain the same as in 2004, with a few exceptions. For instance, while *noninfective enteritis and colitis* was among the ten leading causes of death for children aged 1–4 years in 2004, it has been replaced by *other acute lower respiratory infections* in 2005.

Between 2004 and 2005, the overall number of infant deaths increased by 11,9% (from 41 119 deaths in 2004 to 46 026 deaths in 2005). The number of deaths among those aged 1–4 years decreased by 2,2% (from 15 794 deaths in 2004 to 15 435 deaths in 2005) and those aged 15–24 decreased by 0,7% (from 34 505 deaths in 2004 to 34 253 deaths in 2005).

**Table 4.7: The ten leading underlying natural causes of death for selected age groups, 2005**

Causes of death (Based on the Tenth Revision, International Classification of Disease, 1992)	Less than 1 year			1-4 years			15-24 years		
	Rank	Number	%	Rank	Number	%	Rank	Number	%
Respiratory & cardiovascular disorders - perinatal (P20-P29)	1	15 182	33,0	...	...	...	...	...	...
Digestive system disorders of foetus & newborn (P75-P78)	2	9 852	21,4	...	...	...	...	...	...
Other disorders originating in the perinatal period (P90-P96)	3	6 027	13,1	...	...	...	...	...	...
Infections specific to the perinatal period (P35-P39)	4	2 491	5,4	...	...	...	...	...	...
Disorders related to length of gestation & foetal growth (P05-P08)	5	1 630	3,5	...	...	...	...	...	...
Certain disorders involving the immune mechanism (D80-D89)	6	1 045	2,3	5	472	3,1	4	1 150	3,4
Haemorrhagic & haematological disorders of foetus & newborn (P50-P61)	7	874	1,9	...	...	...	...	...	...
Main nutrition (E40-E46)	8	827	1,8	3	977	6,3	...	...	...
Protozoal diseases (B50-B64)	9	801	1,7	...	...	...	...	...	...
Transitory endocrine & metabolic disorders - foetus & newborn (P70-P74)	10	773	1,7	...	...	...	...	...	...
Intestinal infectious diseases (A00-A09)	...	...	...	1	3 643	23,6	3	1 651	4,8
Influenza & pneumonia (J10-J18)	...	...	...	2	1 983	12,8	2	2 646	7,7
Tuberculosis (A15-A19)	...	...	...	4	854	5,5	1	5 140	15,0
Human immunodeficiency virus [HIV] disease (B20-B24)	...	...	...	6	363	2,4	5	1 053	3,1
Other viral diseases (B25-B34)	...	...	...	7	303	2,0	7	723	2,1
Inflammatory diseases of the central nervous system (G00-G09)	...	...	...	8	252	1,6	6	848	2,5
Metabolic disorders (E70-E88)	...	...	...	9	198	1,3	...	...	...
Other acute lower respiratory infections (J20-J22)	...	...	...	10	187	1,2	...	...	...
Other forms of heart disease (I30-I52)	...	...	...	...	...	...	8	594	1,7
Protozoal diseases (B50-B64)	...	...	...	...	...	...	9	377	1,1
Episodic & paroxysmal disorders (G40-G47)	...	...	...	...	...	...	10	352	1,0
Other natural causes	...	5 466	11,9	...	4 740	30,7	...	8 457	24,7
Non-natural causes	...	1 058	2,3	...	1 463	9,5	...	11 262	32,9
<b>All causes</b>	...	<b>46 026</b>	<b>100,0</b>	...	<b>15 435</b>	<b>100,0</b>	...	<b>34 253</b>	<b>100,0</b>

... Category not in top ten

### ***Leading underlying natural causes of death by province***

Provincial differences in the ranking of the ten leading causes of death for 2005 are shown in Table 4.8. For two provinces (Free State and Limpopo), the leading cause of death was *influenza and pneumonia* and for the rest of the provinces the leading cause was *tuberculosis*. With the exception of Western Cape, *influenza and pneumonia* and *tuberculosis* were the first two leading causes of death in all provinces. For Western Cape, *ischaemic heart diseases* were the second leading cause of death after *tuberculosis*.

It is important to note that although *tuberculosis* was the leading cause of death in some provinces, the percentage of deaths occurring in each province due to this cause differed. For example, *tuberculosis* caused 16,5% of deaths in KwaZulu-Natal and 8,8% of deaths in Western Cape.

Among the ten leading causes of death, the ones that were common for all the nine provinces were *tuberculosis*, *cerebrovascular diseases*, *other forms of heart disease* and *influenza and pneumonia*. On the one hand, *intestinal infectious diseases* were among the ten leading causes of death in all provinces, except Western Cape. On the other hand, *malignant neoplasms of digestive organs* were among the ten leading causes of death only in Western Cape and Eastern Cape and *malignant neoplasms of respiratory and intrathoracic organs* only in Western Cape. Furthermore, it was only in North West where *diabetes mellitus* was not among the ten leading causes of death.

*Human immunodeficiency virus [HIV] disease* was among the ten leading causes of death in six provinces (Western Cape, Eastern Cape, Northern Cape, 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. *Hypertensive diseases* were among the ten leading causes in North West, Mpumalanga and Limpopo.

**Table 4.8: The ten leading underlying natural causes of death in each province, 2005\***

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	
	**	N	**	N	**	N	**	N	**	N	**	N	**	N	**	N	**	N
Tuberculosis (A15-A19)	1	3 913	1	12 414	1	1 678	2	5 903	1	22 735	1	6 206	1	10 680	1	5 920	2	4 419
Ischaemic heart diseases (I20-I25)	2	2 911	...	...	7	420	...	...	9	2 836	...	...	9	2 870	...	...	...	...
Cardiovascular diseases (I60-I69)	3	2 542	5	3 650	3	627	7	1 750	4	5 803	5	2 142	4	3 923	5	1 932	4	2 154
Diabetes mellitus (E10-E14)	4	2 500	7	2 620	10	341	9	1 088	5	4 834	...	...	6	3 244	8	1 273	6	1 390
Chronic lower respiratory diseases (J40-J47)	5	1 943	3	4 058	5	483	8	1 148	10	2 788	9	1 234	...	...	...	...	10	936
Other forms of heart disease (I30-I52)	6	1 706	6	3 286	4	503	4	2 412	6	4 619	3	2 873	3	4 844	6	1 645	5	2 082
Human immunodeficiency virus (HIV) disease (B20-B24)	7	1 641	8	2 424	6	430	...	...	7	3 753	...	...	8	3 018	10	1 066	...	...
Malignant neoplasms of digestive organs (C15-C26)	8	1 619	10	1 937	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Malignant neoplasms – resp. & intrathor. organs (C30-C39)	9	1 411	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Influenza and pneumonia (J10-J18)	10	1 117	2	4 807	2	723	1	6 195	2	8 821	2	5 089	2	8 635	2	4 454	1	5 758
Intestinal infectious diseases (A00-A09)	...	...	4	3 665	9	368	3	2 930	3	7 878	4	2 414	5	3 817	3	3 182	3	3 874
Certain disorders involving the immune mechanism (D80-D89)	...	...	9	2 395	8	383	5	2 224	...	...	6	2 096	10	2 781	4	1 989	7	1 233
Resp. & cardiovascular disorders - perinatal period (P20-P29)	...	...	...	...	...	...	6	1 955	8	3 242	7	2 075	7	3 153	7	1 489	8	1 173
Digestive system disorders of foetus & newborn (P75-P78)	...	...	...	...	...	...	10	1 080	...	...	10	1 216	...	...	9	1 177	...	...
Hypertensive diseases (I10-I15)	...	...	...	...	...	...	...	...	...	...	8	1 481	...	...	10	1 066	9	1 091
Other natural causes	...	16 441	...	43 444	...	4 917	...	20 291	...	59 582	...	21 603	...	49 149	...	16 397	...	20 514
Non-natural causes	...	6 652	...	8 235	...	1 185	...	3 274	...	11 335	...	3 646	...	11 514	...	3 644	...	3 598
<b>All causes</b>	...	<b>44 386</b>	...	<b>92 915</b>	...	<b>12 058</b>	...	<b>50 210</b>	...	<b>138 206</b>	...	<b>52 055</b>	...	<b>107 528</b>	...	<b>45 234</b>	...	<b>48 222</b>

\*Excluding 389 deaths that took place outside South Africa

\*\* Rank

... Category not in top ten

### 4.6 Non-natural causes of death

The provision of information on non-natural causes of death is important in South Africa, considering the high levels of violence experienced in the country. When completing death notification forms, medical practitioners are expected to specify whether the deceased died from natural or non-natural causes. In addition, it can be determined whether the cause of death was natural or non-natural from the cause of death specified on the death notification form and the resulting ICD-10 code. This statistical release uses information on causes of death as specified on the death notification form and coded using ICD-10. Therefore, all external causes of morbidity and mortality (codes V01 up to Y98) are treated as non-natural causes of death.

Given the fact that there are fewer broad groups of non-natural deaths, all broad groups are reported, not just the ten leading underlying causes of death as provided for natural causes. Furthermore, it should be noted that 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.

Table 4.9 shows that non-natural causes of death resulted mainly from *events of undetermined intent*, representing 65,3% of all non-natural deaths and 5,9% of all deaths. The second most common cause of non-natural deaths was *other external causes of accidental injury*, followed by *transport accidents* and then *assault*.

**Table 4.9: Underlying non-natural causes of death, 2005**

Causes of death (Based on the Tenth Revision, International Classification of Disease, 1992)	Number	%
Events of undetermined intent (Y10–Y34)	34 695	65,3
Other external causes of accidental injury (W00–X59)	5 468	10,3
Transport accidents (V01–V99)	5 441	10,2
Assault (X85–Y09)	4 951	9,3
Complications of medical and surgical care (Y40–Y84)*	1 910	3,6
Intentional self-harm (X60–X84)	463	0,9
Sequelae of external causes of morbidity and mortality (Y85–Y89)	177	0,3
Legal intervention and operations of war (Y35–Y36)	23	0,0
<b>Total</b>	<b>53 128</b>	<b>100,0</b>

\* Including mine accidents, circumcision and accidents in sports.

*Events of undetermined intent* comprised a large proportion of non-natural causes of death. As a result, Table 4.10 is provided to give a disaggregation of the broad groups of *events of undetermined intent* for further understanding of the specific events captured in this grouping. It is observed that over half (54,2%) of *events of undetermined intent* were unspecified. However, among those that were specified, a relatively large proportion resulted from *other and unspecified firearm discharge* (13,5%); *hanging, strangulation and suffocation* (8,2%); *contact with blunt object* (6,7%) and *exposure to smoke, fires and flames* (5,6%).

**Table 4.10: Events of undetermined intent, 2005**

<b>Causes of death (Based on the Tenth Revision, International Classification of Disease, 1992)</b>		<b>Number</b>	<b>%</b>
Y10	Poisoning by and exposure to nonopioid analgesics, antipyretics and antirheumatics	6	0,0
Y11	Poisoning by and exposure to anti-epileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified	13	0,0
Y12	Poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified	3	0,0
Y13	Poisoning by and exposure to other drugs acting on the autonomic nervous system	0	0,0
Y14	Poisoning by and exposure to other and unspecified drugs, medicaments and biological substances	189	0,5
Y15	Poisoning by and exposure to alcohol	22	0,1
Y16	Poisoning by and exposure to organic solvents and halogenated hydrocarbons and their vapours	14	0,0
Y17	Poisoning by and exposure to other gases and vapours	242	0,7
Y18	Poisoning by and exposure to pesticides	173	0,5
Y19	Poisoning by and exposure to other and unspecified chemicals and noxious substances	453	1,3
Y20	Hanging, strangulation and suffocation	2 855	8,2
Y21	Drowning and submersion	1 231	3,5
Y22	Handgun discharge	16	0,0
Y23	Rifle, shotgun and larger firearm discharge	17	0,0
Y24	Other and unspecified firearm discharge	4 674	13,5
Y25	Contact with explosive material	8	0,0
Y26	Exposure to smoke, fire and flames	1 937	5,6
Y27	Contact with steam, hot vapours and hot objects	0	0,0
Y28	Contact with sharp object	1 657	4,8
Y29	Contact with blunt object	2 316	6,7
Y30	Falling, jumping or pushed from a high place	13	0,0
Y31	Falling, lying or running before or into moving object	17	0,0
Y32	Crashing of motor vehicle	7	0,0
Y33	Other specified events	27	0,1
Y34	Unspecified event	18 805	54,2
	<b>Total</b>	<b>34 695</b>	<b>100,0</b>

### ***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 age groups 0–14, 15–49, 50–64 and 65 and older for deaths that occurred in 2005. It should be noted that the analysis in this subsection excludes *events of undetermined intent* and *other external causes of accidental injury* as these causes cannot be effectively used for public health policy and planning purposes.

Table 4.11 shows that males had a higher percentage of deaths due to non-natural causes. The percentage of deaths linked to non-natural causes for males was 13,4% – more than three times the percentage of female deaths due to non-natural causes (4,4%). Female deaths were mostly linked to *transport accidents* and *complications of medical and surgical care*. For males, the main non-natural cause of death was *assault*, followed by *transport accidents*.

Among those aged 0–14 years and those aged 65 years and older, *complications of medical and surgical care* were the most common cause of non-natural deaths, followed by *transport accidents*. However, it should be noted that the percentage contributions of these causes differed for the two age groups. For example, 13,2% of non-natural deaths for those aged 0–14 years, resulted from *transport accidents* while 7,4% died from the same cause among those aged 65 years and older. *Assault* was

highest among those aged 15–49, followed by *transport accidents*. For the 50–64 age group, *transport accidents* were highest.

For male deaths, *complications of medical and surgical care* were the most common cause of death among males aged 0–14 and 65 years and older while *assault* and *transport accidents* were highest among those aged 15–49 and 50–64, respectively. Female deaths show that *complications of medical and surgical care* were highest among those aged 0–14 and 65 years and older while *transport accidents* were most common among those aged 15–49 and those aged 50–64 years.

### ***Non-natural causes of death by province***

Table 4.12 shows the distribution of underlying non-natural causes of death by province for 2005. Overall, Western Cape had the highest percentage (15,0%) of deaths attributed to non-natural causes. Gauteng had the second highest percentage of non-natural causes of death (10,7%), followed by Northern Cape (9,8%). Free State had the lowest percentage of deaths attributed to non-natural causes (6,5%).

Between 2004 and 2005, all provinces except KwaZulu-Natal, Gauteng and Limpopo showed an increase in the number of non-natural deaths. North West experienced the highest increase (4,5%) in the number of non-natural deaths (from 3 490 deaths in 2004 to 3 646 deaths in 2005), followed by Free State with an increase of 2,1% (from 3 207 deaths in 2004 to 3 274 deaths in 2005).

In KwaZulu-Natal, North West, Gauteng, Mpumalanga and Limpopo, the most common cause of non-natural death was *transport accidents*. Limpopo had the highest proportion of deaths caused by *transport accidents*, with nearly one in three non-natural deaths (31,5%) in Limpopo being caused by *transport accidents*.

The percentages of non-natural deaths attributed to *assault* were highest in Northern Cape (20,4%), Eastern Cape (16,7%), Western Cape (12,9%) and Free State (11,5%). Gauteng had the lowest percentage of non-natural deaths resulting from *assault* (3,7%). Between 2004 and 2005, the number of deaths attributed to *assault* increased in all provinces. Although Gauteng had the lowest percentage of non-natural deaths due to *assault*, it experienced the highest increase (40,9%) in the number of deaths due to *assault* between 2004 and 2005 (from 303 deaths in 2004 to 427 deaths in 2005).

The number of non-natural deaths attributed to *transport accidents* increased between 2004 and 2005 in five provinces (Western Cape, KwaZulu-Natal, North West, Gauteng and Limpopo) but decreased in others. The increase was highest in Gauteng with 27,2% (from 507 deaths in 2004 to 645 deaths in 2005) and North West with 22,6% (from 328 deaths in 2004 to 402 deaths in 2005). In Free State, the number of non-natural deaths attributed to *transport accidents* decreased by 34,3% (from 455 deaths in 2004 to 299 deaths in 2005).

**Table 4.11: Underlying non-natural causes of death by age group and sex, 2005**

Causes of death (Based on the Tenth Revision, International Classification of Disease, 1992)	Number					Total	%				
	0-14	15-49	50-64	65+	Total		0-14	15-49	50-64	65+	Total
<b>Total*</b>											
Events of undetermined intent (Y10-Y34)	2 808	25 465	3 977	1 996	34 246	56.1	67.9	66.5	49.8	65.3	
Other external causes of accidental injury (W00-X59)	749	2 894	597	1 178	5 418	15.0	7.7	10.0	29.4	10.3	
Transport accidents (V01-V99)	661	3 748	677	296	5 382	13.2	10.0	11.3	7.4	10.3	
Assault (X85-Y09)	92	4 293	361	131	4 877	1.8	11.5	6.0	3.3	9.3	
Complications of medical & surgical care (Y40-Y84)****	686	585	275	351	1 897	13.7	1.6	4.6	8.8	3.6	
Intentional self-harm (X60-X84)	8	377	50	24	459	0.2	1.0	0.8	0.6	0.9	
Sequelae of external causes of morbidity & mortality (Y85-Y89)	5	107	34	30	176	0.1	0.3	0.6	0.7	0.3	
Legal intervention & operations of war (Y35-Y36)	0	17	5	1	23	0.0	0.0	0.1	0.0	0.0	
<b>Subtotal</b>	<b>5 009</b>	<b>37 486</b>	<b>5 976</b>	<b>4 007</b>	<b>52 478</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	
<b>Non-natural causes</b>	<b>5 009</b>	<b>37 486</b>	<b>5 976</b>	<b>4 007</b>	<b>52 478</b>	<b>7.0</b>	<b>13.2</b>	<b>6.1</b>	<b>3.0</b>	<b>8.9</b>	
<b>Natural causes</b>	<b>66 518</b>	<b>246 810</b>	<b>92 507</b>	<b>129 678</b>	<b>535 513</b>	<b>93.0</b>	<b>86.8</b>	<b>93.9</b>	<b>97.0</b>	<b>91.1</b>	
<b>All causes</b>	<b>71 527</b>	<b>284 296</b>	<b>98 483</b>	<b>133 685</b>	<b>587 991</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	
<b>Males**</b>											
Events of undetermined intent (Y10-Y34)	1 719	20 425	2 964	1 154	26 262	57.7	67.8	67.5	55.8	66.4	
Other external causes of accidental injury (W00-X59)	450	2 226	434	482	3 592	15.1	7.4	9.9	23.3	9.1	
Transport accidents (V01-V99)	366	2 920	491	163	3 940	12.3	9.7	11.2	7.9	10.0	
Assault (X85-Y09)	59	3 795	272	74	4 200	2.0	12.6	6.2	3.6	10.6	
Complications of medical & surgical care (Y40-Y84)****	377	341	165	165	1 048	12.7	1.1	3.8	8.0	2.6	
Intentional self-harm (X60-X84)	4	303	34	16	357	0.1	1.0	0.8	0.8	0.9	
Sequelae of external causes of morbidity & mortality (Y85-Y89)	4	86	26	15	131	0.1	0.3	0.6	0.7	0.3	
Legal intervention & operations of war (Y35-Y36)	0	15	3	0	18	0.0	0.0	0.1	0.0	0.0	
<b>Subtotal</b>	<b>2 979</b>	<b>30 111</b>	<b>4 389</b>	<b>2 069</b>	<b>39 548</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	
<b>Non-natural causes</b>	<b>2 979</b>	<b>30 111</b>	<b>4 389</b>	<b>2 069</b>	<b>39 548</b>	<b>8.0</b>	<b>21.1</b>	<b>7.7</b>	<b>3.6</b>	<b>13.4</b>	
<b>Natural causes</b>	<b>34 396</b>	<b>112 706</b>	<b>52 932</b>	<b>55 997</b>	<b>256 031</b>	<b>92.0</b>	<b>78.9</b>	<b>92.3</b>	<b>96.4</b>	<b>86.6</b>	
<b>All causes</b>	<b>37 375</b>	<b>142 817</b>	<b>57 321</b>	<b>58 066</b>	<b>295 579</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	
<b>Females***</b>											
Events of undetermined intent (Y10-Y34)	1 076	4 989	1 006	838	7 909	53.7	68.4	63.8	43.4	61.8	
Other external causes of accidental injury (W00-X59)	296	658	161	695	1 810	14.8	9.0	10.2	36.0	14.1	
Transport accidents (V01-V99)	294	822	184	133	1 433	14.7	11.3	11.7	6.9	11.2	
Assault (X85-Y09)	33	488	89	57	667	1.6	6.7	5.6	3.0	5.2	
Complications of medical & surgical care (Y40-Y84)****	298	241	110	185	834	14.9	3.3	7.0	9.6	6.5	
Intentional self-harm (X60-X84)	4	73	16	8	101	0.2	1.0	1.0	0.4	0.8	
Sequelae of external causes of morbidity & mortality (Y85-Y89)	1	21	8	14	44	0.0	0.3	0.5	0.7	0.3	
Legal intervention & operations of war (Y35-Y36)	0	2	2	1	5	0.0	0.0	0.1	0.1	0.0	
<b>Subtotal</b>	<b>2 002</b>	<b>7 294</b>	<b>1 576</b>	<b>1 931</b>	<b>12 803</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	
<b>Non-natural causes</b>	<b>2 002</b>	<b>7 294</b>	<b>1 576</b>	<b>1 931</b>	<b>12 803</b>	<b>6.0</b>	<b>5.2</b>	<b>3.8</b>	<b>2.6</b>	<b>4.4</b>	
<b>Natural causes</b>	<b>31 570</b>	<b>133 596</b>	<b>39 449</b>	<b>73 533</b>	<b>278 148</b>	<b>94.0</b>	<b>94.8</b>	<b>96.2</b>	<b>97.4</b>	<b>95.6</b>	
<b>All causes</b>	<b>33 572</b>	<b>140 890</b>	<b>41 025</b>	<b>75 464</b>	<b>290 951</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	

\*Excluding 3 222 cases with unspecified age

\*\*Excluding 1 938 cases with unspecified age

\*\*\*Excluding 1 066 cases with unspecified age

\*\*\*\*Including mine accidents, circumcision and accidents in sports.

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**Table 4.12: Underlying non-natural causes of death by province, 2005\***

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	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Events of undetermined intent (Y10–Y34)	4 566	68,6	4 563	55,4	529	44,6	2 163	66,1	7 254	64,0	2 360	64,7	9 083	78,9	2 568	70,5	1 583	44,0
Other external causes of accidental injury (W00–X59)	653	9,8	931	11,3	155	13,1	309	9,4	1 425	12,6	354	9,7	932	8,1	359	9,9	346	9,6
Transport accidents (V01–V99)	380	5,7	1 076	13,1	177	14,9	299	9,1	980	8,6	402	11,0	645	5,6	336	9,2	1 135	31,5
Assault (X85–Y09)	861	12,9	1 375	16,7	242	20,4	376	11,5	979	8,6	311	8,5	427	3,7	169	4,6	210	5,8
Complications of medical & surgical care (Y40–Y84)**	115	1,7	213	2,6	28	2,4	95	2,9	498	4,4	169	4,6	375	3,3	153	4,2	282	7,3
Intentional self-harm (X60–X84)	53	0,8	65	0,8	51	4,3	24	0,7	94	0,8	41	1,1	27	0,2	49	1,3	58	1,6
Sequelae of external causes of morbidity & mortality (Y85–Y89)	19	0,3	10	0,1	3	0,3	5	0,2	100	0,9	7	0,2	20	0,2	9	0,2	4	0,1
Legal intervention & operations of war (Y35–Y36)	5	0,1	2	0,0	0	0,0	3	0,1	5	0,0	2	0,1	5	0,0	1	0,0	0	0,0
<b>Subtotal</b>	<b>6 652</b>	<b>100,0</b>	<b>8 235</b>	<b>100,0</b>	<b>1 185</b>	<b>100,0</b>	<b>3 274</b>	<b>100,0</b>	<b>11 335</b>	<b>100,0</b>	<b>3 646</b>	<b>100,0</b>	<b>11 514</b>	<b>100,0</b>	<b>3 644</b>	<b>100,0</b>	<b>3 598</b>	<b>100,0</b>
Non-natural causes	6 652	15,0	8 235	8,9	1 185	9,8	3 274	6,5	11 335	8,2	3 646	7,0	11 514	10,7	3 644	8,1	3 598	7,5
Natural causes	37 744	85,0	84 680	91,1	10 873	90,2	46 936	93,5	126 871	91,8	48 409	93,0	96 014	89,3	41 590	91,9	44 624	92,5
<b>All causes</b>	<b>44 396</b>	<b>100,0</b>	<b>92 915</b>	<b>100,0</b>	<b>12 058</b>	<b>100,0</b>	<b>50 210</b>	<b>100,0</b>	<b>138 206</b>	<b>100,0</b>	<b>52 055</b>	<b>100,0</b>	<b>107 528</b>	<b>100,0</b>	<b>45 234</b>	<b>100,0</b>	<b>48 222</b>	<b>100,0</b>

\*Excluding 389 deaths that took place outside South Africa  
 \*\*Including mine accidents, circumcision and accidents in sports.

#### 4.7 Comparison between underlying, immediate and contributing causes of death

The South African death notification form makes provision for reporting one or more causes of death on each form. Table 4.1 provided information on the number of causes of death reported on each death notification form (see page 15). A cause can be indicated as immediate, contributing or underlying. Table 4.13 shows the total number of times a specific cause of death was recorded on the 2005 death notification forms, be it an underlying, immediate or contributing cause for the 21 most commonly reported causes of death. These 21 causes of death include natural and non-natural causes, as well as deaths due to *symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified*. Overall, *tuberculosis* was the most frequently reported cause of death in 2005, mentioned on 84 088 death notification forms as either an underlying, immediate or contributing cause. *Influenza and pneumonia* was the second most reported cause of death.

**Table 4.13: Distribution of reported causes of death, 2005**

Rank	Cause of Death	Number of deaths in which the cause was reported
1	Tuberculosis (A15–A19)	84 088
2	Influenza and pneumonia (J10–J18)	73 472
3	Ill-defined and unknown causes of mortality (R95–R99)	66 742
4	Other forms of heart disease (I30–I52)	51 440
5	Events of undetermined intent (Y10–Y34)	35 020
6	Cerebrovascular diseases (I60–I69)	33 469
7	Intestinal infectious diseases (A00–A09)	32 538
8	Hypertensive diseases (I10–I15)	31 129
9	Certain disorders involving the immune mechanism (D80–D89)	29 141
10	Respiratory and cardiovascular disorders specific to the perinatal period (P20–P29)	26 251
11	General symptoms and signs (R50–R69)	22 438
12	Chronic lower respiratory diseases (J40–J47)	21 741
13	Other diseases of the respiratory system (J95–J99)	20 680
14	Diabetes mellitus (E10–E14)	20 496
15	Other viral diseases (B25–B34)	18 881
16	Ischaemic heart diseases (I20–I25)	18 766
17	Metabolic disorders (E70–E88)	18 502
18	Renal failure (N17–N19)	15 850
19	Other bacterial diseases (A30–49)	15 553
20	Symptoms and signs involving the circulatory and respiratory systems (R00–R09)	15 268
21	Human immunodeficiency virus [HIV] disease (B20–B24)	14 865

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. The table only provides information on the 12 most frequent underlying causes of death, including both natural and non-natural causes. Within each category, the counts of underlying causes and immediate or contributing causes are not duplicated, so that they can be summed to equal the total number of times a specific cause of death was recorded on a death notification form. For example, 73 903 deaths had *tuberculosis* as the underlying cause and another 10 185 deaths had it as an immediate or contributing cause. This gives a total of 84 088 death notification forms that had *tuberculosis* mentioned on them.

It is further observed from Table 4.14 that where *events of undetermined intent, human immunodeficiency virus [HIV] disease, diabetes mellitus, tuberculosis* and *intestinal infectious diseases* were mentioned, they were most likely to be selected as the underlying causes. These were selected as underlying causes in more than 80% of cases for each cause. In less than half of the cases where *other forms of heart disease* was mentioned, it was selected as an underlying cause.

**Table 4.14: Number and percentage of deaths selected as underlying or reported as immediate or contributing causes of death: 2005**

Cause of Death	Underlying rank	Number of deaths			Percentage of any mention		
		Underlying	Immediate or contributing	Total recorded	Underlying	Immediate or contributing	Total recorded
Tuberculosis (A15–A19)	1	73 903	10 185	84 088	87,9	12,1	100,0
Influenza and pneumonia (J10–J18)	2	45 596	27 876	73 472	62,1	37,9	100,0
Events of undetermined intent (Y10–Y34)	3	34 695	325	35 020	99,1	0,9	100,0
Intestinal infectious diseases (A00–A09)	4	28 548	3 990	32 538	87,7	12,3	100,0
Cerebrovascular diseases (I60–I69)	5	24 437	9 032	33 469	73,0	27,0	100,0
Other forms of heart disease (I30–I52)	6	23 963	27 477	51 440	46,6	53,4	100,0
Diabetes mellitus (E10–E14)	7	18 423	2 073	20 496	89,9	10,1	100,0
Certain disorders involving the immune mechanism (D80–D89)	8	16 171	12 970	29 141	55,5	44,5	100,0
Chronic lower respiratory diseases (J40–J47)	9	15 738	6 003	21 741	72,4	27,6	100,0
Respiratory and cardiovascular disorders specific to the perinatal period (P20–P29)	10	15 457	10 794	26 251	58,9	41,1	100,0
Human immunodeficiency virus [HIV] disease (B20–B24)	11	14 532	333	14 865	97,8	2,2	100,0
Ischaemic heart diseases (I20–I25)	12	12 911	5 855	18 766	68,8	31,2	100,0

## 5. Concluding remarks

This release assessed the patterns of mortality and causes of death in South Africa for recorded deaths that occurred in 2005 and processed by Stats SA. It has provided crucial information that can be used to ascertain morbidity information necessary for the prevention of death.

The findings indicate that the number of recorded deaths in South Africa continues to increase with time, with the highest number occurring in KwaZulu-Natal and Gauteng and the lowest in Northern Cape. The number of deaths was higher in age groups 0–4 and 30–34 than in other ages. The overall number of deaths was slightly higher for males as compared to females. However, female deaths were higher than male deaths in age groups 20–34 and from age group 70–74 up to age group 90 years and older. Furthermore, the rate of increase in the number of deaths between 2004 and 2005 was higher for females than for males.

As with the previous years, the majority of deaths were linked to natural causes. Between 2004 and 2005, natural deaths increased by a higher percentage than non-natural causes. The first three leading causes of natural deaths in 2005 were *tuberculosis*, *influenza and pneumonia* and *intestinal infectious diseases*. The ten leading causes of death for 2005 were the same as those observed for 2004. Furthermore, all rankings also remained the same for the two years. Among the ten leading causes of death, the diseases that showed higher increases in the number of deaths between 2004 and 2005 were *human immunodeficiency virus [HIV] disease* and *diabetes mellitus*.

*Lower respiratory diseases* and *ischaemic heart diseases* were among the leading natural causes of death only for the male deaths, while *human immunodeficiency virus [HIV] disease* and *hypertensive diseases* were among the ten leading causes only for the female deaths. With the exception of Free State and Limpopo, the leading natural cause of death for all provinces was *tuberculosis*. *Influenza and pneumonia* were the leading causes of natural deaths in Free State and Limpopo.

The percentage of deaths due to non-natural causes was observed to decrease with time. For specific causes of non-natural deaths, *transport accidents* and *assault* dominated the non-natural causes of death. The ages that were mostly affected by non-natural causes were between five and 29 years, with males more affected than females. Female deaths were mostly linked to *transport accidents* while male deaths were mostly linked to *assaults*. Western Cape had the highest percentage of deaths associated with non-natural causes, mostly due to *assaults*. Limpopo had the highest percentage of deaths due to *transport accidents*.

Due to a high percentage of unspecified or unknown information on the smoking status (54,0%) and pregnancy status (74,6%) of the deceased, no analysis was undertaken on these variables. However, Stats SA provides a data set on a compact disc (*Mortality and causes of death from death notification, South Africa: 1997–2005*), which includes these variables (Stats SA, 2007).

Insufficient reporting of causes of death on the death notification forms limits our understanding of non-notifiable disease and those with many manifestations. Furthermore, lack of standardisation of capturing of localities and missing information limits analysis. This clearly demonstrates the extent to which statistics depend on the quality of input data, and the need for enhanced efforts to register deaths and attribute a cause of death.

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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 C: Number of deaths by age and sex, 1997–2000\***

Age group	1997				1998				1999				2000			
	Male	Female	Unsp.	Total												
0–4	17 025	15 189	254	32 468	19 780	17 733	410	37 923	19 786	18 084	535	38 405	20 359	18 424	436	39 219
5–9	1 704	1 252	17	2 973	1 778	1 435	36	3 249	1 891	1 504	34	3 429	1 995	1 591	29	3 615
10–14	1 546	1 188	19	2 753	1 691	1 283	23	2 997	1 649	1 304	23	2 976	1 711	1 326	35	3 072
15–19	3 775	2 470	23	6 268	4 101	2 894	61	7 056	4 351	3 309	88	7 748	4 297	3 447	72	7 816
20–24	8 166	5 401	48	13 615	8 780	6 860	106	15 746	8 632	8 226	104	16 962	8 826	9 756	77	18 659
25–29	10 907	7 353	41	18 301	13 045	9 747	108	22 900	13 862	12 493	138	26 493	14 986	15 526	103	30 615
30–34	11 806	7 130	47	18 983	14 337	9 636	125	24 098	16 250	12 163	115	28 528	18 395	15 664	103	34 162
35–39	11 939	6 809	50	18 798	14 549	8 852	96	23 497	16 398	10 735	106	27 239	18 462	13 466	93	32 021
40–44	11 736	6 364	36	18 136	13 884	7 883	94	21 861	15 159	8 865	89	24 113	17 049	10 911	75	28 035
45–49	12 195	6 333	50	18 578	14 139	7 633	87	21 859	14 931	8 480	97	23 508	16 028	9 503	77	25 608
50–54	11 268	6 225	29	17 522	12 961	7 187	78	20 226	13 828	7 735	79	21 642	15 213	9 052	64	24 329
55–59	12 613	7 913	44	20 570	13 882	8 860	106	22 848	14 029	8 660	84	22 773	13 860	8 835	72	22 767
60–64	11 162	9 283	50	20 495	12 397	9 985	59	22 441	12 659	10 027	82	22 768	14 188	11 220	66	25 474
65–69	12 437	11 032	44	23 513	13 223	12 440	83	25 746	12 798	12 306	91	25 195	12 555	12 044	52	24 651
70–74	11 272	10 050	48	21 370	12 723	11 785	53	24 561	12 842	12 238	70	25 150	13 085	14 110	67	27 262
75–79	11 175	12 326	43	23 544	11 400	12 464	87	23 951	10 680	11 575	63	22 318	10 340	11 512	48	21 900
80–84	6 593	8 771	32	15 396	7 868	11 036	48	18 952	7 591	11 311	73	18 975	8 468	12 619	31	21 118
85–89	3 949	6 912	25	10 886	4 255	7 800	34	12 089	4 448	7 940	51	12 439	4 675	8 216	27	12 918
90+	2 024	4 727	13	6 764	2 360	5 560	29	7 949	2 210	5 377	30	7 617	2 527	6 519	30	9 076
Unsp.	3 108	2 361	105	5 574	2 819	2 090	195	5 104	1 489	1 107	108	2 704	1 182	888	143	2 213
<b>Total</b>	<b>176 400</b>	<b>139 089</b>	<b>1 018</b>	<b>316 507</b>	<b>199 972</b>	<b>163 163</b>	<b>1 918</b>	<b>365 053</b>	<b>205 483</b>	<b>173 439</b>	<b>2 060</b>	<b>380 982</b>	<b>218 201</b>	<b>194 629</b>	<b>1 700</b>	<b>414 530</b>

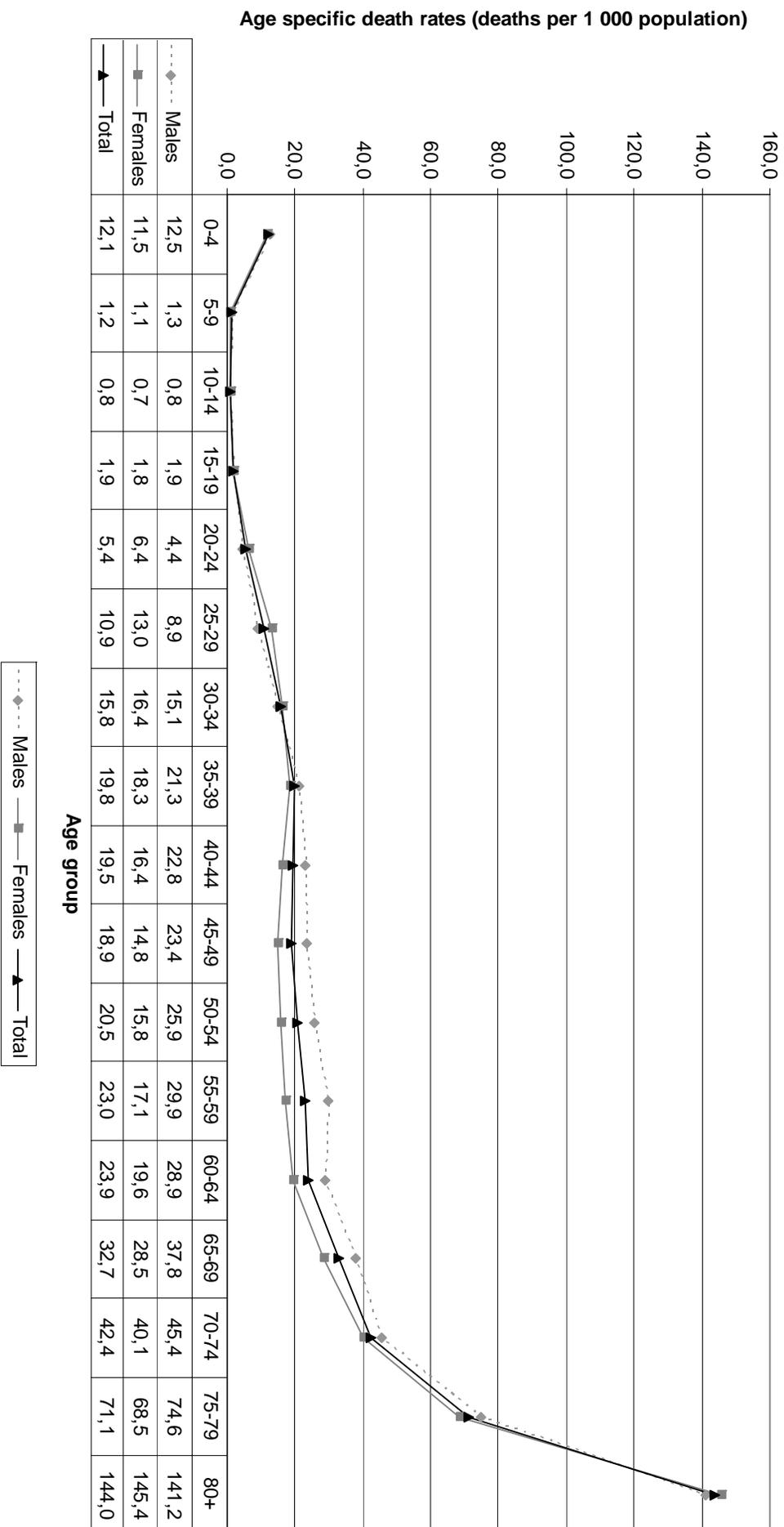
\*Updated data that include late registrations processed in 2006.

**Appendix C.1 : Number of deaths by age and sex, 2001–2004\***

Age group	2001				2002				2003				2004			
	Male	Female	Unsp.	Total												
0–4	21 323	19 349	383	41 055	24 144	21 830	424	46 398	26 981	24 210	505	51 696	29 747	26 567	599	56 913
5–9	2 114	1 703	28	3 845	2 391	1 954	17	4 362	2 762	2 188	28	4 978	3 161	2 784	13	5 958
10–14	1 743	1 457	22	3 222	1 858	1 480	24	3 362	1 988	1 637	25	3 650	2 118	1 756	12	3 886
15–19	4 466	3 885	62	8 413	4 722	4 263	56	9 041	4 813	4 518	70	9 401	4 650	4 571	40	9 261
20–24	8 914	10 817	81	19 812	9 548	12 362	107	22 017	10 272	14 025	101	24 398	10 290	14 880	74	25 244
25–29	16 788	19 085	106	35 979	18 557	23 060	129	41 746	19 881	25 911	137	45 929	19 646	27 187	106	46 939
30–34	20 831	18 556	109	39 496	23 761	23 280	143	47 184	27 291	27 827	137	55 255	28 180	30 249	78	58 507
35–39	20 995	15 731	96	36 822	23 952	19 268	122	43 342	26 256	22 420	112	48 788	27 972	24 830	84	52 886
40–44	19 240	12 769	89	32 098	21 428	15 375	112	36 915	24 564	18 223	111	42 898	26 230	20 305	67	46 602
45–49	17 826	10 875	62	28 763	19 186	12 586	110	31 882	21 901	14 348	84	36 333	22 893	16 097	61	39 051
50–54	16 830	10 090	72	26 992	18 517	11 176	101	29 794	20 460	12 784	66	33 310	20 941	13 971	45	34 957
55–59	14 496	9 101	65	23 662	15 340	9 964	71	25 375	17 093	10 924	48	28 065	17 900	11 942	32	29 874
60–64	15 052	12 045	66	27 163	16 114	12 656	79	28 849	17 298	13 229	55	30 582	16 843	13 297	28	30 168
65–69	12 987	12 769	63	25 819	13 708	13 246	61	27 015	14 593	13 840	53	28 486	15 106	13 711	25	28 842
70–74	14 013	15 097	60	29 170	13 742	15 444	62	29 248	14 418	16 311	54	30 783	13 372	15 329	25	28 726
75–79	10 837	12 024	61	22 922	11 069	12 810	70	23 949	12 029	14 051	56	26 136	11 736	14 006	15	25 757
80–84	9 151	13 890	47	23 088	9 510	14 164	60	23 734	9 406	13 655	39	23 100	8 595	11 897	21	20 513
85–89	4 577	8 353	31	12 961	4 369	8 301	34	12 704	5 422	10 167	36	15 625	5 008	9 438	19	14 465
90+	3 021	7 155	27	10 203	3 291	7 655	33	10 979	3 368	8 128	18	11 514	3 289	7 446	13	10 728
Unsp.	1 040	781	98	1 919	1 135	782	112	2 029	1 650	936	205	2 791	1 910	922	241	3 073
<b>Total</b>	<b>236 244</b>	<b>215 532</b>	<b>1 628</b>	<b>453 404</b>	<b>256 342</b>	<b>241 656</b>	<b>1 927</b>	<b>499 925</b>	<b>282 446</b>	<b>269 332</b>	<b>1 940</b>	<b>553 718</b>	<b>289 567</b>	<b>281 185</b>	<b>1 598</b>	<b>572 350</b>

\* Updated data that include late registrations processed in 2006.

**Appendix D: Age specific death rates by sex, 2005<sup>2</sup>**



<sup>2</sup> Age specific death rates 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 for 2005 (Stats SA, 2005) were used for these calculations.

**Appendix E: All underlying causes of death, 2005**

<b>Causes of death (Based on the Tenth Revision, International Classification of Diseases, 1992)</b>	<b>Number</b>	<b>%</b>
<b>All causes</b>	<b>591 213</b>	<b>100,00</b>
Tuberculosis (A15–A19)	73 903	12,50
Ill-defined and unknown causes of mortality (R95–R99)	66 190	11,20
Influenza and pneumonia (J10–J18)	45 596	7,71
Events of undetermined intent (Y10–Y34)	34 695	5,87
Intestinal infectious diseases (A00–A09)	28 548	4,83
Cerebrovascular diseases (I60–I69)	24 437	4,13
Other forms of heart disease (I30–I52)	23 963	4,05
Diabetes mellitus (E10–E14)	18 423	3,12
Certain disorders involving the immune mechanism (D80–D89)	16 171	2,74
Chronic lower respiratory diseases (J40–J47)	15 738	2,66
Respiratory and cardiovascular disorders specific to the perinatal period (P20–P29)	15 457	2,61
Human immunodeficiency virus [HIV] disease (B20–B24)	14 532	2,46
Ischaemic heart diseases (I20–I25)	12 911	2,18
Hypertensive diseases (I10–I15)	11 863	2,01
Other viral diseases (B25–B34)	9 994	1,69
Digestive system disorders of foetus and newborn (P75–P78)	9 981	1,69
Malignant neoplasms of digestive organs (C15–C26)	9 536	1,61
Inflammatory diseases of the central nervous system (G00–G09)	8 541	1,44
Other disorders originating in the perinatal period (P90–P96)	6 112	1,03
Renal failure (N17–N19)	6 088	1,03
Other external causes of accidental injury (W00–X59)	5 468	0,92
Transport accidents (V01–V99)	5 441	0,92
Other acute lower respiratory infections (J20–J22)	5 427	0,92
Other diseases of the respiratory system (J90–J94)	5 284	0,89
Malignant neoplasms of respiratory and intrathoracic organs (C30–C39)	5 115	0,87
Diseases of liver (K70–K77)	5 074	0,86
General symptoms and signs (R50–R69)	4 962	0,84
Assault (X85–Y09)	4 951	0,84
Protozoal diseases (B50–B64)	4 879	0,83
Other bacterial diseases (A30–49)	4 511	0,76
Noninfective enteritis and colitis (K50–K52)	4 275	0,72
Other respiratory diseases principal affecting the interstitium (J80–J84)	3 956	0,67
Malignant neoplasms of female genital organs (C51–C58)	3 764	0,64
Episodic and paroxysmal disorders (G40–G47)	3 754	0,63
Metabolic disorders (E70–E88)	3 745	0,63
Aplastic and other anaemias (D60–D64)	3 018	0,51
Malignant neoplasms of ill-defined, secondary and unspecified sites (C76–C80)	2 763	0,47
Diseases of oesophagus, stomach and duodenum (K20–K31)	2 682	0,45
Pulmonary heart disease and diseases of pulmonary circulation (I26–I28)	2 614	0,44
Malignant neoplasms of breast (C50)	2 600	0,44
Mycoses (B35–B49)	2 599	0,44
Infections specific to the perinatal period (P35–P39)	2 523	0,43
Malnutrition (E40–E46)	2 468	0,42
Malignant neoplasms of lymphoid, haematopoietic and related tissue (C81–C96)	2 250	0,38
Malignant neoplasms of male genital organs (C60–C63)	2 091	0,35
Complications of medical and surgical care (Y40–Y84)	1 910	0,32
Disorders related to length of gestation and foetal growth (P05–P08)	1 691	0,29
Diseases of arteries, arterioles and capillaries (I70–I79)	1 488	0,25
Other diseases of intestines (K55–K63)	1 408	0,24

**Appendix E: All underlying causes of death, 2005 (continued)**

<b>Causes of death (Based on the Tenth Revision, International Classification of Diseases, 1992)</b>	<b>Number</b>	<b>%</b>
Other disorders of glucoses regulation and pancreatic internal secretion (E15–E16)	1 388	0,23
Malignant neoplasms of mesothelial and soft tissue (C45–C49)	1 203	0,20
Malignant neoplasms of lip, oral cavity and pharynx (C00–C14)	1 117	0,19
Other disorder of the nervous system (G90–G98)	1 116	0,19
Arthropathies (M00–M25)	994	0,17
Other diseases of digestive system (K90–K93)	979	0,17
Disorder of gallbladder, biliary tract and pancreas (K80–K87)	949	0,16
Neoplasms of uncertain or unknown behaviour (D37–D48)	906	0,15
Organic, including symptomatic, mental disorders (F00–F09)	901	0,15
Haemorrhagic and haematological disorders of foetus and newborn (P50–P61)	889	0,15
Lung diseases due to external agents (J60–J70)	829	0,14
Transitory endocrine and metabolic disorders specific to foetus and newborn (P70–P74)	787	0,13
Other degenerative diseases of the nervous system (G30–G32)	779	0,13
Malignant neoplasms of urinary tract (C64–C68)	773	0,13
Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00–P04)	733	0,12
Symptoms and signs involving the circulatory and respiratory systems (R00–R09)	725	0,12
Other diseases of pleura (J90–J94)	724	0,12
Cerebral palsy and other paralytic syndromes (G80–G83)	711	0,12
Soft tissue disorders (M60–M79)	700	0,12
Diseases of veins, lymphatic vessels and lymph nodes, not elsewhere classified (I80–I89)	651	0,11
Other disorders of the skin and subcutaneous (L80–L99)	643	0,11
Sequelae of infectious and parasitic diseases (B90–B94)	633	0,11
Congenital malformations of the circulatory system (Q20–Q28)	606	0,10
Melanoma and other malignant neoplasms of skin (C43–C44)	584	0,10
Chronic rheumatic heart diseases (I05–I09)	517	0,09
Malignant neoplasms of independent (primary) multiple sites (C97)	507	0,09
Infectious of the skin and subcutaneous tissue (L00–L08)	496	0,08
Suppurative and necrotic conditions of lower respiratory tract (J85–J86)	474	0,08
Intentional self-harm (X60–X84)	463	0,08
Renal tubulo-interstitial diseases (N10–N16)	453	0,08
Malignant neoplasms of eye, brain and other parts of central nervous system (C69–C72)	437	0,07
Viral infections characterizes by skin and mucous membrane lesions (B00–B09)	424	0,07
Congenital malformations of the nervous system (Q00–Q07)	376	0,06
Mental and behavioural disorders due to psychoactive substance use (F10–F19)	372	0,06
Diseases of peritoneum (K65–K67)	371	0,06
Coagulation defects, purpura and other haemorrhagic conditions (D65–D69)	349	0,06
Symptoms and signs involving digestive system and abdomen (R10–R19)	349	0,06
Other diseases of urinary system (N30–N39)	331	0,06
Other congenital malformations (Q80–Q89)	328	0,06
Viral hepatitis (B15–B19)	316	0,05
Extrapyramidal and movement disorders (G20–G26)	313	0,05
Systemic connective tissue disorders (M30–M36)	291	0,05
Glomerular diseases (N00–N08)	287	0,05
Oedema, proteinuria and hypertensive disorders in pregnancy, childbirth and puerperium (O10–O16)	284	0,05
Schizophrenia, schizotypal and delusional disorders (F20–F29)	278	0,05
Acute upper respiratory infections (J00–J06)	276	0,05
Viral infections of central nervous system (A80–A89)	271	0,05
Other obstetric conditions not elsewhere classified (O95–O99)	267	0,05
Diseases of male genital organs (N40–N51)	266	0,04
Obesity and other hyperalimentation (E65–E68)	246	0,04

**Appendix E: All underlying causes of death, 2005 (continued)**

<b>Causes of death (Based on the Tenth Revision, International Classification of Diseases, 1992)</b>	<b>Number</b>	<b>%</b>
Chromosomal abnormalities not elsewhere classified (Q90–Q99)	237	0,04
Inflammatory diseases of females pelvic organs (N70–N77)	223	0,04
Dorsopathies (M40–M54)	214	0,04
Other congenital malformation of the digestive system (Q38–Q45)	207	0,04
Complication predominantly related to the puerperium (O85–O92)	206	0,03
Polyneuropathies and other disorders of the peripheral nervous system (G60–G64)	195	0,03
Complication of labour and delivery (O60–O75)	193	0,03
Condition involving the integument and temperature regulation of foetus and newborn (P80–P83)	184	0,03
Sequelae of external causes of morbidity and mortality (Y85–Y89)	177	0,03
Disorders of thyroid gland (E00–E07)	172	0,03
Pregnancy with abortive outcome (O00–O08)	167	0,03
Diseases of appendix (K35–K38)	164	0,03
Benign neoplasms (D10–D36)	161	0,03
Hernia (K40–K46)	159	0,03
Other disorders of kidney and ureter (N25–N29)	157	0,03
Other diseases of upper respiratory tract (J30–J39)	154	0,03
Malignant neoplasms of bone and articular cartilage (C40–C41)	151	0,03
Malignant neoplasms of thyroid and other endocrine glands (C73–C75)	143	0,02
Other and unspecified disorders of the circulatory system (I95–I99)	142	0,02
Systemic atrophies primarily affecting the central nervous system (G10–G13)	140	0,02
Noninflammatory disorders of females genital tract (N80–N98)	138	0,02
Osteopathies and chondropathies (M80–M94)	131	0,02
Diseases of myoneural junction and muscle (G70–G73)	130	0,02
Nutritional anaemias (D50–D53)	128	0,02
Other infectious diseases (B99)	105	0,02
Diseases of middle ear and mastoid (H65–H75)	104	0,02
Helminthiasis (B65–B83)	99	0,02
Dermatitis and eczema (L20–L30)	98	0,02
Infectious with predominately sexual mode of transmission (A50–64)	97	0,02
Other maternal disorders predominantly related to pregnancy (O20–O29)	88	0,01
Diseases of oral cavity, salivary glands and jaws (K00–K14)	86	0,01
Demyelinating diseases of the of the central nervous system (G35–G37)	77	0,01
Urticaria and erythema (L50–L54)	77	0,01
Congenital malformations of and deformations of the musculoskeletal system (Q65–Q79)	77	0,01
Other diseases of blood and blood forming organs (D70–D77)	74	0,01
Congenital malformations of the respiratory system (Q30–Q34)	74	0,01
Disorders of other endocrine glands (E20–E35)	73	0,01
Other nutritional deficiencies (E50–E64)	72	0,01
Congenital malformation of urinary system (Q60–Q64)	70	0,01
Neurotic, stress-related and somatoform disorders (F40–F48)	56	0,01
Unspecified mental disorder (F99)	55	0,01
Symptoms and signs involving cognition, perception, emotional state and behaviour (R40–R46)	54	0,01
Maternal care related to the foetus and amniotic cavity and possible delivery problems (O30–O48)	53	0,01
Abnormal findings on examination of blood without diagnosis (R70–R79)	53	0,01
Birth trauma (P10–P15)	47	0,01
Disorders of the breast (N60–N64)	43	0,01
Mood [affective] disorders (F30–F39)	42	0,01
Haemolytic anaemias (D55–D59)	41	0,01
Behavioural syndromes associated with physiological disturbances and physical factors (F50–F59)	30	0,01
Nerve, nerve root and plexus disorders (G50–G59)	27	0,00

**Appendix E: All underlying causes of death, 2005 (concluded)**

<b>Causes of death (Based on the Tenth Revision, International Classification of Diseases, 1992)</b>	<b>Number</b>	<b>%</b>
Acute rheumatic fever (I00–I02)	26	0,00
Arthropod-borne viral fevers and viral haemorrhagic fevers (A90–A99)	24	0,00
Legal intervention and operations of war (Y35–Y36)	23	0,00
Urolithiasis (N20–N23)	21	0,00
Abnormal findings on examination of other fluids, substances and tissues without diagnosis (R83–R89)	17	0,00
Cleft lip and cleft palate (Q35–Q37)	16	0,00
Symptoms and signs involving the nervous and musculoskeletal systems (R25–R29)	15	0,00
Disorders of psychological development (F80–F89)	14	0,00
Symptoms and signs involving the urinary system (R30–R39)	14	0,00
Abnormal findings on diagnostic imaging in function studies without diagnosis (R90–R94)	14	0,00
Visual disturbances and blindness (H53–H54)	13	0,00
Pediculosis, acariasis and other infestations (B85–B89)	12	0,00
Symptoms and signs involving skin and subcutaneous tissue (R20–R23)	12	0,00
Disorders of eyelid, lacrimal system and orbit (H00–H06)	10	0,00
In situ neoplasms (D00–D09)	9	0,00
Bullous disorders (L10–L14)	9	0,00
Other spirochaetal diseases (A65–A69)	7	0,00
Papulosquamous disorders (L40–L45)	7	0,00
Rickettsioses (A75–A79)	6	0,00
Congenital malformation of genital organs (Q50–Q56)	6	0,00
Disorders of sclera, cornea, iris and ciliary body (H15–H22)	5	0,00
Symptoms and signs involving speech and voice (R47–R49)	5	0,00
Other disorders of ear (H90–H95)	4	0,00
Disorders of vitreous body and globe (H43–45)	3	0,00
Other disorders of eye and adnexa (H55–H59)	3	0,00
Disorders of skin appendages (L60–L75)	3	0,00
Unspecified/ Not yet resolved	3	0,00
Certain zoonotic bacteria diseases (A20–28)	2	0,00
Disorders of adult personality and behaviour (F60–F69)	2	0,00
Disorders of choroid and retina (H30–H36)	2	0,00
Other disorders of the musculoskeletal system and connective tissue (M95–M99)	2	0,00
Behavioural and emotional disorders with onset usually occurring in childhood and adolescence (F90–F98)	1	0,00
Disorders of conjunctiva (H10–H13)	1	0,00
Glaucoma (H40–42)	1	0,00
Diseases of inner ear (H80–H83)	1	0,00
Radiation-related disorders of the skin and subcutaneous tissue (L55–L59)	1	0,00
Congenital malformations of eye, ear, face and neck (Q10–Q18)	1	0,00
Abnormal findings on examination of urine without diagnosis (R80–R82)	1	0,00
Other diseases caused by chlamydiae (A70–A74)	-	-
Mental retardation (F70–F79)	-	-
Disorders of lens (H25–H28)	-	-
Disorders of optic nerve and visual pathways (H46–48)	-	-
Disorders of ocular muscles, binocular movement, accommodation and refraction (H49–H52)	-	-
Diseases of external ear (H60–H62)	-	-
Other disorders of the genitourinary system (N99)	-	-
Delivery (O80–O84)	-	-

**Appendix F: Detailed description of the broad groups of natural causes of death which were among the ten leading causes in 2005**

<b>Causes of death (Based on the Tenth Revision, International Classification of Diseases, 1992)</b>	<b>Number</b>	<b>%</b>
<b>Intestinal infectious diseases (A00–A09)</b>		
A00 Cholera (A00)	31	0,1
A01 Typhoid and paratyphoid fevers (A01)	70	0,2
A02 Other salmonella infections (A02)	46	0,2
A03 Shigellosis (A03)	25	0,1
A04 Other bacterial intestinal infections (A04)	9	0,0
A05 Other bacterial foodborne intoxications (A05)	1	0,0
A06 Amoebiasis (A06)	76	0,3
A07 Other protozoal intestinal diseases (A07)	21	0,1
A08 Viral and other specified intestinal infections (A08)	134	0,5
A09 Diarrhoea and gastroenteritis of presumed infectious origin (A09)	28 135	98,6
<b>Total</b>	<b>28 548</b>	<b>100,0</b>
<b>Tuberculosis (A15–A19)</b>		
A16 Respiratory tuberculosis; not confirmed bacteriologically or histologically (A16)	65 035	88,0
A17 Tuberculosis of nervous system (A17)	3 439	4,7
A18 Tuberculosis of other organs (A18)	1 788	2,4
A19 Miliary tuberculosis (A19)	3 641	4,9
<b>Total</b>	<b>73 903</b>	<b>100,0</b>
<b>Human immunodeficiency virus (HIV) disease (B20–B24)</b>		
B20 Human immunodeficiency virus (HIV) disease resulting in infectious and parasitic diseases	6 799	46,8
B21 Human immunodeficiency virus (HIV) disease resulting in malignant neoplasms	179	1,2
B22 Human immunodeficiency virus (HIV) disease resulting in other specified diseases	4 161	28,6
B23 Human immunodeficiency virus (HIV) disease resulting in other conditions	868	6,0
B24 Unspecified human immunodeficiency virus (HIV) disease	2 525	17,4
<b>Total</b>	<b>14 532</b>	<b>100,0</b>
<b>Certain disorders involving the immune mechanism (D80–D89)</b>		
D80 Immunodeficiency with predominantly antibody defects	1	0,0
D81 Combined immunodeficiencies	7	0,0
D82 Immunodeficiency associated with other major defects	4	0,0
D83 Common variable immunodeficiency	94	0,6
D84 Other immunodeficiencies	15 970	98,8
D86 Sarcoidosis	39	0,2
D89 Other disorders involving the immune mechanism; not elsewhere classified	56	0,3
<b>Total</b>	<b>16 171</b>	<b>100,0</b>
<b>Diabetes mellitus (E10–E14)</b>		
E10 Insulin-dependent diabetes mellitus	294	1,6
E11 Non-insulin-dependent diabetes mellitus	1 011	5,5
E12 Malnutrition-related diabetes mellitus	6	0,0
E13 Other specified diabetes mellitus	0	0,0
E14 Unspecified diabetes mellitus	17 112	92,9
<b>Total</b>	<b>18 423</b>	<b>100,0</b>

**Appendix F: Detailed description of the broad groups of natural causes of death which were among the ten leading causes in 2005 (continued)**

<b>Causes of death (Based on the Tenth Revision, International Classification of Diseases, 1992)</b>	<b>Number</b>	<b>%</b>
<b>Other forms of heart disease (I30–I52)</b>		
I30 Acute pericarditis	8	0,0
I31 Other diseases of pericardium	247	1,0
I33 Acute and subacute endocarditis	52	0,2
I34 Nonrheumatic mitral valve disorders	119	0,5
I35 Nonrheumatic aortic valve disorders	152	0,6
I36 Nonrheumatic tricuspid valve disorders	4	0,0
I37 Pulmonary valve disorders	4	0,0
I38 Endocarditis; valve unspecified	212	0,9
I40 Acute myocarditis	46	0,2
I42 Cardiomyopathy	3 222	13,4
I44 Atrioventricular and left bundle-branch block	23	0,1
I45 Other conduction disorders	62	0,3
I46 Cardiac arrest	2 971	12,4
I47 Paroxysmal tachycardia	29	0,1
I48 Atrial fibrillation and flutter	350	1,5
I49 Other cardiac arrhythmias	252	1,1
I50 Heart failure	15 382	64,2
I51 Complications and ill-defined descriptions of heart disease	828	3,5
<b>Total</b>	<b>23 963</b>	<b>100,0</b>
<b>Cerebrovascular diseases (I60–I69)</b>		
I60 Subarachnoid haemorrhage	445	1,8
I61 Intracerebral haemorrhage	1 595	6,5
I62 Other nontraumatic intracranial haemorrhage	579	2,4
I63 Cerebral infarction	499	2,0
I64 Stroke; not specified as haemorrhage or infarction	20 301	83,1
I65 Occlusion and stenosis of precerebral arteries; not resulting in cerebral infarction	0	0,0
I66 Occlusion and stenosis of unspecified precerebral arteries	0	0,0
I67 Other cerebrovascular diseases	571	2,3
I69 Sequelae of cerebrovascular disease	447	1,8
<b>Total</b>	<b>24 437</b>	<b>100,0</b>
<b>Influenza and pneumonia (J10–J18)</b>		
J10 Influenza due to identified influenza virus	48	0,1
J11 Influenza; virus not identified	570	1,3
J12 Viral pneumonia; not elsewhere classified	23	0,1
J13 Pneumonia due to Streptococcus pneumoniae	8	0,0
J14 Pneumonia due to Haemophilus influenzae	4	0,0
J15 Bacterial pneumonia; not elsewhere classified	498	1,1
J16 Pneumonia due to other infectious organisms; not elsewhere classified	7	0,0
J18 Pneumonia; organism unspecified	44 438	97,5
<b>Total</b>	<b>45 596</b>	<b>100,0</b>

**Appendix F: Detailed description of the broad groups of natural causes of death which were among the ten leading causes in 2005 (concluded)**

<b>Causes of death (Based on the Tenth Revision, International Classification of Diseases, 1992)</b>	<b>Number</b>	<b>%</b>
<b>Chronic lower respiratory diseases (J40–J47)</b>		
J40 Bronchitis; not specified as acute or chronic	756	4,8
J41 Simple and mucopurulent chronic bronchitis	11	0,1
J42 Unspecified chronic bronchitis	747	4,7
J43 Emphysema	1 039	6,6
J44 Other chronic obstructive pulmonary disease	6 081	38,6
J45 Asthma	5 492	34,9
J46 Status asthmaticus	1 359	8,6
J47 Bronchiectasis	253	1,6
<b>Total</b>	<b>15 738</b>	<b>100,0</b>
<b>Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)</b>		
P20 Intrauterine hypoxia	135	0,9
P21 Birth asphyxia	1 536	9,9
P22 Respiratory distress of newborn	2 014	13,0
P23 Congenital pneumonia	8 463	54,8
P24 Neonatal aspiration syndromes	836	5,4
P25 Interstitial emphysema and related conditions originating in the perinatal period	203	1,3
P26 Pulmonary haemorrhage originating in the perinatal period	154	1,0
P27 Chronic respiratory disease originating in the perinatal period	18	0,1
P28 Other respiratory conditions originating in the perinatal period	1 629	10,5
P29 Cardiovascular disorders originating in the perinatal period	469	3,0
<b>Total</b>	<b>15 457</b>	<b>100,0</b>

**Appendix G: The ten leading underlying natural causes of death, 1997–1999\***

Causes of death and year			
<b>Rank</b>	<b>1997</b>	<b>Number</b>	<b>%</b>
1	Tuberculosis (A15–A19)	22 071	7,0
2	Other forms of heart disease (I30–I52)	20 110	6,4
3	Cerebrovascular diseases (I60–I69)	17 005	5,4
4	Influenza and pneumonia (J10–J18)	11 518	3,6
5	Diabetes mellitus (E10–E14)	10 828	3,4
6	Chronic lower respiratory diseases (J40–J47)	10 770	3,4
7	Ischaemic heart diseases (I20–I25)	9 797	3,1
8	Malignant neoplasms of digestive organs (C15–C26)	8 917	2,8
9	Hypertensive diseases (I10–I15)	7 709	2,4
10	Respiratory and cardiovascular disorders – perinatal period (P20–P29)	7 075	2,2
	Other natural causes	136 657	43,2
	Non-natural causes	54 050	17,1
	<b>All causes</b>	<b>316 507</b>	<b>100,0</b>
<b>Rank</b>	<b>1998</b>	<b>Number</b>	<b>%</b>
1	Tuberculosis (A15–A19)	28 532	7,8
2	Other forms of heart disease (I30–I52)	21 737	6,0
3	Cerebrovascular diseases (I60–I69)	18 682	5,1
4	Influenza and pneumonia (J10–J18)	17 041	4,7
5	Chronic lower respiratory diseases (J40–J47)	13 165	3,6
6	Diabetes mellitus (E10–E14)	12 282	3,4
7	Ischaemic heart diseases (I20–I25)	10 688	2,9
8	Malignant neoplasms of digestive organs (C15–C26)	9 170	2,5
9	Intestinal infectious diseases (A00–A09)	8 808	2,4
10	Hypertensive diseases (I10–I15)	8 749	2,4
	Other natural causes	161 156	44,1
	Non-natural causes	55 043	15,1
	<b>All causes</b>	<b>365 053</b>	<b>100,0</b>
<b>Rank</b>	<b>1999</b>	<b>Number</b>	<b>%</b>
1	Tuberculosis (A15–A19)	34 250	9,0
2	Other forms of heart disease (I30–I52)	20 127	5,3
3	Cerebrovascular diseases (I60–I69)	19 965	5,2
4	Influenza and pneumonia (J10–J18)	19 158	5,0
5	Chronic lower respiratory diseases (J40–J47)	12 595	3,3
6	Diabetes mellitus (E10–E14)	12 548	3,3
7	Ischaemic heart diseases (I20–I25)	11 430	3,0
8	Intestinal infectious diseases (A00–A09)	11 204	2,9
9	Human immunodeficiency virus [HIV] disease (B20–B24)	9 935	2,6
10	Hypertensive diseases (I10–I15)	9 438	2,5
	Other natural causes	167 053	43,8
	Non-natural causes	53 279	14,0
	<b>All causes</b>	<b>380 982</b>	<b>100,0</b>

\*Updated data that include late registrations processed in 2006.

**Appendix G.1: The ten leading underlying natural causes of death, 2000–2002\***

Causes of death and year			
<b>Rank</b>	<b>2000</b>	<b>Number</b>	<b>%</b>
1	Tuberculosis (A15–A19)	42 327	10,2
2	Influenza and pneumonia (J10–J18)	24 668	6,0
3	Cerebrovascular diseases (I60–I69)	21 986	5,3
4	Other forms of heart disease (I30–I52)	21 464	5,2
5	Intestinal infectious diseases (A00–A09)	14 229	3,4
6	Diabetes mellitus (E10–E14)	13 572	3,3
7	Chronic lower respiratory diseases (J40–J47)	13 289	3,2
8	Ischaemic heart diseases (I20–I25)	11 649	2,8
9	Certain disorders involving the immune mechanism (D80–D89)	10 963	2,6
10	Human immunodeficiency virus [HIV] disease (B20–B24)	10 471	2,5
	Other natural causes	180 277	43,5
	Non-natural causes	49 635	12,0
	<b>All causes</b>	<b>414 530</b>	<b>100,0</b>
<b>Rank</b>	<b>2001</b>	<b>Number</b>	<b>%</b>
1	Tuberculosis (A15–A19)	51 159	11,3
2	Influenza and pneumonia (J10–J18)	31 591	7,0
3	Other forms of heart disease (I30–I52)	22 637	5,0
4	Cerebrovascular diseases (I60–I69)	22 616	5,0
5	Intestinal infectious diseases (A00–A09)	16 158	3,6
6	Chronic lower respiratory diseases (J40–J47)	14 755	3,3
7	Diabetes mellitus (E10–E14)	14 581	3,2
8	Ischaemic heart diseases (I20–I25)	11 784	2,6
9	Certain disorders involving the immune mechanism (D80–D89)	11 704	2,6
10	Hypertensive diseases (I10–I15)	10 766	2,4
	Other natural causes	195 423	43,1
	Non-natural causes	50 230	11,1
	<b>All causes</b>	<b>453 404</b>	<b>100,0</b>
<b>Rank</b>	<b>2002</b>	<b>Number</b>	<b>%</b>
1	Tuberculosis (A15–A19)	60 350	12,1
2	Influenza and pneumonia (J10–J18)	37 805	7,6
3	Cerebrovascular diseases (I60–I69)	25 249	5,1
4	Other forms of heart disease (I30–I52)	22 695	4,5
5	Intestinal infectious diseases (A00–A09)	19 969	4,0
6	Diabetes mellitus (E10–E14)	15 749	3,2
7	Chronic lower respiratory diseases (J40–J47)	15 004	3,0
8	Certain disorders involving the immune mechanism (D80–D89)	12 722	2,5
9	Ischaemic heart diseases (I20–I25)	12 305	2,5
10	Respiratory and cardiovascular disorders – perinatal period (P20–P29)	11 273	2,3
	Other natural causes	215 496	43,1
	Non-natural causes	51 308	10,3
	<b>All causes</b>	<b>499 925</b>	<b>100,0</b>

\*Updated data that include late registrations processed in 2006.

**Appendix G.2: The ten leading underlying natural causes of death, 2003\***

Causes of death and year			
Rank	2003	Number	%
1	Tuberculosis (A15–A19)	67 711	12,2
2	Influenza and pneumonia (J10–J18)	45 404	8,2
3	Cerebrovascular diseases (I60–I69)	27 460	5,0
4	Intestinal infectious diseases (A00–A09)	24 432	4,4
5	Other forms of heart disease (I30–I52)	24 008	4,3
6	Diabetes mellitus (E10–E14)	16 769	3,0
7	Chronic lower respiratory diseases (J40–J47)	16 147	2,9
8	Certain disorders involving the immune mechanism (D80–D89)	15 114	2,7
9	Ischaemic heart diseases (I20–I25)	13 331	2,4
10	Respiratory and cardiovascular disorders – perinatal period (P20–P29)	12 764	2,3
	Other natural causes	238 017	43,0
	Non-natural causes	52 561	9,5
	<b>All causes</b>	<b>553 718</b>	<b>100,0</b>

\*Updated data that include late registrations processed in 2006.

**Appendix H: Number and percentage of neonatal and post-neonatal deaths due to the ten leading underlying natural causes of death, 2005**

Causes of death (Based on the Tenth Revision, International Classification of Diseases, 1992)	0–28 days (neonatal)		29 days–1 months (post-neonatal)	
	Rank	No.	Rank	%
Respiratory and cardiovascular disorders specific to the perinatal period (P20–P29)	1	5 665	1	28,6
Disorders related to length of gestation and foetal growth (P05–P08)	2	1 485	...	...
Other disorders originating in the perinatal period (P90–P96)	3	1 100	3	14,8
Infections specific to the perinatal period (P35–P39)	4	947	4	4,6
Foetus and newborn affected by maternal factors (P00–P04)	5	626	...	...
Digestive system disorders of foetus and newborn (P75–P78)	6	599	2	27,9
Haemorrhagic & haematological disorders of foetus & newborn (P50–P61)	7	453	10	1,3
Other congenital malformations (Q80–Q89)	8	210	...	...
Congenital malformations of the circulatory system (Q20–Q28)	9	149	...	...
Transitory endocrine & metabolic disorders specific to foetus & newborn (P70–P74)	10	124	8	2,0
Certain disorder involving the immune mechanism (D80–D89)	...	...	5	3,0
Main nutrition (E40–E46)	...	...	6	2,4
Protozoal diseases (B50–B64)	...	...	7	2,4
Other viral diseases (B25–B34)	...	...	9	1,6
Other natural causes	...	1 302	...	8,6
Non-natural causes	...	147	...	2,7
<b>All causes</b>		<b>12 807</b>		<b>100,0</b>
			<b>33 219</b>	<b>100,0</b>

... Category not in top ten

### Appendix I: The ten leading underlying natural causes of death by province, sex and age: South Africa, 2005

All provinces, both sexes, all ages			All provinces, males, all ages			All provinces, females, all ages		
	No.	%		No.	%		No.	%
1 Tuberculosis (A15-A19)	73 337	12.5	1 Tuberculosis (A15-A19)	39 692	13.4	1 Tuberculosis (A15-A19)	33 645	11.6
2 Influenza and pneumonia (I10-J18)	45 331	7.7	2 Influenza and pneumonia (I10-J18)	21 283	7.2	2 Influenza and pneumonia (I10-J18)	24 048	8.3
3 Ischaemic heart diseases (I20-I25)	28 364	4.8	3 Ischaemic heart diseases (I20-I25)	11 948	4.0	3 Ischaemic heart diseases (I20-I25)	16 416	5.6
4 Cerebrovascular diseases (I60-I69)	24 364	4.2	4 Cerebrovascular diseases (I60-I69)	10 710	3.6	4 Cerebrovascular diseases (I60-I69)	14 116	4.9
5 Other forms of heart disease (I30-I52)	23 667	4.1	5 Other forms of heart disease (I30-I52)	10 248	3.5	5 Other forms of heart disease (I30-I52)	13 147	4.5
6 Diabetes mellitus (E10-E14)	18 391	3.1	6 Diabetes mellitus (E10-E14)	9 223	3.1	6 Diabetes mellitus (E10-E14)	11 358	3.9
7 Chronic lower respiratory diseases (J40-J47)	15 831	2.7	7 Chronic lower respiratory diseases (J40-J47)	7 386	2.5	7 Chronic lower respiratory diseases (J40-J47)	8 443	2.9
8 Certain disorders involving the immune mechanism (D80-D89)	15 688	2.7	8 Certain disorders involving the immune mechanism (D80-D89)	7 033	2.4	8 Certain disorders involving the immune mechanism (D80-D89)	7 656	2.6
9 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	15 045	2.6	9 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	7 322	2.4	9 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	7 725	2.6
10 Human immunodeficiency virus [HIV] disease (B20-B24)	14 426	2.5	10 Human immunodeficiency virus [HIV] disease (B20-B24)	123 477	41.8	10 Human immunodeficiency virus [HIV] disease (B20-B24)	7 241	2.5
... Other natural causes	258 965	44.2	... Other natural causes	39 508	13.4	... Other natural causes	133 833	46.0
... Non-natural causes	52 306	8.9	... Non-natural causes	295 334	100.0	... Non-natural causes	12 798	4.4
100.0	586 142	100.0	100.0	295 334	100.0	100.0	290 908	100.0
<b>All provinces, both sexes, 0-14</b>			<b>All provinces, males, 0-14</b>			<b>All provinces, females, 0-14</b>		
1 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	15 045	21.2	1 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	7 804	20.9	1 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	7 241	21.6
2 Digestive system disorders of fetus and newborn (P75-P78)	9 782	13.8	2 Digestive system disorders of fetus and newborn (P75-P78)	5 117	13.7	2 Digestive system disorders of fetus and newborn (P75-P78)	4 665	13.9
3 Other disorders originating in the perinatal period (P90-P96)	3 244	4.4	3 Other disorders originating in the perinatal period (P90-P96)	2 098	6.3	3 Other disorders originating in the perinatal period (P90-P96)	2 553	8.5
4 Influenza and pneumonia (I10-J18)	4 514	6.4	4 Influenza and pneumonia (I10-J18)	2 326	6.2	4 Influenza and pneumonia (I10-J18)	2 192	6.5
5 Influenza and pneumonia (I10-J18)	2 786	3.9	5 Influenza and pneumonia (I10-J18)	1 433	3.6	5 Influenza and pneumonia (I10-J18)	1 363	4.1
6 Infections specific to the perinatal period (P35-P39)	2 461	3.5	6 Infections specific to the perinatal period (P35-P39)	1 282	3.4	6 Infections specific to the perinatal period (P35-P39)	1 179	3.5
7 Maturation (E40-E46)	1 895	2.7	7 Maturation (E40-E46)	983	2.6	7 Maturation (E40-E46)	912	2.7
8 Tuberculosis (A15-A19)	1 827	2.6	8 Tuberculosis (A15-A19)	965	2.6	8 Tuberculosis (A15-A19)	862	2.6
9 Certain disorders involving the immune mechanism (D80-D89)	1 798	2.5	9 Certain disorders involving the immune mechanism (D80-D89)	954	2.6	9 Certain disorders involving the immune mechanism (D80-D89)	844	2.5
10 Disorders related to length of gestation and foetal growth (P05-P08)	1 602	2.3	10 Disorders related to length of gestation and foetal growth (P05-P08)	811	2.2	10 Disorders related to length of gestation and foetal growth (P05-P08)	791	2.4
... Other natural causes	18 291	25.8	... Other natural causes	9 616	25.7	... Other natural causes	8 675	25.8
... Non-natural causes	4 980	7.0	... Non-natural causes	2 978	8.0	... Non-natural causes	2 002	6.0
100.0	70 935	100.0	100.0	37 389	100.0	100.0	33 566	100.0
<b>All provinces, both sexes, 15-49</b>			<b>All provinces, males, 15-49</b>			<b>All provinces, females, 15-49</b>		
1 Tuberculosis (A15-A19)	56 062	19.8	1 Tuberculosis (A15-A19)	28 571	20.0	1 Tuberculosis (A15-A19)	27 491	19.5
2 Influenza and pneumonia (I10-J18)	29 345	10.2	2 Influenza and pneumonia (I10-J18)	12 860	9.1	2 Influenza and pneumonia (I10-J18)	16 385	11.6
3 Ischaemic heart diseases (I20-I25)	17 575	6.2	3 Ischaemic heart diseases (I20-I25)	6 823	4.8	3 Ischaemic heart diseases (I20-I25)	10 752	7.6
4 Certain disorders involving the immune mechanism (D80-D89)	12 536	4.4	4 Certain disorders involving the immune mechanism (D80-D89)	5 452	3.8	4 Certain disorders involving the immune mechanism (D80-D89)	7 381	5.2
5 Human immunodeficiency virus [HIV] disease (B20-B24)	11 832	4.2	5 Human immunodeficiency virus [HIV] disease (B20-B24)	5 155	3.6	5 Human immunodeficiency virus [HIV] disease (B20-B24)	6 480	4.6
6 Other viral diseases (B25-B34)	7 825	2.8	6 Other viral diseases (B25-B34)	3 171	2.2	6 Other viral diseases (B25-B34)	4 654	3.3
7 Inflammatory diseases of the central nervous system (G00-G09)	6 402	2.3	7 Inflammatory diseases of the central nervous system (G00-G09)	2 882	2.0	7 Inflammatory diseases of the central nervous system (G00-G09)	3 615	2.6
8 Other forms of heart disease (I30-I52)	6 216	2.2	8 Other forms of heart disease (I30-I52)	2 787	2.0	8 Other forms of heart disease (I30-I52)	3 334	2.4
9 Cerebrovascular diseases (I60-I69)	3 429	1.3	9 Cerebrovascular diseases (I60-I69)	1 426	1.0	9 Cerebrovascular diseases (I60-I69)	2 019	1.6
10 Other natural causes	90 155	31.8	10 Other natural causes	40 846	28.6	10 Other natural causes	49 142	34.9
... Other natural causes	37 388	13.2	... Other natural causes	30 079	21.1	... Other natural causes	27 289	5.2
100.0	283 478	100.0	100.0	142 664	100.0	100.0	140 814	100.0
<b>All provinces, both sexes, 50-64</b>			<b>All provinces, males, 50-64</b>			<b>All provinces, females, 50-64</b>		
1 Tuberculosis (A15-A19)	11 238	11.4	1 Tuberculosis (A15-A19)	7 537	13.2	1 Tuberculosis (A15-A19)	3 701	9.0
2 Influenza and pneumonia (I10-J18)	6 599	6.5	2 Influenza and pneumonia (I10-J18)	3 812	6.7	2 Influenza and pneumonia (I10-J18)	3 473	8.5
3 Cerebrovascular diseases (I60-I69)	6 040	6.1	3 Cerebrovascular diseases (I60-I69)	3 154	5.5	3 Cerebrovascular diseases (I60-I69)	2 886	7.0
4 Diabetes mellitus (E10-E14)	6 010	6.1	4 Diabetes mellitus (E10-E14)	3 134	5.5	4 Diabetes mellitus (E10-E14)	2 547	6.2
5 Other forms of heart disease (I30-I52)	5 233	5.3	5 Other forms of heart disease (I30-I52)	2 939	5.1	5 Other forms of heart disease (I30-I52)	2 344	5.7
6 Chronic lower respiratory diseases (J40-J47)	4 426	4.5	6 Chronic lower respiratory diseases (J40-J47)	2 444	4.4	6 Chronic lower respiratory diseases (J40-J47)	2 444	6.2
7 Ischaemic heart diseases (I20-I25)	3 716	3.8	7 Ischaemic heart diseases (I20-I25)	2 523	4.4	7 Ischaemic heart diseases (I20-I25)	1 710	4.2
8 Malignant neoplasms of digestive organs (C15-C26)	3 378	3.4	8 Malignant neoplasms of digestive organs (C15-C26)	2 094	3.7	8 Malignant neoplasms of digestive organs (C15-C26)	1 478	3.6
9 Ischaemic heart diseases (I20-I25)	3 249	3.3	9 Ischaemic heart diseases (I20-I25)	1 688	2.9	9 Ischaemic heart diseases (I20-I25)	1 282	3.1
10 Malignant neoplasms of respiratory and intrathoracic organs (C30-C39)	3 201	3.3	10 Malignant neoplasms of respiratory and intrathoracic organs (C30-C39)	1 504	2.6	10 Malignant neoplasms of respiratory and intrathoracic organs (C30-C39)	1 187	2.9
... Other natural causes	39 275	40.0	... Other natural causes	22 018	38.4	... Other natural causes	17 049	41.6
... Non-natural causes	5 961	6.1	... Non-natural causes	4 385	7.7	... Non-natural causes	1 576	3.8
100.0	98 286	100.0	100.0	57 275	100.0	100.0	41 011	100.0
<b>All provinces, both sexes, 65+</b>			<b>All provinces, males, 65+</b>			<b>All provinces, females, 65+</b>		
1 Cerebrovascular diseases (I60-I69)	13 962	10.5	1 Cerebrovascular diseases (I60-I69)	5 022	8.7	1 Cerebrovascular diseases (I60-I69)	9 240	11.9
2 Chronic lower respiratory diseases (J40-J47)	11 489	8.7	2 Chronic lower respiratory diseases (J40-J47)	4 772	8.1	2 Chronic lower respiratory diseases (J40-J47)	6 717	9.0
3 Diabetes mellitus (E10-E14)	9 649	7.1	3 Diabetes mellitus (E10-E14)	4 033	7.0	3 Diabetes mellitus (E10-E14)	6 296	8.3
4 Ischaemic heart diseases (I20-I25)	7 286	5.4	4 Ischaemic heart diseases (I20-I25)	3 650	6.3	4 Ischaemic heart diseases (I20-I25)	4 746	6.3
5 Diabetes mellitus (E10-E14)	6 988	5.2	5 Diabetes mellitus (E10-E14)	3 188	5.5	5 Diabetes mellitus (E10-E14)	3 753	5.0
6 Influenza and pneumonia (I10-J18)	6 831	5.1	6 Influenza and pneumonia (I10-J18)	3 078	5.3	6 Influenza and pneumonia (I10-J18)	3 616	4.8
7 Tuberculosis (A15-A19)	6 822	5.1	7 Tuberculosis (A15-A19)	2 619	4.5	7 Tuberculosis (A15-A19)	2 955	3.9
8 Malignant neoplasms of digestive organs (C15-C26)	4 603	3.4	8 Malignant neoplasms of digestive organs (C15-C26)	2 419	4.2	8 Malignant neoplasms of digestive organs (C15-C26)	2 184	2.9
9 Hypertensive diseases (I10-I15)	4 210	3.2	9 Hypertensive diseases (I10-I15)	2 076	3.6	9 Hypertensive diseases (I10-I15)	2 149	2.9
10 Malignant neoplasms of male genital organs (C60-C63)	2 897	2.2	10 Malignant neoplasms of male genital organs (C60-C63)	1 629	2.8	10 Malignant neoplasms of male genital organs (C60-C63)	1 191	1.6
... Other natural causes	54 394	40.8	... Other natural causes	23 524	40.5	... Other natural causes	30 353	40.2
... Non-natural causes	9 390	7.0	... Non-natural causes	5 729	10.0	... Non-natural causes	3 317	4.2
100.0	133 446	100.0	100.0	58 026	100.0	100.0	75 417	100.0

Excluding a total of 5 071 cases with unknown sex and unknown age; known sex and unknown age; known age and unknown sex; and deaths that occurred outside South Africa.

### Mortality and causes of death in South Africa, 2005: Findings from death notification

Appendix I.1: The ten leading underlying natural causes of death by province, sex and age: Western Cape, 2005

Western Cape, both sexes, all ages		Western Cape, males, all ages		Western Cape, females, all ages				
	No.	%		No.	%			
1 Tuberculosis (A15-A19)	3 882	8.8	1 Tuberculosis (A15-A19)	2 333	9.7	1 Diabetes mellitus (E10-E14)	1 568	7.9
2 Ischaemic heart diseases (I20-I25)	2 905	6.6	2 Tuberculosis (A15-A19)	1 655	6.9	2 Tuberculosis (A15-A19)	1 548	7.8
3 Cerebrovascular diseases (I60-I69)	2 538	5.8	3 Chronic lower respiratory diseases (J40-J47)	1 149	4.8	3 Cerebrovascular diseases (I60-I69)	1 394	7.0
4 Diabetes mellitus (E10-E14)	2 488	5.7	4 Cerebrovascular diseases (I60-I69)	1 142	4.7	4 Ischaemic heart diseases (I20-I25)	1 384	6.3
5 Chronic lower respiratory diseases (J40-J47)	1 325	3.0	5 Malignant neoplasms of digestive organs (C15-C26)	633	2.5	5 Other forms of heart diseases (I30-I52)	804	4.5
6 Malignant neoplasms of respiratory and intrathoracic organs (C30-C39)	1 325	3.0	6 Diabetes mellitus (E10-E14)	603	2.4	6 Chronic immunodeficiency virus (HIV) disease (B20-B24)	804	4.5
7 Human immunodeficiency virus (HIV) disease (B20-B24)	1 632	3.7	7 Malignant neoplasms of respiratory and intrathoracic organs (C30-C39)	900	3.8	7 Human immunodeficiency virus (HIV) disease (B20-B24)	786	3.9
8 Malignant neoplasms of digestive organs (C15-C26)	1 612	3.7	8 Other forms of heart diseases (I30-I52)	793	3.3	8 Malignant neoplasms of digestive organs (C15-C26)	679	3.4
9 Malignant neoplasms of respiratory and intrathoracic organs (C30-C39)	1 409	3.2	9 Human immunodeficiency virus (HIV) disease (B20-B24)	760	3.2	9 Hypertensive diseases (I10-I15)	617	3.1
10 Influenza and pneumonia (J10-J18)	1 109	2.7	10 Influenza and pneumonia (J10-J18)	521	2.2	10 Influenza and pneumonia (J10-J18)	588	3.0
... Other natural causes	16 254	37.0	... Other natural causes	9 122	32.9	... Other natural causes	8 231	41.4
... Non-natural causes	6 508	14.8	... Non-natural causes	5 041	20.9	... Non-natural causes	1 467	7.4
... All causes	43 977	100.0	... All causes	24 073	100.0	... All causes	19 904	100.0
<b>Western Cape, both sexes, 0-14</b>								
1 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	590	17.0	1 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	286	15.7	1 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	304	18.4
2 Other disorders originating in the perinatal period (P30-P39)	339	9.7	2 Other disorders originating in the perinatal period (P30-P39)	169	9.1	2 Other disorders originating in the perinatal period (P30-P39)	155	7.8
3 Infections specific to the perinatal period (P40-P49)	359	10.0	3 Infections specific to the perinatal period (P40-P49)	188	10.0	3 Infections specific to the perinatal period (P40-P49)	188	10.1
4 Infections specific to the perinatal period (P45-P49)	162	4.7	4 Infections specific to the perinatal period (P45-P49)	92	5.0	4 Disorders related to length of gestation and foetal growth (P05-P08)	86	5.2
5 Disorders related to length of gestation and foetal growth (P05-P08)	161	4.6	5 Disorders related to length of gestation and foetal growth (P05-P08)	75	4.1	5 Disorders related to length of gestation and foetal growth (P05-P08)	70	4.2
6 Human immunodeficiency virus (HIV) disease (B20-B24)	121	3.5	6 Human immunodeficiency virus (HIV) disease (B20-B24)	67	3.7	6 Human immunodeficiency virus (HIV) disease (B20-B24)	54	3.3
7 Certain disorders involving the immune mechanism (D80-D89)	75	2.2	7 Certain disorders involving the immune mechanism (D80-D89)	46	2.5	7 Certain disorders involving the immune mechanism (D80-D89)	39	2.4
8 Congenital malformations of the circulatory system (Q20-Q28)	73	2.1	8 Congenital malformations of the circulatory system (Q20-Q28)	34	1.9	8 Fetus & newborn at risk by maternal factors & compl of preg, labr and del (P00-P04)	37	2.2
9 Fetus & newborn at risk by maternal factors & compl of preg, labr and del (P00-P04)	71	2.0	9 Fetus & newborn at risk by maternal factors & compl of preg, labr and del (P00-P04)	34	1.9	9 Congenital malformations of the circulatory system (Q20-Q28)	31	1.9
10 Congenital malformations of the circulatory system (Q20-Q28)	67	1.9	10 Other vital diseases (B25-B34)	34	1.9	10 Other vital diseases (B25-B34)	29	1.8
... Other natural causes	916	26.3	... Other natural causes	414	26.0	... Other natural causes	413	24.8
... Non-natural causes	520	15.0	... Non-natural causes	326	17.9	... Non-natural causes	215	13.8
... All causes	3 479	100.0	... All causes	1 822	100.0	... All causes	1 566	100.0
<b>Western Cape, both sexes, 15-49</b>								
1 Tuberculosis (A15-A19)	2 740	17.3	1 Tuberculosis (A15-A19)	1 565	16.0	1 Tuberculosis (A15-A19)	1 175	19.5
2 Human immunodeficiency virus (HIV) disease (B20-B24)	1 346	8.5	2 Human immunodeficiency virus (HIV) disease (B20-B24)	609	6.2	2 Human immunodeficiency virus (HIV) disease (B20-B24)	740	12.3
3 Other viral diseases (B25-B34)	553	3.5	3 Other viral diseases (B25-B34)	234	2.4	3 Other viral diseases (B25-B34)	319	5.3
4 Certain disorders involving the immune mechanism (D80-D89)	398	2.5	4 Certain disorders involving the immune mechanism (D80-D89)	220	2.3	4 Certain disorders involving the immune mechanism (D80-D89)	213	3.5
5 Influenza and pneumonia (J10-J18)	367	2.3	5 Influenza and pneumonia (J10-J18)	185	1.9	5 Influenza and pneumonia (J10-J18)	171	3.2
6 Cerebrovascular diseases (I60-I69)	345	2.2	6 Cerebrovascular diseases (I60-I69)	185	1.9	6 Cerebrovascular diseases (I60-I69)	191	3.2
7 Ischaemic heart diseases (I20-I25)	324	2.1	7 Diabetes mellitus (E10-E14)	180	1.8	7 Diabetes mellitus (E10-E14)	136	2.3
8 Other forms of heart diseases (I30-I52)	324	2.1	8 Other forms of heart diseases (I30-I52)	160	1.7	8 Other forms of heart diseases (I30-I52)	128	2.1
9 Other forms of heart diseases (I30-I52)	301	1.9	9 Chronic lower respiratory diseases (J40-J47)	172	1.8	9 Chronic lower respiratory diseases (J40-J47)	122	2.1
10 Diabetes mellitus (E10-E14)	271	1.7	10 Malignant neoplasms of female genital organs (C51-C59)	167	1.7	10 Malignant neoplasms of female genital organs (C51-C59)	126	2.1
... Other natural causes	3 976	25.2	... Other natural causes	2 079	21.3	... Other natural causes	1 828	30.3
... Non-natural causes	4 689	30.8	... Non-natural causes	3 985	40.8	... Non-natural causes	874	14.5
... All causes	15 795	100.0	... All causes	9 759	100.0	... All causes	6 036	100.0
<b>Western Cape, both sexes, 50-64</b>								
1 Diabetes mellitus (E10-E14)	811	8.9	1 Tuberculosis (A15-A19)	535	10.0	1 Diabetes mellitus (E10-E14)	467	12.3
2 Ischaemic heart diseases (I20-I25)	787	8.6	2 Ischaemic heart diseases (I20-I25)	533	10.0	2 Cerebrovascular diseases (I60-I69)	268	7.0
3 Tuberculosis (A15-A19)	773	8.5	3 Chronic lower respiratory diseases (J40-J47)	415	7.8	3 Cerebrovascular diseases (I60-I69)	256	6.9
4 Chronic lower respiratory diseases (J40-J47)	689	7.5	4 Malignant neoplasms of respiratory and intrathoracic organs (C30-C39)	342	6.4	4 Tuberculosis (A15-A19)	228	6.2
5 Cerebrovascular diseases (I60-I69)	580	6.4	5 Diabetes mellitus (E10-E14)	344	6.4	5 Tuberculosis (A15-A19)	238	6.3
6 Malignant neoplasms of respiratory and intrathoracic organs (C30-C39)	557	6.1	6 Cerebrovascular diseases (I60-I69)	322	6.0	6 Malignant neoplasms of digestive organs (C15-C26)	203	5.4
7 Malignant neoplasms of respiratory and intrathoracic organs (C30-C39)	516	5.7	7 Malignant neoplasms of digestive organs (C15-C26)	313	5.9	7 Malignant neoplasms of respiratory and intrathoracic organs (C30-C39)	195	5.2
8 Other forms of heart diseases (I30-I52)	325	3.6	8 Other forms of heart diseases (I30-I52)	189	3.5	8 Malignant neoplasms of breast (C50)	166	4.4
9 Hypertensive diseases (I10-I15)	227	2.5	9 Hypertensive diseases (I10-I15)	110	2.1	9 Other forms of heart diseases (I30-I52)	136	3.6
10 Influenza and pneumonia (J10-J18)	181	2.0	10 Influenza and pneumonia (J10-J18)	97	1.8	10 Malignant neoplasms of female genital organs (C51-C59)	128	3.4
... Other natural causes	3 018	33.1	... Other natural causes	1 521	28.5	... Other natural causes	1 307	34.5
... Non-natural causes	664	7.3	... Non-natural causes	497	9.3	... Non-natural causes	167	4.4
... All causes	10 000	100.0	... All causes	5 335	100.0	... All causes	3 784	100.0
<b>Western Cape, males, 65+</b>								
1 Ischaemic heart diseases (I20-I25)	1 794	11.5	1 Ischaemic heart diseases (I20-I25)	903	12.6	1 Diabetes mellitus (E10-E14)	962	11.4
2 Cerebrovascular diseases (I60-I69)	1 601	10.3	2 Cerebrovascular diseases (I60-I69)	640	8.9	2 Cerebrovascular diseases (I60-I69)	961	11.4
3 Diabetes mellitus (E10-E14)	1 413	9.1	3 Chronic lower respiratory diseases (J40-J47)	544	7.6	3 Ischaemic heart diseases (I20-I25)	897	10.6
4 Other forms of heart diseases (I30-I52)	1 051	6.7	4 Malignant neoplasms of digestive organs (C15-C26)	452	6.3	4 Other forms of heart diseases (I30-I52)	831	7.6
5 Chronic lower respiratory diseases (J40-J47)	935	6.0	5 Diabetes mellitus (E10-E14)	451	6.3	5 Hypertensive diseases (I10-I15)	432	5.1
6 Malignant neoplasms of respiratory and intrathoracic organs (C30-C39)	825	5.3	6 Other forms of heart diseases (I30-I52)	414	5.8	6 Chronic lower respiratory diseases (J40-J47)	391	4.6
7 Malignant neoplasms of respiratory and intrathoracic organs (C30-C39)	688	4.3	7 Malignant neoplasms of male genital organs (C60-C65)	414	5.8	7 Malignant neoplasms of digestive organs (C15-C26)	295	3.5
8 Hypertensive diseases (I10-I15)	642	4.1	8 Malignant neoplasms of male genital organs (C60-C65)	286	4.1	8 Influenza and pneumonia (J10-J18)	285	3.5
9 Influenza and pneumonia (J10-J18)	324	2.1	9 Influenza and pneumonia (J10-J18)	210	2.9	9 Malignant neoplasms of respiratory and intrathoracic organs (C30-C39)	219	2.9
10 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	324	2.1	10 Hypertensive diseases (I10-I15)	238	3.3	10 Malignant neoplasms of breast (C50)	205	2.9
... Other natural causes	5 359	34.4	... Other natural causes	2 389	33.1	... Other natural causes	2 065	33.3
... Non-natural causes	447	2.9	... Non-natural causes	233	3.3	... Non-natural causes	214	2.5
... All causes	15 994	100.0	... All causes	7 156	100.0	... All causes	8 428	100.0

Excluding a total of 419 cases with unknown sex and unknown age; known sex and unknown age; and known age and unknown sex.

Mortality and causes of death in South Africa, 2005: Findings from death notification

Appendix I.2: The ten leading underlying natural causes of death by province, sex and age: Eastern Cape, 2005

Eastern Cape, both sexes, all ages		Eastern Cape, males, all ages		Eastern Cape, females, all ages	
No.	%	No.	%	No.	%
1 Tuberculosis (A15-A19)	12 337	13.4	1 337	14.7	5 727
2 Influenza and pneumonia (J10-J18)	4 788	5.2	2 270	5.0	2 524
3 Chronic lower respiratory diseases (J40-J47)	4 048	4.4	2 164	4.8	2 221
4 Ischaemic heart diseases (I20-I25)	3 647	4.0	1 481	3.3	2 160
5 Cerebrovascular diseases (I60-I69)	3 641	3.9	1 426	3.2	1 885
6 Other forms of heart diseases (I30-I52)	3 226	3.5	1 370	3.0	1 779
7 Diabetes mellitus (E10-E14)	2 419	2.6	1 070	2.3	1 729
8 Malignant neoplasms of digestive organs (C15-C26)	2 419	2.6	1 066	2.3	1 552
9 Certain disorders involving the immune mechanism (D80-D89)	2 392	2.6	937	2.1	1 446
10 Malignant neoplasms of female genital organs (C51-C58)	1 891	2.1	840	1.9	1 278
... Other natural causes	43 019	46.6	19 792	44.0	22 832
... Non-natural causes	8 148	8.8	6 065	13.5	2 083
... All causes	92 234	100.0	44 968	100.0	47 266
<b>Eastern Cape, both sexes, 0-14</b>					
1 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	1 436	18.4	768	18.4	688
2 Digestive system disorders of fetus and newborn (P75-P78)	855	12.2	522	12.5	433
3 Other disorders originating in the perinatal period (P90-P96)	659	8.5	396	8.8	326
4 Infectious diseases (A00-A09)	459	5.9	256	6.1	226
5 Tuberculosis (A15-A19)	254	3.2	140	3.4	123
6 Infections involving the immune mechanism (D80-D89)	225	2.9	128	3.1	116
7 Certain disorders involving the immune mechanism (D80-D89)	223	2.9	114	2.7	114
8 Influenza and pneumonia (J10-J18)	204	2.6	100	2.4	97
9 Malnutrition (E40-E46)	199	2.6	88	2.1	85
10 Human immunodeficiency virus [HIV] disease (B20-B24)	152	1.9	75	1.8	77
... Other natural causes	2 307	29.5	1 198	28.7	1 109
... Non-natural causes	7 822	99.5	4 339	10.5	3 064
... All causes	10 000	100.0	4 167	10.0	3 655
<b>Eastern Cape, both sexes, 15-49</b>					
1 Tuberculosis (A15-A19)	8 612	19.8	4 250	20.4	4 362
2 Influenza and pneumonia (J10-J18)	2 777	6.3	1 390	5.7	1 387
3 Ischaemic heart diseases (I20-I25)	2 390	5.5	841	4.0	1 549
4 Human immunodeficiency virus [HIV] disease (B20-B24)	2 040	4.7	778	3.7	1 268
5 Certain disorders involving the immune mechanism (D80-D89)	1 934	4.5	646	3.1	1 262
6 Other viral diseases (B25-B34)	1 423	3.3	500	2.4	923
7 Chronic lower respiratory diseases (J40-J47)	880	2.0	489	2.3	491
8 Inflammatory diseases of the central nervous system (G00-G09)	842	1.9	365	1.7	477
9 Other forms of heart diseases (I30-I52)	753	1.7	322	1.6	431
10 Other natural causes	15 160	34.9	6 489	31.1	8 552
... Non-natural causes	4 578	13.3	2 224	11.1	1 118
... All causes	43 415	100.0	20 875	100.0	22 540
<b>Eastern Cape, both sexes, 50-64</b>					
1 Tuberculosis (A15-A19)	2 133	13.3	1 446	15.9	687
2 Chronic lower respiratory diseases (J40-J47)	1 064	6.6	725	8.0	547
3 Cerebrovascular diseases (I60-I69)	887	5.5	444	4.9	443
4 Diabetes mellitus (E10-E14)	876	5.5	395	4.3	444
5 Other forms of heart diseases (I30-I52)	864	5.4	379	4.2	500
6 Malignant neoplasms of digestive organs (C15-C26)	829	5.2	329	3.6	339
7 Diabetes mellitus (E10-E14)	638	4.0	329	3.6	278
8 Malignant neoplasms of respiratory and intrathoracic organs (C30-C39)	462	2.9	276	3.0	259
9 Ischaemic heart diseases (I20-I25)	418	2.6	221	2.4	220
10 Malignant neoplasms of female genital organs (C51-C58)	364	2.3	198	2.2	184
... Other natural causes	6 938	43.2	3 747	41.1	3 058
... Non-natural causes	915	5.7	612	6.7	303
... All causes	16 053	100.0	9 112	100.0	6 941
<b>Eastern Cape, both sexes, 65+</b>					
1 Cerebrovascular diseases (I60-I69)	2 193	8.8	1 032	9.5	1 412
2 Chronic lower respiratory diseases (J40-J47)	1 439	5.9	772	7.2	1 006
3 Other forms of heart diseases (I30-I52)	1 776	7.1	774	7.2	922
4 Diabetes mellitus (E10-E14)	1 370	5.5	676	6.3	905
5 Tuberculosis (A15-A19)	1 338	5.4	504	4.7	851
6 Hypertensive diseases (I10-I15)	1 189	4.7	491	4.5	642
7 Influenza and pneumonia (J10-J18)	1 133	4.5	465	4.3	564
8 Malignant neoplasms of digestive organs (C15-C26)	1 018	4.1	370	3.4	514
9 Ischaemic heart diseases (I20-I25)	781	3.1	318	2.9	411
10 Other diseases of the respiratory system (J80-J94)	659	2.6	293	2.7	386
... Other natural causes	10 948	43.5	4 704	44.1	6 094
... Non-natural causes	246	0.9	127	1.2	130
... All causes	24 944	100.0	10 814	100.0	14 130
<b>Eastern Cape, males, 0-14</b>					
1 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	768	18.4	429	20.4	436
2 Digestive system disorders of fetus and newborn (P75-P78)	522	12.5	296	14.3	326
3 Other disorders originating in the perinatal period (P90-P96)	396	8.8	226	10.9	226
4 Infectious diseases (A00-A09)	256	6.1	140	6.7	123
5 Tuberculosis (A15-A19)	140	3.4	75	3.6	66
6 Infections involving the immune mechanism (D80-D89)	128	3.1	66	3.1	66
7 Certain disorders involving the immune mechanism (D80-D89)	114	2.7	57	2.7	57
8 Influenza and pneumonia (J10-J18)	100	2.4	50	2.4	49
9 Malnutrition (E40-E46)	88	2.1	41	1.9	47
10 Human immunodeficiency virus [HIV] disease (B20-B24)	75	1.8	37	1.8	37
... Other natural causes	1 198	28.7	587	28.2	604
... Non-natural causes	4 339	10.5	2 224	11.1	1 118
... All causes	10 000	100.0	4 167	10.0	3 655
<b>Eastern Cape, males, 15-49</b>					
1 Tuberculosis (A15-A19)	4 250	20.4	2 040	9.7	2 210
2 Influenza and pneumonia (J10-J18)	1 390	5.7	500	2.4	890
3 Ischaemic heart diseases (I20-I25)	841	4.0	311	1.5	530
4 Certain disorders involving the immune mechanism (D80-D89)	778	3.7	282	1.3	496
5 Human immunodeficiency virus [HIV] disease (B20-B24)	646	3.1	224	1.1	422
6 Other viral diseases (B25-B34)	500	2.4	199	0.9	301
7 Chronic lower respiratory diseases (J40-J47)	489	2.3	177	0.8	312
8 Inflammatory diseases of the central nervous system (G00-G09)	365	1.7	135	0.6	230
9 Other forms of heart diseases (I30-I52)	322	1.6	119	0.6	203
10 Other natural causes	6 489	31.1	3 118	14.8	4 371
... Non-natural causes	2 224	11.1	1 118	5.2	1 118
... All causes	20 875	100.0	10 000	100.0	22 540
<b>Eastern Cape, males, 50-64</b>					
1 Tuberculosis (A15-A19)	1 446	15.9	887	9.9	687
2 Diabetes mellitus (E10-E14)	725	8.0	547	7.9	547
3 Cerebrovascular diseases (I60-I69)	444	4.9	443	6.4	443
4 Other forms of heart diseases (I30-I52)	395	4.3	339	5.0	339
5 Malignant neoplasms of digestive organs (C15-C26)	379	4.2	329	4.9	339
6 Diabetes mellitus (E10-E14)	329	3.6	278	4.0	278
7 Hypertensive diseases (I10-I15)	329	3.6	278	4.0	278
8 Malignant neoplasms of respiratory and intrathoracic organs (C30-C39)	276	3.0	259	3.7	259
9 Ischaemic heart diseases (I20-I25)	221	2.4	220	3.2	220
10 Malignant neoplasms of female genital organs (C51-C58)	198	2.2	184	2.7	184
... Other natural causes	3 747	41.1	1 844	20.7	1 308
... Non-natural causes	612	6.7	303	3.3	303
... All causes	9 112	100.0	4 341	100.0	6 941
<b>Eastern Cape, males, 65+</b>					
1 Cerebrovascular diseases (I60-I69)	1 032	9.5	1 412	10.0	1 412
2 Chronic lower respiratory diseases (J40-J47)	772	7.2	1 006	7.2	1 006
3 Tuberculosis (A15-A19)	774	7.2	922	6.5	922
4 Diabetes mellitus (E10-E14)	676	6.3	905	6.4	905
5 Hypertensive diseases (I10-I15)	504	4.7	642	4.5	642
6 Influenza and pneumonia (J10-J18)	491	4.5	564	4.0	564
7 Tuberculosis (A15-A19)	465	4.3	514	3.6	514
8 Malignant neoplasms of digestive organs (C15-C26)	370	3.4	411	2.9	411
9 Ischaemic heart diseases (I20-I25)	318	2.9	386	2.6	386
10 Other diseases of the respiratory system (J80-J94)	293	2.7	431	2.9	431
... Other natural causes	4 704	44.1	6 094	43.1	6 094
... Non-natural causes	127	1.2	130	0.9	130
... All causes	10 814	100.0	14 130	100.0	14 130

Excluding a total of 681 cases with unknown sex and unknown age; known sex and unknown age; and known age and unknown sex.

Mortality and causes of death in South Africa, 2005: Findings from death notification

Appendix I.3: The ten leading underlying natural causes of death by province, sex and age: Northern Cape, 2005

Northern Cape, both sexes, all ages		Northern Cape, males, all ages		Northern Cape, females, all ages	
	No.	%	No.	%	No.
1 Tuberculosis (A15-A19)	1 672	13.9	927	14.8	745
2 Influenza and pneumonia (I10-J18)	672	6.0	344	5.5	328
3 Cardiovascular diseases (I60-I89)	626	5.2	309	4.9	317
4 Other forms of heart diseases (I30-I52)	501	4.0	269	4.3	357
5 Chronic lower respiratory diseases (J40-J47)	482	4.0	238	3.8	279
6 Human immunodeficiency virus [HIV] disease (B20-B24)	426	3.6	222	3.5	232
7 Diabetes mellitus (E10-E14)	426	3.6	222	3.5	224
8 Certain infectious diseases (D20-D25)	389	3.2	181	2.9	200
9 Ischaemic heart diseases (I20-I25)	389	3.2	181	2.9	200
10 Diabetic neuropathies of respiratory and intrathoracic organs (C30-C39)	341	2.8	149	2.4	182
... Other natural causes	4 878	40.7	2 400	38.2	2 426
... Non-natural causes	1 174	9.8	880	14.0	294
... All causes	11 992	100.0	6 276	100.0	5 776
<b>Northern Cape, both sexes, 0-14</b>					
1 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	267	22.5	139	22.0	128
2 Digestive system disorders of fetus and newborn (P75-P78)	129	10.9	72	11.4	57
3 Infectious diseases (A00-A09)	89	7.4	54	8.9	37
4 Other disorders originating in the perinatal period (P90-P96)	69	5.8	32	5.4	36
5 Disorders related to length of gestation and foetal growth (P05-P08)	57	4.8	27	4.3	25
6 Malnutrition (E40-E46)	56	4.7	26	4.1	34
7 Disorders related to length of gestation and foetal growth (P05-P08)	45	3.8	22	3.5	25
8 Tuberculosis (A15-A19)	43	3.6	20	3.2	23
9 Human immunodeficiency virus [HIV] disease (B20-B24)	39	3.3	19	3.0	18
10 Certain disorders involving the immune mechanism (D80-D89)	34	2.9	18	2.8	16
... Other natural causes	288	25.1	147	23.3	133
... Non-natural causes	30	2.6	32	5.2	32
... All causes	1 197	100.0	632	100.0	555
<b>Northern Cape, males, 15-49</b>					
1 Tuberculosis (A15-A19)	1 221	23.2	631	23.0	590
2 Influenza and pneumonia (I10-J18)	423	8.1	193	7.0	230
3 Human immunodeficiency virus [HIV] disease (B20-B24)	350	6.7	153	5.6	197
4 Certain disorders involving the immune mechanism (D80-D89)	289	5.6	125	4.6	164
5 Other viral diseases (B25-B34)	190	3.6	77	2.8	128
6 Infectious diseases (A00-A09)	185	3.5	57	2.1	73
7 Other forms of heart diseases (I30-I52)	121	2.3	56	2.0	61
8 Cardiovascular diseases (I60-I89)	108	2.1	30	1.8	32
9 Ischaemic heart diseases (I20-I25)	67	1.3	18	1.5	21
10 Chronic lower respiratory diseases (J40-J47)	67	1.3	40	1.5	37
... Other natural causes	1 374	28.2	654	23.9	700
... Non-natural causes	850	18.2	655	23.9	700
... All causes	5 253	100.0	2 739	100.0	2 514
<b>Northern Cape, females, 50-64</b>					
1 Tuberculosis (A15-A19)	293	12.3	201	14.2	93
2 Chronic lower respiratory diseases (J40-J47)	196	8.2	125	8.8	92
3 Cardiovascular diseases (I60-I89)	177	7.4	84	5.9	71
4 Ischaemic heart diseases (I20-I25)	123	5.1	59	4.3	50
5 Malignant neoplasms of respiratory and intrathoracic organs (C30-C39)	113	4.7	79	5.6	56
6 Malignant neoplasms of digestive organs (C15-C26)	112	4.7	61	4.4	45
7 Influenza and pneumonia (I10-J18)	102	4.3	61	4.3	44
8 Malignant neoplasms of female genital organs (C51-C58)	98	4.1	58	4.1	42
9 Malignant neoplasms of digestive organs (C15-C26)	93	3.9	42	3.0	42
10 Hypertensive diseases (I10-I15)	66	2.8	33	2.3	37
... Other natural causes	875	36.6	486	33.0	358
... Non-natural causes	137	5.7	104	7.4	33
... All causes	2 350	100.0	1 413	100.0	977
<b>Northern Cape, males, 65+</b>					
1 Chronic lower respiratory diseases (J40-J47)	341	10.8	143	9.6	212
2 Cardiovascular diseases (I60-I89)	257	8.1	129	8.6	152
3 Ischaemic heart diseases (I20-I25)	228	7.2	110	7.4	124
4 Other forms of heart diseases (I30-I52)	210	6.6	105	7.0	121
5 Malignant neoplasms of digestive organs (C15-C26)	187	5.9	80	5.4	118
6 Tuberculosis (A15-A19)	184	5.8	75	5.0	89
7 Influenza and pneumonia (I10-J18)	164	5.2	75	5.0	67
8 Malignant neoplasms of male genital organs (C60-C63)	146	4.6	69	4.6	66
9 Diabetes mellitus (E10-E14)	115	3.6	63	4.2	41
10 Diabetic neuropathies of respiratory and intrathoracic organs (C30-C39)	97	3.1	57	3.4	41
... Other natural causes	1 450	45.5	654	42.2	606
... Non-natural causes	97	3.1	63	4.2	34
... All causes	3 162	100.0	1 482	100.0	1 670
<b>Northern Cape, females, 65+</b>					
1 Cardiovascular diseases (I60-I89)	341	10.8	143	9.6	212
2 Other forms of heart diseases (I30-I52)	257	8.1	129	8.6	152
3 Hypertensive diseases (I10-I15)	228	7.2	110	7.4	124
4 Diabetes mellitus (E10-E14)	210	6.6	105	7.0	121
5 Ischaemic heart diseases (I20-I25)	187	5.9	80	5.4	118
6 Tuberculosis (A15-A19)	184	5.8	75	5.0	89
7 Influenza and pneumonia (I10-J18)	164	5.2	75	5.0	67
8 Malignant neoplasms of digestive organs (C15-C26)	146	4.6	69	4.6	66
9 Diabetes mellitus (E10-E14)	115	3.6	63	4.2	41
10 Diabetic neuropathies of female genital organs (C51-C58)	97	3.1	57	3.4	41
... Other natural causes	1 450	45.5	654	42.2	606
... Non-natural causes	97	3.1	63	4.2	34
... All causes	3 162	100.0	1 482	100.0	1 670

Excluding a total of 66 cases with unknown sex and unknown age, known sex and unknown age and known age and unknown sex.

Mortality and causes of death in South Africa, 2005: Findings from death notification

Appendix I.4: The ten leading underlying natural causes of death by province, sex and age: Free State, 2005

Free State, both sexes, all ages		Free State, males, all ages		Free State, females, all ages				
	No.	%		No.	%			
1 Influenza and pneumonia (I10-J18)	6 177	12.4	1 Tuberculosis (A15-A19)	3 163	12.6	1 Influenza and pneumonia (I10-J18)	3 212	12.9
2 Tuberculosis (A15-A19)	5 881	11.8	2 Influenza and pneumonia (I10-J18)	2 965	11.9	2 Tuberculosis (A15-A19)	2 718	10.9
3 Intestinal infectious diseases (A00-A09)	2 918	5.8	3 Intestinal infectious diseases (A00-A09)	1 219	4.9	3 Intestinal infectious diseases (A00-A09)	1 699	6.8
4 Other forms of heart diseases (I30-I52)	2 407	4.8	4 Other forms of heart diseases (I30-I52)	1 107	4.4	4 Other forms of heart diseases (I30-I52)	1 300	5.2
5 Certain disorders involving the immune mechanism (D80-D89)	2 220	4.4	5 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	977	3.9	5 Certain disorders involving the immune mechanism (D80-D89)	1 269	5.1
6 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	1 924	3.8	6 Certain disorders involving the immune mechanism (D80-D89)	977	3.9	6 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	1 027	4.1
7 Tuberculosis (A15-A19)	1 924	3.8	7 Tuberculosis (A15-A19)	951	3.6	7 Tuberculosis (A15-A19)	1 027	4.1
8 Chronic lower respiratory diseases (J40-J47)	1 146	2.3	8 Chronic lower respiratory diseases (J40-J47)	675	2.7	8 Chronic lower respiratory diseases (J40-J47)	850	3.3
9 Diabetes mellitus (E10-E14)	1 088	2.2	9 Hypertensive diseases (I10-I15)	524	2.1	9 Hypertensive diseases (I10-I15)	618	2.5
10 Digestive system disorders of foetus and newborn (P75-P78)	1 050	2.1	10 Human immunodeficiency virus (HIV) disease (B20-B24)	479	1.9	10 Digestive system disorders of foetus and newborn (P75-P78)	526	2.1
... Other natural causes	20 201	40.4	... Other natural causes	9 794	39.1	... Other natural causes	10 229	40.9
... Non-natural causes	3 254	6.5	... Non-natural causes	2 447	9.8	... Non-natural causes	807	3.2
... All causes	49 994	100.0	... All causes	25 012	100.0	... All causes	24 982	100.0
<b>Free State, both sexes, 0-14</b>								
1 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	1 924	27.2	1 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	977	26.7	1 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	947	27.7
2 Digestive system disorders of foetus and newborn (P75-P78)	1 050	14.8	2 Digestive system disorders of foetus and newborn (P75-P78)	524	14.3	2 Digestive system disorders of foetus and newborn (P75-P78)	526	15.4
3 Other disorders originating in the perinatal period (P90-P96)	497	6.9	3 Other disorders originating in the perinatal period (P90-P96)	239	6.8	3 Other disorders originating in the perinatal period (P90-P96)	259	7.5
4 Intestinal infectious diseases (A00-A09)	407	5.6	4 Intestinal infectious diseases (A00-A09)	229	6.4	4 Intestinal infectious diseases (A00-A09)	269	7.9
5 Influenza and pneumonia (I10-J18)	364	5.1	5 Influenza and pneumonia (I10-J18)	180	4.9	5 Influenza and pneumonia (I10-J18)	184	5.4
6 Malnutrition (E40-E46)	319	4.5	6 Malnutrition (E40-E46)	161	4.4	6 Malnutrition (E40-E46)	158	4.6
7 Infections specific to the perinatal period (P35-P39)	234	3.3	7 Infections specific to the perinatal period (P35-P39)	112	3.1	7 Infections specific to the perinatal period (P35-P39)	122	3.6
8 Certain disorders involving the immune mechanism (D80-D89)	182	2.6	8 Certain disorders involving the immune mechanism (D80-D89)	90	2.5	8 Certain disorders involving the immune mechanism (D80-D89)	92	2.7
9 Disorders related to length of gestation and foetal growth (P05-P08)	159	2.2	9 Disorders related to length of gestation and foetal growth (P05-P08)	85	2.3	9 Disorders related to length of gestation and foetal growth (P05-P08)	74	2.2
10 Tuberculosis (A15-A19)	147	2.1	10 Tuberculosis (A15-A19)	75	2.0	10 Tuberculosis (A15-A19)	72	2.1
... Other natural causes	1 414	20.0	... Other natural causes	760	20.7	... Other natural causes	72	2.1
... Non-natural causes	306	4.3	... Non-natural causes	181	4.9	... Non-natural causes	125	3.7
... All causes	7 081	100.0	... All causes	3 664	100.0	... All causes	3 417	100.0
<b>Free State, both sexes, 15-49</b>								
1 Tuberculosis (A15-A19)	4 678	18.3	1 Tuberculosis (A15-A19)	2 366	18.9	1 Tuberculosis (A15-A19)	2 318	17.7
2 Influenza and pneumonia (I10-J18)	4 216	16.5	2 Influenza and pneumonia (I10-J18)	1 888	15.2	2 Influenza and pneumonia (I10-J18)	2 313	17.6
3 Certain disorders involving the immune mechanism (D80-D89)	1 874	7.3	3 Certain disorders involving the immune mechanism (D80-D89)	742	5.9	3 Certain disorders involving the immune mechanism (D80-D89)	1 166	8.9
4 Intestinal infectious diseases (A00-A09)	1 808	7.1	4 Intestinal infectious diseases (A00-A09)	708	5.7	4 Intestinal infectious diseases (A00-A09)	1 066	8.1
5 Other forms of heart diseases (I30-I52)	720	2.8	5 Human immunodeficiency virus (HIV) disease (B20-B24)	384	3.1	5 Other forms of heart diseases (I30-I52)	372	2.8
6 Human immunodeficiency virus (HIV) disease (B20-B24)	695	2.7	6 Other forms of heart diseases (I30-I52)	348	2.8	6 Human immunodeficiency virus (HIV) disease (B20-B24)	311	2.4
7 Inflammatory diseases of the central nervous system (G00-G09)	566	2.2	7 Inflammatory diseases of the central nervous system (G00-G09)	264	2.1	7 Inflammatory diseases of the central nervous system (G00-G09)	302	2.3
8 Aids and other anaemias (D60-D64)	404	1.6	8 Aids and other anaemias (D60-D64)	170	1.4	8 Aids and other anaemias (D60-D64)	264	2.0
9 Cardiovascular diseases (I60-I69)	346	1.4	9 Cardiovascular diseases (I60-I69)	170	1.4	9 Cardiovascular diseases (I60-I69)	182	1.4
10 Malaria (B50-B54)	346	1.4	10 Other viral diseases (B25-B29)	162	1.3	10 Other viral diseases (B25-B29)	182	1.4
... Other natural causes	7 702	30.1	... Other natural causes	3 500	28.0	... Other natural causes	4 184	31.7
... Non-natural causes	2 273	8.9	... Non-natural causes	1 790	14.3	... Non-natural causes	483	3.7
... All causes	25 623	100.0	... All causes	12 491	100.0	... All causes	13 132	100.0
<b>Free State, males, 50-64</b>								
1 Influenza and pneumonia (I10-J18)	957	11.3	1 Tuberculosis (A15-A19)	595	11.9	1 Influenza and pneumonia (I10-J18)	366	10.5
2 Tuberculosis (A15-A19)	864	10.2	2 Influenza and pneumonia (I10-J18)	591	11.8	2 Tuberculosis (A15-A19)	278	8.0
3 Other forms of heart diseases (I30-I52)	600	7.1	3 Other forms of heart diseases (I30-I52)	322	6.4	3 Other forms of heart diseases (I30-I52)	269	7.7
4 Cardiovascular diseases (I60-I69)	500	5.9	4 Cardiovascular diseases (I60-I69)	253	5.1	4 Cardiovascular diseases (I60-I69)	247	7.1
5 Chronic lower respiratory diseases (J40-J47)	471	5.6	5 Chronic lower respiratory diseases (J40-J47)	245	4.9	5 Chronic lower respiratory diseases (J40-J47)	186	5.3
6 Diabetes mellitus (E10-E14)	371	4.4	6 Diabetes mellitus (E10-E14)	245	4.9	6 Diabetes mellitus (E10-E14)	186	5.3
7 Diseases of the digestive system (K00-K99)	342	4.1	7 Hypertensive diseases (I10-I15)	181	3.7	7 Hypertensive diseases (I10-I15)	149	4.2
8 Hypertensive diseases (I10-I15)	276	3.3	8 Ischaemic heart diseases (I20-I25)	152	3.0	8 Ischaemic heart diseases (I20-I25)	137	3.9
9 Ischaemic heart diseases (I20-I25)	213	2.5	9 Malignant neoplasms of female genital organs (C51-C58)	137	2.7	9 Chronic lower respiratory diseases (J40-J47)	126	3.6
10 Malignant neoplasms of digestive organs (C15-C26)	206	2.4	10 Hypertensive diseases (I10-I15)	127	2.5	10 Certain disorders involving the immune mechanism (D80-D89)	98	2.8
... Other natural causes	3 327	39.3	... Other natural causes	1 876	37.6	... Other natural causes	1 346	38.7
... Non-natural causes	444	5.2	... Non-natural causes	344	6.9	... Non-natural causes	100	2.9
... All causes	8 475	100.0	... All causes	4 993	100.0	... All causes	3 482	100.0
<b>Free State, both sexes, 65+</b>								
1 Other forms of heart diseases (I30-I52)	1 042	11.8	1 Other forms of heart diseases (I30-I52)	409	10.6	1 Other forms of heart diseases (I30-I52)	633	12.6
2 Chronic lower respiratory diseases (J40-J47)	1 024	11.6	2 Influenza and pneumonia (I10-J18)	299	7.6	2 Tuberculosis (A15-A19)	570	11.7
3 Influenza and pneumonia (I10-J18)	640	7.3	3 Chronic lower respiratory diseases (J40-J47)	294	7.6	3 Hypertensive diseases (I10-I15)	380	7.7
4 Hypertensive diseases (I10-I15)	532	6.0	4 Chronic lower respiratory diseases (J40-J47)	264	6.8	4 Influenza and pneumonia (I10-J18)	344	6.9
5 Diabetes mellitus (E10-E14)	498	5.6	5 Ischaemic heart diseases (I20-I25)	236	6.1	5 Diabetes mellitus (E10-E14)	318	6.4
6 Chronic lower respiratory diseases (J40-J47)	421	4.7	6 Diabetes mellitus (E10-E14)	180	4.7	6 Ischaemic heart diseases (I20-I25)	175	3.5
7 Ischaemic heart diseases (I20-I25)	411	4.6	7 Hypertensive diseases (I10-I15)	152	3.9	7 Intestinal infectious diseases (A00-A09)	159	3.2
8 Intestinal infectious diseases (A00-A09)	259	2.9	8 Tuberculosis (A15-A19)	128	3.3	8 Chronic lower respiratory diseases (J40-J47)	157	3.2
9 Malignant neoplasms of digestive organs (C15-C26)	241	2.7	9 Malignant neoplasms of digestive organs (C15-C26)	127	3.3	9 Malignant neoplasms of digestive organs (C15-C26)	114	2.3
10 Tuberculosis (A15-A19)	192	2.2	10 Malignant neoplasms of male genital organs (C60-C63)	109	2.8	10 Malignant neoplasms of male genital organs (C60-C63)	109	2.2
... Other natural causes	3 498	39.2	... Other natural causes	1 537	39.8	... Other natural causes	1 067	21.7
... Non-natural causes	420	4.6	... Non-natural causes	392	9.8	... Non-natural causes	289	6.1
... All causes	8 815	100.0	... All causes	3 864	100.0	... All causes	4 951	100.0

Excluding a total of 216 cases with unknown sex and unknown age; known sex and unknown age; and known age and unknown sex.

Mortality and causes of death in South Africa, 2005: Findings from death notification

**Appendix I.5: The ten leading underlying natural causes of death by province, sex and age: KwaZulu-Natal, 2005**

KwaZulu-Natal, both sexes, all ages		KwaZulu-Natal, males, all ages		KwaZulu-Natal, females, all ages	
	No.	%	No.	%	No.
1 Tuberculosis (A15-A19)	22 536	16.5	11 756	17.5	10 780
2 Influenza and pneumonia (J10-J18)	8 770	6.7	4 040	6.0	4 730
3 Ischaemic heart diseases (I20-I25)	7 814	5.7	3 208	4.8	4 606
4 Cerebrovascular diseases (I60-I69)	5 789	4.2	2 340	3.5	3 449
5 Diabetes mellitus (E10-E14)	4 829	3.5	2 034	3.0	3 188
6 Other forms of heart diseases (I30-I52)	4 602	3.4	1 803	2.7	2 509
7 Human immunodeficiency virus (HIV) disease (B20-B24)	3 151	2.3	1 429	2.1	2 058
8 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	2 833	2.1	1 832	2.7	1 539
9 Chronic lower respiratory diseases (J40-J47)	2 761	2.0	1 524	2.2	1 519
10 Ischaemic heart diseases (I20-I25)	59 030	43.1	26 917	40.1	31 454
... Non-natural causes	11 125	8.1	8 454	12.6	6 900
... All causes	136 970	100.0	67 070	100.0	100.0
<b>KwaZulu-Natal, both sexes, 0-14</b>					
1 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	3 151	18.4	1 632	14.9	1 519
2 Digestive system disorders of foetus and newborn (P75-P78)	2 591	15.2	1 326	11.9	1 265
3 Ischaemic heart diseases (I20-I25)	1 280	6.9	542	4.7	659
4 Tuberculosis (A15-A19)	1 260	6.9	562	4.9	539
5 Tuberculosis (A15-A19)	620	3.6	333	3.0	294
6 Infections specific to the perinatal period (P35-P39)	613	3.6	326	3.0	287
7 Influenza and pneumonia (J10-J18)	590	3.5	296	2.6	287
8 Disorders related to length of gestation and foetal growth (P05-P08)	396	2.3	205	1.8	191
9 Malnutrition (E40-E46)	387	2.3	198	1.8	189
10 Other viral diseases (B25-B34)	303	1.8	183	1.6	134
... Other natural causes	4 831	28.3	2 482	21.9	2 335
... Non-natural causes	1 142	6.7	685	6.1	457
... All causes	17 080	100.0	8 889	100.0	8 191
<b>KwaZulu-Natal, both sexes, 15-49</b>					
1 Tuberculosis (A15-A19)	18 032	24.7	8 969	25.0	9 065
2 Influenza and pneumonia (J10-J18)	6 108	8.4	2 666	7.4	3 442
3 Ischaemic heart diseases (I20-I25)	5 035	6.9	1 975	5.5	3 060
4 Human immunodeficiency virus (HIV) disease (B20-B24)	3 156	4.3	1 494	4.1	1 672
5 Inflammatory diseases of the central nervous system (G00-G09)	2 123	2.9	869	2.4	1 263
6 Other viral diseases (B25-B34)	2 104	2.9	841	2.3	1 254
7 Certain disorders involving the immune mechanism (D80-D89)	1 964	2.7	810	2.3	1 154
8 Other acute lower respiratory infections (J20-J22)	1 365	1.8	600	1.7	705
9 Cerebrovascular diseases (I60-I69)	1 113	1.5	519	1.5	681
10 Non-natural causes	1 113	1.5	519	1.5	681
... Other natural causes	22 945	31.5	10 328	28.2	12 702
... Non-natural causes	7 927	10.9	6 464	18.0	4 465
... All causes	72 915	100.0	35 865	100.0	37 060
<b>KwaZulu-Natal, males, 15-49</b>					
1 Tuberculosis (A15-A19)	24 770	31.9	11 885	15.7	12 225
2 Cerebrovascular diseases (I60-I69)	11 471	14.8	5 211	7.0	6 260
3 Diabetes mellitus (E10-E14)	1 065	1.4	651	0.9	414
4 Other forms of heart diseases (I30-I52)	1 020	1.3	507	0.7	513
5 Influenza and pneumonia (J10-J18)	1 020	1.3	479	0.6	541
6 Inflammatory diseases of the central nervous system (G00-G09)	852	1.1	417	0.5	435
7 Chronic lower respiratory diseases (J40-J47)	772	1.0	375	0.5	397
8 Ischaemic heart diseases (I20-I25)	624	0.8	329	0.4	317
9 Hypertensive diseases (I10-I15)	493	0.6	232	0.3	208
10 Malignant neoplasms of digestive organs (C15-C26)	7 916	10.3	4 487	6.0	3 391
... Other natural causes	1 210	1.6	890	1.2	320
... Non-natural causes	20 914	27.4	12 007	16.1	8 907
... All causes	72 915	100.0	35 865	100.0	37 060
<b>KwaZulu-Natal, females, 15-49</b>					
1 Tuberculosis (A15-A19)	2 910	13.9	1 885	15.7	1 225
2 Cerebrovascular diseases (I60-I69)	1 645	7.9	762	6.3	994
3 Diabetes mellitus (E10-E14)	1 471	7.0	651	5.4	994
4 Other forms of heart diseases (I30-I52)	1 065	5.2	507	4.2	709
5 Influenza and pneumonia (J10-J18)	1 020	4.9	479	4.0	477
6 Inflammatory diseases of the central nervous system (G00-G09)	852	4.1	417	3.5	459
7 Chronic lower respiratory diseases (J40-J47)	772	3.7	375	3.1	397
8 Ischaemic heart diseases (I20-I25)	624	3.0	329	2.7	317
9 Hypertensive diseases (I10-I15)	493	2.4	232	1.9	208
10 Malignant neoplasms of digestive organs (C15-C26)	7 916	37.9	4 487	37.4	3 391
... Other natural causes	1 210	5.8	890	7.4	320
... Non-natural causes	20 914	100.0	12 007	100.0	8 907
... All causes	72 915	100.0	35 865	100.0	37 060
<b>KwaZulu-Natal, both sexes, 50-64</b>					
1 Cerebrovascular diseases (I60-I69)	3 156	12.1	1 620	9.9	2 136
2 Diabetes mellitus (E10-E14)	2 591	9.8	1 189	6.9	1 402
3 Other forms of heart diseases (I30-I52)	2 338	9.0	746	4.3	1 488
4 Ischaemic heart diseases (I20-I25)	1 475	5.7	703	3.9	952
5 Hypertensive diseases (I10-I15)	1 316	5.0	588	3.3	773
6 Tuberculosis (A15-A19)	1 052	4.0	569	3.2	581
7 Influenza and pneumonia (J10-J18)	1 040	4.0	471	2.7	452
8 Hypertensive diseases (I10-I15)	974	3.6	364	2.1	430
9 Malignant neoplasms of digestive organs (C15-C26)	880	3.2	350	2.0	405
10 Ischaemic heart diseases (I20-I25)	647	2.5	217	1.2	330
... Other natural causes	10 023	38.5	4 020	29.0	6 003
... Non-natural causes	26 561	102.2	10 319	74.6	38 111
... All causes	26 561	100.0	10 319	100.0	15 742
<b>KwaZulu-Natal, males, 50-64</b>					
1 Cerebrovascular diseases (I60-I69)	3 156	12.1	1 620	9.9	2 136
2 Diabetes mellitus (E10-E14)	2 591	9.8	1 189	6.9	1 402
3 Other forms of heart diseases (I30-I52)	2 338	9.0	746	4.3	1 488
4 Ischaemic heart diseases (I20-I25)	1 475	5.7	703	3.9	952
5 Hypertensive diseases (I10-I15)	1 316	5.0	588	3.3	773
6 Tuberculosis (A15-A19)	1 052	4.0	569	3.2	581
7 Influenza and pneumonia (J10-J18)	1 040	4.0	471	2.7	452
8 Hypertensive diseases (I10-I15)	974	3.6	364	2.1	430
9 Malignant neoplasms of digestive organs (C15-C26)	880	3.2	350	2.0	405
10 Ischaemic heart diseases (I20-I25)	647	2.5	217	1.2	330
... Other natural causes	10 023	38.5	4 020	29.0	6 003
... Non-natural causes	26 561	100.0	10 319	100.0	15 742
... All causes	26 561	100.0	10 319	100.0	15 742
<b>KwaZulu-Natal, females, 50-64</b>					
1 Cerebrovascular diseases (I60-I69)	3 156	12.1	1 620	9.9	2 136
2 Diabetes mellitus (E10-E14)	2 591	9.8	1 189	6.9	1 402
3 Other forms of heart diseases (I30-I52)	2 338	9.0	746	4.3	1 488
4 Ischaemic heart diseases (I20-I25)	1 475	5.7	703	3.9	952
5 Hypertensive diseases (I10-I15)	1 316	5.0	588	3.3	773
6 Tuberculosis (A15-A19)	1 052	4.0	569	3.2	581
7 Influenza and pneumonia (J10-J18)	1 040	4.0	471	2.7	452
8 Hypertensive diseases (I10-I15)	974	3.6	364	2.1	430
9 Malignant neoplasms of digestive organs (C15-C26)	880	3.2	350	2.0	405
10 Ischaemic heart diseases (I20-I25)	647	2.5	217	1.2	330
... Other natural causes	10 023	38.5	4 020	29.0	6 003
... Non-natural causes	26 561	100.0	10 319	100.0	15 742
... All causes	26 561	100.0	10 319	100.0	15 742

Excluding a total of 1 236 cases with unknown sex and unknown age; known sex and unknown age; and known age and unknown sex.

Appendix I.6: The ten leading underlying natural causes of death by province, sex and age: North West, 2005

North West, both sexes, all ages			North West, males, all ages			North West, females, all ages		
	No.	%		No.	%		No.	%
1 Tuberculosis (A15-A19)	6 182	11.9	1 Tuberculosis (A15-A19)	3 445	13.0	1 Tuberculosis (A15-A19)	2 739	10.8
2 Influenza and pneumonia (J10-J18)	5 043	9.7	2 Influenza and pneumonia (J10-J18)	2 397	9.1	2 Influenza and pneumonia (J10-J18)	2 656	10.5
3 Other forms of heart diseases (I30-I52)	2 868	5.5	3 Other forms of heart diseases (I30-I52)	1 353	5.1	3 Other forms of heart diseases (I30-I52)	1 515	6.0
4 Ischaemic heart diseases (I20-I25)	2 404	4.6	4 Ischaemic heart diseases (I20-I25)	1 052	4.0	4 Ischaemic heart diseases (I20-I25)	1 357	5.4
5 Cardiovascular diseases (I60-I89)	2 138	4.1	5 Cardiovascular diseases (I60-I89)	1 047	4.0	5 Cardiovascular diseases (I60-I89)	1 163	4.6
6 Certain disorders involving the immune mechanism (D80-D89)	2 097	4.0	6 Certain disorders involving the immune mechanism (D80-D89)	1 009	3.8	6 Certain disorders involving the immune mechanism (D80-D89)	1 129	4.5
7 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	1 972	3.8	7 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	978	3.7	7 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	977	3.8
8 Human immunodeficiency virus (HIV) disease (B20-B24)	1 475	2.9	8 Human immunodeficiency virus (HIV) disease (B20-B24)	789	3.0	8 Human immunodeficiency virus (HIV) disease (B20-B24)	917	3.6
9 Chronic lower respiratory diseases (J40-J47)	1 233	2.4	9 Chronic lower respiratory diseases (J40-J47)	656	2.5	9 Chronic lower respiratory diseases (J40-J47)	681	2.7
10 Digestive system disorders of foetus and newborn (P75-P78)	1 198	2.3	10 Digestive system disorders of foetus and newborn (P75-P78)	643	2.4	10 Digestive system disorders of foetus and newborn (P75-P78)	542	2.1
... Other natural causes	21 497	41.5	... Other natural causes	10 424	39.4	... Other natural causes	10 899	42.2
... Non-natural causes	3 695	7.0	... Non-natural causes	2 706	10.2	... Non-natural causes	899	3.6
... All causes	51 752	100.0	... All causes	26 433	100.0	... All causes	25 319	100.0
<b>North West, both sexes, 0-14</b>			<b>North West, males, 0-14</b>			<b>North West, females, 0-14</b>		
1 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	2 023	25.3	1 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	1 652	24.6	1 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	971	26.0
2 Digestive system disorders of foetus and newborn (P75-P78)	1 198	15.0	2 Digestive system disorders of foetus and newborn (P75-P78)	656	15.3	2 Digestive system disorders of foetus and newborn (P75-P78)	542	14.5
3 Ischaemic heart diseases (I20-I25)	972	12.4	3 Ischaemic heart diseases (I20-I25)	416	6.1	3 Ischaemic heart diseases (I20-I25)	520	6.9
4 Intrauterine and perinatal period (P90-P96)	450	5.7	4 Intrauterine and perinatal period (P90-P96)	229	3.4	4 Intrauterine and perinatal period (P90-P96)	256	6.9
5 Influenza and pneumonia (J10-J18)	364	4.5	5 Influenza and pneumonia (J10-J18)	188	4.6	5 Influenza and pneumonia (J10-J18)	166	4.5
6 Infections specific to the perinatal period (P35-P39)	300	3.7	6 Infections specific to the perinatal period (P35-P39)	163	3.8	6 Infections specific to the perinatal period (P35-P39)	149	4.0
7 Malnutrition (E40-E46)	296	3.7	7 Malnutrition (E40-E46)	151	3.5	7 Malnutrition (E40-E46)	133	3.6
8 Disorders related to length of gestation and foetal growth (P05-P08)	262	3.3	8 Disorders related to length of gestation and foetal growth (P05-P08)	131	3.1	8 Disorders related to length of gestation and foetal growth (P05-P08)	131	3.5
9 Certain disorders involving the immune mechanism (D80-D89)	251	3.1	9 Certain disorders involving the immune mechanism (D80-D89)	127	3.0	9 Certain disorders involving the immune mechanism (D80-D89)	124	3.3
10 Tuberculosis (A15-A19)	191	2.4	10 Tuberculosis (A15-A19)	103	2.4	10 Tuberculosis (A15-A19)	88	2.4
... Other natural causes	1 774	22.2	... Other natural causes	966	22.6	... Other natural causes	808	21.7
... Non-natural causes	574	4.7	... Non-natural causes	234	5.5	... Non-natural causes	140	3.8
... All causes	8 069	100.0	... All causes	4 279	100.0	... All causes	3 730	100.0
<b>North West, both sexes, 15-49</b>			<b>North West, males, 15-49</b>			<b>North West, females, 15-49</b>		
1 Tuberculosis (A15-A19)	4 706	18.9	1 Tuberculosis (A15-A19)	2 435	19.8	1 Tuberculosis (A15-A19)	2 273	18.0
2 Influenza and pneumonia (J10-J18)	3 406	13.7	2 Influenza and pneumonia (J10-J18)	1 475	12.0	2 Influenza and pneumonia (J10-J18)	1 391	15.3
3 Certain disorders involving the immune mechanism (D80-D89)	1 627	6.5	3 Certain disorders involving the immune mechanism (D80-D89)	678	5.5	3 Certain disorders involving the immune mechanism (D80-D89)	949	7.5
4 Ischaemic heart diseases (I20-I25)	1 333	5.4	4 Ischaemic heart diseases (I20-I25)	501	4.1	4 Ischaemic heart diseases (I20-I25)	632	6.6
5 Human immunodeficiency virus (HIV) disease (B20-B24)	949	3.8	5 Human immunodeficiency virus (HIV) disease (B20-B24)	496	4.0	5 Human immunodeficiency virus (HIV) disease (B20-B24)	545	4.3
6 Other forms of heart diseases (I30-I52)	900	3.6	6 Other forms of heart diseases (I30-I52)	404	3.3	6 Other forms of heart diseases (I30-I52)	404	3.2
7 Other viral diseases (B25-B34)	808	3.2	7 Other viral diseases (B25-B34)	271	2.2	7 Other viral diseases (B25-B34)	337	2.7
8 Other acute lower respiratory infections (J20-J22)	551	2.2	8 Other acute lower respiratory infections (J20-J22)	247	2.0	8 Other acute lower respiratory infections (J20-J22)	321	2.5
9 Inflammatory diseases of the central nervous system (G00-G09)	328	1.3	9 Inflammatory diseases of the central nervous system (G00-G09)	170	1.4	9 Inflammatory diseases of the central nervous system (G00-G09)	287	2.2
10 Other natural causes	2 597	10.3	10 Other natural causes	1 349	10.7	10 Other natural causes	1 389	10.7
... Non-natural causes	2 557	10.3	... Non-natural causes	2 024	16.5	... Non-natural causes	533	4.2
... All causes	24 909	100.0	... All causes	12 287	100.0	... All causes	12 822	100.0
<b>North West, both sexes, 50-64</b>			<b>North West, males, 50-64</b>			<b>North West, females, 50-64</b>		
1 Tuberculosis (A15-A19)	1 000	12.0	1 Tuberculosis (A15-A19)	693	14.1	1 Tuberculosis (A15-A19)	307	9.1
2 Influenza and pneumonia (J10-J18)	711	8.6	2 Influenza and pneumonia (J10-J18)	415	8.4	2 Influenza and pneumonia (J10-J18)	296	8.7
3 Other forms of heart diseases (I30-I52)	642	7.7	3 Other forms of heart diseases (I30-I52)	387	7.9	3 Other forms of heart diseases (I30-I52)	255	7.5
4 Cardiovascular diseases (I60-I89)	529	6.4	4 Cardiovascular diseases (I60-I89)	290	5.9	4 Cardiovascular diseases (I60-I89)	239	7.1
5 Chronic lower respiratory diseases (J40-J47)	391	4.7	5 Chronic lower respiratory diseases (J40-J47)	281	5.7	5 Chronic lower respiratory diseases (J40-J47)	204	6.0
6 Diabetes mellitus (E10-E14)	371	4.5	6 Diabetes mellitus (E10-E14)	215	4.4	6 Diabetes mellitus (E10-E14)	204	6.0
7 Intrauterine and perinatal period (P90-P96)	347	4.2	7 Intrauterine and perinatal period (P90-P96)	169	3.5	7 Intrauterine and perinatal period (P90-P96)	131	3.9
8 Ischaemic heart diseases (I20-I25)	291	3.5	8 Ischaemic heart diseases (I20-I25)	149	3.0	8 Ischaemic heart diseases (I20-I25)	115	3.4
9 Hypertensive diseases (I10-I15)	266	3.2	9 Hypertensive diseases (I10-I15)	143	2.9	9 Hypertensive diseases (I10-I15)	110	3.2
10 Ischaemic heart diseases (I20-I25)	183	2.2	10 Ischaemic heart diseases (I20-I25)	118	2.4	10 Ischaemic heart diseases (I20-I25)	91	2.7
... Other natural causes	3 184	38.3	... Other natural causes	1 806	36.7	... Other natural causes	1 328	39.2
... Non-natural causes	414	5.0	... Non-natural causes	303	6.2	... Non-natural causes	111	3.3
... All causes	8 308	100.0	... All causes	4 920	100.0	... All causes	3 388	100.0
<b>North West, both sexes, 65+</b>			<b>North West, males, 65+</b>			<b>North West, females, 65+</b>		
1 Cardiovascular diseases (I60-I89)	1 241	11.8	1 Cardiovascular diseases (I60-I89)	539	10.9	1 Cardiovascular diseases (I60-I89)	702	12.6
2 Other forms of heart diseases (I30-I52)	1 111	11.1	2 Other forms of heart diseases (I30-I52)	529	10.9	2 Other forms of heart diseases (I30-I52)	602	11.8
3 Hypertensive diseases (I10-I15)	932	8.9	3 Hypertensive diseases (I10-I15)	337	6.8	3 Hypertensive diseases (I10-I15)	418	7.5
4 Diabetes mellitus (E10-E14)	577	5.5	4 Diabetes mellitus (E10-E14)	278	5.6	4 Diabetes mellitus (E10-E14)	369	6.6
5 Influenza and pneumonia (J10-J18)	562	5.3	5 Influenza and pneumonia (J10-J18)	299	6.0	5 Influenza and pneumonia (J10-J18)	263	4.7
6 Chronic lower respiratory diseases (J40-J47)	496	4.7	6 Chronic lower respiratory diseases (J40-J47)	214	4.3	6 Chronic lower respiratory diseases (J40-J47)	163	2.9
7 Ischaemic heart diseases (I20-I25)	323	3.1	7 Ischaemic heart diseases (I20-I25)	208	4.2	7 Ischaemic heart diseases (I20-I25)	159	2.8
8 Tuberculosis (A15-A19)	285	2.8	8 Tuberculosis (A15-A19)	160	3.2	8 Tuberculosis (A15-A19)	138	2.5
9 Ischaemic heart diseases (I20-I25)	264	2.5	9 Ischaemic heart diseases (I20-I25)	139	2.8	9 Ischaemic heart diseases (I20-I25)	124	2.2
10 Malignant neoplasms of digestive organs (C15-C26)	261	2.5	10 Malignant neoplasms of digestive organs (C15-C26)	129	2.6	10 Malignant neoplasms of digestive organs (C15-C26)	122	2.2
... Other natural causes	4 094	38.9	... Other natural causes	1 963	39.7	... Other natural causes	2 075	37.2
... Non-natural causes	200	1.9	... Non-natural causes	45	0.9	... Non-natural causes	5	0.1
... All causes	10 329	100.0	... All causes	4 597	100.0	... All causes	5 579	100.0

Excluding a total of 303 cases with unknown sex and unknown age; known sex and unknown age; and known age and unknown sex.

Mortality and causes of death in South Africa, 2005: Findings from death notification

Appendix I.7: The ten leading underlying natural causes of death by province, sex and age: Gauteng, 2005

Gauteng, both sexes, all ages		Gauteng, males, all ages		Gauteng, females, all ages				
	No.	%		No.	%			
1 Tuberculosis (A15-A19)	10 559	9.9	1 Tuberculosis (A15-A19)	6 020	10.7	1 Tuberculosis (A15-A19)	4 539	9.0
2 Influenza and pneumonia (J10-J18)	8 544	8.0	2 Influenza and pneumonia (J10-J18)	4 213	7.5	2 Influenza and pneumonia (J10-J18)	4 331	8.6
3 Other forms of heart diseases (I30-I52)	4 810	4.5	3 Other forms of heart diseases (I30-I52)	2 186	3.9	3 Other forms of heart diseases (I30-I52)	2 644	5.2
4 Cerebrovascular diseases (I60-I69)	3 804	3.6	4 Ischaemic heart diseases (I20-I25)	1 779	3.2	4 Cerebrovascular diseases (I60-I69)	2 208	4.4
5 Ischaemic heart diseases (I20-I25)	3 783	3.6	5 Ischaemic heart diseases (I20-I25)	1 724	3.1	5 Ischaemic heart diseases (I20-I25)	2 004	4.0
6 Diabetes mellitus (E10-E14)	3 235	3.0	6 Diabetes mellitus (E10-E14)	1 619	2.9	6 Diabetes mellitus (E10-E14)	1 649	3.7
7 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	3 020	2.8	7 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	1 386	2.5	7 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	1 451	3.0
8 Human immunodeficiency virus (HIV) disease (B20-B24)	2 972	2.8	8 Human immunodeficiency virus (HIV) disease (B20-B24)	1 381	2.5	8 Human immunodeficiency virus (HIV) disease (B20-B24)	1 420	2.8
9 Ischaemic heart diseases (I20-I25)	2 884	2.7	9 Other viral diseases (B25-B34)	1 351	2.4	9 Other viral diseases (B25-B34)	1 405	2.8
10 Certain disorders involving the immune mechanism (D80-D89)	2 786	2.6	10 Certain disorders involving the immune mechanism (D80-D89)	24 075	43.0	10 Certain disorders involving the immune mechanism (D80-D89)	1 405	2.8
... Other natural causes	48 675	45.7	... Other natural causes	15 55	0.3	... Other natural causes	2 539	5.2
... Non-natural causes	1 947	1.8	... Non-natural causes	8 708	15.5	... Non-natural causes	2 639	5.2
... All causes	106 422	100.0	... All causes	56 018	100.0	... All causes	50 404	100.0
<b>Gauteng, both sexes, 0-14</b>								
1 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	3 070	21.8	1 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	1 619	21.7	1 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	1 451	22.0
2 Other disorders originating in the perinatal period (P30-P36)	1 925	13.6	2 Other disorders originating in the perinatal period (P30-P36)	1 077	13.6	2 Other disorders originating in the perinatal period (P30-P36)	888	13.5
3 Digestive system disorders of fetus and newborn (P75-P78)	1 672	12.4	3 Digestive system disorders of fetus and newborn (P75-P78)	850	11.4	3 Digestive system disorders of fetus and newborn (P75-P78)	822	12.5
4 Ischaemic heart diseases (I20-I25)	1 484	11.0	4 Ischaemic heart diseases (I20-I25)	924	12.4	4 Ischaemic heart diseases (I20-I25)	922	12.5
5 Ischaemic heart diseases (I20-I25)	1 519	11.1	5 Ischaemic heart diseases (I20-I25)	772	10.3	5 Ischaemic heart diseases (I20-I25)	778	11.7
6 Influenza and pneumonia (J10-J18)	483	3.7	6 Influenza and pneumonia (J10-J18)	256	3.5	6 Influenza and pneumonia (J10-J18)	247	3.7
7 Certain disorders involving the immune mechanism (D80-D89)	396	3.0	7 Certain disorders involving the immune mechanism (D80-D89)	223	3.0	7 Certain disorders involving the immune mechanism (D80-D89)	225	3.4
8 Other viral diseases (B25-B34)	378	2.8	8 Other viral diseases (B25-B34)	196	2.6	8 Other viral diseases (B25-B34)	182	2.8
9 Protozoal diseases (B50-B64)	268	1.9	9 Protozoal diseases (B50-B64)	131	1.8	9 Protozoal diseases (B50-B64)	137	2.1
10 Disorders related to length of gestation and foetal growth (P05-P08)	247	1.8	10 Disorders related to length of gestation and foetal growth (P05-P08)	126	1.7	10 Disorders related to length of gestation and foetal growth (P05-P08)	121	1.8
... Other natural causes	3 572	25.4	... Other natural causes	1 899	25.4	... Other natural causes	1 673	25.4
... Non-natural causes	957	6.8	... Non-natural causes	569	7.6	... Non-natural causes	388	5.9
... All causes	14 051	100.0	... All causes	7 464	100.0	... All causes	6 597	100.0
<b>Gauteng, males, 15-49</b>								
1 Tuberculosis (A15-A19)	8 267	16.4	1 Tuberculosis (A15-A19)	4 530	16.5	1 Tuberculosis (A15-A19)	3 737	16.2
2 Influenza and pneumonia (J10-J18)	5 488	10.9	2 Influenza and pneumonia (J10-J18)	2 586	9.5	2 Influenza and pneumonia (J10-J18)	2 892	12.5
3 Ischaemic heart diseases (I20-I25)	2 429	4.8	3 Ischaemic heart diseases (I20-I25)	1 087	4.0	3 Ischaemic heart diseases (I20-I25)	1 342	5.8
4 Human immunodeficiency virus (HIV) disease (B20-B24)	2 415	4.8	4 Human immunodeficiency virus (HIV) disease (B20-B24)	1 083	4.0	4 Human immunodeficiency virus (HIV) disease (B20-B24)	1 332	5.8
5 Certain disorders involving the immune mechanism (D80-D89)	2 058	4.1	5 Certain disorders involving the immune mechanism (D80-D89)	957	3.5	5 Certain disorders involving the immune mechanism (D80-D89)	1 105	4.8
6 Other viral diseases (B25-B34)	1 907	3.8	6 Other viral diseases (B25-B34)	802	2.9	6 Other viral diseases (B25-B34)	1 101	4.8
7 Other forms of heart diseases (I30-I52)	1 367	2.7	7 Other forms of heart diseases (I30-I52)	658	2.4	7 Other forms of heart diseases (I30-I52)	712	3.1
8 Inflammatory diseases of the central nervous system (G00-G09)	1 175	2.3	8 Inflammatory diseases of the central nervous system (G00-G09)	563	2.1	8 Inflammatory diseases of the central nervous system (G00-G09)	609	2.7
9 Cerebrovascular diseases (I60-I69)	1 175	2.3	9 Cerebrovascular diseases (I60-I69)	535	1.9	9 Cerebrovascular diseases (I60-I69)	572	2.7
10 Other natural causes	674	1.3	10 Other natural causes	327	1.2	10 Other natural causes	389	1.7
... Other natural causes	15 659	31.0	... Other natural causes	7 667	28.6	... Other natural causes	7 382	34.6
... Non-natural causes	8 287	16.4	... Non-natural causes	6 781	24.7	... Non-natural causes	1 526	6.6
... All causes	50 462	100.0	... All causes	27 376	100.0	... All causes	23 986	100.0
<b>Gauteng, both sexes, 50-64</b>								
1 Tuberculosis (A15-A19)	1 671	9.1	1 Tuberculosis (A15-A19)	1 107	10.2	1 Tuberculosis (A15-A19)	564	7.5
2 Influenza and pneumonia (J10-J18)	1 336	7.3	2 Influenza and pneumonia (J10-J18)	815	7.5	2 Influenza and pneumonia (J10-J18)	551	7.3
3 Other forms of heart diseases (I30-I52)	1 079	5.9	3 Ischaemic heart diseases (I20-I25)	588	5.4	3 Other forms of heart diseases (I30-I52)	521	6.9
4 Diabetes mellitus (E10-E14)	1 043	5.7	4 Other forms of heart diseases (I30-I52)	582	5.4	4 Diabetes mellitus (E10-E14)	497	6.6
5 Cerebrovascular diseases (I60-I69)	967	5.3	5 Cerebrovascular diseases (I60-I69)	507	4.7	5 Cerebrovascular diseases (I60-I69)	460	6.1
6 Diabetes mellitus (E10-E14)	907	5.0	6 Diabetes mellitus (E10-E14)	436	4.1	6 Diabetes mellitus (E10-E14)	353	4.7
7 Malnutrition (E40-E44)	674	3.7	7 Malnutrition (E40-E44)	421	3.9	7 Malnutrition (E40-E44)	255	3.3
8 Chronic lower respiratory diseases (J40-J47)	639	3.5	8 Chronic lower respiratory diseases (J40-J47)	421	3.9	8 Chronic lower respiratory diseases (J40-J47)	235	3.1
9 Ischaemic heart diseases (I20-I25)	476	2.6	9 Malignant neoplasms of respiratory and intrathoracic organs (C30-C39)	271	2.5	9 Malignant neoplasms of respiratory and intrathoracic organs (C30-C39)	230	3.0
10 Hypertensive diseases (I10-I15)	472	2.6	10 Ischaemic heart diseases (I20-I25)	261	2.4	10 Hypertensive diseases (I10-I15)	218	2.9
... Other natural causes	7 968	43.3	... Other natural causes	4 408	40.7	... Other natural causes	3 444	45.6
... Non-natural causes	1 274	6.9	... Non-natural causes	1 039	8.7	... Non-natural causes	326	4.3
... All causes	18 396	100.0	... All causes	10 839	100.0	... All causes	7 557	100.0
<b>Gauteng, males, 65+</b>								
1 Other forms of heart diseases (I30-I52)	2 271	9.7	1 Other forms of heart diseases (I30-I52)	874	8.5	1 Other forms of heart diseases (I30-I52)	1 387	10.6
2 Cerebrovascular diseases (I60-I69)	1 829	8.0	2 Ischaemic heart diseases (I20-I25)	842	8.1	2 Cerebrovascular diseases (I60-I69)	1 322	10.6
3 Ischaemic heart diseases (I20-I25)	1 620	6.9	3 Cerebrovascular diseases (I60-I69)	731	7.1	3 Ischaemic heart diseases (I20-I25)	986	7.5
4 Diabetes mellitus (E10-E14)	1 595	6.8	4 Chronic lower respiratory diseases (J40-J47)	620	6.0	4 Ischaemic heart diseases (I20-I25)	778	5.9
5 Influenza and pneumonia (J10-J18)	1 237	5.3	5 Diabetes mellitus (E10-E14)	607	5.9	5 Hypertensive diseases (I10-I15)	706	5.4
6 Chronic lower respiratory diseases (J40-J47)	1 120	4.8	6 Influenza and pneumonia (J10-J18)	544	5.3	6 Influenza and pneumonia (J10-J18)	693	5.3
7 Hypertensive diseases (I10-I15)	1 009	4.3	7 Malignant neoplasms of digestive organs (C15-C26)	487	4.7	7 Chronic lower respiratory diseases (J40-J47)	500	3.8
8 Malignant neoplasms of digestive organs (C15-C26)	928	4.0	8 Malignant neoplasms of male genital organs (C60-C63)	373	3.6	8 Malignant neoplasms of digestive organs (C15-C26)	441	3.3
9 Malignant neoplasms of respiratory and intrathoracic organs (C30-C39)	508	2.2	9 Malignant neoplasms of respiratory and intrathoracic organs (C30-C39)	318	3.1	9 Renal failure (N17-N19)	252	1.9
10 Renal failure (N17-N19)	487	2.1	10 Hypertensive diseases (I10-I15)	303	2.9	10 Malignant neoplasms of female genital organs (C51-C58)	246	1.8
... Other natural causes	9 226	41.8	... Other natural causes	4 210	40.7	... Other natural causes	526	4.1
... Non-natural causes	418	1.9	... Non-natural causes	407	3.9	... Non-natural causes	242	1.8
... All causes	23 513	100.0	... All causes	10 339	100.0	... All causes	13 174	100.0
<b>Gauteng, females, 65+</b>								
1 Other forms of heart diseases (I30-I52)	1 387	10.6	1 Other forms of heart diseases (I30-I52)	874	8.5	1 Other forms of heart diseases (I30-I52)	1 387	10.6
2 Cerebrovascular diseases (I60-I69)	1 132	8.8	2 Ischaemic heart diseases (I20-I25)	842	8.1	2 Cerebrovascular diseases (I60-I69)	1 322	10.6
3 Ischaemic heart diseases (I20-I25)	986	7.5	3 Cerebrovascular diseases (I60-I69)	731	7.1	3 Ischaemic heart diseases (I20-I25)	986	7.5
4 Diabetes mellitus (E10-E14)	778	5.9	4 Chronic lower respiratory diseases (J40-J47)	620	6.0	4 Ischaemic heart diseases (I20-I25)	778	5.9
5 Hypertensive diseases (I10-I15)	706	5.4	5 Diabetes mellitus (E10-E14)	607	5.9	5 Hypertensive diseases (I10-I15)	706	5.4
6 Influenza and pneumonia (J10-J18)	693	5.3	6 Influenza and pneumonia (J10-J18)	544	5.3	6 Influenza and pneumonia (J10-J18)	693	5.3
7 Chronic lower respiratory diseases (J40-J47)	500	3.8	7 Chronic lower respiratory diseases (J40-J47)	487	4.7	7 Chronic lower respiratory diseases (J40-J47)	500	3.8
8 Malignant neoplasms of digestive organs (C15-C26)	441	3.3	8 Malignant neoplasms of digestive organs (C15-C26)	373	3.6	8 Malignant neoplasms of digestive organs (C15-C26)	441	3.3
9 Renal failure (N17-N19)	252	1.9	9 Malignant neoplasms of respiratory and intrathoracic organs (C30-C39)	318	3.1	9 Renal failure (N17-N19)	252	1.9
10 Malignant neoplasms of female genital organs (C51-C58)	246	1.8	10 Malignant neoplasms of respiratory and intrathoracic organs (C30-C39)	303	2.9	10 Malignant neoplasms of female genital organs (C51-C58)	246	1.8
... Other natural causes	5 226	41.2	... Other natural causes	4 210	40.7	... Other natural causes	5 226	41.2
... Non-natural causes	418	3.2	... Non-natural causes	407	3.9	... Non-natural causes	418	3.2
... All causes	13 174	100.0	... All causes	10 339	100.0	... All causes	13 174	100.0

Excluding a total of 1 106 cases with unknown sex and unknown age; known sex and unknown age; and known age and unknown sex.

Mortality and causes of death in South Africa, 2005: Findings from death notification

Appendix I.8: The ten leading underlying natural causes of death by province, sex and age: Mpumalanga, 2005

Cause	Mpumalanga, both sexes, all ages			Mpumalanga, males, all ages			Mpumalanga, females, all ages		
	No.	%	Rank	No.	%	Rank	No.	%	Rank
1 Tuberculosis (A15-A19)	5 884	13.1	1	3 046	13.7	1	2 838	12.6	1
2 Influenza and pneumonia (J10-J18)	4 431	9.9	2	2 079	9.3	2	2 352	10.4	2
3 Ischaemic heart diseases (I20-I25)	3 180	7.0	3	1 346	6.1	3	1 834	8.0	3
4 Certain disorders involving the immune mechanism (D80-D89)	1 973	4.3	4	876	3.9	4	1 097	4.9	4
5 Cardiovascular diseases (I60-I69)	1 930	4.3	5	837	3.8	5	1 093	4.8	5
6 Other forms of heart diseases (I30-I52)	1 639	3.7	6	755	3.4	6	875	4.1	6
7 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	1 377	3.0	7	634	2.8	7	730	3.2	7
8 Digestive system disorders of foetus and newborn (P75-P78)	1 271	2.8	8	614	2.8	8	658	3.0	8
9 Hypertensive diseases (I10-I15)	1 161	2.6	9	496	2.2	9	665	2.9	9
10 Human immunodeficiency virus [HIV] disease (B20-B24)	1 061	2.4	10	545	2.4	10	516	2.3	10
... Other natural causes	16 232	36.2	...	8 239	37.1	...	8 998	39.4	...
... Non-natural causes	3 578	8.0	...	2 677	12.0	...	901	4.0	...
... All causes	44 824	100.0	...	22 236	100.0	...	22 588	100.0	...
<b>Mpumalanga, both sexes, 0-14</b>									
1 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	1 443	22.7	1	755	22.6	1	688	22.8	1
2 Digestive system disorders of foetus and newborn (P75-P78)	1 377	21.5	2	634	18.4	2	730	23.9	2
3 Influenza and pneumonia (J10-J18)	1 061	16.2	3	323	9.3	3	347	11.1	3
4 Influenza and pneumonia (J10-J18)	325	5.1	4	176	5.3	4	149	4.9	4
5 Other disorders originating in the perinatal period (P90-P96)	275	4.3	5	143	4.3	5	132	4.4	5
6 Certain disorders involving the immune mechanism (D80-D89)	188	2.9	6	107	3.2	6	83	2.8	6
7 Tuberculosis (A15-A19)	158	2.5	7	77	2.3	7	81	2.7	7
8 Infectious diseases involving the immune mechanism (D80-D89)	157	2.5	8	76	2.3	8	80	2.7	8
9 Malnutrition (E40-E46)	158	2.5	9	75	2.2	9	74	2.5	9
10 Disorders related to length of gestation and foetal growth (P05-P08)	138	2.2	10	70	2.2	10	68	2.3	10
... Other natural causes	1 350	21.2	...	691	20.7	...	659	21.9	...
... Non-natural causes	375	5.9	...	223	6.7	...	152	5.0	...
... All causes	6 358	100.0	...	3 340	100.0	...	3 016	100.0	...
<b>Mpumalanga, both sexes, 15-49</b>									
1 Tuberculosis (A15-A19)	4 600	19.7	1	2 229	20.0	1	2 371	19.5	1
2 Influenza and pneumonia (J10-J18)	2 955	12.7	2	1 289	11.5	2	1 666	13.7	2
3 Ischaemic heart diseases (I20-I25)	1 868	8.0	3	733	6.6	3	1 135	9.4	3
4 Certain disorders involving the immune mechanism (D80-D89)	1 518	6.5	4	627	5.6	4	891	7.3	4
5 Human immunodeficiency virus [HIV] disease (B20-B24)	865	3.7	5	391	3.5	5	474	3.9	5
6 Other respiratory diseases principal affecting the interstitium (J80-J84)	619	2.7	6	232	2.1	6	356	2.9	6
7 Noninfective enteritis and colitis (K50-K52)	570	2.4	7	263	2.4	7	358	2.9	7
8 Nephromyofasciitis of the central nervous system (G00-G09)	423	1.8	8	210	1.9	8	324	2.7	8
9 Other viral diseases (B25-B27)	423	1.8	9	175	1.6	9	247	2.0	9
10 Other forms of heart disease (I30-I52)	6 398	27.4	10	2 841	25.4	10	3 548	29.2	10
... Other natural causes	2 500	10.7	...	1 965	17.6	...	2 548	20.9	...
... Non-natural causes	2 500	10.7	...	1 965	17.6	...	2 548	20.9	...
... All causes	23 298	100.0	...	11 664	100.0	...	12 134	100.0	...
<b>Mpumalanga, males, 0-14</b>									
1 Tuberculosis (A15-A19)	842	12.0	1	555	13.6	1	287	9.7	1
2 Influenza and pneumonia (J10-J18)	615	8.7	2	364	8.9	2	251	8.5	2
3 Cardiovascular diseases (I60-I69)	494	7.0	3	258	6.3	3	226	8.0	3
4 Diabetes mellitus (E10-E14)	405	5.8	4	184	4.5	4	227	7.7	4
5 Other forms of heart diseases (I30-I52)	346	4.9	5	149	3.6	5	179	6.2	5
6 Other forms of heart diseases (I30-I52)	317	4.5	6	177	4.3	6	179	6.2	6
7 Hypertensive diseases (I10-I15)	262	3.7	7	138	3.4	7	162	5.5	7
8 Chronic lower respiratory diseases (J40-J47)	227	3.2	8	133	3.4	8	105	3.6	8
9 Certain disorders involving the immune mechanism (D80-D89)	227	3.2	9	122	3.0	9	94	3.2	9
10 Malignant neoplasms of digestive organs (C15-C28)	184	2.6	10	122	3.0	10	82	2.8	10
... Other natural causes	2 506	35.6	...	1 312	32.0	...	1 029	34.9	...
... Non-natural causes	490	7.0	...	377	9.2	...	113	3.8	...
... All causes	7 043	100.0	...	4 094	100.0	...	2 949	100.0	...
<b>Mpumalanga, males, 15-49</b>									
1 Tuberculosis (A15-A19)	1 036	12.7	1	399	11.0	1	637	14.2	1
2 Other forms of heart diseases (I30-I52)	850	10.5	2	356	9.8	2	484	11.0	2
3 Diabetes mellitus (E10-E14)	629	7.7	3	250	6.9	3	413	9.2	3
4 Hypertensive diseases (I10-I15)	599	7.4	4	222	6.1	4	380	8.5	4
5 Influenza and pneumonia (J10-J18)	536	6.6	5	219	6.0	5	286	6.4	5
6 Chronic lower respiratory diseases (J40-J47)	385	4.7	6	216	6.1	6	192	4.3	6
7 Ischaemic heart diseases (I20-I25)	301	3.7	7	187	5.1	7	163	3.6	7
8 Ischaemic heart diseases (I20-I25)	286	3.6	8	155	4.3	8	141	3.1	8
9 Tuberculosis (A15-A19)	264	3.3	9	120	3.3	9	97	2.2	9
10 Malignant neoplasms of digestive organs (C15-C28)	244	3.0	10	121	3.3	10	97	2.2	10
... Other natural causes	2 744	34.2	...	1 291	35.1	...	1 401	33.2	...
... Non-natural causes	213	2.6	...	112	3.1	...	101	2.2	...
... All causes	8 127	100.0	...	3 638	100.0	...	4 489	100.0	...
<b>Mpumalanga, females, 0-14</b>									
1 Tuberculosis (A15-A19)	1 036	12.7	1	399	11.0	1	637	14.2	1
2 Other forms of heart diseases (I30-I52)	850	10.5	2	356	9.8	2	484	11.0	2
3 Diabetes mellitus (E10-E14)	629	7.7	3	250	6.9	3	413	9.2	3
4 Hypertensive diseases (I10-I15)	599	7.4	4	222	6.1	4	380	8.5	4
5 Influenza and pneumonia (J10-J18)	536	6.6	5	219	6.0	5	286	6.4	5
6 Chronic lower respiratory diseases (J40-J47)	385	4.7	6	216	6.1	6	192	4.3	6
7 Ischaemic heart diseases (I20-I25)	301	3.7	7	187	5.1	7	163	3.6	7
8 Ischaemic heart diseases (I20-I25)	286	3.6	8	155	4.3	8	141	3.1	8
9 Tuberculosis (A15-A19)	264	3.3	9	120	3.3	9	97	2.2	9
10 Malignant neoplasms of digestive organs (C15-C28)	244	3.0	10	121	3.3	10	97	2.2	10
... Other natural causes	2 744	34.2	...	1 291	35.1	...	1 401	33.2	...
... Non-natural causes	213	2.6	...	112	3.1	...	101	2.2	...
... All causes	8 127	100.0	...	3 638	100.0	...	4 489	100.0	...

Excluding a total of 410 cases with unknown sex and unknown age; known sex and unknown age; and known age and unknown sex.

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Appendix I.9: The ten leading underlying natural causes of death by province, sex and age: Limpopo, 2005

Limpopo, both sexes, all ages		Limpopo, males, all ages		Limpopo, females, all ages	
	No.	%		No.	%
1 Influenza and pneumonia (I10-J18)	5 747	12.0	1 Influenza and pneumonia (I10-J18)	2 570	11.1
2 Tuberculosis (A15-A19)	4 404	9.1	2 Tuberculosis (A15-A19)	2 394	10.3
3 Ischaemic heart diseases (I20-I25)	3 867	8.2	3 Ischaemic heart diseases (I20-I25)	1 612	6.9
4 Cerebrovascular diseases (I60-I69)	2 152	4.5	4 Cerebrovascular diseases (I60-I69)	941	4.0
5 Other forms of heart diseases (I30-I52)	2 078	4.3	5 Other forms of heart diseases (I30-I52)	853	3.7
6 Diabetes mellitus (E10-E14)	1 330	2.9	6 Diabetes mellitus (E10-E14)	572	2.5
7 Renal disorders involving the immune mechanism (D80-D89)	1 330	2.9	7 Renal disorders involving the immune mechanism (D80-D89)	572	2.5
8 Renal disorders involving the immune mechanism (D80-D89)	1 141	2.4	8 Renal disorders involving the immune mechanism (D80-D89)	539	2.3
9 Hypertensive diseases (I10-I15)	1 089	2.3	9 Hypertensive diseases (I10-I15)	527	2.3
10 Chronic lower respiratory diseases (J40-J47)	933	1.9	10 Chronic lower respiratory diseases (J40-J47)	410	1.8
... Other natural causes	20 385	42.5	... Other natural causes	9 541	41.0
... Non-natural causes	3 567	7.4	... Non-natural causes	2 530	10.9
... All causes	47 977	100.0	... All causes	23 248	100.0
<b>Limpopo, both sexes, 0-14</b>					
1 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	1 141	19.4	1 Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	576	18.5
2 Digestive system disorders of fetus and newborn (P75-P78)	694	11.7	2 Digestive system disorders of fetus and newborn (P75-P78)	385	12.4
3 Infectious diseases (A00-A09)	456	7.6	3 Infectious diseases (A00-A09)	232	7.0
4 Other forms of heart diseases (I30-I52)	395	6.7	4 Other forms of heart diseases (I30-I52)	189	5.8
5 Influenza and pneumonia (I10-J18)	196	3.3	5 Influenza and pneumonia (I10-J18)	88	2.7
6 Malnutrition (E40-E46)	161	2.7	6 Malnutrition (E40-E46)	85	2.7
7 Tuberculosis (A15-A19)	149	2.5	7 Tuberculosis (A15-A19)	79	2.5
8 Certain disorders involving the immune mechanism (D80-D89)	137	2.3	8 Certain disorders involving the immune mechanism (D80-D89)	77	2.5
9 Inflammatory diseases of the central nervous system (G00-G09)	134	2.3	9 Inflammatory diseases of the central nervous system (G00-G09)	60	1.9
10 Infectious specific to the perinatal period (P35-P39)	1 403	23.9	10 Infectious specific to the perinatal period (P35-P39)	742	23.9
... Other natural causes	455	7.8	... Other natural causes	263	8.5
... Non-natural causes	5 870	100.0	... Non-natural causes	3 111	100.0
... All causes	5 870	100.0	... All causes	3 111	100.0
<b>Limpopo, males, 15-49</b>					
1 Influenza and pneumonia (I10-J18)	3 607	16.5	1 Influenza and pneumonia (I10-J18)	1 589	15.8
2 Tuberculosis (A15-A19)	3 206	14.7	2 Tuberculosis (A15-A19)	1 479	14.6
3 Ischaemic heart diseases (I20-I25)	2 287	10.5	3 Ischaemic heart diseases (I20-I25)	850	8.4
4 Certain disorders involving the immune mechanism (D80-D89)	940	4.3	4 Certain disorders involving the immune mechanism (D80-D89)	385	3.8
5 Other forms of heart diseases (I30-I52)	493	2.2	5 Other forms of heart diseases (I30-I52)	220	2.2
6 Noninfective enteritis and colitis (K50-K52)	487	2.2	6 Noninfective enteritis and colitis (K50-K52)	186	1.8
7 Inflammatory diseases of the central nervous system (G00-G09)	469	2.2	7 Inflammatory diseases of the central nervous system (G00-G09)	156	1.5
8 Protozoal diseases (B50-B54)	352	1.6	8 Protozoal diseases (B50-B54)	152	1.5
9 Cerebrovascular diseases (I60-I69)	284	1.3	9 Cerebrovascular diseases (I60-I69)	131	1.3
10 Other viral diseases (B25-B29)	282	1.3	10 Other viral diseases (B25-B29)	126	1.2
... Other natural causes	7 072	32.4	... Other natural causes	2 941	29.1
... Non-natural causes	2 329	10.7	... Non-natural causes	1 767	17.5
... All causes	21 808	100.0	... All causes	10 118	100.0
<b>Limpopo, both sexes, 50-64</b>					
1 Influenza and pneumonia (I10-J18)	752	10.1	1 Tuberculosis (A15-A19)	520	11.4
2 Tuberculosis (A15-A19)	508	6.7	2 Tuberculosis (A15-A19)	257	5.6
3 Ischaemic heart diseases (I20-I25)	435	5.7	3 Ischaemic heart diseases (I20-I25)	235	5.2
4 Cerebrovascular diseases (I60-I69)	407	5.4	4 Diabetes mellitus (E10-E14)	238	5.2
5 Hypertensive diseases (I10-I15)	407	5.4	5 Hypertensive diseases (I10-I15)	208	4.6
6 Diabetes mellitus (E10-E14)	365	4.8	6 Hypertensive diseases (I10-I15)	197	4.3
7 Other forms of heart diseases (I30-I52)	237	3.1	7 Other forms of heart diseases (I30-I52)	139	3.0
8 Chronic lower respiratory diseases (J40-J47)	188	2.5	8 Malignant neoplasms of female genital organs (C51-C59)	122	2.8
9 Ischaemic heart diseases (I20-I25)	183	2.4	9 Ischaemic heart diseases (I20-I25)	127	2.8
10 Diseases of liver (K70-K77)	2 914	38.4	10 Renal failure (N17-N19)	1 699	37.2
... Other natural causes	413	5.4	... Other natural causes	310	6.8
... Non-natural causes	100.0	100.0	... Non-natural causes	100.0	100.0
... All causes	7 588	100.0	... All causes	4 582	100.0
<b>Limpopo, males, 50-64</b>					
1 Cardiovascular diseases (I60-I69)	1 421	11.2	1 Other forms of heart diseases (I30-I52)	488	9.1
2 Other forms of heart diseases (I30-I52)	1 186	9.3	2 Cerebrovascular diseases (I60-I69)	489	9.0
3 Influenza and pneumonia (I10-J18)	982	7.7	3 Influenza and pneumonia (I10-J18)	422	7.7
4 Diabetes mellitus (E10-E14)	705	5.5	4 Diabetes mellitus (E10-E14)	283	5.2
5 Ischaemic heart diseases (I20-I25)	495	3.9	5 Hypertensive diseases (I10-I15)	250	4.6
6 Hypertensive diseases (I10-I15)	434	3.4	6 Tuberculosis (A15-A19)	196	3.5
7 Chronic lower respiratory diseases (J40-J47)	425	3.3	7 Ischaemic heart diseases (I20-I25)	193	3.5
8 Ischaemic heart diseases (I20-I25)	337	2.7	8 Ischaemic heart diseases (I20-I25)	171	3.1
9 Malignant neoplasms of digestive organs (C15-C26)	290	2.3	9 Hypertensive diseases (I10-I15)	169	3.1
10 Renal failure (N17-N19)	285	2.2	10 Malignant neoplasms of digestive organs (C15-C26)	160	2.9
... Other natural causes	285	2.2	... Other natural causes	140	4.9
... Non-natural causes	270	2.1	... Non-natural causes	35	1.2
... All causes	12 711	100.0	... All causes	5 457	100.0
<b>Limpopo, females, 50-64</b>					
1 Influenza and pneumonia (I10-J18)	752	10.1	1 Influenza and pneumonia (I10-J18)	470	10.3
2 Tuberculosis (A15-A19)	508	6.7	2 Tuberculosis (A15-A19)	257	5.6
3 Ischaemic heart diseases (I20-I25)	435	5.7	3 Tuberculosis (A15-A19)	235	5.2
4 Cerebrovascular diseases (I60-I69)	407	5.4	4 Diabetes mellitus (E10-E14)	238	5.2
5 Hypertensive diseases (I10-I15)	407	5.4	5 Hypertensive diseases (I10-I15)	208	4.6
6 Diabetes mellitus (E10-E14)	365	4.8	6 Hypertensive diseases (I10-I15)	197	4.3
7 Other forms of heart diseases (I30-I52)	237	3.1	7 Other forms of heart diseases (I30-I52)	139	3.0
8 Chronic lower respiratory diseases (J40-J47)	188	2.5	8 Malignant neoplasms of female genital organs (C51-C59)	122	2.8
9 Ischaemic heart diseases (I20-I25)	183	2.4	9 Ischaemic heart diseases (I20-I25)	127	2.8
10 Diseases of liver (K70-K77)	2 914	38.4	10 Renal failure (N17-N19)	1 699	37.2
... Other natural causes	413	5.4	... Other natural causes	310	6.8
... Non-natural causes	100.0	100.0	... Non-natural causes	100.0	100.0
... All causes	7 588	100.0	... All causes	4 582	100.0
<b>Limpopo, females, 65+</b>					
1 Cardiovascular diseases (I60-I69)	1 421	11.2	1 Other forms of heart diseases (I30-I52)	488	9.1
2 Other forms of heart diseases (I30-I52)	1 186	9.3	2 Cerebrovascular diseases (I60-I69)	489	9.0
3 Influenza and pneumonia (I10-J18)	982	7.7	3 Influenza and pneumonia (I10-J18)	422	7.7
4 Diabetes mellitus (E10-E14)	705	5.5	4 Diabetes mellitus (E10-E14)	283	5.2
5 Ischaemic heart diseases (I20-I25)	495	3.9	5 Hypertensive diseases (I10-I15)	250	4.6
6 Hypertensive diseases (I10-I15)	434	3.4	6 Tuberculosis (A15-A19)	196	3.5
7 Chronic lower respiratory diseases (J40-J47)	425	3.3	7 Ischaemic heart diseases (I20-I25)	193	3.5
8 Ischaemic heart diseases (I20-I25)	337	2.7	8 Ischaemic heart diseases (I20-I25)	171	3.1
9 Malignant neoplasms of digestive organs (C15-C26)	290	2.3	9 Hypertensive diseases (I10-I15)	169	3.1
10 Renal failure (N17-N19)	285	2.2	10 Malignant neoplasms of digestive organs (C15-C26)	160	2.9
... Other natural causes	285	2.2	... Other natural causes	140	4.9
... Non-natural causes	270	2.1	... Non-natural causes	35	1.2
... All causes	12 711	100.0	... All causes	5 457	100.0

Excluding a total of 245 cases with unknown sex and unknown age; known sex and unknown age; and known age and unknown sex.

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## Appendix J: Population group differences

Due to a large proportion (25,5%) 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 J.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 2005 deaths.

*Tuberculosis* was the leading underlying natural cause of death for black African and coloured population groups, while *diabetes mellitus* and *ischaemic heart diseases* were the leading underlying natural causes of death for Indians/Asians and the white population group, respectively. Five of the ten leading causes of death were common across all population groups. These included *influenza and pneumonia*, *cerebrovascular diseases*, *other forms of heart disease*, *diabetes mellitus* and *chronic lower respiratory diseases*. However, these common causes of death had different ranks and a different number of associated deaths.

On the one hand, *intestinal infectious diseases*, *certain disorders involving the immune mechanism*, *respiratory and cardiovascular disorders specific to the perinatal period*, and *human immunodeficiency virus [HIV] disease* were among the ten leading underlying natural causes of death only for the black African population group. On the other hand, *tuberculosis* was not among the ten leading causes of death only for the white population group. Furthermore, *ischaemic heart diseases*, *malignant neoplasms of digestive organs* and *hypertensive diseases* were among the ten leading causes for all population groups except the black African population group. *Renal failure* was among the ten leading causes of death only for Indians/Asians and the white population group.

Compared to 2004, all the ten leading underlying natural causes of death for black African, coloured and white population groups remained the same, with some changes in the ranks. For the Indian/Asian population group, the ten leading causes remained the same with the exception of *influenza and pneumonia* in 2005 replacing *malignant neoplasms of respiratory and intrathoracic organs* which was among the ten leading underlying natural causes of death in 2004.

**Appendix J.1: The ten leading underlying natural causes of death by population group, 2005**

Causes of death (Based on the Tenth Revision, International Classification of Disease, 1992)	African		Coloured		Indian/Asian		White		Unspecified	
	Rank	No.	Rank	No.	Rank	No.	Rank	No.	Rank	No.
Tuberculosis (A15-A19)	1	53 560	1	2 518	8	181	...	...	1	17 366
Influenza and pneumonia (J10-J18)	2	33 576	9	681	9	170	7	1 464	2	9 705
Intestinal infectious diseases (A00-A09)	3	21 487	...	...	...	...	...	...	3	6 456
Cerebrovascular diseases (I60-I69)	4	14 800	2	1 569	4	413	3	2 214	5	5 441
Other forms of heart disease (I30-I52)	5	14 535	6	1 062	3	543	2	2 300	4	5 523
Certain disorders involving the immune mechanism (D80-D89)	6	11 661	...	...	...	...	...	...	7	4 071
Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	7	11 147	...	...	...	...	...	...	9	3 683
Human immunodeficiency virus [HIV] disease (B20-B24)	8	10 632	...	...	...	...	...	...	10	3 244
Diabetes mellitus (E10-E14)	9	10 208	3	1 558	1	1 097	6	1 478	6	4 082
Chronic lower respiratory diseases (J40-J47)	10	8 482	5	1 416	5	294	4	1 860	8	3 686
Ischaemic heart diseases (I20-I25)	...	...	4	1 474	2	1 033	1	4 419	...	...
Malignant neoplasms of digestive organs (C15-C26)	...	...	7	862	7	201	5	1 846	...	...
Malignant neoplasms of respiratory and intrathoracic organs (C30-C39)	...	...	8	847	...	...	8	1 270	...	...
Hypertensive diseases (I10-I15)	...	...	10	660	6	223	10	694	...	...
Renal failure (N17-N19)	...	...	...	...	9	170	9	753	...	...
Other natural causes	...	148 386	...	9 289	...	2 124	...	12 770	...	76 901
Non natural causes	...	34 499	...	3 595	...	913	...	3 708	...	10 413
<b>All causes</b>	...	<b>372 973</b>	...	<b>25 531</b>	...	<b>7 362</b>	...	<b>34 776</b>	...	<b>150 571</b>
... Category not in top ten	...	<b>100,0</b>	...	<b>100,0</b>	...	<b>100,0</b>	...	<b>100,0</b>	...	<b>100,0</b>

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