

Causes of death in South Africa 1997-2001

Advance release of recorded causes of death

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EXECUTIVE SUMMARY

This study was undertaken by Statistics South Africa to investigate the causes of death in South Africa during the period 1997-2001. It was based on a 12 percent stratified random sample of deaths occurring during the study period. Causes of death were coded by utilizing guidelines contained in the tenth revision of the International Classification of Diseases (i.e., ICD-10).

The results of this study depict changes in mortality patterns over time. These changes have tended to affect South Africans differently, depending on population group, sex and age.

The five leading underlying causes of death among South Africans between 1997 and 2001 were unspecified unnatural causes (e.g., suicide, drowning, motor accidents), ill-defined causes, TB, HIV, and influenza and pneumonia, accounting for 40,9 percent of deaths in the sample. Mortality due to unspecified unnatural causes declined significantly during the study period. This decline seems to have been offset by a steep rise in mortality due to HIV, TB, and influenza and pneumonia. For example, the proportion of deaths due to HIV nearly doubled from 4,6 percent in 1997 to 8,7 percent in 2001, whereas the proportion of deaths due to unspecified unnatural causes declined from 15,3 to 8,2 percent during the same period.

Females were more likely to die from HIV and influenza and pneumonia. Males, on the other hand, had the highest prevalence of TB and unspecified unnatural causes, the proportion of males dying from unspecified unnatural causes being about three times that of females.

Causes of death differ significantly by age group. Children aged 0-14 primarily died from intestinal infectious diseases. Between 1997 and 2001 the proportion of children dying from HIV and influenza and pneumonia increased, while deaths due to unspecified unnatural causes declined. The prevalence of TB was lowest among children aged 0-14, the proportion dying due to this cause being approximately 2 percent.

Males aged 15-39 experienced the highest mortality attributable to unspecified unnatural causes, whereas females in the same age category died primarily as a result of HIV infections. For both males and females, there was a sharp decline in deaths due to unspecified unnatural causes. By contrast, the proportion dying from TB, HIV, and influenza and pneumonia increased significantly. However, the proportion of deaths due to HIV was about three times higher among females aged 15-29 than among males, the proportion due to this cause being 22,5 and 8,5 percent, respectively.

In the age group 40-49 the two leading underlying causes of death among males were unspecified unnatural causes and TB, whereas ill-defined causes and HIV were the two leading causes among females.

The cause of death pattern among persons aged 50 and above is unique in that TB, HIV, and influenza and pneumonia are not significant causes of death. Rather, cerebrovascular diseases, other forms of heart disease and general symptoms and signs feature prominently. Diabetes is also a significant cause of death among females aged 50 and above, ranking as the fifth leading cause.

An analysis of sample data by population group reveals striking differentials in mortality patterns by population group. While the main causes of death among Africans and coloureds were TB, HIV, influenza and pneumonia, and unspecified unnatural causes, whites and Indians tend to die of diabetes, ischaemic heart disease and cerebrovascular diseases.

It is interesting to note that for African and coloured males, the leading causes of death are unspecified unnatural causes and TB, while for Indian and white males the leading causes are cerebrovascular diseases and unspecified natural causes. By contrast, HIV is the leading cause of death among African females. Cerebrovascular diseases is the leading cause of death among coloured females and ischaemic heart disease the leading cause among Indian and white females.

Results of this study show that the highest prevalence of HIV deaths is among African females (13,5 percent), females aged 15-29 (24,3 percent) and females aged 30-39 (20,5 percent). The lowest prevalence of HIV deaths is among white females, with only 0,7 percent of deaths due to this cause.



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Pali Lehohla
Statistician-General

Statistics South Africa
November 2002

Chapter 1

INTRODUCTION

In December 2001 Statistics South Africa published a statistical release titled *Advance Release of Recorded Deaths, 1997-2000* (P0309.1), which was based on data captured in the population register by the Department of Home Affairs. This release observed a pattern in the rising numbers of deaths in South Africa during the period 1997 to 2000. However, it did not identify the causes of death that contributed to the general increase in mortality. This report aims at complementing the earlier report and identifying the leading causes of death in South Africa during the period 1997-2001, and at identifying emerging trends and patterns in the causes of death during the same period.

1.1 Methodology

A 12 percent stratified random sample of death notification forms, which were obtained from the Department of Home Affairs in microfilm format, was drawn for the period 1997-2001. The sample drawn yielded 279 581 death records. Details on how the sample was drawn can be found in the explanatory notes in Appendix A. The sample was drawn in order to expedite the process of releasing information on the causes of death in South Africa for the period 1997-2001. Information on all the registered deaths for the aforementioned study period will be released in subsequent reports.

The information on microfilms was scanned and printed in a format similar to the original death notification form.

Coding of causes of death was done in line with the tenth revision of the International Classification of Diseases (ICD-10). Information on printed forms, including codes for causes of death, was captured by experienced clerical staff and electronically processed. Captured data were edited by comparing them with information reflected in the death notification forms. Particular care was taken in verifying codes assigned to causes of death. See Appendix A for a detailed description of the coding, editing and verification procedures utilized in the study.

1.2 Data limitations

It is important to note that although the registration of deaths has improved considerably since 1994, particularly since the introduction of a new death notification form in 1998, data on causes of death for South Africa and the analysis thereof suffer from a number of limitations. These include:

- Under-reporting of deaths, which is particularly problematic in the rural areas of South Africa;
- The absence of IDs in the age group 0-18 years, which accounted for under-reporting when using the population register;
- Inadequate reporting on underlying causes of death and contributing factors, despite the improved death certificate; and
- Misreporting of deaths (see more details in Appendix A).

1.3 Organization of the report

This report constitutes five chapters. The description of the methodology utilized in this study is contained in the current chapter. Chapter 2 describes the characteristics of the sample. Chapters 3 and 4, on the other hand, present the key findings of the study on the underlying and multiple causes of death, respectively. The final chapter gives the study conclusions.

Chapter 2

CHARACTERISTICS OF THE SAMPLE

This chapter describes the characteristics of the sample drawn. The description of the sample is limited to characteristics of age, sex and population group. Other variables such as marital status, education, occupation, smoking status and industrial sector, although appearing in the death notification form,¹ are not included in the analysis of this report because of the poor quality of reporting of death notifications.

Table 1, which presents the distribution of the sample deaths by selected background characteristics, shows that the majority of deaths (54,0 percent) that occurred during the study period were male deaths. However, the distribution of deaths over time shows a shift away from male deaths to those of females, with the proportion of female deaths increasing from 44,1 percent in 1997 to 47,7 percent by 2001.

Table 1: Percentage distribution of sample deaths by selected characteristics and year of death, 1997-2001

Characteristic	Year of death					Total
	1997	1998	1999	2000	2001	
<i>Sex:</i>						
Male	55,9	55,1	54,4	52,8	52,3	54,0
Female	44,1	44,9	45,6	47,2	47,7	46,0
Total	100,0	100,0	100,0	100,0	100,0	100,0
	(46 941)	(54 856)	(59 720)	(53 247)	(64 817)	(279 581)
<i>Age group:</i>						
0-14	13,2	13,0	10,5	12,0	8,6	11,3
15-29	12,2	12,8	13,7	13,4	13,8	13,2
30-39	11,9	13,1	14,6	15,7	17,1	14,7
40-49	11,7	12,0	12,7	12,8	13,6	12,6
50+	49,9	48,1	48,0	45,8	46,7	47,6
Undefined	1,1	1,0	0,50	0,30	0,20	0,6
Total	100,0	100,0	100,0	100,0	100,0	100,0
	(46 941)	(54 856)	(59 720)	(53 247)	(64 817)	(279 581)
<i>Population group:</i>						
African	1,6	33,7	63,6	65,9	64,9	48,1
Coloured	0,0	1,9	6,5	6,0	5,8	4,2
Indian/Asian	0,0	0,6	1,3	1,4	1,5	1,0
White	0,0	4,0	9,7	8,4	8,5	6,5
Other	0,0	0,2	0,2	0,1	0,2	0,2
Unspecified	98,4	59,6	18,7	18,1	19,1	40,1
Total	100,0	100,0	100,0	100,0	100,0	100,0
	(46 941)	(54 856)	(59 720)	(53 247)	(64 817)	(279 581)

¹ Copies of the old death notification form (BI-18) and the new death notification form (BI-1663) can be found in Appendix B.

The distribution of the sample by age group shows that the lowest proportion of deaths (11,3 percent) were in the age group 0-14, whereas the highest proportion (47,6 percent) was in the oldest age group (i.e., 50 years and above). The proportion of child deaths declined over the study period, from 13,2 percent in 1997 to 8,6 percent in 2001 (see Table 1). There was also a slight decrease in the proportion of deaths among those aged 50 and above. Whereas this age group contributed 49,9 percent to all deaths at the beginning of the study period, their contribution had dropped to 46,7 percent by 2001. The declining trends in mortality among children and those age 50 and above are counteracted by increasing mortality in the age group 15-49.

The sample is characterized by a relatively high proportion of deaths with an unspecified population group (40,1 percent), the highest proportion occurring in 1997 and 1998. This is a reflection of the fact that the old death notification form or death certificate did not require the certifying physician to furnish information on the population group of the deceased. This requirement only came into effect in the latter part of 1998. Notwithstanding, the findings of the study indicate that the majority of deaths between 1999 and 2001 occurred among Africans, accounting for 63,6 percent in 1999, 65,9 percent in 2000 and 64,9 percent in 2001.

Chapter 3

UNDERLYING CAUSES OF DEATH

This chapter discusses the underlying causes of death in South Africa during the period 1997-2001. For the purposes of this report, an underlying cause of death (previously known as a primary cause) is defined as '*the disease or injury that initiated the train of events leading to death, or the circumstances that produced the fatal injury*'. An explanation of the derivation of the underlying causes of death in term of the ICD-10 can be found in Appendix A². The chapter begins by briefly discussing broad groups of leading causes of death. It goes on to discuss the sub-groups of causes of death. Finally, the chapter discusses the analysis of causes of death in South Africa by age, sex and population group.

3.1 Standard broad groups of causes of death

A breakdown of leading causes of death by sex reveals that the five leading broad groups of causes of death for deceased males were (see Table D1):

- Infectious and parasitic diseases (accounting for 20,5 percent of all male deaths in the sample);
- External causes of death (19,3 percent);
- Diseases of the circulatory system (16,4 percent);
- Ill-defined causes of death (11,4 percent); and
- Diseases of the respiratory system (11,2 percent).

These five groups of causes of death accounted for 78,8 percent of all male sample deaths over the study period. External causes of death were the first leading cause of male deaths between 1997 and 1998. However, its relative importance diminished in subsequent periods, with the proportions of dying from external causes of death declining from 20 percent in 1999 to 16 percent in 2001. On the other hand, infectious and parasitic diseases were the second leading broad cause of death in 1997 and 1998. By 1999, it had become the leading cause of death and remained the leading cause of death till the end of the study period.

A somewhat different pattern emerges for females, in terms of the broad groups of causes of death. All together, the five leading groups comprise 77,3 percent of female deaths in the sample for the study period. Table D2 shows that the five leading broad groups of causes of death for females were as follows:

- Diseases of the circulatory system (22,1 percent);
- Infectious and parasitic diseases (21,5 percent);
- Ill-defined causes of death (14,0 percent);

² The ICD-10 distinguishes between different causes of disease first by classifying them into broad systematic groups. For purposes of detail and clarity, the *broad groupings* of causes of death are further sub-divided into *sub-groups* of diseases. For example, the broad group of respiratory diseases is made up of sub-groups of diseases such as acute lower respiratory infections, lung diseases, influenza and pneumonia. The discussion in this chapter first identifies leading causes of death in terms of the broad groups. A more detailed account of leading causes of death by sex, age and population group is given in terms of the sub-groups of leading causes of death.

- Diseases of the respiratory system (11,6 percent); and
- Neoplasms (8,1 percent).

3.2 Sub-groups of underlying causes of death

An analysis of the leading sub-groups of underlying causes death from the sample reveal more pronounced mortality patterns. According to the study findings, clear distinctions in the causes of death occur, and the rest of this chapter will present the patterns and trends of the specific causes of death using a number of variables, namely sex, age and population group.

The five leading underlying causes of death for both males and females combined throughout the study period 1997-2001 were (Figure 1 and Table D3):

- Unspecified unnatural causes or event of undetermined intent, such as assault, hanging and drowning (11,0 percent);
- Ill-defined causes of death (8,2 percent);
- Tuberculosis (TB) (8,0 percent);
- HIV disease (7,4 percent); and,
- Influenza and pneumonia (6,3 percent).

Together, these five leading underlying causes of death account for 40,9 percent of all deaths in the sample. Figure 1 shows that during the period 1997-2001, among the five leading causes of death, the only cause that showed a clear declining trend was that of unspecified unnatural causes, as shown in Figure 1, with the proportions of deaths declining from 15,3 percent in 1997 to 10,8 percent in 1999 to 8,2 percent in 2001. The other four causes exhibit a generally rising trend over the study period. By 2001, this broad group accounted for 34,6 percent of all sample deaths compared to 29,5 percent during the same period, rising from 4,6 percent in 1997 to 8,7 percent in 2001.

3.2.1 Leading underlying causes of death by sex

Table D4 shows that the five leading underlying causes of death among South African males over the period 1997-2001, accounting for 42,2 percent of male deaths in the sample, were:

- Unspecified unnatural deaths (15,6 percent);
- Tuberculosis (TB) (9,1 percent);
- Ill-defined causes of mortality (8,2 percent);
- HIV infections (6,5 percent); and
- Influenza and pneumonia (5,8 percent).

Whereas the proportion of males and females dying of ill-defined underlying causes was the same, the sex differentials in the remaining four categories are remarkable. As shown in Figure 2, the biggest differential occurs with respect to unspecified unnatural causes, in that males were three times more likely to die of this cause than females. Females were more likely to die of HIV and influenza and pneumonia, while males had higher mortality from TB.

Figure 1: Percentage of deaths due to the five leading underlying causes of death by year of death, South Africa, 1997-2001

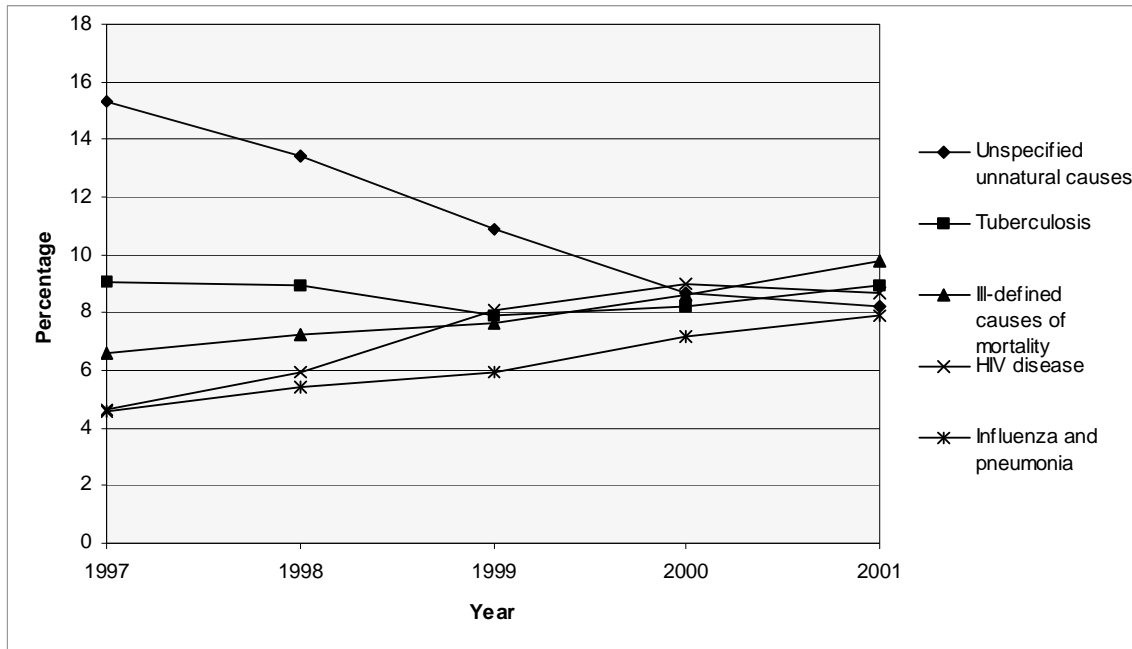
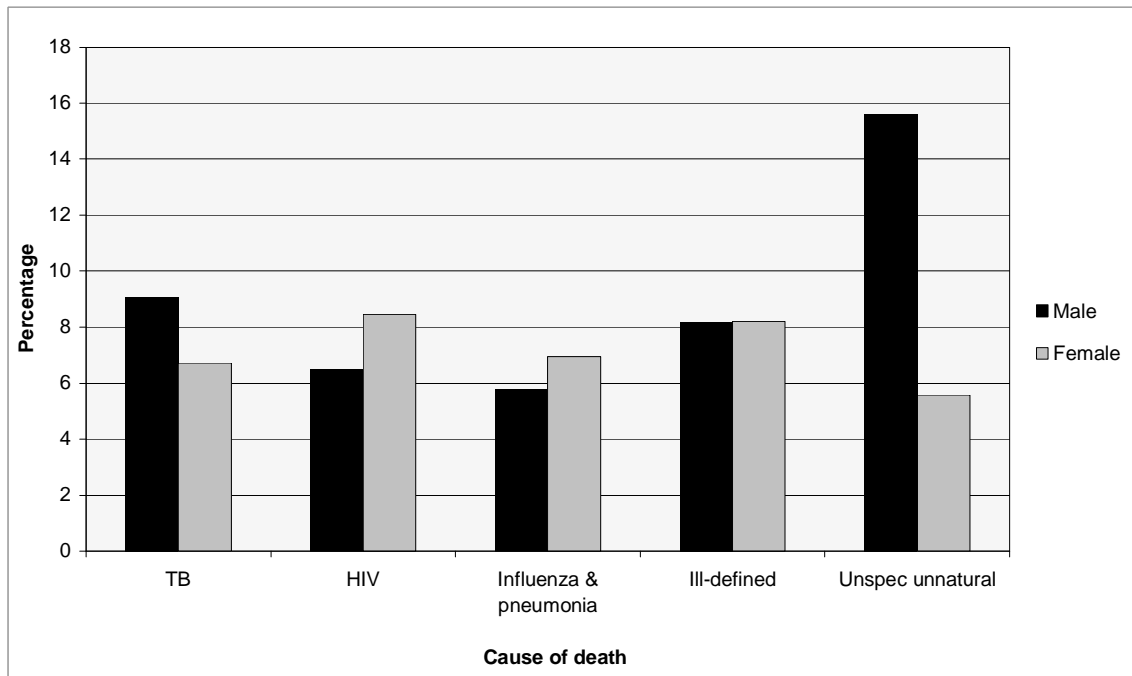
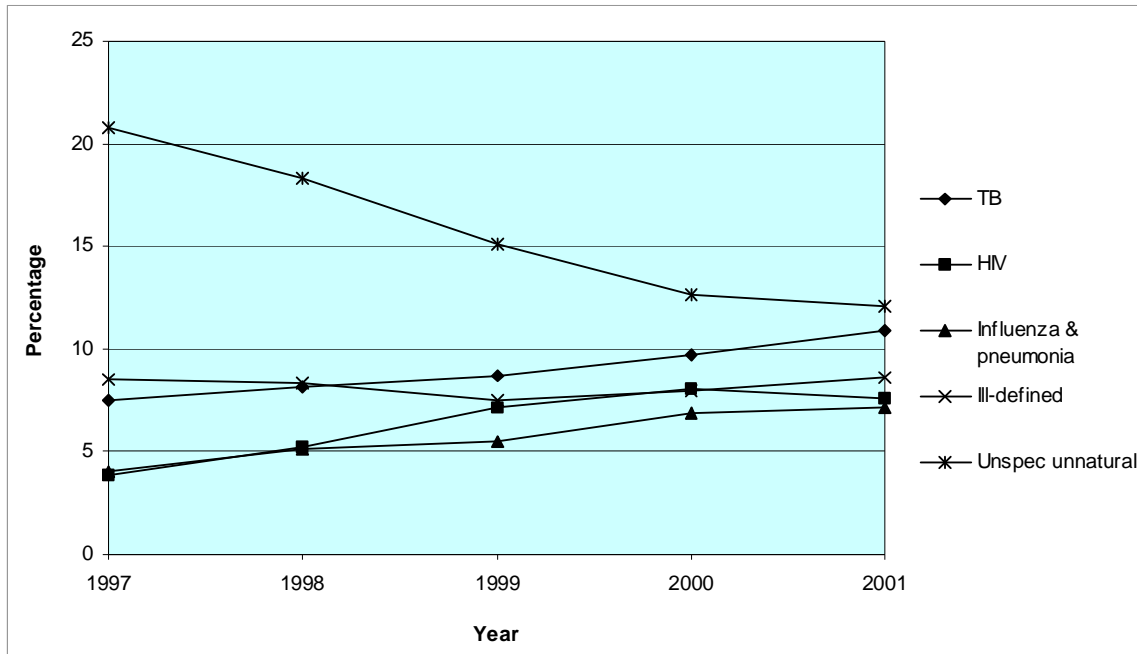


Figure 2: Percentage of deaths due to the five leading underlying causes of death, by sex, 1997-2001



There was a change in mortality patterns between 1997 and 2001 for both males and females. While the proportion of male deaths due to unnatural causes declined by approximately 40 percent (i.e., from 20,8 to 12,1 percent), this cause of mortality nevertheless remained the leading cause of death among males (see Figure 3 and Table D4).

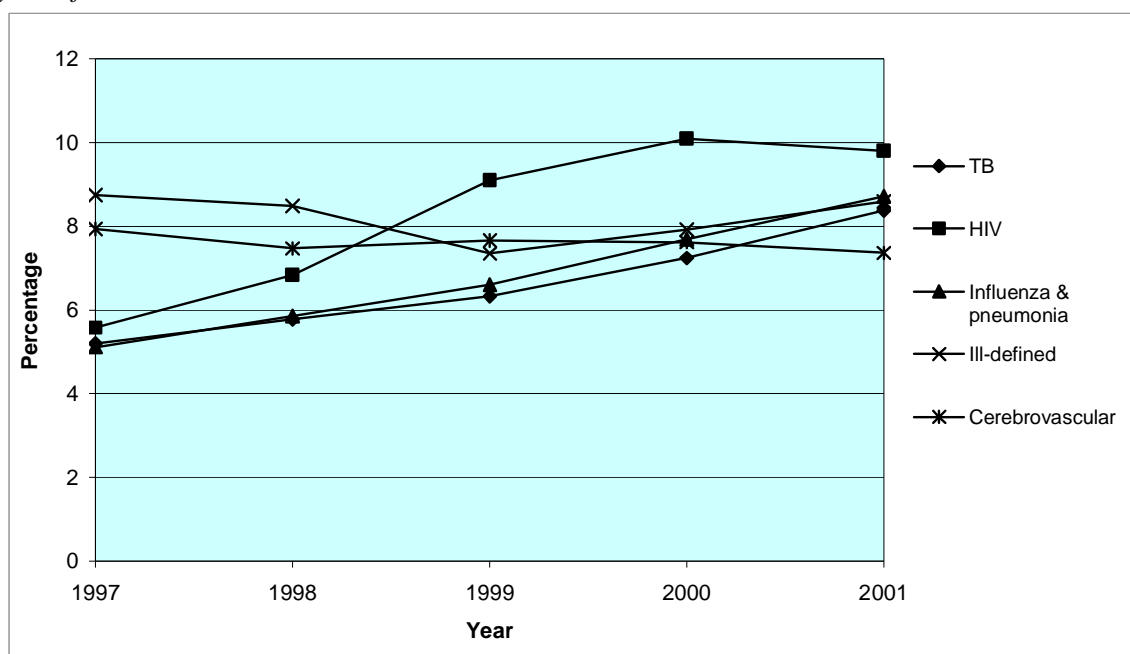
Figure 3: Percentage of male deaths due to the five leading underlying causes of death, by year of death, 1997-2001



Equally striking was the steep upward trend in male mortality due to influenza and pneumonia, HIV infections and TB during the same period. The proportion of male deaths due to HIV infections doubled from 3,9 percent in 1997 to 7,6 percent in 2001. While influenza and pneumonia accounted for 4,1 percent of male deaths in 1997, this proportion had risen to 7,2 percent by 2001. A similar pronounced increase was observed in the proportion of deaths where TB was the underlying cause of death.

The data also show drastic changes in mortality patterns among females. According to Figure 4 and Table D5, the proportion of female deaths due to HIV infections increased sharply from 5,6 percent in 1997 to 9,8 percent in 2000. The largest increase was between 1998 and 1999, making HIV the first leading underlying cause of death (see Figure 4 and Table D5). The percentage of deaths due to HIV dropped in 2001 to 9,8 percent compared to 10,1 percent in 2000. This small change can be attributable to sampling error. TB and influenza and pneumonia deaths also increased significantly. Deaths due to TB increased from 5,2 percent in 1997 to 8,3 percent in 2001, while influenza and pneumonia deaths increased from 5,1 to 8,1 percent.

Figure 4: Percentage of female deaths due to the five leading underlying causes of death, by year of death, 1997-2001



3.2.2 Leading underlying causes of death by age and sex

Causes of death differed significantly by age. Intestinal infectious diseases was the first leading underlying cause of death among children aged 0-14, accounting for 15,4 percent of male deaths and 16,1 percent of female deaths between 1997 and 2001 (see Tables D6 and Table D7). As one would expect, these diseases are not significant in other age groups. The other four leading causes of death in this age group were ill-defined causes, unnatural causes, influenza and pneumonia, and HIV, accounting for 41,7 and 40,8 percent of male and female deaths, respectively.

Figures 5 and 6 show an increase in the proportion of deaths due to HIV infection and influenza and pneumonia during the period 1997-2001 for persons aged 0-14. The proportion dying from HIV approximately doubled during this period. It increased from 5,5 to 11,2 percent for males and from 6,1 to 11,6 percent for females. The proportion of females dying of influenza and pneumonia also increased substantially. While 10,8 percent of females in this age group died from this cause in 1997, the corresponding figure stood at 16,2 percent by 2001. In 1997, 8,5 percent of males in the age group died of influenza and pneumonia. During the next five years, male mortality from this cause had increased by about 40 percent, to 13,9 percent of total deaths in the age group.

Malnutrition was a significant cause of death in the age group 0-14, being the seventh leading cause among males and females, accounting for 6,5 and 6,1 percent of deaths respectively (see Tables D6 and D7). Among males aged 15-29 and 30-39, unspecified unnatural causes were the leading underlying cause of death, accounting for 46,1 and 23,8 percent of deaths respectively (see Figure 7 and Tables D8 and D10). For females in these age groups, on the other hand, the leading cause of death was HIV infection, accounting for 22,5 and 20,5 of deaths in the respective age groups (see Figure 8 and Tables D9 and D11). The five leading

causes of death among males in the age groups 15-29 and 30-39 accounted for 74,7 and 70,8 percent of deaths, respectively. For females, on the other hand, the five leading causes of death in the age groups 15-29 and 30-39 accounted for 69,8 and 65,2 percent, respectively.

Figure 5: Percentage of deaths among males aged 0-14 due to the five leading underlying causes of death, by year of death, 1997-2001

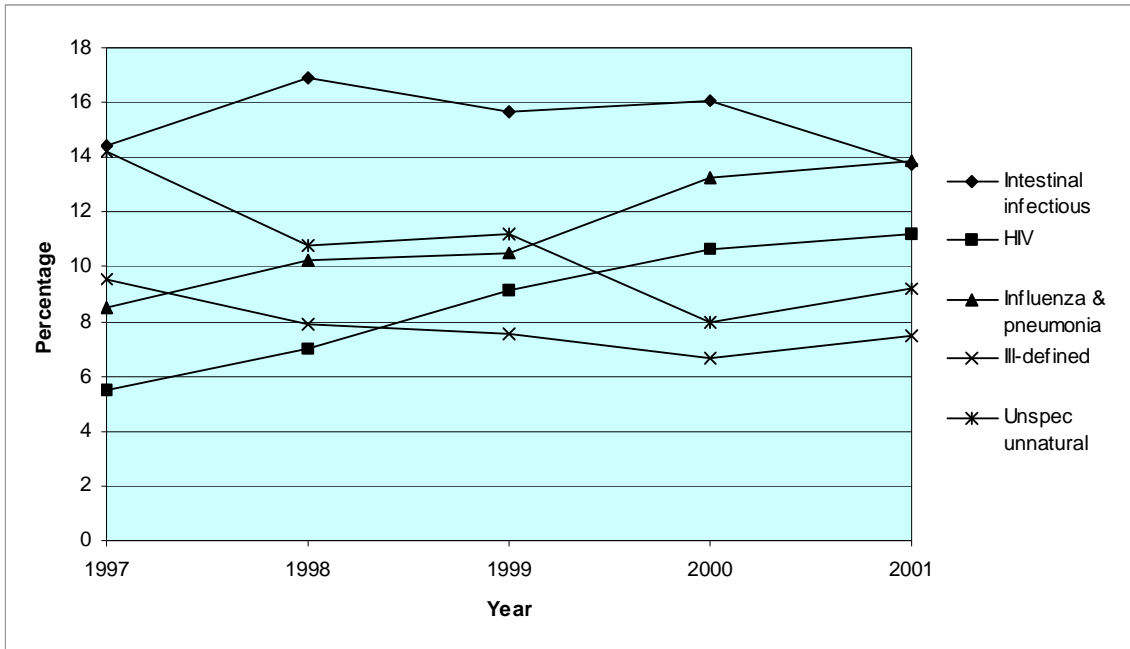


Figure 6: Percentage of deaths among females aged 0-14 due to the five leading underlying causes of death, by year of death, 1997-2001

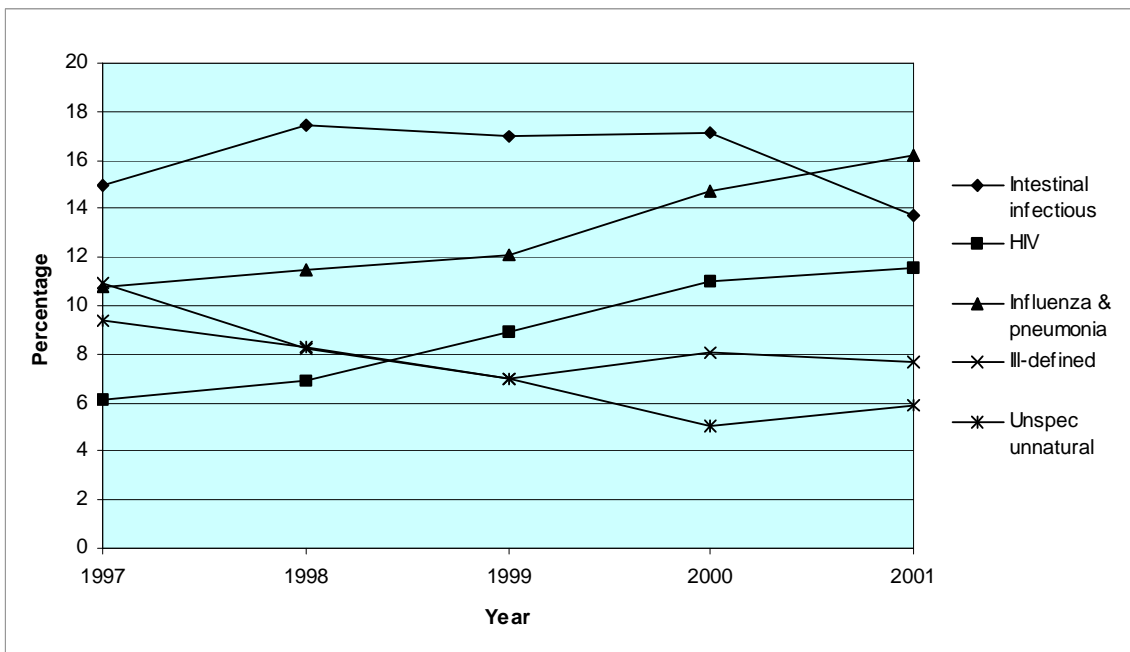


Figure 7: Percentage of male deaths due to the five leading underlying causes of death, by year of death, 1997-2001

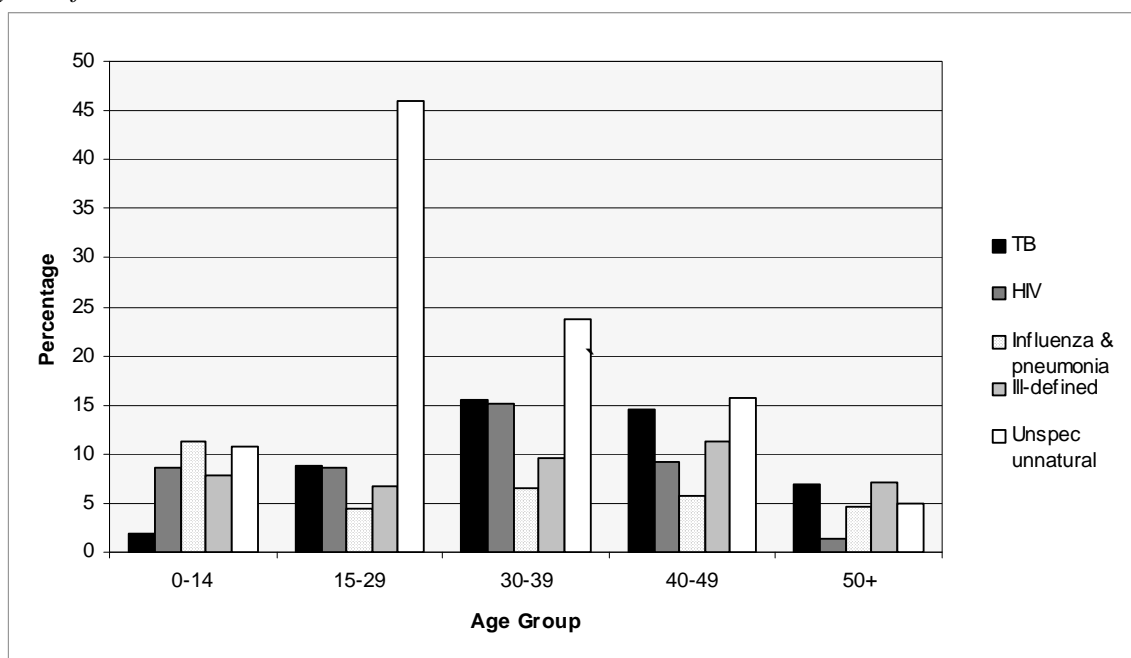
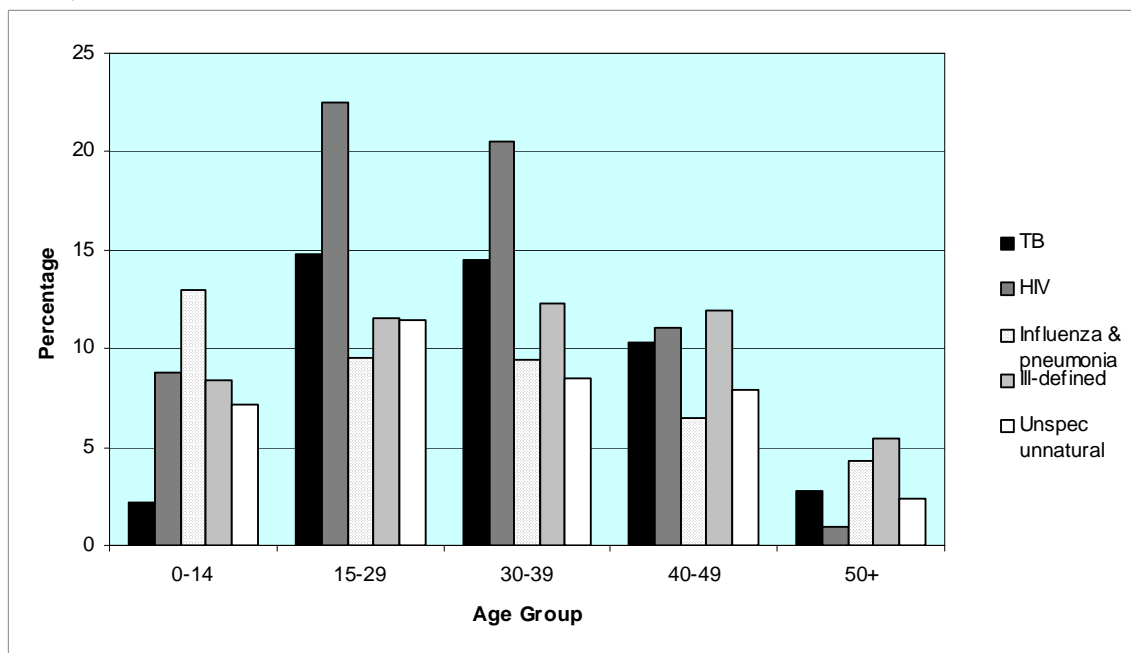


Figure 8: Percentage of female deaths due to the five leading underlying causes of death, by year of death, 1997-2001



Another significant cause of death among males aged 15-29 and 30-39 was assault. It was the fifth leading underlying cause of death in the age group 15-29, accounting for 4,7 percent of deaths, and the eighth leading cause of death in the age group 30-39, accounting for 2,1 percent of deaths (see Tables D8 and D10).

For both males and females aged 15-29 and 30-39 there was a sharp decline in the proportion of unspecified unnatural causes between 1997 and 2001, as shown in Figures 9 to 12. By contrast, the proportion dying from TB, HIV, and influenza and pneumonia during the period increased.

Figure 9: Percentage of deaths among males aged 15-29 due to the five leading underlying causes of death, by year of death, 1997-2001

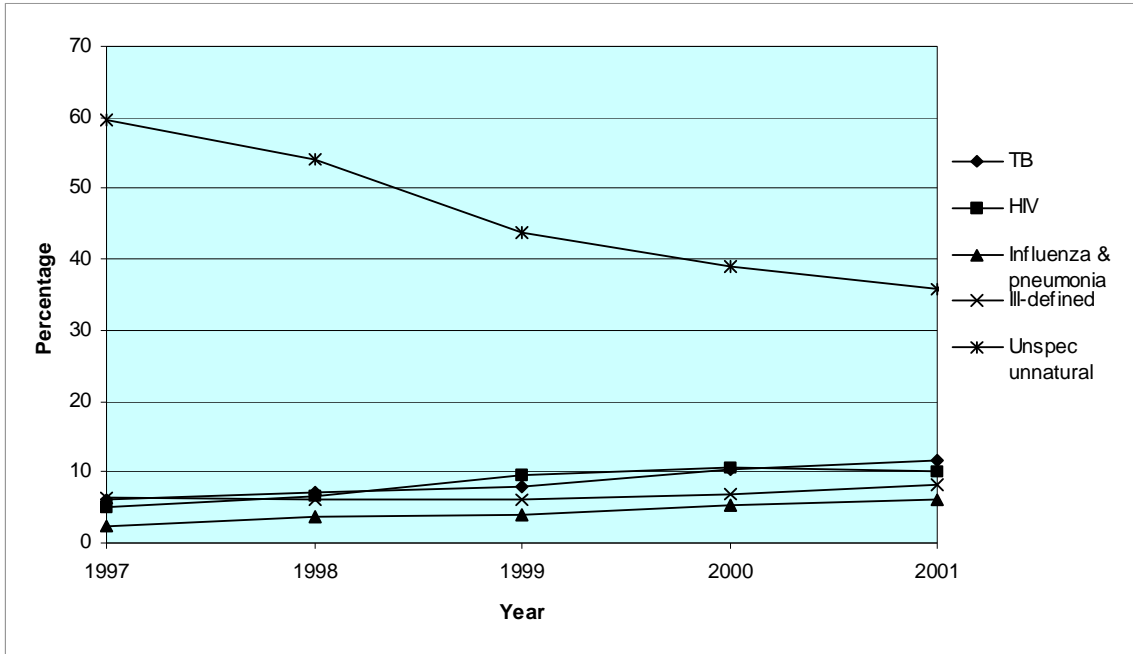


Figure 10: Percentage of deaths among females aged 15-29 due to the five leading underlying causes of death by year of death, 1997-2001

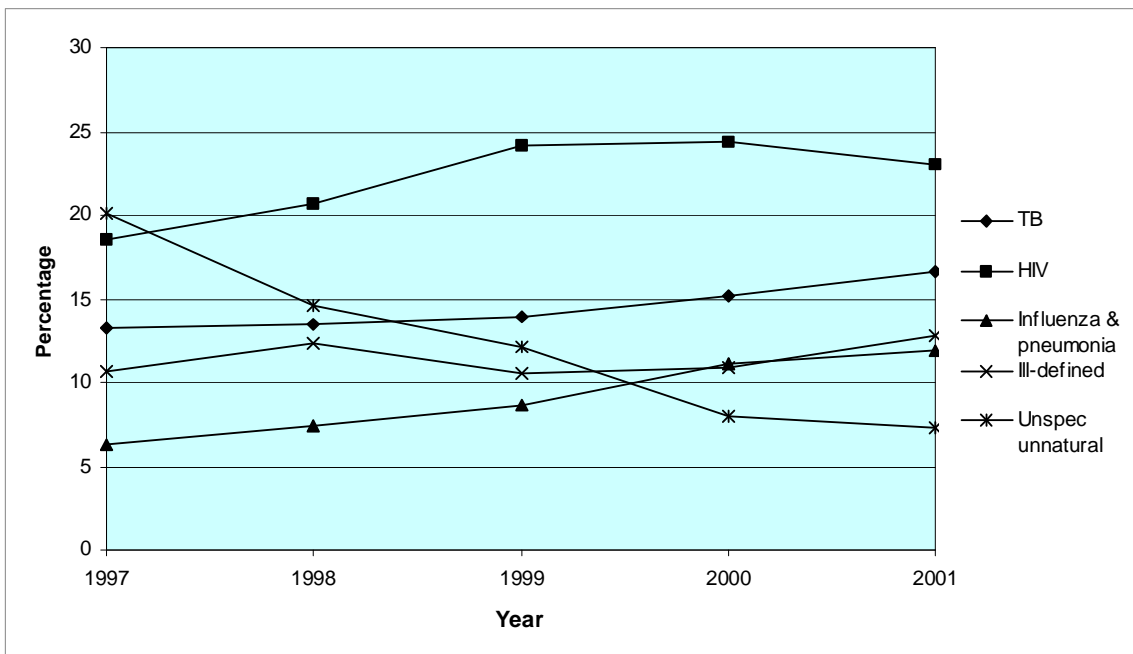


Figure 11: Percentage of deaths among males aged 30-39 due to the five leading underlying causes of death, by year of death, 1997-2001

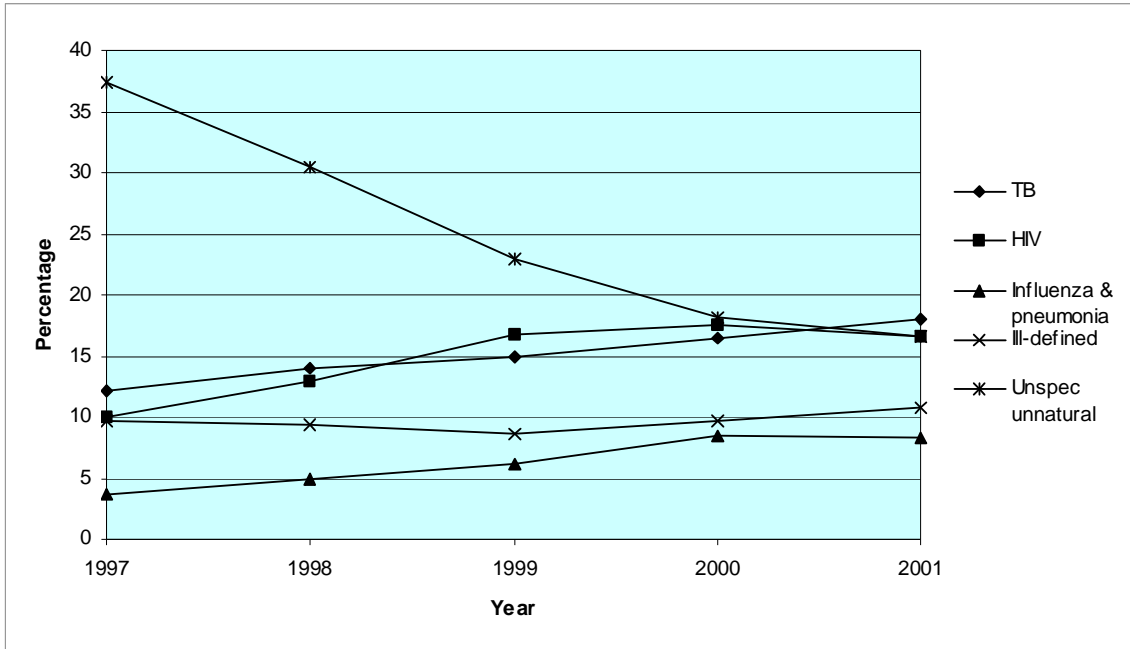
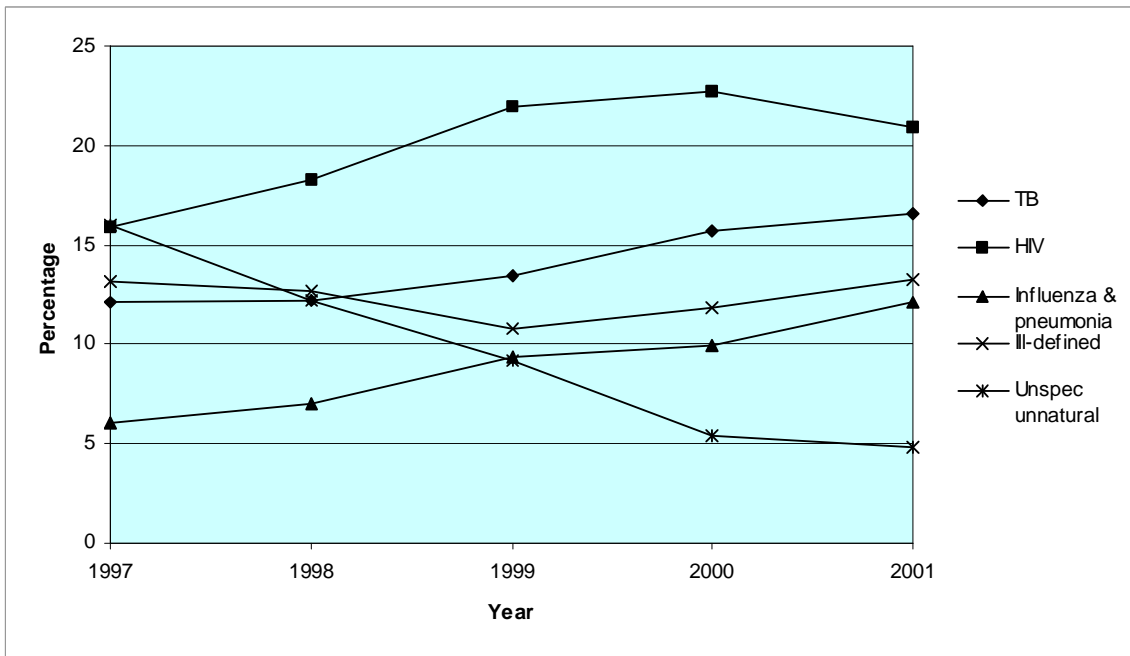


Figure 12: Percentage of deaths among females aged 30-39 due to the five leading underlying causes of death, by year of death, 1997-2001



According to Table D12, the two leading causes of death among males aged 40-49 were unspecified causes and TB, respectively accounting for 15,8 and 14,5 percent of deaths. For females in this age group (Table D13) the two leading causes of death were ill-defined causes and HIV infection, accounting for 12,0 and 11,0 percent of deaths, respectively.

The proportion of deaths due to unspecified unnatural causes in the age group 40-49 for both sexes showed a decline between 1997 and 2001, whereas mortality due to TB and HIV increased (see Figures 13 and 14 and Tables D12 and D13).

Figure 13: Percentage of deaths among males aged 40-49 due to five leading underlying causes of death, by year of death, 1997-2001

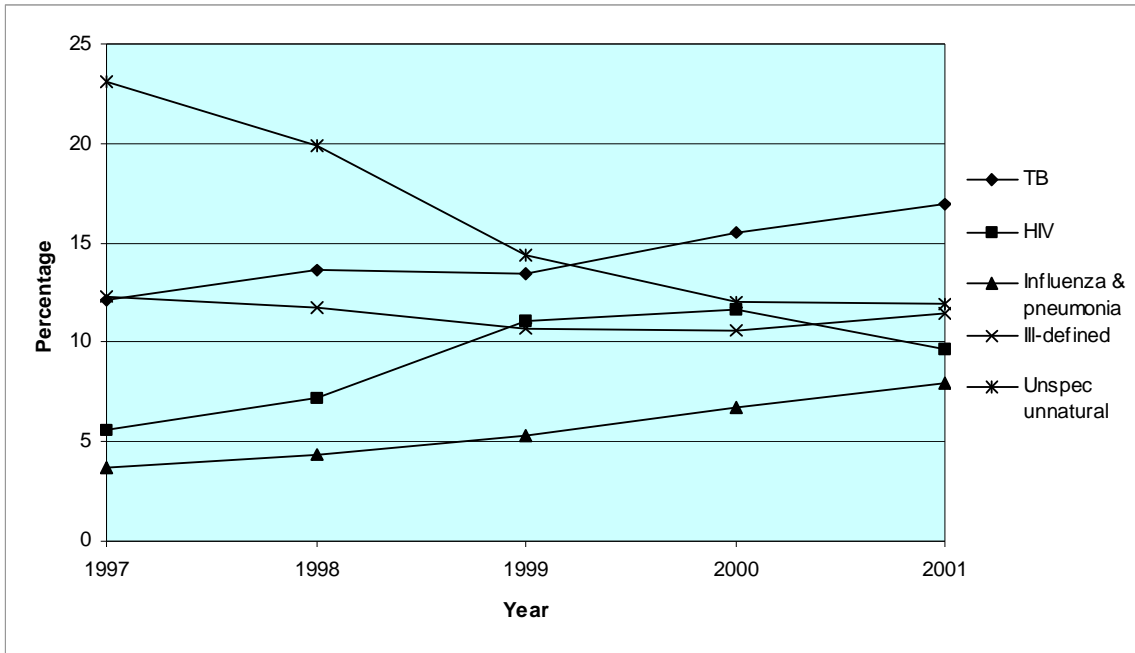
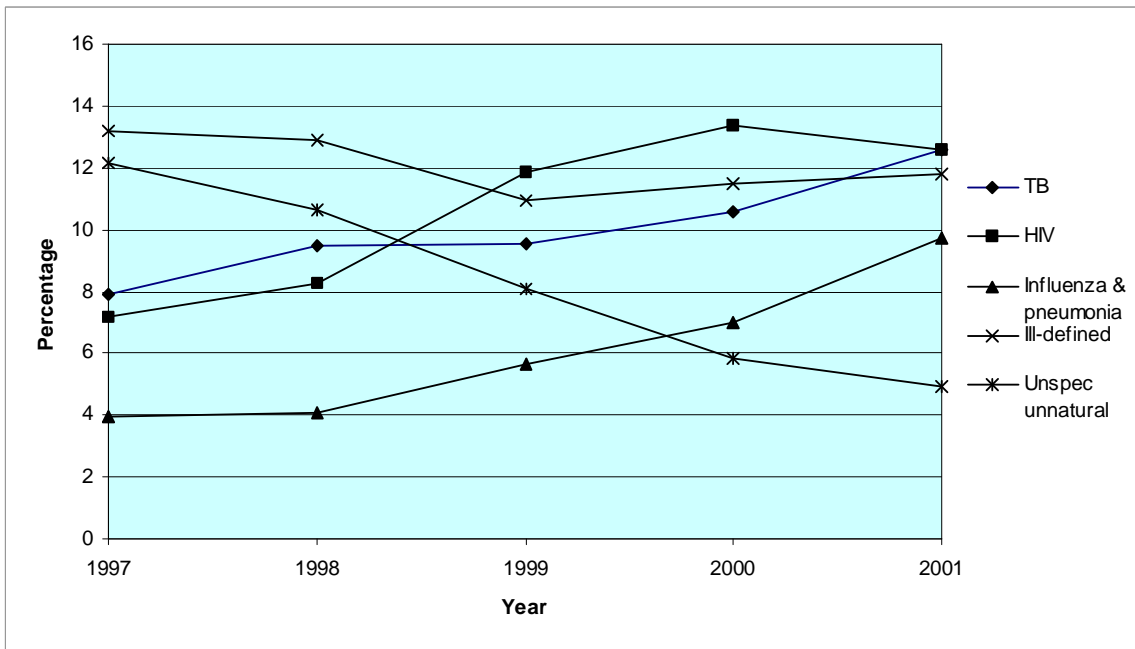


Figure 14: Percentage of deaths among females aged 40-49 due to the five leading underlying causes of death, by year of death, 1997-2001

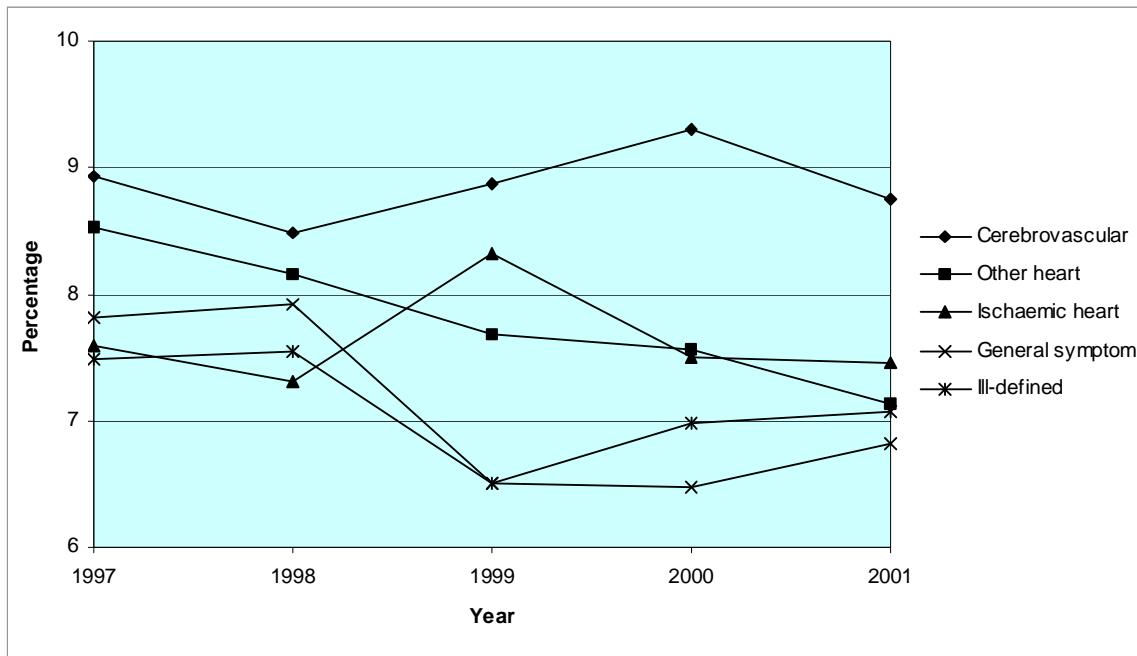


The cause of death pattern among persons aged 50 and above differed greatly from that of other age groups. The leading cause of death in the age group 50 and above, for both males and females, was cerebrovascular disease, accounting for 8,9 percent of male deaths and 12,7 percent of female deaths (see Tables D14 and D15). The other four leading causes of death among males were ischaemic heart disease, other forms of heart disease, general symptoms and signs,³ and ill-defined causes, together accounting for 29,6 percent of deaths in this age group.

For females, on the other hand, the four leading causes of death were general symptoms and signs, other forms of heart disease, diabetes mellitus and ischaemic heart disease. These causes accounted for 34 percent of deaths in the age group 50 and above. HIV, TB, and influenza and pneumonia were not significant causes of death in this age group.

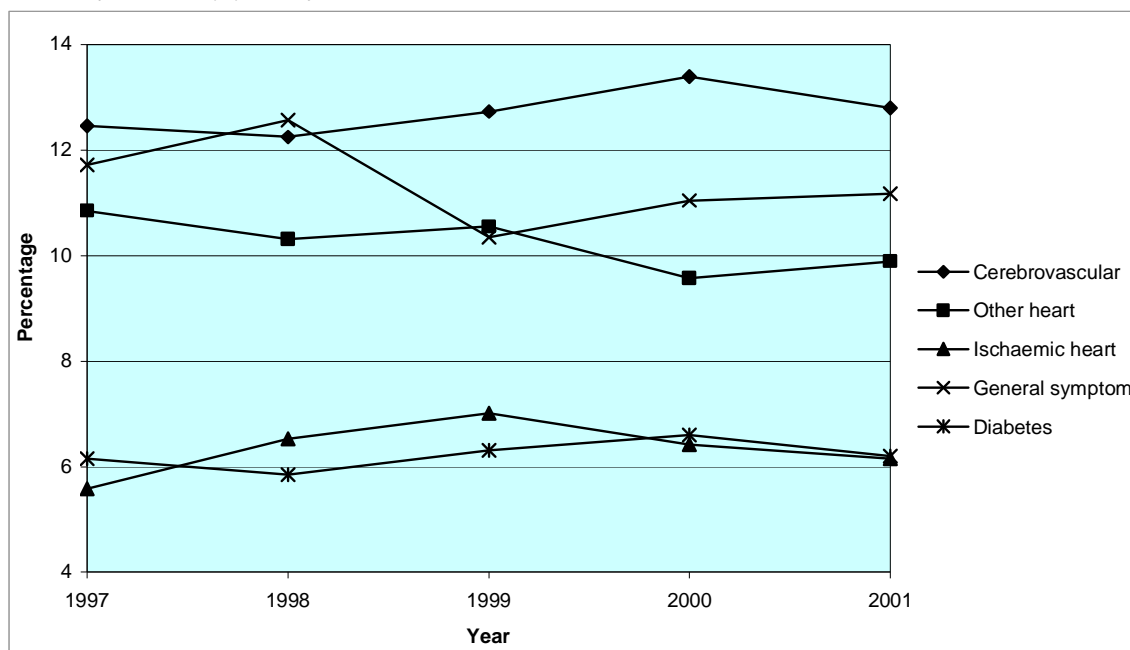
For both males and females aged 50 and above, the proportion dying from other forms of heart disease declined during the period 1997-2001, while the proportion dying from the other four leading causes remained relatively constant (see Figures 15 and 16).

Figure 15: Percentage of deaths among males aged 50 and above due to the five leading underlying causes of death, by year of death, 1997-2001



³ 'General symptoms and signs' refers to symptoms and signs relating to diseases other than diseases of the circulatory and respiratory systems, diseases of the skin, and cancer (see ICD-10).

Figure 16: Percentage of deaths among females aged 50+ due to the five leading underlying causes of death, by year of death, 1997-2001



3.2.3 Leading underlying causes of death by population group and sex

There are marked differentials in causes of death patterns by population group. For instance, unspecified unnatural causes of death are the leading cause of death among African and coloured males, with 14,2 and 19,9 percent dying from these causes, respectively (see Figure 17 and Tables D17 and D18). The second leading cause of death is TB, accounting for 11,1 and 8,2 percent of deaths, respectively. By contrast, the leading cause of death among Indian and white males is ischaemic heart disease, accounting for 23,2 and 19,8 percent of deaths, respectively, followed by unspecified unnatural causes, accounting for 16,1 and 12,8 percent of deaths, respectively (see Figure 17 and Tables D20 and D22).

Figure 18 shows that, among males, the proportion of deaths due to TB, HIV, influenza and pneumonia and ill-defined causes is highest among Africans, whereas the prevalence of unspecified unnatural causes is highest among coloured males.⁴ Cerebrovascular disease as a cause of death occurs most frequently among Indians, while ischaemic heart disease is highly prevalent among Indian and white males.

According to Figure 19 and Tables D17 and D19, the leading cause of death among African females is HIV infection, accounting for 12,7 percent of deaths, whereas cerebrovascular disease is the leading cause of death among coloured females, accounting for 10,5 percent of deaths. Ischaemic heart disease is the leading cause of death among Indian and white females, with respectively 19,3 and 14,9 percent of deaths due to this cause (see Tables D21 and D23).

⁴ Figure 18 displays the same information as Figure 17, but from a different perspective; the same is true of Figures 19 and 20, for females.

Figure 17: Percentage of male deaths due to the eight leading underlying causes of death, by population group, 1997-2001

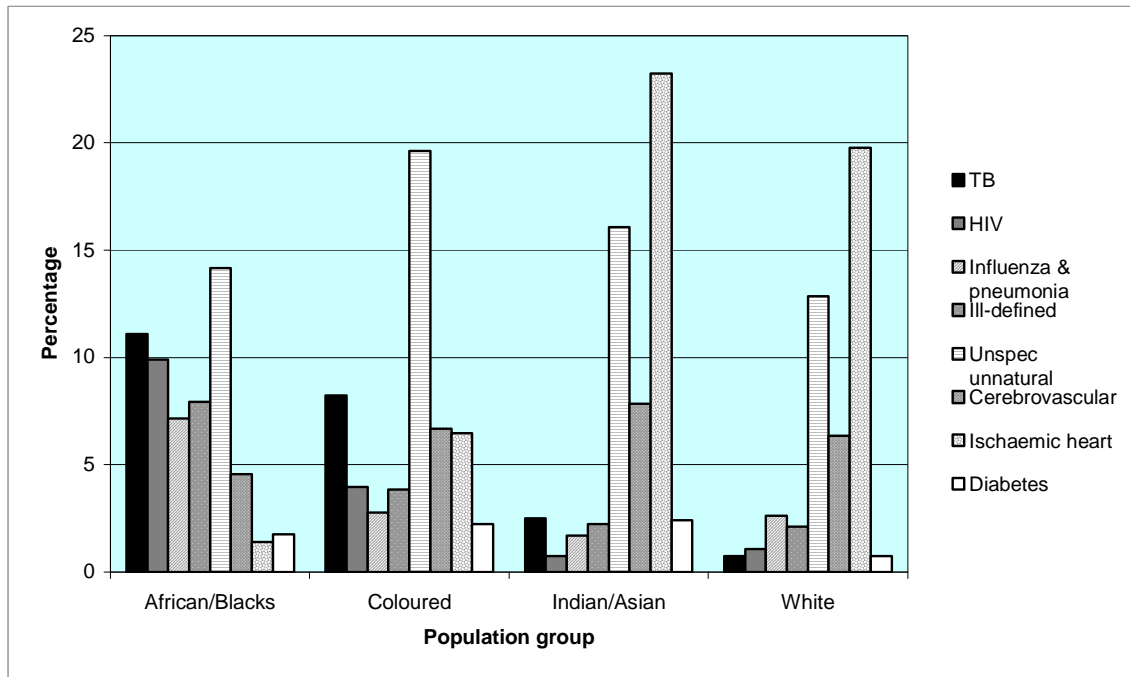


Figure 18: Percentage of male deaths in each population group due to the eight leading underlying causes of death, 1997-2001

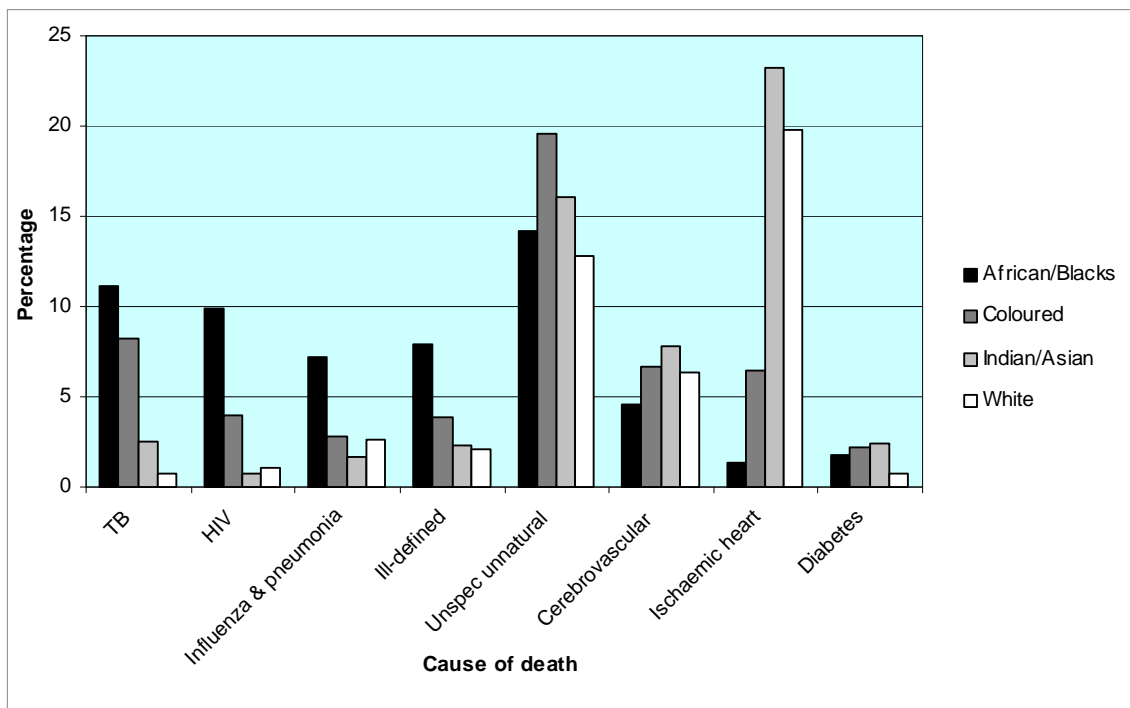
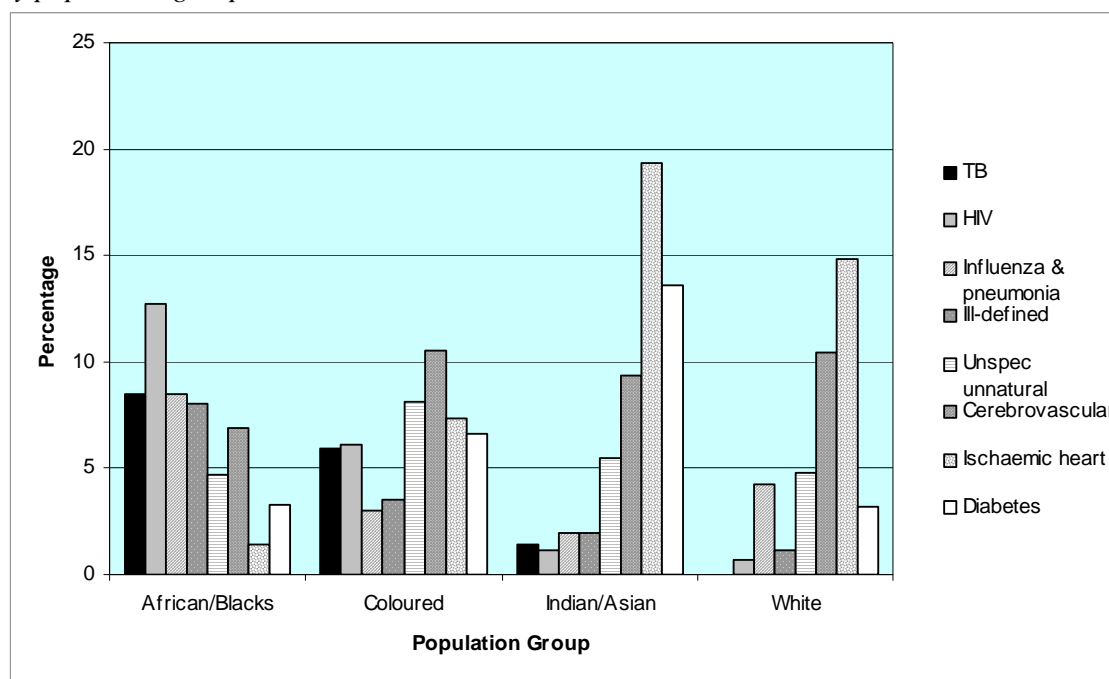


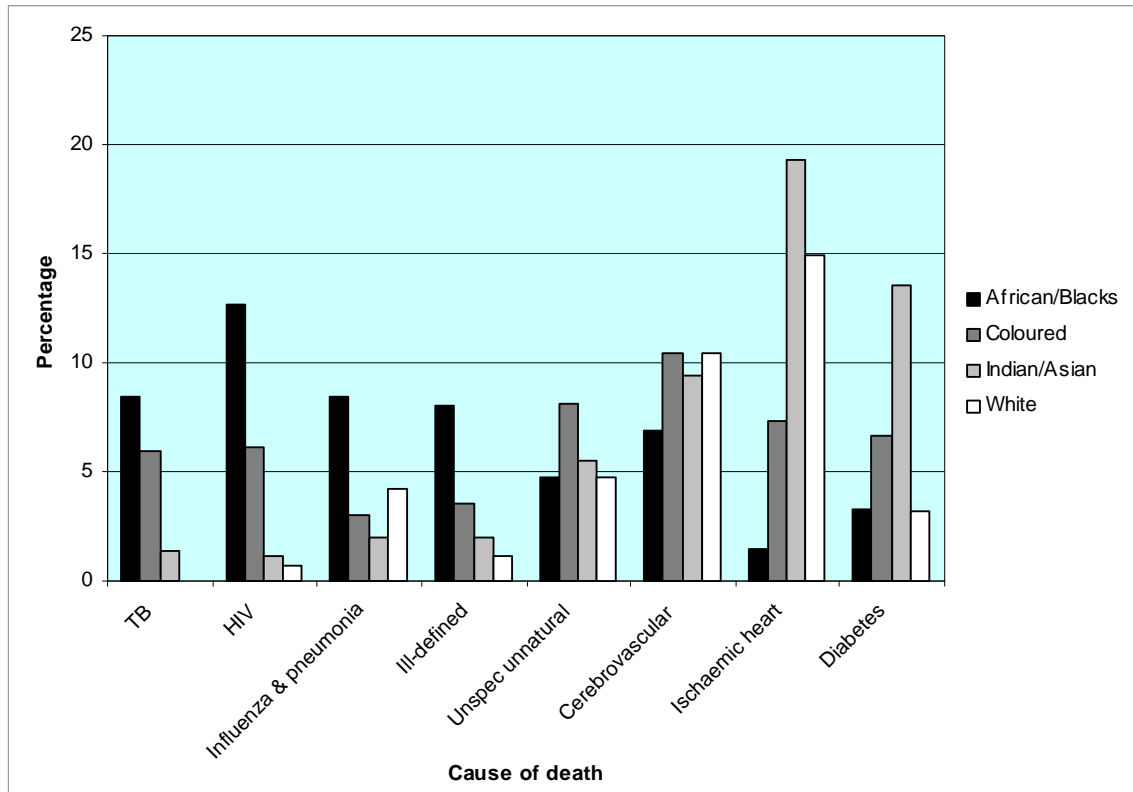
Figure 19: Percentage of female deaths due to the eight leading underlying causes of death, by population group, 1997-2001



African females were largely affected by TB, HIV, and influenza and pneumonia (see Figure 20), as were African males. For example, African females are 14 times more likely to die from HIV than Indian females, and 15 times more likely than white females. Also noteworthy is the fact that the proportion of deaths due to HIV among African females increased from 6,3 percent in 1997 to 13,4 percent in 2001, representing a 53 percent increase.

Sample data show that coloured females, to a large extent, died from cerebrovascular diseases, while ischaemic heart disease is largely a disease of Indian and whites. Diabetes is mostly prevalent among Indian females, the proportion of deaths due to this cause being almost four times that of Africans and whites.

Figure 20: Percentage of female deaths in each population group due to the eight leading underlying causes of death, 1997-2001



Chapter 4

MULTIPLE CAUSES OF DEATH

The understanding of causes of death is greatly enriched by analysing the multiple causes of death listed on the death notification form, instead of focusing only on underlying causes. The greater the number of contributing causes listed on form, the greater the utility of such data.⁵ Multiple causes of death are defined as:

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.

This report presents the first opportunity for Statistics South Africa to produce and disseminate data on multiple causes of death, making the findings of this report significant in the understanding of causes of death in South Africa.

4.1 Multiple causes of death among males

Table D26, which shows the yearly breakdown of the leading multiple causes of death among males, depicts that unspecified unnatural causes of death are not only a leading underlying cause of death among males, but are also the first leading multiple cause of death between 1997 and 1999, though their significance diminished over the years. In 2000 and 2001, unspecified unnatural causes ranked the third multiple cause of death. The proportion of males dying of unspecified unnatural causes declined from 13,0 percent in 1997 to 7,9 percent in 2001.

TB gained importance as one of the multiple causes of death over the study period, moving from being the fourth leading multiple cause from 1997 to 1999 among males, to being the first leading multiple cause of death in 2001. The proportion dying from TB increased from 5,8 percent in 1997 to 8,9 percent in 2001. Influenza and pneumonia was the third leading multiple cause of death from 1997 to 1999, and by 2001 it had become the second leading multiple cause of death.

In total, the two top leading multiple causes of death in 2001 (i.e., TB and influenza and pneumonia) account for 17,5 percent of all multiple causes of deaths among males. These same causes of death account for 18,1 percent of all underlying causes of deaths among males for the same year. In short, TB and influenza and pneumonia are as important multiple causes of death as underlying causes of death.

Ill-defined causes and HIV were the fifth and sixth leading multiple causes of male death, respectively, from 1999 to 2001, while they were the third and fourth underlying causes of male death.

⁵ The derivation of multiple causes of death is shown in Appendix E.

One sub-group that was not a leading underlying cause of male deaths but was a leading multiple cause of male death is metabolic disorders. This was a significant multiple cause of death throughout the study period, and by 2001 it accounted for just under 2,0 percent of all the multiple causes of death.

4.2 Multiple causes of death among females

According to Table D27, 'other forms of heart disease' was the first leading multiple cause of female death between 1997 and 1999, and became the second leading cause in subsequent periods. The proportion of deaths due to this cause declined from 12,9 percent in 1997 to 8,1 percent in 2001.

Influenza and pneumonia was the second leading multiple cause of female death during the period 1997-1999, and became the first leading cause during the period 2000-2001. The proportion dying from this cause increased from 6,5 percent in 1997 to 9,6 percent in 2001. By contrast, influenza and pneumonia did not rank this highly as an underlying cause in 1997, ranking only the seventh.

The importance of HIV as a multiple cause of female death increased during the study period. It ranked ninth in 1997 and 1998, whereas it ranked fourth from 1999. The proportion dying from HIV nearly doubled during the study period. It increased from 3,3 percent in 1997 to 6,0 percent in 2001. To some extent similar observations can be made for TB, which was the fourth leading underlying cause in 2001 but the third leading multiple cause for that year and the previous year as well. It accounted for 7,0 percent of female deaths in 2001, compared to 3,3 percent in 1997.

Ill-defined causes of death was not a significant multiple cause of death among females, yet it was the first leading cause of death between 1997 and 1998, and the second leading cause from 1999 onwards.

As in the case of males, metabolic disorders also appeared as a leading multiple cause of female death, but was not a leading underlying cause of female death during the study period.

Chapter 5

CONCLUSION

The results of this study have shown that mortality patterns are changing over time. These changes have tended to affect South Africans differently, depending on population group, sex and age. While death due to unspecified unnatural causes dominated mortality throughout the study period, the emergence of HIV, TB, and influenza and pneumonia as main causes of death is observed. The declining mortality in unspecified unnatural causes seems to have been offset by a steep rise in the other three causes.

Whereas males experienced the highest mortality attributable to unspecified unnatural causes in the age group 15-39, female South Africans in the same age category died primarily as a result of HIV infections. Levels of death among infants and young children arising from intestinal infections, although still high, have declined over time. In 2001 influenza and pneumonia became the leading cause of death among infants and young children. The prevalence of TB was lowest among children aged 0-14, the proportion dying due to this cause being approximately 2 percent.

The data show a unique racial topology of mortality in the registered deaths. For African and coloured males, the leading causes of death are unspecified unnatural causes and TB, while for Indian and white males the leading causes are cerebrovascular diseases and unspecified natural causes. By contrast, HIV is the leading cause of death among African females. Cerebrovascular diseases is the leading cause of death among coloured females and ischaemic heart disease the leading cause among Indian and white females.

Results of this study show a high prevalence of HIV deaths for African females (13,5 percent). Most pronounced is the pattern of deaths related to HIV and its related diseases amongst children and the reproductive and economically active population group (i.e., the population aged 15-49).

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APPENDICES

Appendix A

EXPLANATORY NOTES

This appendix describes the processing of death notification forms for the period 1997-2001, the sampling strategy and the methodology used to code the causes of death. It also discusses issues pertaining to the editing and validation of data, and presents definitions for key concepts.

Medical certificate and recording of causes of death

According to the Births and Deaths Registration Act (Act 51 of 1992), medical practitioners must certify the cause of death. In the absence of medical practitioners, registered nurses may also certify deaths. Prior to 1998, the primary official documents utilised for reporting causes of death were the Death register (BI-7) and the Medical certificate with respect of death/still-birth (BI-12). During 1997, an *ad hoc* 'death report' system was put in place to cater for deaths occurring in remote areas of KwaZulu-Natal, Eastern Cape, Northern Province and North West where there was a lack of medical facilities/medical practitioners. Later, another form, the Death Report (BI-1680), replaced this *ad hoc* death report. This form, unlike the BI-12 form, is to be completed by traditional leaders.

In 1998, a two-paged BI-1663 form was introduced to replace the BI-7 and BI-12 forms (see Appendix B for a sample copy of the death notification form). The attending medical practitioner/professional nurse is expected to fill in sections on both pages (sections A and D in page 1 and sections F and G in page 2) but the second page is supposed to be sealed (to ensure confidentiality) and be stapled to the first page before submission to the Department of Home Affairs.

In accordance with WHO recommendations, the medical certificate of death (in Section G of the register of death/still-birth) has two parts. Part 1 has room for the immediate cause of death (as the first line) and three other lines for the contributing causes of death. The physician is supposed to state the underlying cause of death in the last line of Part 1. The second part, Part 2 has room for other significant conditions contributing to death, but not resulting in the underlying cause given in Part 1.

As the data used in the report covers the period from 1997 to 2001 and for the whole of South Africa, data has been extracted from all the above-mentioned documents – BI-7, BI-12, BI-1680 and BI-1663. The accuracy of the information provided by all the parties concerned (medical practitioners, professional nurses and traditional leaders) necessarily affects the quality of the causes of death data presented in this report.

Processing of death notification forms

The Department of Home Affairs (DHA) assigns each death notification form that it receives an identity number in the form of a bar code. These bar-coded forms are then transferred onto and stored in rolls of microfilm images. Typically a microfilm image is the equivalent of the two-page death notification form. A roll of microfilm is expected to consist of approximately 1 400 forms. However, in practice, this is hardly the case. A roll of microfilm may contain images of the identity document of the deceased as well as other medical records, resulting in more than two pages. So the actual number of death notification forms on the rolls of microfilm varies in size.

Further, each roll of microfilm is given a microfilm number. The processing date for each roll is also recorded. Generally, the forms are put on the microfilm in the order in which they are received by DHA. Typically, a roll of microfilm will have a majority of forms belonging to the same month and year of registration of the death, irrespective of the source of notification. However, due to late registration of deaths as well as processing time lags, some forms on a given roll will be from other periods in which death had occurred. For example, data processed in the first quarter of each calendar year would consist of deaths occurring in that year as well as those from last months of the preceding one.

According to Table A1, a total of 1 872 microfilm rolls were received from the DHA for deaths registered between January 1997 and April 2002. April 2002 was made a cut-off point in order to capture some deaths occurring in 2001, but registered in 2002.

Table A1: Number of universe and sample rolls, and sampling fraction, January 1997 to April 2002

Year of registration	Number of rolls	Number of sample rolls	Sampling fraction (%)
Jan-Dec 1997	290	44	15
Jan-Dec 1998	341	51	15
Jan-Dec 1999	374	56	15
Jan-Dec 2000	345	52	15
Jan-Dec 2001	382	57	15
Jan-Apr 2002	140	21	15
Total	1 872	281	15

The information on the microfilms was scanned and printed in a format similar to the original death notification form. Information on the forms was captured by experienced clerical and processed electronically.

Sampling strategy

The 1 872 rolls from the DHA contained nearly 2,4 million death notification forms, which meant that the processing of data and its subsequent release would be a long drawn-out process. In order to meet the expressed need from a number of stakeholders for the timeous release of cause of death data, Statistics South Africa decided to draw a sample of deaths, in order to expedite the release of information. A 15 percent probability sample of microfilm

rolls was thus drawn. Statistics South Africa believed that a 15 percent sample was large enough to provide reliable estimates on causes of death within the time available.

For each period shown in Table A1, a 15 percent sample of rolls was drawn, yielding a total of 281 sample rolls. It concerned Statistics South Africa that the number of rolls furnished by the DHA for 2001 were lower than those of 2000, yet the number of rolls is expected to increase every year, in line with the increase in number of deaths from one year to the next. The DHA was consulted about this matter, and it could not locate any additional rolls for 2001. It can thus be concluded that the discrepancy could be result of some administrative processes at DHA that Stats SA has been unable to unravel. How these unknown administrative processes affect the veracity of the realisation of the sample could not at this stage of the data processing be conclusively established.

While 15 percent of rolls were sampled, the resulting procedure yielded 279 581 death notification forms, representing about 12 percent of the universe of death notification forms.

Coding of causes of death

The coding of causes of death was done in line with the tenth revision of the *International Classification of Diseases* (i.e., ICD-10), formally known as the *International Statistical Classification of Diseases and Related Health Problems*. The ICD-10 (with 21 chapters), which was introduced in 1993, contains about 8 000 categories of causes of death and is far more detailed than the previous revision, ICD-9 (with 17 chapters, two supplementary classifications and about 5 000 categories). Besides the expansion of categories, there have been movements of some diseases from one category in the previous ICD revision (ICD-9) to other categories in ICD-10. For example, respiratory failure was removed from the ICD-9 chapter on Symptoms, Signs and Ill-defined Conditions to the ICD-10 chapter on Diseases of the Respiratory System.

The ICD chapters in any given revision are constructed for convenience and their usage is not mandatory upon users of ICD. Several researchers, especially those analysing causes of death data over a long period of time (spanning several ICD revisions), have found it more convenient to reclassify the individual causes of death into different appropriate groupings. In some cases, the primary concern in regrouping the causes of death is to remove the effect of inter-revision movement of causes of death from one ICD chapter to another.

The coding convention used at Stats SA is the principle of ‘what-you-see-is-what-you-code’. While imputation of codes where the cause of death is not stated is not practised, illogical codes (such as men dying of pregnancy-related causes) are not allowed. In cases where HIV or its synonyms (e.g., immunocompromised, immunosuppression, retroviral disease, wasting syndrome) are stated on the certificate, an appropriate code related to HIV is used. ICD-10 has different codes for different HIV-related illnesses. On the other hand, if HIV or its synonyms are not stated on the certificate, the reported diseases are coded as stated, with no relation to HIV. For example, if a physician certifies the death of a 25-year old urban, educated and employed person as being that of acute tuberculosis, with no mention of HIV, the code for acute tuberculosis is used. This is where official statistics stop and research begins. Hence users of the data may decide to accept the code as officially recorded or recode it as they see fit.

There are two ways in which causes of death can be misreported. The first is when an incorrect named cause of death is given. The second is when a named cause of death is misreported as an unnamed cause of death (i.e., ill-defined cause of death). In cause of death studies, ill-defined causes of death are seen as an indicator of either poor diagnosis or misreporting of the actual cause of death for one of several reasons (e.g., deliberate misreporting). The exercise of disentangling this sub-group of causes and allocating it to various named sub-groups, though possible, is beyond the scope of this study.

Underlying causes of death

An underlying cause of death (previously known as primary cause) is defined as: ‘The disease or injury that initiated the chain of events leading to death, or the circumstances of the accident or violence that produced the fatal injury’.

In cases where there are several related morbid conditions contributing to a death, the identification of the underlying cause of death, that started the chain of events that led to the death, serves as a useful summary index of mortality. When the death certificate is correctly and properly filled in, the intended underlying cause of death as stated by the physician/professional nurse is selected as the underlying cause of death for statistical tabulation. However, in cases where death registration forms are improperly completed, with more than one entry per line in the certificate or where the sequence is mixed up or is illogical, the ICD-10 provides a set of internationally agreed-upon rules for determining the underlying cause of death.

The rules accompanying coding in ICD-10 are given below:

- *General principle:* When more than one condition is entered on the certificate, the condition entered alone on the lowest used line of Part 1 should be selected only if it could have given rise to all the conditions entered above it.
- *Rule 1:* If the general principle above does not apply and there is a reported sequence terminating in the condition entered on the certificate, the originating cause of this sequence should be selected. If there is more than one sequence terminating in the condition mentioned first, the originating cause of the first-mentioned sequence should be selected.
- *Rule 2:* If there is no reported sequence terminating in the condition first entered on the certificate, this first mentioned condition should be selected.
- *Rule 3:* If the condition selected by the general principle or by Rule 1 or Rule 2 is obviously a direct consequence of another reported condition, whether in Part 2 or 1, this primary condition should be selected.

Editing and validation of death data

Captured data were edited by comparing them with information reflected in death notification forms. Two of the senior coders have had more than 10 years coding experience and have attended several courses on coding.

As the project was unfolding, Stats SA had to seek the assistance of additional coders, in order to complete the project in the required time. Screening was done to make sure that the additional coders were familiar with anatomy and physiology before being recruited. After recruitment, the senior coders took the responsibility of conducting the training of

inexperienced recruits and the retraining of those with some coding experience. The work of the coders was checked and corrections were made and feedback given to them. After the training period was over, any additional coder found making mistakes amounting to more than 10 percent was dropped from the project. As a further check, Stats SA coders verified the work of the additional coders before accepting their work and sending the forms for capturing. All these steps helped to reduce errors in coding and minimize inter-coder variation.

The quality of manual coding of reported causes of death is affected by several factors. First is the consistent application of WHO coding rules. Second is the experience of the coding staff. Third is the degree of inter-coder variation, in cases where several coders are involved.

Definition of concepts

- A *death* is a principal event and is the disappearance of life at any time after birth has taken place.
- *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.
- *Immediate cause* is the disease or condition directly leading to death.
- *Contributing causes* are morbid conditions, if any, giving rise to the immediate cause of death
- An *underlying cause of death* (previously known as primary cause) is defined as: ‘The disease or injury that initiated the train of events leading to death, or the circumstances of the accident or violence that produced the fatal injury.’
- *Multiple cause of death* is defined in ICD-10 as: ‘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.’
- *Human immunodeficiency virus* (HIV) is defined in the Dictionary of Epidemiology as follows:
‘The pathogenic organism responsible for the acquired immunodeficiency syndrome (AIDS), formally or also known as the lymphadenopathy virus (LAV), the name given by the original French discoverers Montagnier et al. in 1983, or the human T-cell lymphotropic virus type III (HTLV-III), the name given by Gallo et al. to the virus they reported in 1984.’
- *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 and is only used for statistical purposes.

Appendix B
DEATH NOTIFICATION FORMS

- (i) Old Death Notification Form BI-18
- (ii) New Death Notification Form BI-1663



REPUBLIC OF SOUTH AFRICA
DEPARTMENT OF HOME AFFAIRS
FULL DEATH CERTIFICATE
(Issued in terms of Act 51 of 1992)

Certified a true extract from the death register of:

- 1. Identity Number
- 2. Surname
- 3. Forenames in full
- 4. Date of birth: Year Month Day 5. Gender
- 6. Occupation..... 7. Marital status.....
- 8. Country of birth
- 9. Nature of pension
- 10. Residential address

PARTICULARS OF DEATH

- 11. Date of death: Year Month Day
- 12. Place of death.....
- 13. Cause of death
- 14. Duration of disease or last illness.....
- 15. Name of medical practitioner.....
- 16. Intended place of burial

INFORMANT

- 17. Capacity.....
- 18. Signed by.....

(Official date stamp)

.....
Director-General: Home Affairs

Appendix C

QUALITY ASSESSMENT OF SAMPLE DATA

Whenever one estimates population characteristics from a sample, the question of the accuracy of the estimate is critical to the level of confidence users will attach to those estimates. The sampling procedure used in this study, which is a probability sampling, conforms to standard best practice appropriate to the nature of the problem. This appendix describes a limited post-sampling evaluation of the results undertaken with a view to assessing the veracity of the sample. We do this through a comparative approach and show that the results of the sample are consistent with other facts.

Presence of an ID Number on the death certificate

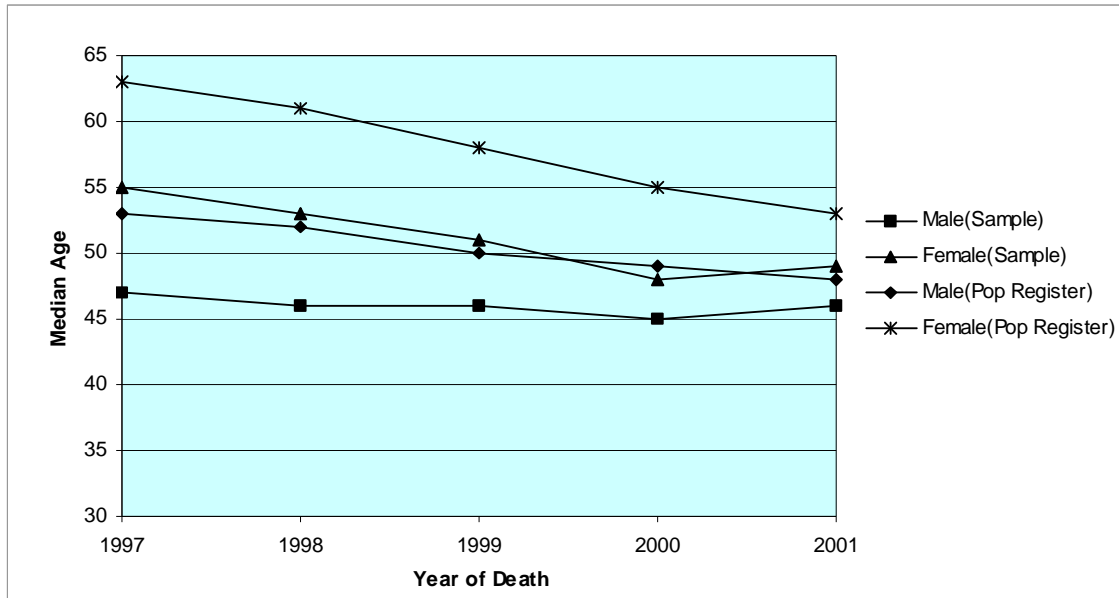
First the sampling characteristics were compared with corresponding ones based on the death records on the population register from the Department of Home Affairs. It is commonly known that this register contains death instances with a valid South African ID number. The death register therefore is deficient in the coverage of all deaths that should be on it. A simple check for how the sample has a better coverage is an estimate of the proportion of the death forms without a valid ID, and hence would not have been included on the population register.

The sample was matched to the population register using the ID and found that about 77 percent (213 286) of the sample deaths had valid South African ID numbers. The extent of under-coverage on the population is not known. The presence of an ID is not the only indicator for the estimating under-coverage of the death register. But, nevertheless, one would tentatively conclude that the sample has a 23 percent higher coverage than the population register. This finding is further strengthened by a comparison of median ages at death.

Comparison of median ages at death between the sample and population register

The sample median ages at death from 1997-2001 for males and females are shown in Figure C1 alongside the corresponding results from the population register. First, we note the remarkable similarity in the downward trends in the median age over the study period from the two sources. It could also be noted that the median age for females is higher than for males in both the sample and population register, indicating that both data sources conform to expectation. A third observation is that the curves for the sample median ages for both sexes are lower than the corresponding ones from the population register. This result is not surprising at all, due to the fact that the population register is biased towards higher ages as these would be more likely to have an ID number issued. Deaths in the younger age groups are therefore more likely to be excluded from the population death register. This then results in turn in higher median ages.

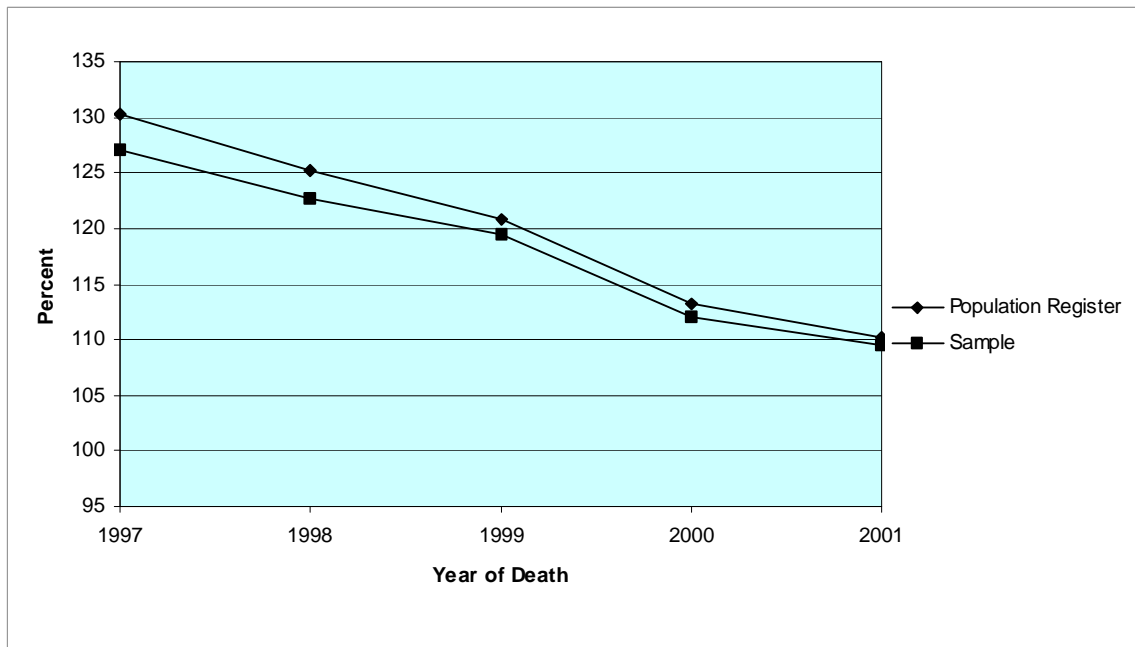
Figure C1: Median ages in sample and population register by sex, 1997-2001



Comparison of sex ratios at death between the sample and population register

The sex ratio, or the number of males deaths per hundred female deaths, was computed for each of the five years 1997-2001 using the 279 585 deaths from the sample and 1 661 998 deaths from the population register. The results are shown in Figure C2.

Figure C2: Sex ratio in the sample and population register, 1997-2001



Again in Figure C2, the close similarity between the ratios from the two sources can be observed, pointing to a high degree of consistency of the sample results. This consistency is even reproduced at the individual age group level as Figures C3 and C4 demonstrate.

Figure C3: Sex ratio in the sample by age group, 1997-2001

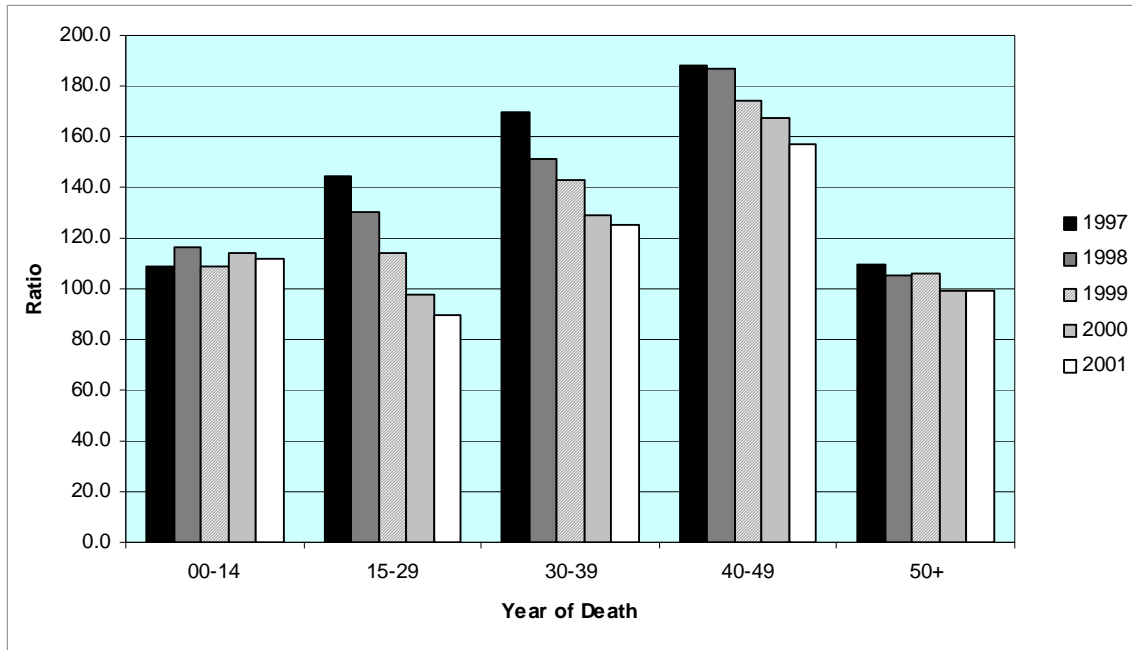
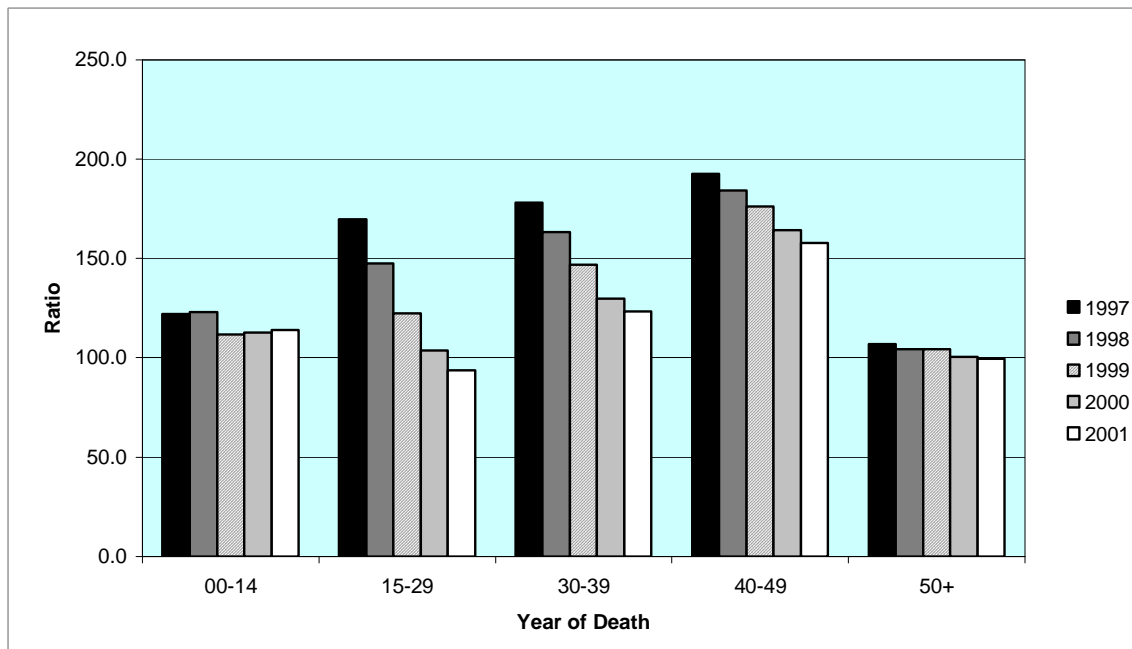


Figure C4: Sex ratio in the population register by age group, 1997-2001



Provincial representation in the sample

The distribution of the deaths in the sample by province is shown in the Table C1 alongside the population figures from the 1996 Population Census. It could be argued from these figures that the sample is representative of the provinces in the sense that it reproduces the same ranking as the population census.

Table C1: Percentage distribution of sample and population register deaths by province

Province of residence	SAMPLE		POPULATION CENSUS	
	Deaths	Percentage	Counts	Percentage
Western Cape	20 828	9,6	3 937 000	9,8
Eastern Cape	27 784	12,8	6 269 000	15,5
Northern Cape	5 511	2,5	837 000	2,1
Free State	20 092	9,3	2 619 000	6,5
KwaZulu-Natal	49 192	22,7	8 369 000	20,7
North West	19 023	8,8	3 335 000	8,3
Gauteng	43 712	20,2	7 305 000	18,1
Mpumalanga	13 755	6,3	2 782 000	6,9
Limpopo	16 817	7,8	4 891 000	12,1
RSA	216 714	100,0	40 344 000	100,0

Five leading causes of death in 2001: comparison of captured data to the sample

At the time when the processing of the data was frozen, 151 240 deaths from the 2001 records had been coded, including 64 818 records in the sample. We use this larger number of deaths to estimate the mortality proportions due to all ICD groupings. We compared these estimates with those obtained from the sample alone. The five leading causes in 2001 remained the same, being TB, ill-defined causes of death, HIV, influenza and pneumonia, and events of undetermined nature. In spite of the larger number of deaths captured than those in the sample, the proportions and relative ranking did not change as shown in Table C2. Differences are instead sample, and this gives confidence that when the full dataset has been captured there will be no significant changes to the findings based on the sample.

Table C2: Comparison of five leading underlying causes of death for sample and total captured data

ICD GROUP	% from sample	% from all captured data including sample
A15-A19: TB	9,7	10,0
R95-R99: Ill-defined causes	8,6	8,8
B20-B24: HIV infections	8,7	8,7
J10-J18: Influenza and pneumonia	7,9	8,2
Y10-Y34: Event of undetermined nature	8,2	8,0

Appendix D

TABLES

Table D1: Standard broad groups of causes of death among males, 1997-2001

SHORT NAME FOR THE BROAD GROUPS OF CAUSES OF DEATH	ICD-10 CODES	Total sample			1997		1998		1999		2000		2001	
		N	%	Cum %	N	%	N	%	N	%	N	%	N	%
All causes	All relevant codes	150,969	100.0		26,249	100.0	30,218	100.0	32,489	100.0	28,136	100.0	33,877	100.0
Certain infectious and parasitic diseases	A00-B99	30,973	20.5	20.5	4,160	15.8	5,498	18.2	6,744	20.8	6,540	23.2	8,031	23.7
External causes of morbidity and mortality	V01-Y98	29,092	19.3	39.8	6,047	23.0	6,497	21.5	6,467	19.9	4,688	16.7	5,393	15.9
Diseases of the circulatory system	I00-I99	24,808	16.4	56.2	4,533	17.3	4,941	16.4	5,473	16.8	4,496	16.0	5,365	15.8
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	R00-R99	17,165	11.4	67.6	3,201	12.2	3,585	11.9	3,408	10.5	3,022	10.7	3,949	11.7
Diseases of the respiratory system	J00-J99	16,968	11.2	78.8	2,396	9.1	3,224	10.7	3,499	10.8	3,479	12.4	4,370	12.9
Neoplasms	C00-D48	11,864	7.9	86.7	2,242	8.5	2,313	7.7	2,654	8.2	2,122	7.5	2,533	7.5
Endocrine, nutritional and metabolic diseases	E00-E90	5,089	3.4	90.1	914	3.5	1,038	3.4	1,092	3.4	979	3.5	1,066	3.1
Diseases of the digestive system	K00-K93	4,711	3.1	93.2	828	3.2	937	3.1	1,014	3.1	862	3.1	1,070	3.2
Diseases of the nervous system	G00-G99	3,513	2.3	95.5	575	2.2	648	2.1	766	2.4	671	2.4	853	2.5
Certain conditions originating in the perinatal period	P00-P96	3,220	2.1	97.6	702	2.7	802	2.7	619	1.9	614	2.2	483	1.4
Diseases of the genito-urinary system	N00-N99	2,076	1.4	99.0	359	1.4	413	1.4	450	1.4	382	1.4	472	1.4
Congenital malformations, deformations and chromosomal abnormalities	Q00-Q99	588	0.4	99.4	132	0.5	136	0.5	97	0.3	126	0.4	97	0.3
Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	D50-D89	474	0.3	99.7	84	0.3	89	0.3	102	0.3	87	0.3	112	0.3
Mental and behavioural disorders	F00-F99	325	0.2	99.9	49	0.2	84	0.3	82	0.3	47	0.2	63	0.2
Diseases of the musculoskeletal system and connective tissue	M00-M99	58	0.0	100.0	19	0.1	9	0.0	10	0.0	10	0.0	10	0.0
Diseases of the skin and subcutaneous tissue	L00-L99	33	0.0	100.0	6	0.0	3	0.0	6	0.0	10	0.0	8	0.0
Diseases of the ear and mastoid process	H60-H95	12	0.0	100.0	2	0.0	1	0.0	6	0.0	1	0.0	2	0.0

Table D2: Standard broad groups of causes of death among females, 1997-2001

SHORT NAME FOR THE BROAD GROUPS OF CAUSES OF DEATH	ICD-10 CODES	Total sample			1997		1998		1999		2000		2001	
		N	%	Cum %	N	%	N	%	N	%	N	%	N	%
All causes	All relevant codes	128,612	100.0		20,692	100.0	24,638	100.0	27,231	100.0	25,111	100.0	30,940	100.0
Diseases of the circulatory system	I00-I99	28,418	22.1	22.1	4,752	23.0	5,497	22.3	6,220	22.8	5,441	21.7	6,508	21.0
Certain infectious and parasitic diseases	A00-B99	27,613	21.5	43.6	3,446	16.7	4,630	18.8	5,853	21.5	6,012	23.9	7,672	24.8
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	R00-R99	18,007	14.0	57.6	3,128	15.1	3,726	15.1	3,448	12.7	3,346	13.3	4,359	14.1
Diseases of the respiratory system	J00-J99	14,910	11.6	69.2	2,043	9.9	2,666	10.8	3,028	11.1	3,064	12.2	4,109	13.3
Neoplasms	C00-D48	10,387	8.1	77.2	1,916	9.3	2,062	8.4	2,325	8.5	1,843	7.3	2,241	7.2
External causes of morbidity and mortality	V01-Y98	9,616	7.5	84.7	2,044	9.9	2,139	8.7	2,205	8.1	1,517	6.0	1,711	5.5
Endocrine, nutritional and metabolic diseases	E00-E90	6,709	5.2	89.9	1,133	5.5	1,311	5.3	1,465	5.4	1,320	5.3	1,480	4.8
Diseases of the digestive system	K00-K93	3,372	2.6	92.6	515	2.5	620	2.5	675	2.5	694	2.8	868	2.8
Certain conditions originating in the perinatal period	P00-P96	2,747	2.1	94.7	603	2.9	673	2.7	539	2.0	510	2.0	422	1.4
Diseases of the nervous system	G00-G99	2,655	2.1	96.8	371	1.8	483	2.0	591	2.2	584	2.3	626	2.0
Diseases of the genito-urinary system	N00-N99	1,975	1.5	98.3	377	1.8	355	1.4	414	1.5	340	1.4	489	1.6
Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	D50-D89	836	0.7	98.9	114	0.6	179	0.7	164	0.6	176	0.7	203	0.7
Congenital malformations, deformations and chromosomal abnormalities	Q00-Q99	614	0.5	99.4	124	0.6	126	0.5	138	0.5	123	0.5	103	0.3
Pregnancy, childbirth and the puerperium	O00-O99	500	0.4	99.8	93	0.4	122	0.5	101	0.4	84	0.3	100	0.3
Mental and behavioural disorders	F00-F99	119	0.1	99.9	19	0.1	26	0.1	37	0.1	20	0.1	17	0.1
Diseases of the musculoskeletal system and connective tissue	M00-M99	95	0.1	100.0	11	0.1	18	0.1	21	0.1	21	0.1	24	0.1
Diseases of the skin and subcutaneous tissue	L00-L99	30	0.0	100.0	3	0.0	3	0.0	5	0.0	12	0.0	7	0.0
Diseases of the ear and mastoid process	H60-H95	9	0.0	100.0	0	0.0	2	0.0	2	0.0	4	0.0	1	0.0

Table D3: Leading underlying causes of death, national, 1997-2001

SHORT NAME FOR THE SUB-GROUP OF CAUSES OF DEATH	ICD-10 CODES	Total sample			1997		1998		1999		2000		2001	
		N	%	Cum %	N	%	N	%	N	%	N	%	N	%
Total	All codes	279,581	100.0		46,941	100.0	54,856	100.0	59,720	100.0	53,247	100.0	64,817	100.0
Unspecified unnatural causes	Y10-Y34	30,728	11.0	11.0	7,164	15.3	7,225	13.2	6,450	10.8	4,591	8.6	5,298	8.2
Ill-defined causes of mortality	R95-R99	22,904	8.2	19.2	4,052	8.6	4,596	8.4	4,449	7.4	4,227	7.9	5,580	8.6
Tuberculosis	A15-A19	22,347	8.0	27.2	3,054	6.5	3,889	7.1	4,557	7.6	4,562	8.6	6,285	9.7
HIV disease	B20-B24	20,679	7.4	34.6	2,170	4.6	3,272	6.0	4,811	8.1	4,802	9.0	5,624	8.7
Influenza and pneumonia	J10-J18	17,672	6.3	40.9	2,126	4.5	2,992	5.5	3,576	6.0	3,856	7.2	5,122	7.9
Cerebrovascular disease	I60-I69	17,186	6.1	47.0	2,965	6.3	3,271	6.0	3,751	6.3	3,290	6.2	3,909	6.0
Other forms of heart disease	I30-I52	15,834	5.7	52.7	2,951	6.3	3,264	6.0	3,384	5.7	2,839	5.3	3,396	5.2
General symptoms and signs	R50-R69	12,262	4.4	57.1	2,277	4.9	2,712	4.9	2,405	4.0	2,141	4.0	2,727	4.2
Ischaemic heart disease	I20-I25	10,672	3.8	60.9	1,760	3.7	2,097	3.8	2,470	4.1	1,968	3.7	2,377	3.7
Intestinal infectious diseases	A00-A09	9,960	3.6	64.5	1,483	3.2	2,027	3.7	2,012	3.4	2,136	4.0	2,302	3.6
Chronic lower resp. diseases	J40-J47	9,694	3.5	67.9	1,634	3.5	2,009	3.7	2,059	3.4	1,811	3.4	2,181	3.4
Diabetes mellitus	E10-E14	7,633	2.7	70.7	1,334	2.8	1,451	2.6	1,640	2.7	1,465	2.8	1,743	2.7
Cancer of dig. sys.	C15-C26	6,940	2.5	73.1	1,328	2.8	1,411	2.6	1,559	2.6	1,198	2.2	1,444	2.2
Hypertensive diseases	I10-I15	5,770	2.1	75.2	971	2.1	1,055	1.9	1,261	2.1	1,114	2.1	1,369	2.1
Cancer of resp. sys.	C30-C39	3,807	1.4	76.6	699	1.5	751	1.4	877	1.5	674	1.3	806	1.2
Disease of liver	K70-K77	3,627	1.3	77.9	679	1.4	755	1.4	795	1.3	603	1.1	795	1.2
Other bacterial diseases	A30-A49	3,487	1.2	79.1	616	1.3	640	1.2	705	1.2	636	1.2	890	1.4
Renal failure	N17-N19	3,395	1.2	80.3	617	1.3	634	1.2	724	1.2	591	1.1	829	1.3
Malnutrition	E40-E46	2,738	1.0	81.3	503	1.1	663	1.2	605	1.0	544	1.0	423	0.7
Other land transp. accident	V80-V89	2,639	0.9	82.3	299	0.6	463	0.8	749	1.3	505	0.9	623	1.0
Inflam. diseases CNS	G00-G09	2,432	0.9	83.1	314	0.7	437	0.8	522	0.9	500	0.9	659	1.0
Assault	X85-Y09	2,337	0.8	84.0	191	0.4	336	0.6	719	1.2	577	1.1	514	0.8
Cancer of fem. gen.	C51-C58	2,325	0.8	84.8	453	1.0	460	0.8	503	0.8	418	0.8	491	0.8
Resp. & cardiovasc. disorders (perinatal)	P20-P29	2,116	0.8	85.6	504	1.1	472	0.9	395	0.7	398	0.7	347	0.5
Pulmonary heart diseases	I26-I28	2,090	0.7	86.3	333	0.7	398	0.7	448	0.8	422	0.8	489	0.8
Episodic & paroxysmal disorders	G40-G47	1,975	0.7	87.0	325	0.7	327	0.6	444	0.7	422	0.8	457	0.7
Cancer of ill-defined	C76-C80	1,883	0.7	87.7	329	0.7	374	0.7	418	0.7	353	0.7	409	0.6
Other diseases of resp. system	J95-J99	1,833	0.7	88.3	259	0.6	371	0.7	315	0.5	386	0.7	502	0.8
Diseases of oesophagus, stomach	K20-K31	1,631	0.6	88.9	250	0.5	305	0.6	339	0.6	342	0.6	395	0.6
Perinatal disorders	P90-P96	1,563	0.6	89.5	268	0.6	429	0.8	326	0.5	291	0.5	249	0.4
Cancer of breast	C50	1,529	0.5	90.0	264	0.6	296	0.5	361	0.6	262	0.5	346	0.5
Cancer of male gen.	C60-C63	1,424	0.5	90.5	246	0.5	251	0.5	321	0.5	278	0.5	328	0.5
<i>All other causes</i>	<i>The remainder</i>	<i>26,469</i>	<i>9.5</i>	<i>100.0</i>	<i>4,523</i>	<i>9.6</i>	<i>5,223</i>	<i>9.5</i>	<i>5,770</i>	<i>9.7</i>	<i>5,045</i>	<i>9.5</i>	<i>5,908</i>	<i>9.1</i>

Table D4: Leading underlying causes of death among males, 1997-2001

SHORT NAME FOR THE SUB-GROUP OF CAUSES OF DEATH	ICD-10 CODES	Total sample			1997		1998		1999		2000		2001	
		N	%	Cum %	N	%	N	%	N	%	N	%	N	%
Total	All codes	150,969	100.0		26,249	100.0	30,218	100.0	32,489	100.0	28,136	100.0	33,877	100.0
Unspecified unnatural causes	Y10-Y34	23,549	15.6	15.6	5,457	20.8	5,530	18.3	4,908	15.1	3,555	12.6	4,099	12.1
Tuberculosis	A15-A19	13,712	9.1	24.7	1,978	7.5	2,465	8.2	2,833	8.7	2,743	9.7	3,693	10.9
Ill-defined causes of mortality	R95-R99	12,353	8.2	32.9	2,242	8.5	2,506	8.3	2,448	7.5	2,237	8.0	2,920	8.6
HIV disease	B20-B24	9,793	6.5	39.4	1,016	3.9	1,588	5.3	2,333	7.2	2,267	8.1	2,589	7.6
Influenza and pneumonia	J10-J18	8,740	5.8	45.1	1,068	4.1	1,550	5.1	1,775	5.5	1,923	6.8	2,424	7.2
Cerebrovascular disease	I60-I69	7,423	4.9	50.1	1,323	5.0	1,430	4.7	1,664	5.1	1,376	4.9	1,630	4.8
Other forms of heart disease	I30-I52	7,221	4.8	54.8	1,408	5.4	1,526	5.0	1,523	4.7	1,277	4.5	1,487	4.4
Ischaemic heart disease	I20-I25	6,123	4.1	58.9	1,083	4.1	1,195	4.0	1,399	4.3	1,106	3.9	1,340	4.0
Chronic lower resp. diseases	J40-J47	5,761	3.8	62.7	956	3.6	1,191	3.9	1,259	3.9	1,070	3.8	1,285	3.8
General symptom and signs	R50-R69	4,809	3.2	65.9	959	3.7	1,077	3.6	960	3.0	785	2.8	1,028	3.0
Intestinal infectious diseases	A00-A09	4,741	3.1	69.0	730	2.8	981	3.2	974	3.0	1,010	3.6	1,046	3.1
Cancer of dig. sys.	C15-C26	4,177	2.8	71.8	836	3.2	848	2.8	920	2.8	706	2.5	867	2.6
Diabetes mellitus	E10-E14	2,943	1.9	73.8	536	2.0	584	1.9	634	2.0	535	1.9	654	1.9
Cancer of resp. sys.	C30-C39	2,779	1.8	75.6	517	2.0	541	1.8	650	2.0	497	1.8	574	1.7
Disease of liver	K70-K77	2,317	1.5	77.1	436	1.7	479	1.6	520	1.6	382	1.4	500	1.5
Hypertensive diseases	I10-I15	2,196	1.5	78.6	398	1.5	419	1.4	480	1.5	394	1.4	505	1.5
Assault	X85-Y09	1,943	1.3	79.9	163	0.6	274	0.9	596	1.8	465	1.7	445	1.3
Other land transp. accident	V80-V89	1,898	1.3	81.1	202	0.8	331	1.1	540	1.7	370	1.3	455	1.3
Renal failure	N17-N19	1,737	1.2	82.3	303	1.2	336	1.1	376	1.2	305	1.1	417	1.2
Other bacterial diseases	A30-A49	1,630	1.1	83.4	288	1.1	304	1.0	331	1.0	301	1.1	406	1.2
Malnutrition	E40-E46	1,482	1.0	84.3	273	1.0	362	1.2	316	1.0	304	1.1	227	0.7
Cancer of male gen.	C60-C63	1,424	0.9	85.3	246	0.9	251	0.8	321	1.0	278	1.0	328	1.0
Episodic & paroxysmal disorders	G40-G47	1,288	0.9	86.1	230	0.9	203	0.7	286	0.9	270	1.0	299	0.9
Inflam. diseases CNS	G00-G09	1,273	0.8	87.0	181	0.7	239	0.8	267	0.8	247	0.9	339	1.0
Resp. & cardiovasc. disorders (perinatal)	P20-P29	1,154	0.8	87.7	265	1.0	266	0.9	225	0.7	219	0.8	179	0.5
Pulmonary heart diseases	I26-I28	1,039	0.7	88.4	175	0.7	202	0.7	220	0.7	203	0.7	239	0.7
Other diseases of resp. system	J95-J99	990	0.7	89.1	144	0.5	201	0.7	162	0.5	213	0.8	270	0.8
Cancer of ill-defined	C76-C80	941	0.6	89.7	158	0.6	197	0.7	213	0.7	168	0.6	205	0.6
Diseases of oesophagus, stomach	K20-K31	896	0.6	90.3	152	0.6	182	0.6	175	0.5	190	0.7	197	0.6
Perinatal disorders	P90-P96	816	0.5	90.8	144	0.5	224	0.7	164	0.5	149	0.5	135	0.4
<i>All other causes</i>	<i>The remainder</i>	<i>13,821</i>	<i>9.2</i>	<i>100.0</i>	<i>2,382</i>	<i>9.1</i>	<i>2,736</i>	<i>9.1</i>	<i>3,017</i>	<i>9.3</i>	<i>2,591</i>	<i>9.2</i>	<i>3,095</i>	<i>9.1</i>

Table D5: Leading underlying causes of death among females, 1997-2001

SHORT NAME FOR THE SUB-GROUP OF CAUSES OF DEATH	ICD-10 CODES	Total sample			1997		1998		1999		2000		2001	
		N	%	Cum %	N	%	N	%	N	%	N	%	N	%
Total	All codes	128,612	100.0		20,692	100.0	24,638	100.0	27,231	100.0	25,111	100.0	30,940	100.0
HIV disease	B20-B24	10,886	8.5	8.5	1,154	5.6	1,684	6.8	2,478	9.1	2,535	10.1	3,035	9.8
Ill-defined causes of mortality	R95-R99	10,551	8.2	16.7	1,810	8.7	2,090	8.5	2,001	7.3	1,990	7.9	2,660	8.6
Cerebrovascular disease	I60-I69	9,763	7.6	24.3	1,642	7.9	1,841	7.5	2,087	7.7	1,914	7.6	2,279	7.4
Influenza and pneumonia	J10-J18	8,932	6.9	31.2	1,058	5.1	1,442	5.9	1,801	6.6	1,933	7.7	2,698	8.7
Tuberculosis	A15-A19	8,635	6.7	37.9	1,076	5.2	1,424	5.8	1,724	6.3	1,819	7.2	2,592	8.4
Other forms of heart disease	I30-I52	8,613	6.7	44.6	1,543	7.5	1,738	7.1	1,861	6.8	1,562	6.2	1,909	6.2
General symptom and signs	R50-R69	7,453	5.8	50.4	1,318	6.4	1,635	6.6	1,445	5.3	1,356	5.4	1,699	5.5
Unspecified unnatural causes	Y10-Y34	7,179	5.6	56.0	1,707	8.2	1,695	6.9	1,542	5.7	1,036	4.1	1,199	3.9
Intestinal infectious diseases	A00-A09	5,219	4.1	60.0	753	3.6	1,046	4.2	1,038	3.8	1,126	4.5	1,256	4.1
Diabetes mellitus	E10-E14	4,690	3.6	63.7	798	3.9	867	3.5	1,006	3.7	930	3.7	1,089	3.5
Ischaemic heart disease	I20-I25	4,549	3.5	67.2	677	3.3	902	3.7	1,071	3.9	862	3.4	1,037	3.4
Chronic lower resp. diseases	J40-J47	3,933	3.1	70.3	678	3.3	818	3.3	800	2.9	741	3.0	896	2.9
Hypertensive diseases	I10-I15	3,574	2.8	73.1	573	2.8	636	2.6	781	2.9	720	2.9	864	2.8
Cancer of dig. sys.	C15-C26	2,763	2.1	75.2	492	2.4	563	2.3	639	2.3	492	2.0	577	1.9
Cancer of fem. gen.	C51-C58	2,325	1.8	77.0	453	2.2	460	1.9	503	1.8	418	1.7	491	1.6
Other bacterial diseases	A30-A49	1,857	1.4	78.5	328	1.6	336	1.4	374	1.4	335	1.3	484	1.6
Renal failure	N17-N19	1,658	1.3	79.8	314	1.5	298	1.2	348	1.3	286	1.1	412	1.3
Cancer of breast	C50	1,501	1.2	80.9	258	1.2	292	1.2	353	1.3	259	1.0	339	1.1
Disease of liver	K70-K77	1,310	1.0	81.9	243	1.2	276	1.1	275	1.0	221	0.9	295	1.0
Malnutrition	E40-E46	1,256	1.0	82.9	230	1.1	301	1.2	289	1.1	240	1.0	196	0.6
Inflam. diseases CNS	G00-G09	1,159	0.9	83.8	133	0.6	198	0.8	255	0.9	253	1.0	320	1.0
Pulmonary heart diseases	I26-I28	1,051	0.8	84.6	158	0.8	196	0.8	228	0.8	219	0.9	250	0.8
Cancer of resp. sys.	C30-C39	1,028	0.8	85.4	182	0.9	210	0.9	227	0.8	177	0.7	232	0.7
Resp. & cardiovasc. disorders (perinatal)	P20-P29	962	0.7	86.2	239	1.2	206	0.8	170	0.6	179	0.7	168	0.5
Cancer of ill-defined	C76-C80	942	0.7	86.9	171	0.8	177	0.7	205	0.8	185	0.7	204	0.7
Other diseases of resp. system	J95-J99	843	0.7	87.6	115	0.6	170	0.7	153	0.6	173	0.7	232	0.7
Perinatal disorders	P90-P96	747	0.6	88.2	124	0.6	205	0.8	162	0.6	142	0.6	114	0.4
Other land transp. accident	V80-V89	741	0.6	88.7	97	0.5	132	0.5	209	0.8	135	0.5	168	0.5
Diseases of oesophagus, stomach	K20-K31	735	0.6	89.3	98	0.5	123	0.5	164	0.6	152	0.6	198	0.6
Other acute lower resp. infections	J20-J22	702	0.5	89.8	106	0.5	140	0.6	167	0.6	119	0.5	170	0.5
Episodic & paroxysmal disorders	G40-G47	687	0.5	90.4	95	0.5	124	0.5	158	0.6	152	0.6	158	0.5
Aplastic and other anaemias	D60-D64	679	0.5	90.9	95	0.5	145	0.6	135	0.5	130	0.5	174	0.6
<i>All other causes</i>	<i>The remainder</i>	<i>11,689</i>	<i>9.1</i>	<i>13,487</i>	<i>1,974</i>	<i>9.5</i>	<i>2,268</i>	<i>9.2</i>	<i>2,582</i>	<i>9.5</i>	<i>2,320</i>	<i>9.2</i>	<i>2,545</i>	<i>8.2</i>

Table D6: Leading underlying causes of death among males aged 0-14, 1997-2001

SHORT NAME FOR THE SUB-GROUP OF CAUSES OF DEATH	ICD-10 CODES	Total			1997		1998		1999		2000		2001	
		N	%	Cum %	N	%	N	%	N	%	N	%	N	%
Total	All codes	16,685	100.0		3,224	100.0	3,853	100.0	3,252	100.0	3,408	100.0	2,948	100.0
Intestinal infectious diseases	A00-A09	2,576	15.4	15.4	465	14.4	650	16.9	509	15.7	547	16.1	405	13.7
Influenza and pneumonia	J10-J18	1,873	11.2	26.7	275	8.5	395	10.3	342	10.5	452	13.3	409	13.9
Unspecified unnatural causes	Y10-Y34	1,781	10.7	37.3	459	14.2	415	10.8	365	11.2	271	8.0	271	9.2
HIV disease	B20-B24	1,440	8.6	46.0	178	5.5	271	7.0	298	9.2	362	10.6	331	11.2
Ill-defined causes of mortality	R95-R99	1,307	7.8	53.8	308	9.6	305	7.9	246	7.6	227	6.7	221	7.5
Resp. & cardiovasc. disorders (perinatal)	P20-P29	1,141	6.8	60.6	260	8.1	264	6.9	221	6.8	218	6.4	178	6.0
Malnutrition	E40-E46	1,086	6.5	67.2	205	6.4	278	7.2	209	6.4	236	6.9	158	5.4
Perinatal disorders	P90-P96	807	4.8	72.0	143	4.4	223	5.8	158	4.9	149	4.4	134	4.5
Gestation disorders	P05-P08	529	3.2	75.2	115	3.6	136	3.5	89	2.7	104	3.1	85	2.9
Inflam. diseases CNS	G00-G09	345	2.1	77.2	55	1.7	97	2.5	59	1.8	73	2.1	61	2.1
Tuberculosis	A15-A19	331	2.0	79.2	67	2.1	58	1.5	58	1.8	57	1.7	91	3.1
Infections (perinatal period)	P35-P39	320	1.9	81.1	76	2.4	66	1.7	60	1.8	76	2.2	42	1.4
Other bacterial diseases	A30-A49	305	1.8	83.0	69	2.1	59	1.5	61	1.9	62	1.8	54	1.8
Other land transp. accident	V80-V89	193	1.2	84.1	20	0.6	39	1.0	52	1.6	30	0.9	52	1.8
Other acute lower resp. infections	J20-J22	186	1.1	85.2	31	1.0	38	1.0	37	1.1	39	1.1	41	1.4
Hemorr. & haematological disorders	P50-P61	154	0.9	86.1	44	1.4	34	0.9	31	1.0	28	0.8	17	0.6
Congenital malform (cir. sys.)	Q20-Q28	146	0.9	87.0	43	1.3	37	1.0	18	0.6	26	0.8	22	0.7
Other forms of heart disease	I30-I52	140	0.8	87.9	35	1.1	36	0.9	28	0.9	22	0.6	19	0.6
Circumcision, surgical misadventures	Y39, Y60-Y69	140	0.8	88.7	22	0.7	41	1.1	27	0.8	34	1.0	16	0.5
Congenital malform (nervous sys.)	Q00-Q07	127	0.8	89.5	18	0.6	35	0.9	20	0.6	35	1.0	19	0.6
Fetus/newborn affected by maternal factors	P00-P04	114	0.7	90.1	25	0.8	44	1.1	18	0.6	15	0.4	12	0.4
Other diseases of resp. system	J95-J99	112	0.7	90.8	18	0.6	29	0.8	19	0.6	23	0.7	23	0.8
<i>All other causes</i>	<i>The remainder</i>	<i>1,532</i>	<i>9.2</i>	<i>9,732</i>	<i>293</i>	<i>9.1</i>	<i>303</i>	<i>7.9</i>	<i>327</i>	<i>10.1</i>	<i>322</i>	<i>9.4</i>	<i>287</i>	<i>9.7</i>

Table D7: Leading underlying causes of death among females aged 0-14, 1997-2001

SHORT NAME FOR THE SUB-GROUP OF CAUSES OF DEATH	ICD-10 CODES	Total			1997		1998		1999		2000		2001	
		N	%	Cum %	N	%	N	%	N	%	N	%	N	%
Total	All codes	14,883	100.0		2,954	100.0	3,303	100.0	2,994	100.0	3,003	100.0	2,629	100.0
Intestinal infectious diseases	A00-A09	2,399	16.1	16.1	441	14.9	576	17.4	508	17.0	514	17.1	360	13.7
Influenza and pneumonia	J10-J18	1,928	13.0	29.1	318	10.8	380	11.5	363	12.1	442	14.7	425	16.2
HIV disease	B20-B24	1,311	8.8	37.9	180	6.1	229	6.9	267	8.9	331	11.0	304	11.6
Ill-defined causes of mortality	R95-R99	1,246	8.4	46.3	323	10.9	271	8.2	209	7.0	241	8.0	202	7.7
Unspecified unnatural causes	Y10-Y34	1,067	7.2	53.4	278	9.4	273	8.3	210	7.0	151	5.0	155	5.9
Resp. & cardiovasc. disorders (perinatal)	P20-P29	946	6.4	59.8	231	7.8	202	6.1	166	5.5	179	6.0	168	6.4
Malnutrition	E40-E46	906	6.1	65.9	173	5.9	219	6.6	203	6.8	174	5.8	137	5.2
Perinatal disorders	P90-P96	737	5.0	70.8	121	4.1	203	6.1	157	5.2	142	4.7	114	4.3
Gestation disorders	P05-P08	484	3.3	74.1	106	3.6	128	3.9	100	3.3	88	2.9	62	2.4
Tuberculosis	A15-A19	330	2.2	76.3	57	1.9	70	2.1	65	2.2	68	2.3	70	2.7
Other bacterial diseases	A30-A49	330	2.2	78.5	69	2.3	61	1.8	67	2.2	56	1.9	77	2.9
Inflam. diseases CNS	G00-G09	275	1.8	80.4	47	1.6	70	2.1	52	1.7	56	1.9	50	1.9
Infections (perinatal period)	P35-P39	234	1.6	81.9	53	1.8	52	1.6	49	1.6	49	1.6	31	1.2
Other acute lower resp. infections	J20-J22	187	1.3	83.2	36	1.2	41	1.2	42	1.4	29	1.0	39	1.5
Congenital malform (cir. sys.)	Q20-Q28	186	1.2	84.4	35	1.2	34	1.0	53	1.8	36	1.2	28	1.1
Other land transp. accident	V80-V89	160	1.1	85.5	19	0.6	29	0.9	46	1.5	36	1.2	30	1.1
Other forms of heart disease	I30-I52	159	1.1	86.6	38	1.3	28	0.8	28	0.9	38	1.3	27	1.0
Circumcision, surgical misadventures	Y39,Y60-Y69	148	1.0	87.6	32	1.1	35	1.1	27	0.9	26	0.9	28	1.1
Congenital malform (nervous sys.)	Q00-Q07	137	0.9	88.5	30	1.0	30	0.9	28	0.9	24	0.8	25	1.0
Other diseases of resp. system	J95-J99	124	0.8	89.3	26	0.9	33	1.0	17	0.6	25	0.8	23	0.9
Hemorr. & haematological disorders	P50-P61	108	0.7	90.0	23	0.8	37	1.1	14	0.5	22	0.7	12	0.5
Fetus/newborn affected by maternal factors	P00-P04	98	0.7	90.7	28	0.9	20	0.6	21	0.7	13	0.4	16	0.6
<i>All other causes</i>	<i>The remainder</i>	<i>1,383</i>	<i>9.3</i>	<i>100.0</i>	<i>290</i>	<i>9.8</i>	<i>282</i>	<i>8.5</i>	<i>302</i>	<i>10.1</i>	<i>263</i>	<i>8.8</i>	<i>246</i>	<i>9.4</i>

Table D8: Leading underlying causes of death among males aged 15-29, 1997-2001

SHORT NAME FOR THE SUB-GROUP OF CAUSES OF DEATH	ICD-10 CODES	Total			1997		1998		1999		2000		2001	
		N	%	Cum %	N	%	N	%	N	%	N	%	N	%
Total	All codes	19,487	100.0		3,397	100.0	3,969	100.0	4,351	100.0	3,525	100.0	4,245	100.0
Unspecified unnatural causes	Y10-Y34	8,974	46.1	46.1	2,031	59.8	2,152	54.2	1,899	43.6	1,375	39.0	1,517	35.7
Tuberculosis	A15-A19	1,699	8.7	54.8	210	6.2	289	7.3	341	7.8	368	10.4	491	11.6
HIV disease	B20-B24	1,666	8.5	63.3	175	5.2	268	6.8	420	9.7	378	10.7	425	10.0
Ill-defined causes of mortality	R95-R99	1,313	6.7	70.1	213	6.3	240	6.0	268	6.2	242	6.9	350	8.2
Assault	X85-Y09	914	4.7	74.7	74	2.2	121	3.0	298	6.8	219	6.2	202	4.8
Influenza and pneumonia	J10-J18	852	4.4	79.1	79	2.3	149	3.8	173	4.0	188	5.3	263	6.2
Other land transp. accident	V80-V89	596	3.1	82.2	65	1.9	97	2.4	172	4.0	119	3.4	143	3.4
Other forms of heart disease	I30-I52	318	1.6	83.8	58	1.7	70	1.8	67	1.5	45	1.3	78	1.8
Intestinal infectious diseases	A00-A09	280	1.4	85.2	29	0.9	37	0.9	62	1.4	62	1.8	90	2.1
Inflam. diseases CNS	G00-G09	244	1.3	86.5	34	1.0	51	1.3	53	1.2	50	1.4	56	1.3
Episodic & paroxysmal disorders	G40-G47	244	1.3	87.8	52	1.5	43	1.1	58	1.3	38	1.1	53	1.2
Cerebrovascular disease	I60-I69	162	0.8	88.6	31	0.9	30	0.8	37	0.9	31	0.9	33	0.8
Other bacterial diseases	A30-A49	135	0.7	89.3	28	0.8	21	0.5	23	0.5	24	0.7	39	0.9
Chronic lower resp. diseases	J40-J47	135	0.7	90.0	27	0.8	24	0.6	35	0.8	20	0.6	29	0.7
Disease of liver	K70-K77	124	0.6	90.6	23	0.7	21	0.5	31	0.7	20	0.6	29	0.7
<i>All other causes</i>	<i>The remainder</i>	<i>1,831</i>	<i>9.4</i>	<i>100.0</i>	<i>268</i>	<i>7.9</i>	<i>356</i>	<i>9.0</i>	<i>414</i>	<i>9.5</i>	<i>346</i>	<i>9.8</i>	<i>447</i>	<i>10.5</i>

Table D9: Leading underlying causes of death among females aged 15-29, 1997-2001

SHORT NAME FOR THE SUB-GROUP OF CAUSES OF DEATH	ICD-10 CODES	Total			1997		1998		1999		2000		2001	
		N	%	Cum %	N	%	N	%	N	%	N	%	N	%
Total	All codes	17,515	100.0		2,352	100.0	3,039	100.0	3,819	100.0	3,584	100.0	4,721	100.0
HIV disease	B20-B24	3,945	22.5	22.5	435	18.5	627	20.6	921	24.1	875	24.4	1,087	23.0
Tuberculosis	A15-A19	2,586	14.8	37.3	312	13.3	410	13.5	534	14.0	543	15.2	787	16.7
Ill-defined causes of mortality	R95-R99	2,025	11.6	48.8	252	10.7	375	12.3	403	10.6	391	10.9	604	12.8
Unspecified unnatural causes	Y10-Y34	2,012	11.5	60.3	473	20.1	444	14.6	463	12.1	287	8.0	345	7.3
Influenza and pneumonia	J10-J18	1,663	9.5	69.8	149	6.3	224	7.4	330	8.6	399	11.1	561	11.9
Intestinal infectious diseases	A00-A09	626	3.6	73.4	50	2.1	96	3.2	128	3.4	144	4.0	208	4.4
Other forms of heart disease	I30-I52	548	3.1	76.5	98	4.2	114	3.8	109	2.9	114	3.2	113	2.4
Inflam. diseases CNS	G00-G09	323	1.8	78.4	24	1.0	46	1.5	86	2.3	72	2.0	95	2.0
Chronic lower resp. diseases	J40-J47	239	1.4	79.7	40	1.7	44	1.4	57	1.5	43	1.2	55	1.2
Other bacterial diseases	A30-A49	236	1.3	81.1	38	1.6	48	1.6	41	1.1	45	1.3	64	1.4
Other land transp. accident	V80-V89	199	1.1	82.2	34	1.4	42	1.4	47	1.2	27	0.8	49	1.0
Cerebrovascular disease	I60-I69	184	1.1	83.3	31	1.3	29	1.0	46	1.2	28	0.8	50	1.1
Noninfective enteritis and colitis	K50-K52	176	1.0	84.3	13	0.6	27	0.9	28	0.7	48	1.3	60	1.3
Aplastic and other anaemias	D60-D64	165	0.9	85.2	22	0.9	30	1.0	33	0.9	34	0.9	46	1.0
Renal failure	N17-N19	153	0.9	86.1	32	1.4	19	0.6	34	0.9	29	0.8	39	0.8
Episodic & paroxysmal disorders	G40-G47	147	0.8	86.9	22	0.9	28	0.9	31	0.8	35	1.0	31	0.7
Assault	X85-Y09	132	0.8	87.7	11	0.5	20	0.7	42	1.1	36	1.0	23	0.5
Disease of liver	K70-K77	127	0.7	88.4	26	1.1	23	0.8	26	0.7	26	0.7	26	0.6
Protozoal disease	B50-B64	118	0.7	89.1	12	0.5	18	0.6	27	0.7	25	0.7	36	0.8
Other acute lower resp. infections	J20-J22	104	0.6	89.7	11	0.5	17	0.6	26	0.7	21	0.6	29	0.6
Other diseases of resp. system	J95-J99	104	0.6	90.3	11	0.5	26	0.9	15	0.4	20	0.6	32	0.7
Diseases of oesophagus, stomach	K20-K31	85	0.5	90.8	10	0.4	11	0.4	23	0.6	23	0.6	18	0.4
<i>All other causes</i>	<i>The remainder</i>	<i>1,618</i>	<i>9.2</i>	<i>100.0</i>	<i>246</i>	<i>10.5</i>	<i>321</i>	<i>10.6</i>	<i>369</i>	<i>9.7</i>	<i>319</i>	<i>8.9</i>	<i>363</i>	<i>7.7</i>

Table D10: Leading underlying causes of death among males aged 30-39, 1997-2001

SHORT NAME FOR THE SUB-GROUP OF CAUSES OF DEATH	ICD-10 CODES	Total			1997		1998		1999		2000		2001	
		N	%	Cum %	N	%	N	%	N	%	N	%	N	%
Total	All codes	23,849	100.0		3,520	100.0	4,298	100.0	5,158	100.0	4,714	100.0	6,159	100.0
Unspecified unnatural causes	Y10-Y34	5,685	23.8	23.8	1,316	37.4	1,307	30.4	1,179	22.9	857	18.2	1,026	16.7
Tuberculosis	A15-A19	3,689	15.5	39.3	429	12.2	604	14.1	773	15.0	777	16.5	1,106	18.0
HIV disease	B20-B24	3,623	15.2	54.5	353	10.0	555	12.9	864	16.8	824	17.5	1,027	16.7
Ill-defined causes of mortality	R95-R99	2,307	9.7	64.2	343	9.7	402	9.4	446	8.6	455	9.7	661	10.7
Influenza and pneumonia	J10-J18	1,574	6.6	70.8	132	3.8	214	5.0	320	6.2	399	8.5	509	8.3
Other forms of heart disease	I30-I52	578	2.4	73.2	104	3.0	112	2.6	115	2.2	109	2.3	138	2.2
Intestinal infectious diseases	A00-A09	502	2.1	75.3	51	1.4	56	1.3	99	1.9	121	2.6	175	2.8
Assault	X85-Y09	500	2.1	77.4	31	0.9	66	1.5	138	2.7	140	3.0	125	2.0
Other land transp. accident	V80-V89	467	2.0	79.4	46	1.3	83	1.9	141	2.7	81	1.7	116	1.9
Cerebrovascular disease	I60-I69	374	1.6	80.9	61	1.7	76	1.8	87	1.7	62	1.3	88	1.4
Disease of liver	K70-K77	320	1.3	82.3	47	1.3	60	1.4	76	1.5	53	1.1	84	1.4
Inflam. diseases CNS	G00-G09	312	1.3	83.6	36	1.0	39	0.9	69	1.3	64	1.4	104	1.7
Chronic lower resp. diseases	J40-J47	302	1.3	84.8	36	1.0	65	1.5	75	1.5	55	1.2	71	1.2
Episodic & paroxysmal disorders	G40-G47	267	1.1	86.0	34	1.0	46	1.1	62	1.2	69	1.5	56	0.9
Other bacterial diseases	A30-A49	218	0.9	86.9	26	0.7	42	1.0	43	0.8	42	0.9	65	1.1
Ischaemic heart disease	I20-I25	211	0.9	87.8	33	0.9	52	1.2	30	0.6	48	1.0	48	0.8
Cancer of dig. sys.	C15-C26	193	0.8	88.6	46	1.3	29	0.7	41	0.8	39	0.8	38	0.6
Renal failure	N17-N19	192	0.8	89.4	28	0.8	32	0.7	41	0.8	37	0.8	54	0.9
Noninfective enteritis and colitis	K50-K52	179	0.8	90.1	17	0.5	28	0.7	40	0.8	45	1.0	49	0.8
Diseases of oesophagus, stomach	K20-K31	156	0.7	90.8	20	0.6	23	0.5	25	0.5	44	0.9	44	0.7
<i>All other causes</i>	<i>The remainder</i>	<i>2,200</i>	<i>9.2</i>	<i>100.0</i>	<i>331</i>	<i>9.4</i>	<i>407</i>	<i>9.5</i>	<i>494</i>	<i>9.6</i>	<i>393</i>	<i>8.3</i>	<i>575</i>	<i>9.3</i>

Table D11: Leading underlying causes of death among females aged 30-39, 1997-2001

SHORT NAME FOR THE SUB-GROUP OF CAUSES OF DEATH	ICD-10 CODES	Total			1997		1998		1999		2000		2001	
		N	%	Cum %	N	%	N	%	N	%	N	%	N	%
Total	All codes	17,096	100.0		2,072	100.0	2,862	100.0	3,594	100.0	3,656	100.0	4,912	100.0
HIV disease	B20-B24	3,503	20.5	20.5	330	15.9	524	18.3	788	21.9	831	22.7	1,030	21.0
Tuberculosis	A15-A19	2,473	14.5	35.0	252	12.2	350	12.2	483	13.4	574	15.7	814	16.6
Ill-defined causes of mortality	R95-R99	2,105	12.3	47.3	273	13.2	364	12.7	387	10.8	432	11.8	649	13.2
Influenza and pneumonia	J10-J18	1,621	9.5	56.8	125	6.0	200	7.0	336	9.3	364	10.0	596	12.1
Unspecified unnatural causes	Y10-Y34	1,444	8.4	65.2	331	16.0	350	12.2	330	9.2	196	5.4	237	4.8
Intestinal infectious diseases	A00-A09	590	3.5	68.6	45	2.2	88	3.1	114	3.2	143	3.9	200	4.1
Other forms of heart disease	I30-I52	582	3.4	72.1	81	3.9	114	4.0	128	3.6	118	3.2	141	2.9
Cerebrovascular disease	I60-I69	347	2.0	74.1	59	2.8	49	1.7	87	2.4	67	1.8	85	1.7
Chronic lower resp. diseases	J40-J47	276	1.6	75.7	39	1.9	62	2.2	48	1.3	53	1.4	74	1.5
Inflam. diseases CNS	G00-G09	267	1.6	77.3	32	1.5	27	0.9	50	1.4	71	1.9	87	1.8
Other bacterial diseases	A30-A49	244	1.4	78.7	40	1.9	48	1.7	43	1.2	44	1.2	69	1.4
Cancer of fem. gen.	C51-C58	220	1.3	80.0	45	2.2	42	1.5	48	1.3	45	1.2	40	0.8
Disease of liver	K70-K77	179	1.0	81.0	27	1.3	36	1.3	34	0.9	33	0.9	49	1.0
Diabetes mellitus	E10-E14	173	1.0	82.0	30	1.4	32	1.1	35	1.0	41	1.1	35	0.7
Noninfective enteritis and colitis	K50-K52	164	1.0	83.0	12	0.6	16	0.6	22	0.6	52	1.4	62	1.3
Renal failure	N17-N19	153	0.9	83.9	11	0.5	34	1.2	36	1.0	30	0.8	42	0.9
Aplastic and other anaemias	D60-D64	142	0.8	84.7	15	0.7	24	0.8	28	0.8	33	0.9	42	0.9
Cancer of dig. sys.	C15-C26	141	0.8	85.5	27	1.3	29	1.0	35	1.0	16	0.4	34	0.7
Episodic & paroxysmal disorders	G40-G47	136	0.8	86.3	12	0.6	31	1.1	30	0.8	30	0.8	33	0.7
Cancer of breast	C50	135	0.8	87.1	19	0.9	28	1.0	32	0.9	28	0.8	28	0.6
Other land transp. accident	V80-V89	128	0.7	87.9	15	0.7	21	0.7	39	1.1	20	0.5	33	0.7
Other diseases of resp. system	J95-J99	126	0.7	88.6	10	0.5	17	0.6	23	0.6	29	0.8	47	1.0
Hypertensive diseases	I10-I15	125	0.7	89.3	18	0.9	29	1.0	29	0.8	21	0.6	28	0.6
Other acute lower resp. infections	J20-J22	117	0.7	90.0	9	0.4	27	0.9	28	0.8	21	0.6	32	0.7
Assault	X85-Y09	106	0.6	90.6	5	0.2	17	0.6	33	0.9	32	0.9	19	0.4
<i>All other causes</i>	<i>The remainder</i>	<i>1,599</i>	<i>9.4</i>	<i>100.0</i>	<i>210</i>	<i>10.1</i>	<i>303</i>	<i>10.6</i>	<i>348</i>	<i>9.7</i>	<i>332</i>	<i>9.1</i>	<i>406</i>	<i>8.3</i>

Table D12: Leading underlying causes of death among males aged 40-49, 1997-2001

SHORT NAME FOR THE SUB-GROUP OF CAUSES OF DEATH	ICD-10 CODES	Total			1997		1998		1999		2000		2001	
		N	%	Cum %	N	%	N	%	N	%	N	%	N	%
Total	All codes	22,336	100.0		3,571	100.0	4,293	100.0	4,817	100.0	4,259	100.0	5,396	100.0
Unspecified unnatural causes	Y10-Y34	3,529	15.8	15.8	825	23.1	852	19.8	695	14.4	512	12.0	645	12.0
Tuberculosis	A15-A19	3,241	14.5	30.3	432	12.1	585	13.6	648	13.5	661	15.5	915	17.0
Ill-defined causes of mortality	R95-R99	2,527	11.3	41.6	439	12.3	505	11.8	515	10.7	451	10.6	617	11.4
HIV disease	B20-B24	2,055	9.2	50.8	198	5.5	307	7.2	534	11.1	495	11.6	521	9.7
Influenza and pneumonia	J10-J18	1,289	5.8	56.6	133	3.7	185	4.3	256	5.3	288	6.8	427	7.9
Other forms of heart disease	I30-I52	887	4.0	60.6	155	4.3	196	4.6	176	3.7	184	4.3	176	3.3
Cerebrovascular disease	I60-I69	846	3.8	64.4	134	3.8	168	3.9	218	4.5	145	3.4	181	3.4
Ischaemic heart disease	I20-I25	692	3.1	67.5	112	3.1	148	3.4	136	2.8	135	3.2	161	3.0
Chronic lower resp. diseases	J40-J47	613	2.7	70.2	78	2.2	126	2.9	140	2.9	127	3.0	142	2.6
Cancer of dig. sys.	C15-C26	575	2.6	72.8	124	3.5	121	2.8	105	2.2	96	2.3	129	2.4
Disease of liver	K70-K77	529	2.4	75.1	101	2.8	115	2.7	120	2.5	93	2.2	100	1.9
Diabetes mellitus	E10-E14	424	1.9	77.0	77	2.2	77	1.8	90	1.9	98	2.3	82	1.5
Intestinal infectious diseases	A00-A09	417	1.9	78.9	36	1.0	61	1.4	91	1.9	93	2.2	136	2.5
Cancer of resp. sys.	C30-C39	352	1.6	80.5	73	2.0	73	1.7	77	1.6	63	1.5	66	1.2
Other land transp. accident	V80-V89	323	1.4	81.9	37	1.0	54	1.3	99	2.1	63	1.5	70	1.3
Hypertensive diseases	I10-I15	279	1.2	83.2	55	1.5	53	1.2	63	1.3	51	1.2	57	1.1
Assault	X85-Y09	276	1.2	84.4	25	0.7	46	1.1	81	1.7	58	1.4	66	1.2
Renal failure	N17-N19	258	1.2	85.6	39	1.1	49	1.1	59	1.2	49	1.2	62	1.1
Episodic & paroxysmal disorders	G40-G47	252	1.1	86.7	45	1.3	36	0.8	49	1.0	51	1.2	71	1.3
Other bacterial diseases	A30-A49	238	1.1	87.8	36	1.0	43	1.0	57	1.2	39	0.9	63	1.2
Diseases of oesophagus, stomach	K20-K31	187	0.8	88.6	34	1.0	43	1.0	30	0.6	38	0.9	42	0.8
Inflam. diseases CNS	G00-G09	185	0.8	89.4	21	0.6	22	0.5	44	0.9	33	0.8	65	1.2
Pulmonary heart diseases	I26-I28	156	0.7	90.1	26	0.7	29	0.7	32	0.7	29	0.7	40	0.7
Other diseases of resp. system	J95-J99	135	0.6	90.7	17	0.5	15	0.3	23	0.5	32	0.8	48	0.9
<i>All other causes</i>	<i>The remainder</i>	<i>2,071</i>	<i>9.3</i>	<i>100.0</i>	<i>319</i>	<i>8.9</i>	<i>384</i>	<i>8.9</i>	<i>479</i>	<i>9.9</i>	<i>375</i>	<i>8.8</i>	<i>514</i>	<i>9.5</i>

Table D13: Leading underlying causes of death among females aged 40-49, 1997-2001

SHORT NAME FOR THE SUB-GROUP OF CAUSES OF DEATH	ICD-10 CODES	Total			1997		1998		1999		2000		2001	
		N	%	Cum %	N	%	N	%	N	%	N	%	N	%
Total	All codes	12,982	100.0		1,902	100.0	2,296	100.0	2,795	100.0	2,557	100.0	3,432	100.0
Ill-defined causes of mortality	R95-R99	1,552	12.0	12.0	251	13.2	296	12.9	306	10.9	294	11.5	405	11.8
HIV disease	B20-B24	1,434	11.0	23.0	137	7.2	190	8.3	332	11.9	342	13.4	433	12.6
Tuberculosis	A15-A19	1,339	10.3	33.3	151	7.9	218	9.5	267	9.6	271	10.6	432	12.6
Unspecified unnatural causes	Y10-Y34	1,022	7.9	41.2	232	12.2	244	10.6	227	8.1	149	5.8	170	5.0
Cerebrovascular disease	I60-I69	852	6.6	47.8	145	7.6	162	7.1	178	6.4	172	6.7	195	5.7
Influenza and pneumonia	J10-J18	841	6.5	54.2	75	3.9	94	4.1	158	5.7	179	7.0	335	9.8
Other forms of heart disease	I30-I52	611	4.7	58.9	99	5.2	145	6.3	126	4.5	117	4.6	124	3.6
Cancer of fem. gen.	C51-C58	476	3.7	62.6	85	4.5	87	3.8	114	4.1	94	3.7	96	2.8
Chronic lower resp. diseases	J40-J47	356	2.7	65.3	59	3.1	67	2.9	69	2.5	76	3.0	85	2.5
Intestinal infectious diseases	A00-A09	345	2.7	68.0	27	1.4	57	2.5	50	1.8	67	2.6	144	4.2
Diabetes mellitus	E10-E14	343	2.6	70.6	57	3.0	56	2.4	80	2.9	59	2.3	91	2.7
Cancer of dig. sys.	C15-C26	283	2.2	72.8	48	2.5	69	3.0	61	2.2	52	2.0	53	1.5
Hypertensive diseases	I10-I15	282	2.2	75.0	43	2.3	45	2.0	77	2.8	49	1.9	68	2.0
Cancer of breast	C50	274	2.1	77.1	51	2.7	44	1.9	66	2.4	51	2.0	62	1.8
Ischaemic heart disease	I20-I25	246	1.9	79.0	36	1.9	35	1.5	68	2.4	46	1.8	61	1.8
Disease of liver	K70-K77	233	1.8	80.8	45	2.4	45	2.0	57	2.0	36	1.4	50	1.5
Renal failure	N17-N19	197	1.5	82.3	33	1.7	29	1.3	47	1.7	38	1.5	50	1.5
Other bacterial diseases	A30-A49	160	1.2	83.5	27	1.4	27	1.2	31	1.1	29	1.1	46	1.3
Inflam. diseases CNS	G00-G09	127	1.0	84.5	12	0.6	19	0.8	29	1.0	27	1.1	40	1.2
Pulmonary heart diseases	I26-I28	127	1.0	85.5	16	0.8	25	1.1	23	0.8	30	1.2	33	1.0
Episodic & paroxysmal disorders	G40-G47	115	0.9	86.4	13	0.7	23	1.0	21	0.8	24	0.9	34	1.0
Cancer of ill-defined	C76-C80	112	0.9	87.3	19	1.0	23	1.0	21	0.8	24	0.9	25	0.7
Cancer of resp. sys.	C30-C39	106	0.8	88.1	14	0.7	20	0.9	23	0.8	18	0.7	31	0.9
Other diseases of resp. system	J95-J99	98	0.8	88.8	10	0.5	16	0.7	23	0.8	28	1.1	21	0.6
Noninfective enteritis and colitis	K50-K52	93	0.7	89.5	5	0.3	17	0.7	10	0.4	23	0.9	38	1.1
Diseases of oesophagus, stomach	K20-K31	92	0.7	90.2	16	0.8	16	0.7	20	0.7	13	0.5	27	0.8
Other land transp. accident	V80-V89	91	0.7	90.9	15	0.8	14	0.6	26	0.9	21	0.8	15	0.4
<i>All other causes</i>	<i>The remainder</i>	<i>1,175</i>	<i>9.1</i>	<i>100.0</i>	<i>181</i>	<i>9.5</i>	<i>213</i>	<i>9.3</i>	<i>285</i>	<i>10.2</i>	<i>228</i>	<i>8.9</i>	<i>268</i>	<i>7.8</i>

Table D14: Leading underlying causes of death among males aged 50+, 1997-2001

SHORT NAME FOR THE SUB-GROUP OF CAUSES OF	ICD-10 CODES	Total			1997		1998		1999		2000		2001	
		N	%	Cum %	N	%	N	%	N	%	N	%	N	%
Total	All codes	67,672	100.0		12,223	100.0	13,507	100.0	14,755	100.0	12,120	100.0	15,067	100.0
Cerebrovascular disease	I60-I69	5,990	8.9	8.9	1,091	8.9	1,145	8.5	1,308	8.9	1,127	9.3	1,319	8.8
Other forms of heart disease	I30-I52	5,270	7.8	16.6	1,043	8.5	1,102	8.2	1,134	7.7	916	7.6	1,075	7.1
Ischaemic heart disease	I20-I25	5,175	7.6	24.3	927	7.6	987	7.3	1,228	8.3	910	7.5	1,123	7.5
Ill-defined causes of mortality	R95-R99	4,807	7.1	31.4	915	7.5	1,020	7.6	960	6.5	846	7.0	1,066	7.1
General symptom and signs	R50-R69	4,796	7.1	38.5	956	7.8	1,069	7.9	960	6.5	784	6.5	1,027	6.8
Tuberculosis	A15-A19	4,655	6.9	45.4	817	6.7	899	6.7	998	6.8	863	7.1	1,078	7.2
Chronic lower resp. diseases	J40-J47	4,600	6.8	52.2	791	6.5	949	7.0	986	6.7	848	7.0	1,026	6.8
Unspecified unnatural causes	Y10-Y34	3,408	5.0	57.2	742	6.1	754	5.6	755	5.1	529	4.4	628	4.2
Cancer of dig. sys.	C15-C26	3,342	4.9	62.1	642	5.3	679	5.0	764	5.2	561	4.6	696	4.6
Influenza and pneumonia	J10-J18	3,096	4.6	66.7	430	3.5	589	4.4	676	4.6	590	4.9	811	5.4
Cancer of resp. sys.	C30-C39	2,341	3.5	70.2	430	3.5	448	3.3	555	3.8	416	3.4	492	3.3
Diabetes mellitus	E10-E14	2,291	3.4	73.5	415	3.4	461	3.4	485	3.3	396	3.3	534	3.5
Hypertensive diseases	I10-I15	1,769	2.6	76.2	312	2.6	336	2.5	385	2.6	316	2.6	420	2.8
Cancer of male gen.	C60-C63	1,361	2.0	78.2	231	1.9	238	1.8	310	2.1	267	2.2	315	2.1
Disease of liver	K70-K77	1,310	1.9	80.1	259	2.1	275	2.0	287	1.9	209	1.7	280	1.9
Renal failure	N17-N19	1,144	1.7	81.8	207	1.7	225	1.7	250	1.7	191	1.6	271	1.8
HIV disease	B20-B24	933	1.4	83.2	101	0.8	156	1.2	198	1.3	197	1.6	281	1.9
Intestinal infectious diseases	A00-A09	906	1.3	84.5	129	1.1	159	1.2	201	1.4	180	1.5	237	1.6
Pulmonary heart diseases	I26-I28	773	1.1	85.7	129	1.1	153	1.1	170	1.2	150	1.2	171	1.1
Cancer of ill-defined	C76-C80	730	1.1	86.7	124	1.0	150	1.1	160	1.1	132	1.1	164	1.1
Other bacterial diseases	A30-A49	721	1.1	87.8	125	1.0	133	1.0	147	1.0	133	1.1	183	1.2
Other diseases of resp. system	J95-J99	533	0.8	88.6	84	0.7	120	0.9	90	0.6	114	0.9	125	0.8
Diseases of arteries	I70-I79	470	0.7	89.3	87	0.7	99	0.7	106	0.7	79	0.7	99	0.7
Diseases of oesophagus, stomach	K20-K31	458	0.7	90.0	85	0.7	95	0.7	95	0.6	85	0.7	98	0.7
Cancer of lymphoid	C81-C96	431	0.6	90.6	77	0.6	86	0.6	92	0.6	75	0.6	101	0.7
<i>All other causes</i>	<i>The remainder</i>	<i>6,362</i>	<i>9.4</i>	<i>100.0</i>	<i>1,074</i>	<i>8.8</i>	<i>1,180</i>	<i>8.7</i>	<i>1,455</i>	<i>9.9</i>	<i>1,206</i>	<i>10.0</i>	<i>1,447</i>	<i>9.6</i>

Table D15: Leading underlying causes of death among females aged 50+, 1997-2001

SHORT NAME FOR THE SUB-GROUP OF CAUSES OF	ICD-10 CODES	Total			1997		1998		1999		2000		2001	
		N	%	Cum %	N	%	N	%	N	%	N	%	N	%
Total	All codes	65,390	100.0		11,186	100.0	12,881	100.0	13,885	100.0	12,248	100.0	15,190	100.0
Cerebrovascular disease	I60-I69	8,325	12.7	12.7	1,394	12.5	1,578	12.3	1,768	12.7	1,641	13.4	1,944	12.8
General symptom and signs	R50-R69	7,419	11.3	24.1	1,311	11.7	1,620	12.6	1,437	10.3	1,353	11.0	1,698	11.2
Other forms of heart disease	I30-I52	6,684	10.2	34.3	1,214	10.9	1,329	10.3	1,465	10.6	1,173	9.6	1,503	9.9
Ischaemic heart disease	I20-I25	4,160	6.4	40.7	625	5.6	841	6.5	973	7.0	787	6.4	934	6.1
Diabetes mellitus	E10-E14	4,067	6.2	46.9	688	6.2	753	5.8	876	6.3	808	6.6	942	6.2
Ill-defined causes of mortality	R95-R99	3,529	5.4	52.3	684	6.1	756	5.9	673	4.8	624	5.1	792	5.2
Hypertensive diseases	I10-I15	3,122	4.8	57.1	503	4.5	553	4.3	666	4.8	644	5.3	756	5.0
Chronic lower resp. diseases	J40-J47	2,966	4.5	61.6	520	4.6	619	4.8	604	4.4	554	4.5	669	4.4
Influenza and pneumonia	J10-J18	2,834	4.3	65.9	380	3.4	531	4.1	603	4.3	547	4.5	773	5.1
Cancer of dig. sys.	C15-C26	2,282	3.5	69.4	402	3.6	457	3.5	528	3.8	415	3.4	480	3.2
Tuberculosis	A15-A19	1,838	2.8	72.2	287	2.6	348	2.7	365	2.6	355	2.9	483	3.2
Cancer of fem. gen.	C51-C58	1,578	2.4	74.6	305	2.7	319	2.5	333	2.4	272	2.2	349	2.3
Unspecified unnatural causes	Y10-Y34	1,573	2.4	77.0	360	3.2	369	2.9	310	2.2	247	2.0	287	1.9
Intestinal infectious diseases	A00-A09	1,219	1.9	78.9	180	1.6	208	1.6	233	1.7	254	2.1	344	2.3
Renal failure	N17-N19	1,109	1.7	80.6	229	2.0	200	1.6	224	1.6	183	1.5	273	1.8
Cancer of breast	C50	1,075	1.6	82.2	185	1.7	219	1.7	250	1.8	175	1.4	246	1.6
Cancer of resp. sys.	C30-C39	885	1.4	83.6	165	1.5	179	1.4	194	1.4	154	1.3	193	1.3
Other bacterial diseases	A30-A49	875	1.3	84.9	152	1.4	149	1.2	188	1.4	159	1.3	227	1.5
Pulmonary heart diseases	I26-I28	748	1.1	86.1	123	1.1	133	1.0	163	1.2	150	1.2	179	1.2
Disease of liver	K70-K77	747	1.1	87.2	138	1.2	169	1.3	151	1.1	121	1.0	168	1.1
Cancer of ill-defined	C76-C80	718	1.1	88.3	133	1.2	137	1.1	163	1.2	141	1.2	144	0.9
HIV disease	B20-B24	605	0.9	89.2	55	0.5	82	0.6	148	1.1	146	1.2	174	1.1
Diseases of oesophagus, stomach	K20-K31	463	0.7	90.0	61	0.5	72	0.6	102	0.7	97	0.8	131	0.9
Diseases of arteries	I70-I79	440	0.7	90.6	99	0.9	83	0.6	94	0.7	80	0.7	84	0.6
<i>All other causes</i>	<i>The remainder</i>	<i>6,129</i>	<i>9.4</i>	<i>100.0</i>	<i>993</i>	<i>8.9</i>	<i>1,177</i>	<i>9.1</i>	<i>1,374</i>	<i>9.9</i>	<i>1,168</i>	<i>9.5</i>	<i>1,417</i>	<i>9.3</i>

Table D16: Leading underlying causes of death among African males, 1997-2001

SHORT NAME FOR THE SUB-GROUP OF CAUSES OF DEATH	ICD-10 CODES	Total			1997		1998		1999		2000		2001	
		N	%	Cum %	N	%	N	%	N	%	N	%	N	%
Total	All codes	71,512	100.0		412	100.0	10,180	100.0	20,622	100.0	18,497	100.0	21,801	100.0
Unspecified unnatural causes	Y10-Y34	10,140	14.2	14.2	70	17.0	1,845	18.1	3,109	15.1	2,398	13.0	2,718	12.5
Tuberculosis	A15-A19	7,941	11.1	25.3	36	8.7	980	9.6	2,102	10.2	2,060	11.1	2,763	12.7
HIV disease	B20-B24	7,083	9.9	35.2	21	5.1	753	7.4	2,041	9.9	2,003	10.8	2,265	10.4
Ill-defined causes of mortality	R95-R99	5,678	7.9	43.1	81	19.7	872	8.6	1,645	8.0	1,371	7.4	1,709	7.8
Influenza and pneumonia	J10-J18	5,118	7.2	50.3	16	3.9	579	5.7	1,264	6.1	1,470	7.9	1,789	8.2
Other forms of heart disease	I30-I52	3,276	4.6	54.9	18	4.4	498	4.9	957	4.6	859	4.6	944	4.3
Cerebrovascular disease	I60-I69	3,256	4.6	59.4	9	2.2	472	4.6	952	4.6	841	4.5	982	4.5
Intestinal infectious diseases	A00-A09	2,710	3.8	63.2	8	1.9	332	3.3	721	3.5	816	4.4	833	3.8
Chronic lower resp. diseases	J40-J47	2,349	3.3	66.5	10	2.4	363	3.6	667	3.2	569	3.1	740	3.4
General symptom and signs	R50-R69	2,077	2.9	69.4	36	8.7	376	3.7	658	3.2	447	2.4	560	2.6
Cancer of dig. sys.	C15-C26	1,542	2.2	71.6	9	2.2	253	2.5	486	2.4	340	1.8	454	2.1
Diabetes mellitus	E10-E14	1,266	1.8	73.3	7	1.7	180	1.8	363	1.8	318	1.7	398	1.8
Assault	X85-Y09	1,230	1.7	75.0	7	1.7	141	1.4	422	2.0	338	1.8	322	1.5
Hypertensive diseases	I10-I15	1,165	1.6	76.7	3	0.7	160	1.6	344	1.7	295	1.6	363	1.7
Other land transp. accident	V80-V89	1,154	1.6	78.3	12	2.9	149	1.5	391	1.9	271	1.5	331	1.5
Disease of liver	K70-K77	1,028	1.4	79.7	7	1.7	152	1.5	333	1.6	239	1.3	297	1.4
Ischaemic heart disease	I20-I25	996	1.4	81.1	4	1.0	173	1.7	303	1.5	231	1.2	285	1.3
Cancer of resp. sys.	C30-C39	835	1.2	82.3	3	0.7	121	1.2	288	1.4	198	1.1	225	1.0
Other bacterial diseases	A30-A49	770	1.1	83.4	2	0.5	109	1.1	212	1.0	193	1.0	254	1.2
Inflam. diseases CNS	G00-G09	768	1.1	84.4	1	0.2	99	1.0	209	1.0	201	1.1	258	1.2
Malnutrition	E40-E46	744	1.0	85.5	3	0.7	114	1.1	236	1.1	232	1.3	159	0.7
Renal failure	N17-N19	735	1.0	86.5	3	0.7	87	0.9	211	1.0	180	1.0	254	1.2
Episodic & paroxysmal disorders	G40-G47	672	0.9	87.4	1	0.2	74	0.7	189	0.9	195	1.1	213	1.0
Resp. & cardiovasc. disorders (perinatal)	P20-P29	520	0.7	88.2	3	0.7	75	0.7	153	0.7	157	0.8	132	0.6
Other diseases of resp. system	J95-J99	500	0.7	88.9	3	0.7	63	0.6	104	0.5	146	0.8	184	0.8
Diseases of oesophagus, stomach	K20-K31	437	0.6	89.5	2	0.5	70	0.7	106	0.5	133	0.7	126	0.6
Cancer of male gen.	C60-C63	414	0.6	90.1	0	0.0	62	0.6	116	0.6	114	0.6	122	0.6
Other acute lower resp. infections	J20-J22	402	0.6	90.6	1	0.2	50	0.5	102	0.5	110	0.6	139	0.6
<i>All other causes</i>	<i>The remainder</i>	<i>6,706</i>	<i>9.4</i>	<i>100.0</i>	<i>36</i>	<i>8.7</i>	<i>978</i>	<i>9.6</i>	<i>1,938</i>	<i>9.4</i>	<i>1,772</i>	<i>9.6</i>	<i>1,982</i>	<i>9.1</i>

Table D17: Leading underlying causes of death among African females, 1997-2001

SHORT NAME FOR THE SUB-GROUP OF CAUSES OF DEATH	ICD-10 CODES	Total			1997		1998		1999		2000		2001	
		N	%	Cum %	N	%	N	%	N	%	N	%	N	%
Total	All codes	62,848	100.0		319	100.0	8,309	100.0	17,372	100.0	16,601	100.0	20,247	100.0
HIV disease	B20-B24	7,989	12.7	12.7	20	6.3	814	9.8	2,199	12.7	2,246	13.5	2,710	13.4
Influenza and pneumonia	J10-J18	5,334	8.5	21.2	21	6.6	543	6.5	1,270	7.3	1,476	8.9	2,024	10.0
Tuberculosis	A15-A19	5,317	8.5	29.7	12	3.8	604	7.3	1,281	7.4	1,430	8.6	1,990	9.8
Ill-defined causes of mortality	R95-R99	5,061	8.1	37.7	50	15.7	709	8.5	1,411	8.1	1,259	7.6	1,632	8.1
Cerebrovascular disease	I60-I69	4,314	6.9	44.6	15	4.7	621	7.5	1,205	6.9	1,157	7.0	1,316	6.5
Other forms of heart disease	I30-I52	4,072	6.5	51.1	14	4.4	574	6.9	1,189	6.8	1,029	6.2	1,266	6.3
General symptom and signs	R50-R69	3,256	5.2	56.2	25	7.8	563	6.8	946	5.4	751	4.5	971	4.8
Intestinal infectious diseases	A00-A09	3,089	4.9	61.2	17	5.3	362	4.4	789	4.5	898	5.4	1,023	5.1
Unspecified unnatural causes	Y10-Y34	2,960	4.7	65.9	31	9.7	531	6.4	966	5.6	668	4.0	764	3.8
Diabetes mellitus	E10-E14	2,048	3.3	69.1	7	2.2	286	3.4	553	3.2	527	3.2	675	3.3
Hypertensive diseases	I10-I15	1,937	3.1	72.2	6	1.9	251	3.0	529	3.0	515	3.1	636	3.1
Chronic lower resp. diseases	J40-J47	1,624	2.6	74.8	14	4.4	253	3.0	439	2.5	419	2.5	499	2.5
Cancer of fem. gen.	C51-C58	1,029	1.6	76.4	8	2.5	159	1.9	299	1.7	252	1.5	311	1.5
Cancer of dig. sys.	C15-C26	944	1.5	77.9	7	2.2	142	1.7	290	1.7	257	1.5	248	1.2
Ischaemic heart disease	I20-I25	912	1.5	79.4	11	3.4	152	1.8	262	1.5	232	1.4	255	1.3
Other bacterial diseases	A30-A49	830	1.3	80.7	3	0.9	104	1.3	233	1.3	200	1.2	290	1.4
Inflam. diseases CNS	G00-G09	729	1.2	81.9	1	0.3	82	1.0	193	1.1	203	1.2	250	1.2
Malnutrition	E40-E46	616	1.0	82.8	4	1.3	78	0.9	216	1.2	171	1.0	147	0.7
Renal failure	N17-N19	604	1.0	83.8	2	0.6	78	0.9	168	1.0	159	1.0	197	1.0
Disease of liver	K70-K77	598	1.0	84.7	1	0.3	88	1.1	178	1.0	146	0.9	185	0.9
Resp. & cardiovasc. disorders (perinatal)	P20-P29	453	0.7	85.5	1	0.3	67	0.8	126	0.7	134	0.8	125	0.6
Noninfective enteritis and colitis	K50-K52	424	0.7	86.1	2	0.6	37	0.4	73	0.4	142	0.9	170	0.8
Other land transp. accident	V80-V89	422	0.7	86.8	1	0.3	58	0.7	140	0.8	98	0.6	125	0.6
Cancer of breast	C50	405	0.6	87.5	3	0.9	64	0.8	122	0.7	108	0.7	108	0.5
Pulmonary heart diseases	I26-I28	400	0.6	88.1	2	0.6	53	0.6	108	0.6	115	0.7	122	0.6
Other acute lower resp. infections	J20-J22	400	0.6	88.7	1	0.3	52	0.6	121	0.7	102	0.6	124	0.6
Other diseases of resp. system	J95-J99	399	0.6	89.4	2	0.6	51	0.6	91	0.5	118	0.7	137	0.7
Aplastic and other anaemias	D60-D64	386	0.6	90.0	1	0.3	58	0.7	96	0.6	99	0.6	132	0.7
<i>All other causes</i>	<i>The remainder</i>	<i>6,296</i>	<i>10.0</i>	<i>100.0</i>	<i>37</i>	<i>11.6</i>	<i>875</i>	<i>10.5</i>	<i>1,879</i>	<i>10.8</i>	<i>1,690</i>	<i>10.2</i>	<i>1,815</i>	<i>9.0</i>

Table D18: Leading underlying causes of death among coloured males, 1997-2001

SHORT NAME FOR THE SUB-GROUP OF CAUSES OF DEATH	ICD-10 CODES	Total			1997		1998		1999		2000		2001	
		N	%	Cum %	N	%	N	%	N	%	N	%	N	%
Total	All codes	6,679	100.0		1	100.0	582	100.0	2,206	100.0	1,756	100.0	2,134	100.0
Unspecified unnatural causes	Y10-Y34	1,311	19.6	19.6	1	100.0	140	24.1	457	20.7	307	17.5	406	19.0
Tuberculosis	A15-A19	550	8.2	27.9	0	0.0	51	8.8	159	7.2	153	8.7	187	8.8
Cerebrovascular disease	I60-I69	447	6.7	34.6	0	0.0	30	5.2	152	6.9	136	7.7	129	6.0
Ischaemic heart disease	I20-I25	433	6.5	41.0	0	0.0	32	5.5	140	6.3	118	6.7	143	6.7
Chronic lower resp. diseases	J40-J47	400	6.0	47.0	0	0.0	31	5.3	123	5.6	115	6.5	131	6.1
Cancer of resp. sys.	C30-C39	290	4.3	51.4	0	0.0	23	4.0	95	4.3	76	4.3	96	4.5
HIV disease	B20-B24	264	4.0	55.3	0	0.0	21	3.6	87	3.9	55	3.1	101	4.7
Cancer of dig. sys.	C15-C26	261	3.9	59.2	0	0.0	16	2.7	95	4.3	59	3.4	91	4.3
Ill-defined causes of mortality	R95-R99	257	3.8	63.1	0	0.0	15	2.6	94	4.3	77	4.4	71	3.3
Other forms of heart disease	I30-I52	220	3.3	66.4	0	0.0	23	4.0	73	3.3	49	2.8	75	3.5
Assault	X85-Y09	209	3.1	69.5	0	0.0	17	2.9	64	2.9	65	3.7	63	3.0
Influenza and pneumonia	J10-J18	185	2.8	72.3	0	0.0	16	2.7	51	2.3	48	2.7	70	3.3
Diabetes mellitus	E10-E14	149	2.2	74.5	0	0.0	11	1.9	46	2.1	46	2.6	46	2.2
Cancer of male gen.	C60-C63	101	1.5	76.0	0	0.0	7	1.2	40	1.8	29	1.7	25	1.2
General symptom and signs	R50-R69	96	1.4	77.5	0	0.0	6	1.0	34	1.5	21	1.2	35	1.6
Disease of liver	K70-K77	91	1.4	78.8	0	0.0	8	1.4	26	1.2	25	1.4	32	1.5
Episodic & paroxysmal disorders	G40-G47	81	1.2	80.0	0	0.0	4	0.7	36	1.6	20	1.1	21	1.0
Cancer of ill-defined	C76-C80	74	1.1	81.1	0	0.0	8	1.4	20	0.9	18	1.0	28	1.3
Cancer of lip, oral pharynx	C00-C14	72	1.1	82.2	0	0.0	3	0.5	33	1.5	14	0.8	22	1.0
Pulmonary heart diseases	I26-I28	68	1.0	83.2	0	0.0	4	0.7	23	1.0	15	0.9	26	1.2
Intestinal infectious diseases	A00-A09	66	1.0	84.2	0	0.0	4	0.7	26	1.2	20	1.1	16	0.7
Hypertensive diseases	I10-I15	65	1.0	85.2	0	0.0	9	1.5	21	1.0	15	0.9	20	0.9
Other land transp. accident	V80-V89	63	0.9	86.1	0	0.0	7	1.2	21	1.0	19	1.1	16	0.7
Renal failure	N17-N19	61	0.9	87.0	0	0.0	5	0.9	22	1.0	17	1.0	17	0.8
Other bacterial diseases	A30-A49	54	0.8	87.9	0	0.0	1	0.2	15	0.7	15	0.9	23	1.1
Diseases of oesophagus, stomach	K20-K31	45	0.7	88.5	0	0.0	4	0.7	13	0.6	15	0.9	13	0.6
Perinatal disorders	P90-P96	45	0.7	89.2	0	0.0	7	1.2	16	0.7	13	0.7	9	0.4
Resp. & cardiovasc. disorders (perinatal)	P20-P29	39	0.6	89.8	0	0.0	7	1.2	10	0.5	18	1.0	4	0.2
Other diseases of resp. system	J95-J99	36	0.5	90.3	0	0.0	3	0.5	11	0.5	8	0.5	14	0.7
Cancer of lymphoid	C81-C96	35	0.5	90.9	0	0.0	1	0.2	13	0.6	7	0.4	14	0.7
<i>All other causes</i>	<i>The remainder</i>	<i>611</i>	<i>9.1</i>	<i>100.0</i>	<i>0</i>	<i>0.0</i>	<i>68</i>	<i>11.7</i>	<i>190</i>	<i>8.6</i>	<i>163</i>	<i>9.3</i>	<i>190</i>	<i>8.9</i>

Table D19: Leading underlying causes of death among coloured females, 1997-2001

SHORT NAME FOR THE SUB-GROUP OF CAUSES OF DEATH	ICD-10 CODES	Total			1997		1998		1999		2000		2001	
		N	%	Cum %	N	%	N	%	N	%	N	%	N	%
Total	All codes	5,147	100.0		1	100.0	474	100.0	1,653	100.0	1,421	100.0	1,598	100.0
Cerebrovascular disease	I60-I69	539	10.5	10.5	0	0.0	41	8.6	166	10.0	156	11.0	176	11.0
Unspecified unnatural causes	Y10-Y34	419	8.1	18.6	0	0.0	50	10.5	141	8.5	112	7.9	116	7.3
Ischaemic heart disease	I20-I25	378	7.3	26.0	0	0.0	27	5.7	132	8.0	92	6.5	127	7.9
Diabetes mellitus	E10-E14	342	6.6	32.6	0	0.0	29	6.1	110	6.7	113	8.0	90	5.6
HIV disease	B20-B24	313	6.1	38.7	0	0.0	26	5.5	84	5.1	91	6.4	112	7.0
Tuberculosis	A15-A19	305	5.9	44.6	0	0.0	26	5.5	99	6.0	88	6.2	92	5.8
Other forms of heart disease	I30-I52	268	5.2	49.8	0	0.0	27	5.7	102	6.2	61	4.3	78	4.9
Chronic lower resp. diseases	J40-J47	203	3.9	53.8	0	0.0	9	1.9	69	4.2	51	3.6	74	4.6
Ill-defined causes of mortality	R95-R99	182	3.5	57.3	0	0.0	18	3.8	50	3.0	62	4.4	52	3.3
Cancer of dig. sys.	C15-C26	181	3.5	60.8	0	0.0	18	3.8	59	3.6	43	3.0	61	3.8
Influenza and pneumonia	J10-J18	156	3.0	63.8	0	0.0	16	3.4	55	3.3	43	3.0	42	2.6
Hypertensive diseases	I10-I15	153	3.0	66.8	0	0.0	17	3.6	40	2.4	49	3.4	47	2.9
General symptom and signs	R50-R69	138	2.7	69.5	0	0.0	13	2.7	45	2.7	31	2.2	49	3.1
Cancer of fem. gen.	C51-C58	136	2.6	72.1	1	100.0	12	2.5	54	3.3	36	2.5	33	2.1
Cancer of resp. sys.	C30-C39	133	2.6	74.7	0	0.0	10	2.1	41	2.5	35	2.5	47	2.9
Cancer of breast	C50	125	2.4	77.2	0	0.0	15	3.2	32	1.9	35	2.5	43	2.7
Renal failure	N17-N19	86	1.7	78.8	0	0.0	9	1.9	32	1.9	15	1.1	30	1.9
Intestinal infectious diseases	A00-A09	77	1.5	80.3	0	0.0	6	1.3	22	1.3	32	2.3	17	1.1
Other bacterial diseases	A30-A49	71	1.4	81.7	0	0.0	7	1.5	24	1.5	14	1.0	26	1.6
Cancer of ill-defined	C76-C80	62	1.2	82.9	0	0.0	6	1.3	18	1.1	19	1.3	19	1.2
Pulmonary heart diseases	I26-I28	56	1.1	84.0	0	0.0	6	1.3	19	1.1	8	0.6	23	1.4
Disease of liver	K70-K77	54	1.0	85.0	0	0.0	5	1.1	16	1.0	7	0.5	26	1.6
Assault	X85-Y09	46	0.9	85.9	0	0.0	5	1.1	14	0.8	18	1.3	9	0.6
Other diseases of resp. system	J95-J99	40	0.8	86.7	0	0.0	4	0.8	10	0.6	11	0.8	15	0.9
Episodic & paroxysmal disorders	G40-G47	38	0.7	87.4	0	0.0	7	1.5	11	0.7	10	0.7	10	0.6
Cancer of lymphoid	C81-C96	33	0.6	88.1	0	0.0	3	0.6	8	0.5	12	0.8	10	0.6
Malnutrition	E40-E46	31	0.6	88.7	0	0.0	4	0.8	11	0.7	9	0.6	7	0.4
Gestation disorders	P05-P08	30	0.6	89.3	0	0.0	6	1.3	12	0.7	9	0.6	3	0.2
Perinatal disorders	P90-P96	29	0.6	89.8	0	0.0	2	0.4	9	0.5	8	0.6	10	0.6
Diseases of arteries	I70-I79	27	0.5	90.4	0	0.0	5	1.1	4	0.2	11	0.8	7	0.4
Resp. & cardiovasc. disorders (perinatal)	P20-P29	27	0.5	90.9	0	0.0	3	0.6	11	0.7	10	0.7	3	0.2
<i>All other causes</i>	<i>The remainder</i>	<i>469</i>	<i>9.1</i>	<i>100.0</i>	<i>0</i>	<i>0.0</i>	<i>42</i>	<i>8.9</i>	<i>153</i>	<i>9.3</i>	<i>130</i>	<i>9.1</i>	<i>144</i>	<i>9.0</i>

Table D20: Leading underlying causes of death among Indian/Asian males, 1997-2001

SHORT NAME FOR THE SUB-GROUP OF CAUSES OF DEATH	ICD-10 CODES	Total			1997		1998		1999		2000		2001	
		N	%	Cum %	N	%	N	%	N	%	N	%	N	%
Total	All codes	1,605	100.0		3	100.0	196	100.0	443	100.0	405	100.0	558	100.0
Ischaemic heart disease	I20-I25	373	23.2	23.2	0	0.0	51	26.0	93	21.0	90	22.2	139	24.9
Unspecified unnatural causes	Y10-Y34	258	16.1	39.3	1	33.3	47	24.0	77	17.4	52	12.8	81	14.5
Cerebrovascular disease	I60-I69	126	7.9	47.2	1	33.3	13	6.6	40	9.0	28	6.9	44	7.9
Diabetes mellitus	E10-E14	89	5.5	52.7	0	0.0	9	4.6	26	5.9	33	8.1	21	3.8
Chronic lower resp. diseases	J40-J47	89	5.5	58.3	0	0.0	8	4.1	26	5.9	32	7.9	23	4.1
Other forms of heart disease	I30-I52	77	4.8	63.1	0	0.0	8	4.1	16	3.6	19	4.7	34	6.1
Cancer of dig. sys.	C15-C26	45	2.8	65.9	0	0.0	8	4.1	12	2.7	13	3.2	12	2.2
Tuberculosis	A15-A19	40	2.5	68.3	0	0.0	4	2.0	13	2.9	11	2.7	12	2.2
Disease of liver	K70-K77	39	2.4	70.8	0	0.0	5	2.6	9	2.0	8	2.0	17	3.0
Other land transp. accident	V80-V89	38	2.4	73.1	0	0.0	3	1.5	15	3.4	11	2.7	9	1.6
Ill-defined causes of mortality	R95-R99	36	2.2	75.4	0	0.0	7	3.6	10	2.3	6	1.5	13	2.3
Cancer of resp. sys.	C30-C39	34	2.1	77.5	0	0.0	5	2.6	10	2.3	6	1.5	13	2.3
Hypertensive diseases	I10-I15	33	2.1	79.6	0	0.0	3	1.5	9	2.0	5	1.2	16	2.9
Influenza and pneumonia	J10-J18	27	1.7	81.2	0	0.0	5	2.6	5	1.1	5	1.2	12	2.2
Renal failure	N17-N19	24	1.5	82.7	0	0.0	1	0.5	9	2.0	7	1.7	7	1.3
Cancer of lymphoid	C81-C96	20	1.2	84.0	0	0.0	3	1.5	3	0.7	6	1.5	8	1.4
General symptom and signs	R50-R69	19	1.2	85.2	0	0.0	1	0.5	3	0.7	6	1.5	9	1.6
Assault	X85-Y09	18	1.1	86.3	0	0.0	0	0.0	7	1.6	5	1.2	6	1.1
Other bacterial diseases	A30-A49	12	0.7	87.0	0	0.0	1	0.5	1	0.2	6	1.5	4	0.7
HIV disease	B20-B24	12	0.7	87.8	0	0.0	0	0.0	4	0.9	7	1.7	1	0.2
Cancer of male gen.	C60-C63	12	0.7	88.5	0	0.0	2	1.0	2	0.5	3	0.7	5	0.9
Intestinal infectious diseases	A00-A09	11	0.7	89.2	0	0.0	2	1.0	3	0.7	2	0.5	4	0.7
Cancer of ill-defined	C76-C80	10	0.6	89.8	0	0.0	1	0.5	3	0.7	2	0.5	4	0.7
Pulmonary heart diseases	I26-I28	10	0.6	90.5	0	0.0	1	0.5	4	0.9	2	0.5	3	0.5
<i>All other causes</i>	<i>The remainder</i>	<i>153</i>	<i>9.5</i>	<i>100.0</i>	<i>1</i>	<i>33.3</i>	<i>8</i>	<i>4.1</i>	<i>43</i>	<i>9.7</i>	<i>40</i>	<i>9.9</i>	<i>61</i>	<i>10.9</i>

Table D21: Leading underlying causes of death among Indian/Asian females, 1997-2001

SHORT NAME FOR THE SUB-GROUP OF CAUSES OF DEATH	ICD-10 CODES	Total			1997		1998		1999		2000		2001	
		N	%	Cum %	N	%	N	%	N	%	N	%	N	%
Total	All codes	1,216	100.0		3	100.0	141	100.0	320	100.0	340	100.0	412	100.0
Ischaemic heart disease	I20-I25	235	19.3	19.3	0	0.0	29	20.6	57	17.8	64	18.8	85	20.6
Diabetes mellitus	E10-E14	165	13.6	32.9	0	0.0	21	14.9	39	12.2	53	15.6	52	12.6
Cerebrovascular disease	I60-I69	114	9.4	42.3	0	0.0	13	9.2	29	9.1	27	7.9	45	10.9
Other forms of heart disease	I30-I52	83	6.8	49.1	1	33.3	5	3.5	20	6.3	24	7.1	33	8.0
Unspecified unnatural causes	Y10-Y34	67	5.5	54.6	0	0.0	9	6.4	25	7.8	15	4.4	18	4.4
Cancer of dig. sys.	C15-C26	40	3.3	57.9	0	0.0	3	2.1	12	3.8	9	2.6	16	3.9
Renal failure	N17-N19	38	3.1	61.0	0	0.0	5	3.5	11	3.4	11	3.2	11	2.7
Chronic lower resp. diseases	J40-J47	37	3.0	64.1	0	0.0	3	2.1	9	2.8	13	3.8	12	2.9
General symptom and signs	R50-R69	33	2.7	66.8	0	0.0	4	2.8	8	2.5	8	2.4	13	3.2
Cancer of breast	C50	32	2.6	69.4	0	0.0	4	2.8	7	2.2	9	2.6	12	2.9
Hypertensive diseases	I10-I15	30	2.5	71.9	0	0.0	5	3.5	7	2.2	7	2.1	11	2.7
Cancer of fem. gen.	C51-C58	27	2.2	74.1	0	0.0	4	2.8	12	3.8	7	2.1	4	1.0
Influenza and pneumonia	J10-J18	24	2.0	76.1	0	0.0	4	2.8	4	1.3	8	2.4	8	1.9
Ill-defined causes of mortality	R95-R99	24	2.0	78.0	0	0.0	3	2.1	3	0.9	8	2.4	10	2.4
Tuberculosis	A15-A19	17	1.4	79.4	0	0.0	2	1.4	2	0.6	5	1.5	8	1.9
Other bacterial diseases	A30-A49	15	1.2	80.7	0	0.0	3	2.1	3	0.9	5	1.5	4	1.0
HIV disease	B20-B24	14	1.2	81.8	1	33.3	0	0.0	4	1.3	5	1.5	4	1.0
Other land transp. accident	V80-V89	14	1.2	83.0	0	0.0	1	0.7	5	1.6	4	1.2	4	1.0
Cancer of ill-defined	C76-C80	13	1.1	84.0	0	0.0	3	2.1	5	1.6	1	0.3	4	1.0
Cancer of resp. sys.	C30-C39	12	1.0	85.0	0	0.0	2	1.4	7	2.2	0	0.0	3	0.7
Pulmonary heart diseases	I26-I28	10	0.8	85.9	0	0.0	1	0.7	2	0.6	5	1.5	2	0.5
Exposure to other factors	X58-X59	10	0.8	86.7	1	33.3	0	0.0	1	0.3	4	1.2	4	1.0
Other diseases of resp. system	J95-J99	9	0.7	87.4	0	0.0	0	0.0	2	0.6	2	0.6	5	1.2
Cancer of lymphoid	C81-C96	8	0.7	88.1	0	0.0	1	0.7	1	0.3	4	1.2	2	0.5
Intestinal infectious diseases	A00-A09	7	0.6	88.7	0	0.0	1	0.7	2	0.6	1	0.3	3	0.7
Cancer of lip, oral pharynx	C00-C14	7	0.6	89.2	0	0.0	0	0.0	3	0.9	2	0.6	2	0.5
Metabolic disorders	E70-E90	6	0.5	89.7	0	0.0	1	0.7	1	0.3	2	0.6	2	0.5
Extrapyramidal & movement disorders	G20-G26	6	0.5	90.2	0	0.0	0	0.0	4	1.3	1	0.3	1	0.2
Diseases of oesophagus, stomach	K20-K31	6	0.5	90.7	0	0.0	1	0.7	1	0.3	1	0.3	3	0.7
<i>All other causes</i>	<i>The remainder</i>	<i>113</i>	<i>9.3</i>	<i>100.0</i>	<i>0</i>	<i>0.0</i>	<i>13</i>	<i>9.2</i>	<i>34</i>	<i>10.6</i>	<i>35</i>	<i>10.3</i>	<i>31</i>	<i>7.5</i>

Table D22: Leading underlying causes of death among white males, 1997-2001

SHORT NAME FOR THE SUB-GROUP OF CAUSES OF DEATH	ICD-10 CODES	Total			1997		1998		1999		2000		2001	
		N	%	Cum %	N	%	N	%	N	%	N	%	N	%
Total	All codes	9,476	100.0		13	100.0	1,217	100.0	3,025	100.0	2,346	100.0	2,875	100.0
Ischaemic heart disease	I20-I25	1,875	19.8	19.8	1	7.7	218	17.9	601	19.9	491	20.9	564	19.6
Unspecified unnatural causes	Y10-Y34	1,217	12.8	32.6	1	7.7	208	17.1	382	12.6	286	12.2	340	11.8
Cerebrovascular disease	I60-I69	601	6.3	39.0	2	15.4	80	6.6	203	6.7	148	6.3	168	5.8
Chronic lower resp. diseases	J40-J47	561	5.9	44.9	1	7.7	70	5.8	182	6.0	140	6.0	168	5.8
Cancer of dig. sys.	C15-C26	485	5.1	50.0	0	0.0	58	4.8	160	5.3	130	5.5	137	4.8
Other forms of heart disease	I30-I52	438	4.6	54.6	0	0.0	57	4.7	140	4.6	108	4.6	133	4.6
Cancer of resp. sys.	C30-C39	378	4.0	58.6	0	0.0	34	2.8	123	4.1	93	4.0	128	4.5
Cancer of male gen.	C60-C63	299	3.2	61.8	0	0.0	30	2.5	93	3.1	79	3.4	97	3.4
Influenza and pneumonia	J10-J18	249	2.6	64.4	0	0.0	27	2.2	89	2.9	62	2.6	71	2.5
Diabetes mellitus	E10-E14	218	2.3	66.7	0	0.0	27	2.2	74	2.4	55	2.3	62	2.2
Ill-defined causes of mortality	R95-R99	200	2.1	68.8	1	7.7	30	2.5	57	1.9	43	1.8	69	2.4
Disease of liver	K70-K77	183	1.9	70.7	0	0.0	21	1.7	57	1.9	44	1.9	61	2.1
Renal failure	N17-N19	178	1.9	72.6	0	0.0	30	2.5	52	1.7	40	1.7	56	1.9
Cancer of lymphoid	C81-C96	153	1.6	74.2	0	0.0	25	2.1	50	1.7	41	1.7	37	1.3
Diseases of arteries	I70-I79	148	1.6	75.8	0	0.0	18	1.5	41	1.4	39	1.7	50	1.7
General symptom and signs	R50-R69	148	1.6	77.4	1	7.7	17	1.4	47	1.6	37	1.6	46	1.6
Other land transp. accident	V80-V89	146	1.5	78.9	0	0.0	27	2.2	50	1.7	26	1.1	43	1.5
Pulmonary heart diseases	I26-I28	135	1.4	80.3	0	0.0	18	1.5	36	1.2	32	1.4	49	1.7
Other bacterial diseases	A30-A49	126	1.3	81.7	1	7.7	10	0.8	35	1.2	31	1.3	49	1.7
Cancer of ill-defined	C76-C80	124	1.3	83.0	0	0.0	5	0.4	40	1.3	31	1.3	48	1.7
HIV disease	B20-B24	102	1.1	84.0	0	0.0	10	0.8	27	0.9	27	1.2	38	1.3
Cancer of urinary	C64-C68	88	0.9	85.0	0	0.0	11	0.9	27	0.9	25	1.1	25	0.9
Hypertensive diseases	I10-I15	79	0.8	85.8	1	7.7	13	1.1	25	0.8	16	0.7	24	0.8
Tuberculosis	A15-A19	72	0.8	86.6	1	7.7	14	1.2	18	0.6	19	0.8	20	0.7
Degenerative disease of NS	G30-G32	64	0.7	87.2	0	0.0	4	0.3	23	0.8	12	0.5	25	0.9
Cancer of skin	C43-C44	63	0.7	87.9	0	0.0	3	0.2	16	0.5	25	1.1	19	0.7
Diseases of oesophagus, stomach	K20-K31	60	0.6	88.5	0	0.0	10	0.8	18	0.6	10	0.4	22	0.8
Cancer of soft tissue	C45-C49	57	0.6	89.1	0	0.0	4	0.3	15	0.5	24	1.0	14	0.5
Exposure to other factors	X58-X59	56	0.6	89.7	1	7.7	9	0.7	17	0.6	11	0.5	18	0.6
Cancer of lip, oral pharynx	C00-C14	54	0.6	90.3	0	0.0	12	1.0	12	0.4	12	0.5	18	0.6
Assault	X85-Y09	54	0.6	90.9	0	0.0	5	0.4	24	0.8	14	0.6	11	0.4
<i>All other causes</i>	<i>The remainder</i>	865	9.1	100.0	2	15.4	112	9.2	291	9.6	195	8.3	265	9.2

Table D23: Leading underlying causes of death among white females, 1997-2001

SHORT NAME FOR THE SUB-GROUP OF CAUSES OF DEATH	ICD-10 CODES	Total			1997		1998		1999		2000		2001	
		N	%	Cum %	N	%	N	%	N	%	N	%	N	%
Total	All codes	8,607	100.0		9	100.0	997	100.0	2,794	100.0	2,151	100.0	2,656	100.0
Ischaemic heart disease	I20-I25	1,281	14.9	14.9	1	11.1	152	15.2	404	14.5	327	15.2	397	14.9
Cerebrovascular disease	I60-I69	900	10.5	25.3	0	0.0	102	10.2	271	9.7	234	10.9	293	11.0
Other forms of heart disease	I30-I52	619	7.2	32.5	0	0.0	77	7.7	198	7.1	167	7.8	177	6.7
Chronic lower resp. diseases	J40-J47	465	5.4	37.9	0	0.0	54	5.4	139	5.0	113	5.3	159	6.0
Cancer of dig. sys.	C15-C26	450	5.2	43.2	1	11.1	46	4.6	169	6.0	90	4.2	144	5.4
Unspecified unnatural causes	Y10-Y34	410	4.8	47.9	3	33.3	61	6.1	149	5.3	81	3.8	116	4.4
Influenza and pneumonia	J10-J18	364	4.2	52.2	0	0.0	39	3.9	119	4.3	85	4.0	121	4.6
Cancer of breast	C50	338	3.9	56.1	0	0.0	38	3.8	124	4.4	71	3.3	105	4.0
General symptom and signs	R50-R69	331	3.8	59.9	0	0.0	35	3.5	104	3.7	84	3.9	108	4.1
Diabetes mellitus	E10-E14	275	3.2	63.1	0	0.0	26	2.6	95	3.4	77	3.6	77	2.9
Cancer of resp. sys.	C30-C39	235	2.7	65.9	0	0.0	25	2.5	76	2.7	53	2.5	81	3.0
Renal failure	N17-N19	235	2.7	68.6	0	0.0	26	2.6	76	2.7	50	2.3	83	3.1
Pulmonary heart diseases	I26-I28	177	2.1	70.6	1	11.1	18	1.8	49	1.8	54	2.5	55	2.1
Hypertensive diseases	I10-I15	169	2.0	72.6	1	11.1	14	1.4	67	2.4	39	1.8	48	1.8
Cancer of lymphoid	C81-C96	162	1.9	74.5	0	0.0	12	1.2	64	2.3	46	2.1	40	1.5
Cancer of fem. gen.	C51-C58	160	1.9	76.3	0	0.0	16	1.6	48	1.7	51	2.4	45	1.7
Other bacterial diseases	A30-A49	156	1.8	78.2	0	0.0	14	1.4	39	1.4	46	2.1	57	2.1
Cancer of ill-defined	C76-C80	152	1.8	79.9	0	0.0	13	1.3	59	2.1	38	1.8	42	1.6
Exposure to other factors	X58-X59	127	1.5	81.4	0	0.0	13	1.3	46	1.6	27	1.3	41	1.5
Diseases of arteries	I70-I79	126	1.5	82.9	1	11.1	13	1.3	42	1.5	28	1.3	42	1.6
Degenerative disease of NS	G30-G32	108	1.3	84.1	0	0.0	9	0.9	31	1.1	39	1.8	29	1.1
Ill-defined causes of mortality	R95-R99	98	1.1	85.3	0	0.0	23	2.3	25	0.9	23	1.1	27	1.0
Disease of liver	K70-K77	92	1.1	86.3	0	0.0	12	1.2	31	1.1	24	1.1	25	0.9
Diseases of oesophagus, stomach	K20-K31	82	1.0	87.3	0	0.0	14	1.4	24	0.9	20	0.9	24	0.9
Other diseases of intestines	K55-K63	71	0.8	88.1	0	0.0	10	1.0	26	0.9	15	0.7	20	0.8
HIV disease	B20-B24	59	0.7	88.8	0	0.0	9	0.9	15	0.5	18	0.8	17	0.6
Cancer of urinary	C64-C68	59	0.7	89.5	0	0.0	7	0.7	16	0.6	15	0.7	21	0.8
Other diseases of resp. system	J95-J99	53	0.6	90.1	0	0.0	7	0.7	12	0.4	10	0.5	24	0.9
Intestinal infectious diseases	A00-A09	52	0.6	90.7	1	11.1	3	0.3	19	0.7	15	0.7	14	0.5
<i>All other causes</i>	<i>The remainder</i>	<i>801</i>	<i>9.3</i>	<i>100.0</i>	<i>0</i>	<i>0.0</i>	<i>109</i>	<i>10.9</i>	<i>257</i>	<i>9.2</i>	<i>211</i>	<i>9.8</i>	<i>224</i>	<i>8.4</i>

Table D24: Leading underlying causes of death among males of other and unspecified population group, 1997-2001

SHORT NAME FOR THE SUB-GROUP OF CAUSES OF DEATH	ICD-10 CODES	Total			1997		1998		1999		2000		2001	
		N	%	Cum %	N	%	N	%	N	%	N	%	N	%
Total	All codes	61,697	100.0		25,820	100.0	18,043	100.0	6,193	100.0	5,132	100.0	6,509	100.0
Unspecified unnatural causes	Y10-Y34	10,623	17.2	17.2	5,384	20.9	3,290	18.2	883	14.3	512	10.0	554	8.5
Ill-defined causes of mortality	R95-R99	6,182	10.0	27.2	2,160	8.4	1,582	8.8	642	10.4	740	14.4	1,058	16.3
Tuberculosis	A15-A19	5,109	8.3	35.5	1,941	7.5	1,416	7.8	541	8.7	500	9.7	711	10.9
Other forms of heart disease	I30-I52	3,210	5.2	40.7	1,390	5.4	940	5.2	337	5.4	242	4.7	301	4.6
Influenza and pneumonia	J10-J18	3,161	5.1	45.8	1,052	4.1	923	5.1	366	5.9	338	6.6	482	7.4
Cerebrovascular disease	I60-I69	2,993	4.9	50.7	1,311	5.1	835	4.6	317	5.1	223	4.3	307	4.7
General symptom and signs	R50-R69	2,469	4.0	54.7	922	3.6	677	3.8	218	3.5	274	5.3	378	5.8
Ischaemic heart disease	I20-I25	2,446	4.0	58.7	1,078	4.2	721	4.0	262	4.2	176	3.4	209	3.2
Chronic lower resp. diseases	J40-J47	2,362	3.8	62.5	945	3.7	719	4.0	261	4.2	214	4.2	223	3.4
HIV disease	B20-B24	2,332	3.8	66.3	995	3.9	804	4.5	174	2.8	175	3.4	184	2.8
Intestinal infectious diseases	A00-A09	1,927	3.1	69.4	722	2.8	641	3.6	215	3.5	161	3.1	188	2.9
Cancer of dig. sys.	C15-C26	1,844	3.0	72.4	827	3.2	513	2.8	167	2.7	164	3.2	173	2.7
Cancer of resp. sys.	C30-C39	1,242	2.0	74.4	514	2.0	358	2.0	134	2.2	124	2.4	112	1.7
Diabetes mellitus	E10-E14	1,221	2.0	76.4	529	2.0	357	2.0	125	2.0	83	1.6	127	2.0
Disease of liver	K70-K77	976	1.6	78.0	429	1.7	293	1.6	95	1.5	66	1.3	93	1.4
Hypertensive diseases	I10-I15	854	1.4	79.3	394	1.5	234	1.3	81	1.3	63	1.2	82	1.3
Renal failure	N17-N19	739	1.2	80.5	300	1.2	213	1.2	82	1.3	61	1.2	83	1.3
Malnutrition	E40-E46	695	1.1	81.7	270	1.0	244	1.4	65	1.0	60	1.2	56	0.9
Other bacterial diseases	A30-A49	668	1.1	82.7	285	1.1	183	1.0	68	1.1	56	1.1	76	1.2
Cancer of male gen.	C60-C63	598	1.0	83.7	246	1.0	150	0.8	70	1.1	53	1.0	79	1.2
Resp. & cardiovasc. disorders (perinatal)	P20-P29	566	0.9	84.6	262	1.0	182	1.0	50	0.8	37	0.7	35	0.5
Episodic & paroxysmal disorders	G40-G47	499	0.8	85.4	229	0.9	119	0.7	48	0.8	46	0.9	57	0.9
Other land transp. accident	V80-V89	497	0.8	86.2	190	0.7	145	0.8	63	1.0	43	0.8	56	0.9
Inflam. diseases CNS	G00-G09	458	0.7	87.0	179	0.7	134	0.7	41	0.7	41	0.8	63	1.0
Pulmonary heart diseases	I26-I28	439	0.7	87.7	174	0.7	125	0.7	50	0.8	43	0.8	47	0.7
Assault	X85-Y09	432	0.7	88.4	156	0.6	111	0.6	79	1.3	43	0.8	43	0.7
Perinatal disorders	P90-P96	410	0.7	89.1	144	0.6	160	0.9	39	0.6	36	0.7	31	0.5
Cancer of ill-defined	C76-C80	408	0.7	89.7	156	0.6	123	0.7	57	0.9	34	0.7	38	0.6
Other diseases of resp. system	J95-J99	400	0.6	90.4	141	0.5	125	0.7	36	0.6	44	0.9	54	0.8
Diseases of oesophagus, stomach	K20-K31	349	0.6	90.9	150	0.6	98	0.5	34	0.5	32	0.6	35	0.5
<i>All other causes</i>	<i>The remainder</i>	<i>5,588</i>	<i>9.1</i>	<i>100.0</i>	<i>2,345</i>	<i>9.1</i>	<i>1,628</i>	<i>9.0</i>	<i>593</i>	<i>9.6</i>	<i>448</i>	<i>8.7</i>	<i>574</i>	<i>8.8</i>

Table D25: Leading underlying causes of death among females of other and unspecified population group, 1997-2001

SHORT NAME FOR THE SUB-GROUP OF CAUSES OF DEATH	ICD-10 CODES	Total			1997		1998		1999		2000		2001	
		N	%	Cum %	N	%	N	%	N	%	N	%	N	%
Total	All codes	50,794	100.0		20,360	100.0	14,717	100.0	5,092	100.0	4,598	100.0	6,027	100.0
Ill-defined causes of mortality	R95-R99	5,186	10.2	10.2	1,760	8.6	1,337	9.1	512	10.1	638	13.9	939	15.6
Cerebrovascular disease	I60-I69	3,896	7.7	17.9	1,627	8.0	1,064	7.2	416	8.2	340	7.4	449	7.4
General symptom and signs	R50-R69	3,695	7.3	25.2	1,293	6.4	1,020	6.9	342	6.7	482	10.5	558	9.3
Other forms of heart disease	I30-I52	3,571	7.0	32.2	1,528	7.5	1,055	7.2	352	6.9	281	6.1	355	5.9
Unspecified unnatural causes	Y10-Y34	3,323	6.5	38.7	1,673	8.2	1,044	7.1	261	5.1	160	3.5	185	3.1
Influenza and pneumonia	J10-J18	3,054	6.0	44.7	1,037	5.1	840	5.7	353	6.9	321	7.0	503	8.3
Tuberculosis	A15-A19	2,958	5.8	50.6	1,064	5.2	782	5.3	335	6.6	286	6.2	491	8.1
HIV disease	B20-B24	2,511	4.9	55.5	1,133	5.6	835	5.7	176	3.5	175	3.8	192	3.2
Intestinal infectious diseases	A00-A09	1,994	3.9	59.4	735	3.6	674	4.6	206	4.0	180	3.9	199	3.3
Diabetes mellitus	E10-E14	1,860	3.7	63.1	791	3.9	505	3.4	209	4.1	160	3.5	195	3.2
Ischaemic heart disease	I20-I25	1,743	3.4	66.5	665	3.3	542	3.7	216	4.2	147	3.2	173	2.9
Chronic lower resp. diseases	J40-J47	1,604	3.2	69.7	664	3.3	499	3.4	144	2.8	145	3.2	152	2.5
Hypertensive diseases	I10-I15	1,285	2.5	72.2	566	2.8	349	2.4	138	2.7	110	2.4	122	2.0
Cancer of dig. sys.	C15-C26	1,148	2.3	74.5	484	2.4	354	2.4	109	2.1	93	2.0	108	1.8
Cancer of fem. gen.	C51-C58	973	1.9	76.4	444	2.2	269	1.8	90	1.8	72	1.6	98	1.6
Other bacterial diseases	A30-A49	785	1.5	77.9	325	1.6	208	1.4	75	1.5	70	1.5	107	1.8
Renal failure	N17-N19	695	1.4	79.3	312	1.5	180	1.2	61	1.2	51	1.1	91	1.5
Cancer of breast	C50	601	1.2	80.5	255	1.3	171	1.2	68	1.3	36	0.8	71	1.2
Malnutrition	E40-E46	599	1.2	81.7	226	1.1	218	1.5	58	1.1	57	1.2	40	0.7
Disease of liver	K70-K77	560	1.1	82.8	242	1.2	170	1.2	49	1.0	43	0.9	56	0.9
Resp. & cardiovasc. disorders (perinatal)	P20-P29	471	0.9	83.7	238	1.2	134	0.9	29	0.6	35	0.8	35	0.6
Cancer of resp. sys.	C30-C39	447	0.9	84.6	180	0.9	137	0.9	41	0.8	37	0.8	52	0.9
Pulmonary heart diseases	I26-I28	408	0.8	85.4	155	0.8	118	0.8	50	1.0	37	0.8	48	0.8
Cancer of ill-defined	C76-C80	404	0.8	86.2	171	0.8	117	0.8	38	0.7	39	0.8	39	0.6
Inflam. diseases CNS	G00-G09	397	0.8	87.0	132	0.6	112	0.8	50	1.0	42	0.9	61	1.0
Perinatal disorders	P90-P96	369	0.7	87.7	124	0.6	144	1.0	38	0.7	30	0.7	33	0.5
Other diseases of resp. system	J95-J99	342	0.7	88.4	113	0.6	108	0.7	38	0.7	32	0.7	51	0.8
Cancer of lymphoid	C81-C96	274	0.5	88.9	125	0.6	70	0.5	31	0.6	27	0.6	21	0.3
Other acute lower resp. infections	J20-J22	265	0.5	89.4	105	0.5	84	0.6	33	0.6	10	0.2	33	0.5
Diseases of oesophagus, stomach	K20-K31	257	0.5	89.9	96	0.5	72	0.5	24	0.5	27	0.6	38	0.6
Aplastic and other anaemias	D60-D64	252	0.5	90.4	94	0.5	79	0.5	24	0.5	21	0.5	34	0.6
Episodic & paroxysmal disorders	G40-G47	250	0.5	90.9	95	0.5	66	0.4	29	0.6	32	0.7	28	0.5
<i>All other causes</i>	<i>The remainder</i>	<i>4,617</i>	<i>9.1</i>	<i>100.0</i>	<i>1,908</i>	<i>9.4</i>	<i>1,360</i>	<i>9.2</i>	<i>497</i>	<i>9.8</i>	<i>382</i>	<i>8.3</i>	<i>470</i>	<i>7.8</i>

Table D26: The top 20 leading multiple causes of death among males, 1997-2001

	1997			1998			1999			2000			2001		
	Cause	N	%	Cause	N	%	Cause	N	%	Cause	N	%	Cause	N	%
1	External causes (undetermined)	5,485	13.0	External causes (undetermined)	5,554	11.4	External causes (undetermined)	4,948	9.4	Influenza and pneumonia	3,767	8.4	Tuberculosis	4,716	8.9
2	Other forms of heart disease	4,549	10.8	Other forms of heart disease	4,666	9.6	Other forms of heart disease	4,240	8.1	Tuberculosis	3,652	8.2	Influenza and pneumonia	4,532	8.6
3	Influenza and pneumonia	2,430	5.8	Influenza and pneumonia	3,363	6.9	Influenza and pneumonia	3,811	7.3	External causes (undetermined)	3,594	8.0	External causes (undetermined)	4,144	7.9
4	Tuberculosis	2,425	5.8	Tuberculosis	3,101	6.4	Tuberculosis	3,797	7.2	Other forms of heart disease	3,210	7.2	Other forms of heart disease	3,584	6.8
5	Ill-defined causes of mortality	2,357	5.6	Ill-defined causes of mortality	2,692	5.5	Ill-defined causes of mortality	2,602	5.0	Ill-defined causes of mortality	2,424	5.4	Ill-defined causes of mortality	3,136	6.0
6	General symptom and signs	1,635	3.9	General symptom and signs	1,876	3.9	HIV disease	2,336	4.4	HIV disease	2,267	5.1	HIV disease	2,600	4.9
7	Cerebrovascular disease	1,564	3.7	Cerebrovascular disease	1,758	3.6	Cerebrovascular disease	2,013	3.8	Cerebrovascular disease	1,675	3.7	Cerebrovascular disease	1,967	3.7
8	Chronic lower resp. diseases	1,378	3.3	Chronic lower resp. diseases	1,710	3.5	Chronic lower resp. diseases	1,858	3.5	Chronic lower resp. diseases	1,504	3.4	General symptom and signs	1,875	3.6
9	Ischaemic heart disease	1,268	3.0	HIV disease	1,588	3.3	General symptom and signs	1,845	3.5	General symptom and signs	1,500	3.4	Chronic lower resp. diseases	1,850	3.5
10	Hypertensive diseases	1,191	2.8	Ischaemic heart disease	1,372	2.8	Ischaemic heart disease	1,635	3.1	Intestinal infectious diseases	1,462	3.3	Hypertensive diseases	1,610	3.1
11	Other diseases of resp. system	1,021	2.4	Hypertensive diseases	1,343	2.8	Hypertensive diseases	1,594	3.0	Hypertensive diseases	1,316	2.9	Ischaemic heart disease	1,551	2.9
12	HIV disease	1,016	2.4	Intestinal infectious diseases	1,338	2.8	Intestinal infectious diseases	1,384	2.6	Ischaemic heart disease	1,303	2.9	Intestinal infectious diseases	1,486	2.8
13	Intestinal infectious diseases	982	2.3	Other diseases of resp. system	1,248	2.6	Other diseases of resp. system	1,240	2.4	Other diseases of resp. system	998	2.2	Other diseases of resp. system	1,262	2.4
14	Cancer of dig. sys.	858	2	Metabolic disorders	934	1.9	Renal failure	1,024	2.0	Metabolic disorders	908	2.0	Renal failure	1,080	2.0
15	Renal failure	841	2	Renal failure	917	1.9	Metabolic disorders	990	1.9	Renal failure	829	1.9	Metabolic disorders	1,023	1.9
16	Disease of liver	789	1.9	Cancer of dig. sys.	882	1.8	Disease of liver	984	1.9	Other bacterial diseases	805	1.8	Diabetes mellitus	976	1.9
17	Diabetes mellitus	768	1.8	Diabetes mellitus	852	1.8	Other bacterial diseases	952	1.8	Diabetes mellitus	760	1.7	Other bacterial diseases	947	1.8
18	Metabolic disorders	707	1.7	Disease of liver	840	1.7	Cancer of dig. sys.	950	1.8	Cancer of dig. sys.	737	1.6	Cancer of dig. sys.	898	1.7
19	Other bacterial diseases	672	1.6	Other bacterial diseases	825	1.7	Diabetes mellitus	934	1.8	Disease of liver	694	1.6	Disease of liver	824	1.6
20	Cancer of ill-defined	656	1.6	Cancer of ill-defined	636	1.3	Cancer of ill-defined	726	1.4	Symp and signs (cir. and resp. sys.)	637	1.4	Symp and signs (cir. and resp. sys.)	717	1.4

Table D27: The top 20 leading multiple causes of death among females, 1997-2001

	1997			1998			1999			2000			2001		
	Cause	N	%	Cause	N	%	Cause	N	%	Cause	N	%	Cause	N	%
1	Other forms of heart disease	4,582	12.9	Other forms of heart disease	4,808	11.4	Other forms of heart disease	4,604	9.9	Influenza and pneumonia	3,741	8.9	Influenza and pneumonia	4,832	9.6
2	Influenza and pneumonia	2,288	6.5	Influenza and pneumonia	3,097	7.4	Influenza and pneumonia	3,746	8.0	Other forms of heart disease	3,588	8.6	Other forms of heart disease	4,080	8.1
3	General symptom and signs	1,960	5.5	General symptom and signs	2,491	5.9	Cerebrovascular disease	2,526	5.4	Tuberculosis	2,541	6.1	Tuberculosis	3,516	7.0
4	Ill-defined causes of mortality	1,891	5.3	Ill-defined causes of mortality	2,259	5.4	HIV disease	2,483	5.3	HIV disease	2,538	6.1	HIV disease	3,038	6.0
5	Cerebrovascular disease	1,876	5.3	Cerebrovascular disease	2,186	5.2	General symptom and signs	2,476	5.3	Cerebrovascular disease	2,257	5.4	Ill-defined causes of mortality	2,887	5.7
6	External causes (undetermined)	1,725	4.9	Hypertensive diseases	2,045	4.9	Tuberculosis	2,472	5.3	General symptom and signs	2,230	5.3	Cerebrovascular disease	2,697	5.4
7	Hypertensive diseases	1,711	4.8	Tuberculosis	1,967	4.7	Hypertensive diseases	2,443	5.2	Hypertensive diseases	2,215	5.3	Hypertensive diseases	2,668	5.3
8	Tuberculosis	1,448	4.1	External causes (undetermined)	1,701	4.0	Ill-defined causes of mortality	2,144	4.6	Ill-defined causes of mortality	2,168	5.2	General symptom and signs	2,635	5.2
9	HIV disease	1,158	3.3	HIV disease	1,684	4.0	External causes (undetermined)	1,556	3.3	Intestinal infectious diseases	1,663	4.0	Intestinal infectious diseases	1,830	3.6
10	Diabetes mellitus	1,076	3.0	Intestinal infectious diseases	1,430	3.4	Intestinal infectious diseases	1,532	3.3	Diabetes mellitus	1,224	2.9	Diabetes mellitus	1,470	2.9
11	Intestinal infectious diseases	1,056	3.0	Diabetes mellitus	1,179	2.8	Diabetes mellitus	1,385	3.0	External causes (undetermined)	1,051	2.5	External causes (undetermined)	1,211	2.4
12	Chronic lower resp. diseases	913	2.6	Chronic lower resp. diseases	1,082	2.6	Ischaemic heart disease	1,227	2.6	Chronic lower resp. diseases	986	2.4	Chronic lower resp. diseases	1,206	2.4
13	Ischaemic heart disease	785	2.2	Ischaemic heart disease	1,021	2.4	Chronic lower resp. diseases	1,112	2.4	Ischaemic heart disease	984	2.3	Ischaemic heart disease	1,177	2.3
14	Other diseases of resp. system	785	2.2	Other diseases of resp. system	962	2.3	Other bacterial diseases	1,058	2.3	Metabolic disorders	969	2.3	Metabolic disorders	1,142	2.3
15	Renal failure	780	2.2	Metabolic disorders	885	2.1	Metabolic disorders	1,017	2.2	Other bacterial diseases	915	2.2	Other bacterial diseases	1,062	2.1
16	Other bacterial diseases	758	2.1	Other bacterial diseases	863	2.1	Other diseases of resp. system	952	2.0	Other diseases of resp. system	816	1.9	Other diseases of resp. system	1,038	2.1
17	Metabolic disorders	732	2.1	Renal failure	795	1.9	Renal failure	878	1.9	Renal failure	765	1.8	Renal failure	1,008	2.0
18	Cancer of ill-defined	681	1.9	Cancer of ill-defined	670	1.6	Cancer of ill-defined	724	1.6	Cancer of ill-defined	597	1.4	Sympns and signs (cir. and resp. sys.)	677	1.3
19	Cancer of dig. sys.	516	1.5	Cancer of dig. sys.	581	1.4	Cancer of dig. sys.	663	1.4	Sympns and signs (cir. and resp. sys.)	531	1.3	Cancer of ill-defined	661	1.3
20	Resp. & cardiovasc. disorders (perinatal)	496	1.4	Disease of liver	507	1.2	Sympns and signs (cir. and resp. sys.)	582	1.2	Cancer of dig. sys.	513	1.2	Cancer of dig. sys.	606	1.2

Appendix E

MULTIPLE CAUSES OF DEATH

This appendix describes the relationship between multiple causes of death and underlying causes, the relationship between the first listed cause in the death certificate and the underlying cause, and discusses the various multiple causes of death in South Africa.

Multiple cause of death is defined as:

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.

Although the underlying cause of death concept is easy to understand, it sometimes fails to adequately convey the complexity of reported medical conditions at the time of death. In situations when multiple chains of diseases exist, each with its own initiating condition, only one disease is selected as the underlying cause of death, to the exclusion of the others. This is often found in the case of chronic diseases where a number of coexisting conditions are present at the time of death. Also, in case of deaths due to unnatural causes of death, the underlying cause of death may only capture the circumstance of injuries resulting in a death, missing out the nature of injuries causing the death. It is these kinds of limitations in the concept of underlying cause of death that led to the emergence of the concept of multiple causes of death.

Relationship between multiple and underlying causes

Table E1 shows the number of underlying causes of death, the corresponding number of multiple causes of death for each year during the study period and the ratio between the two, for males and females. If no contributing causes of death are mentioned in all death certificates, then the ratio between the number of multiple causes and underlying causes is expected to be one. According to Table E1, for each of the years this ratio is below two for both females than males. The average ratio of 1,59 for males is slightly lower than that of females (1,68). This implies that on average less than two causes of death were listed in death certificates, instead of the expected five causes. As certification of causes improves, one expects the ratio to increase significantly.

Relationship between first and underlying causes

Table E2 shows that on average for 72,2 percent of male deaths the first cause of death is listed on the death notification form (i.e., the immediate cause). The corresponding average figure for females is 68,7 percent. With the exception of 1997, this percentage has remained relatively constant for males, ranging between 70,0 and 73,0 percent. This percentage also remained relatively constant for females, with the exception of 1999, ranging between 68,0 and 71,0 percent.

Table E1: Relationship between multiple causes and underlying causes of death, males and females, 1997-2001

Year	MALES			FEMALES		
	Number of multiple causes	Number of underlying causes	Ratio of multiple to underlying cause	Number of multiple causes	Number of underlying causes	Ratio of multiple to underlying cause
1997	42 099	26 248	1,60	35 439	20 690	1,71
1998	48 551	30 218	1,61	42 001	24 637	1,70
1999	52 499	32 483	1,62	46 576	27 226	1,71
2000	44 773	28 136	1,59	41 946	25 110	1,67
2001	52 699	33 876	1,56	50 278	30 940	1,63
Average	48 124	30 192	1,59	43 248	25 721	1,68

Table E2: Relationship between the first listed cause and the underlying cause of death by Sex, 1997-2001

Year		MALES			FEMALES		
		Cause 1= underlying cause	Cause 1 ≠ underlying cause	Total	Cause 1= underlying cause	Cause 1 ≠ underlying cause	Total
1997	N	19 443	6 805	26 248	14 546	6 144	20 690
	%	74,1	25,9	100,0	70,3	29,7	100,0
1998	N	21 612	8 606	30 218	16 755	7 882	24 637
	%	71,5	28,5	100,0	68,0	32,0	100,0
1999	N	22 995	9 488	32 483	18 196	9 030	27 226
	%	70,8	29,2	100,0	66,8	33,2	100,0
2000	N	20 224	7 912	28 136	17 136	7 974	25 110
	%	71,9	28,1	100,0	68,2	31,8	100,0
2001	N	24 733	9 143	33 876	21 697	9 243	30 940
	%	73,0	27,0	100,0	70,1	29,9	100,0
Average	N	21 801	8 391	30 192	17 666	8 055	25 721
	%	72,2	27,8	100,0	68,7	31,3	100,0

Causes forming basis for choice of underlying causes

Table E3 shows the number of causes forming the basis for the choice of the underlying cause of death. On average, 59,3 percent of the underlying causes of death for males were chosen based on only one listed cause of death (which could be anywhere on the certificate), while 26,4 percent were chosen based on two causes of death. Only 1 percent of underlying causes of death were based on five listed causes of death. The basis for choice of underlying cause does not differ much over the period 1997-2001.

Table E3: Number of multiple causes of death forming the basis for the choice of underlying cause of death by sex, 1997-2001

Year		MALES						FEMALES					
		Total	1 cause	2 causes	3 causes	4 causes	5 causes	Total	1 cause	2 causes	3 causes	4 causes	5 causes
1997	N	26 242	15 631	6 667	2 887	827	230	20 687	10 853	6 084	2 802	725	223
	%	100,0	59,6	25,4	11,0	3,2	0,9	100,0	52,5	29,4	13,5	3,5	1,1
1998	N	30 210	17 774	7 919	3 380	898	239	24 632	12 916	7 403	3 218	858	237
	%	100,0	58,8	26,2	11,2	3,0	0,8	100,0	52,4	30,1	13,1	3,5	1,0
1999	N	32 479	18 889	8 715	3 572	1 056	247	27 223	14 001	8 550	3 452	986	234
	%	100,0	58,2	26,8	11,0	3,3	0,8	100,0	51,4	31,4	12,7	3,6	0,9
2000	N	28 135	16 615	7 617	2 899	791	213	25 106	13 489	7 637	2 951	822	207
	%	100,0	59,1	27,1	10,3	2,8	0,8	100,0	53,7	30,4	11,8	3,3	0,8
2001	N	33 874	20 608	8 943	3 296	819	208	30 935	17 213	9 327	3 345	884	166
	%	100,0	60,8	26,4	9,7	2,4	0,6	100,0	55,6	30,2	10,8	2,9	0,5
Average	N	30 188	17 903	7 972	3 207	878	227	25 717	13 694	7 800	3 154	855	213
	%	100,0	59,3	26,4	10,6	2,9	0,8	100,0	53,3	30,3	12,3	3,3	0,8

For females, 53,3 percent of the underlying causes of death were chosen based on one listed cause of death, whereas 30,3 percent were chosen based on two causes (see Table E.3). Like with males, only 1 percent of underlying causes were based on five listed causes of death. Over the years, the percentages underlying causes of death based on the various numbers of causes does not differ much from the average.

Multiple causes of death by order of listing

Table E4 shows the breakdown of multiple causes of death according to the order of listing on the death certificates. This table depicts that 62,6 and 59,4 percent of causes of death were listed in the first line of the death certificate for males and females, respectively. The proportion of causes listed in the first line ranges from 61,8 percent in 1999 to 64,1 percent in 2001 for males. This proportion ranges from 58,3 percent in 1997 to 61,4 percent in 2001 for females.

There is a drastic decline in the percentage of causes listed in lines two to five, with only 0,6 percent of causes written in the fifth line for both males and females. This is a reflection of poor quality of reporting and certification of causes of death in South Africa.

Table E4: Multiple causes of death broken down by order of listing, by sex, 1997-2001

Year	MALES						FEMALES						
	CS1:CS5	CS1	CS2	CS3	CS4	CS5	CS1:CS5	CS1	CS2	CS3	CS4	CS5	
1997	N	42 099	26 203	10 595	3 966	1 053	282	35 439	20 648	9 803	3 772	946	270
	%	100,0	62,2	25,2	9,4	2,5	0,7	100,0	58,3	27,7	10,6	2,7	0,8
1998	N	48 551	30 171	12 380	4 552	1 169	279	42 001	24 595	11 650	4 336	1 134	286
	%	100,0	62,1	25,5	9,4	2,4	0,6	100,0	58,6	27,7	10,3	2,7	0,7
1999	N	52 499	32 443	13 552	4 886	1 307	311	46 576	27 192	13 180	4 689	1 232	283
	%	100,0	61,8	25,8	9,3	2,5	0,6	100,0	58,4	28,3	10,1	2,6	0,6
2000	N	44 773	28 091	11 496	3 911	1 007	268	41 946	25 064	11 592	3 983	1 037	270
	%	100,0	62,7	25,7	8,7	2,2	0,6	100,0	59,8	27,6	9,5	2,5	0,6
2001	N	52 699	33 760	13 248	4 329	1 050	312	50 278	30 866	13 699	4 408	1 086	219
	%	100,0	64,1	25,1	8,2	2,0	0,6	100,0	61,4	27,2	8,8	2,2	0,4
Average	N	48 124	30 134	12 254	4 329	1 117	290	43 248	25 673	11 985	4 238	1 087	266
	%	100,0	62,6	25,5	9,0	2,3	0,6	100,0	59,4	27,7	9,8	2,5	0,6