

EASTERN CAPE PROVINCIAL PROFILE



Eastern Cape provincial profile

Background

Eastern Cape is located in the south-east of South Africa, bordering Free State and Lesotho in the north, KwaZulu-Natal in the north-east, the Indian Ocean along its south and south-eastern borders, and Western and Northern Cape in the west. The province encloses 169 580 km², constituting 13.9% of the total land area of the country, making it in surface area the second largest province of the country (Statistics South Africa (SSA), 2003). The average population density during 2002 was 41 persons per square kilometre, and about 63% of the province's people lived in rural areas. Prior to 1994, the province was territorially divided into two areas that made up the 'national state' of Transkei, and another area that made up the 'national state' of Ciskei, while the rest of the province was under the provincial administration of the then Cape Province. These territorial divisions are no longer valid, but they are significant in terms of examining data distribution patterns (Tait, 1996).

The economies of East London, Port Elizabeth and Uitenhage are primarily based on manufacturing, the most important being motor vehicle manufacturing and related industries. The Eastern Cape's agricultural potential is evident in its fruit orchards in the fertile Langkloof Valley; sheep- and angora-farming in the Karoo interior; pineapple, chicory and dairy production in the Alexandria-Grahamstown area; and coffee and tea cultivation at Magwa. Ostrich exports earn the province about R90 million per year in foreign revenues, while the game industry is having unprecedented demand in the international market. Large numbers of the population are employed in the forestry plantations of Keiskammahoek. Inhabitants of the former Transkei are dependent on cattle, maize and sorghum farming.

The province has a coastline of about 800 km, housing two harbours. Squid forms the basis of the fishing industry, while offering access to line-catches of hake and recreational and commercial fishing for other line fish. The province's Gross Geographic Product at 2001 prices was rated at R81 027 million, and the province contributed 8.2% to the national Gross Domestic Product (GCIS, 2004). The Eastern Cape has the second highest poverty levels in South Africa (47% of households below the poverty line, which is based on imputed monthly expenditure of R800 or less) (SSA, 2000b), combined with the highest provincial unemployment rate (55%) in the country (SSA, 2003).

Population structure

According to the 2000 ASSA estimates, 6 897 865 people lived in the Eastern Cape, constituting 15.3% of South Africa's total population. The province accommodated more women (52.9%) than men (47.1%). The deficit of men is mainly among those in their 'economically active' years (15-64) (Figure EC1). Over one-third (37%) of the population were younger than 15 years, 58% were in their 'economically active' years, and 7% were aged 60 years or older. [Census 2001: total population 6 436 763 (461 102 less than ASSA); 14.4% of total population in South Africa; 53.8% female, 87.5% Black African, 7.4% Coloured, 0.3% Indian, 4.7% White.]

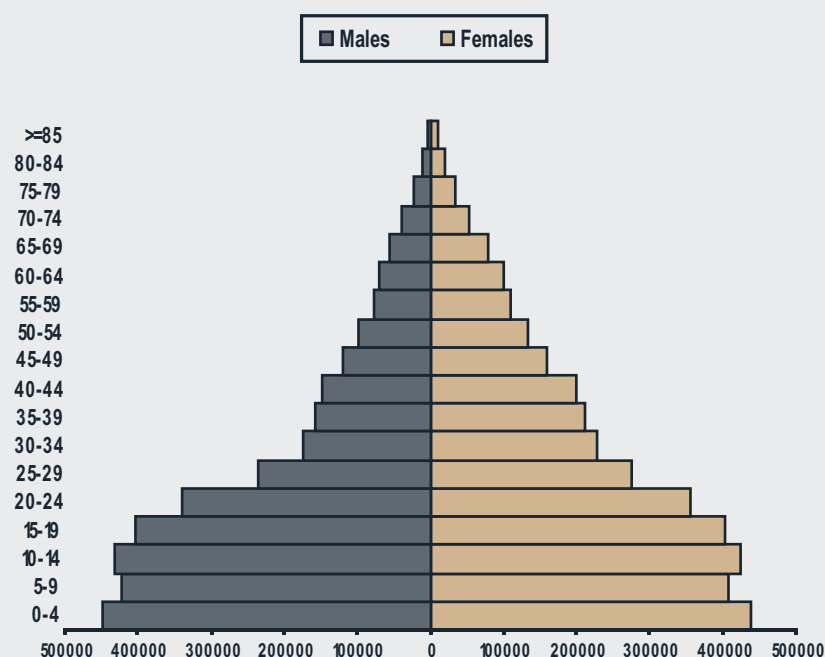


Figure EC1: Age structure of the Eastern Cape population, 2000

Living conditions

According to the 2001 Census, 23% of the population aged 20 years or older had no formal school education, and 55% of those in the age group 15-64 years were unemployed (SSA, 2003). A large proportion of the population (68%) lived below the national poverty line in 2002 (UNDP, 2004). Less than half of the households (47%) lived in formal housing, and 11% and 38% respectively in informal and traditional structures. On average 4.1 persons shared a household. Piped water was available in 62% of households, either in the home, on site, or at a communal tap. In 31% of the households there was no toilet facility. In 36% of the households refuse was removed at least once a week. Of the households, 28% had access to electricity for cooking purposes, 36% used wood and 29% paraffin. About 64% of the households had a radio, 39% a television, 32% a refrigerator, 15% a telephone, and 21% a cell phone (SSA, 2003).

Eastern Cape mortality profile

The mortality profiles are based on deaths in 41 289 (51.4%) males and 39 074 (48.6%) females, estimated for the year 2000, a total of 80 362 deaths. Group I causes including HIV/AIDS accounted for 47% of all the deaths, while Group II causes accounted for 43% (Figure EC2). The proportions of deaths due to other communicable, maternal, perinatal and nutritional deficiencies and non-communicable diseases were very similar for men and women, while HIV/AIDS accounted for 17% of male deaths and 23% of female deaths. About twice as many men as women died as a result of injury.

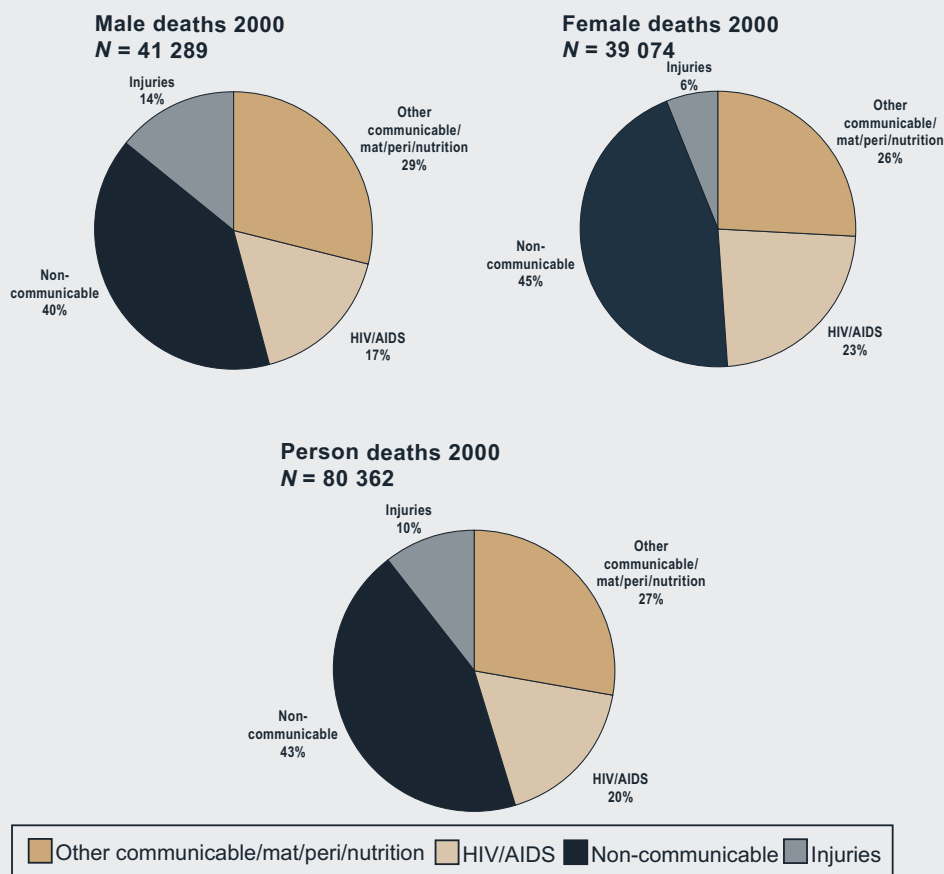


Figure EC2: Estimated deaths by Groups, Eastern Cape 2000

The age-specific cause of death profiles are presented in Figure EC3. The numbers of deaths are presented by five-year age intervals for the three broad Groups and HIV/AIDS. Due to particular disease and mortality profiles in children during the first year of life, the under-5 year age group was divided into infants less than 1 year old and children aged 1-4 years. It is important to highlight the high infant mortality in this province. About 90% of infant deaths were due to Group I diseases including HIV/AIDS. About 28% of deaths in children under 5 years of age were due to HIV/AIDS, and HIV/AIDS deaths were also high in young adult men and women. Injury-related deaths were very high in male adolescents and young adult men. In older persons most of the burden was due to non-communicable diseases.

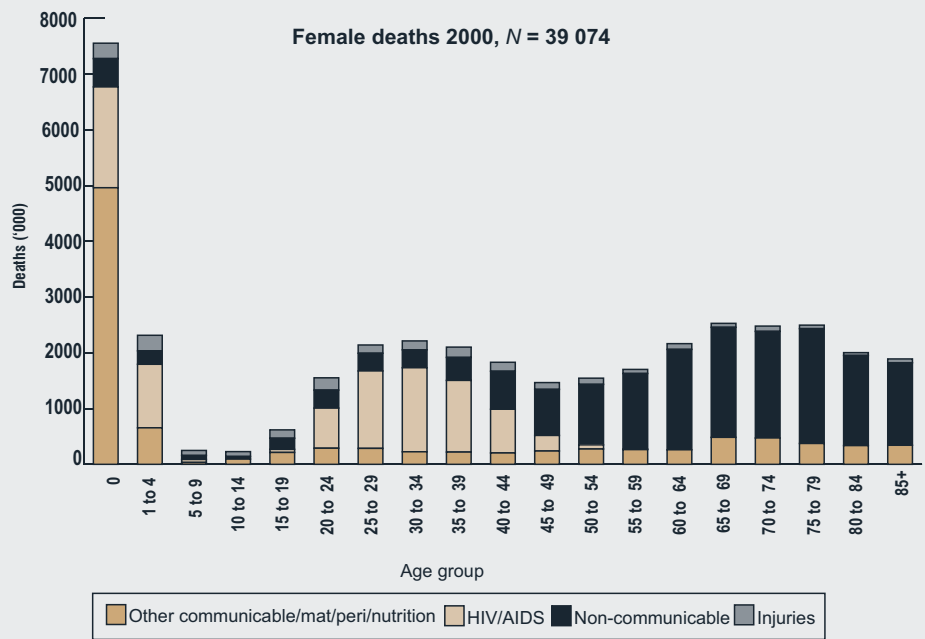
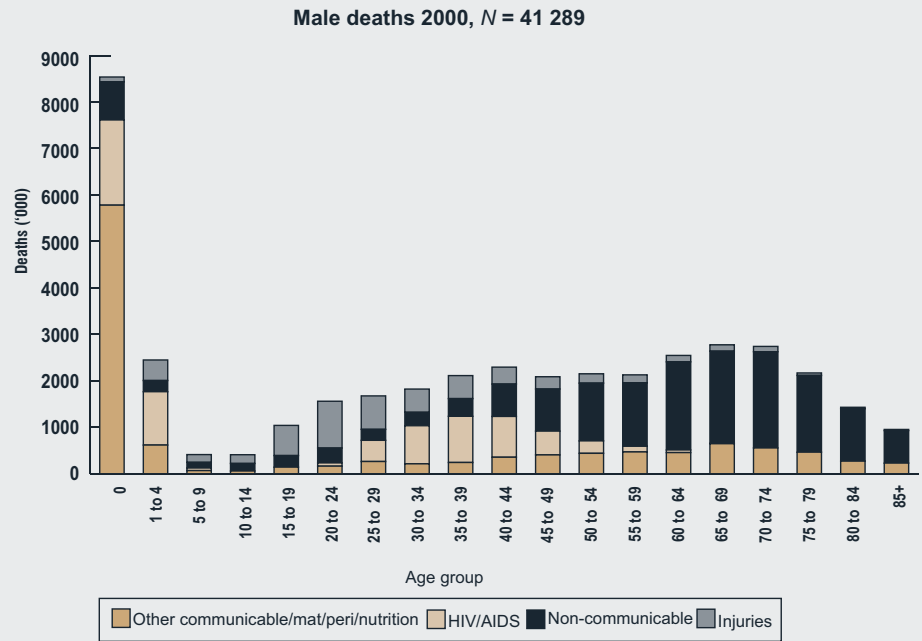
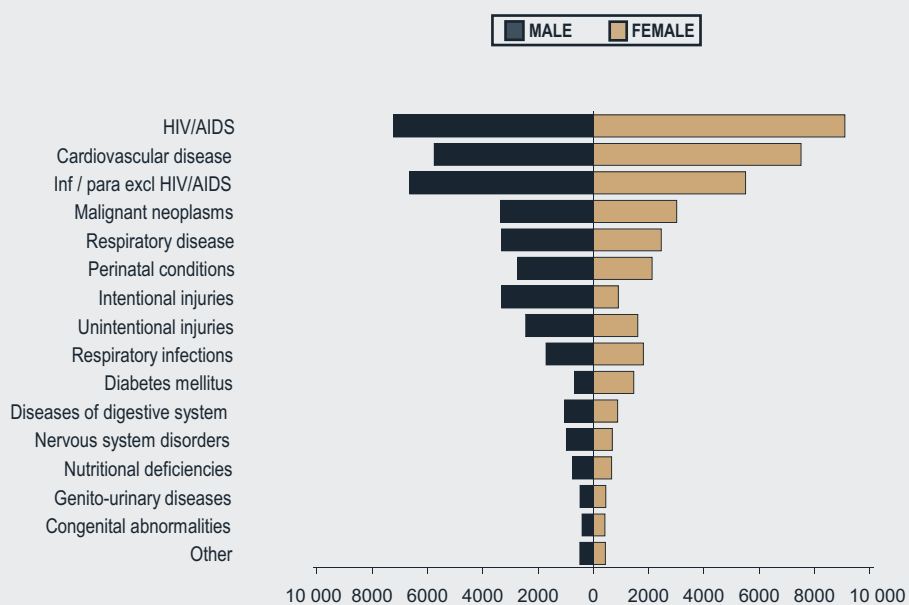


Figure EC3: Age distribution of deaths by broad Groups, Eastern Cape 2000

The Eastern Cape cause of death profile for the major disease categories is shown in Figure EC4. Causes of death are ranked in descending order by the total numbers of deaths. HIV/AIDS was the leading cause of death in both men and women (20%), followed by cardiovascular disease (17%), infectious and parasitic diseases excluding HIV/AIDS (15%), malignant neoplasms (8%), respiratory disease (7%) and perinatal conditions (6%). Differences were observed between men and women, with HIV/AIDS, cardiovascular disease, respiratory infections and diabetes accounting for more deaths in females than in males. In contrast, among the leading ten categories, other infectious and parasitic diseases, intentional and unintentional injuries, malignant neoplasms, respiratory disease, perinatal conditions and diseases of the digestive system predominated in males.



"Other" causes include endocrine and metabolic, benign neoplasms, maternal conditions, musculo-skeletal diseases, mental disorders, skin diseases, oral conditions and conditions of the sense organs.

Figure EC4: Causes of death according to categories for males and females, Eastern Cape 2000

The twenty leading single causes of death in the total Eastern Cape population are shown in Figure EC5(a) below, illustrating that HIV/AIDS was the greatest single cause of death, accounting for 20% of all deaths during 2000. Tuberculosis was the second leading cause of death, accounting for 7% of all deaths. This was followed by stroke, diarrhoeal diseases and homicide (Figure EC5(a)). Women had higher proportions of deaths due to HIV/AIDS, stroke, hypertensive heart disease, diarrhoeal disease and diabetes mellitus, while men had higher proportions of deaths due to homicide, tuberculosis, trachea/bronchi/lung cancer and road traffic accidents (Figure EC5(b)).

Persons 2000, N = 80 362

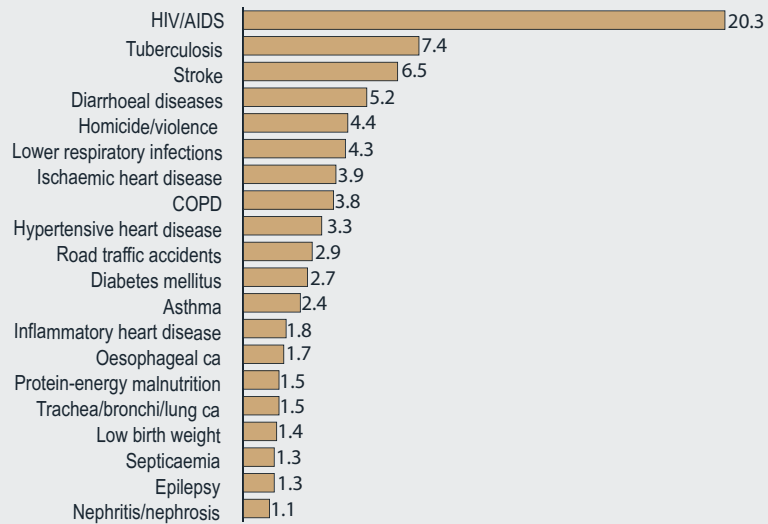


Figure EC5(a): Twenty leading single causes of death (%), Eastern Cape 2000

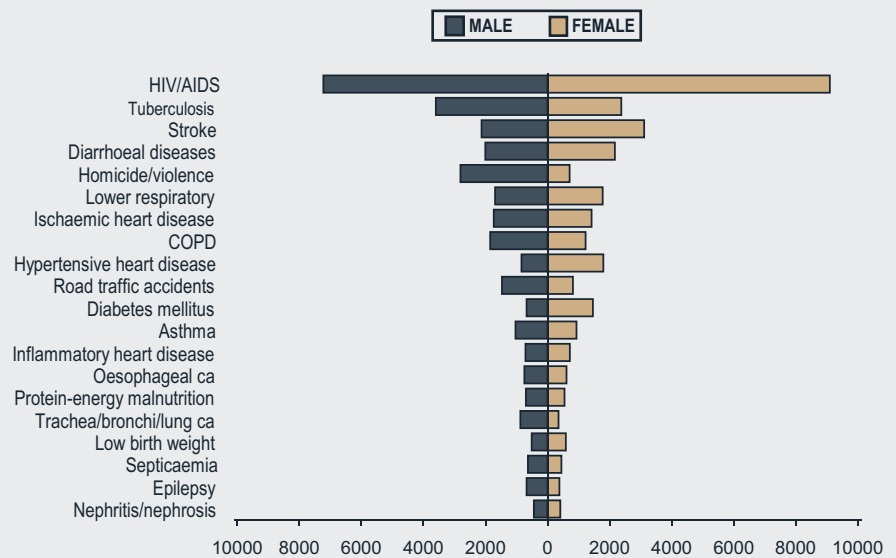


Figure EC5(b): Twenty leading single causes of death by sex, Eastern Cape 2000

Eastern Cape premature mortality

HIV/AIDS accounted for the largest proportion of female (34%) and male (23%) years of life lost (YLLs) (Table EC1). Diarrhoeal diseases were the second leading cause of premature mortality, with more YLLs in females (8%) than males (7%). Homicide/violence and road traffic accidents ranked second and fifth in men, while these causes ranked lower in women. Injuries accounted for 8% and 18% of all YLLs in females and males, respectively.

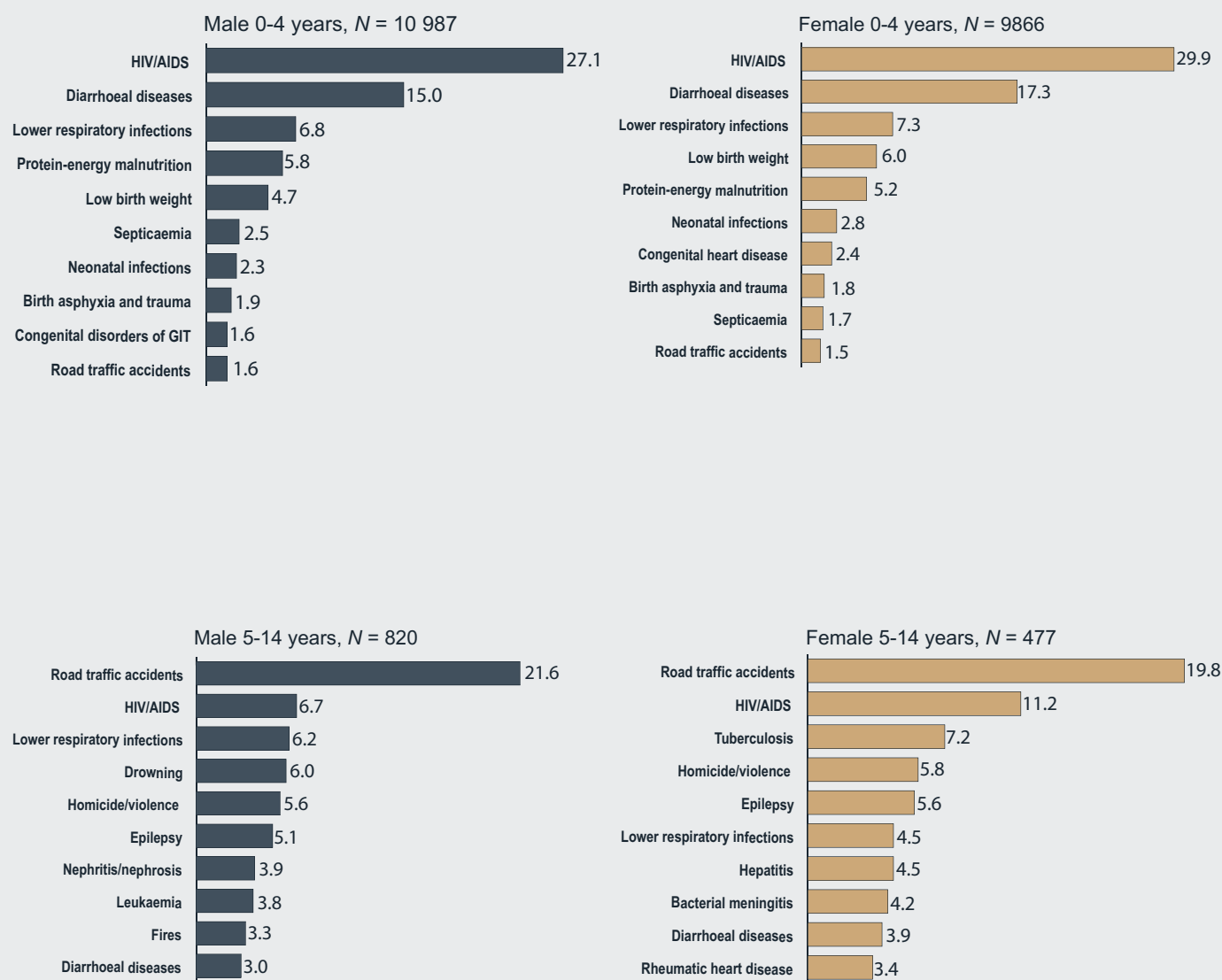
Table EC1: Leading 20 single causes of the premature mortality burden (YLLs) by sex, Eastern Cape 2000

Males				Females				Persons			
Rank	Cause of death	YLLs	%	Rank	Cause of death	YLL	%	Rank	Cause of death	YLL	%
1	HIV/AIDS	202512	23.2	1	HIV/AIDS	271739	33.6	1	HIV/AIDS	474250	28.2
2	Homicide/violence	80005	9.2	2	Diarrhoeal diseases	62633	7.8	2	Diarrhoeal diseases	122753	7.3
3	Diarrhoeal diseases	60120	6.9	3	Tuberculosis	43179	5.3	3	Tuberculosis	99665	5.9
4	Tuberculosis	56485	6.5	4	Lower respiratory infections	36348	4.5	4	Homicide/violence	98226	5.8
5	Road traffic accidents	39938	4.6	5	Stroke	28421	3.5	5	Lower respiratory infections	72792	4.3
6	Lower respiratory infections	36444	4.2	6	Road traffic accidents	20999	2.6	6	Road traffic accidents	60937	3.6
7	Protein-energy malnutrition	22175	2.5	7	Low birth weight	19542	2.4	7	Stroke	48630	2.9
8	Stroke	20209	2.3	8	Homicide/violence	18221	2.3	8	Protein-energy malnutrition	39749	2.4
9	COPD	18187	2.1	9	Protein-energy malnutrition	17575	2.2	9	Low birth weight	36532	2.2
10	Ischaemic heart disease	17151	2.0	10	Hypertensive heart disease	17148	2.1	10	COPD	29534	1.8
11	Low birth weight	16991	1.9	11	Diabetes mellitus	15387	1.9	11	Ischaemic heart disease	28492	1.7
12	Septicaemia	14877	1.7	12	Asthma	11836	1.5	12	Asthma	26061	1.6
13	Epilepsy	14368	1.6	13	COPD	11347	1.4	13	Hypertensive heart disease	25453	1.5
14	Asthma	14225	1.6	14	Ischaemic heart disease	11341	1.4	14	Septicaemia	24829	1.5
15	Suicide	12901	1.5	15	Septicaemia	9952	1.2	15	Epilepsy	23134	1.4
16	Fires	9545	1.1	16	Inflammatory heart disease	9439	1.2	16	Diabetes mellitus	22560	1.3
17	Trachea/bronchi/lung ca	9368	1.1	17	Neonatal infections	9019	1.1	17	Inflammatory heart disease	18705	1.1
18	Inflammatory heart disease	9266	1.1	18	Fires	8860	1.1	18	Fires	18405	1.1
19	Neonatal infections	8495	1.0	19	Epilepsy	8767	1.1	19	Suicide	17572	1.0
20	Hypertensive heart disease	8305	1.0	20	Cervix ca	8367	1.0	20	Neonatal infections	17515	1.0
	All causes	872 158			All causes	807 641			All causes	1 679 800	

Leading causes of death among children (<15 years)

The ten leading causes of death among children under 5 years of age and children 5-14 years are shown in Figure EC6. The high child mortality in this province was mainly the result of HIV/AIDS and other communicable diseases, perinatal conditions and nutritional deficiencies. The leading five causes in infants and children under 5 years of age followed a similar pattern. It is important to note that neural tube defects featured among the leading causes of death in infants under 1 year of age in this province. HIV/AIDS was the leading cause of death in children under 5 while road traffic accidents was the leading cause of death in children 5-14 years of age. Deaths from other injuries such as homicide, drowning and fires were also among the leading causes of death in this age group, accounting mainly for male deaths. Epilepsy accounted for 5% of male and almost 6% of female deaths in this age group.

Figure EC6: Leading 10 causes of death (%) in children (<15 years) by sex, Eastern Cape 2000



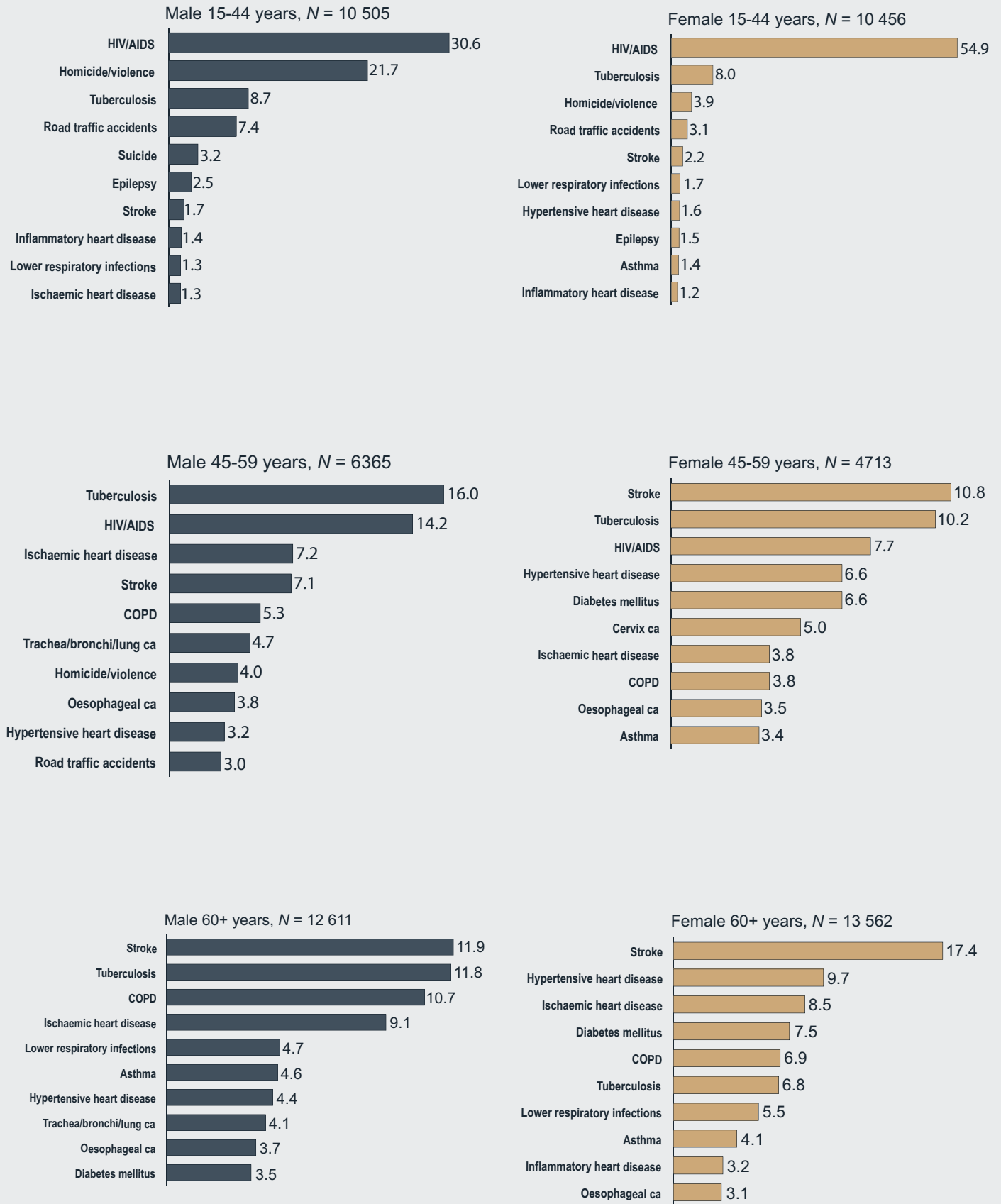
Leading causes of death among adults

The leading causes of death for adults are shown in Figure EC7. HIV/AIDS was the leading cause of death for both men and women aged 15-44 years. Tuberculosis was the second leading cause of death among women and the third leading cause of death among men aged 15-44 years. Injuries including homicide, suicide and road traffic accidents were also among the leading causes of death. Epilepsy accounted for 3% of male and 2% of female deaths in this age group. Cardiovascular diseases including hypertensive heart, ischaemic heart and inflammatory heart disease as well as stroke also featured among the leading causes in young adults.

The profile for the older adults aged 45-59 years differed from the young age group with an increasing number of deaths due to non-communicable diseases and fewer deaths due to infectious diseases or injuries, although tuberculosis is still an important cause of death in this age group. Stroke was the leading cause of death among women. Other important leading causes of death among women aged 45-59 included diabetes mellitus, asthma, hypertensive heart disease, cervical and oesophageal cancer. Injuries such as homicide and violence and road traffic injuries still featured among the leading causes of death for men in the 45-59 year age group. Trachea/bronchi/lung cancer, oesophageal cancer, chronic obstructive pulmonary disease and cardiovascular diseases were also important causes of death among men in this age group (Figure EC7).

In this province there were more deaths among female (13 562) than male (12 611) older persons. Stroke was the leading cause of death among persons aged 60 years and older (Figure EC7), accounting for 19% of female and 11.9% of male deaths in this age group. Tuberculosis ranked a close second among males, accounting for 11.8% of deaths (Figure EC7). Hypertensive heart disease and diabetes were responsible for larger numbers of deaths in older women than in older men, while chronic obstructive pulmonary disease caused more deaths in older men compared with older women. Oesophageal cancer was among the 10 leading causes of death in this age group, affecting similar proportions of men and women. Trachea/bronchi/lung cancer accounted for 4% of male and 2% of female deaths in those over the age of 60 years.

Figure EC7: Leading single causes of death (%) among adults by sex, Eastern Cape 2000



How does Eastern Cape compare with the national profile?

Comparing the Eastern Cape population age structure and cause of death profile with the national profile, it is clear that in the Eastern Cape there exists a male deficit in the economically active group. The HIV/AIDS epidemic in this province is not as far advanced as it is nationally, accounting for 20% of deaths compared with 30% of deaths nationally. However, the results still clearly indicated a quadruple burden in this province, with HIV/AIDS coming in and adding to a triple burden of poverty-related conditions, chronic diseases and injuries. The high burden from tuberculosis, diarrhoeal diseases, perinatal conditions and other conditions related to underdevelopment accounted for 27% of deaths in this province compared with 20% nationally. Injuries (10%) constituted a smaller proportion in Eastern Cape than nationally (12%), while non-communicable diseases constituted a larger proportion in the Eastern Cape (43%) than nationally (38%).

Oesophageal cancer rates were higher in the Eastern Cape than nationally, and epilepsy featured among the 20 leading causes of death in the Eastern Cape population. It is interesting to note that breast cancer did not feature among the leading causes of death among older persons in this province.

FREE STATE PROVINCIAL PROFILE



Free State provincial profile

Background

The Free State is a central province of the country, having an international border with Lesotho, and local borders with all other provinces except Limpopo and the Western Cape. The province encloses 129 480 km², constituting 10.6% of the total land area of the country, making it in surface area the third largest province of the country (SSA, 2003). The average population density during 2000 was 22 persons per square kilometre, and about 31% of the population lived in non-urban areas (SSA, 1998). Prior to 1994 the province housed two small areas that made up part of the 'national state' of Bophuthatswana, and the self-governing territory of QwaQwa. The rest of the province was under the provincial administration of the then Orange Free State. These territorial divisions are no longer valid, but in terms of examining data distribution patterns, it is important to recognise their prior existence (Tait, 1996).

Mining is the largest economic sector in the Free State, and this industry is the biggest employer in the province. The Free State Goldfields form part of the 400 km+ gold reef that stretches across Gauteng and the Free State. About 82% of the province's mineral production value is derived from gold mining. Gold mines also supply silver, while the considerable concentrations of uranium occurring in the gold-bearing conglomerates are extracted as a by-product. Additionally, bituminous coal is mined and converted to petrochemicals, diamonds are extracted from kimberlite pipes and fissures, and the largest deposit of bentonite in the country is found in the province.

Manufacturing is the second-largest sector in the province's economy, including chemical products manufactured by Sasol, further beneficiation of agricultural products, and the production of basic chemicals from coal. Agriculture also plays an important role in the Free State economy, with vast areas of cultivated land, natural veld and grazing terrains. Field crops yield about two-thirds of the gross agricultural income of the province, animal products contribute an additional 30%, and the balance comes from horticulture. Potatoes, cherries, asparagus, soya, sorghum, sunflowers and wheat are cultivated. The province's Gross Geographic Product at 2001 prices was rated at R53 900 million, and the province contributed 5.5% to the national Gross Domestic Product (GCIS, 2004).

Population structure

According to the 2000 ASSA estimates, 2 862 088 people lived in the Free State, constituting 6.3% of South Africa's total population. The province accommodated almost equal numbers of men (49.96%) and women (50.04%). Just under 30% of the population were younger than 15 years, 66% were in their 'economically active' years (15-64), and 6% were aged 60 years or older. [Census 2001: total population 2 706 775 (155 313 less than ASSA); 6.3% of total population of South Africa; 52.1% female; 88.0% Black African, 3.1% Coloured, 0.1% Indian, 8.8% White.]

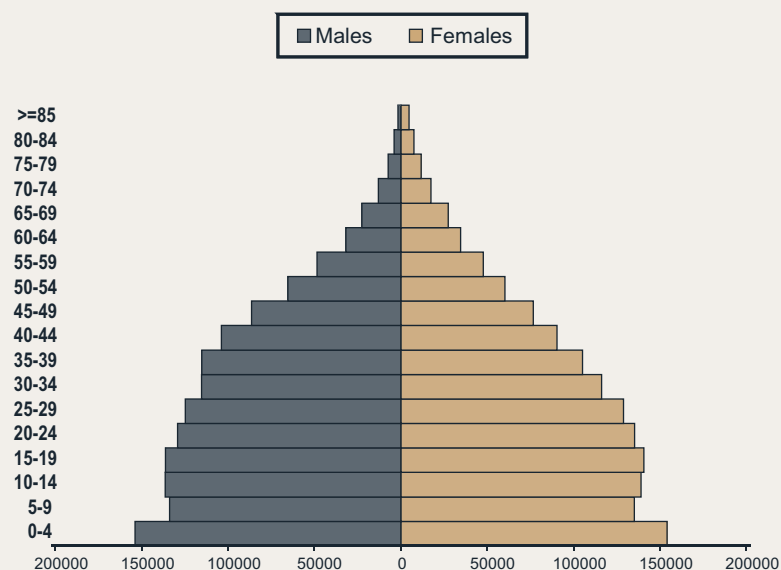


Figure FS1: Age structure of the Free State population, 2000

Living conditions

According to the 2001 Census 16% of the population aged 20 years or older had no formal school education, and 43% of those in the age group 15-64 years were unemployed (SSA, 2003). A large proportion of the population (60%) lived below the national poverty line in 2002 (UNDP, 2004). Almost 63% of households were accommodated in formal housing, and 26% and 7% respectively in informal and traditional structures. On average 3.6 persons shared a household. Piped water, whether in the home, on site or at a communal tap, was available in 96% of households. In 10% of households people had no access to a toilet facility. Almost six in ten households (59%) had a refuse removal service once a week or more. For cooking purposes, 47% of the households used electricity as the main source of energy, 8% used wood, and 34% paraffin. Almost 76% of the households had a radio, 54% a television, 49% a refrigerator, 20% a telephone and 25% a cell phone (SSA, 2003).

Free State mortality profile

In 2000 there were 36 860 deaths estimated in Free State, of which 20 613 (56%) were in males and 16 240 (44%) in females. Figure FS2 shows the causes of deaths for the broad Groups I, II, III and HIV/AIDS. More than half the deaths (55%) were due to Group I causes including HIV/AIDS, while 31% were due to Group II and 8% due to injuries. There were similar proportions of deaths from Group I and Group II causes for males and females, yet the proportion of HIV/AIDS deaths was higher in females (36%) than in males (30%). Deaths due to injuries were about three times higher in males than in females, accounting for 11% of male deaths.

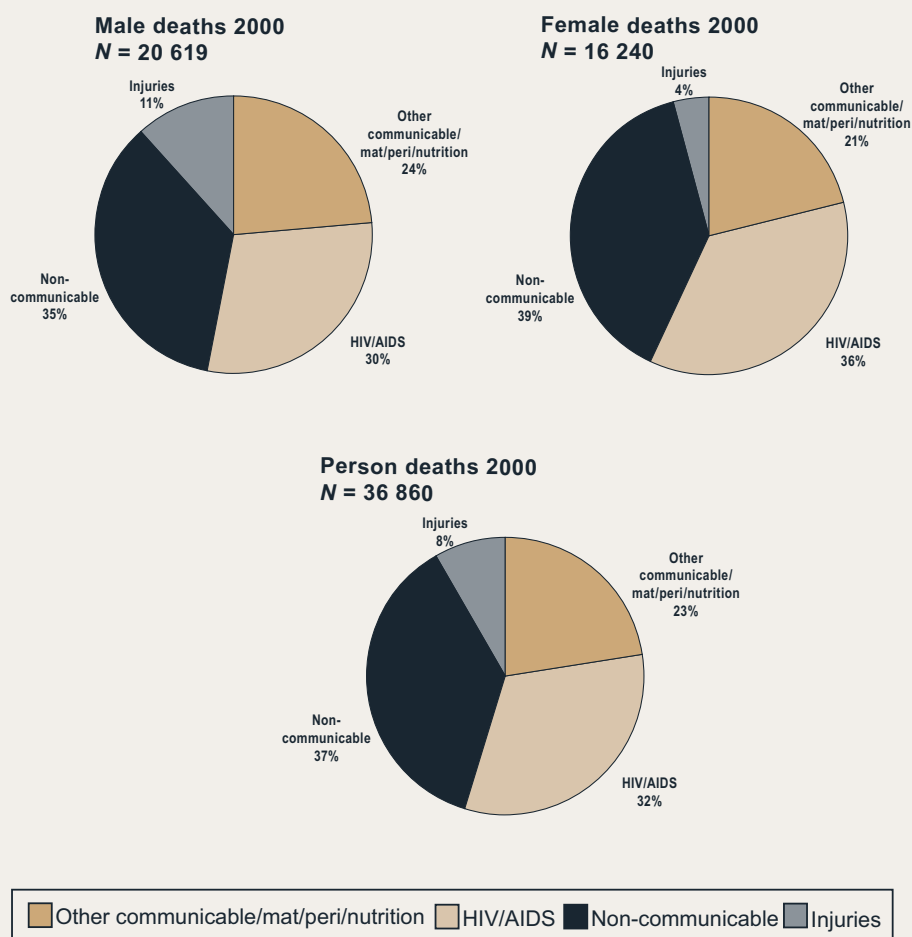


Figure FS2: Estimated deaths by Groups, Free State 2000

The age-specific mortality profiles are shown in Figure FS3. The pattern displayed here shows higher numbers of deaths in children and young and older adults. Deaths in males were higher than those in females. The patterns for infants, girls and boys were very similar, although other infectious diseases, maternal and perinatal diseases and nutritional deficiencies (Group I) accounted for more than half of the boys' deaths, followed by HIV/AIDS. In general, the main causes of death in infants were Group I and HIV/AIDS. HIV/AIDS started to show up early in females - in the age group 15-19 years - while only starting to show in the 20-24-year age group in males. Non-communicable diseases were higher in people aged 50 years and older.

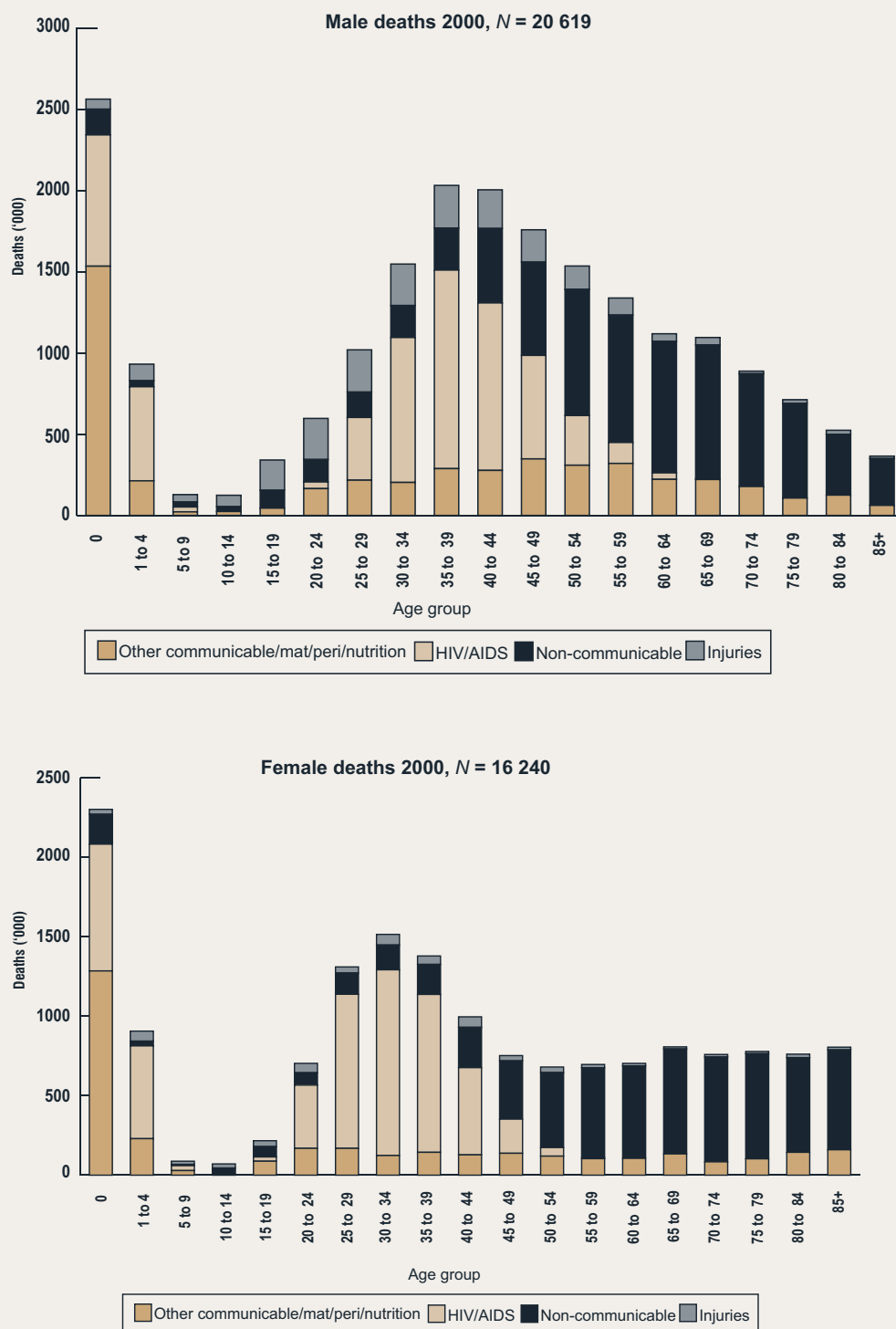
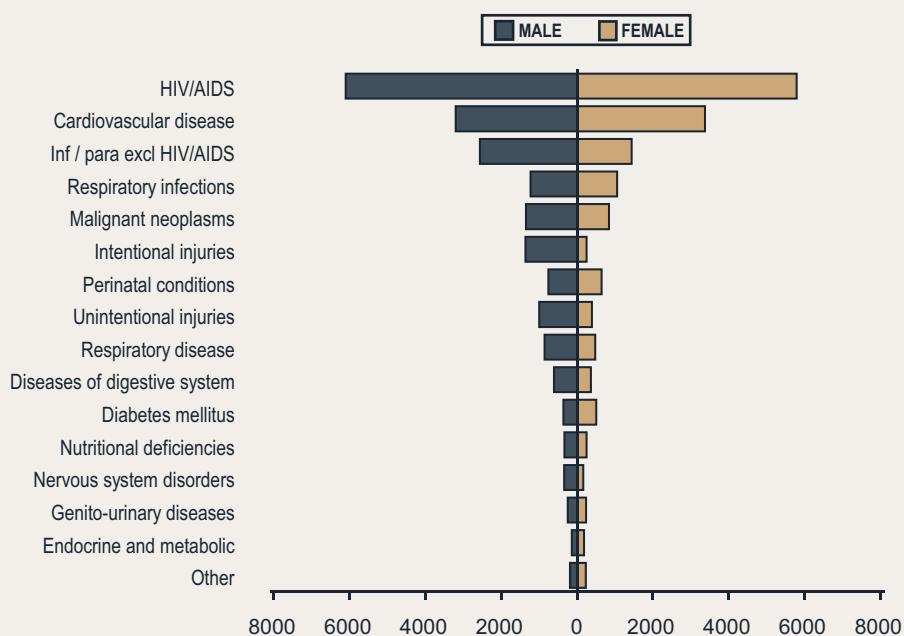


Figure FS3: Age distribution of deaths by broad Groups, Free State 2000

The causes of death for categories are shown in Figure FS4. These are ranked in descending order by the total number of deaths. The pattern shows high numbers of deaths due to HIV/AIDS (32%), followed by cardiovascular diseases (18%), infectious and parasitic diseases excluding HIV (11%), respiratory infections (6%), malignant neoplasms (6%), respiratory disease (4%), intentional injuries (4%) and unintentional injuries (4%). There were marked differences between males and females, with HIV/AIDS and cardiovascular disease accounting for a higher proportion of deaths in females than in males. Among the leading ten categories, other infectious and parasitic diseases, respiratory infections, malignant neoplasms and intentional injuries were higher in males.



"Other" causes include congenital abnormalities, benign neoplasms, maternal conditions, mental disorders, skin diseases, musculo-skeletal diseases, oral conditions and conditions of the sense organs.

Figure FS4: Causes of death according to categories for males and females, Free State 2000

The twenty leading single causes of death in the Free State are shown in Figure FS5(a). HIV/AIDS was the largest single cause of death, accounting for 32% of all deaths. Stroke accounted for 6.4%, followed by lower respiratory infections (6.1%), ischaemic heart disease (5%) and hypertensive heart disease (3.8%), while homicide and violence accounted for 3.6%. Gender patterns are shown in Figure FS5(b). HIV/AIDS, stroke and hypertensive heart disease were more prominent among women, while deaths from ischaemic heart disease, lower respiratory infections and homicide were higher in men.

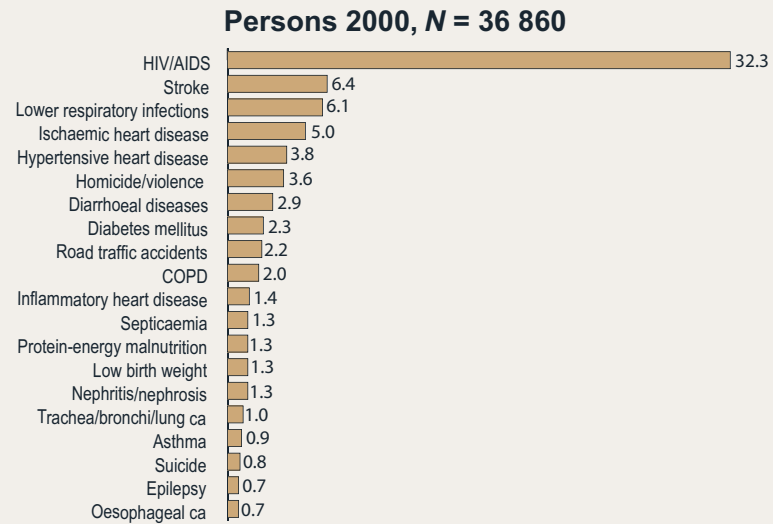


Figure FS5(a): Twenty leading single causes of death (%), Free State

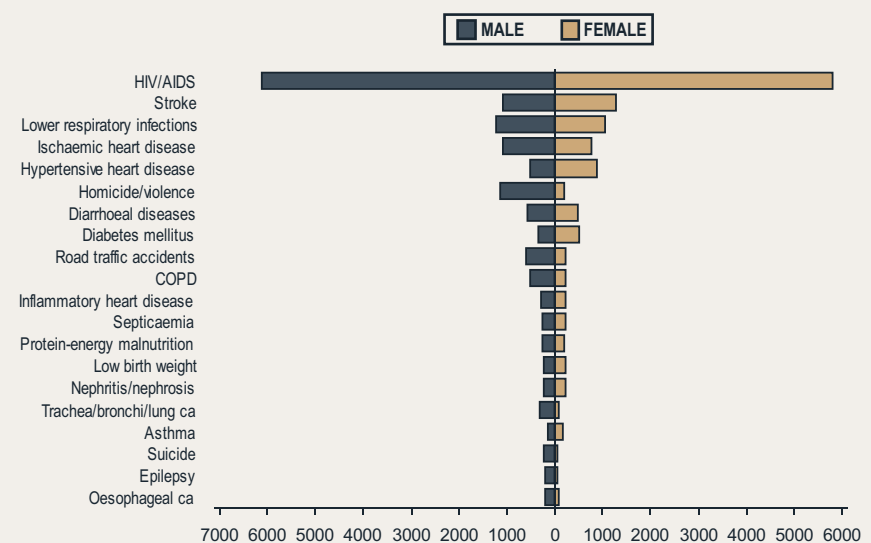


Figure FS5(b): Twenty leading single causes of death by sex, Free State 2000

Premature mortality

HIV/AIDS accounted for the largest proportion of female (48%) and male (37%) years of life lost (YLLs) (Table FS1). Tuberculosis was the second leading cause of premature mortality among persons, with more YLLs in males (7%) than females (4%). Lower respiratory infections ranked third and homicide/violence ranked fourth in all persons. Injuries accounted for 11% and 3% of all YLLs in males and females respectively.

Table FS1: Leading 20 single causes of the premature mortality burden (YLLs) by sex, Free State 2000

Males				Females				Persons			
Rank	Cause of death	YLLs	%	Rank	Cause of death	YLLs	%	Rank	Cause of death	YLLs	%
1	HIV/AIDS	158274	36.6	1	HIV/AIDS	168899	48.4	1	HIV/AIDS	327173	41.9
2	Tuberculosis	31739	7.3	2	Lower respiratory infections	19880	5.7	2	Tuberculosis	45889	5.9
3	Homicide/violence	30157	7.0	3	Tuberculosis	14150	4.0	3	Lower respiratory infections	42949	5.5
4	Lower respiratory infections	23069	5.3	4	Diarrhoeal diseases	13466	3.9	4	Homicide/violence	35143	4.5
5	Diarrhoeal diseases	15831	3.7	5	Stroke	13229	3.8	5	Diarrhoeal diseases	29296	3.8
6	Road traffic accidents	15233	3.5	6	Low birth weight	7450	2.1	6	Stroke	26120	3.3
7	Stroke	12891	3.0	7	Hypertensive heart disease	7277	2.1	7	Road traffic accidents	20743	2.7
8	Ischaemic heart disease	10993	2.5	8	Ischaemic heart disease	6647	1.9	8	Ischaemic heart disease	17639	2.3
9	Low birth weight	7941	1.8	9	Protein-energy malnutrition	6405	1.8	9	Low birth weight	15390	2.0
10	Protein-energy malnutrition	7459	1.7	10	Road traffic accidents	5510	1.6	10	Protein-energy malnutrition	13864	1.8
11	Septicaemia	5890	1.4	11	Diabetes mellitus	5070	1.5	11	Hypertensive heart disease	11747	1.5
12	COPD	5521	1.3	12	Homicide/violence	4985	1.4	12	Septicaemia	10269	1.3
13	Suicide	5181	1.2	13	Septicaemia	4380	1.3	13	Diabetes mellitus	9729	1.2
14	Inflammatory heart disease	5124	1.2	14	Inflammatory heart disease	3491	1.0	14	Inflammatory heart disease	8616	1.1
15	Epilepsy	4765	1.1	15	Nephritis/nephrosis	3116	0.9	15	COPD	7575	1.0
16	Diabetes mellitus	4660	1.1	16	Asthma	2582	0.7	16	Suicide	6548	0.8
17	Hypertensive heart disease	4470	1.0	17	Birth asphyxia and trauma	2403	0.7	17	Epilepsy	6533	0.8
18	Trachea/bronchi/lung ca	3533	0.8	18	Cervix ca	2396	0.7	18	Nephritis/nephrosis	6321	0.8
19	Fires	3509	0.8	19	COPD	2054	0.6	19	Fires	5560	0.7
20	Nephritis/nephrosis	3205	0.7	20	Fires	2051	0.6	20	Bacterial meningitis	4693	0.6
	All causes	432 439			All causes	349 169			All causes	781 607	

Leading causes of death among children (<15 years)

The leading ten causes of death in children under 5 years of age and children 5-14 years are shown in Figure FS6. The high child mortality in this province was mainly due to a combination of HIV/AIDS and other communicable diseases, perinatal conditions and nutritional deficiencies. It is important to highlight that neural tube defects featured among the leading causes of death in both infants and children under 5 years of age in the Free State. The leading five causes of death in infants and children under 5 years of age follow a similar pattern for boys and girls. HIV/AIDS accounted for 41% of deaths in children under 5. Diarrhoeal diseases also accounted for high proportions of child deaths. Cause of death profiles for boys and girls aged 5-14 differed. Road traffic accidents were the leading cause of death among boys in this age group while HIV/AIDS was the leading cause for girls. Deaths from other injuries such as drowning, homicide, fires and suicide were also among the leading causes of deaths in this age group, accounting mainly for boys' deaths. Epilepsy also featured in the top 5; it accounted for 5% of boys' and 8% of girls' deaths in this age group. It is important to highlight that non-rheumatic valvular disease featured in the ten leading causes of death among girls, accounting for 4%.

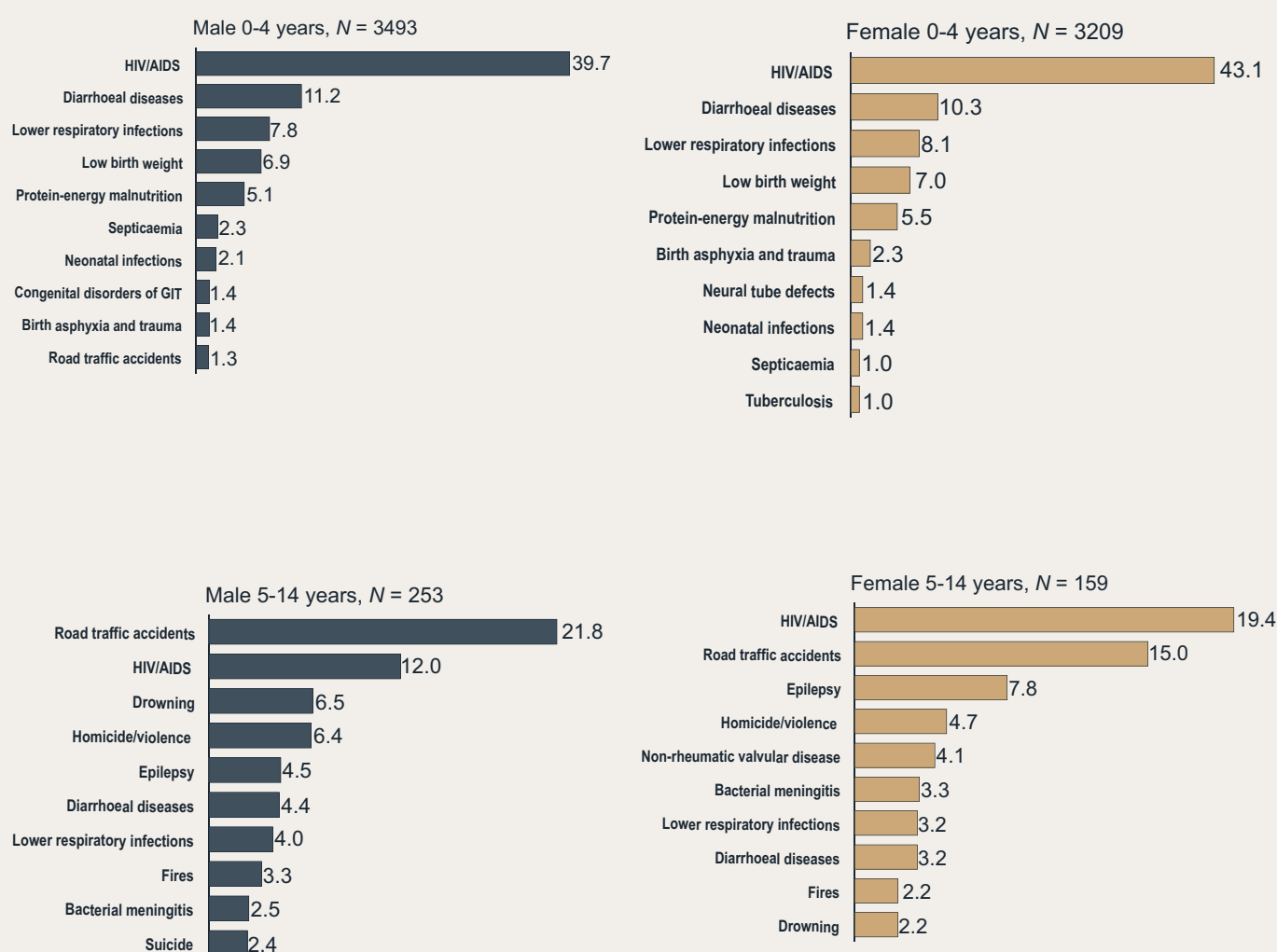


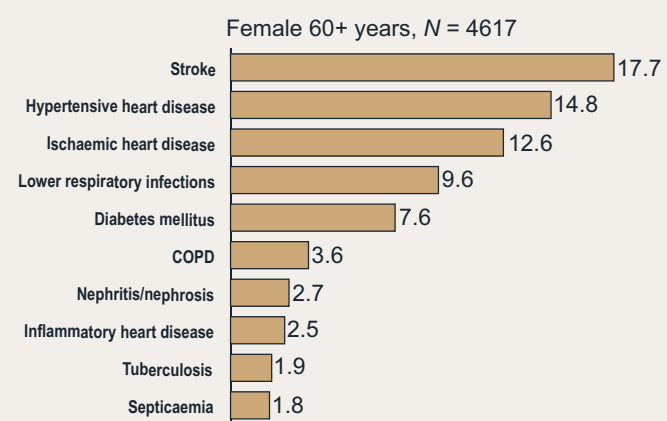
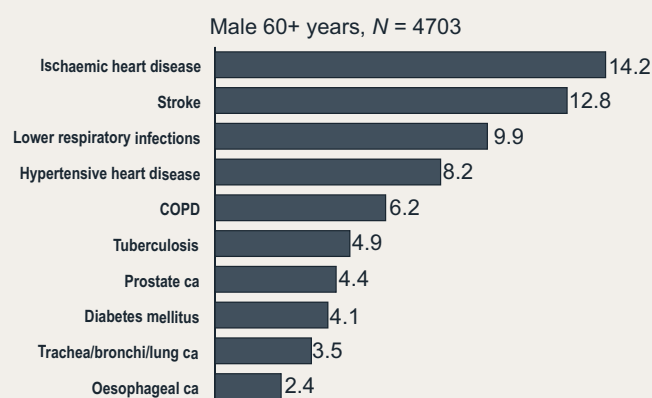
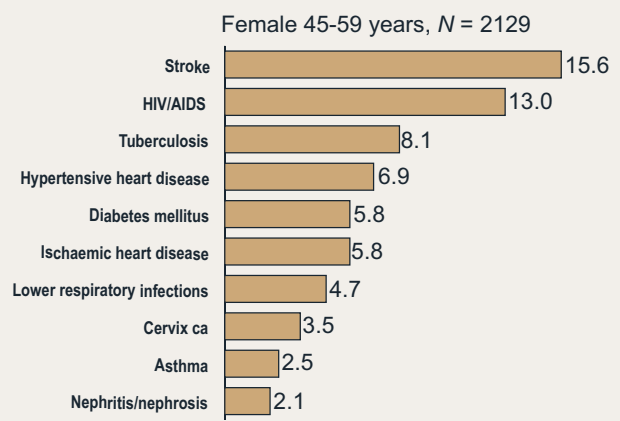
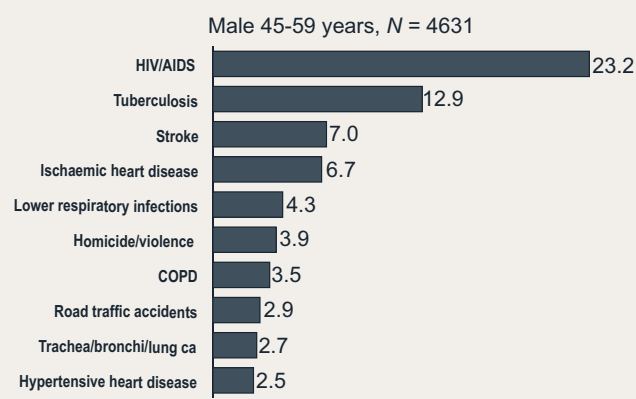
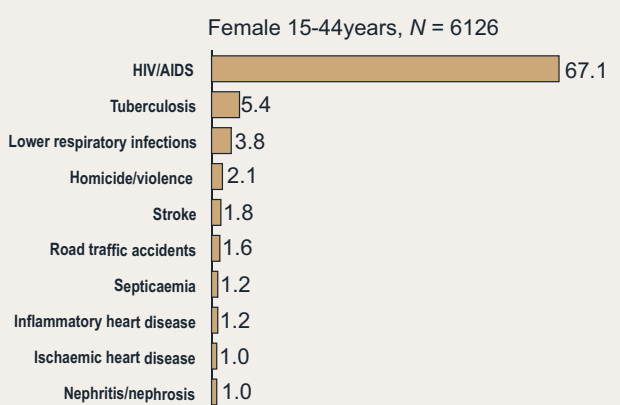
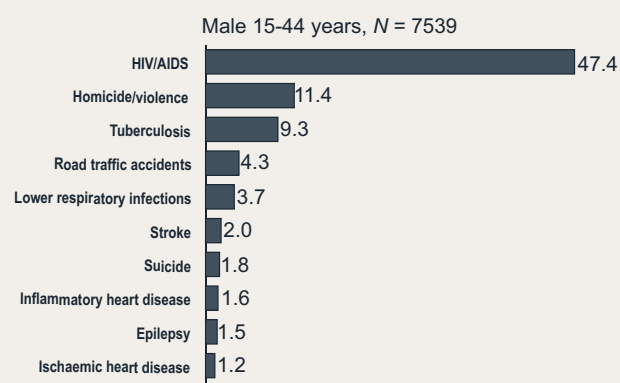
Figure FS6a): Leading single causes of death (%) among children (<15 years), Free State 2000

Leading causes of death among adults

Figure FS7 shows the leading ten causes of death in 15-44 age group. HIV/AIDS in women aged 15-44 is extraordinarily high and accounted for 67% of deaths in this age group. In contrast, HIV/AIDS accounted for 47% in men in this age group, while homicide/violence accounted for 11% of causes of death. Tuberculosis and lower respiratory infections ranked high for both men and women and road traffic accidents, cardiovascular disease, suicide and epilepsy also featured in this age group.

The profile for the older adults aged 45-59 years shows a different pattern to that of the young adult age group. In addition to the infectious diseases such as HIV/AIDS, and tuberculosis, deaths among the adults aged 45-59 years included cardiovascular disease such as stroke, ischaemic heart disease and hypertensive heart disease. In this province there were more male (4631) than female (2129) deaths in this age group. HIV/AIDS is a leading cause of death for men aged 45-59, accounting for 23% of deaths, followed by tuberculosis (12%), stroke (7%) and ischaemic heart disease (7%). In women stroke was the leading cause and accounted for 16% followed by HIV/AIDS (13%), tuberculosis (8%), hypertensive heart disease (7%), diabetes mellitus and ischaemic heart disease (each accounting for 6%). It is important to notice that cervix cancer and nephritis/nephrosis featured in the top ten of women in this age group. Stroke is the primary cause of death followed by hypertensive heart disease, ischaemic heart disease, lower respiratory infections and diabetes altogether accounting for 66% of deaths in adults 60+. Tuberculosis ranked sixth, accounting for 4.9% in males. Stroke, hypertensive heart disease and diabetes were responsible for larger numbers of deaths in older women compared to older men. Lower respiratory infections were common, affecting similar proportions of men and women. Prostate cancer, lung cancer and oesophageal cancer contributed a significant number of deaths in men in this age group.

Figure FS7: Ten leading single causes of death among adults by sex, Free State 2000



How does Free State compare with the national profile?

Comparing the Free State population's age structure and cause of death profile with the national profile, it is clear that the Free State profile was similar to the national one. The Free State had high mortality rates. HIV/AIDS is as advanced here as it is nationally; HIV/AIDS accounted for 32% of deaths in Free State compared with 30% nationally. Overall the mortality profile in the Free State was very similar to the national one, with slightly lower injury deaths (8%) compared with nationally (12%).

This province had high tuberculosis mortality among males and high rates of death from lower respiratory infections, protein-energy malnutrition, perinatal and maternal conditions. The province also had high cardiovascular mortality, arising from the full spectrum of diseases. Diabetes mortality was high among men, as was prostate cancer. Injury mortality rates were not as high as the national average.

In children the leading causes of death in the Free State and nationally were similar, except that congenital disorders of the gastro-intestinal tract and neural tube defects were present in the top ten causes in the Free State, but not nationally.

GAUTENG PROVINCIAL PROFILE



Gauteng provincial profile

Background

Gauteng is situated in the north-eastern part of the country, and is landlocked, bordered by Limpopo in the north, Mpumalanga in the east, Free State in the south, and North West in the west. The province mainly comprises the three urban areas of Pretoria, Johannesburg/Soweto and the southern Vereeniging-Vanderbijlpark industrial complex. During the 1996 Census the vast majority of the population (97%) lived in urban areas (SSA, 1998). The province encloses 17 101 km², constituting 1.4% of the country's total land area (SSA, 2003). The average population density was estimated at 513 persons per square kilometre in 2000, making it the most densely populated province by far.

Although the smallest province in surface area, it is regarded as the country's economic heartland. The province's Gross Geographic Product at 2001 prices was rated at R333 171 million, contributing 34% to the national Gross Domestic Product (GCIS, 2004). The largest contributors to the province's Gross Geographic Product are manufacturing, finance and trade. The manufacturing sector has over 9300 firms, and employs over 600 000 people. Johannesburg houses the largest Stock Exchange in Africa, and Pretoria the Reserve Bank. These two metropolises also house important health, educational and science centres. Gauteng has a well-developed infrastructure, including a comprehensive road system, an international airport, telecommunications networks, and a sophisticated financial and business support infrastructure (GCIS, 2004; Kok, 1998; Gauteng Provincial Government, 2004).

Despite being mainly an urban province, Gauteng's agricultural sector is geared to providing the cities and towns with daily fresh produce, including vegetables, fruit, meat, eggs, dairy products and flowers. Other agricultural activities include the production of maize, ground nuts, sunflowers, cotton, and sorghum (GCIS, 2004).

Population structure

According to the 2000 ASSA estimates, 8 765 262 people lived in Gauteng, constituting 19.4% of South Africa's total population. Gauteng had the lowest female proportion of the population of all the provinces, at 49.2%. Just over 26% of the population were younger than 15 years, 70% were in their 'economically active' years (15-64), and 6% were aged 60 years or older (Figure GT1).

The province has a noticeable excess of adult men in the economically active age group. [Census 2001: total population 8 837 178, 71 916 more than ASSA); 19.7% of total population in South Africa; 49.7% female; 73.8% Black African, 3.8% Coloured, 2.5% Indian, 19.9% White.]

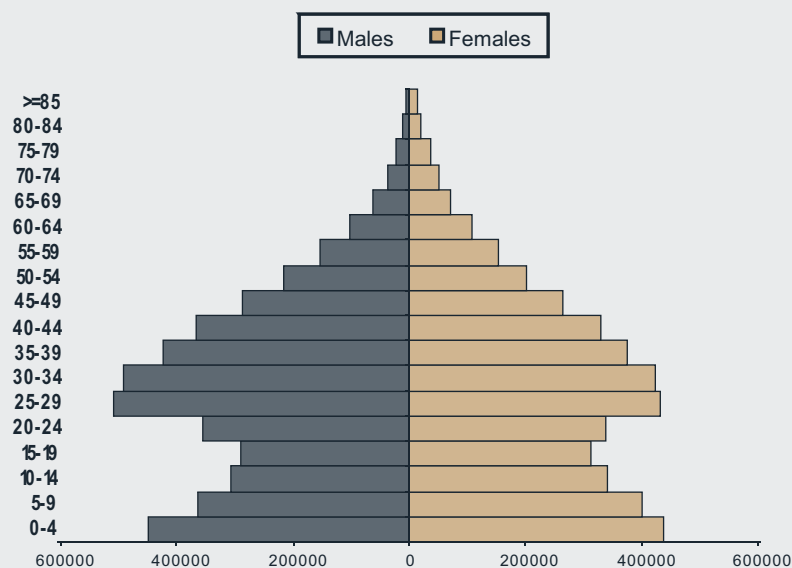


Figure GT1: Age structure of the Gauteng population, 2000

Living conditions

According to the 2001 Census, 8% of the population aged 20 years or older had no formal school education, and 36% of those in the age group 15-64 years were unemployed (SSA, 2003). One-fifth of the province's population lived below the national poverty line in 2002 (UNDP, 2004). Almost two-thirds of all households lived in formal dwellings, and 24% and 1% respectively in informal and traditional structures. On average, 3.2 persons shared a household. Piped water, either in the dwelling, on site, or from a communal tap, was available in 98% of households. About 4% of households did not have access to a toilet facility, and 84% had a refuse removal service once a week or more often. Electricity was used as the main source of energy for cooking in 73% of households, wood in 1%, and paraffin in 21%. Over 77% of the households had a radio, 66% a television, 62% a refrigerator, 32% a telephone and 45% a cell phone (SSA, 2003).

Mortality profile

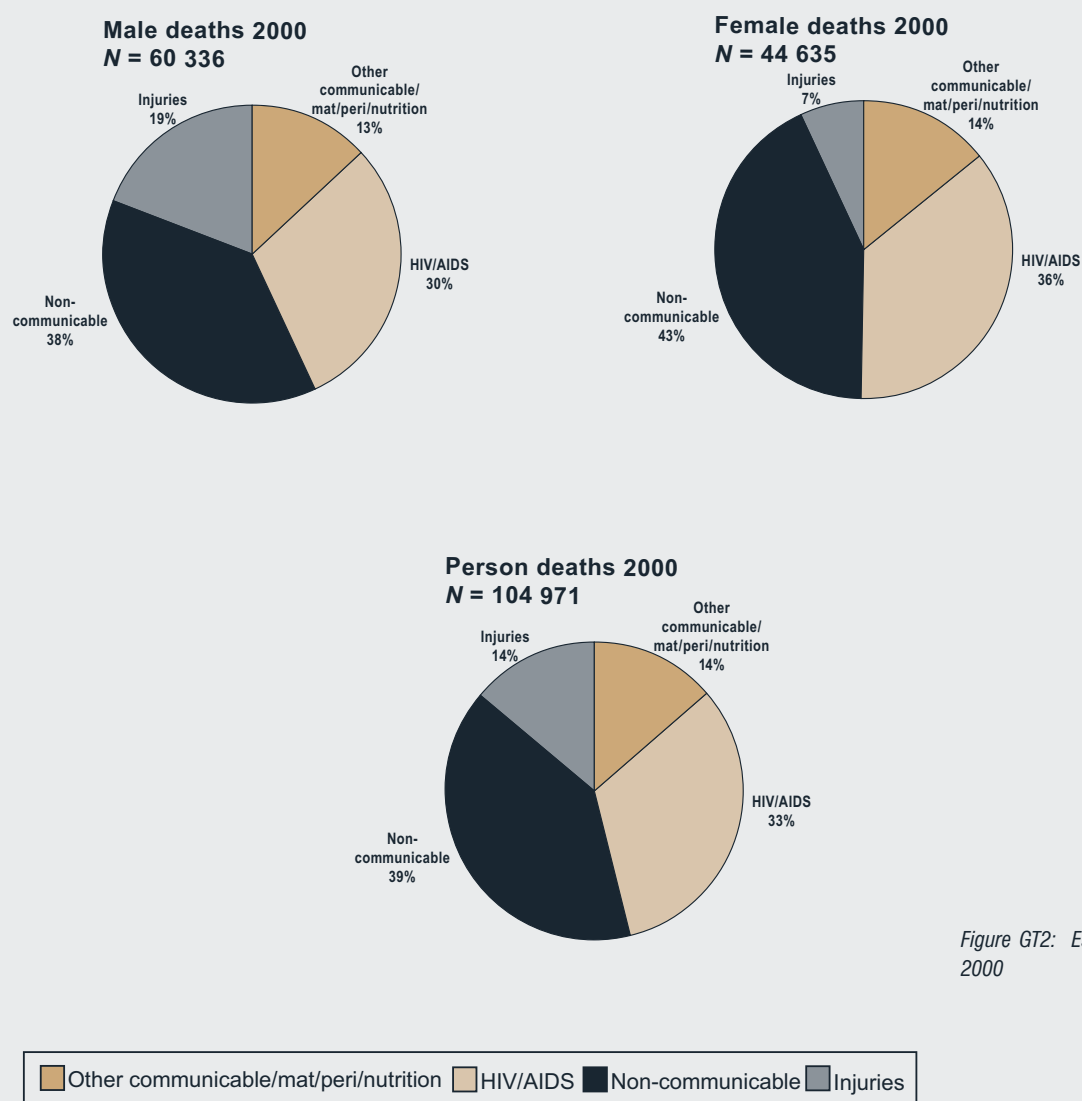


Figure GT2: Estimated deaths by Groups, Gauteng 2000

Of the total 104 971 deaths in Gauteng, 60 336 (57%) were in males and 44 635 (43%) in females. Figure GT2 shows the causes of death for broad Groups I, II, III and AIDS. The proportions due to other communicable diseases, maternal and perinatal causes and nutritional deficiencies were very similar for males and females. While females had a higher burden due to non-communicable diseases and HIV/AIDS, males had a considerably higher proportion of deaths due to injuries.

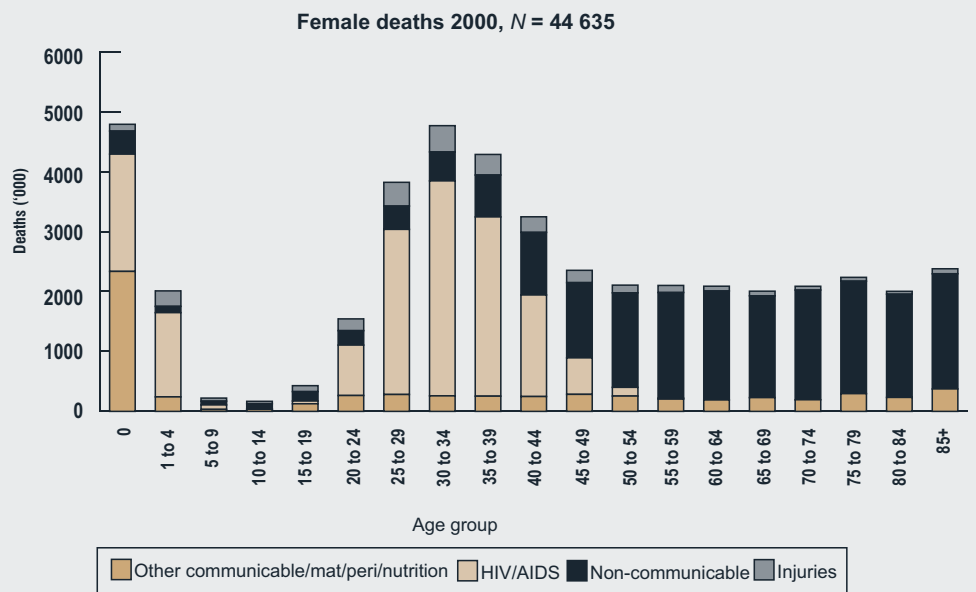
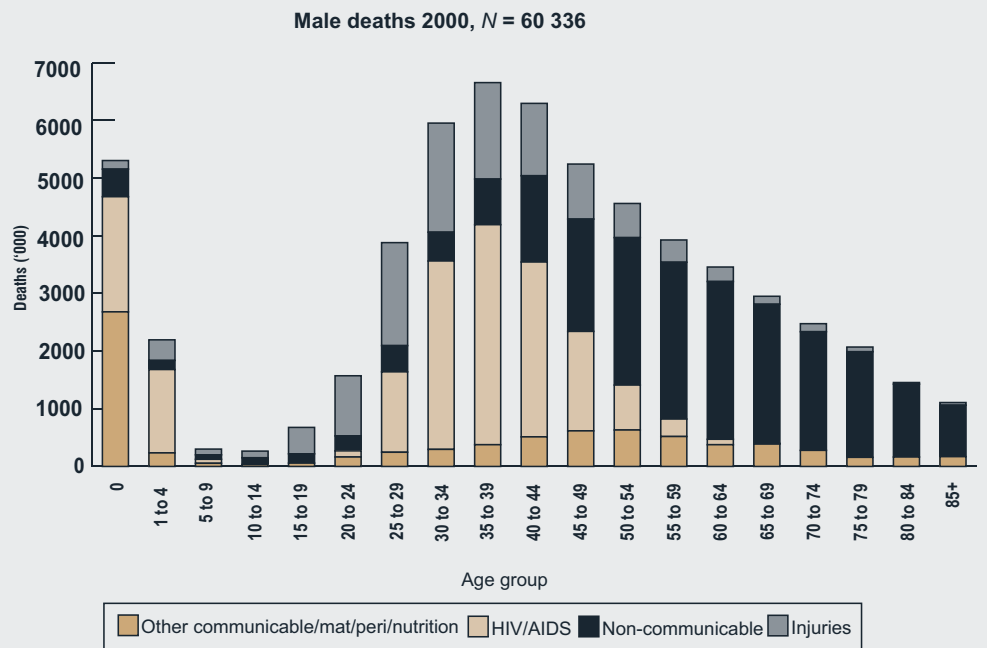
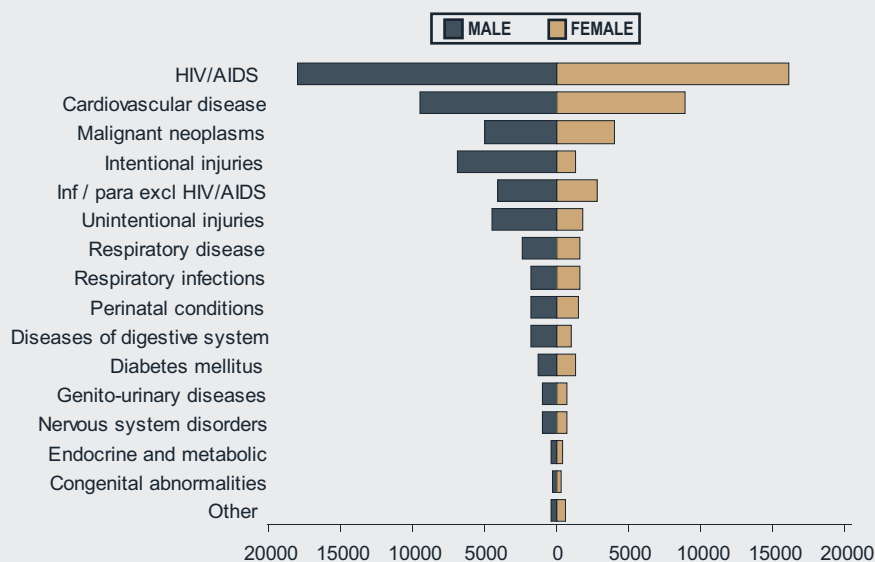


Figure GT3: Age distribution of deaths by broad Groups, Gauteng 2000

The age-specific causes of death for males and females are presented in Figure GT3. Infants and children under 5 suffered high numbers of deaths due to the unfinished agenda of infectious diseases related to underdevelopment, and a high HIV/AIDS burden. HIV/AIDS deaths were also very high in young adult men and women, although the age pattern shows a 5 year later onset in men. Deaths due to injuries were exceptionally high in adolescent and young adult men, and non-communicable causes of death were dominant in adults of 60 years and older.

The cause of death profile for Gauteng according to major disease categories is shown in Figure GT4. Causes are ranked in descending order according to total deaths. HIV/AIDS was the leading cause of death in both men and women (33%), followed by cardiovascular disease (18%), malignant neoplasms (9%), intentional injuries (8%), infectious and parasitic diseases excluding HIV/AIDS (7%), unintentional injuries (6%), and respiratory disease (4%). Differences were observed between men and women, with women displaying higher proportions of deaths from HIV/AIDS and cardiovascular disease, and men displaying considerably higher proportions of deaths from intentional and unintentional injuries.



"Other" causes include nutritional deficiencies, benign neoplasms, maternal conditions, mental disorders, musculo-skeletal diseases, skin diseases, oral and sense organ conditions.

Figure GT4: Causes of death according to categories for males and females, Gauteng 2000

The twenty leading single causes of death in the total Gauteng population are shown in Figure GT5(a). HIV/AIDS was the largest single cause of death, accounting for 33% of all deaths during 2000. Ischaemic heart disease (7.0%) was followed by homicide/violence (6.5%). Stroke was ranked fourth, with road traffic accidents, lower respiratory infection and tuberculosis being among the top ten causes of death. Pronounced gender patterns are shown in Figure GT5(b). Hypertensive heart disease and stroke were more prominent among the women, while homicide/violence and road traffic accident deaths were more pronounced among the men.

Persons 2000, N = 104 971

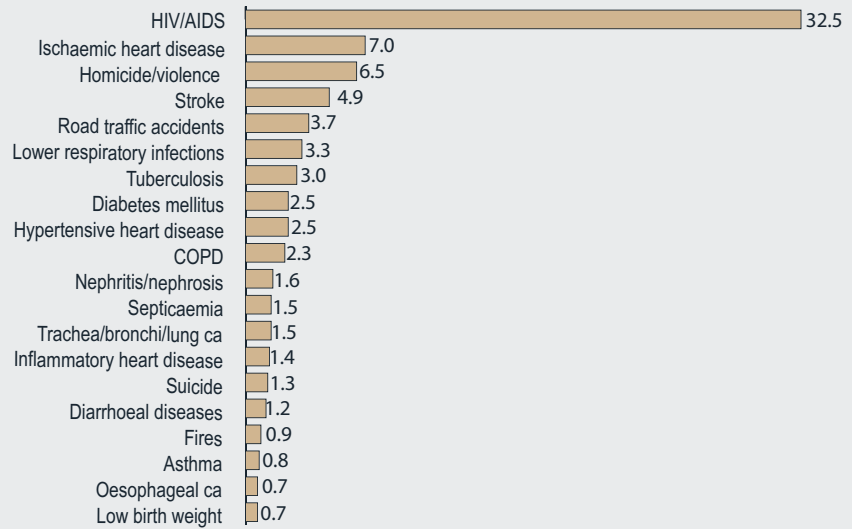


Figure GT5(a): Twenty leading single causes of death (%), Gauteng 2000

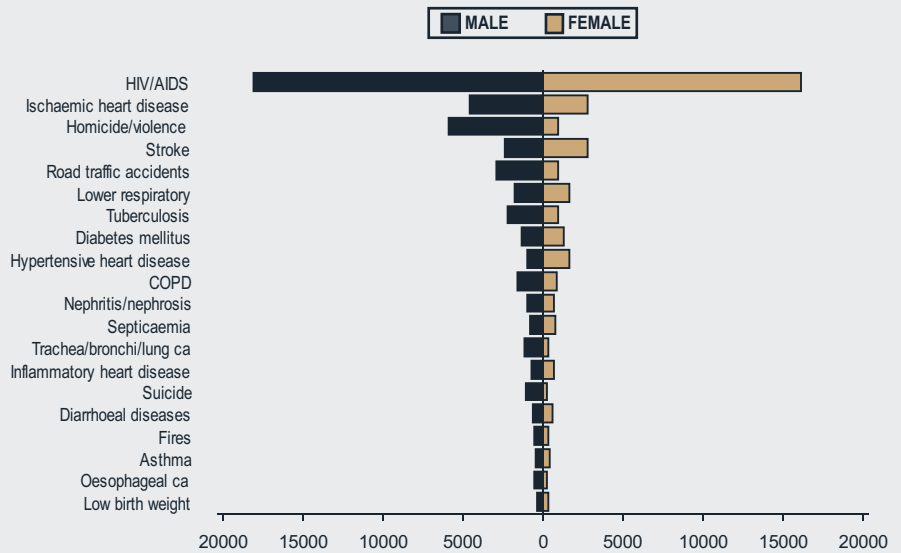


Figure GT5(b): Twenty leading single causes of death by sex, Gauteng 2000

Gauteng premature mortality

HIV/AIDS accounted for the largest proportion of female (50%) and male (38%) years of life lost (YLLs) (Table GT 1). Homicide and road traffic accidents were respectively the second (12%) and third (6%) leading causes of premature mortality among men. Stroke and lower respiratory infections were the second and third leading causes of premature mortality in women, each contributing 3%. Ischaemic heart disease accounted for 4% and 3% of YLLs in males and females respectively.

Table GT1: Leading 20 single causes of the premature mortality burden (YLLs) by sex, Gauteng 2000

Males				Females				Persons			
Rank	Cause of death	YLLs	%	Rank	Cause of death	YLLs	%	Rank	Cause of death	YLLs	%
1	HIV/AIDS	468319	37.6	1	HIV/AIDS	463505	49.9	1	HIV/AIDS	931824	42.8
2	Homicide/violence	154551	12.4	2	Stroke	29162	3.1	2	Homicide/violence	180114	8.3
3	Road traffic accidents	70709	5.7	3	Lower respiratory infections	27521	3.0	3	Road traffic accidents	95150	4.4
4	Ischaemic heart disease	50913	4.1	4	Homicide/violence	25563	2.7	4	Ischaemic heart disease	75482	3.5
5	Tuberculosis	40032	3.2	5	Ischaemic heart disease	24569	2.6	5	Tuberculosis	62553	2.9
6	Lower respiratory infections	31770	2.5	6	Road traffic accidents	24441	2.6	6	Lower respiratory infections	59291	2.7
7	Stroke	28864	2.3	7	Tuberculosis	22521	2.4	7	Stroke	58025	2.7
8	Suicide	25979	2.1	8	Hypertensive heart disease	17463	1.9	8	Diarrhoeal diseases	33122	1.5
9	Diarrhoeal diseases	16862	1.4	9	Diarrhoeal diseases	16260	1.7	9	Suicide	32615	1.5
10	Diabetes mellitus	16360	1.3	10	Septicaemia	14258	1.5	10	Diabetes mellitus	30565	1.4
11	COPD	15703	1.3	11	Diabetes mellitus	14205	1.5	11	Hypertensive heart disease	29162	1.3
12	Nephritis/nephrosis	15275	1.2	12	Low birth weight	11909	1.3	12	Septicaemia	29159	1.3
13	Septicaemia	14901	1.2	13	Inflammatory heart disease	11680	1.3	13	Low birth weight	24631	1.1
14	Fires	14488	1.2	14	Breast ca	9677	1.0	14	COPD	24600	1.1
15	Low birth weight	12723	1.0	15	Fires	9497	1.0	15	Nephritis/nephrosis	24381	1.1
16	Trachea/bronchi/lung ca	12563	1.0	16	Cervix ca	9150	1.0	16	Fires	23985	1.1
17	Hypertensive heart disease	11699	0.9	17	Nephritis/nephrosis	9106	1.0	17	Inflammatory heart disease	22849	1.0
18	Inflammatory heart disease	11169	0.9	18	COPD	8897	1.0	18	Trachea/bronchi/lung ca	17096	0.8
19	Epilepsy	8144	0.7	19	Suicide	6637	0.7	19	Bacterial meningitis	13650	0.6
20	Cirrhosis of liver	7675	0.6	20	Asthma	6262	0.7	20	Epilepsy	12970	0.6
	All causes	1 247 186			All causes	929 781			All causes	2 176 967	

Leading causes of death among children (<15 years)

The leading ten causes of death among children under 5 and children 5-14 years are shown in Figure GT6. The high child mortality in Gauteng is a result of the combination of HIV/AIDS and other communicable diseases as well as perinatal conditions. It is important to bear in mind, however, that the ill-defined perinatal conditions jointly accounted for 15% of infant deaths, but are excluded from these graphs. Congenital heart disease, road traffic accidents and fires were also among the leading causes of death. Infant deaths dominated those in children under 5 years of age, and the leading five causes in infants and children under 5 followed the same pattern. The cause of death profiles for boys and girls were similar, and the top five causes, HIV/AIDS, diarrhoea, low birth weight, lower respiratory infections and birth asphyxia and trauma, accounted for just over 70% of the child deaths.

The cause of death profile for boys and girls aged 5-14 years differed. Road traffic accidents were the leading cause of death among boys in this age group, while HIV/AIDS was the leading cause for girls. Injuries and other infectious diseases were among the leading causes in this age group. Inflammatory heart disease also features in this age group.

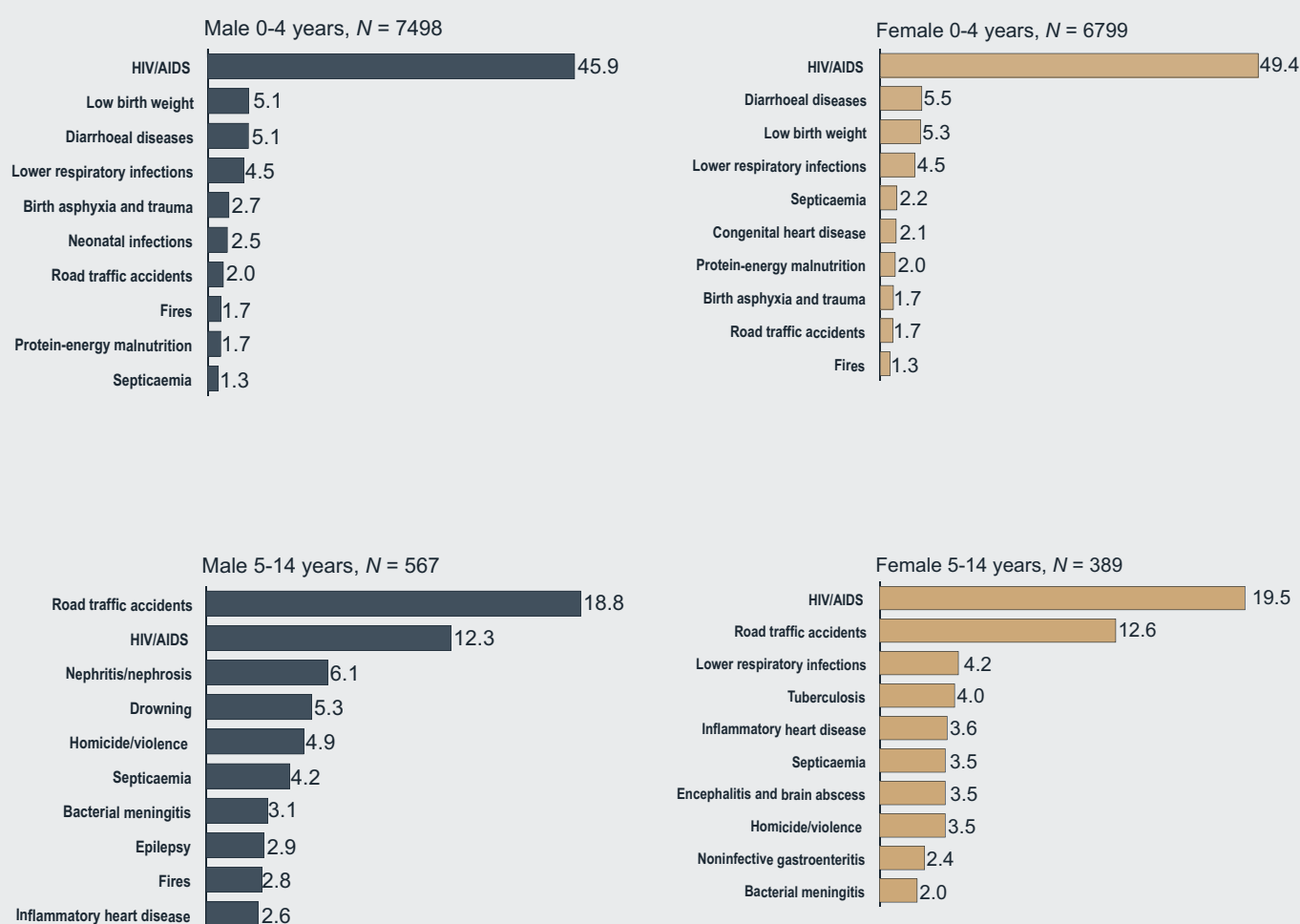


Figure GT6: Ten leading single causes of death (%) among children (<15 years) by sex, Gauteng 2000

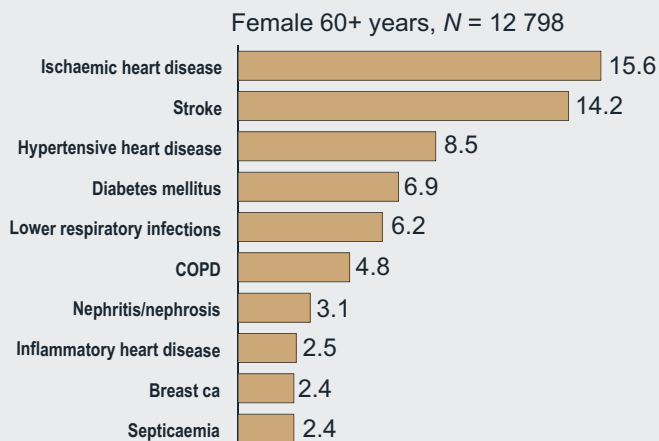
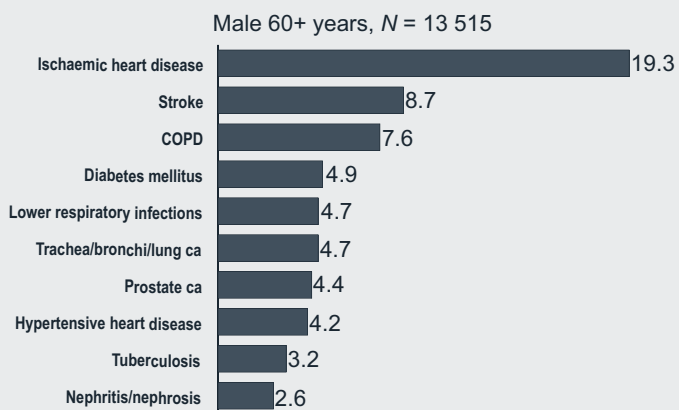
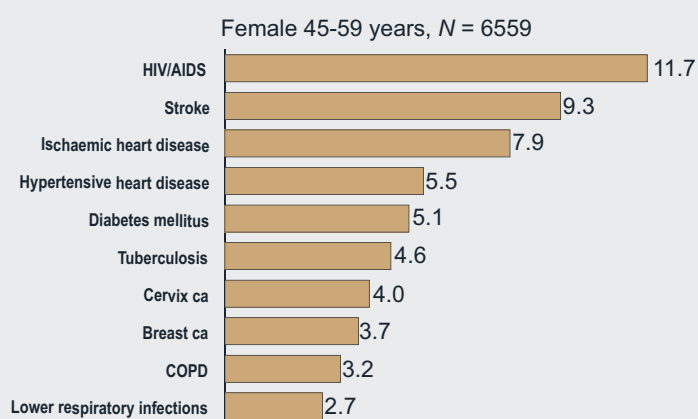
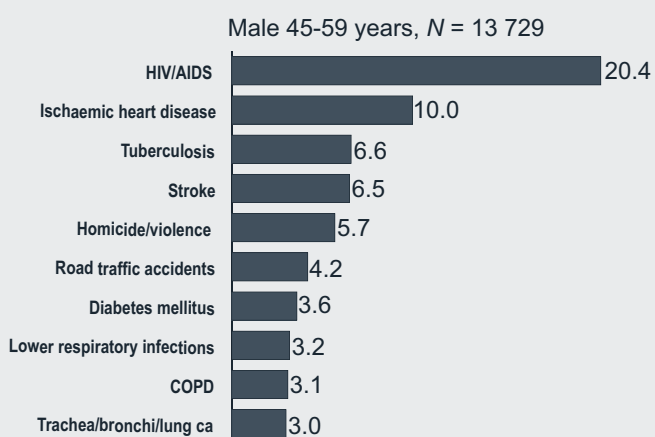
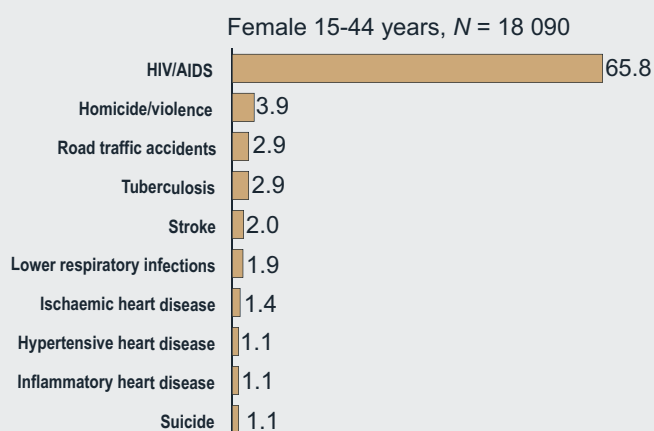
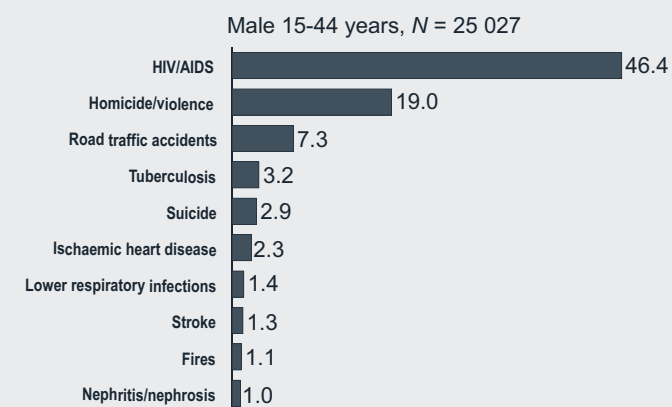
Leading causes of death among adults

The leading causes of death for adults are shown in Figure GT7. HIV/AIDS was the leading cause of death for both men and women aged 15-44 years. Homicide and road traffic accidents feature highly for men and women. Several infectious diseases such as tuberculosis and lower respiratory infections but also ischaemic heart disease in men and women, stroke in men and hypertensive heart and inflammatory heart disease featured among the leading causes in young adult women.

The profile for the older adults aged 45-59 years differed from the young age group with an increasing number of deaths due to non-communicable diseases and fewer deaths due to infectious diseases. In men, however, road traffic accidents and homicide were responsible for almost 10% of deaths. Diabetes mellitus, stroke, ischaemic heart disease and lower respiratory infections were among the leading causes of death for adults in this age group. Cervical and breast cancer also featured among the top ten for women while lung cancer showed up for men.

Most of the burden in older persons is due to non-communicable diseases, although other infectious diseases still play a role. In this province there were more female (13 515) than male (12 798) deaths among older persons. Ischaemic heart disease was the leading cause of death among persons aged 60 years and older (Figure GT7), accounting for 19% of male and 16% of female deaths. Stroke ranked second, accounting for 9% of male and 14% of female deaths. Hypertensive heart disease and diabetes were responsible for more deaths in older women than older men, while chronic obstructive pulmonary disease caused more deaths in older men. Trachea/bronchi/lung cancer was the most important cancer among men, while breast cancer was the most important cancer among women.

Figure GT7: Ten leading single causes of death (%) among adults by sex, Gauteng 2000



How does Gauteng compare with the national profile?

The population age structure of Gauteng shows that there is an excess of young economically active people, particularly men. There is also a departure from the total population in that there is a deficit of people aged between 5 and 24 years old. The progression of the HIV/AIDS epidemic in this province is very similar to the national pattern, however, accounting for 33% of deaths in this province compared with 30% of deaths nationally.

The cause of death profile in Gauteng showed the quadruple burden of disease, with communicable diseases, non-communicable diseases, injuries and HIV all having a significant impact. Gauteng had very similar proportions of deaths due to HIV/AIDS, non-communicable diseases and injury as nationally, but much fewer deaths from other infectious and parasitic diseases (14% vs 20%). This is the result of lower mortality rates due to tuberculosis, lower respiratory infections, diarrhoea and protein-energy malnutrition. Mortality due to cardiovascular conditions was slightly lower than the national average due to lower rates of death from stroke and hypertensive heart disease. However, the death rates due to ischaemic heart disease were higher than the national average. Cancer mortality was also higher, as well as mortality due to nephritis or nephrosis. The injury mortality rates were high for this province.

Almost without exception, the ten leading single causes of death appear in Gauteng as well as in the national profile, with slight variations in the ranking. Gauteng had more homicide (6.5% vs 5.8% nationally), slightly more ischaemic heart disease (7.0% vs 5.6%), less stroke (4.9% vs 5.7%), and much less tuberculosis, lower respiratory infection and diarrhoeal disease.

The infant mortality pattern in this province was quite different from the national profile. Gauteng had a much greater HIV/AIDS burden (39% vs 23.3%) and low birth weight (7.4% vs 5.9%). It had substantially fewer infant deaths from diarrhoeal diseases (6.2% vs 9.7%) and protein-energy malnutrition (1.6% vs 3.0%). There were twice as many deaths from congenital heart disease in Gauteng as in the total population.

KWAZULU-NATAL PROVINCIAL PROFILE



KwaZulu-Natal provincial profile

Background

KwaZulu-Natal is on the east coast of South Africa, bordering Mozambique and Swaziland in the north, Mpumalanga and Free State in the west, Eastern Cape in the south and Lesotho in the south west. The province encloses 92 100 km², constituting 7.6% of the total land area of the country (Statistics South Africa (SSA), 2003). The average population density during 2002 was 100 persons per square kilometre. During the 1996 Census 57% of the population lived in non-urban areas (SSA, 1998). Prior to 1994 the province territorially consisted of several patches of the self-governing area of KwaZulu. Together with the 'national state' of Transkei in the southern part of the province, these areas formed part of the so-called 'homelands', while the rest of the province was under the separate provincial administration of the then Natal. These territorial divisions are no longer valid, but given the consolidation of various administrations and levels of development, they are important when examining data distribution patterns (Tait, 1996).

Durban, housing an international airport and one of the 10 largest ports in the world, and served by an extensive national road network, is one of the fastest-growing urban areas. Steel production, coal mining and export, a rich wildlife protected in several game parks, holiday resorts along the coast, forestry, tea plantations, meat processing, and mixed agriculture all contribute to the economy. The coastal belt agriculture includes yields of sugar cane, oranges, wood, bananas, mangos and other tropical and sub-tropical fruits, while farmers in the hinterland focus on vegetable, dairy and stock farming.

KwaZulu-Natal has recently undergone rapid industrialisation, and industries are found in towns such as Dundee, Hammarsdale, Ladysmith, Mandeni, Newcastle, Richards Bay, and Richmond (GCIS, 2004). During 2001 KwaZulu-Natal made the second highest Gross Geographic Product contribution of all the provinces to the national Gross Domestic Product (GDP), providing 15.5% of the total GDP at R152 703 million (GCIS, 2004). However, at the micro level it is important to realise that high levels of unemployment and poverty prevail.

Population structure

According to the 2000 ASSA estimates, 9 211 922 people lived in KwaZulu-Natal, constituting 20.4% of South Africa's total population. The province accommodated slightly more women (52%) than men (48%). Nearly 35% of the population were younger than 15 years, and 61% were in their 'economically active' years (15-64), while 6% were aged 60 years or older. [Census 2001: total population 9 426 017 (ASSA had 214 095 less); 21% of South Africa's total population; 53.2% female; 84.9% Black African, 1.5% Coloured, 8.5% Indian, 2.4% White.]

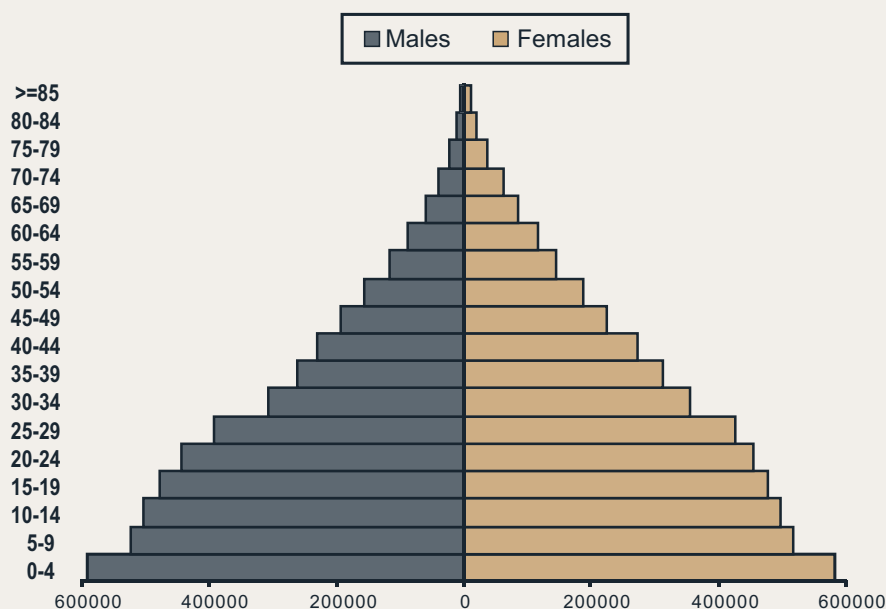


Figure KZN1: Age structure of the KwaZulu-Natal population, 2000

Living conditions

According to the 2001 Census, 21.9% of the population aged 20 years or older had no formal school education, and 48.7% of those in the age group 15-64 were unemployed (SSA, 2003). Just over half of the population (50.5%) lived below the national poverty line in 2002 (UNDP, 2004). A large proportion of the households in KwaZulu-Natal (nearly 57%) are accommodated in formal housing, and 10.8% and 27.9% respectively in informal and traditional structures. On average, 4.2 persons share a household. The majority of households (86%) have access to piped water, whether it is in the home, yard or at a public facility. In 16.2% of the households there is no toilet facility; 49.2% of the households' refuse is removed at least once a week. For cooking purposes 48.3% of the households have access to electricity, in 27% wood is used, and in 17.9% paraffin is used. Seventy three per cent of the households have a radio, 47.3% a television, 46.9% a refrigerator, 24% a telephone, and 28.5% a cell phone (SSA, 2003).

Mortality profile

KwaZulu-Natal's mortality profiles are based on 66 385 (51.1%) male and 63 473 (48.9%) female deaths estimated for the year 2000, totalling 129 858 deaths. Figure KZN2 shows the causes of death for the broad Groups. The proportions of other infectious diseases, maternal, perinatal and nutritional deficiencies and non-communicable diseases were very similar for men and women, while HIV/AIDS accounted for 46% of the female deaths and 38% of the male deaths. The greatest differences were seen in the proportions of deaths due to injuries - 13% for men and 5% for women.

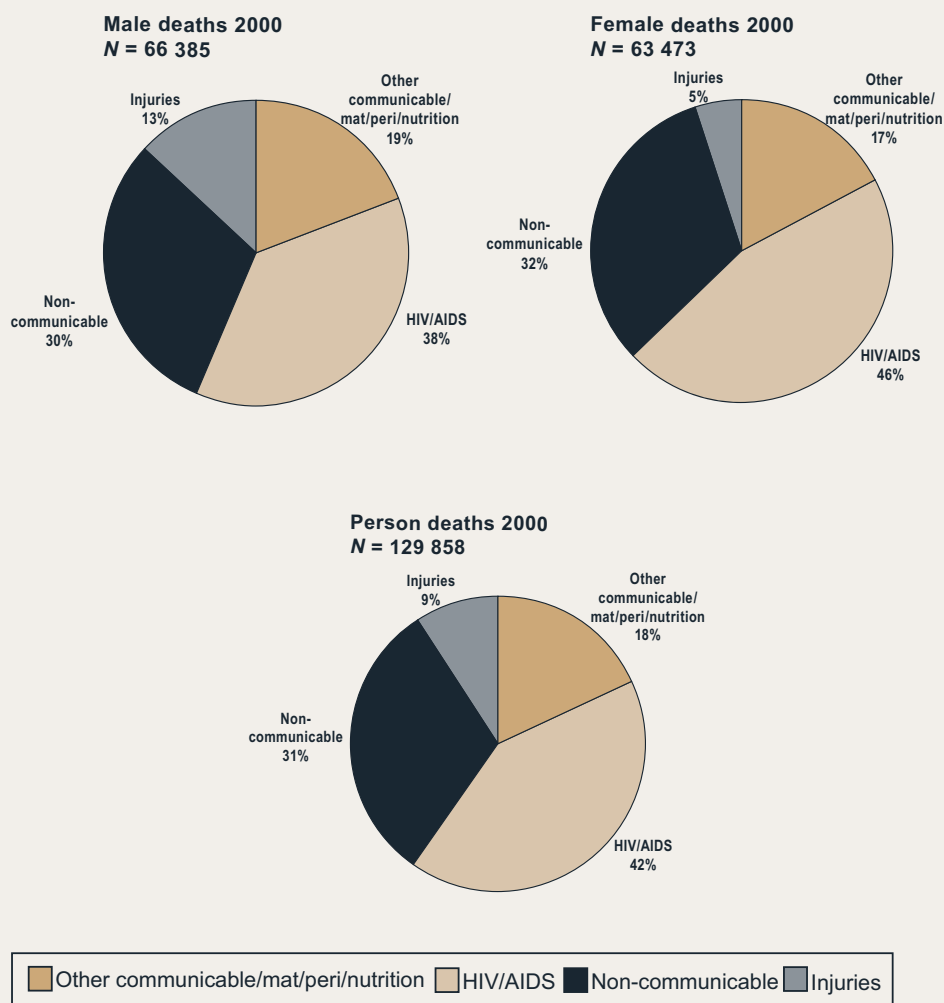


Figure KZN2: Estimated deaths by Groups, KwaZulu-Natal 2000

The age-specific cause of death profiles are presented in Figure KZN3. The numbers of deaths are presented by five-year age intervals for the three broad Groups and HIV/AIDS. Due to particular disease and mortality profiles in children during the first year of life, the under 5 year age group is divided into infants less than 1 year old and children aged 1-4 years old. HIV/AIDS deaths were exceptionally high for young adult men and women. Deaths due to other infectious diseases and HIV/AIDS were extremely high for boys and girls in the perinatal period. Deaths from injury were higher in young adult men than in women. In adults of 50 years or older non-communicable disease mortality dominated.

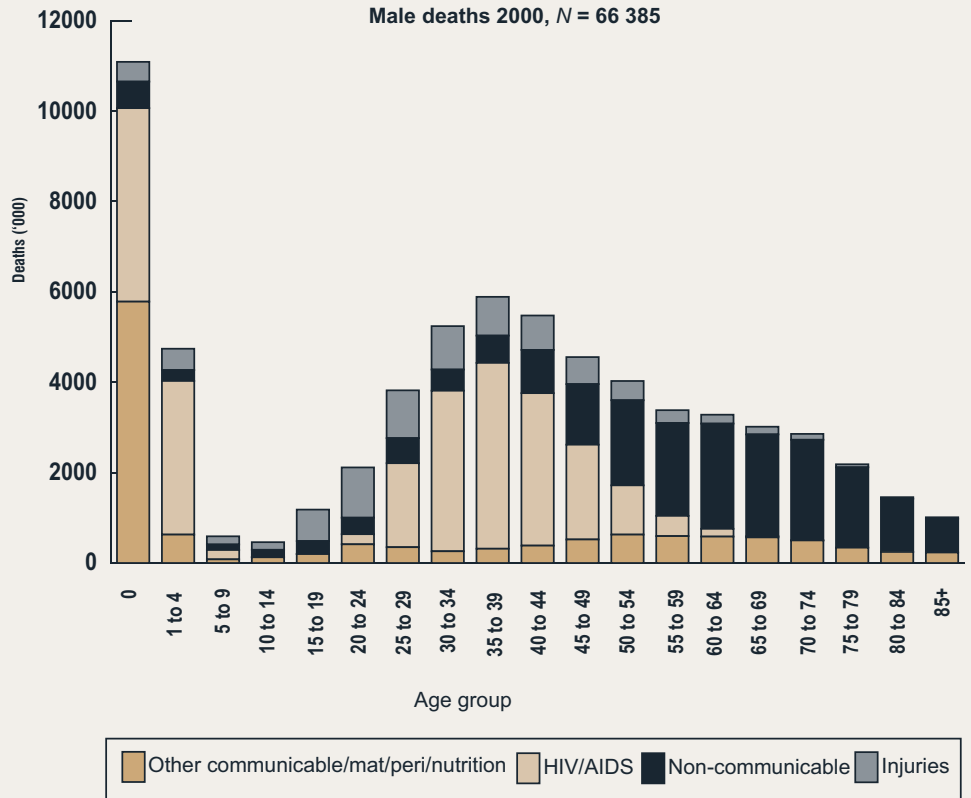


Figure KZN3: Age distribution of deaths by broad Groups, KwaZulu-Natal 2000

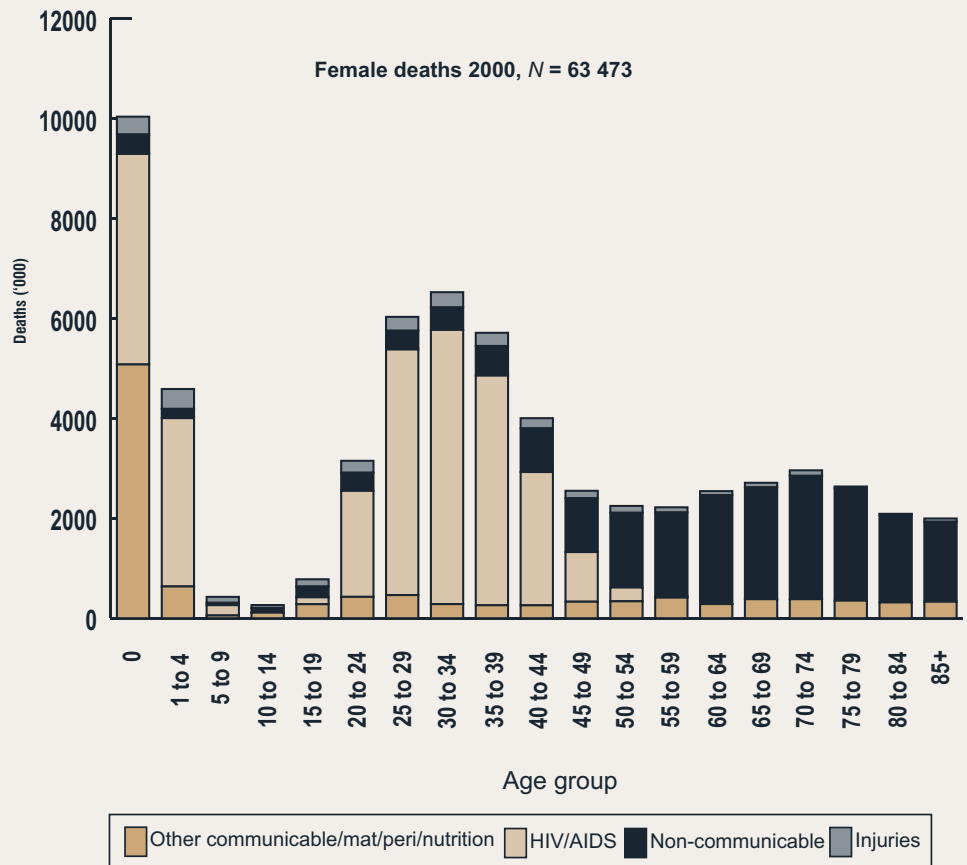


Figure KZN4 shows KwaZulu-Natal's cause of death profile for categories of causes of death, ranked in descending order according to total deaths. In both men and women HIV/AIDS was the leading cause of death (41.5%), followed by cardiovascular disease (15%), infectious and parasitic diseases excluding HIV/AIDS (9%), intentional injuries (5%) and unintentional injuries (4%), perinatal conditions (4%) and respiratory infections (4%). Differences were observed between men and women, with HIV/AIDS, cardiovascular disease and diabetes accounting for higher proportions of deaths in females than in males. In contrast, in men intentional and unintentional injuries, as well as infectious and parasitic infections excluding HIV/AIDS, predominated among the leading ten categories.

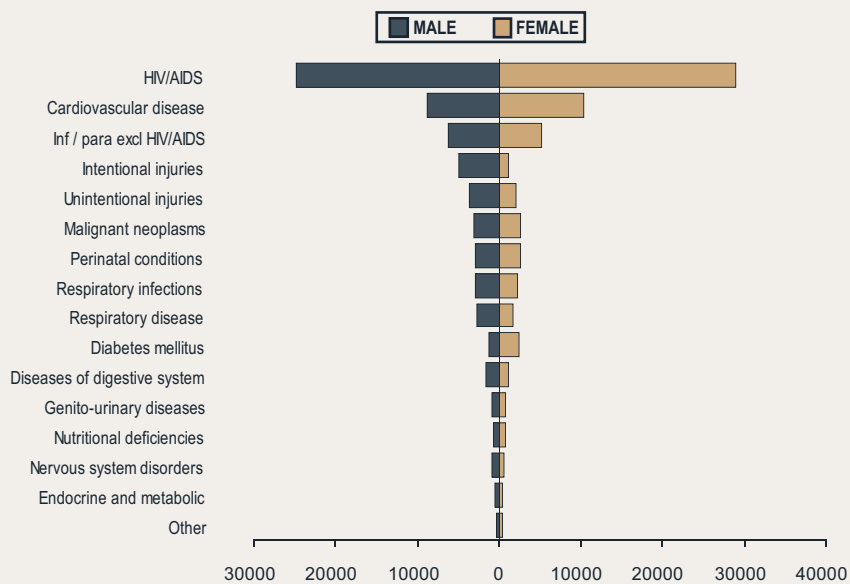


Figure KZN4: Causes of death according to categories for males and females, KwaZulu-Natal 2000

"Other" causes include congenital abnormalities, maternal conditions, benign neoplasms, musculo-skeletal diseases, skin disorders, oral conditions and conditions of the sense organs.

The twenty leading single causes of death in the total KwaZulu-Natal population are shown in Figure KZN5(a) below, illustrating that HIV/AIDS was the largest single cause of death, accounting for 41.5% of all deaths during 2000. HIV/AIDS caused about seven times more deaths than strokes, the next largest single cause (6%). Ischaemic heart disease and hypertensive heart disease, lower respiratory infection, homicide, diarrhoea and tuberculosis were next in the ranking, each accounting for between 3% and 5% of deaths. From Figure KZN5(b) it is clear that women had higher numbers of deaths due to HIV, stroke, hypertensive heart disease, and diabetes mellitus, while men had higher numbers of deaths due to the remaining leading causes of death.

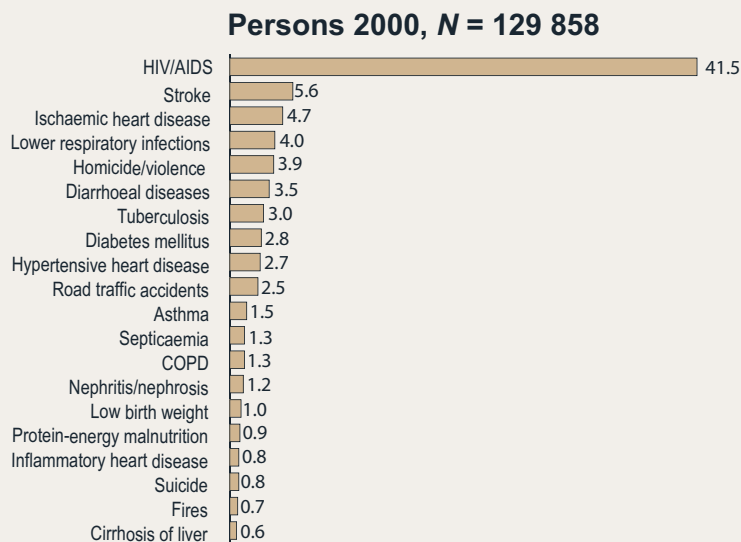


Figure KZN5(a): Twenty leading single causes of death (%), KwaZulu-Natal 2000

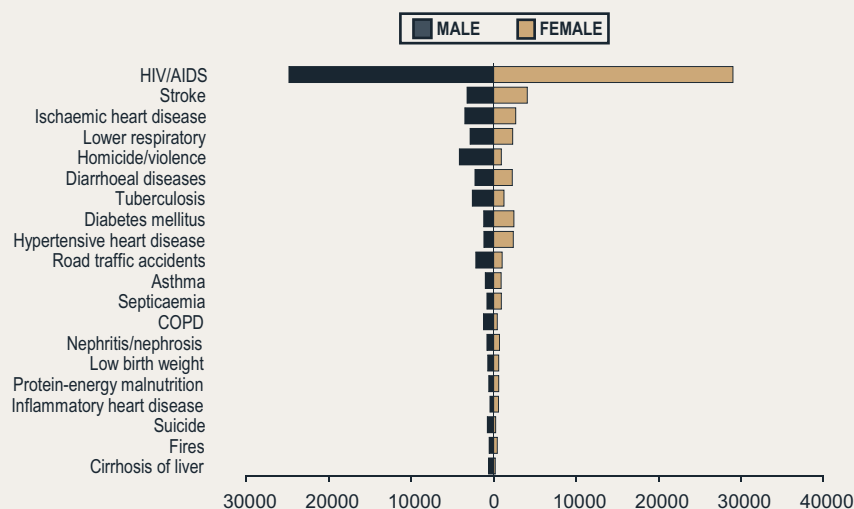


Figure KZN5(b): Twenty leading single causes of death by sex, KwaZulu-Natal 2000

Premature mortality

The years of life lost (YLLs) measure does not merely consider the number of deaths, but also takes into account the age at which the deaths occurred. YLLs are calculated using the age weighting parameter, discounting and the standard life expectancy used in the Global Burden of Disease Study. Table KZN1 shows that HIV/AIDS played a major role in premature mortality. This can be explained by the large numbers of deaths due to AIDS, especially in young adults and children under the age of 5 years. The proportions attributable to other causes are much smaller, with homicide/violence, diarrhoeal diseases, lower respiratory infections and road traffic accidents each being responsible for 2.8 - 4.7% of premature loss of life. Premature mortality manifested differently in men and women. For example, HIV/AIDS accounted for 58% of all YLLs in women and 45% in men. Homicide/violence and road traffic accidents were ranked in the top five causes in men, but ranked lower in women. Two of the classic lifestyle causes of death, stroke and diabetes, ranked in the top five causes for women.

Table KZN1: Leading 20 single causes of the premature mortality burden (YLLs) by sex, KwaZulu-Natal 2000

Males				Females				Persons			
Rank	Cause of death	YLLs	%	Rank	Cause of death	YLLs	%	Rank	Cause of death	YLLs	%
1	HIV/AIDS	673918	45.0	1	HIV/AIDS	853688	58.0	1	HIV/AIDS	1527606	51.4
2	Homicide/violence	113849	7.6	2	Diarrhoeal diseases	59773	4.1	2	Homicide/violence	138231	4.7
3	Diarrhoeal diseases	63563	4.2	3	Lower respiratory infections	49024	3.3	3	Diarrhoeal diseases	123336	4.2
4	Lower respiratory infections	61841	4.1	4	Stroke	37927	2.6	4	Lower respiratory infections	110865	3.7
5	Road traffic accidents	56282	3.8	5	Diabetes mellitus	27041	1.8	5	Road traffic accidents	83225	2.8
6	Tuberculosis	42322	2.8	6	Road traffic accidents	26943	1.8	6	Stroke	73199	2.5
7	Ischaemic heart disease	36723	2.5	7	Tuberculosis	25400	1.7	7	Tuberculosis	67723	2.3
9	Stroke	35272	2.4	9	Homicide/violence	24382	1.7	9	Ischaemic heart disease	60961	2.1
10	Low birth weight	23770	1.6	10	Ischaemic heart disease	24238	1.6	10	Low birth weight	44371	1.5
11	Protein-energy malnutrition	19603	1.3	11	Septicaemia	21038	1.4	11	Diabetes mellitus	41144	1.4
12	Septicaemia	19583	1.3	12	Hypertensive heart disease	20811	1.4	12	Septicaemia	40621	1.4
13	Suicide	18620	1.2	13	Low birth weight	20602	1.4	13	Protein-energy malnutrition	39314	1.3
14	Fires	15438	1.0	14	Protein-energy malnutrition	19711	1.3	14	Hypertensive heart disease	33467	1.1
15	Asthma	14951	1.0	15	Asthma	14136	1.0	15	Asthma	29087	1.0
17	Diabetes mellitus	14103	0.9	17	Birth asphyxia and trauma	12920	0.9	17	Fires	27305	0.9
18	Nephritis/nephrosis	12850	0.9	18	Fires	11867	0.8	18	Suicide	24502	0.8
19	Hypertensive heart disease	12657	0.8	19	Nephritis/nephrosis	10831	0.7	19	Nephritis/nephrosis	23681	0.8
20	COPD	12132	0.8	20	Neonatal infections	6984	0.5	20	Birth asphyxia and trauma	23563	0.8
	All causes	1 497 562			All causes	1 472 015			All causes	2 969 577	

Leading causes of death among children (<15 years)

The leading ten causes of death in children under 15 years of age are shown in Figure KZN6 for boys and girls separately. In the under 5 year olds, HIV/AIDS accounted for about half the deaths. The pattern for boys and girls in the top five are the same, with two infectious diseases and two perinatal conditions after HIV/AIDS. Among children 5 to 14 years, the number of deaths for boys was nearly twice as high as for girls, with the pattern for boys and girls in the top four the same. HIV/AIDS accounted for most of the deaths, followed by road traffic accidents and two infectious diseases. Injuries, including drowning and homicide, were among the leading causes for boys, while homicide and fires were among the leading causes for girls.

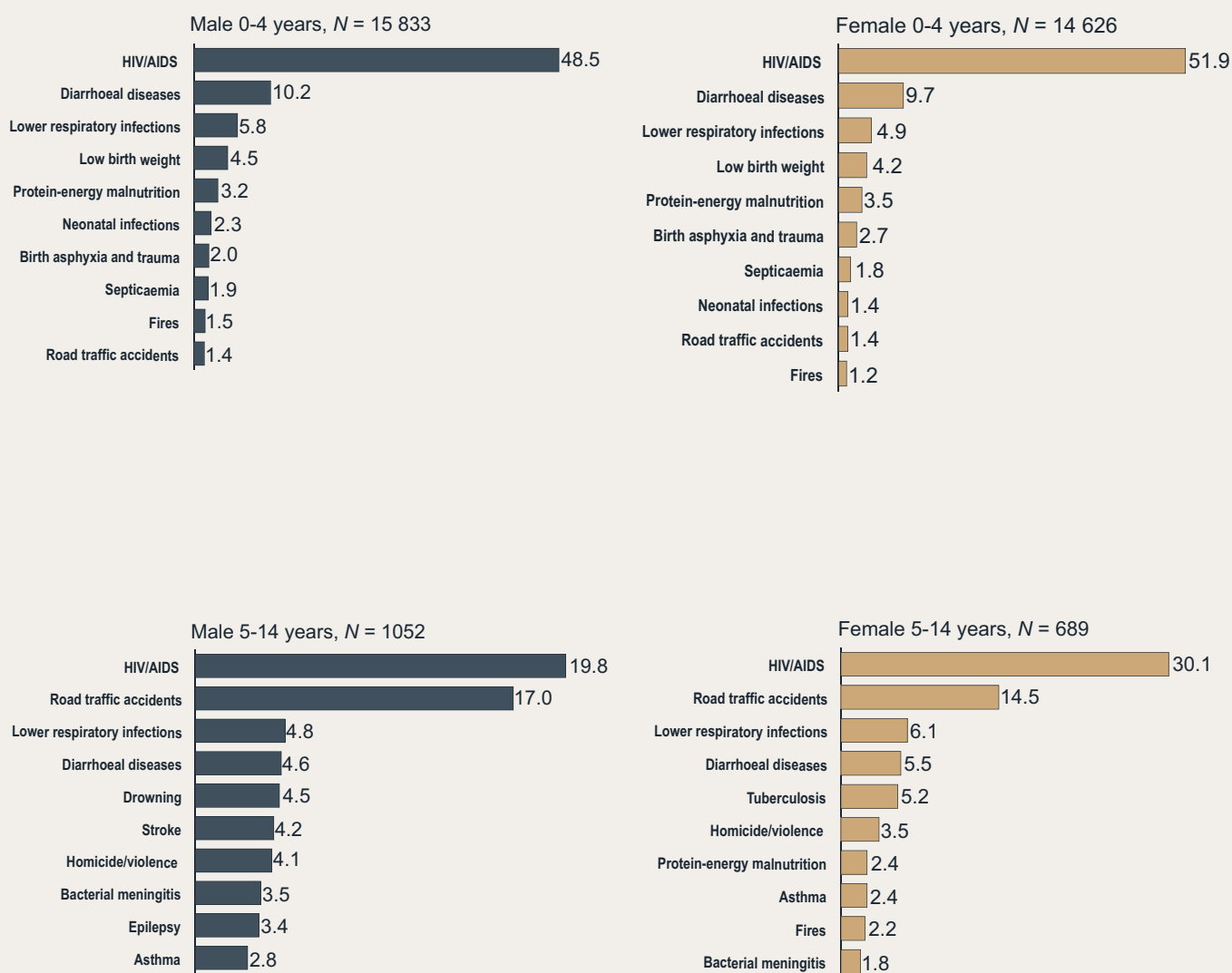


Figure KZN6: Ten leading single causes of death (%) among children (<15 years) by sex, KwaZulu-Natal 2000

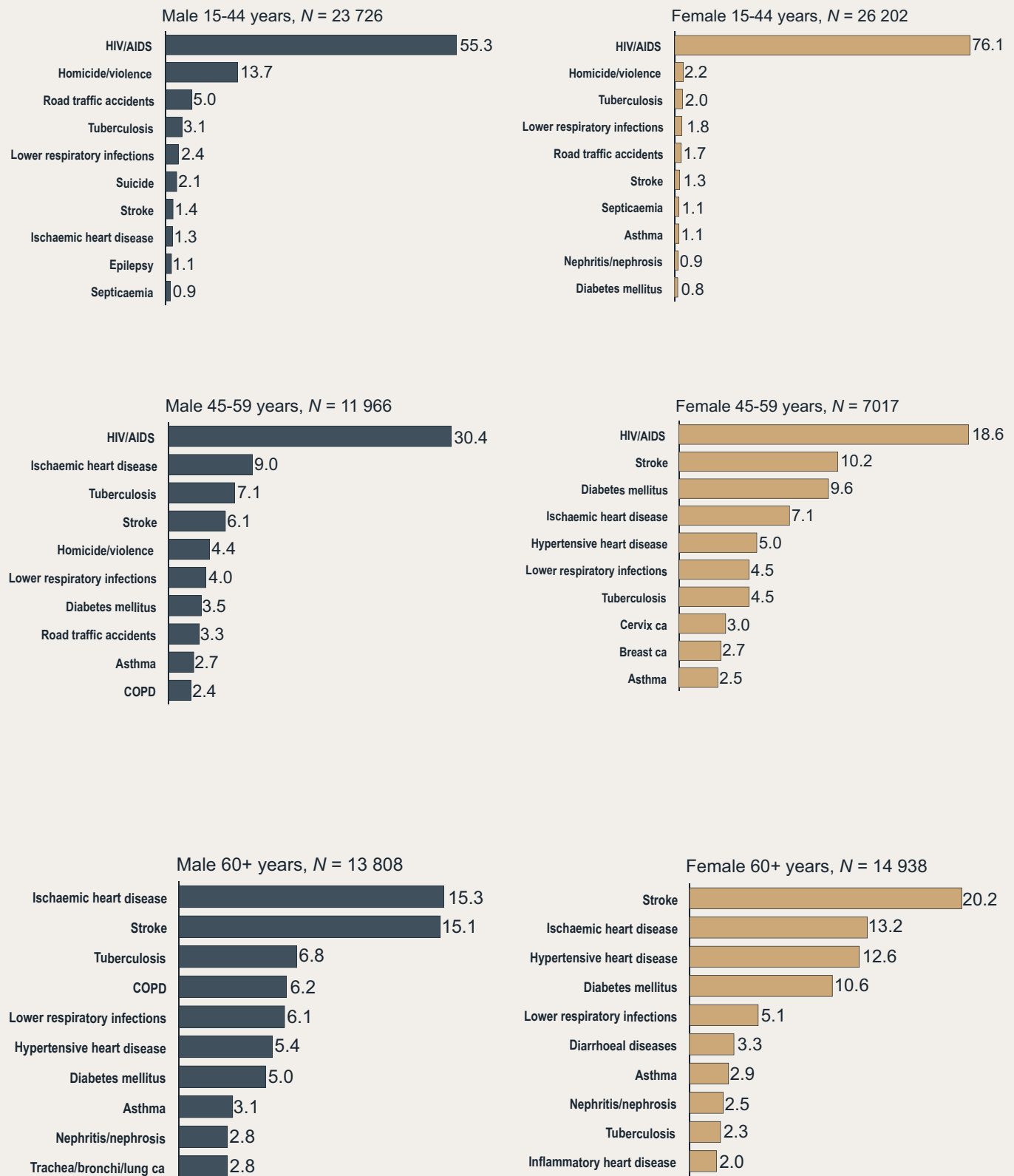
Leading causes of death among adults

The leading ten causes of death among adults are shown in Figure KZN7 by selected age groups and sex. Among young adults aged 15 to 44 years, HIV/AIDS was the leading cause for both men and women, followed by homicide. These two conditions accounted for 69% and 78.3% of the deaths in males and females respectively. The next three causes were the same for males and females, but the ranking differed.

Among the next age group, 45 to 59 years, HIV/AIDS accounted for most of the deaths. Thereafter the pattern differed slightly. Lifestyle diseases, such as stroke, diabetes, ischaemic and hypertensive heart disease, accounted for 31.9% of deaths in women. All of these lifestyle diseases, except hypertensive heart disease, appeared in males too, and accounted for 18.6% of the deaths. Injuries, such as homicide and road traffic accidents, were among the leading causes for men, but not for women. The common female cancers, cervix and breast, were among the leading causes of death for women.

In older persons (60 years and older) most of the leading causes of death were non-communicable diseases, and it is clear that cardiovascular diseases were the primary cause of death in older persons. Stroke, ischaemic heart disease and hypertensive heart disease were the leading single causes of death, accounting for 35.8% and 46% of the deaths in males and females respectively. Diabetes was the fourth largest cause, accounting for 10.6% of the deaths in women, while it was in seventh place for men, accounting for 5% of the deaths. Figure KZN7 shows that tuberculosis, chronic obstructive pulmonary disease and lung cancer caused more deaths in older men than in older women. Lower respiratory infections, asthma and nephritis accounted for deaths in both males and females at similar levels.

Figure KZN7: Ten leading single causes of death (%) among adults by sex, KwaZulu-Natal 2000



How does KwaZulu-Natal compare with the national profile?

In KwaZulu-Natal mortality was very high. This province had the highest HIV/AIDS mortality rates and the highest child mortality rates. Comparing KwaZulu-Natal's cause of death profile with the country's national profile, it is clear that there were similarities as well as differences. In the broad Groups, injuries in KwaZulu-Natal (9%) constituted a smaller proportion than nationally (12%), as did non-communicable diseases with 31% in KwaZulu-Natal and 38% nationally. In KwaZulu-Natal HIV/AIDS mortality was much higher (42%) than nationally (30%).

The leading top ten single causes of death were the same in KwaZulu-Natal as they were nationally, but they ranked differently. Tuberculosis not related to HIV was ranked lower in KwaZulu-Natal, while lower respiratory infections, diarrhoea and septicaemia were ranked higher. Stroke and ischaemic heart disease were ranked higher in KwaZulu-Natal. Unnatural causes of death like homicide/violence and road traffic accidents ranked lower in KwaZulu-Natal than nationally. Lung cancer ranked seventeenth nationally, but does not feature among the leading twenty causes in KwaZulu-Natal.

The KwaZulu-Natal Epidemiology Unit estimated the burden of disease based on the sample death data for the years 1997-2001 (KwaZulu-Natal Department of Health, 2003). A comparison of their results by broad cause combining AIDS and other Group I shows 50% against our estimate of 60%. This difference is due to the fact that their estimate is based on an earlier period. The injuries are 10% for the period 1997-2001 and 9% in this study. The focus of their study was on non-communicable diseases, for which very similar observations were made.

Empirical data have been collected in the Demographic Surveillance Site in the Umkhanyakude district of northern KwaZulu-Natal by the Africa Centre for Health and Population Studies (ACDIS) using verbal autopsy to obtain cause of death data in the area under surveillance. By the year 2000, the study reported adult mortality levels (${}_{45}q_{15}$) of 75% for males and 58% for females (Hosegood *et al.*, 2004). These levels of adult mortality are considerably higher than the ASSA2000 estimates of 55% for males and 43% for females for the province. This difference in level of mortality is considered plausible given the comparison of a rural population and an average of the province. The profile of the broad causes of death for the province was compared with that from the ACDIS which had defined causes for 97% of the deaths (Table KZN2). While the profiles were reasonably similar, with the rural area showing a higher proportion of deaths due to AIDS and lower proportion of deaths due to non-communicable diseases, it would need more careful comparison of age-specific rates to assess the distinctions.

Cause Group	KwaZulu-Natal (%)	Africa Centre Demographic Information System (%)
Other Group I	11	11
AIDS	39	48
Non-communicable	40	27
Injuries	10	11

Table KZN2. Comparison of the cause of death profile estimated for KwaZulu-Natal with the ACDIS profile for adults over 15 years

LIMPOPO PROVINCIAL PROFILE



Limpopo provincial profile

Background

Limpopo is the northernmost province of the country, having international borders with Botswana, Mozambique and Zimbabwe. The southern border of the province neighbours on Gauteng, Mpumalanga and North West. The province encloses 123 910 km², constituting 10.2% of the country's total land area (SSA, 2003). In 2000 the average population density was estimated at 43 persons per square kilometre. Prior to 1994 the province was administered as several patches of the "self-governing" areas of Lebowa and Gazankulu, the "independent state" of Venda, and part of the then Transvaal. While these territorial divisions are no longer valid, they are important when examining data distribution patterns (Tait, 1996).

During the 1996 Census the large majority of the population (89%) lived in non-urban areas (SSA, 1998). Limpopo is a typical developing area, with many rural people practising subsistence farming. Recent analysis indicated that Limpopo had its highest average real economic growth rate, 3.8% (GCIS, 2004), between 1995 and 2001. However, its Gross Geographic Product at 2001 prices was rated at R63 646 million, which translated into a 6.5% contribution (the third smallest provincial contribution) to the national Gross Domestic Product. The province's growth strategy currently focuses on addressing infrastructure backlogs, the alleviation of poverty and social development (GCIS, 2004).

Community, social and personal services; agriculture, forestry and hunting; and the wholesale and retail trade are the largest economic sectors among the employed aged 15-65 years (SSA, 2003). Citrus, tomatoes, table grapes, sunflowers, maize, cotton, peanuts, bananas, litchis, pineapples, mangoes, pawpaws, tea and coffee are grown on a commercial basis. Cattle farming, game hunting and game ranching contribute to commercial agricultural activities, while many rural people practise subsistence living. Extensive forestry plantations are found in the north, and the province has a range of minerals, including gold and platinum (GCIS, 2004). Limpopo exports primary products and imports manufactured goods and services.

Population structure

According to the 2000 ASSA estimates, 5 277 432 people lived in Limpopo, constituting 11.7% of South Africa's total population. A high proportion – 52.2% - of the province's population was female, with this female predominance being more marked in the adult age groups. In the working age groups this may be a result of male migration related to work-seeking, and in the older age groups due to the longer survival of women. The 2001 Census found that a higher proportion of the population was female (at 54.6%) than the projection. Just over 40% of the population were younger than 15 years, 56% were in their 'economically active' years (15-64), and 6% were aged 60 years or older. [Census 2001: total population 5 273 642 (790 more than ASSA), 11.8% of total population in South Africa; 54.6% female; 97.2% Black African, 0.2% Coloured, 0.2% Indian, 2.4% White.]

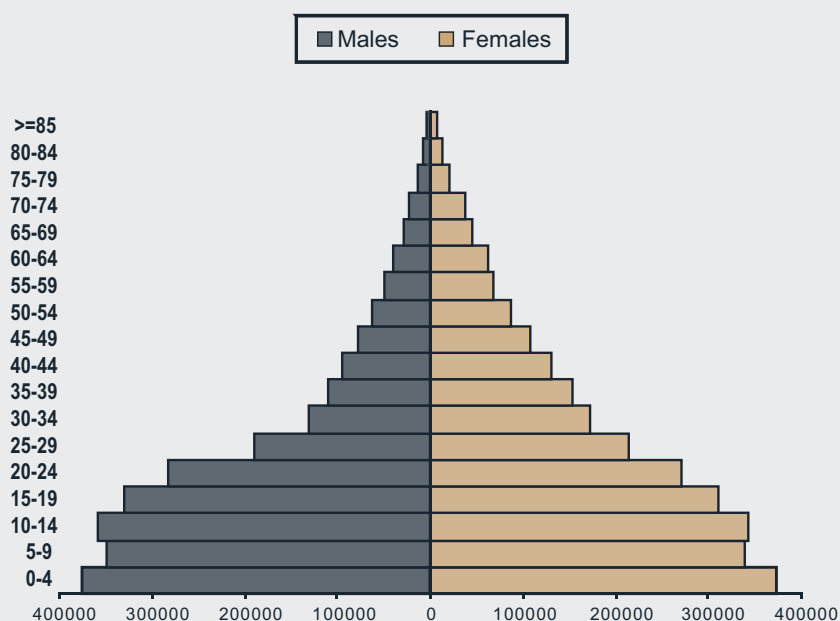


Figure LM1: Age structure of the Limpopo population, 2000

Living conditions

According to the 2001 Census, 33.4% of the population aged 20 years or more had no formal school education; 49% of those in the age group 15-64 years were unemployed, and 33% of those who were employed were in elementary occupations (SSA, 2003). Over 6 in 10 persons (61%) lived below the national poverty line in 2002 (UNDP, 2004). Just over 70% of all households lived in formal dwellings, and 7% and 20% respectively in informal and traditional structures. On average, 4.3 persons shared a household. Piped water, either in the dwelling, on site, or from a communal tap, was available in 78% of households. Almost one-quarter of households did not have access to a toilet facility, and a mere 14% had a refuse removal service once a week or more. In 25% of households electricity was used as the main source of energy for cooking, wood in 60%, and paraffin in 11%. Almost 70% of the households had a radio, 40% a television, 39% a refrigerator, 8% a telephone and 25% a cell phone (SSA, 2003).

Limpopo mortality profile

A total of 53 815 deaths were estimated for Limpopo in the year 2000. Of these, 26 404 (49.1%) were in females and slightly more, 27 410 (50.9%) in males. This is the reverse pattern to the numbers in the population. In terms of causes, half of the deaths were due to Group 1 causes including HIV/AIDS, while 40% were due to Group II causes and 10% to injuries (Figure LM2). In the case of males the proportion of injuries was higher, accounting for 15% of deaths, while the proportions of Group I and Group II deaths were lower (48% and 37% respectively) than in females. In 2000 the proportion of deaths due to HIV/AIDS was higher for females (28%) than for males (21%). The proportions of deaths due to other communicable diseases, maternal and perinatal conditions, nutritional deficiencies and non-communicable diseases were similar for males and females (27% and 25% respectively).

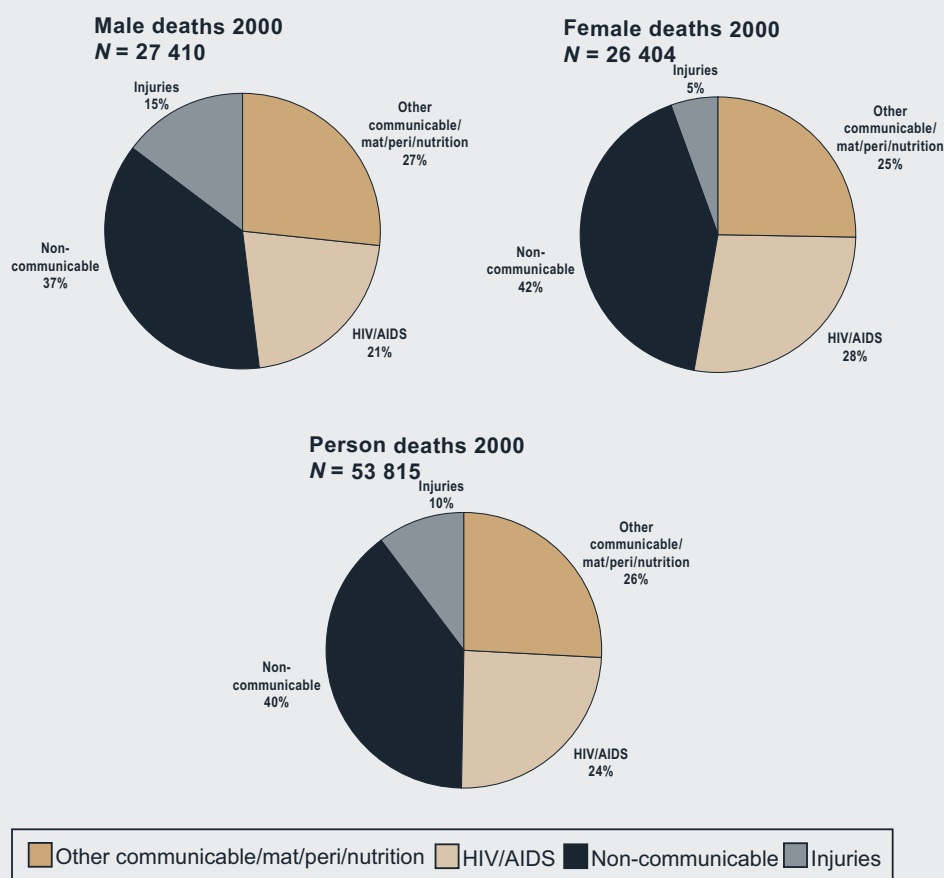


Figure LM2: Estimated deaths by Groups, Limpopo 2000

The age-specific cause of death profiles are presented in Figure LM3. The numbers of deaths are presented by five-year age intervals for the three broad Groups and HIV/AIDS. Due to particular disease and mortality profiles in children during the first year of life, the under 5 year age group is divided into infants less than 1 year old and children of 1-4 years old. Limpopo had a very high number of infant deaths, mostly due to Group I diseases and HIV/AIDS. HIV/AIDS deaths were also high in young adult men and women. Injury-related deaths were very high in male adolescents and young adult men. In older persons, most of the burden was due to non-communicable diseases.

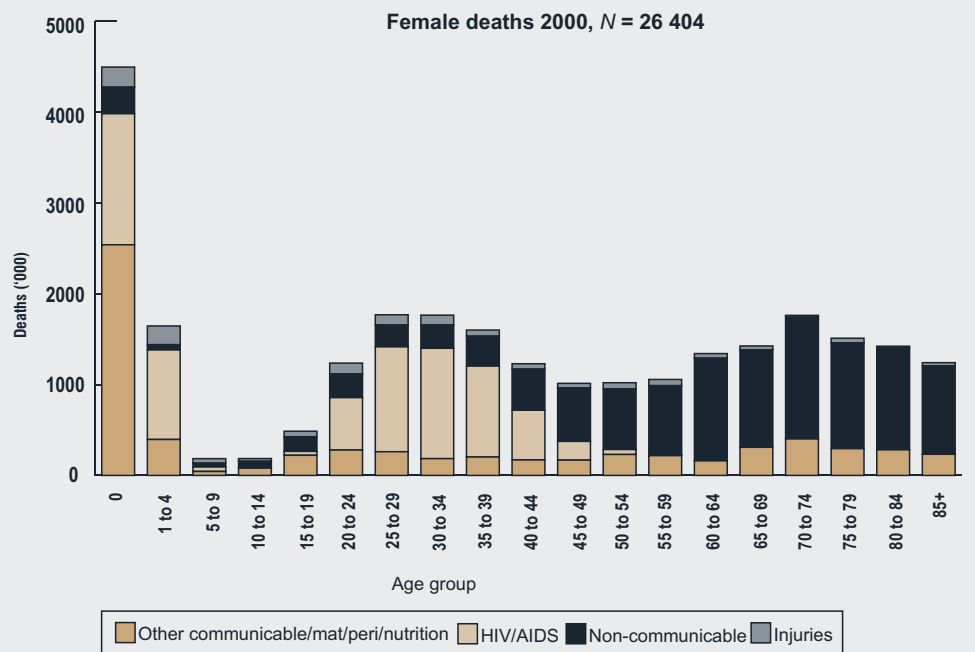
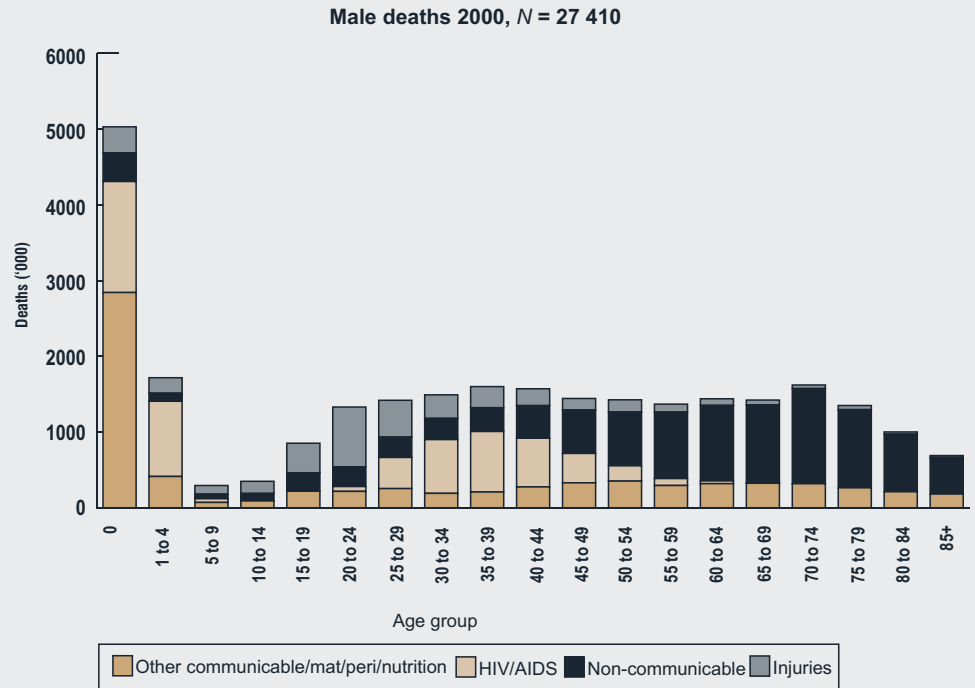


Figure LM3: Age distribution of deaths by broad Groups, Limpopo 2000

The cause of death profile for Limpopo according to major disease categories is shown in Figure LM4. This is ranked in descending order according to total number of deaths. HIV/AIDS was the leading cause of death in both men and women (24%), followed by cardiovascular disease (18%), infectious and parasitic diseases excluding HIV/AIDS (14%), malignant neoplasms and respiratory infections (6%) and intentional injuries (5%). Differences were observed between men and women, with HIV/AIDS, cardiovascular disease and diabetes accounting for a higher proportion of female than male deaths. In contrast, among the leading ten categories, other infectious and parasitic disease, intentional and unintentional injuries and respiratory disease predominated in males.

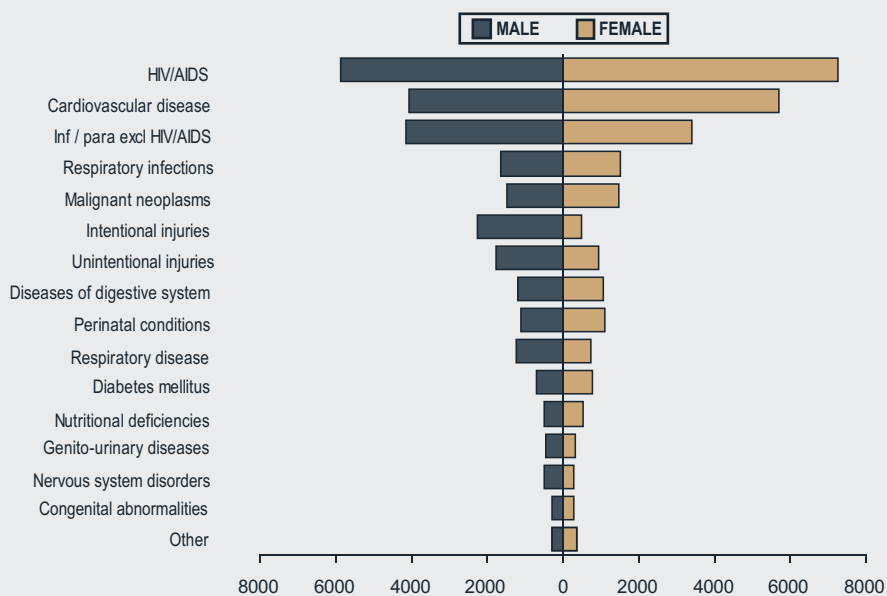


Figure LM4: Causes of death according to categories for males and females, Limpopo 2000

"Other" causes include maternal conditions, musculo-skeletal diseases, benign neoplasms, mental disorders, skin diseases, oral and sense organ conditions.

The twenty leading single causes of death in the total Limpopo population are shown in Figure LM5(a). HIV/AIDS was the largest single cause of death, accounting for 24% of all deaths during 2000. Hypertensive heart disease and diarrhoea followed, accounting for 6% and 5.8% respectively. Lower respiratory infections were the fourth leading cause of death followed by stroke. Homicide and tuberculosis were ranked sixth and seventh. Ischaemic heart disease and diabetes were among the top causes of death. Pronounced gender patterns are seen in Figure LM5(b). Hypertensive heart disease and stroke were more prominent among the women, while homicide, tuberculosis, road traffic accidents and COPD deaths were more pronounced among the men.

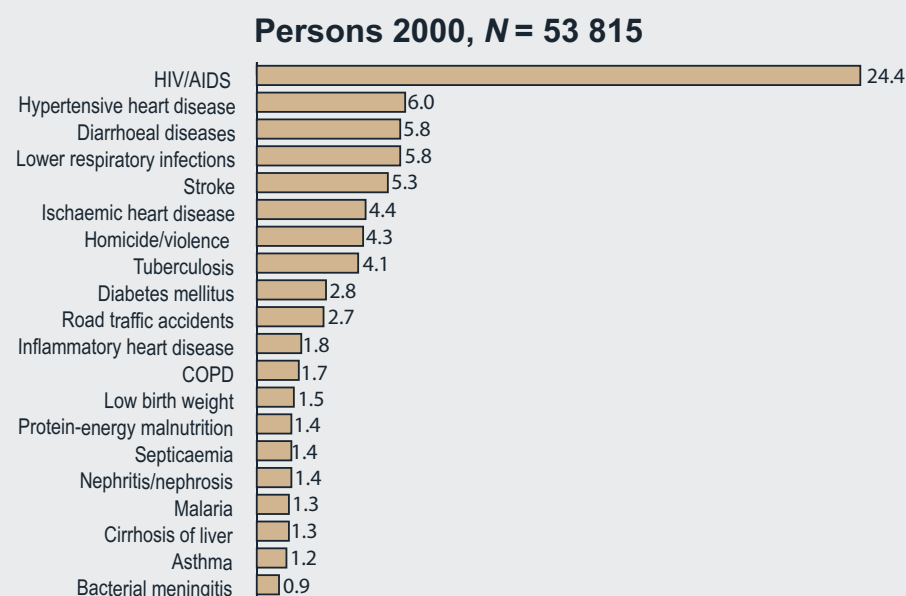


Figure LM5(a): Twenty leading single causes of death (%), Limpopo 2000

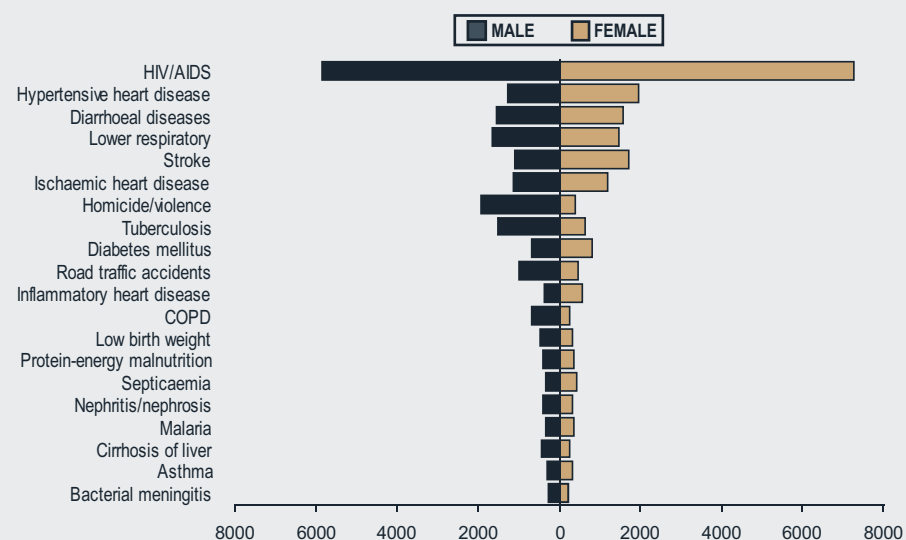


Figure LM5(b): Twenty leading single causes of death by sex, Limpopo 2000

Limpopo premature mortality

HIV/AIDS was the leading cause of premature mortality and accounted for a third of the total years of life lost (YLLs); 40% for females and 28% for males (Table LM1). Diarrhoeal diseases were the second leading cause of premature mortality among persons (7% of YLLs). Homicide/violence and road traffic accidents ranked second and fifth in men, but ranked lower in women. Injuries accounted for 7% and 19% of all YLLs lost in females and males respectively.

The top four causes of premature mortality accounted for just over half of the total loss: HIV/AIDS, homicide, diarrhoeal and lower respiratory infections.

Table LM1: Leading 20 single causes of the premature mortality burden (YLLs) by sex, Limpopo 2000

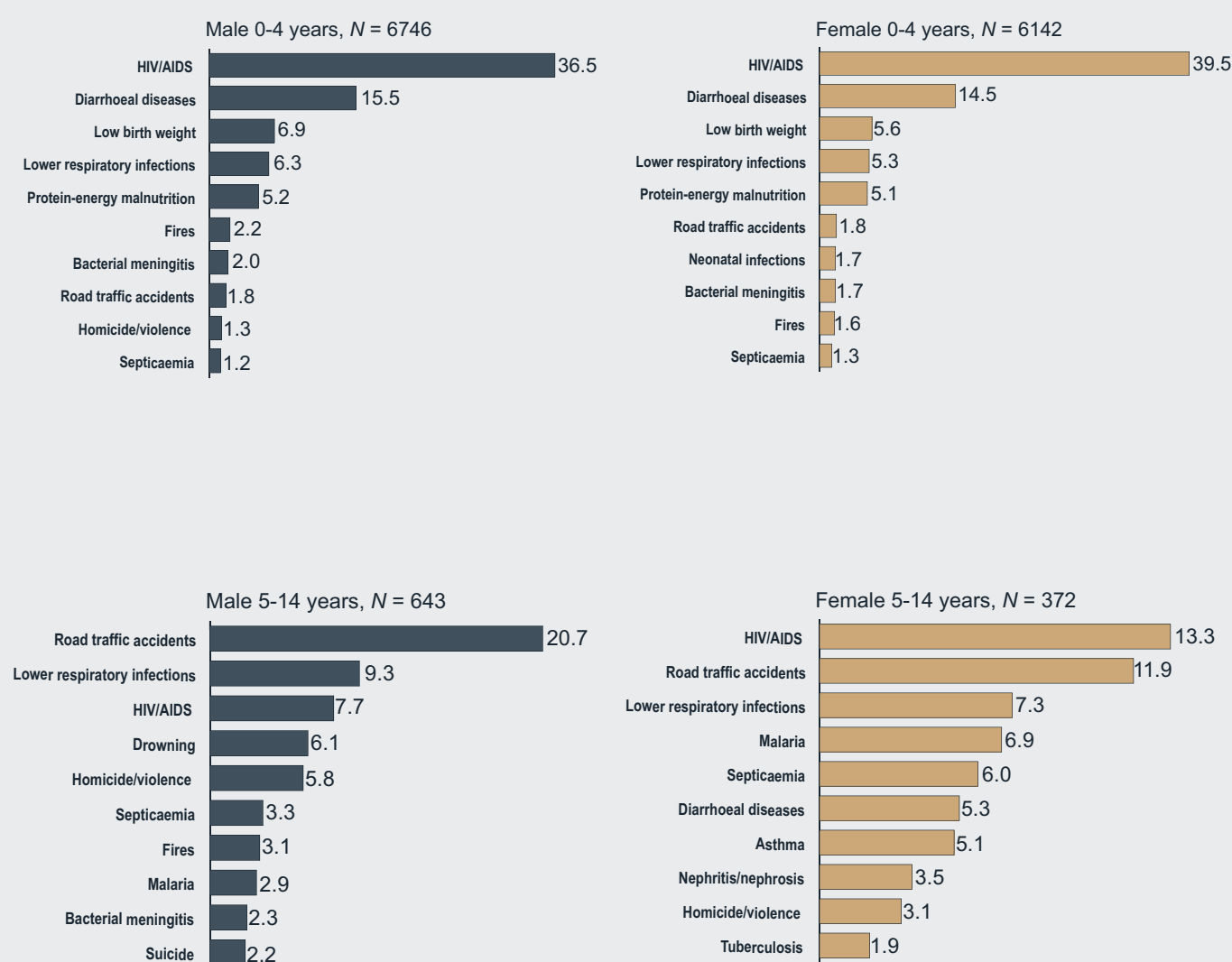
Males				Females				Persons			
Rank	Cause of death	YLLs	%	Rank	Cause of death	YLLs	%	Rank	Cause of death	YLLs	%
1	HIV/AIDS	166095	27.8	1	HIV/AIDS	218894	39.3	1	HIV/AIDS	384989	33.4
2	Homicide/violence	55208	9.2	2	Diarrhoeal diseases	39372	7.1	2	Diarrhoeal diseases	82746	7.2
3	Diarrhoeal diseases	43374	7.3	3	Lower respiratory infections	27188	4.9	3	Homicide/violence	65490	5.7
4	Lower respiratory infections	31831	5.3	4	Hypertensive heart disease	20158	3.6	4	Lower respiratory infections	59020	5.1
5	Road traffic accidents	26984	4.5	5	Stroke	14128	2.5	5	Tuberculosis	39890	3.5
6	Tuberculosis	25840	4.3	6	Tuberculosis	14050	2.5	6	Road traffic accidents	38879	3.4
7	Low birth weight	15469	2.6	7	Road traffic accidents	11895	2.1	7	Hypertensive heart disease	35132	3.0
8	Hypertensive heart disease	14975	2.5	8	Protein-energy malnutrition	11671	2.1	8	Low birth weight	26976	2.3
9	Protein-energy malnutrition	12740	2.1	9	Low birth weight	11507	2.1	9	Protein-energy malnutrition	24410	2.1
10	Ischaemic heart disease	10448	1.7	10	Homicide/violence	10283	1.8	10	Stroke	24219	2.1
11	Stroke	10090	1.7	11	Diabetes mellitus	9294	1.7	11	Ischaemic heart disease	19441	1.7
12	Suicide	8686	1.5	12	Ischaemic heart disease	8992	1.6	12	Diabetes mellitus	16260	1.4
13	Fires	8443	1.4	13	Septicaemia	8825	1.6	13	Malaria	15332	1.3
14	Bacterial meningitis	8278	1.4	14	Malaria	7899	1.4	14	Septicaemia	15175	1.3
15	COPD	8015	1.3	15	Inflammatory heart disease	7896	1.4	15	Inflammatory heart disease	14188	1.2
16	Malaria	7433	1.2	16	Cervix ca	5833	1.0	16	Fires	14175	1.2
17	Diabetes mellitus	6966	1.2	17	Fires	5733	1.0	17	Bacterial meningitis	13956	1.2
18	Septicaemia	6350	1.1	18	Asthma	5691	1.0	18	COPD	11246	1.0
19	Inflammatory heart disease	6291	1.1	19	Bacterial meningitis	5679	1.0	19	Suicide	11049	1.0
20	Nephritis/nephrosis	5975	1.0	20	Nephritis/nephrosis	4418	0.8	20	Asthma	10716	0.9
	All causes	597 238			All causes	556 524			All causes	1 153 762	

Leading causes of death among children (<15 years)

The ten leading causes of death among children under 5 years of age and children 5-14 years are shown in Figures LM6. The high under 5 mortality in this province was a result of the combination of HIV/AIDS and other communicable diseases, perinatal conditions, lower respiratory infections and nutritional deficiencies. The cause of death profiles for boys and girls were similar and the top five causes, HIV/AIDS, diarrhoea, low birth weight, lower respiratory infections and protein-energy malnutrition, accounted for just over 70% of the child deaths.

The cause of death profiles for boys and girls aged 5-14 years differed. Road traffic accidents were the leading cause of death among boys this age while HIV/AIDS was the leading cause for girls. Injuries and other infectious diseases were among the leading causes in this age group.

Figure LM6: Ten leading single causes of death (%) among children (<15 years) by sex, Limpopo 2000



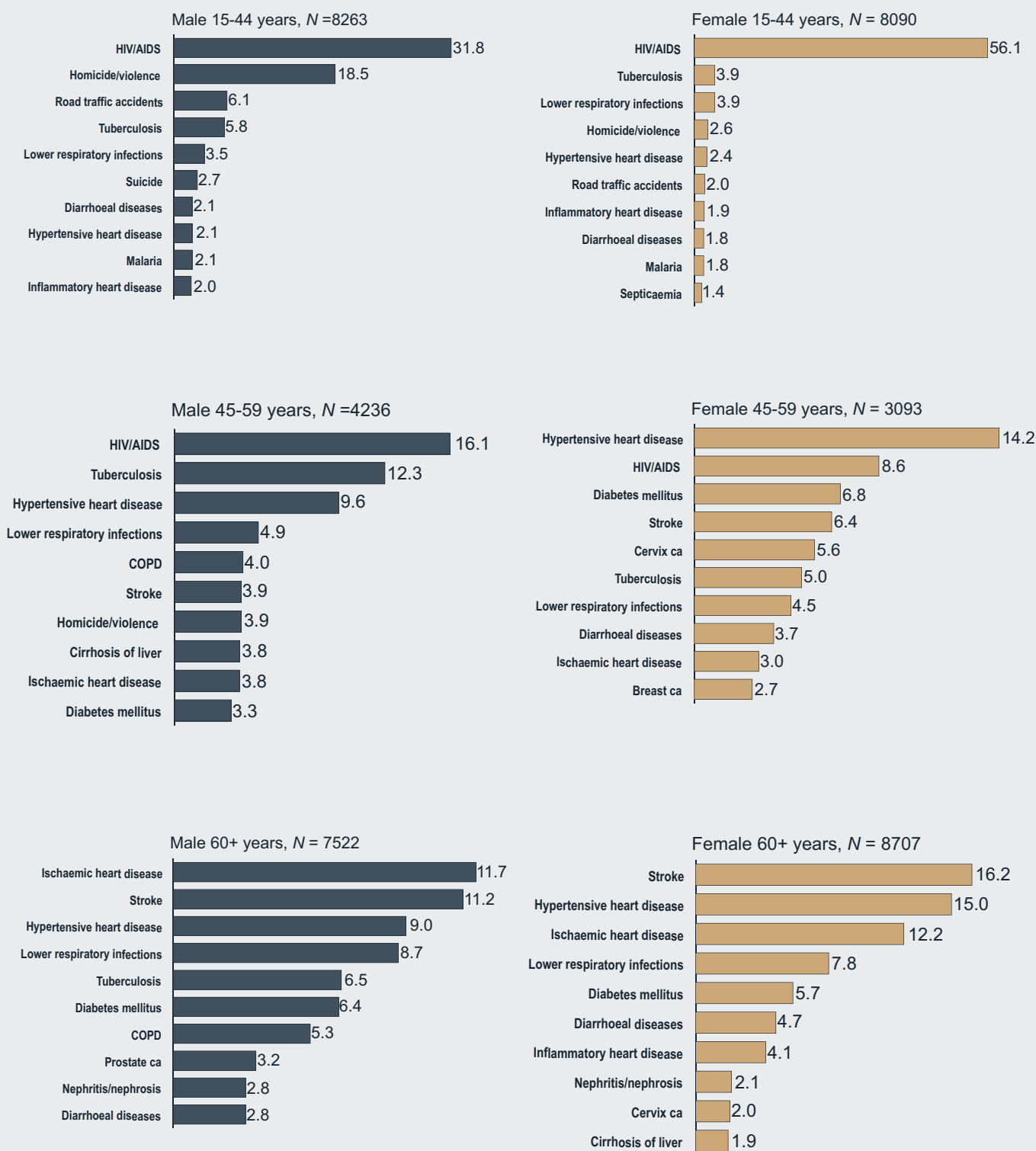
Leading causes of death among adults

The leading causes of death for adults are shown in Figure LM7. HIV/AIDS was the leading cause of death for both men and women aged 15-44 years. Several infectious diseases such as tuberculosis, lower respiratory infections, diarrhoea and malaria were among the leading causes together with several injuries including homicide, road traffic accidents and suicide. Hypertensive heart and inflammatory heart disease featured among the leading causes in young adults.

The profile for the older adults aged 45-59 years differed from the young age group with an increasing number of deaths due to non-communicable diseases and fewer deaths due to infectious diseases or injuries. Hypertensive heart disease, diabetes mellitus, stroke, ischaemic heart disease, cervical and breast cancer showed up for the women, while hypertensive heart disease, chronic obstructive pulmonary disease, stroke, ischemic heart disease and diabetes mellitus together with cirrhosis of the liver showed up for men.

Most of the burden in older persons was due to non-communicable diseases, although other infectious diseases still played a significant role. In this province, there were more female (8707) than male (7 522) deaths among older persons. Stroke was the leading cause of death among persons aged 60 years and older (Figure LM7), accounting for 16% of female and 11% of male deaths in this age group. Hypertensive heart disease and ischaemic heart disease and diabetes were among the leading causes for both men and women. Chronic obstructive pulmonary disease and prostate cancer featured in the leading causes of death for men. Lower respiratory infections, tuberculosis and diarrhoea were among the leading causes for older persons in this province.

Figure LM7: Ten leading single causes of death (%) among adults by sex, Limpopo 2000



Contrast with national profile and unexpected patterns

The population age structure of Limpopo showed that there is a deficit of men in the economically active group. The HIV/AIDS epidemic in this province is not as far advanced as it is nationally, accounting for 24% of deaths in this province compared with 30% of deaths nationally. The quadruple burden is experienced in this province, although injuries accounted for a slightly lower proportion (10%) of deaths than nationally (12%).

Mortality from conditions related to underdevelopment was high and the other pretransitional conditions excluding HIV/AIDS accounted for 26% of deaths in this province compared with 20% nationally. Diarrhoea, lower respiratory infections and protein-energy malnutrition mortality rates were high in this province. Non-communicable diseases constituted a slightly larger proportion in Limpopo (40%) than nationally (38%). Hypertensive heart disease and stroke were the leading causes of cardiovascular disease, and rates for these conditions were relatively high. Diabetes death rates and mortality from nephritis and nephrosis were also relatively high in this province. The non-communicable conditions were the leading causes among the older people aged 60 years and more. Cirrhosis of the liver had high mortality rates in this province. No cancers featured among the top causes of death, while infectious diseases predominated. Injury mortality rates were lower than the national average