

SOUTH AFRICAN NATIONAL BURDEN OF DISEASE STUDY
ESTIMATES OF PROVINCIAL MORTALITY **2000**
WESTERN CAPE PROVINCE

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Burden of Disease
Research Unit



Mortality Estimates

for

WESTERN CAPE PROVINCE, 2000

South African National Burden of Disease Study

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Timeous and accurate cause of death statistics are an essential component of the information needed for planning and monitoring health services and responding to the health needs of the population. Such information is required for the process of prioritisation of not only health services, programmes and research, but also for guiding the priorities in other sectors. In particular, sub-population data are needed to identify and monitor inequalities in health status. While policy is directed from a national perspective, provincial and local government need to respond to the specific needs of their communities.

Efforts to improve cause of death statistics in South Africa have been under way since 1994, and have resulted in better coverage of death registration. However, the system does not yet routinely provide cause of death statistics that can be used by provinces. The Initial Burden of Disease Study that applied the burden of disease approach developed by the WHO and used available information and presenting it in a format that is relevant for planning health and other services (Bradshaw et al., 2003).

This study makes use of more recent data, namely the 12% sample of deaths for 1997-2001. However, due to under-registration of deaths, it was necessary to estimate the total number of deaths and number of AIDS deaths using a demographic and epidemiological model. It was also necessary to make adjustments for mis-classification of underlying causes due to inadequacies in the medical certification of the cause of death as a result of both poor certification by medical doctors and certification by traditional headmen in some rural areas. Full details of the methods used to estimate the number of deaths, the death rates and the years of life lost (YLLs) for each province according to the South African Burden of Disease list are given in the report *Estimates of Provincial Mortality* by Bradshaw et al. (2004).

Western Cape provincial profile

Background

Western Cape is on the south-western tip of the African continent, bordering the Northern Cape in the north, the Eastern Cape in the east, the Atlantic Ocean on the west, and the Indian Ocean in the south. The province encloses 129 370 km², constituting 10.6% of the total land area of the country (SSA, 2003). In 2000 the average population density was estimated at 34 persons per square kilometre. During the 1996 Census 11% of the population lived in non-urban areas (SSA, 1998). Cape Town houses an international airport and a port and is served by an extensive network of roads and railways.

Agriculture, forestry, fishing, mining and quarrying all contribute to the economy. The sheltered valleys between the mountains provide ideal conditions for the cultivation of top-grade fruits such as apples, table grapes, olives, peaches and oranges. A great variety of vegetables are cultivated in the eastern part of the Western Cape region. An Ostrich-farming industry can be found in the Klein Karoo region around Outdshoorn. This industry results in exports such as leatherware, ostrich feathers and meat. The Swartland district around Malmesbury and the Overberg around Caledon are known as the bread basket of the country. Wool and mutton as well as pedigree merino breeding stock are produced in the inland Karoo region around Beaufort West, and the Bredasdorp district. Other animal products include broiler chickens, eggs, dairy products, beef and pork. Racehorse breeding is another important industry.

Cape Town houses the head offices of most of South Africa's petroleum companies, as well as those of the insurance giants and national retail chains. The clothing and textile industry is the single most significant industrial source of employment in the Western Cape. The province is also one of the world's greatest tourist attractions. During 2001 Western Cape made the third highest Gross Geographic Product contribution of the provinces to the national Gross Domestic Product (GDP), contributing R136 062 million or 13.8% of the total GDP (GCIS, 2004).

Population structure

According to the 2000 ASSA estimates, 4 399 414 people lived in Western Cape, constituting 9.7% of South Africa's total population. The province accommodated slightly more women (51%) than men (49%). Nearly 28.3% of the population were younger than 15 years, 66% were in their 'economically active' years (15-64), while 7.8% were aged 60 or older. [Comparison with 2001 Census: total population 4 524 335 (ASSA had 124 921 less); 10.1% of country's total population; 51% female; 26.7% Black African, 53.9% Coloured, 1.0% Indian, 18.4% White.]

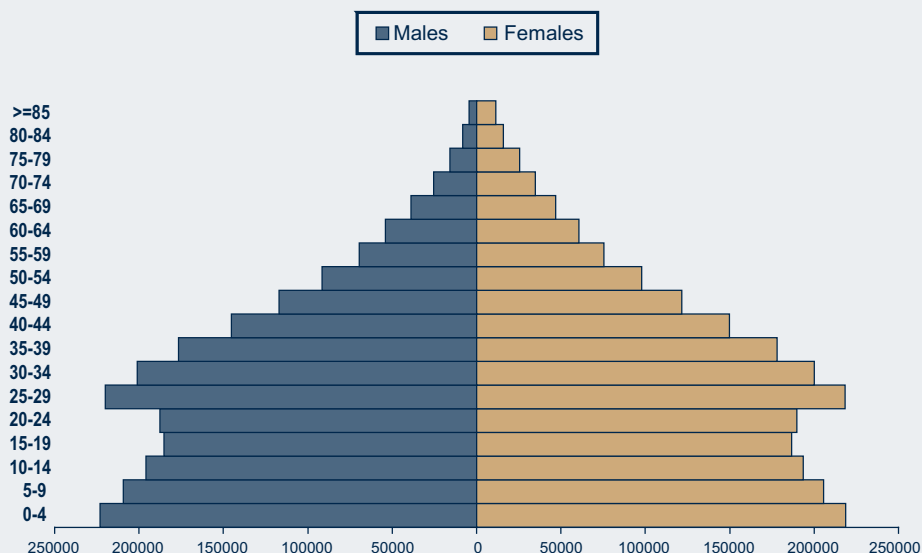


Figure WC1: Age structure of the Western Cape population, 2000

Living conditions

According to the 2001 Census, 5.7% of the population aged 20 years or older had no formal school education; 48.5% of those in the age group 15-64 years were unemployed; and 29% of those who were employed had elementary occupations (SSA, 2003). The province has a strong network of higher education institutions.

Just less than a third of the population (28.8%) lived below the national poverty line in 2002 (UNDP, 2004). The official unemployment figure for the province, 26.1%, is the lowest in the country (Labour Force Survey 2001). About 78.4% of all households lived in formal dwellings, and 16.2% and 2.2% respectively in informal and traditional structures. On average 3.6 persons shared a household. Piped water, either in the dwelling, on site, or from a communal tap, was available in 98.3% of households. About 7.7% of households did not have access to a toilet facility, and 87.8% had a refuse removal service once a week or more. In 78.8% of households electricity was used as the main source of energy for cooking, wood in 2.9% and paraffin in 10.9%. Of the households, 79.1% had a radio, 74.1% a television, 73.5% a refrigerator, 50.5% a telephone and 41.4% a cell phone (SSA, 2003).

Mortality profile

The mortality profile in the Western Cape is based on 23 372 male (56.3%) and 18 175 female (43.7%) deaths estimated for the year 2000, a total of 41 547 deaths. Figure WC2 shows the causes of death for the broad Groups I, II, III and AIDS. The proportions of Group I and HIV deaths were very similar for men and women. However, the proportion of deaths from injury deaths in males was more than double that for females. Group II causes were higher in women (63%) than in men (53%).

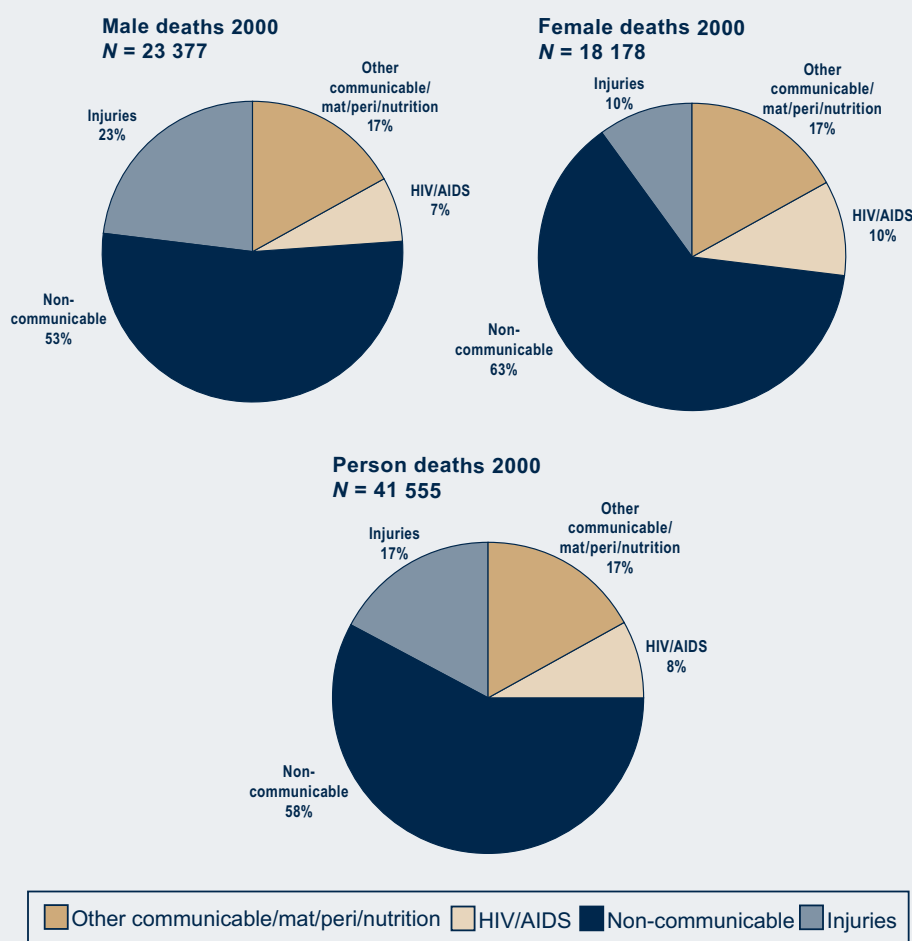


Figure WC2: Estimated deaths by Groups, Western Cape 2000

The age-specific cause of death profiles are presented in Figure WC3. The numbers of deaths are presented by five-year age intervals for the three broad Groups and HIV/AIDS. Over half of the deaths in infants were due to Group I diseases, and approximately 16% to HIV/AIDS. In children between 1 and 4 years 38% of deaths were due to HIV/AIDS. The pattern differed for adult males and females, with very high numbers of deaths resulting from injuries in young men and HIV/AIDS deaths predominating in young women. Deaths from non-communicable diseases dominated in adults of 60 years or older.

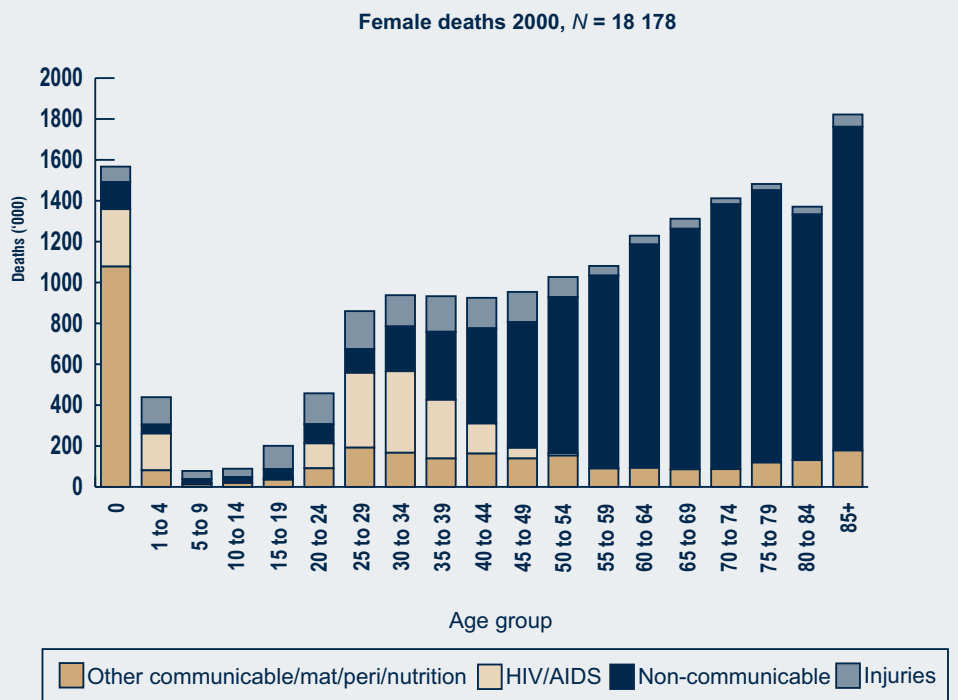
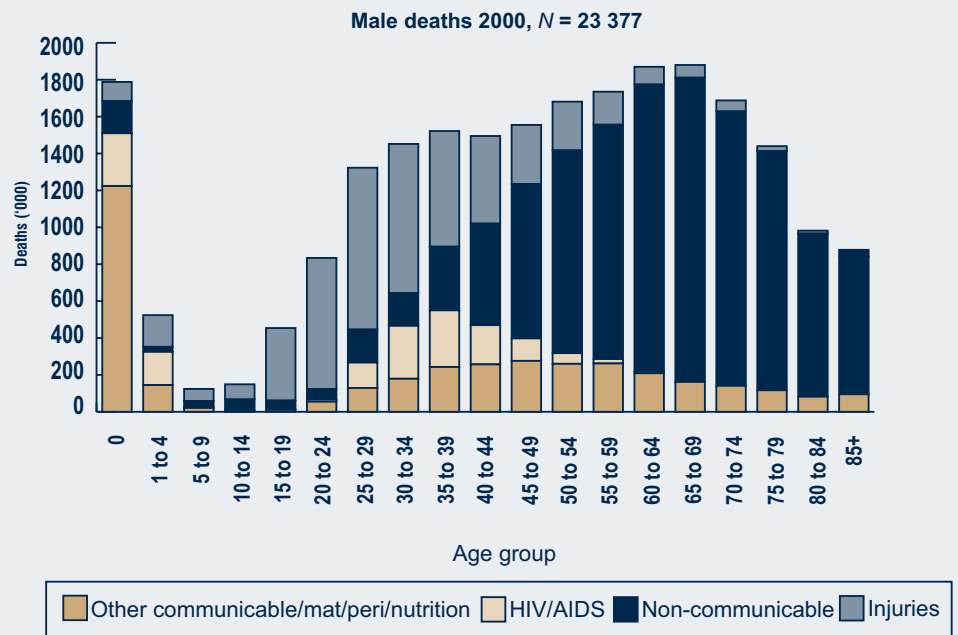


Figure WC3: Age distribution of deaths by broad Groups, Western Cape 2000

In Figure WC4 the cause of death profile is ranked for total persons. Cardiovascular disease (25%) was the leading cause of death among both men and women, followed by malignant neoplasms (16%), infectious and parasitic disease excluding HIV/AIDS (10%), intentional injuries (9.7%), HIV/AIDS (8.4%), and unintentional injuries (7.5%). Intentional and unintentional injuries and respiratory disease were higher in males than in females, while cardiovascular disease, HIV and diabetes were higher in females than in males.

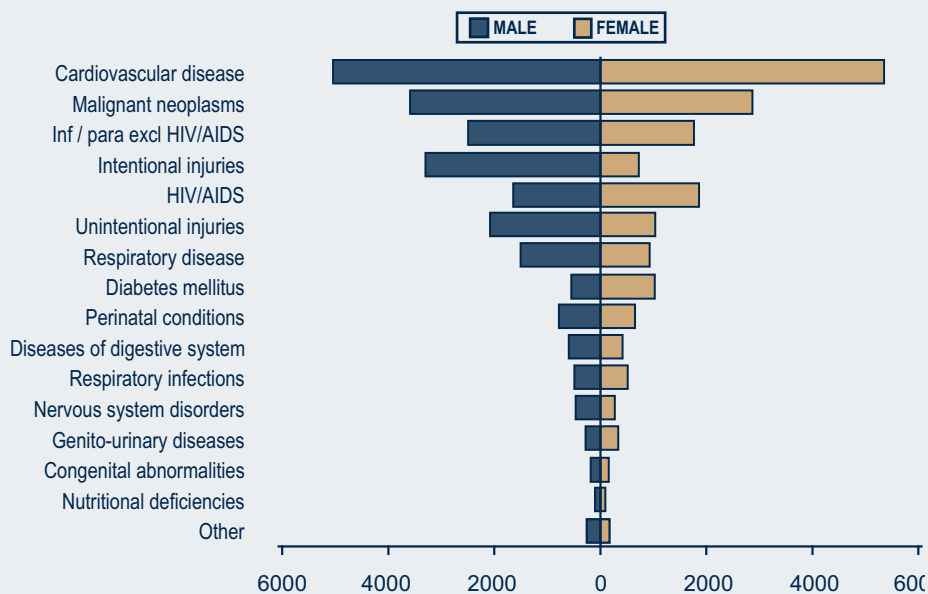


Figure WC4: Causes of death ranked according to categories for males and females, Western Cape 2000

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

The twenty leading single causes of death in the total Western Cape population are shown in Figure WC5(a) below, illustrating that ischaemic heart disease was the largest single cause of death, accounting for 12% of all deaths during 2000. This was followed by stroke (8.8%), HIV/AIDS (8.4%), homicide (8.1%) and tuberculosis (6.8%). Women had higher numbers of deaths due to stroke, HIV, diabetes and hypertensive heart disease than men (see Figure WC5(b)). In contrast, men had higher numbers of deaths than women from homicide, ischaemic heart disease, tuberculosis, road traffic accidents, lung cancer, chronic obstructive pulmonary disease, suicide, oesophageal cancer and colorectal cancer.

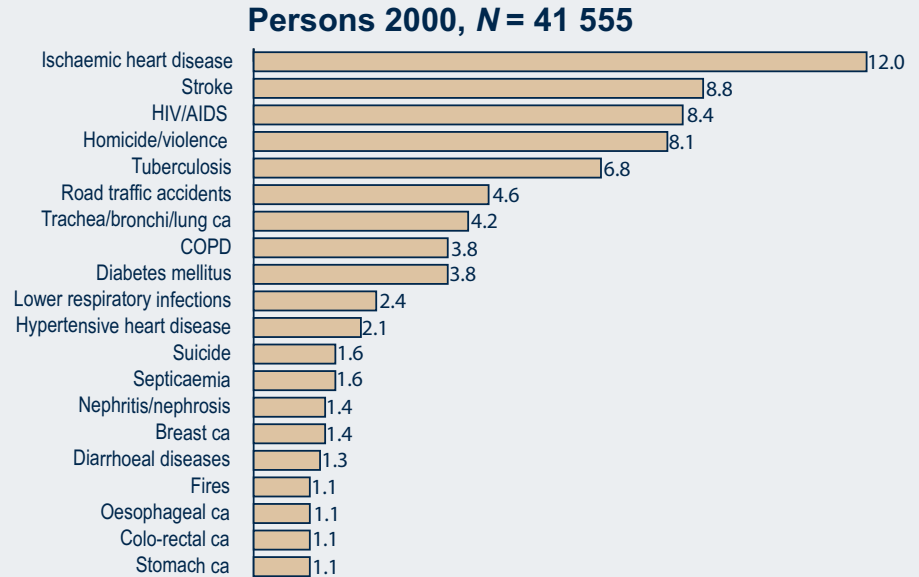


Figure WC5(a): Twenty leading single causes of death (%), Western Cape 2000

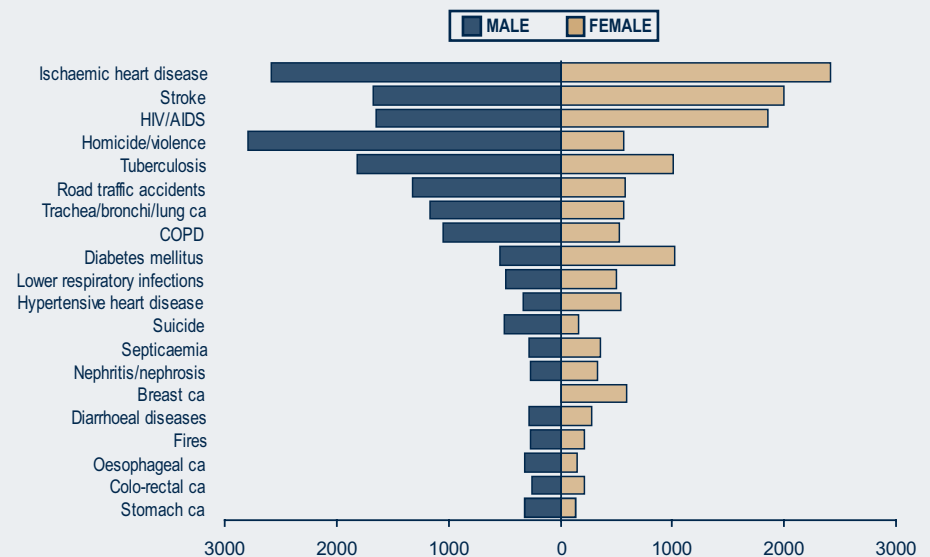


Figure WC5(b): Twenty leading single causes of death by sex, Western Cape 2000

Premature mortality

HIV/AIDS was the leading cause of premature mortality overall in the Western Cape, followed closely by homicide (see Table WC1). These were followed by tuberculosis, road traffic accidents and ischaemic heart disease. Ranking differed by gender, however, with homicide ranking top for males and HIV/AIDS top for females. In females Group II conditions ranked higher than in males, in whom Group I and Group III conditions dominated.

Table WC1: Leading 20 single causes of the premature mortality burden (YLLs) by sex, Western Cape 2000

Males				Females				Persons			
Rank	Cause of death	YLLs	%	Rank	Cause of death	YLLs	%	Rank	Cause of death	YLLs	%
1	Homicide/violence	76956	18.5	1	HIV/AIDS	54893	18.8	1	HIV/AIDS	99630	14.1
2	HIV/AIDS	44737	10.8	2	Tuberculosis	22370	7.7	2	Homicide/violence	91297	12.9
3	Road traffic accidents	33963	8.2	3	Ischaemic heart disease	17576	6.0	3	Tuberculosis	55824	7.9
4	Tuberculosis	33454	8.1	4	Stroke	16970	5.8	4	Road traffic accidents	48442	6.9
5	Ischaemic heart disease	23838	5.7	5	Road traffic accidents	14480	5.0	5	Ischaemic heart disease	41414	5.9
6	Stroke	15469	3.7	6	Homicide/violence	14341	4.9	6	Stroke	32440	4.6
7	Trachea/bronchi/lung ca	12837	3.1	7	Diabetes mellitus	9480	3.2	7	Trachea/bronchi/lung ca	18835	2.7
8	Suicide	12578	3.0	8	Diarrhoeal diseases	7844	2.7	8	Lower respiratory infections	16669	2.4
9	COPD	9648	2.3	9	Breast ca	7779	2.7	9	Suicide	16504	2.3
10	Lower respiratory infections	8901	2.1	10	Lower respiratory infections	7769	2.7	10	Diarrhoeal diseases	15970	2.3
11	Diarrhoeal diseases	8125	2.0	11	Septicaemia	6285	2.2	11	Diabetes mellitus	14986	2.1
12	Low birth weight	8011	1.9	12	Trachea/bronchi/lung ca	5999	2.1	12	COPD	14906	2.1
13	Fires	7157	1.7	13	Fires	5336	1.8	13	Fires	12493	1.8
14	Diabetes mellitus	5506	1.3	14	COPD	5258	1.8	14	Low birth weight	12155	1.7
15	Epilepsy	4827	1.2	15	Cervix ca	5003	1.7	15	Septicaemia	10837	1.5
16	Septicaemia	4552	1.1	16	Hypertensive heart disease	4674	1.6	16	Hypertensive heart disease	8308	1.2
17	Asthma	3740	0.9	17	Nephritis/nephrosis	4560	1.6	17	Breast ca	7779	1.1
18	Oesophageal ca	3712	0.9	18	Low birth weight	4144	1.4	18	Nephritis/nephrosis	7713	1.1
19	Hypertensive heart disease	3634	0.9	19	Suicide	3926	1.3	19	Asthma	7275	1.0
20	Cirrhosis of liver	3562	0.9	20	Diabetes mellitus	3535	1.2	20	Epilepsy	6804	1.0
	All causes	415 219			All causes	291 724			All causes	706 943	

Leading causes of death among children (<15 years)

The leading ten causes of death in children under 15 years of age are shown in Figures WC6 for boys and girls separately. In the under 5 year olds, HIV/AIDS accounted for one-fifth of all deaths, followed by diarrhoea, low birth weight and lower respiratory infections. The pattern was similar for boys and girls in this age group (Figure WC6). The leading five causes in children under 1 reflected a similar pattern, with HIV/AIDS ranked top, followed by other Group I causes. Figure WC6 shows that injuries were much more prominent in the 5-14 year group with road traffic accidents accounting for more than a quarter of the deaths. Homicide, drowning, fires and suicide were among the leading causes in this age group. Epilepsy, septicaemia and bacterial meningitis were also among the leading causes but the rankings of these conditions were different for boys and girls. Brain cancer was the 10th leading cause of death in this age group for boys and girls.

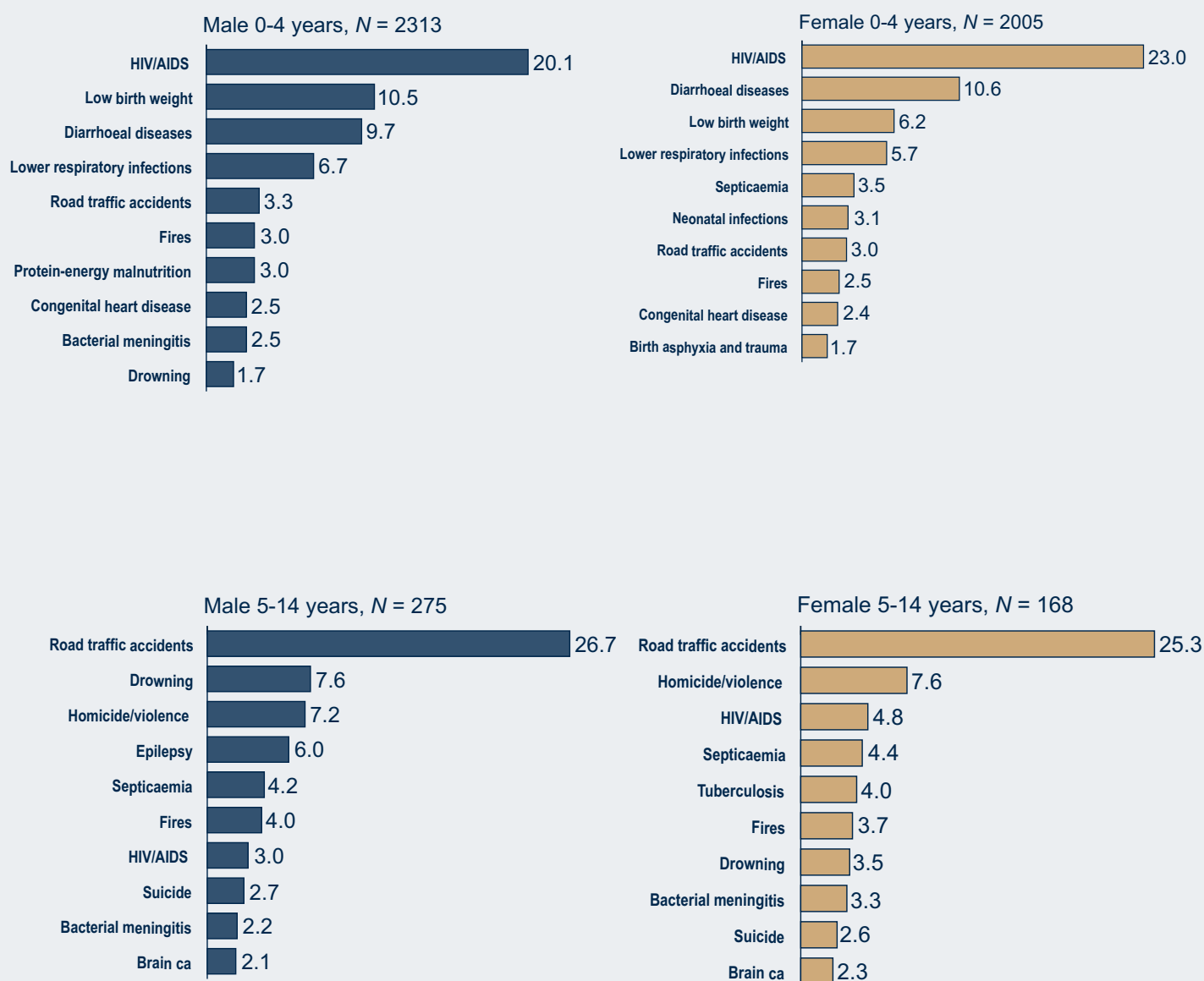


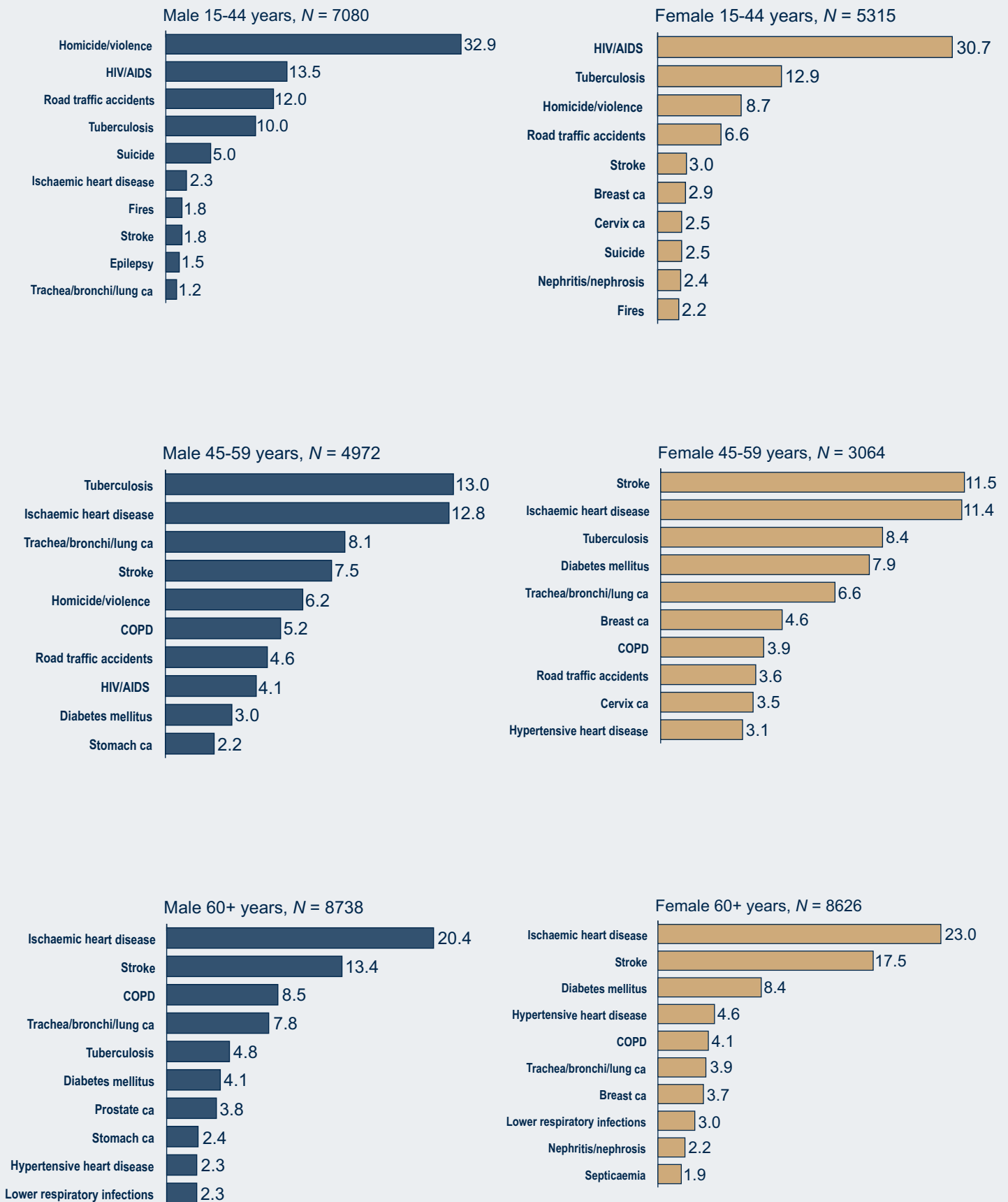
Figure WC6: Ten leading single causes of death (%) among children (<15 years), Western Cape 2000

Leading causes of death among adults

The leading causes of deaths for adults are shown in Figure WC7 in broad age groups by sex. For men and women aged 15-44 years, HIV/AIDS, tuberculosis, homicide and road traffic accidents were the leading causes. Stroke and suicide were also among the leading causes for both men and women but the rankings were different. Ischaemic heart disease and lung cancer featured among the leading causes for young adult men while breast cancer and cervical cancer and nephritis and nephrosis featured among the leading causes for young adult women. The pattern among adults aged 45-59 years differed from the young adult pattern with more non-communicable diseases among the leading causes of death. For men of this age group, the leading cause of death was tuberculosis while for women it was stroke. Ischaemic heart disease ranked second amongst both men and women. Chronic obstructive pulmonary disease and diabetes mellitus featured among the leading causes for both men and women.

In older persons the majority of the leading causes of death were non-communicable diseases, and it is clear that cardiovascular disease was the primary cause of death in older persons (Figure WC7). Ischaemic heart disease, stroke, chronic obstructive pulmonary disease, diabetes mellitus and lung cancer were the five leading single causes of death, accounting for more than 50% of deaths. Tuberculosis was ranked seventh, accounting for 3.3% of deaths in this age group. Figure WC7 shows that ischaemic heart disease, stroke and diabetes mellitus were responsible for larger numbers of death in older women than in older men, while chronic obstructive pulmonary disease, lung cancer and tuberculosis caused more deaths in older men than in older women. Malignant neoplasms were responsible for large numbers of deaths among older men and women, and it is clear that apart from sex-specific cancers, stomach, oesophagus and mouth and oropharynx cancers were influencing men and women differently.

Figure WC7: Ten leading single causes of death (%) among adults by sex, Western Cape 2000



Contrast with national profile

The Initial National Burden of Disease Study highlighted the substantial impact of HIV/AIDS as a cause of death in South Africa by the year 2000, and the major health transition that is under way. As countries become more developed the disease profile changes, from one of infectious diseases, high child mortality and malnutrition, to a predominance of degenerative, chronic diseases. However, developing countries often experience a double burden, resulting from the simultaneous occurrence of these disease spectrums. During the early 1990s the health transition in South Africa was characterised by a very high injury burden on top of the double burden, resulting in a 'triple burden' (Bradshaw et al., 2002). In more recent years the impact of HIV/AIDS has created a quadruple burden of disease in South Africa. This study shows that all provinces are experiencing this quadruple burden of disease to varying degrees and signifies an important milestone in generating burden of disease information at provincial level by providing mortality estimates for the provinces. This requires a broad range of interventions, including improved access to health care, promotion of a healthy lifestyle and ensuring that basic needs such as water and sanitation are met. Social cohesion needs to be fostered to ensure safe and caring communities

The Western Cape had the lowest mortality of all the provinces. Although there was evidence of the quadruple burden of disease, this province had the lowest mortality from HIV/AIDS and other Group I conditions. Non-communicable diseases accounted for a much larger proportion of deaths in the Western Cape (58%) than nationally (38%). This is largely a result of the population in the Western Cape being older than the national population. Injuries were slightly higher as a proportion of the deaths in the Western Cape (17%) compared with South Africa overall (12%).

Despite the high incidence of tuberculosis in this province, mortality rates from this disease were average. Mortality due to lower respiratory infections, diarrhoea, protein-energy malnutrition and

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