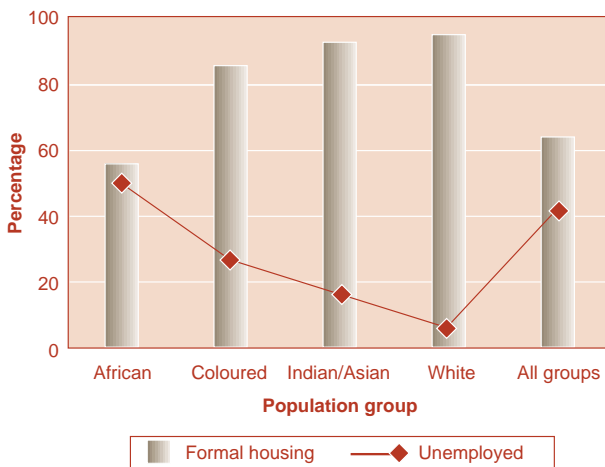


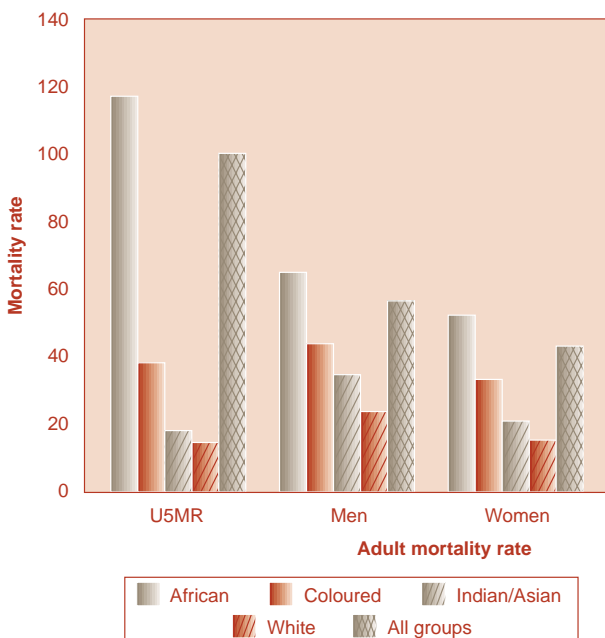
## Debbie Bradshaw and Nadine Nannan

MRC Burden of Disease Research Unit

Percentage of people aged 15-64 who are unemployed and % of households living in formal housing, 2001



U5MR and adult mortality ( $_{45}q_{15}$ ), 2002



### Key Messages

- ◇ The health of the nation is characterised by a quadruple burden of disease, with the impact of HIV/AIDS added to the combination of a high injury burden, conditions related to underdevelopment and chronic diseases.
- ◇ HIV/AIDS has led to an increase in child and young adult mortality and a decline in life expectancy.
- ◇ Regional and population group differences in health status replicate differences in socio-economic conditions.
- ◇ There is a need to improve mortality data systems to provide accurate statistics for district level planning.

### Framework for Monitoring and Evaluation

#### Global:

- ◇ Global Burden of Disease Project
- ◇ International Conference on Population & Development (ICPD) goals
- ◇ Millennium Development Goals

#### South Africa:

- ◇ Health Goals, Objectives and Indicators 2001-2005
- ◇ Reconstruction and Development Programme

### Key Indicators

- Population % by age and gender
- Percentage of population 20+ with no education
- Unemployment rate
- Percentage of households with access to different energy sources for cooking
- Percentage of households with access to water and sanitation
- Infant mortality rate
- Under 5 mortality rate
- Adult mortality ( $_{45}q_{15}$ )
- Life expectancy ( $e_0$ )
- Years of life lost by cause of death

### Key References and Data Sources

- ◇ South African National Burden of Disease Study (NBD) 2000
- ◇ Statistics South Africa databases
  - South African Population Census 2001

## Introduction

At the close of the first decade of democracy, it is important to assess the health of the nation. This is a difficult task to undertake while the health information system is under reconstruction, as health statistics take time to be collected, processed and analysed. However, a clear picture of the health status of the nation is emerging.

## Framework for Monitoring and Evaluation

Improvement of various determinants of health status features extensively in the Millennium Development Goals<sup>1, 2</sup> and the programme of action emanating from the International Conference on Population and Development.<sup>3</sup> These complement the basic needs highlighted in the Reconstruction and Development Plan adopted by the South African government in 1994.<sup>4</sup>

A clear framework for measurement of health status is also emerging, with the Global Burden of Disease (GBD) Project<sup>5</sup> providing a global picture of health status, as well as technical guidance for countries to develop local analysis of the burden of disease.

Summary measures of population health are measures that combine information on mortality and non-fatal health outcomes to represent population health in a single number.<sup>6</sup> There has been a debate on many technical aspects of developing and implementing summary measures of population health, in which a number of important conceptual, empirical and ethical aspects relevant to the future evolution of the GBD have been identified.<sup>7</sup> However, the GBD approach of careful analysis of the available data to derive consistent and coherent estimates of the levels and causes of mortality and morbidity has been adopted to provide important descriptions of health status. In addition, the GBD approach to calculate years of life lost through premature mortality serves to emphasise the causes of death that have a major public health impact.

## Indicator Definitions

### Demographic profile

**Population:** Total number of people

**Percentage of South African population under age of 15 years**

**Percentage of South African population over age of 60 years**

**Percentage of South African population female**

**Percentage of South African population foreign born**

### Socio-economic conditions

**Education Level:** Percentage of the population aged 20 years and above with no education

**Unemployment rate:** Percentage of the population aged 15-64 who are unemployed

**Percentage of households with formal / informal / traditional or other housing**

**Average household size**

**Energy source for cooking:** Percentage of households using electricity / wood / paraffin / other energy sources for cooking

**Water and Sanitation:**

Percentage of households with refuse removal

Percentage of households with access to piped water

Percentage of households with no toilet

### Burden of disease

**Number of deaths**

**Mortality indicators:**

**Infant mortality rate:** The number of children less than one year old who die in a year, per 1000 live births during the year.

**Under 5 mortality rate:** The probability of a child dying before the age of 5 years (percentage children born who die before the age of 5) per 1000 live births during the year.

**Adult mortality ( ${}_{45}q_{15}$ ):** The probability of dying between the ages of 15 and 60 (percentage of 15 year olds who die before 60th birthday).

**Life expectancy ( $e_0$ ):** The average number of years a person could expect to live if current mortality trends were to continue for the rest of that person's life. ( $e_0$  is life expectancy from birth)

**Cause of death profile:** Percentage of deaths in the population attributable to specified diseases from the National Burden of Disease list

**Years of life lost:** The number of years lost based on a standard life expectancy for the age of death, with future years discounted at 3% and age weighting (used in the GBD study).

**Prevalence of disability (%):** Percentage of people with moderate to severe disability (defined in the 2001 census as "a physical or mental handicap which has lasted for six months or more, or is expected to last at least six months, which prevents the person from carrying out daily activities independently, or from participating fully in educational, economic or social activities").

## Data and Analysis

Recent data sources including the 1998 South African Demographic and Health Survey,<sup>8</sup> the annual sero-prevalence surveys,<sup>9</sup> the Nelson Mandela / HSRC national HIV survey,<sup>10</sup> the second census conducted in 2001,<sup>11</sup> the cause of death statistics for the period 1997-2001<sup>12</sup> and the results of the first national burden of disease study<sup>13</sup> estimating the mortality and morbidity contribute to an understanding of the health and determinants among the South African population.

## The population

The population has grown at a level of about 2% per annum. The 2001 census estimates the population to be 44.8 million.<sup>11</sup> Basic socio-demographic characteristics are shown in Table 1. There are more females than males. This pattern is consistent over all the provinces except Gauteng which has more men. The province with the largest population is KwaZulu-Natal, followed by Gauteng. The Northern Cape has the smallest population. Gauteng, KwaZulu-Natal, Western Cape and Mpumalanga have experienced higher than average growth while Northern Cape and North West experienced a decrease. Overall 2.3% of the population is foreign born. This is highest in Gauteng where the percentage is 5.4%. This has implications for the provision of health services in terms of language, culture and resources.

# 4

**Table 1: Socio-demographic characteristics of the population by province and population group (%), 2001**

	% of total population	% of population under age of 15 years	% of population over 60 years	% female	% foreign born	% of people aged 20 years and above with no education	% of people aged 15-64 who are unemployed
<b>Province</b>							
Eastern Cape	14.4	36.8	9.2	53.8	0.5	22.8	54.6
Free State	6.0	30.7	7.3	52.1	2.6	16.0	43.0
Gauteng	19.7	23.6	6.2	49.7	5.4	8.4	36.4
KwaZulu-Natal	21.0	34.7	6.9	53.2	1.0	21.9	48.7
Limpopo	11.8	39.4	7.7	54.6	1.5	33.4	48.8
Mpumalanga	7.0	35.0	6.3	52.1	2.4	27.4	41.1
Northern Cape	1.8	30.6	8.2	50.4	1.8	18.2	33.4
North West	8.2	31.3	7.3	51.2	1.5	19.9	43.8
Western Cape	10.1	27.3	7.8	51.5	2.4	5.7	26.1
<b>Population group</b>							
African	79.0	34.0	6.4	52.3	1.6	22.3	50.2
Coloured	8.9	30.8	6.4	51.9	0.4	8.3	27.0
Indian/Asian	2.5	23.5	7.8	51.1	3.0	5.3	16.9
White	9.6	19.0	15.9	51.5	9.3	1.4	6.3
South Africa	100	32.1	7.3	52.2	2.3	17.9	41.6

Source: Statistics South Africa, Census 2001

Note: The unemployed are defined as those who

(a) did not work in the seven days prior to the interview

(b) want to work and are available to work within a week of the interview, and

(c) have taken steps to look for work or start some form of unemployment in the 4 weeks prior to the interview.

## Social, economic and demographic determinants of health

The South African population is still relatively youthful with a third of the population under the age of 15 years. Limpopo, Eastern Cape and Mpumalanga have higher proportions and Gauteng has a very much lower proportion. Fertility declines are resulting in a growing percentage of older persons, with 73% of the population over 60 years. It is clear that health services must cater for a wide range of needs, having to provide maternal and child health services as well as geriatric services and everything that comes in between. Population based efforts to promote healthy aging will need to be strengthened to reduce the demands on health services.

Nearly 18% of the population over 20 years of age has no education, which is a matter of concern considering the importance of education in promoting health of individuals. This indicator, however, obscures the fact that over the last few years there has been a reduction in the proportion of the younger population with no education. Limpopo, Mpumalanga, Eastern Cape and KwaZulu-Natal have higher proportions than average.

Unemployment rates are high and can be expected to have a serious impact on health, both through negative material impacts as well as negative social factors. Based on the census, over 40% of the economically active age group (15-64 years) is unemployed. This is higher than the estimate from the Labour Force Survey<sup>14</sup> and it is generally considered that the census overstates the extent of unemployment. The census shows that Eastern Cape, KwaZulu-Natal, Mpumalanga, Limpopo and North West have higher than average rates of unemployment.

Table 2 shows characteristics of the 11.2 million households. Over two thirds of households have formal homes, 16% are informal and 14% are traditional. Eastern Cape and KwaZulu-Natal have higher proportions of traditional homes, while the Free State, Gauteng and North West have higher proportions of informal housing. The Eastern Cape and KwaZulu-Natal have the lowest proportions of formal housing. The average household size is 3.8 persons. This average is influenced by the relatively high proportion of single person households. Limpopo, KwaZulu-Natal and Eastern Cape have higher average household size.

The type of energy used by households for cooking and heating appear to be similar. The pattern for cooking is shown in Table 2. Half of households use electricity for cooking. Over 70% of households in Gauteng and Western Cape use electricity and only 25% of households in Limpopo use electricity. Access to electricity will reduce exposure to indoor smoke and reduce the risks of fires and provide the potential for a range of domestic appliances. However, it adds to the household expense and introduces dietary changes.

Just over half the households have regular refuse removal services. In the Western Cape and Gauteng over 80% of households enjoy this service, while in Limpopo only 14% have access to regular refuse removal. The majority of households have access to piped water (84.5%) – whether it is in the home, the yard or a public facility. The Eastern Cape has a much lower proportion, with only 62.4% of households having access to piped water. The Eastern Cape also had a very high percentage of households without any toilet facilities (30%). Nationally, 13.6% of households have no toilet facility. The Eastern Cape stands out as being particularly vulnerable to diarrhoea and other infectious diseases through inadequate provision of water and sanitation.

## Racial inequalities

In order to monitor progress in reducing the inequalities resulting from apartheid, Stats SA report statistics according to population group (self-reported according to the previously defined population groups). Indicators, shown in Tables 1 and 2, reflect demographic differences and pervasive disparities between the population groups. Africans account for 79% of the population, Whites for 9.6%, Coloureds for 8.9% and Indians for 2.5%. The White population group is an older population. Unemployment is much higher among Africans with 51.1% unemployed compared to 27% of the Coloured population group, 5.3% of the Indian population group and 1.4% of the White population group. Just over half (55%) of the African households live in formal housing compared with 95% of White households. Less than 1% of White and Indian households have no toilet facility while 16.9% of African and 6% of Coloured households have no toilet facility. Only 44% of African households have TV while over 70% of Coloured and over 90% of Indian and White households have TV.

Energy source is strikingly different according to population group. About two thirds of the African households use electricity for lighting but only a third uses it for cooking or heating. Nearly a third of African households use candles for lighting. Over 90% of the White and Indian population groups use electricity for all activities. The percentage of Coloured households using electricity is slightly lower (just under 80%), where more use is made of wood, paraffin and gas (to a small degree) for cooking and heating.

It is clear that strides have been made in the provision of basic amenities and education but there are still substantial differences by population group and region in factors that impact on health.

Table 2: Household living conditions by province and population group, 2001

Province	Housing type (%)			Average household size	Energy source for cooking (%)			Refuse removal (%)	Piped water (%)	No toilet facility (%)	
	Formal	Informal	Traditional		Other	Electricity	Wood				Paraffin
Eastern Cape	47.3	11.0	38.1	3.6	27.8	35.9	29.4	6.9	36.6	62.4	30.8
Free State	62.9	26.1	7.2	3.8	47.0	7.9	34.1	11.0	58.6	95.7	9.6
Gauteng	65.6	23.9	1.3	9.2	73.2	0.7	21.4	4.7	84.2	97.5	3.6
KwaZulu-Natal	56.6	10.8	27.9	4.7	48.3	27.0	17.9	6.8	49.2	73.2	16.2
Limpopo	70.7	6.6	19.7	3.0	25.0	59.5	11.2	4.3	14.2	78.0	23.3
Mpumalanga	67.3	16.0	12.9	3.8	40.0	23.3	17.3	19.4	38.7	86.7	10.3
Northern Cape	80.2	12.5	3.5	3.8	59.0	15.3	18.0	7.6	68.7	96.6	11.2
North West	68.6	22.3	5.3	3.8	44.6	18.3	31.9	5.1	37.0	86.2	9.7
Western Cape	78.4	16.2	2.2	3.2	78.8	2.9	14.1	4.3	87.8	98.3	7.7
<b>Population group</b>											
African	55.5	20.4	18.7	5.5	39.3	25.7	27.1	7.8	45.3	80.3	16.9
Coloured	85.7	7.4	2.8	4.1	82.3	7.5	6.0	4.2	84.1	97.6	6.0
Indian/Asian	92.7	1.1	1.4	4.8	97.1	0.2	0.7	1.9	96.8	99.2	0.8
White	95.1	0.5	1.1	3.3	96.6	0.3	0.2	2.9	90.8	99.3	0.7
South Africa	63.8	16.4	14.8	5.0	51.4	20.5	21.4	6.8	55.4	84.5	13.6

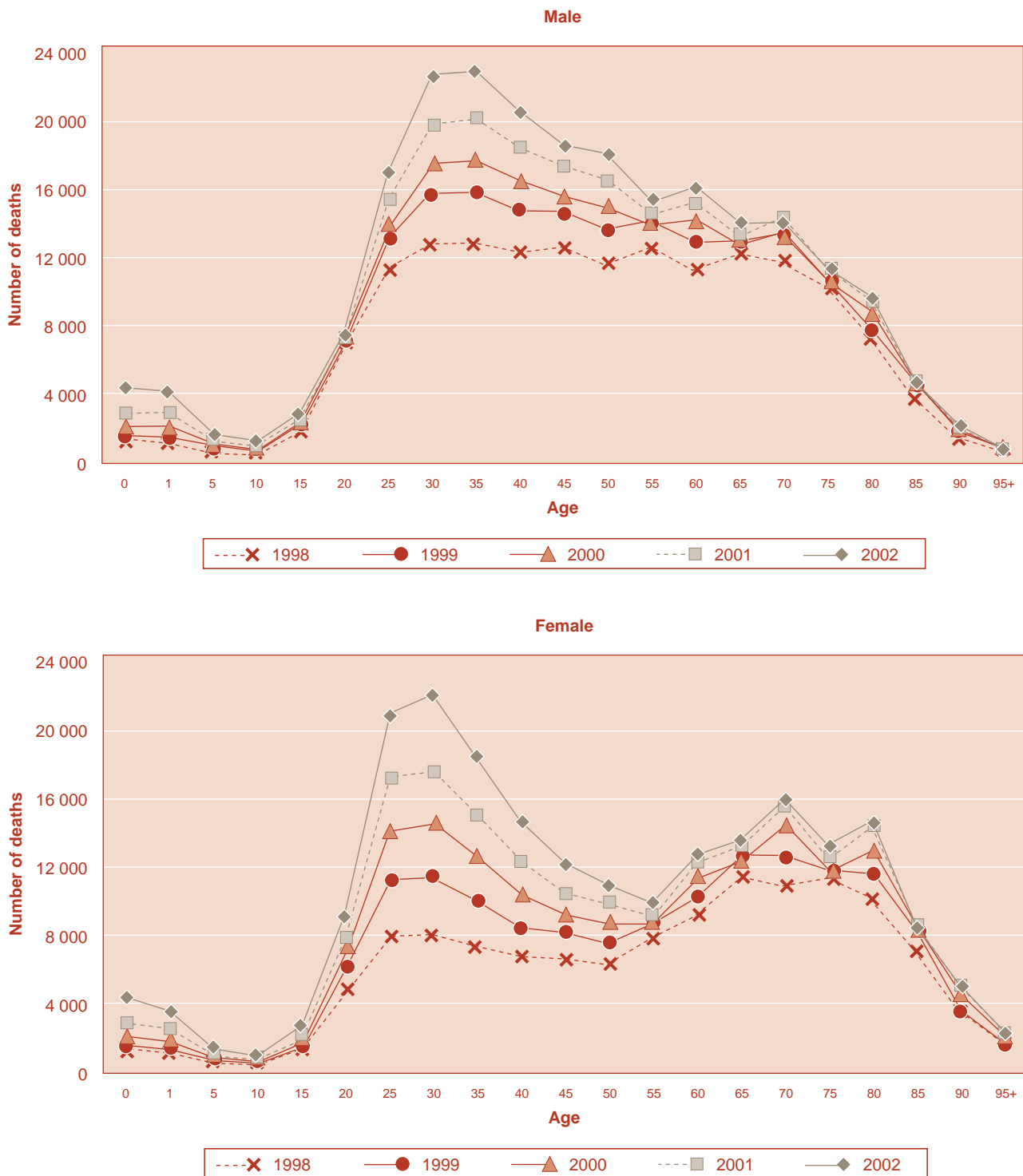
Source: Statistics South Africa, Census 2001

## Burden of disease

Mortality statistics are an important cornerstone of health status indicators. The production of timely cause of death statistics remains a challenge. The rapid spread of the HIV epidemic<sup>9</sup> created an imperative to obtain information on its impact on mortality more rapidly. A system to monitor the changing age

pattern of the deaths was developed by the MRC and UCT.<sup>15</sup> Figure 1 shows the number of registered deaths of people on the South African population register for 1998-2002, obtained from the Department of Home Affairs and processed by the Medical Research Council. This demonstrates a clear rise in the number of deaths registered on the population register each

Figure 1: The number of deaths from the population register, 1998-2002



Source: Population register, Department of Home Affairs

year with a distinct increase in the number of young adult deaths. Careful analysis to take into account the increasing registration of deaths demonstrated the rapidly changing age pattern of the deaths in South Africa, consistent with the heterosexual HIV/AIDS epidemic that has reached levels of 1 in 9 people being infected.<sup>15</sup> Such data catalysed efforts to process cause of death statistics and in 2002, Statistics South Africa reported the causes of death from a 12% sample of certificates for 1997-2001.<sup>12</sup> These data demonstrated a rapidly changing profile in the cause of death profile, with increases in the percentage of deaths due HIV, TB, pneumonia and diarrhoea and a marked decrease in the percentage of deaths due to external causes. However, these data also revealed the lack of information about the causes of fatal injuries, the continued high percentage of ill-defined signs and symptoms and the difficulty in obtaining reliable statistics on AIDS, when many deaths appear to be classified as indicator conditions and do not have HIV identified as the underlying cause.<sup>16</sup>

The number of child deaths on the population register is much lower than the actual number of child deaths that occur. This is because many of the births are not registered until the children are older, and should they die before being registered on the

population register, they will not appear in these statistics. In addition, some child deaths are not registered.

Routine life table indicators of health status therefore continue to have to be estimated using a modelling approach. Here the ASSA2000<sup>17</sup> AIDS and demographic model is used to provide estimates of key mortality indicators for the year 2002 (Table 4). These demonstrate clear disparities in health status by population group and province.

The first South African national burden of disease study<sup>13</sup> has examined a range of sources of data to derive consistent and coherent estimates of the mortality experienced in South Africa. Furthermore this study focused on estimates of premature mortality, calculating the years of life lost (YLLs) due to mortality. The top single cause of mortality burden in 2000 was HIV/AIDS, followed by homicide, tuberculosis, road traffic accidents and diarrhoea. A distinct age pattern of the causes of death is shown in Figure 2. HIV/AIDS deaths contributed to the high number of deaths in the infants and the young adults. Injury deaths are very high among young adult men.

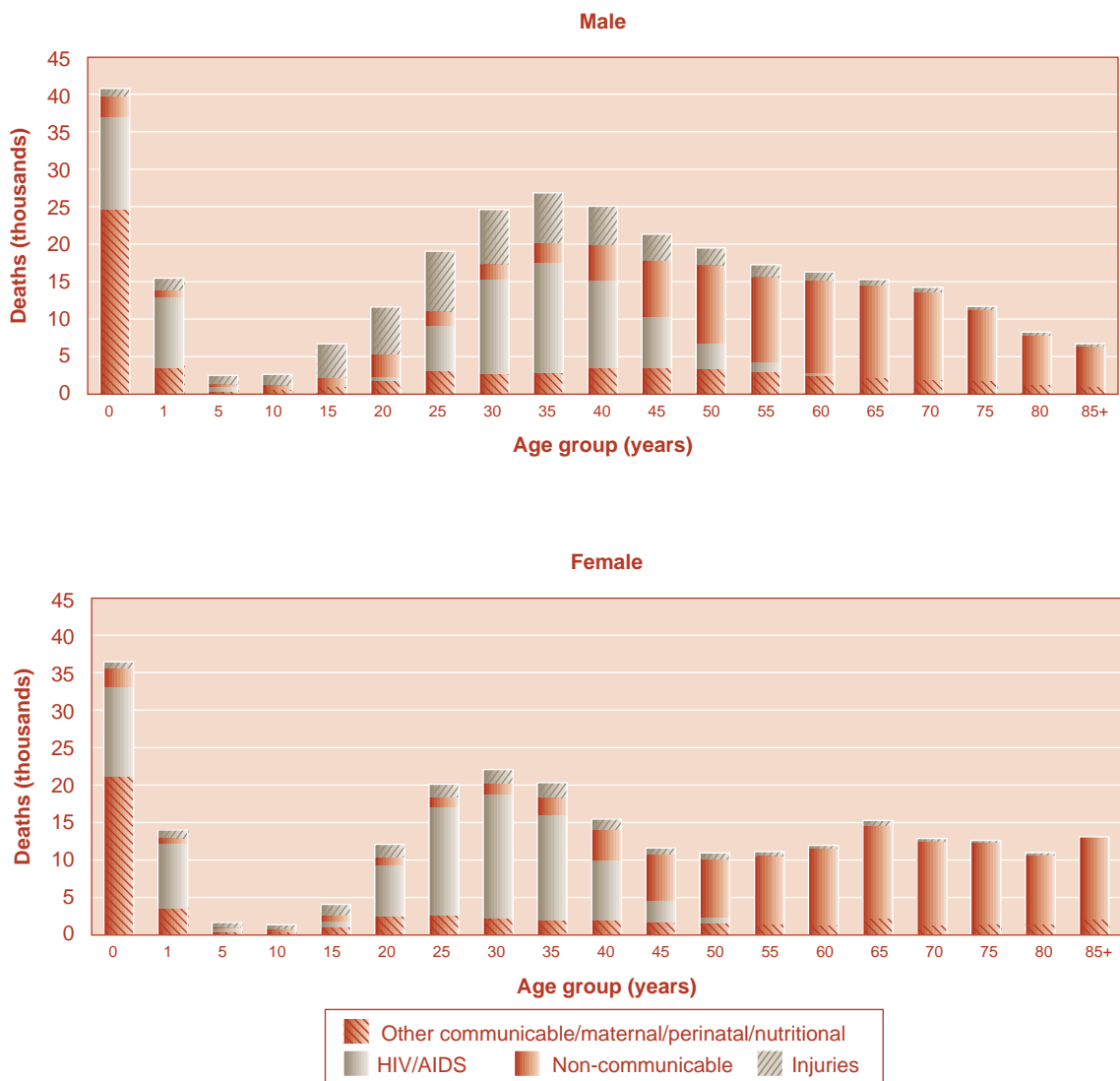
Noncommunicable diseases cause high proportions of the deaths in older ages.

**Table 4: Mortality indicators by province and population group, 2002**

Province	Infant mortality rate per 1000	Under 5 mortality rate per 1000	Adult mortality ( ${}_{45}q_{15}$ ) (%)		Life expectancy ( $e_0$ ) (years)	
			Men	Women	Men	Women
<b>Province</b>						
Eastern Cape	72	112	51	39	51.1	56.0
Free State	63	106	57	44	49.4	54.1
Gauteng	46	82	53	40	52.2	57.4
KwaZulu-Natal	68	124	64	53	45.9	49.2
Limpopo	53	87	53	40	51.9	57.0
Mpumalanga	59	106	62	50	47.6	51.4
Northern Cape	46	72	44	32	55.8	61.9
North West	56	95	56	43	50.3	55.2
Western Cape	30	46	39	26	59.3	66.1
<b>Population group</b>						
African	67	117	65	52	45.8	50.4
Coloured	24	38	43	32	58.4	64.0
Indian/Asian	11	18	34	20	63.4	69.5
White	7	14	23	15	67.7	73.7
South Africa	59	100	56	43	49.9	55.0

Source: ASSA2000

Figure 2: Age distribution of deaths by group of causes and sex, 2000<sup>6</sup>



Based on years of life lost calculated using the age-weighting, discounting and standard life expectancy used in the global burden of disease study,<sup>18</sup> HIV/AIDS accounts for 38% of total premature burden, higher in the case of females (47%) than males (33%). Table 5 shows the ranking of causes of death based on the years of life lost. Pre-transitional diseases, usually associated with poverty and underdevelopment, accounted for 25% of the total, noncommunicable diseases for 21% and injuries for 16% of the years of life lost.

The study demonstrated an extremely high burden due to homicide and road traffic accidents. The population register suggests injuries have been declining over recent years and are continuing to decline in all provinces excepting the Western Cape. Efforts to reduce injuries need to be enhanced. This will need to involve an intersectoral approach.



Table 5: Top twenty specific causes of the premature mortality burden (YLLs) by sex, South Africa, 2000

Males				Females				Persons			
Rank	Cause of death (BoD list)	YLL	%	Rank	Cause of death (BoD list)	YLL	%	Rank	Cause of death (BoD list)	YLL	%
1	HIV/AIDS	2 148 080	32.9	1	HIV/AIDS	2 517 330	46.3	1	HIV/AIDS	4 665 410	39.0
2	Homicide/violence	756 483	11.6	2	Diarrhoeal diseases	216 488	4.0	2	Homicide/violence	902 592	7.5
3	Tuberculosis	380 789	5.8	3	Tuberculosis	214 488	3.9	3	Tuberculosis	595 277	5.0
4	Road traffic accidents	344 868	5.3	4	Lower respiratory infections	209 240	3.8	4	Road traffic accidents	489 979	4.1
5	Lower respiratory infections	239 770	3.7	5	Low birth weight	180 274	3.3	5	Diarrhoeal diseases	452 827	3.8
6	Diarrhoeal diseases	236 339	3.6	6	Stroke	170 097	3.1	6	Lower respiratory infections	449 010	3.8
7	Low birth weight	213 489	3.3	7	Homicide/violence	146 109	2.7	7	Low birth weight	393 763	3.3
8	Ischaemic heart disease	175 906	2.7	8	Road traffic accidents	145 111	2.7	8	Stroke	318 083	2.7
9	Stroke	147 986	2.3	9	Ischaemic heart disease	108 531	2.0	9	Ischaemic heart disease	284 438	2.4
10	Suicide	123 822	1.9	10	Diabetes mellitus	86 154	1.6	10	Protein-energy malnutrition	171 433	1.4
11	Protein-energy malnutrition	93 556	1.4	11	Hypertensive heart disease	79 112	1.5	11	Suicide	163 544	1.4
12	Chronic obstructive pulmonary disease	74 459	1.1	12	Protein-energy malnutrition	77 877	1.4	12	Diabetes mellitus	145 421	1.2
13	Fires	70 535	1.1	13	Septicaemia	55 808	1.0	13	Hypertensive heart disease	127 066	1.1
14	Septicaemia	59 439	0.9	14	Fires	52 866	1.0	14	Fires	123 400	1.0
15	Diabetes mellitus	59 267	0.9	15	Cervix cancer	50 027	0.9	15	Septicaemia	115 247	1.0
16	Cirrhosis of liver	57 408	0.9	16	Neonatal infections	43 937	0.8	16	Chronic obstructive pulmonary disease	113 499	0.9
17	Trachea/bronchi/lung cancer	54 934	0.8	17	Asthma	43 037	0.8	17	Neonatal infections	96 819	0.8
18	Bacterial meningitis	54 876	0.8	18	Nephritis/nephrosis	43 025	0.8	18	Asthma	94 069	0.8
19	Neonatal infections	52 882	0.8	19	Suicide	39 721	0.7	19	Nephritis/nephrosis	93 973	0.8
20	Asthma	51 032	0.8	20	Chronic obstructive pulmonary disease	39 041	0.7	20	Bacterial meningitis	90 964	0.8
	All causes	6 529 811			All causes	5 438 011			All causes	11 967 822	

Source: Initial Burden of Disease Estimates for South Africa<sup>18</sup>

Child mortality has risen in the last decade and the Infant Mortality Rate has reached levels higher than the Health for All target of 50 per 1000 births. Although male mortality is higher than female, there is no gender difference in the causes of death among the under fives.<sup>19</sup> The top twenty causes for children under the age of 5 years are shown in Table 6. HIV/AIDS is the leading cause of death among young children and accounted for 40% of the deaths in 2000, demonstrating the importance of the prevention of mother-to-child transmission programme. Although the percentage of deaths due to HIV/AIDS is higher in the 1-4 year age group, the largest number of these deaths occurs in the under one age group. Low birth weight, diarrhoea, lower respiratory infections and protein energy malnutrition account for a further 30% of the childhood deaths. A large number of these deaths are preventable. Environment and development initiatives such as access to sufficient quantities of safe water, sanitation, reductions in exposure to indoor smoke, improved personal and domestic hygiene as well as comprehensive primary care are important to improve child health.

Analysis of mortality data has demonstrated that a rapid health transition is underway.<sup>20</sup> Estimates show that without access to treatment, the impact of HIV/AIDS is expected to more than double the burden of premature mortality by the year 2010 (Figure 3). Preventing mother-to-child transmission will reduce child mortality and the introduction of antiretrovirals will slow down the increase in adult mortality, reducing the years of life lost due to HIV/AIDS.

It should be noted that mortality data alone underestimates the burden of disease especially with regard to unintentional injuries, respiratory disease, and nervous system, mental and sense organ disorders. However, morbidity and disability data available in South Africa are not adequate to estimate a more comprehensive burden measure, such as the disability adjusted life year.

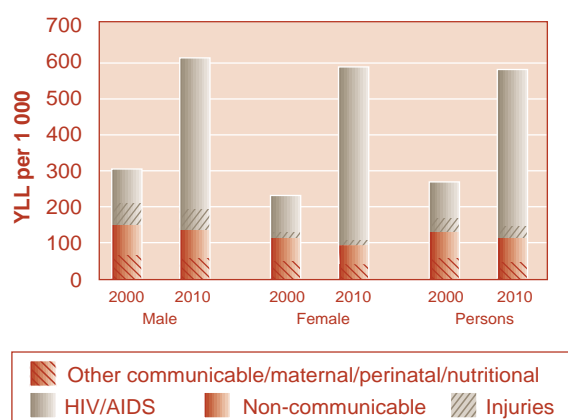
The census did include questions on self reported disability.<sup>11</sup> Overall, 5% of the population classified themselves as having a serious disability, preventing full participation in life activities. The most common were sight (1.3%) and physical (1.2%). These were followed by hearing (0.7%), emotional (0.6%) and intellectual (0.5%). The least common was communication (0.2%). Multiple disabilities were reported by 0.6% of the population. Self-reported disability remains difficult to interpret and there are no details about the cause. The shortcomings of this have been recognised and there is an international effort to strengthen the approach used to measure disability in censuses and surveys.

**Table 6: Top causes of death in children under 5 years, South Africa, 2000**

Rank	Cause of death	Deaths	%
1	HIV/AIDS	42 749	40.3
2	Low birth weight	11 876	11.2
3	Diarrhoeal diseases	10 786	10.2
4	Lower respiratory infections	6 110	5.8
5	Protein-energy malnutrition	4 564	4.3
6	Neonatal infections	2 920	2.8
7	Birth asphyxia and trauma	2 584	2.4
8	Congenital heart disease	1 238	1.2
9	Road traffic accidents	1 219	1.1
10	Bacterial meningitis	1 141	1.1
11	Fires	1 102	1.0
12	Neutral tube defects	1 019	1.0
13	Septicaemia	980	0.9
14	Tuberculosis	743	0.7
15	Homicide / violence	654	0.6
16	Drowning	532	0.5
17	Cot death	491	0.5
18	Down syndrome and other chromosomal	445	0.4
19	Congenital disorders of GIT	379	0.4
20	Congenital syphilis	257	0.2
<b>All causes</b>		<b>106 070</b>	

Source: Initial Burden of Disease Estimates for South Africa<sup>13</sup>

**Figure 3: Age-standardised YLLs per 1000 by disease group for 2000 and 2010**



Source: Initial Burden of Disease Estimates for South Africa<sup>13</sup>

## Inequalities

The sample data<sup>12</sup> showed that cause of death profile differs by population group but it is difficult to interpret the data as there is under-registration, a high proportion of ill-defined causes and mis-classification.<sup>16</sup> Further analysis is underway to develop sub-national burden of disease estimates using multiple data sources.

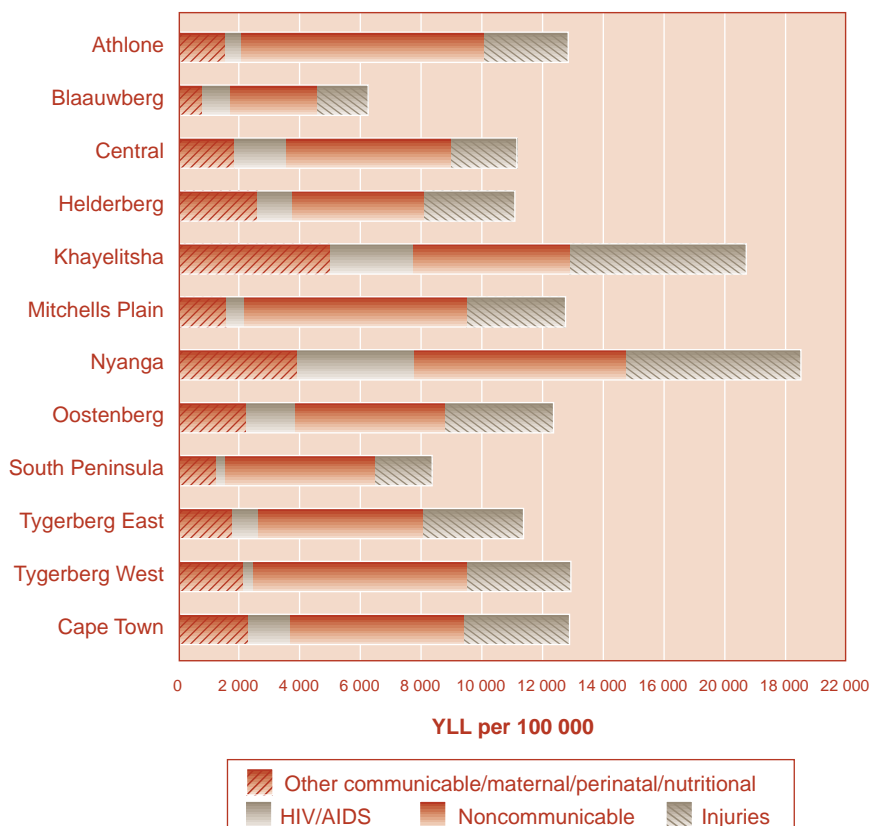
The mortality data collected in Cape Town<sup>21</sup> and reported according to health sub-district illustrates striking inequalities among the eleven sub-districts of the city. It can be seen from the years of life lost in Figure 4 that premature mortality varies by sub-district. Injuries and pre-transitional causes, especially HIV/AIDS, feature prominently in the township areas. By contrast, noncommunicable diseases account for the majority of deaths in the more affluent sub-districts. These data need to be taken into account in planning health and other services.

## Conclusions and recommendations

South African population health has declined rapidly in the last decade as evidenced by a decreasing life expectancy. This has been a result of the rapid spread of an HIV epidemic of profound proportion. The AIDS epidemic has fuelled the TB epidemic and also resulted in increased deaths due to pneumonia, diarrhoea and other indicator conditions. An epidemic of this size is unprecedented in modern history. Not only is a health sector response required, but government, communities and NGOs need to partner to shoulder the burden. The roll-out of antiretrovirals will pose a challenge to the already stretched public health service and requires improvements in the information systems to monitor its impact.

The burden of disease study demonstrated a quadruple burden in South Africa, making it necessary to tackle multiple burdens simultaneously. The high injury burden needs urgent attention through intersectoral strategies that target violence and homicide and road traffic accidents. The unfinished agenda of poverty related illness remains an issue, also requiring a comprehensive response, ensuring that development reaches the poor. Children should not be dying from malnutrition in a middle income

Figure 4: Aged standardised YLLs per 100 000 by cause group and HIV/AIDS for Cape Town and sub-districts, 2001<sup>12</sup>



country. The substantive burden due to emerging chronic diseases requires strong health promotion efforts as well as improved primary care and access to higher level services.

There is a need to continue developing the health information system and strengthening mortality statistics. By making adjustments for the inadequacies of the data, the national burden of disease study has provided an overview of the health problems at a national level. The Cape Town data have illustrated the variations to be found within a single city. The health information system needs to ensure that local level data become available for planning and monitoring in all the districts of the country.

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# Commentary

## Molefi Sefularo – MEC for Health: North West

For me, the story of health care service delivery in the North West province has been about empowerment, systems development, revitalisation and democratisation. All of these have been carried out on the bedrock of the National Health Policy, originally an ANC policy position, but later adopted by parliament. What we have achieved so far, has been about delivering the low hanging fruits of health care, challenging long established perspectives and practices and unjust societal power balances. We have also had to build new systems or integrate existing ones. More importantly, a lot of what we have been doing has been about laying a foundation for a national health system that will in so many ways, replace the existing one, which has tended to slow us down with the dead weight of legacy projects and systems.

Empowerment has ranged from projects directed at programme managers, clinicians and more importantly, community members

and their elected leaders. Many partners have come to the party, supporting the health departments and workers in projects ranging from financial management, supervision, expenditure tracking and quality assurance. These programmes demonstrated the importance of externally supported transformation programmes. In particular, we learnt the importance of the development of controls, protocols and monitoring systems.

For community members, the passing of the North West Governance Structures Act of 1997 was an important legal entrenchment of the rights of the citizens to participate in the governance of the health services. The successful creation in the greater part of the province, of health forums at village or suburb level, clinic committees at district level and hospital boards, explains why in the North West at least, there has been peace and stability in the health sector. There have been very few horror stories of patient neglect or maltreatment. The active participation of the people in ensuring adherence to Batho Pele and the Patients Rights Charter helped in so many ways to ensure the general lifting of the baseline of performance and care in the health

services. The seminal lesson for us was that by giving up some of the power of health workers and managers to the citizens, we ended up with a more empowered service.

The formal training of health councillors followed the same principle of empowering key role players so as to empower the entire system. It also forms part of our preparation for the devolution of PHC to the municipalities in the province. These features of intersectoral trust, respect and collaboration have been an important achievement and lesson of the past ten years. We are confident that we will be able to maintain the coherence of the health system even as we delegate PHC to municipalities. This is because we have based the development of our district health system on the boundaries

of the municipalities. We have also strived to adhere to principles and best practices that have been purified over many years by the world community of health workers, managers, non-government

organisations, ordinary citizens, academic institutions and multilateral agencies like WHO.

Success has been achieved in reducing preventable diseases among children through the use of more effective immunisation principles and methods. In many instances, it has really been about going back to the basics, implementing longstanding principles and practices that have succeeded in other parts of the world but were ignored in SA.

The revitalisation of the health services required as much attention to physical structures and equipment as the so-called soft issues. The elevation of 'soft issues' like quality, human rights and emotional intelligence to a level of equal, if not greater, importance has been based on the recognition that health service delivery largely involves millions of human to human interactions.

The net, ten-year benefits of the changes described above have been seen in a happier personnel, a stable labour relations environment, harmonious relations with social partners and stakeholders and definite improvements in the accessibility and quality of care. By protecting the income of

**“... by giving up some of the power of health workers and managers to the citizens, we ended up with a more empowered service.”**

# Commentary

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individuals and families from being diverted to coping with ill-health and disease, I believe we have contributed to the improvement of the human development index of our province.

A lot of the changes that have been effected have been about doing the rational, logical and sensible things in health care service delivery, predominantly a reversal of the madness of the years before the advent of democracy. They have in the main not required too much sacrifice, re-evaluation of values as well as paradigm shifts.

It is probably more correct to describe them as reforms rather than transformation. We will soon reach the limits of the yield of benefits from the superficial and incremental, stroke-of-the-pen changes. To achieve more, we are going to need more fundamental change.

In the next ten years, the challenge will be how to redistribute the enormous resources that are already expended on health care delivery, be it public or private. What we will need is deep transformation, the kind that will restructure the fundamental policy, political economy, power relations, value systems and institutional arrangements that underpin health care service delivery in the country. This will probably put us on the path to a truly egalitarian, ethical and efficient, human rights based or people centered national health system.

The national vision, broad strategic direction and the legislative framework have in my view been put in place. It will be a long haul, but I am confident that we as a nation will attain a people's health system.

**“The elevation of ‘soft issues’ like quality, human rights and emotional intelligence ... has been based on the recognition that health service delivery largely involves millions of human to human interactions.”**