

Health and Related Indicators

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Abstract

This chapter presents a selection of the best available data on the functioning and performance of the South African health system. It also questions whether the data provide evidence of a system that is truly based on Primary Health Care principles. Accordingly, it draws attention to data on the social determinants of health, which received particular attention at Alma Ata and have been highlighted once again with the release of the World Health Organization's World Health Report this year.

The available evidence reflects enormous variability in the quality of information in the different health information systems as well as variability in the risk factors and determinants of health, health care delivery, as well as health outcomes.

Overall the information available suggests that while progress has been made with policy formulation and some inputs (e.g. financing) and processes (e.g. immunisation), inadequate provision and maldistribution of human resources linked with incomplete implementation of policies has resulted in ongoing inequities. Some outcome and impact indicators, measured in terms of morbidity and mortality, show either little improvement or even deterioration over time.

The implementation of both health care delivery and information systems do not accommodate the interdepartmental and interdisciplinary responses that are required to adequately address the social determinants of poor health and achieve comprehensive Primary Health Care. This challenge has to be faced in relation not only to infectious diseases, but also in relation to the increasing burden of chronic non-communicable diseases.

The sections for which data are included are given in the table of contents following.

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Introduction

This year, 2008, is the 30th anniversary of the International Conference on Primary Health Care, held at Alma Ata, then the capital of the Soviet Republic of Kazakhstan [Declaration of Alma Ata]. This provides a wonderful opportunity to look back at the principles contained in the Declaration of Alma Ata, and also at the ways in which actual policy and practice have deviated from these principles over time. From the perspective of health informatics, it provides an opportunity to ask whether existing health information systems are providing data on the elements that constitute the Primary Health Care (PHC) approach, which forms the basis for many countries' health policy stances.

Delegates to the Alma Ata conference reaffirmed that health should be seen as "*a state of physical, mental and social wellbeing, not only the absence of disease or infirmity*". They also defined health as a fundamental human right. The Conference provided the definition for PHC, as care "*based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination*". It was also defined as incorporating at least the following elements:

- "*education concerning prevailing health problems and the methods of preventing and controlling them*"
- "*promotion of food supply and proper nutrition*"
- "*an adequate supply of safe water and basic sanitation*"
- "*maternal and child health care, including family planning*"
- "*immunization against the major infectious diseases*"
- "*prevention and control of locally endemic diseases*"
- "*appropriate treatment of common diseases and injuries*"
- "*provision of essential drugs*" [Declaration of Alma Ata].

This chapter will, in addition to presenting a selection of the best available data on the functioning and performance of the South African health system, focus on whether the available data provide an adequate picture of a system that purports to be based on PHC principles. It will also draw attention to data on the determinants of health, which received particular attention at Alma Ata.

The anniversary of Alma Ata has also been accompanied by critical appraisals of the application of the principles of PHC

globally. The Italian Global Health Watch, for example, drew attention to the impact of what they termed a 'counter-revolution', the decision to pursue selective rather than comprehensive care [Social Medicine 3(36-48)]. To many, this narrow-focus version of PHC, with targeted action aimed at "*oral rehydration to combat diarrhoea, vaccinations, promotion of breast feeding and the systematic use of the growth chart*" became well-known as the GOBI-FFF, substituting for a more comprehensive approach. The recommendation offered by this group could be applied directly in South Africa:

- "*Ensure universal access to basic health care, giving absolute priority to the poorest and most vulnerable groups in the population (children and women);*
- "*Reinforce whole health systems, instead of basing strategies on vertical programs;*
- "*Strengthen infrastructures, organization and control of programs, purchase and distribution of essential medicines (including antiretroviral drugs for the treatment of AIDS);*
- "*And, above all, invest in human resources within the public health sector through training, motivation, appropriate and just remuneration of health personnel that will help block the drain of staff to the private sector and abroad."*

Gillam has noted that "[e]ffective primary health care is more than the simple summation of individual technological interventions", and that "[i]ts power resides in linking different sectors and disciplines, integrating different elements of disease management, stressing early prevention, and the maintenance of health" [BMJ 336(536-8)]. Tellingly, he noted that "the concept of the empowered consumer engaged in shared decision making is far from what was implied by the term community participation". It remains far easier though to measure the provision of a single technological intervention (such as immunisation coverage) than to measure the degree to which communities are truly mobilised.

In South Africa the 30th anniversary of Alma Ata was marked by the Birchwood National Consultative Health Forum Declaration on PHC, which resolved "*that the revised and revitalized primary health care strategy for South Africa will include:*

1. *Advocating for an increase in the resource allocation for primary health care, by at least doubling the current per capita expenditure over the next ten years.*

2. Better alignment at district level of key interventions that impact on health, notably provision of water and sanitation, early childhood development, recreational programmes, health education and other activities that focus on encouraging healthy lifestyles especially amongst the youth in particular.
3. Strengthening the role, responsibilities, authority and accountability of the district health management team so as to achieve improved health outcomes.
4. Strengthening the health information system to generate good quality data for monitoring health outcomes and informing decision making.
5. Strengthening national and provincial support to districts as well as ensuring that provincial managers are accountable for primary health care outcomes.
6. Strengthening various models including those that focus on a catchment population and further explore a South African model for the delivery of comprehensive primary health care services.
7. Maximize the benefit of political leadership in supporting the provision of health care and the positive impact of healthy lifestyles.
8. Ensure that Primary Health Care provided by the private health sector is made more affordable to the public.
9. Improve the provision of support by hospitals to comprehensive primary health care to strengthen continuum of care.
10. Re-orientate all health workers and managers to the Primary Health Care approach.
11. Include the PHC approach in the training of health workers to ensure their appropriate professional socialisation.” [Birchwood Declaration]

To a large extent, these commitments mirror the recommendations of the World Health Organization's (WHO) review of PHC in the African region [PHC in Africa]. The review found that “*PHC policy formation had been well articulated in the national health policies by most countries, however, the extent to which PHC policies encompassed equity, community participation, inter-sectoral collaboration and affordability is still questionable*”. Accordingly, the key recommendations were to:

- “harmonise health sector reforms with PHC to ensure that initiatives promote equity and quality in health services;
- improve the fairness of financing policies and strategies and service coverage for the poor;
- support countries to address their particular human resource needs through clear articulation of

human resources policies, plans, development and strengthening of national management systems and employment policies;

- support countries to identify and put in place mechanisms for attracting and retaining health personnel.”

A key motivating force for the implementation of such recommendations has been the ‘15 by 2015’ campaign.^a This campaign, aimed at ensuring quality health for all, has called on donor organisations to allocate 15% of all grants towards strengthening the PHC system in recipient countries. The target date chosen (2015) is the same as for the Millennium Development Goals (MDGs).

The World Health Report 2007 was sub-titled ‘A safer future: global public health security in the 21st century’ [World Health Report 2007]. The focus in 2007 was on how “*the world is at increasing risk of disease outbreaks, epidemics, industrial accidents, natural disasters and other health emergencies which can rapidly become threats to global public health security*”. It was noted that infectious diseases are not only spreading faster but emerging at a more rapid rate. For example, there are now “*nearly 40 diseases that were unknown a generation ago*”. One of the threats identified was the emergence of extensively drug resistant tuberculosis (XDR-TB), described as “*essentially a man-made problem*”, “*created primarily by inadequate health systems and the resulting failures in programme management, especially poor supervision of health staff and of patients' treatment regimens, disruptions in drug supplies, and poor clinical management*”.

World Health Day in 2008 focused on “[p]rotecting health from climate change” [World Health Day 2008]. In a sense, this harks back to the focus at Alma Ata on dealing effectively with the determinants of health. A clear statement was made: “*climate change endangers health in fundamental ways*”. Five major potential consequences of climate change were identified:

- “[r]ising temperatures and more frequent droughts and floods can compromise food security. Increases in malnutrition are expected to be especially severe in countries where large populations depend on rain-fed subsistence farming. Malnutrition, much of it caused by periodic droughts, is already responsible for an estimated 3.5 million deaths each year.”
- “more frequent extreme weather events mean more potential deaths and injuries caused by storms and floods. In addition, flooding can be followed by

^a 15 by 2015 [homepage on the Internet]. c2008 [cited 2008 Jun 3]. Available from: <http://www.15by2015.org/index.php/resources/>

outbreaks of diseases, such as cholera, especially when water and sanitation services are damaged or destroyed."

- "both scarcities of water, which is essential for hygiene, and excess water due to more frequent and torrential rainfall will increase the burden of diarrhoeal disease, which is spread through contaminated food and water."
- "heatwaves, especially in urban 'heat islands', can directly increase morbidity and mortality, mainly in elderly people with cardiovascular or respiratory disease. Apart from heatwaves, higher temperatures can increase ground-level ozone and hasten the onset of the pollen season, contributing to asthma attacks."
- "changing temperatures and patterns of rainfall are expected to alter the geographical distribution of insect vectors that spread infectious diseases. Of these diseases, malaria and dengue are of greatest public health concern."

Not only do these pose challenges for health systems in terms of delivery of care, but they also demand greater vigilance and greater effort in relation to surveillance of infectious diseases, for example.

At the local level, the most outstanding contribution to providing an evidence base for health systems interventions was provided by the South African National Burden of Disease (SA NBD) study [Comparative Risk Assessment]. Based on the underlying causes of premature mortality and morbidity experienced in South Africa in 2000, a comparative risk assessment (CRA) was conducted to estimate the contribution made by selected risk factors. The intent of the exercise – placing "*more emphasis on preventing disease and injury and on the causal determinants of health*" – is entirely congruent with the PHC approach. The key findings are summarised in tables 1 and 2, showing the contribution of the 17 selected risk factors to burden of disease (as at 2000), with the burden of disease expressed in terms of deaths and disability-adjusted life years (DALYs).

Table 1: Deaths attributed to selected risk factors compared with the underlying causes of death

| Rank | Risk factor | % total deaths | Rank | Disease, injury or condition | % total deaths |
|------|--------------------------------------|----------------|------|---------------------------------------|----------------|
| 1 | Unsafe sex / STIs | 26.3 | 1 | HIV and AIDS | 25.5 |
| 2 | High blood pressure | 9.0 | 2 | Ischaemic heart disease | 6.6 |
| 3 | Tobacco smoking | 8.5 | 3 | Stroke | 6.5 |
| 4 | Alcohol harm | 7.1 | 4 | Tuberculosis | 5.5 |
| 5 | High BMI (excess body weight) | 7.0 | 5 | Interpersonal violence injury | 5.3 |
| 6 | Interpersonal violence (risk factor) | 6.7 | 6 | Lower respiratory infections | 4.4 |
| 7 | High cholesterol | 4.6 | 7 | Hypertensive disease | 3.2 |
| 8 | Diabetes (risk factor) | 4.3 | 8 | Diarrhoeal diseases | 3.1 |
| 9 | Physical inactivity | 3.3 | 9 | Road traffic injury | 3.1 |
| 10 | Low fruit and vegetable intake | 3.2 | 10 | Diabetes mellitus | 2.6 |
| 11 | Unsafe water, sanitation and hygiene | 2.6 | 11 | Chronic obstructive pulmonary disease | 2.5 |
| 12 | Childhood and maternal underweight | 2.3 | 12 | Low birth weight | 2.2 |
| 13 | Urban air pollution | 0.9 | 13 | Asthma | 1.3 |
| 14 | Vitamin A deficiency | 0.6 | 14 | Trachea / bronchi / lung cancer | 1.3 |
| 15 | Indoor air pollution | 0.5 | 15 | Nephritis / nephrosis | 1.3 |
| 16 | Iron deficiency anaemia | 0.4 | 16 | Septicaemia | 1.2 |
| 17 | Lead exposure | 0.3 | 17 | Oesophageal cancer | 1.1 |

Source: Comparative Risk Assessment.

Table 2: DALYs attributed to selected risk factors compared with the underlying causes of DALYs

| Rank | Risk factor | % total DALYs | Rank | Disease, injury or condition | % total DALYs |
|------|--------------------------------------|---------------|------|---------------------------------|---------------|
| 1 | Unsafe sex / STIs | 31.5 | 1 | HIV and AIDS | 30.9 |
| 2 | Interpersonal violence (risk factor) | 8.4 | 2 | Interpersonal violence injury | 6.5 |
| 3 | Alcohol harm | 7.0 | 3 | Tuberculosis | 3.7 |
| 4 | Tobacco smoking | 4.0 | 4 | Road traffic injury | 3.0 |
| 5 | High BMI (excess body weight) | 2.9 | 5 | Diarrhoeal diseases | 2.9 |
| 6 | Childhood and maternal underweight | 2.7 | 6 | Lower respiratory infections | 2.8 |
| 7 | Unsafe water sanitation and hygiene | 2.6 | 7 | Low birth weight | 2.6 |
| 8 | High blood pressure | 2.4 | 8 | Asthma | 2.2 |
| 9 | Diabetes (risk factor) | 1.6 | 9 | Stroke | 2.2 |
| 10 | High cholesterol | 1.4 | 10 | Unipolar depressive disorders | 2.0 |
| 11 | Low fruit and vegetable intake | 1.1 | 11 | Ischaemic heart disease | 1.8 |
| 12 | Physical inactivity | 1.1 | 12 | Protein-energy malnutrition | 1.3 |
| 13 | Iron deficiency anaemia | 1.1 | 13 | Birth asphyxia and birth trauma | 1.2 |
| 14 | Vitamin A deficiency | 0.7 | 14 | Diabetes mellitus | 1.1 |
| 15 | Indoor air pollution | 0.4 | 15 | Alcohol dependence | 1.0 |
| 16 | Lead exposure | 0.4 | 16 | Hearing loss, adult onset | 1.0 |
| 17 | Urban air pollution | 0.3 | 17 | Cataracts | 0.9 |

Source: Comparative Risk Assessment.

This analysis was then the basis for a prioritised list of interventions for the most important attributable causes to the burden of disease. For example, to address sexually transmitted infection (STI), attributed to unsafe sex practices, the recommendations were to:

- strengthen the prevention of mother-to-child transmission (PMTCT) programme, and improve antenatal screening for syphilis;
- strengthen population-based interventions that target risky sexual behaviour, particularly among youth;
- maintain promotion and distribution of condoms;
- promote voluntary counselling and testing and provider-initiated testing and counselling for HIV;
- strengthen STI control by promoting syndromic management, including the private sector (and review guideline);
- strengthen screening for cervical cancer, and promote regular utilisation of screening services;
- consider the promotion of male circumcision;
- improve access to highly active antiretroviral treatment, placing particular emphasis on the current lack of human resources and infrastructure;
- improve access to cotrimoxazole in adults and children with HIV;
- support research into microbicide and vaccine development; and

- better understand underlying determinants to develop more effective interventions.

Apart from the implications for research and for programme planning, such recommendations should also shape data collection, interpretation and reporting across the health system.

Data sources and collection

An overview of issues to consider with health statistics and data sources, based primarily on a series published in *The Lancet* in 2007, were included in the chapter last year [SAHR 2007 Ch15]. The reader is reminded to be cautious of what types of indicators are presented and whether their use is suitable for the intended purpose; the following text from *World Health Statistics 2007* summarises this challenge: *"For monitoring, it is important to distinguish between corrected and predicted statistics. Corrected statistics use adjustments made for known biases and, if needed, are based on a systematic reconciliation of data from multiple sources using established, transparent methods. Predicted statistics use a set of assumptions about the association between other factors and the quantity of interest ... to fill gaps in the data over time (projecting into the present or future) or space (from one population with data to another with limited or no data). Predicted statistics are not suitable for monitoring progress."* [World Health Statistics 2007].

Available routine data for this chapter are largely determined by the application of South Africa's National Indicator Data Set (NIDS). The list of indicators and their definitions was included in the 2005 South African Health Review [SAHR 2005 Ch17]. The ability to provide updated data from the District Health Information System (DHIS) has, unfortunately, been adversely impacted upon by withdrawal of support for the existing system. Up-to-date data on notifiable diseases other than malaria and tuberculosis (TB), which have their own reporting systems, have also been elusive. However, even data from these two reporting systems may be affected by under-reporting and should be interpreted with caution. However complete the data on patients receiving treatment is, for example, the reporting system cannot provide data on the number of patients infected but not yet diagnosed with TB. Fortunately many other data sources have improved and expanded, with Statistics South Africa (StatsSA) in particular providing interactive online access to some key data sources. Although not new data per se, the final report on the 2003 South Africa Demographic and Health Survey (SADHS) was released in July 2008 [SADHS 2003]. Previous chapters had reported some data from the Preliminary Report. These have, where possible, been updated to reflect the data in the final version.

Reference sources in the text are indicated by the use of a short name for the reference, enclosed in square brackets e.g. [StatsSA Mid-year Estimates]. For the data tables, the short name of the reference / source is given in the footnotes to each table, together with any specific notes about the section of the reference used or the data itself. At the end of the chapter, full details of each reference are provided, ordered by the short names used. Where possible, the means to access the complete data electronically are provided. Specific Universal Resource Locators (URLs) are not always available for a single document. In such cases, the location of the issuing authority's website has been provided (e.g. Statistics SA can be accessed at <http://www.statssa.gov.za>).

As before, this chapter has sought to provide data disaggregated by province and ethnic group. Providing data by health district is still complicated by unresolved cross-boundary districts and some systems which still store data according to the old demarcation. The data have been presented according to the new demarcation, and any data being reported for cross-boundary districts have been aggregated and included in the province that the district is located in according to the latest boundaries from the Municipal Demarcation Board.

Although the national Department of Health (NDoH) disseminates very little data at a level of disaggregation relevant to the District Health System (and hence to assessment of the implementation of the PHC approach), some provinces are producing well structured annual reports or performance plans which reflect results at the district level and according to the gazetted Budget Programmes, so that both resourcing and outcomes can be judged according to the level of care. Disaggregation of socio-economic data is important because national averages often mask differences within and across subgroups. For policy purposes it is especially relevant to understand why unfair and avoidable inequalities (or inequities) exist and what actions may be taken to improve equity. Describing health inequities and understanding their determinants require process and outcome data that can be disaggregated by different socio-economic or demographic characteristics, as well as the ability to link data from different sectors in a country [World Health Statistics 2007].

Table 3: Main data sources used to update this chapter for the 2008 South African Health Review

| Data source / organisation | Main products / indicators |
|---|--|
| Actuarial Society of South Africa (ASSA) | ASSA 2003 model HIV and AIDS projections. |
| Children's Institute | South African Child Gauge 2007. |
| Council for Medical Schemes | Private sector financing. |
| Department of Health | National and provincial annual reports TB data, Antenatal Survey, Community Service Professionals. SADHS 2003 Full Report (released July 2008). National Food Consumption Survey – Fortification Baseline 2005. |
| Health Professions Council of South Africa, South African Nursing Council, South African Pharmacy Council | Number of health professionals registered. |
| Hospitals Direct Database | Private sector hospital information. |
| Journal articles | From a number of journals, covering a variety of health indicators |
| South African Medical Research Council | Comparative Risk Assessment |
| National Treasury, Department of Finance | National health care financing indicators. |
| Persal (through Vulindlela) | Public sector health personnel. |
| Statistics South Africa | Demographic and socio-economic indicators including Community Survey 2007. General Household Survey 2007. 2008 mid-year population estimates. Labour Force Survey 2007. |
| World Health Statistics 2008, World Health Report 2007 and 2008, Human Development Report 2007/08, Global TB Report 2008, State of the World's Children 2008, UNAIDS 2007 and 2008 Reports on AIDS as well as a range of other reports by major international agencies. | International comparator data. |

The data provided in this chapter are only a sub-set of those available. More data, particularly those showing trends over time, are stored in the Health Statistics Database, which can be accessed on the Health Systems Trust (HST) website (www.hst.org.za/healthstats/). In addition, a substantial set of district-level data are presented in the District Health Barometer reports, which can also be accessed from the HST site.

Indicator definitions: The definitions of all indicators appearing in the tables are given at the end of the chapter on pages 381 to 386.

Trends and time-series: For most indicators data are given for several years, often from multiple different sources. This is to try and make a comprehensive resource available. In most cases these data can thus NOT be used to assess trends and changes over time due to possible differences in methodology and data presentation issues. A key example of this issue is with the mortality indicators such as infant mortality rate and maternal mortality ratio. Even data from regular surveys may not be comparable over time, as for example with the General Household Surveys. Often the most recent data source will provide time series data which have been corrected for any changes affecting comparability.

Demographic indicators

The largest survey undertaken by StatsSA is the Community Survey [Community Survey 2007]. The 2007 Community Survey was based on a sample of 274 348 dwelling units across all nine provinces, with a response rate of 93.9%. The Community Survey collected data on population dynamics, disability and social grants, school attendance and educational attainment, the labour force and income. As such it represents an alternative source of population data, which can be contrasted with the population estimates based on adjustments of the last Census (2001). According to the Community Survey, the national population in 2007 was 48.5 million, with the highest provincial populations being those of GP (10.5 million) and KZN (10.3 million). The Community Survey also provides estimates of increases in population, with the more urban provinces of WC and GP showing the greatest increases since 2001, at 16.7% and 13.9% respectively. These two provinces would thus seem to be the major recipients of migrants from other provinces. Such population shifts have major implications for demands on health services, and also need to be reflected in the equitable share formulae used to allocate monies from the national fiscus to provincial Treasuries. A particular problem has been encountered with estimates of the number of children. The Community Survey has confirmed that the number of children was under-estimated in both the previous censuses. This complicates the depiction of data trends over time, as changes may be due to data quality issues and not only population change. The Community Survey also shows substantial differences in the populations of certain municipalities, compared to the mid-year estimates from 1995 to 2009, which are used by the Department of Health (DoH) as denominators. These differences can, at times, have substantial effects on a range of indicators that use such denominators. StatsSA released the mid-2008 population estimates in July 2008, incorporating new information from the Community Survey 2007. On the basis of this they have also released a revised time series of provincial level population estimates from 2001 to 2008, since growth rates for some areas appear to be quite different to those previously used, and for any time series indicators it is important to use a set of estimates that change smoothly. Since previously published estimates have been used as the denominators for several other indicators, they have also been included in the tables provided in this chapter.

Another source of in-depth data, albeit on a limited population, is provided by the Demographic Surveillance Sites (DSS). One of these, the Agincourt DSS, was highlighted in a special theme issue of the Scandinavian Journal of Public Health in 2007 [Scand J Public Health Suppl 69:(8-20)]. Table 5

shows some major time trends from the Agincourt DSS (located in rural district in MP), comparing data from 1992/93 and 2003/04. In the editorial, Tollman and Kahn argued that South Africa faced a "*crisis of evidence*", in that there was "*limited availability of empirically-derived population-based data, weak investments to support their production, and limited public sector capacity to absorb, sift, interpret and respond to findings*". The papers presented in this theme issue provided confirmatory data, based on rigorous and detailed collection, of a number of nationally-described trends, such as increasing mortality in children and young adults, declining fertility and increasing migration. The Community Survey reported an observed crude death rate of 14.3 per 1 000 population, which confirms the estimates from the vital registration system (adjusted for estimated under-reporting). As shown in Table 5, the Agincourt DSS also reported a substantial increase in overall mortality over time.

Focused data from a relatively small site can provide detailed insights. For example, data from Agincourt has shown how increasing numbers of migrants who fall ill in urban areas return to the rural areas, where their families live. Such patterns of migration have major implications for the burden and complexity of disease faced by under-resourced rural health services. Disease-specific insights are also provided. For example, at Agincourt, approximately 43% of the population aged 35 years and over had some degree of hypertension in 2002/03.

Table 4: Demographic indicators by province

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|--|-----------|-----------|------------|------------|-----------|-----------|-----------|-----------|-----------|------------|--------|
| Annual population growth rate | | | | | | | | | | | |
| 1993 | 2.6 | 1.5 | 1.3 | 2.8 | 4.0 | 3.0 | 0.8 | 3.1 | 1.7 | 2.40 | a |
| 1996 | 2.2 | 1.4 | 1.7 | 1.6 | 3.0 | 2.1 | 1.0 | 1.5 | 1.5 | 1.90 | b |
| 2001 | | | | | | | | | | | 1.45 c |
| 2004 | - | - | - | - | - | - | - | - | - | 1.16 | c |
| 2007 | | | | | | | | | | 0.82 | c |
| Area (square km) | | | | | | | | | | | |
| 2006 | 169 952 | 129 821 | 16 927 | 92 303 | 122 839 | 79 512 | 362 591 | 116 180 | 129 448 | 1 219 574 | d |
| Area as a % of total area of South Africa | | | | | | | | | | | |
| 2006 | 13.9 | 10.6 | 1.4 | 7.6 | 10.1 | 6.5 | 29.7 | 9.5 | 10.6 | 100.0 | d |
| Average household size | | | | | | | | | | | |
| 1990 | 5.2 | 3.9 | 3.5 | 5.7 | 5.2 | 4.6 | 4.3 | 3.8 | 3.9 | 4.5 | e |
| 1996 | 4.6 | 4.1 | 3.7 | 5.0 | 4.9 | 4.6 | 4.3 | 4.6 | 3.9 | 4.4 | f |
| 2001 | 4.1 | 3.6 | 3.2 | 4.2 | 4.3 | 4.0 | 3.8 | 3.7 | 3.6 | 3.8 | g |
| 2007 CS | 4.1 | 3.5 | 3.3 | 4.6 | 4.3 | 3.9 | 4.0 | 3.7 | 3.8 | 3.9 | h |
| Crude death rate (deaths per 1 000 population) | | | | | | | | | | | |
| 1994 | 5.7 | 5.8 | 6.1 | 3.5 | 2.6 | 3.2 | 8.5 | 5.7 | 6.8 | 4.9 | i |
| 2001 low estimate | 13.0 | 12.0 | 10.7 | 11.5 | 12.8 | 11.8 | 10.6 | 12.5 | 9.8 | 11.7 | j |
| 2003 adjusted | - | - | - | - | - | - | - | - | - | 13.6 | k |
| 2004 adjusted | - | - | - | - | - | - | - | - | - | 14.3 | k |
| 2005 adjusted | - | - | - | - | - | - | - | - | - | 14.2 | k |
| 2006 CS | - | - | - | - | - | - | - | - | - | 14.3 | h |
| Population | | | | | | | | | | | |
| 1996 | 6 302 525 | 2 633 504 | 7 348 423 | 8 417 021 | 4 929 368 | 2 800 711 | 840 321 | 3 354 825 | 3 956 875 | 40 583 573 | l |
| 2001 | 6 436 763 | 2 706 775 | 8 837 178 | 9 426 017 | 5 273 642 | 3 122 990 | 822 727 | 3 669 349 | 4 524 335 | 44 819 778 | m |
| 2006 | 7 051 500 | 2 958 800 | 9 211 200 | 9 731 800 | 5 670 800 | 3 252 500 | 910 500 | 3 858 200 | 4 745 500 | 47 390 900 | l |
| 2007 | 6 906 200 | 2 965 600 | 9 688 100 | 10 014 500 | 5 402 900 | 3 536 300 | 1 102 200 | 3 394 200 | 4 839 800 | 47 849 800 | l |
| 2007 CS | 6 527 746 | 2 773 066 | 10 451 709 | 10 259 230 | 5 238 286 | 3 643 435 | 1 058 057 | 3 271 946 | 5 278 591 | 48 502 066 | h |
| 2001 revised | 6 488 013 | 2 768 226 | 8 979 912 | 9 557 165 | 4 971 031 | 3 346 339 | 1 084 904 | 3 196 306 | 4 536 899 | 44 928 795 | c |
| 2002 revised | 6 511 796 | 2 791 078 | 9 218 566 | 9 659 485 | 5 023 204 | 3 390 358 | 1 094 028 | 3 240 087 | 4 658 510 | 45 587 112 | c |
| 2003 revised | 6 529 949 | 2 810 515 | 9 452 800 | 9 752 211 | 5 070 717 | 3 430 722 | 1 101 929 | 3 280 260 | 4 776 866 | 46 205 969 | c |
| 2004 revised | 6 542 795 | 2 826 632 | 9 683 157 | 9 835 710 | 5 113 747 | 3 467 527 | 1 108 658 | 3 316 932 | 4 891 930 | 46 787 088 | c |
| 2005 revised | 6 550 976 | 2 839 823 | 9 910 898 | 9 910 636 | 5 152 649 | 3 501 041 | 1 114 385 | 3 350 490 | 5 004 196 | 47 335 094 | c |
| 2006 revised | 6 551 919 | 2 849 490 | 10 134 414 | 9 974 344 | 5 185 095 | 3 530 206 | 1 118 892 | 3 379 923 | 5 112 857 | 47 837 140 | c |
| 2007 revised | 6 568 754 | 2 865 472 | 10 294 862 | 10 045 594 | 5 232 681 | 3 562 197 | 1 123 037 | 3 404 643 | 5 190 084 | 48 287 324 | c |
| 2008 revised | 6 579 245 | 2 877 694 | 10 447 246 | 10 105 437 | 5 274 836 | 3 589 909 | 1 125 881 | 3 425 153 | 5 261 922 | 48 687 323 | c |
| Population % by province | | | | | | | | | | | |
| 1996 | 15.5 | 6.5 | 18.1 | 20.7 | 12.1 | 6.9 | 2.1 | 8.3 | 9.7 | 100.0 | f |
| 2001 | 14.4 | 6.0 | 19.7 | 21.0 | 11.8 | 7.0 | 1.8 | 8.2 | 10.1 | 100.0 | g |
| 2007 | 14.4 | 6.2 | 20.2 | 20.9 | 11.3 | 7.4 | 2.3 | 7.1 | 10.1 | 100.0 | l |
| 2007 CS | 13.5 | 5.7 | 21.5 | 21.2 | 10.8 | 7.5 | 2.2 | 6.7 | 10.9 | 100.0 | h |
| Population % composition | | | | | | | | | | | |
| 2001 60+ years | 9.2 | 7.3 | 6.2 | 6.9 | 7.7 | 6.3 | 8.2 | 7.3 | 7.8 | 7.3 | g |
| 2007 60+ years | 9.6 | 8.0 | 6.9 | 7.0 | 8.5 | 6.5 | 9.0 | 7.6 | 8.6 | 7.8 | h |
| 2001 <15 years | 36.8 | 30.7 | 23.6 | 34.7 | 39.4 | 35.0 | 30.6 | 31.3 | 27.3 | 32.1 | g |
| 2007 <15 years | 35.6 | 28.8 | 25.4 | 33.5 | 37.0 | 33.5 | 28.7 | 30.2 | 26.3 | 31.0 | h |
| 2001 female | 53.8 | 52.1 | 49.7 | 53.2 | 54.6 | 52.1 | 50.4 | 51.2 | 51.5 | 52.2 | g |
| 2007 female | 52.9 | 51.6 | 50.3 | 52.5 | 53.8 | 51.4 | 50.9 | 49.7 | 51.3 | 51.7 | h |
| Population density (people per km²) | | | | | | | | | | | |
| 1996 | 38.4 | 21.0 | 448.4 | 95.1 | 41.7 | 36.7 | 2.3 | 29.9 | 31.5 | 34.4 | f |
| 2007 | 40.6 | 22.8 | 572.3 | 108.5 | 44.0 | 44.5 | 3.0 | 29.2 | 37.4 | 39.2 | l |
| 2008 | 38.7 | 22.2 | 617.2 | 109.5 | 42.9 | 45.1 | 3.1 | 29.5 | 40.6 | 39.9 | l |
| Public sector dependent population (calculated using GHS medical scheme coverage) | | | | | | | | | | | |
| 2006 GHS | 6 327 000 | 2 518 000 | 7 184 000 | 8 662 000 | 5 286 000 | 2 885 000 | 785 000 | 3 326 000 | 3 850 000 | 40 824 000 | n |
| 2007 GHS | 6 140 000 | 2 486 000 | 7 632 000 | 8 778 000 | 4 988 000 | 3 100 000 | 934 000 | 3 027 000 | 3 732 000 | 40 817 000 | n |

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|--|-----------|-----------|-----------|-----------|-----------|-----------|---------|-----------|-----------|------------|---|
| Public sector dependent population (calculated as population not beneficiaries of a medical scheme) | | | | | | | | | | | |
| 2004 non-med scheme | 6 492 721 | 2 631 839 | 6 268 336 | 8 637 275 | 5 232 304 | 2 790 098 | 747 016 | 3 494 539 | 3 376 811 | 39 670 941 | o |
| 2005 non-med scheme | 6 438 146 | 2 626 949 | 6 482 009 | 8 612 926 | 5 373 045 | 2 751 834 | 758 329 | 3 488 981 | 3 526 353 | 40 052 579 | o |
| 2006 non-med scheme | 6 437 303 | 2 617 251 | 6 617 391 | 8 640 056 | 5 369 944 | 2 760 113 | 761 101 | 3 492 508 | 3 588 017 | 40 263 557 | o |
| 2007 non-med scheme | 5 924 367 | 2 519 901 | 7 562 085 | 8 900 580 | 4 906 870 | 3 051 037 | 964 811 | 3 010 643 | 3 980 381 | 40 809 284 | o |
| Total fertility rate | | | | | | | | | | | |
| 1991 | 4.6 | 3.7 | 3.0 | 4.3 | 5.8 | 4.3 | 2.9 | 4.5 | 2.7 | 3.3 | p |
| 1998 SADHS | 3.5 | 2.2 | 2.3 | 3.3 | 3.9 | 3.1 | 2.7 | 2.4 | 2.3 | 2.9 | q |
| 2001 CARe | 3.3 | 2.5 | 2.4 | 3.0 | 3.6 | 3.1 | 2.4 | 2.8 | 2.4 | 2.8 | r |
| 2006 CS | - | - | - | - | - | - | - | - | - | 2.5 | s |
| Urban percentage | | | | | | | | | | | |
| 1996 | 36.6 | 68.6 | 97.0 | 43.1 | 11.0 | 39.1 | 70.1 | 34.9 | 88.9 | 53.7 | f |
| 2001 | 38.8 | 75.8 | 97.2 | 46.0 | 13.3 | 41.3 | 82.7 | 41.8 | 90.4 | 57.5 | t |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

- a Development Bank 1994. For 1985-1993. Table 1: Annexure A.
- b StatsSA Mid-year Estimates. Growth rates are for 1996-2002. StatsSA usually only provide such growth rates by province and gender. More accurate intra-provincial population growth rates are required to provide meaningful denominator data for the calculation of a range of health indicators at district level.
- c StatsSA Mid-year Estimates. 2008 mid-year estimates. The revised time series population estimates for 2001-2008 were released with the 2008 mid-year estimates. The medium estimates are given here.
- d Demarcation Board. Downloaded July 2007.
- e SAHR 1995 Ch1. Table 1.6
- f Census 1996.
- g Census 2001.
- h StatsSA Community Survey 2007.
- i Cause of death 1990.
- j IFR Projections 1999. Estimated for 1996-2001. Low population projections: The impact of HIV and AIDS epidemic is incorporated from 1996 onwards; fertility rates are similar to those of the medium projections; and a low degree of in-migration (100 000 per annum) is assumed. Fig 4.5 pg 165.
- k StatsSA Causes of death 2004 and 2005. Calculated from valid causes of death reports adjusted for estimated data completeness (88.5%) per 1 000 estimated population.
- l StatsSA Mid-year Estimates.
- m Census 2001. Preliminary independent demographic analyses of this report suggest that the final figures probably reflect: * an underestimate of children under the age of 5 * an overestimate of children aged between 10 and 19 * an underestimate of men relative to women * an underestimate of the white population. Data source also includes other tables with more levels of disaggregation than are shown here.
- n StatsSA GHS 2006 and StatsSA GHS 2007.
- o Medical Schemes 2004-5, 2005-6, 2006-7 and 2007-8. Calculated from total number of beneficiaries subtracted from total population.
- p Development Bank 1994. Table 24: Annexure A pg 90.
- q SADHS 1998. The 1998 national TFR is considered to be an underestimate. The real figure is considered to be about 3.2 (see Udjo EO, Lestrade-Jeffries J. Fertility and mortality in South Africa. (on request from StatsSA)). Differences between subgroups show that fertility rates are correlated with education level, urban / rural residence, province and population group. [SAHR 2000 Ch 4]. Table 11 pg 19.
- r CARe Fertility.
- s StatsSA Community Survey 2007.
- t Urban and Rural definition. Note that there are some differences between Census 2001 and Census 1996 regarding the classification of the country into urban and rural areas. This report identifies these differences and then gives some suggestions on objective means of measurement, as well as reclassifying EAs for purpose of comparison between the Censuses. With the reclassification of the 1996 Census figures the national urban percentage is given as 55.1% (compared to 53.7% originally).

Table 5: Time trends in demographic indicators from Agincourt DSS

| | 1992/93 | 2003/04 |
|---|---------------------------|---------------------------|
| Crude birth rate | 32 / 1 000 person years | 22.9 / 1 000 person years |
| Crude death rate | 5.4 / 1 000 person years | 11.2 / 1 000 person years |
| IMR | 21.6 / 1 000 live births | 49.8 / 1 000 live births |
| U5MR | 39.6 / 1 000 person years | 88.1 / 1 000 person years |
| Total fertility rate | 4.1 children per woman | 2.7 children per woman |
| Life expectancy at birth – male | 66 years | 52 years |
| Life expectancy at birth – female | 72 years | 60 years |
| % births officially registered in vital registration system | 5.3 | 57.4 |
| % deaths officially registered in vital registration | 39.7 | 78.1 |

Source: Scand J Public Health Suppl 69:(8-20).

Table 6: Demographic indicators by ethnic group

| | African | Coloured | Indian | White | Other | All | |
|---|------------|-----------|-----------|-----------|---------|------------|---|
| Annual population growth rate | | | | | | | |
| 1996 | 2.8 | 2.0 | 1.7 | 1.1 | - | 1.9 | a |
| 2004 | 1.1 | 1.0 | 0.8 | -0.4 | - | 0.9 | b |
| Average household size | | | | | | | |
| 1990 | 4.8 | 4.7 | 4.4 | 3.0 | - | 4.5 | c |
| 1996 | 4.7 | 4.7 | 4.3 | 2.9 | - | 4.4 | d |
| 2001 | 3.9 | 4.3 | 4.0 | 2.8 | - | 3.8 | e |
| Crude death rate (deaths per 1 000 population) | | | | | | | |
| 2001 low estimate | 12.6 | 9.0 | 5.6 | 9.0 | - | 11.7 | f |
| Population | | | | | | | |
| 1996 | 31 127 631 | 3 600 446 | 1 045 596 | 4 434 697 | 375 204 | 40 583 573 | g |
| 2001 | 35 416 166 | 3 994 505 | 1 115 467 | 4 293 640 | - | 44 819 778 | e |
| 2006 | 37 662 900 | 4 198 800 | 1 163 900 | 4 365 300 | - | 47 390 900 | g |
| 2007 | 38 079 900 | 4 245 000 | 1 173 700 | 4 352 100 | - | 47 849 800 | g |
| 2007 CS | 38 255 162 | 4 375 528 | 1 244 632 | 4 626 744 | - | 48 502 066 | h |
| 2001 revised | 35 112 768 | 4 007 780 | 1 115 575 | 4 692 673 | | 44 928 796 | g |
| 2002 revised | 35 723 469 | 4 064 752 | 1 132 041 | 4 666 853 | | 45 587 115 | g |
| 2003 revised | 36 296 172 | 4 120 886 | 1 148 940 | 4 639 958 | | 46 205 956 | g |
| 2004 revised | 36 832 798 | 4 175 604 | 1 166 334 | 4 612 353 | | 46 787 089 | g |
| 2005 revised | 37 337 036 | 4 228 984 | 1 184 539 | 4 584 532 | | 47 335 091 | g |
| 2006 revised | 37 796 280 | 4 280 907 | 1 203 408 | 4 556 542 | | 47 837 137 | g |
| 2007 revised | 38 205 181 | 4 331 020 | 1 222 943 | 4 528 176 | | 48 287 320 | g |
| 2008 revised | 38 564 920 | 4 379 240 | 1 243 403 | 4 499 760 | | 48 687 323 | g |
| Population % by ethnic group | | | | | | | |
| 1996 | 76.7 | 8.9 | 2.6 | 10.9 | 0.9 | 100.0 | d |
| 2001 | 79.0 | 8.9 | 2.5 | 9.6 | - | 100.0 | e |
| 2007 | 79.6 | 8.9 | 2.5 | 9.1 | - | 100.0 | g |
| 2007 CS | 78.9 | 9.0 | 2.6 | 9.5 | - | 100.0 | h |
| Population % composition | | | | | | | |
| 2001 <15 years | 34.0 | 30.8 | 23.5 | 19.0 | - | 32.1 | e |
| 2007 <15 years | 33.3 | 28.8 | 21.9 | 16.8 | - | 31.0 | h |
| 2001 60+ years | 6.4 | 6.4 | 7.8 | 15.9 | - | 7.3 | e |
| 2007 60+ years | 6.6 | 7.0 | 9.1 | 17.9 | - | 7.8 | h |
| 2001 female | 52.3 | 51.9 | 51.1 | 51.5 | - | 52.2 | e |
| 2007 female | 51.9 | 51.6 | 50.5 | 51.1 | - | 51.7 | h |
| Public sector dependent population | | | | | | | |
| 2003 | 33 813 484 | 3 251 173 | 810 609 | 1 366 679 | - | 38 613 666 | i |
| 2005 GHS | 34 526 890 | 3 385 421 | 738 496 | 1 327 079 | - | 39 922 438 | j |
| 2006 GHS | 34 860 000 | 3 517 000 | 823 000 | 1 605 000 | - | 40 824 000 | k |
| 2007 GHS | 35 103 000 | 3 425 000 | 781 000 | 1 447 000 | - | 40 817 000 | l |

| | African | Coloured | Indian | White | Other | All | |
|-----------------------------|---------|----------|--------|-------|-------|-----|---|
| Total fertility rate | | | | | | | |
| 1998 SADHS | 3.1 | 2.5 | - | 1.9 | - | 2.9 | m |
| 2001 CARe | 3.0 | 2.4 | 2.0 | 1.8 | - | 2.8 | n |
| 2006 CS | 2.7 | 2.3 | 1.4 | 1.4 | - | 2.5 | h |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

- a StatsSA Mid-year Estimates. Growth rates are for 1996-2002. StatsSA usually only provide such growth rates by province and gender. More accurate intra-provincial population growth rates are required to provide meaningful denominator data for the calculation of a range of health indicators at district level.
- b StatsSA Mid-year Estimates. For 2004-2005. 2005 mid-year estimates. Revised growth rates were published in the 2008 mid-year estimates, but without ethnic groups, hence the original values are retained here.
- c SAHR 1995 Ch1. Table 1.6
- d Census 1996.
- e Census 2001.
- f IFR Projections 1999. Estimated for 1996-2001. Low population projections: The impact of HIV and AIDS epidemic is incorporated from 1996 onwards; fertility rates are similar to those of the medium projections; and a low degree of in-migration (100 000 per annum) is assumed. Fig 4.5 pg 165.
- g StatsSA Mid-year Estimates. The revised time series population estimates for 2001-2008 were released with the 2008 mid-year estimates. The medium estimates are given here.
- h StatsSA Community Survey 2007.
- i Fiscal Review 2001. Calculated using provincial and racial medical schemes coverage (quoting October Household Survey 1999) and StatsSA population estimates for 2003.
- j StatsSA GHS 2004.
- k StatsSA GHS 2006.
- l StatsSA GHS 2007.
- m SADHS 1998. The 1998 national TFR is considered to be an underestimate. The real figure is considered to be about 3.2 (see Udjo EO, Lestrade-Jeffeiris J. Fertility and mortality in South Africa. (on request from StatsSA)) Differences between subgroups show that fertility rates are correlated with education level, urban / rural residence, province and population group. [SAHR 2000 Ch 4]. Table 11 pg 19.
- n CARe Fertility.

Socio-economic indicators

A health system purporting to be based on the PHC approach must pay close attention to socio-economic indicators, as they measure some of the most important determinants of health. Comprehensive PHC demands an intersectoral approach to tackling these challenges.

A composite measure of such determinants of health is the deprivation index, which can be estimated from the data collected in the Community Survey. Areas that fall into socio-economic quintile 1 (SEQ 1) are most deprived, while those that fall into SEQ 5 are the least deprived (best off) [Deprivation Index 2007 subdist]. Map 1 shows the health sub-districts, depicted per socio-economic quintile, based on the Community Survey 2007.

A PHC approach would also mandate a specific focus on the socio-economic condition of children. In 2007, the Human Sciences Research Council (HSRC) published a comprehensive report entitled 'The South African Index of Multiple Deprivation for Children: Census 2001'. While based on data from the last Census (10% sample), it nonetheless offers fresh insights and hard data about the plight of children in South Africa. The child-focused deprivation index is based on five domains and detailed maps are included in the publication:

- income and material deprivation;
- employment deprivation;
- education deprivation;
- adequate care deprivation; and
- living environment deprivation.

The majority of municipalities in both the WC (24 of 25) and GP (10 of 12) are in the top quintile, that is the least deprived 20% in terms of child deprivation. In the EC, all municipalities in the former Transkei fall into the bottom two quintiles, that is the most deprived 40%. The majority of these municipalities (22 of 39) are in the most deprived 20%. In KZN and LP the majority of municipalities are also in the most deprived 40%. There is a more mixed picture in the other provinces.

The comparative risk assessment (CRA) undertaken by the South African National Burden of Disease (SA NBD) study, based on 2000 data, showed that 13 434 deaths were attributable to unsafe water and lack of sanitation and hygiene [Comparative Risk Assessment]. These represented 2.6% of all deaths. As would be expected, this burden was greatest in children under five years, accounting for 9.3% of all deaths in this age group. Put more specifically, 84% of all deaths due to diarrhoea were estimated to be due to unsafe

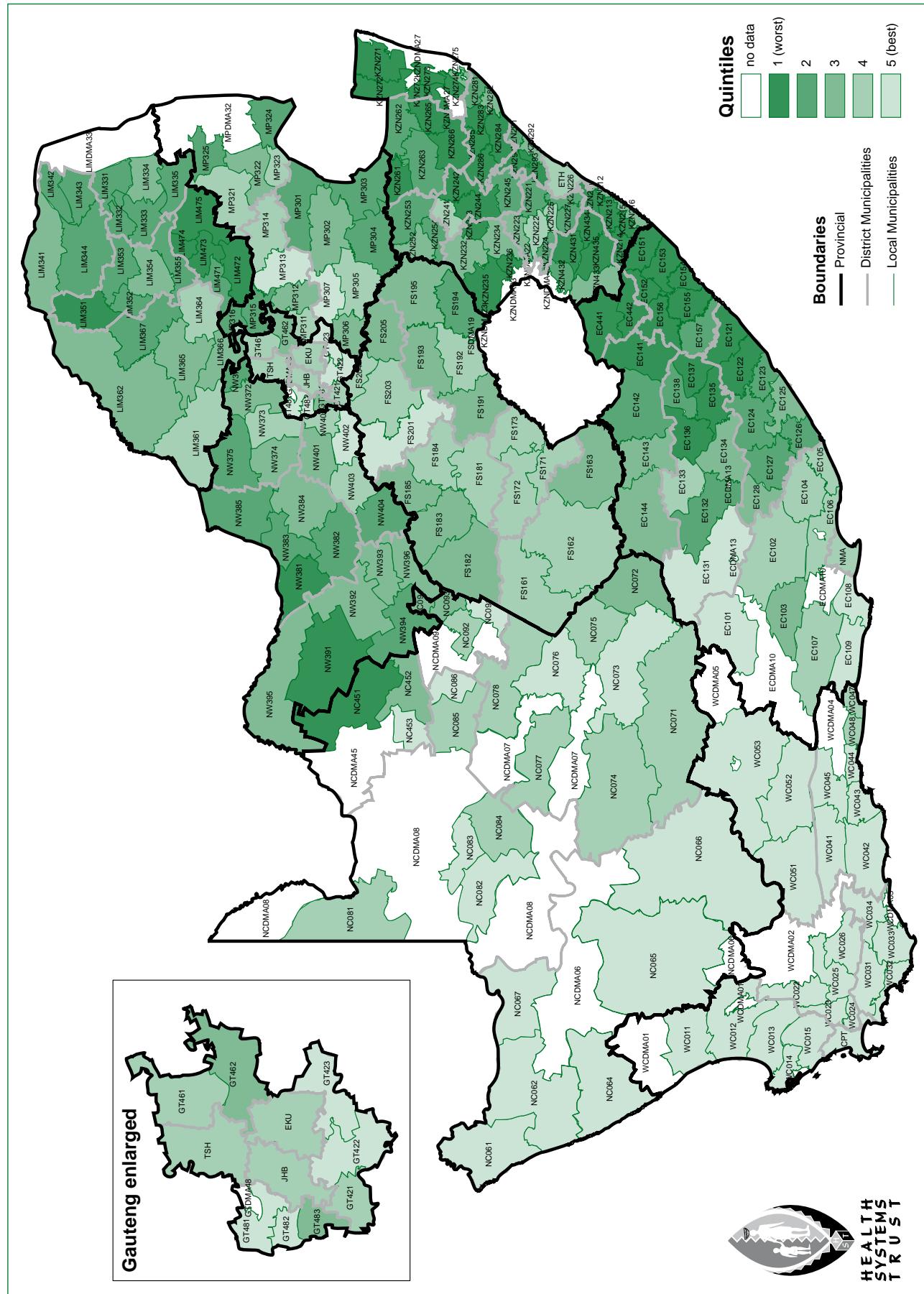
water or lack of sanitation, of which 66.4% were in children under five years. Lack of access to water and sanitation is not limited to households. Data from 2002 show that 15% of clinics and nearly 12% of schools in South Africa were without sanitation. Relative deprivation is also reflected in the choice of energy sources, with 20% of South African households exposed to indoor smoke from solid fuels.

Socio-economic status is also reflected in levels of school attendance and the degree of educational attainment, elements that are measured in the Community Survey. Although figures for school attendance in the 5-24 year age group have shown improvement over time, disparities between ethnic groups remain stark. The percentage of persons over 20 years with no schooling at all has almost halved from 1996 (19%) to 2007 (10%).

Improvements in socio-economic conditions can also be seen in the increase in the proportion of households living in formal dwellings, which has increased from 64% in 1996 to 71% in 2007 [Community Survey 2007].

In keeping with the focus on determinants of health, there has been increased attention to the issue of access to safe drinking water and sanitation services. A joint WHO / United Nations Children's Fund (UNICEF) monitoring programme has been established to track progress towards the MDG target for drinking water and sanitation, as well as the Water for Life Decade 2005-2015. This year, 2008, has been designated as the International Year of Sanitation. The 2008 progress report provided an assessment of global, regional and country progress, but using a new way of analysing sanitation practices and drinking water coverage. The 'sanitation ladder' marks trends in using improved, shared and unimproved sanitation facilities and the trends in open defecation. Trends in drinking water coverage are disaggregated in a similar 'drinking water ladder', which shows the percentage of the world population that uses piped connections into a dwelling, plot or yard; other improved water sources; and unimproved sources. New data were also presented on the time taken to collect drinking water. The data show the proportion of people that spend more than 30 minutes on a single water-hauling trip and, as a consequence, likely to compromise their daily water consumption. Survey data on who usually fetches water were also presented. [Progress on Water and Sanitation]

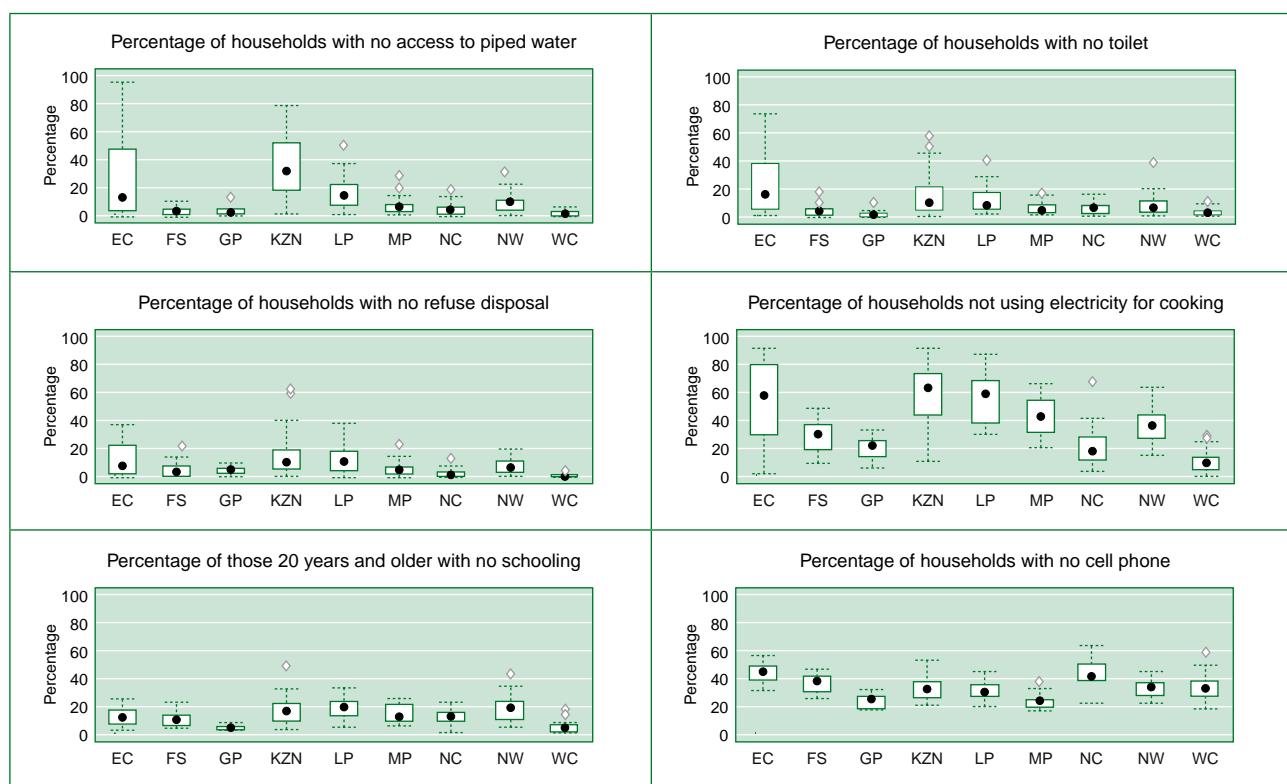
Map 1: Deprivation at municipal (sub-district) level, 2007



Source: Deprivation Index 2007 subdist, based on Community Survey 2007.

Although in general national averages for indicators of some socio-economic determinants of health in South Africa are slowly improving, assessment of data disaggregated to municipal (sub-district) level shows that there are still huge disparities between areas (Figure 1).

Figure 1: Box-and-whisker plots showing distribution of the percentage of households per municipality without selected services by province, 2007

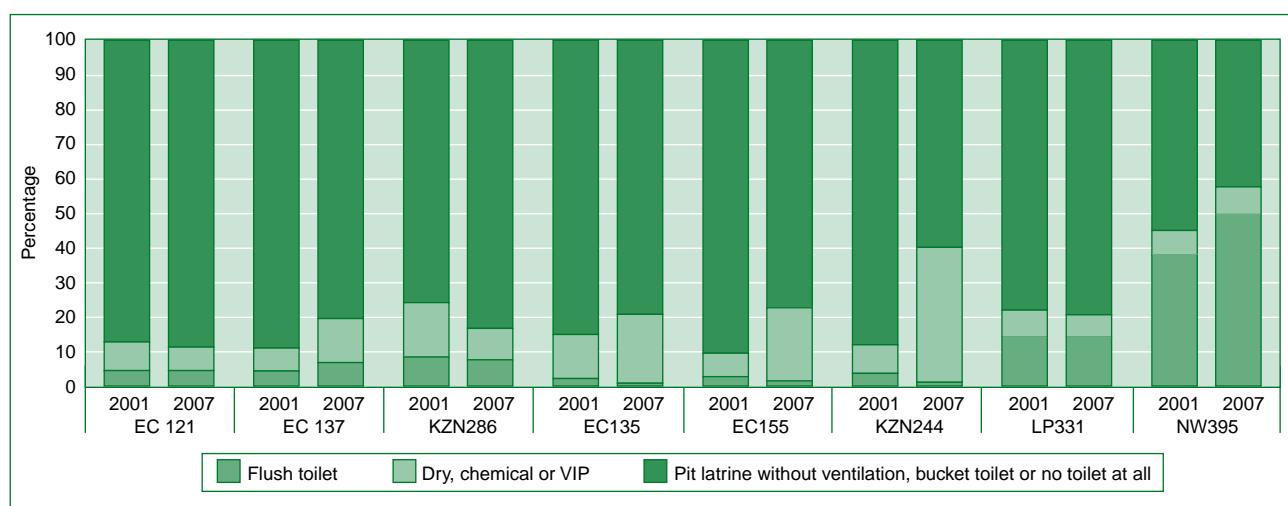


Source: Community Survey 2007.

Key: These graphs plot the values of the indicator for each municipality (sub-district) according to province. The black dot represents the median of the values for municipalities within a province. The box is drawn between the first and third quartiles of the values. The horizontal lines (the 'whiskers') extend to at most 1.5 times the box width (the interquartile range) from either or both ends of the box. They must end at an observed value, thus connecting all the values outside the box that are not more than 1.5 times the box width away from the box. Any value more than 1.5 times the interquartile range is shown by a diamond.

At a more disaggregated level, more subtle changes can be seen. For example, Figure 2 shows a breakdown of the types of sanitation and how this has changed between 2001 and 2007 for a selection of municipalities with the worst sanitation status. In most cases there has been some improvement, albeit small, in the most deprived areas. In the case of Nkandla (KZN286) the level of sanitation appears to have deteriorated, although at this level of disaggregation it is also possible that changes are due to sampling error.

Figure 2: Change in proportion of households with access to sanitation in selection of worst-off municipalities, 2001 and 2007

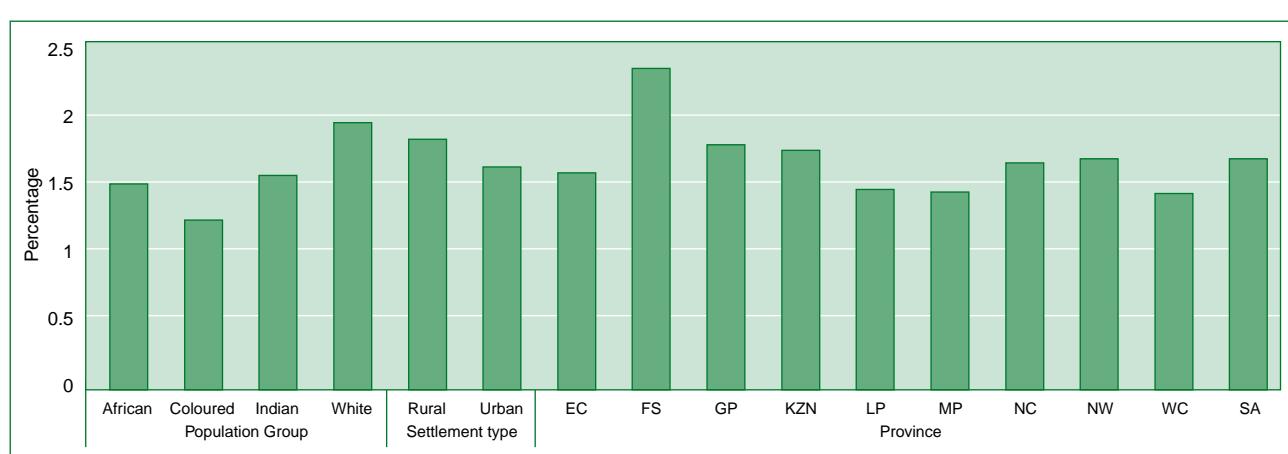


Source: Census 2001 (according to new demarcation) and Community Survey 2007.

Data on socio-economic conditions can also be gleaned from the annual General Household Surveys (GHS). As always, disaggregated analyses can show interprovincial disparities. For example, the GHS 2007 showed that while progress has been made in reducing the percentage of households living in informal dwellings, this improvement was most notable in KZN, MP and EC. Conversely, rapid urbanisation contributed to increases in the percentages of households living in informal dwellings in some provinces, notably GP, WC and NW. However comparison of the Census 2001 and Community Survey 2007 data shows that the percentage of households living in informal dwellings only increased in NW, illustrating the difficulties in drawing definite conclusions about trends from survey data.

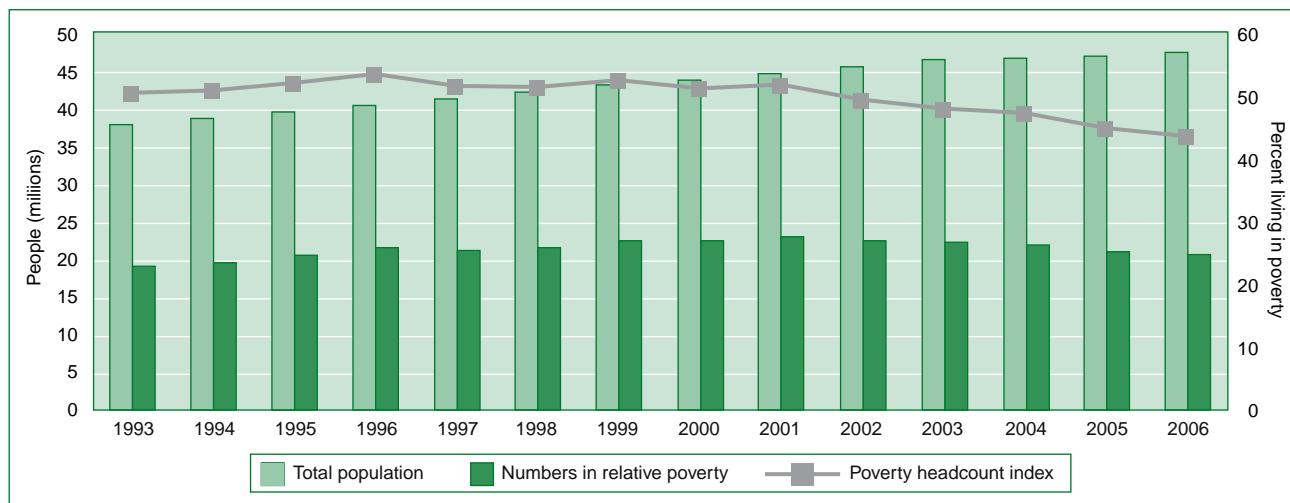
Important insights can also be gained from the Income and Expenditure of Households Surveys (IES) issued by StatsSA [StatsSA IES 2005]. The most recent showed that real per capita income increased in all income deciles between 2000 and 2005/06. Although income from work continued to be the most important source, grants were increasingly important as a source of income in lower-income households. This report provides important data on household expenditure on health. In 2005/06, expenditure on health accounted for 1.7% to household consumption expenditure, excluding health insurance or medical scheme subscriptions (Figure 3). Of this, 37.9% of health expenditure on private sector services was for medical services (such as consultations with general practitioners, specialists and traditional healers) and 34.6% was for pharmaceutical products.

Figure 3: Proportion of household expenditure on health, 2005



Source: StatsSA IES 2005.

Figure 4: Population and poverty headcounts, 1993-2006



Source: Poverty Review, quoting StatsSA, van der Berg et al.

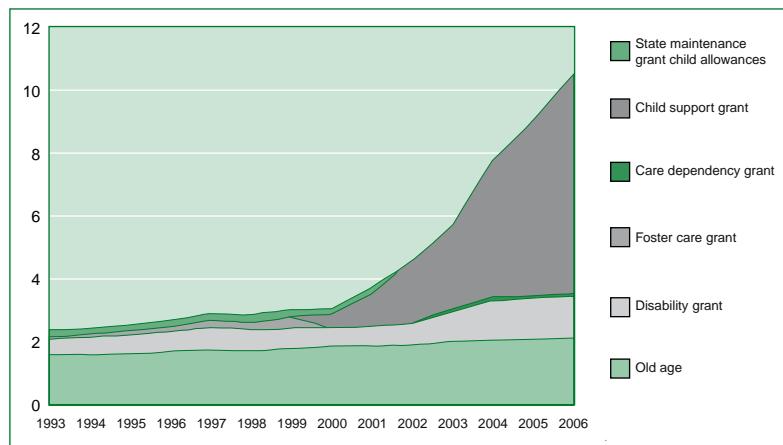
An HST report on the impact of income poverty alleviation programmes over a 15-year period was prepared for the Presidency in 2008 [Poverty Review]. While noting the many methodological challenges inherent in this field (not least the definition of poverty itself), the authors suggested that data supported the contention that “*income poverty worsened in the late 1990s only to improve marginally from the early 2000s*” (Figure 4).

The authors also noted that “[d]espite an improvement in economic performance over the past fifteen years, South Africa’s problem of mass unemployment increased sharply in percentage terms from 1994 until 2002 from about 20% to 30%. Despite gains in the past five years, they felt that the “country is not on a path to achieving the Millennium Development Goals of halving the rate of unemployment by 2014”.

As noted by the IES, the evidence gathered by Friedman and Bhengu pointed to the increasing contribution of social grants to household income. Trends over time in terms of the numbers of grant beneficiaries are shown in Figure 5.

The Centre for Social Science Research (CSSR) working paper cited also made the point that the removal of racial constraints after 1994 had resulted in increasing levels of upward mobility among African people, both in terms of occupations and incomes. As a result, class differences within the African population were becoming more important as interracial differences declined. These changes are obscured by any reporting on the basis of ethnicity alone, while reporting on the basis of measures of income (such as living standards measures, as a proxy for ‘class’) may more accurately reflect the emerging fault lines in South African society [Seekings 2007].

Figure 5: Numbers of social grant beneficiaries (millions) from 1993 to 2006



Source: Poverty Review, quoting Seekings 2007.

Table 7: Socio-economic indicators by province

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|---|------|------|------|------|------|------|------|------|------|------|---|
| Education level: percentage of population 20 years and older with no schooling | | | | | | | | | | | |
| 1996 no schooling | 20.9 | 16.1 | 9.5 | 22.9 | 36.9 | 29.4 | 21.7 | 22.7 | 6.7 | 19.3 | a |
| 2001 no schooling | 22.8 | 16.0 | 8.4 | 21.9 | 33.4 | 27.5 | 18.2 | 19.9 | 5.7 | 17.9 | b |
| 2005 no schooling | 13.2 | 9.2 | 3.9 | 11.4 | 18.8 | 17.7 | 12.2 | 14.1 | 3.4 | 10.3 | c |
| 2006 no schooling | 12.4 | 7.9 | 5.0 | 12.0 | 18.8 | 17.9 | 12.4 | 12.7 | 3.2 | 10.4 | d |
| 2007 CS | - | - | - | - | - | - | - | - | - | 10.3 | e |
| Percentage of households by type of housing | | | | | | | | | | | |
| 2001 formal | 47.3 | 62.9 | 65.6 | 56.6 | 70.7 | 67.3 | 80.2 | 68.6 | 78.4 | 63.8 | b |
| 2001 other | 3.6 | 3.8 | 9.2 | 4.7 | 3.0 | 3.8 | 3.8 | 3.8 | 3.2 | 5.0 | b |
| 2001 traditional | 38.1 | 7.2 | 1.3 | 27.9 | 19.7 | 12.9 | 3.5 | 5.3 | 2.2 | 14.8 | b |
| 2001 informal | 11.0 | 26.1 | 23.9 | 10.8 | 6.6 | 16.0 | 12.5 | 22.3 | 16.2 | 16.4 | b |
| 2002 informal | 9.4 | 14.9 | 18.7 | 11.4 | 5.0 | 13.8 | 7.0 | 12.3 | 15.1 | 12.7 | d |
| 2005 informal | 8.9 | 18.2 | 23.4 | 14.8 | 5.6 | 14.6 | 12.6 | 20.5 | 17.3 | 15.9 | d |
| 2006 informal | 7.4 | 18.2 | 23.9 | 8.8 | 4.4 | 11.4 | 11.5 | 20.2 | 19.1 | 14.5 | d |
| 2007 informal | 8.0 | 18.4 | 22.7 | 8.6 | 5.6 | 11.7 | 10.5 | 23.8 | 14.2 | 14.4 | e |
| Percentage of households using electricity for cooking | | | | | | | | | | | |
| 1996 | 23.2 | 42.0 | 72.9 | 45.8 | 19.5 | 35.6 | 52.4 | 33.8 | 76.5 | 47.1 | e |
| 2001 | 27.8 | 47.0 | 73.2 | 48.3 | 25.0 | 40.0 | 59.0 | 44.6 | 78.8 | 51.4 | b |
| 2006 | 40.3 | 69.1 | 77.4 | 65.5 | 41.6 | 50.3 | 74.2 | 59.3 | 86.5 | 63.5 | d |
| 2007 CS | 45.3 | 75.2 | 81.3 | 61.0 | 40.3 | 55.7 | 77.2 | 65.8 | 88.8 | 66.4 | e |
| Percentage of households with access to piped water | | | | | | | | | | | |
| 1996 | 53.5 | 94.0 | 96.0 | 66.3 | - | 82.2 | 91.2 | 81.4 | 96.8 | 79.8 | a |
| 2001 | 62.4 | 95.7 | 97.5 | 73.2 | 78.0 | 86.7 | 96.6 | 86.2 | 98.3 | 84.5 | b |
| 2006 | 67.4 | 96.2 | 96.8 | 79.3 | 75.8 | 84.3 | 95.8 | 87.2 | 98.9 | 85.8 | d |
| 2007 CS | 70.8 | 97.3 | 97.9 | 79.3 | 83.6 | 91.1 | 94.4 | 89.9 | 98.9 | 88.7 | e |
| Percentage of households with no toilet | | | | | | | | | | | |
| 1996 | 29.1 | 8.8 | 2.5 | 15.2 | 21.1 | 8.7 | 10.7 | 6.3 | 5.4 | 12.4 | a |
| 2001 | 30.8 | 9.7 | 3.6 | 16.2 | 23.3 | 10.3 | 11.2 | 9.6 | 7.7 | 13.6 | b |
| 2006 | 24.3 | 3.2 | 4.4 | 11.1 | 10.9 | 8.0 | 6.3 | 6.9 | 4.8 | 9.5 | d |
| 2007 CS | 23.5 | 3.2 | 1.6 | 10.4 | 12.4 | 8.0 | 6.9 | 5.8 | 3.8 | 8.3 | e |
| Percentage of households with telephone (telephone in dwelling or cell phone) | | | | | | | | | | | |
| 1996 | 15.6 | 22.9 | 45.3 | 26.9 | 7.4 | 18.2 | 30.8 | 16.8 | 55.2 | 28.6 | a |
| 2001 | 29.0 | 35.3 | 56.1 | 39.0 | 28.0 | 37.9 | 41.8 | 34.5 | 63.1 | 42.4 | b |
| 2006 | 62.3 | 69.2 | 77.9 | 61.0 | 67.0 | 79.0 | 63.0 | 72.4 | 79.3 | 70.2 | d |
| 2007 CS | 63.9 | 71.4 | 83.7 | 75.7 | 71.1 | 78.7 | 67.6 | 72.3 | 83.5 | 76.2 | e |
| Poverty prevalence | | | | | | | | | | | |
| 1996 Census indicators | 48.5 | 31.5 | 20.1 | 39.5 | 50.4 | 37.1 | 24.3 | 33.0 | 14.6 | 33.6 | f |
| 1998 asset index | 66.5 | 28.4 | 13.1 | 46.8 | 62.6 | 44.1 | 19.9 | 38.2 | 7.5 | 40.0 | g |
| 2001 Census indicators | 47.6 | 32.8 | 20.8 | 39.3 | 47.1 | 37.2 | 24.3 | 38.0 | 16.7 | 33.4 | f |
| 2001 AMPS income | - | - | - | - | - | - | - | - | - | 51.4 | h |
| 2005 AMPS income | - | - | - | - | - | - | - | - | - | 44.5 | h |
| 2006 AMPS income | - | - | - | - | - | - | - | - | - | 43.2 | h |
| Unemployment rate (official definition) | | | | | | | | | | | |
| 2002 | 28.1 | 33.5 | 27.0 | 34.3 | 36.7 | 29.8 | 30.0 | 30.7 | 18.6 | 29.4 | i |
| 2003 | 31.8 | 28.6 | 28.2 | 31.3 | 30.6 | 25.0 | 27.5 | 29.4 | 20.6 | 28.2 | i |
| 2004 | 32.5 | 26.1 | 28.2 | 32.2 | 30.8 | 25.7 | 22.3 | 30.4 | 16.9 | 27.8 | i |
| 2005 | 29.9 | 30.2 | 22.8 | 32.8 | 30.1 | 26.9 | 24.7 | 27.4 | 18.9 | 26.7 | i |
| 2006 | 32.0 | 26.5 | 23.2 | 26.6 | 32.0 | 28.0 | 28.7 | 29.7 | 15.0 | 25.5 | i |
| 2007 | 26.1 | 25.2 | 17.4 | 30.0 | 27.3 | 22.0 | 26.0 | 24.6 | 15.7 | 22.7 | i |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

a Census 1996.

b Census 2001.

c StatsSA GHS 2005.

d StatsSA GHS 2006.

e StatsSA Community Survey 2007.

f ISRDP & URP Baseline. Proportion of the population living in poverty based on the construction of a poverty index using indicators from

the Census. The variables in the matrix include both household and individual-level data, and include the following: * Female-headed households * Illiteracy (the proportion of population aged 15 and above who have not completed Std 5/Grade 7) * Rate of unemployment * Household income (the proportion of households with no annual income) * Crowding (the proportion of households sharing a room with at least one other household)

- * Dwelling type (households classified informal or traditional) * Sanitation (households without flush or chemical toilet) * Water (households without tap water inside dwelling or on site) * Electricity (households without electricity for lighting purposes) * Refuse removal (households whose refuse is not removed by local authority)
- g Chronic Diseases in SA. The asset index derived from the SADHS data was employed to calculate estimates of the headcount poverty index for South Africa. The asset index value at the 40th population percentile is employed as the poverty line. Table 2.6.

- h Development Indicators 2007. Index measuring the number of people living below a poverty line of R3000 per capita per annum (in 2000 constant Rand). Quoting Van der Berg, et al. (2006) based on All Media and Products Survey of various years.
- i StatsSA Labour Force Survey. February 2002, September 2003, March 2004, September 2005, September 2006, September 2007 (revised).

Table 8: Socio-economic indicators by ethnic group

| | African | Coloured | Indian | White | Other | All | |
|---|---------|----------|--------|-------|-------|------|---|
| Education level: percentage of population 20 years and older with no schooling | | | | | | | |
| 1996 no schooling | 24.3 | 10.2 | 6.5 | 1.2 | - | 19.3 | a |
| 2001 no schooling | 22.3 | 8.3 | 5.3 | 1.4 | - | 17.9 | b |
| 2005 no schooling | 12.9 | 5.0 | 2.6 | - | - | 10.3 | c |
| 2006 no schooling | 13.0 | 4.4 | 2.9 | - | - | 10.4 | d |
| 2007 CS | 12.8 | 5.6 | 3.6 | 0.6 | - | 10.3 | e |
| Percentage of households by type of housing | | | | | | | |
| 2001 formal | 55.5 | 85.7 | 92.7 | 95.1 | - | 63.8 | b |
| 2001 other | 5.5 | 4.1 | 4.8 | 3.3 | - | 5.0 | b |
| 2001 traditional | 18.7 | 2.8 | 1.4 | 1.1 | - | 14.8 | b |
| 2001 informal | 20.4 | 7.4 | 1.1 | 0.5 | - | 16.4 | b |
| 2007 informal | 18.0 | 6.7 | 1.1 | 0.4 | - | 14.4 | e |
| Percentage of households using electricity for cooking | | | | | | | |
| 1996 | 30.4 | 75.5 | 97.7 | 97.2 | 68.1 | 47.1 | a |
| 2001 | 39.3 | 82.3 | 97.1 | 96.6 | - | 51.4 | b |
| 2007 CS | 57.7 | 90.9 | 97.3 | 97.1 | - | 66.4 | e |
| Percentage of households with access to piped water | | | | | | | |
| 1996 | 73.5 | 95.3 | 98.8 | 96.7 | 85.1 | 79.8 | a |
| 2001 | 80.3 | 97.6 | 99.2 | 99.3 | - | 84.5 | b |
| 2007 CS | 85.9 | 97.7 | 99.4 | 97.4 | - | 88.7 | e |
| Percentage of households with no toilet | | | | | | | |
| 1996 | 16.4 | 5.1 | 0.2 | 0.1 | 7.1 | 12.4 | a |
| 2001 | 16.9 | 6.0 | 0.8 | 0.7 | - | 13.6 | b |
| 2005 | 13.8 | 3.0 | 1.2 | 0.2 | - | 10.9 | c |
| 2006 | 11.9 | 2.6 | - | - | - | 9.5 | d |
| 2007 CS | 10.4 | 2.7 | 0.3 | 0.1 | - | 8.3 | e |
| Percentage of households with telephone (telephone in dwelling or cell phone) | | | | | | | |
| 1996 | 11.3 | 43.4 | 76.9 | 88.5 | 49.7 | 28.6 | a |
| 2001 | 31.1 | 54.4 | 87.1 | 95.2 | - | 42.4 | b |
| 2005 | 58.2 | 68.6 | 87.9 | 96.8 | - | 64.6 | c |
| 2006 | 65.8 | 70.8 | 80.9 | 95.7 | - | 70.2 | d |
| 2007 CS | 72.3 | 75.9 | 92.5 | 96.2 | - | 76.2 | e |
| Unemployment rate (official definition) | | | | | | | |
| 2002 | 35.2 | 24.6 | 18.7 | - | - | 29.4 | f |
| 2003 | 37.4 | 22.9 | 18.7 | 6.2 | - | 28.2 | f |
| 2004 | 33.5 | 17.7 | 17.0 | 5.0 | - | 27.8 | f |
| 2005 | 31.5 | 22.4 | 15.8 | 5.0 | - | 26.7 | f |
| 2006 | 30.5 | 19.4 | 9.6 | 4.5 | - | 25.5 | f |
| 2007 | 26.8 | 20.6 | 8.2 | 3.8 | - | 22.7 | f |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

- a Census 1996.
b Census 2001.
c StatsSA GHS 2005.
d StatsSA GHS 2006.
e StatsSA Community Survey 2007.
f StatsSA Labour Force Survey. February 2002, September 2003, March 2004, September 2005, September 2006, September 2007 (revised).

Provincial maps and sub-district tables

The maps and tables in the following pages represent a selection of available data per province. The district and sub-district boundaries are according to the new (2006) demarcations. It is noted that not all functions and reporting within the DoH have been realigned to the new boundaries, however wherever possible data have been aggregated according to the new structures. Data from DHIS for the Eastern Cape are aggregated according to Local Service Areas. Data have been obtained from a variety of sources:

- Municipal maps per province based on data from the Municipal Demarcation Board.
- Table of health facilities:
 - Private health facilities data from Wilbury and Claymore database.
 - Public sector facilities and useable public sector beds from DHIS.
- Table of demographic and socio-economic indicators:
 - 2001 Population from StatsSA Census 2001 according to new (2006) demarcation.
 - 2007 Population from StatsSA Community Survey 2007.
 - Mid-07 Population from DoH time-series (as included in DHIS).
 - 2007 Socio-economic indicators calculated from StatsSA Community Survey 2007.
 - 2007 Deprivation Index and socio-economic quintiles calculated by Health Economic Unit from Community Survey 2007 data.
- Graphs and maps of selected indicators per province:
 - Community Survey 2007.
 - General Household Survey 2006.
 - DoH data on TB incidence and antenatal surveys of HIV prevalence.
 - National Treasury expenditure data.

Two sources of population estimates have been included, to illustrate the importance of accurate population figures, as these form the denominators for many indicators. The mid-2007 estimate is from a time-series (1995-2009) developed for the NDoH based on the best available information from Census 2001 and mid-year estimates. The other estimates for 2007 are from the Community Survey 2007, and although these estimates are more likely to reflect actual changes that have occurred due to migration and changes in fertility and mortality, until a revised set of time-series estimates have been developed they cannot be used for any time-series indicators.

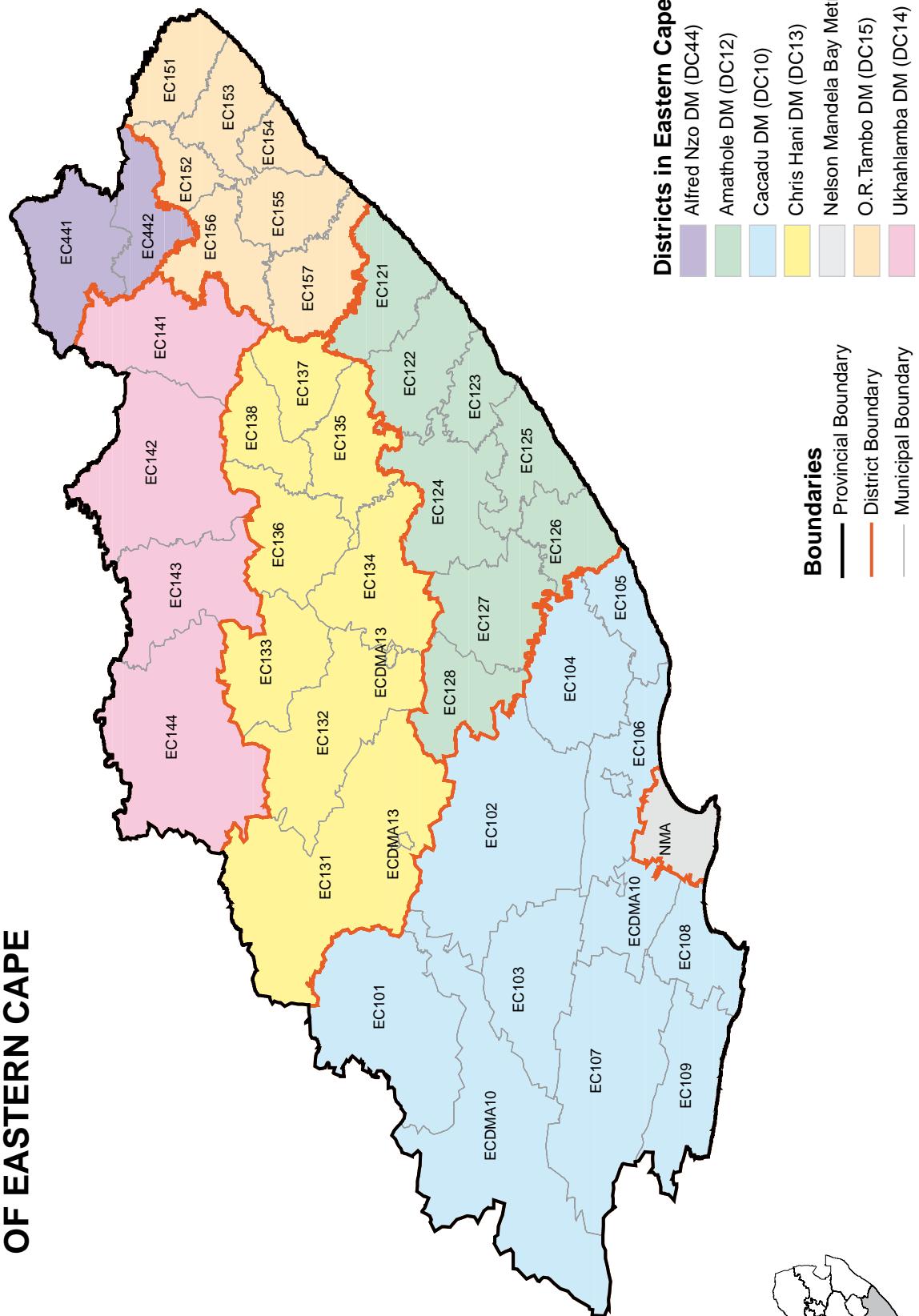
A further problem for data management is the continuing amendments to municipal boundaries and names, particularly as the Municipal Demarcation Board is finalising a number of changes prior to the upcoming elections. Some of the changes which will affect future data include the proposed incorporation of Metsweding into Ekurhuleni and Tshwane and the removal of all the District Managed Areas. While efforts have been made to reflect these changes, new data and map files were not yet available at the time of compiling this chapter.

The deprivation index is a measure of relative deprivation across districts and sub-districts within South Africa, and is a composite measure derived from a set of variables. Variables included in the analysis are considered to be indicators of material and social deprivation. The area that is least deprived has a normalised deprivation index of 1. Areas with higher values are relatively more deprived. The score itself does not have any intrinsic meaning, but the relative scores show which areas are more deprived than others and can be used to rank areas. The areas thus ranked according to levels of deprivation can be categorised into quintiles. Areas that fall into socio-economic quintile 1 (SEQ 1) are most deprived, while those that fall into SEQ 5 are the least deprived (best off) [Deprivation Index 2007 subdist].

MUNICIPALITIES OF EASTERN CAPE



HEALTH
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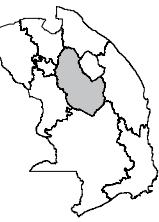
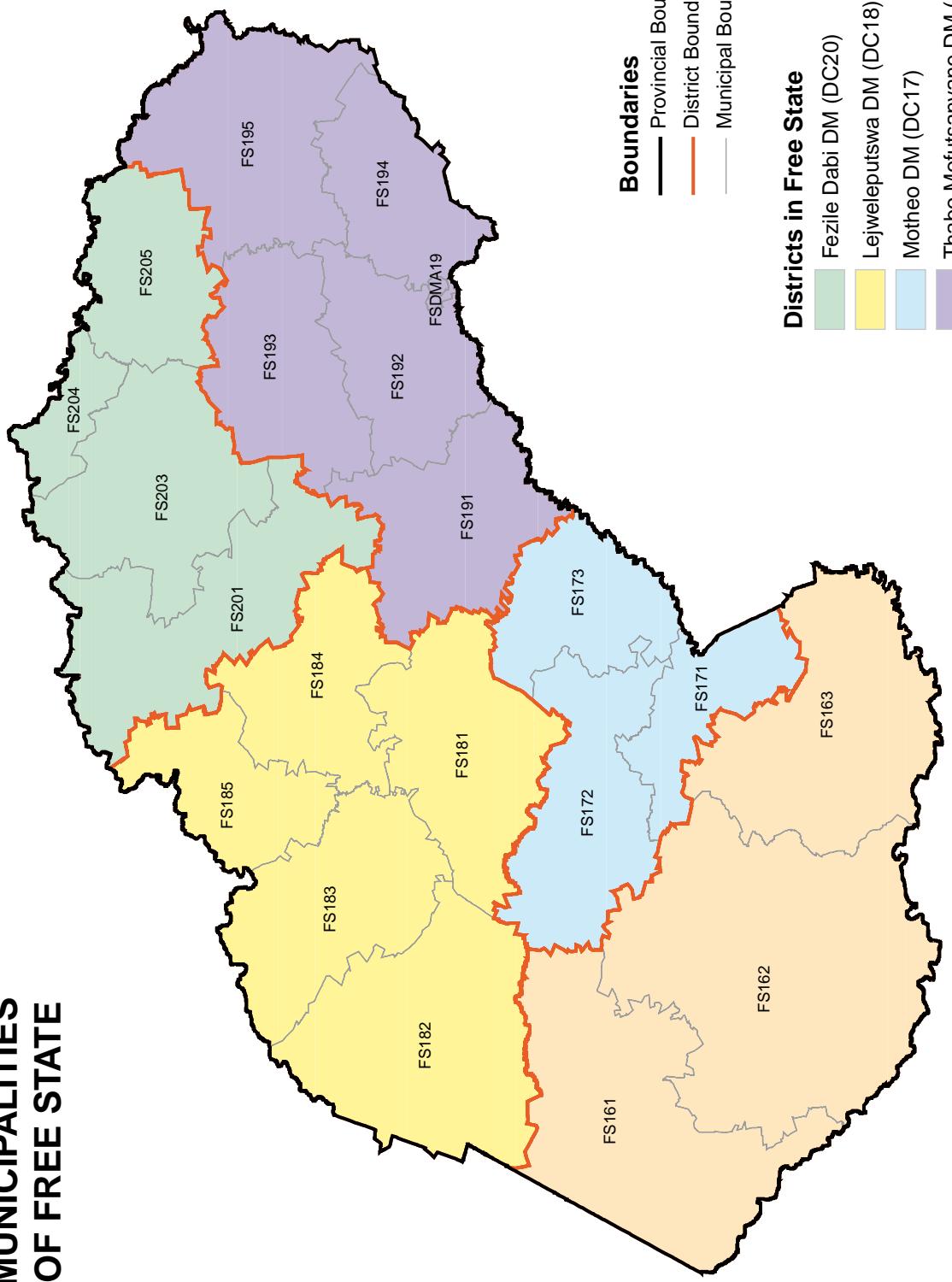


260

Eastern Cape

| | | | Private hospitals | | Private hospital beds | | 2007 Number of public sector health facilities | | | | | | | 2005 | | | | |
|---------------------------|---|----------|-------------------------------|-----|-------------------------|-------|--|------|------|------|--------|-------------------------|----------------|------------------|-------------------|-------------------|------------------------------|----------------------|
| | | | Category A or C Municipality | LSA | Category B Municipality | | 2007 | 2008 | 2007 | 2008 | Clinic | Community Health Centre | Mobile Service | Satellite Clinic | District Hospital | Regional Hospital | Provincial Tertiary Hospital | Specialised Hospital |
| DC10 Cacadu | EC101/2/3/7/DMA10 (Camdeboo LSA) | EC101 | Camdeboo | | | | | | | | 18 | | 11 | | 5 | | 1 | 275 |
| | | EC102 | Blue Crane Route | | | | | | | | | | | | | | | |
| | | EC103 | Ikwezi | | | | | | | | | | | | | | | |
| | | EC107 | Baviaans | | | | | | | | | | | | | | | |
| | | ECDMA10 | Aberdeen Plain DMA | | | | | | | | | | | | | | | |
| | EC104/5 (Makana LSA) | EC104 | Makana | | | | | | | | 20 | | 7 | | 2 | | 3 | 702 |
| | | EC105 | Ndlambe | | | | | | | | | | | | | | | |
| | EC106/8/9 (Kouga LSA) | EC106 | Sunday's River Valley | | | | | | | | 20 | 2 | 9 | 2 | 3 | | 1 | 187 |
| | | EC108 | Kouga | | | | | | | | | | | | | | | |
| | | EC109 | Kou-Kamma | | | | | | | | | | | | | | | |
| DC12 Amathole | EC123/5/6 (Buffalo City LSA) | EC121 | Mbhashe | | | | | | | | 25 | 2 | 5 | | 1 | | | 190 |
| | | EC122 | Mnquma | | | | | | | | 26 | 1 | 3 | | 2 | | | 524 |
| | | EC124 | Amahlathi | | | | | | | | 29 | | 7 | | 3 | | | 264 |
| | | EC123 | Great Kei | 5 | 5 | 393 | 393 | | | | 100 | 3 | 16 | 2 | 4 | 2 | 3 | 2 419 |
| | | EC125 | Buffalo City | | | | | | | | | | | | | | | |
| | | EC126 | Ngquushwa | | | | | | | | | | | | | | | |
| | EC127/8 (Nkonkobe LSA) | EC127 | Nkonkobe | | | | | | | | 33 | 1 | 11 | | 4 | | 2 | 846 |
| | | EC128 | Nxuba | | | | | | | | | | | | | | | |
| DC13 Chris Hani | EC131/2 (Inxuba Yethemba LSA) | EC131 | Inxuba Yethemba | | | | | | | | 18 | 1 | 8 | 2 | 3 | | | 145 |
| | | EC132 | Tsolwana | | | | | | | | | | | | | | | |
| | EC133/4 (Lukhanji LSA) | EC133 | Inkwanca | 1 | 1 | 30 | 30 | | | | 34 | 1 | 7 | | 3 | 1 | 1 | 387 |
| | | EC134 | Lukanji | | | | | | | | | | | | | | | |
| | | EC135 | Intsika Yethu | | | | | | | | 35 | | 3 | | 1 | | | 140 |
| | | EC136 | Emalahleni | | | | | | | | 18 | 1 | 4 | | 3 | | | 277 |
| | | EC137 | Engcobo | | | | | | | | 21 | | 4 | | 2 | | | 345 |
| | | EC138 | Sakhisizwe | | | | | | | | 10 | | 3 | | 2 | | | 144 |
| | | ECDMA13 | Mount Zebra National Park DMA | | | | | | | | | | | | | | | |
| DC14 Ukhahlamba | EC141 | Elundini | | | | | | | | | 18 | | 4 | | 2 | | | 184 |
| | | EC142 | Senqu | | | | | | | | 17 | | 6 | | 3 | | 1 | 288 |
| | EC143/4 (Maletsuwa LSA) | EC143 | Maletsuwa | | | | | | | | 9 | 1 | 4 | 1 | 3 | | 1 | 103 |
| | | EC144 | Gariep | | | | | | | | | | | | | | | |
| DC15 O.R.Tambo | EC151/2/3 (Qaukeni LSA) | EC151 | Mbizana | | | | | | | | 40 | | 4 | | 3 | 1 | | 898 |
| | | EC152 | Ntabankulu | | | | | | | | | | | | | | | |
| | | EC153 | Ngquza Hill (Qaukeni) | | | | | | | | | | | | | | | |
| | EC154/5 (Nyandeni LSA) | EC154 | Port St Johns | | | | | | | | 42 | 3 | 5 | | 4 | | | 754 |
| | | EC155 | Nyandeni | | | | | | | | | | | | | | | |
| | EC141/56 (Mhlontlo LSA) | EC156 | Mhlontlo | | | | | | | | 23 | 2 | 2 | | 2 | | | 332 |
| | | EC157 | King Sabata Dalindyebo | 1 | 1 | 110 | 110 | 38 | 5 | 2 | | | 1 | 2 | | 1 | 1 296 | |
| DC44 Alfred Nzo | | EC441 | Matatiele (Maluti) | | | | | | | | 18 | 1 | 3 | | 1 | | 1 | 204 |
| | | EC442 | Umzimvubu | | | | | | | | 28 | 1 | 3 | | 3 | | | 425 |
| NMA | Nelson Mandela Bay Metro (Port Elizabeth) | NMA | Nelson Mandela Bay | 7 | 7 | 955 | 955 | 43 | 7 | 9 | 1 | 1 | 3 | | 4 | 2 092 | | |
| Eastern Cape Total | | | | 14 | 14 | 1 488 | 1 488 | 683 | 32 | 140 | 8 | 61 | 9 | | 19 | 13 421 | | |

MUNICIPALITIES OF FREE STATE



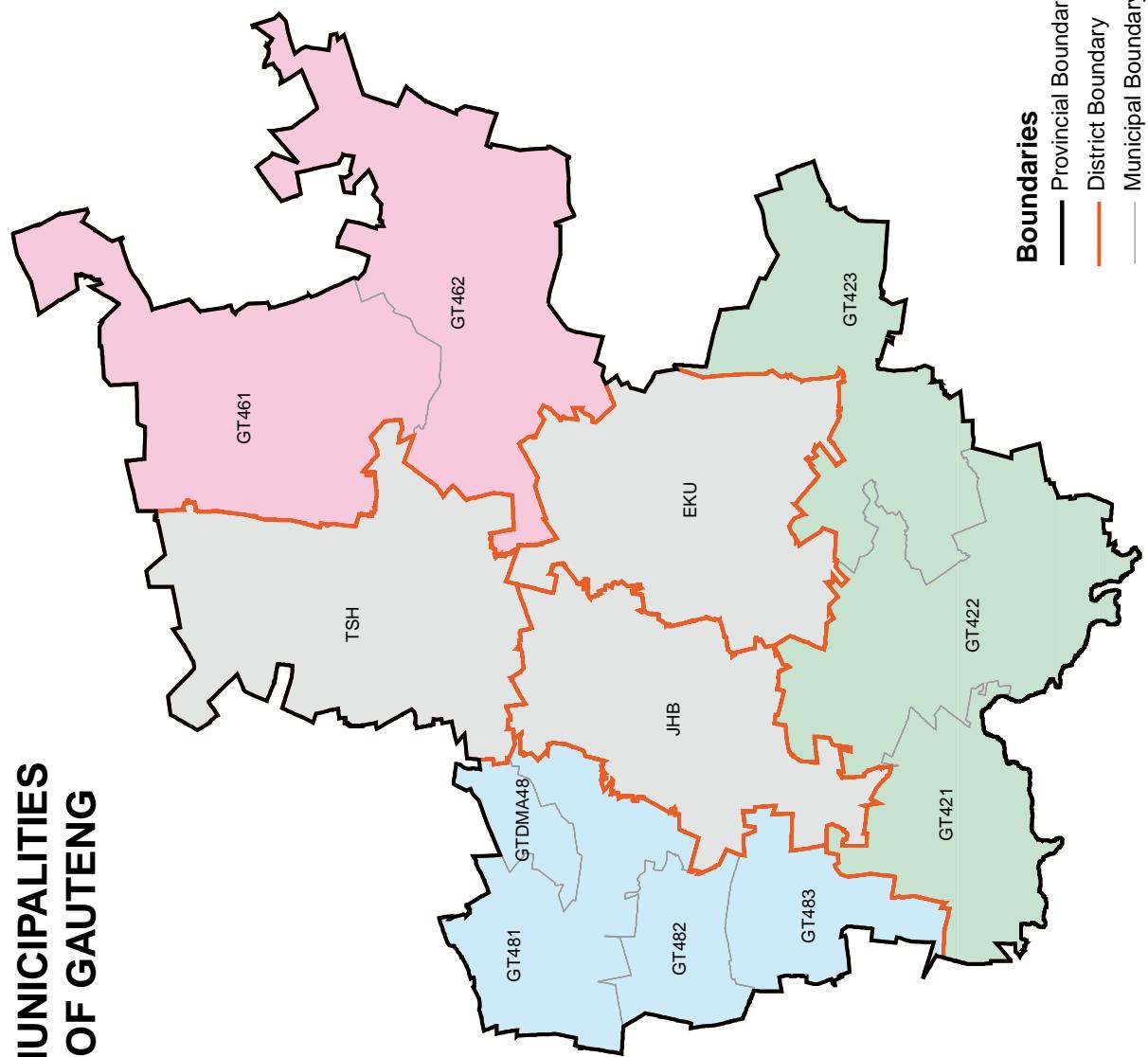
Free State

| Category A or C Municipality | Category B Municipality | Private hospitals | | Private hospital beds | | 2007 Number of public sector health facilities | | | | | | | 2005 | |
|--|---|-------------------|------|-----------------------|-------|--|-------------------------|----------------|------------------|-------------------|-------------------|------------------------------|----------------------|-------|
| | | 2007 | 2008 | 2007 | 2008 | Clinic | Community Health Centre | Mobile Service | Satellite Clinic | District Hospital | Regional Hospital | Provincial/Tertiary Hospital | Specialised Hospital | |
| DC16 Xhariep | FS161 Letsemeng | | | | | 4 | 1 | 6 | | | | | | |
| | FS162 Kopanong | | | | | 9 | | 9 | | 1 | | | | 32 |
| | FS163 Mohokare | | | | | 4 | | 6 | | 3 | | | | 48 |
| DC17 Motheo | FS171 Naledi | | | | | 3 | | 2 | | | | | | |
| | FS172 Mangaung | 6 | 8 | 820 | 923 | 57 | 5 | 12 | 1 | 3 | 1 | 1 | 3 | 2 661 |
| | FS173 Mantsopha | | | | | 9 | | 6 | | 1 | | | | 44 |
| DC18 Lejweleputswa | FS181 Masilonyana | | | | | 9 | | 5 | | 1 | | | | 55 |
| | FS182 Tokologo | | | | | 4 | | 3 | | | | | | |
| | FS183 Tswelopele | | | | | 3 | | 4 | 1 | 1 | | | | 29 |
| | FS184 Matjhabeng | 3 | 3 | 1 017 | 1 017 | 25 | 1 | 7 | | 2 | 1 | | | 629 |
| | FS185 Nala | | | | | 4 | | 6 | 1 | 1 | | | | 38 |
| DC19 Thabo Mofutsanyane | FS191 Setsoto | | | | | 12 | 1 | 5 | | 3 | | | | 128 |
| | FS192 Dihlabeng | 1 | 1 | 107 | 107 | 9 | | 4 | | 1 | 1 | | | 220 |
| | FS193 Nketoana | | | | | 6 | | 3 | | 1 | | | | 45 |
| | FS194 Maluti a Phofung | | | | | 33 | | 7 | | 2 | 1 | | | 478 |
| | FS195 Phumelela | | | | | 7 | | 2 | | 1 | | | | 27 |
| | FSDMA19 Golden Gate Highlands National Park DMA | | | | | | | | | | | | | |
| DC20 Fezile Dabi (Northern Free State) | FS201 Moqhaka | 1 | 1 | 62 | 62 | 8 | 16 | 9 | | | 1 | | | 340 |
| | FS203 Ngwathe | | | | | 10 | 8 | 7 | | 2 | | | | 85 |
| | FS204 Metsimaholo | | | | | 7 | 3 | 4 | | 1 | | | | 82 |
| | FS205 Mafube | 1 | 1 | 10 | 10 | 8 | | 5 | | 1 | | | | 29 |
| Free State Total | | 12 | 14 | 2 016 | 2 119 | 231 | 35 | 112 | 3 | 25 | 5 | 1 | 3 | 4 970 |

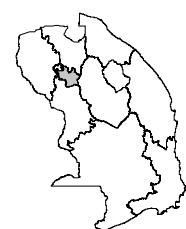
MUNICIPALITIES OF GAUTENG



HEALTH
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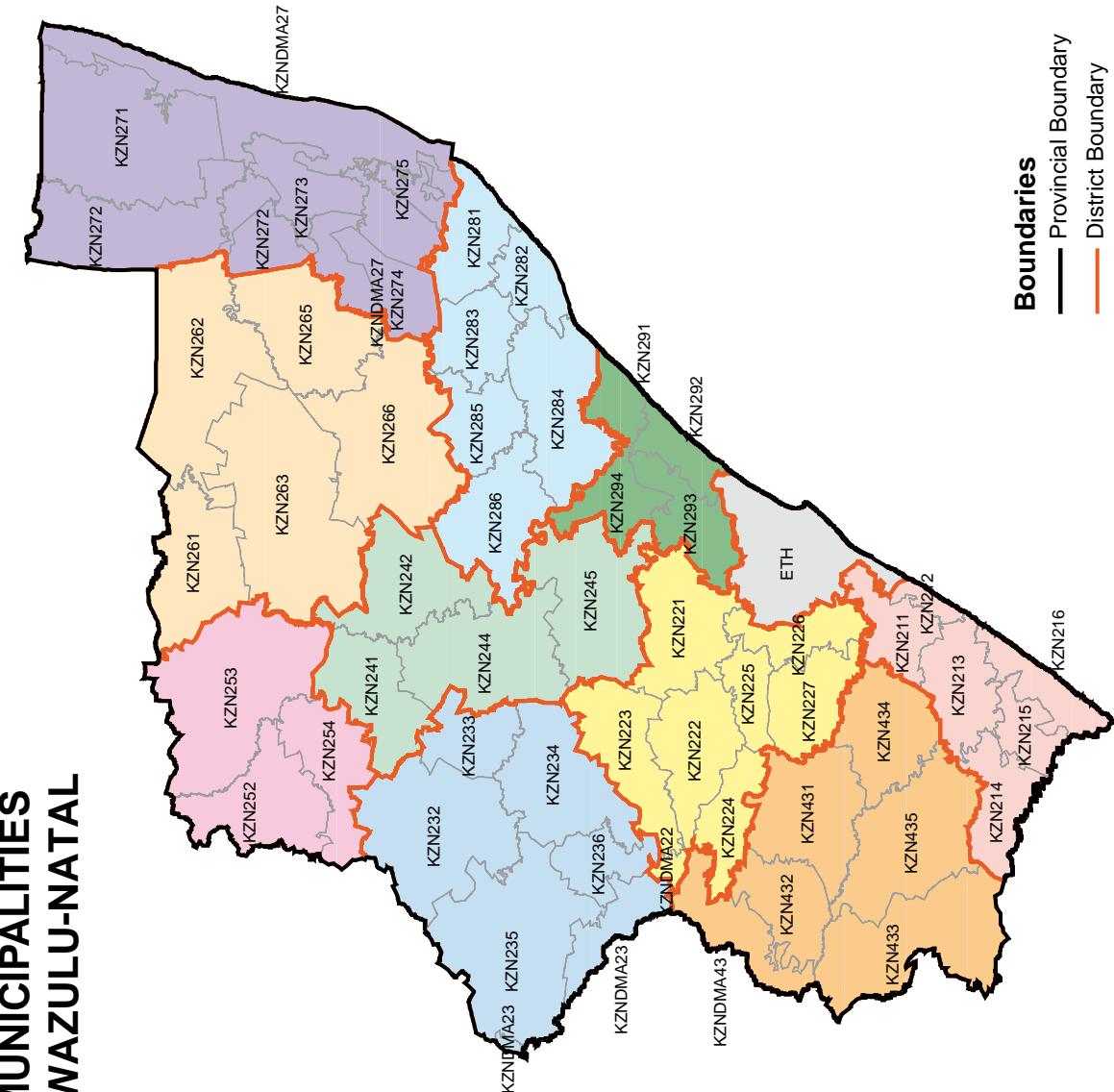
- Districts in Gauteng**
- City of Johannesburg (JHB)
 - City of Tshwane (TSH)
 - Ekurhuleni (EKU)
 - Metsweding DM (DC46)
 - Sedibeng DM (DC42)
 - West Rand DM (DC48)
- Boundaries**
- Provincial Boundary
 - District Boundary
 - Municipal Boundary



Gauteng

| Category A or C Municipality | Category B Municipality | Private hospitals | | Private hospital beds | | 2007 Number of public sector health facilities | | | | | | | 2005 | | |
|------------------------------|----------------------------|-------------------|----------------------|-----------------------|-----------|--|-------------------------|----------------|------------------|-------------------|-------------------|------------------------------|----------------------|-----------|---------------|
| | | 2007 | 2008 | 2007 | 2008 | Clinic | Community Health Centre | Mobile Service | Satellite Clinic | District Hospital | Regional Hospital | Provincial/Tertiary Hospital | Specialised Hospital | | |
| DC42 Sedibeng | GT421 Emfuleni | 6 | 6 | 637 | 649 | 23 | 4 | 4 | | 1 | 1 | | | 931 | |
| | GT422 Midvaal | | | | | 3 | 1 | 3 | | | | | | | |
| | GT423 Lesedi | 1 | 1 | 60 | 60 | 5 | | 3 | 2 | 1 | | | | 126 | |
| DC46 Metswedeng (CBDC2) | GT461 Nokeng tsa Taemane | 1 | 1 | 43 | 43 | 3 | | 1 | 3 | | | | 1 | 298 | |
| | GT462 Kungwini | | | | | 6 | 1 | 2 | 1 | | | | | | |
| DC48 West Rand (CBDC8) | GT481 Mogale City | 2 | 2 | 360 | 360 | 15 | | 5 | 4 | 1 | 1 | | 1 | 1 500 | |
| | GT482 Randfontein | 2 | 2 | 283 | 283 | 7 | 1 | 1 | | | | | | | |
| | GT483 Westonaria | | | | | 5 | 1 | 1 | 2 | | | | | | |
| | GTDMA48 West Rand DMA | | | | | | | | | | | | | | |
| EKU | Ekurhuleni (East Rand) | EKU | Ekurhuleni | 15 | 16 | 2 331 | 2 410 | 78 | 9 | 7 | 7 | 1 | 5 | 1 2 812 | |
| JHB | City of Johannesburg | JHB | City of Johannesburg | 30 | 29 | 5 743 | 5 540 | 107 | 9 | 15 | 11 | 1 | 3 | 4 5 108 | |
| TSH | City of Tshwane (Pretoria) | TSH | City of Tshwane | 25 | 25 | 4 101 | 4 109 | 55 | 7 | 8 | 5 | 4 | 2 | 3 4 542 | |
| Gauteng Total | | | | 82 | 82 | 13 558 | 13 454 | 307 | 33 | 50 | 35 | 9 | 12 | 10 | 15 317 |

MUNICIPALITIES KWAZULU-NATAL



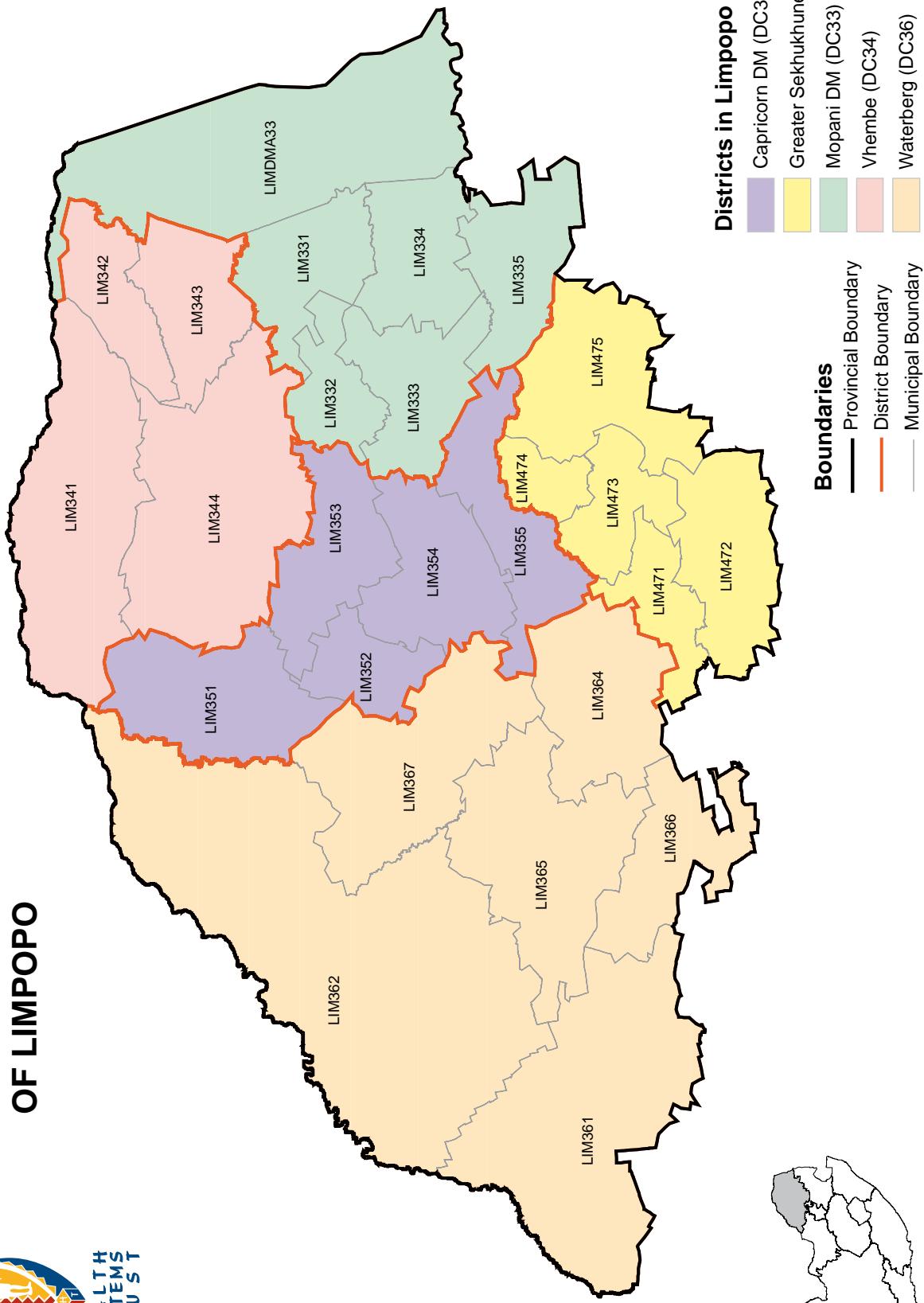
KwaZulu-Natal

| Category A or C Municipality | Category B Municipality | Private hospitals | | Private hospital beds | | 2007 Number of public sector health facilities | | | | | | | 2005 | |
|------------------------------|---|-------------------|-----------|-----------------------|--------------|--|-------------------------|----------------|------------------|-------------------|-------------------|------------------------------|----------------------|---------------|
| | | 2007 | 2008 | 2007 | 2008 | Clinic | Community Health Centre | Mobile Service | Satellite Clinic | District Hospital | Regional Hospital | Provincial/Tertiary Hospital | Specialised Hospital | |
| DC21 Ugu | KZN211 Vulamehlo | | | | | 5 | | | | | | | | |
| | KZN212 Umdoni | | | | | 5 | | 4 | | 1 | | | | 277 |
| | KZN213 Umzumbe | | | | | 14 | | | | | | | | |
| | KZN214 UMuziwabantu | | | | | 6 | | 3 | | 1 | | | | 261 |
| | KZN215 Ezinqoleni | | | | | 5 | | | | | | | | |
| | KZN216 Hibiscus Coast | 2 | 2 | 146 | 146 | 16 | | 8 | | 1 | 1 | | 1 | 815 |
| DC22 UMgungundlovu | KZN221 uMshwathi | | | | | 5 | | 2 | | 1 | | | | 166 |
| | KZN222 uMngeni | 1 | 1 | 26 | 26 | 3 | | 4 | | | | | 1 | 566 |
| | KZN223 Mpofana | | | | | 3 | 1 | 1 | | | | | | |
| | KZN224 Impendle | | | | | 2 | | | | | | | | |
| | KZN225 The Msunduzi | 4 | 4 | 409 | 421 | 32 | 2 | 5 | 2 | 1 | 1 | 1 | 3 | 2 633 |
| | KZN226 Mkhambathini | | | | | 3 | 1 | 2 | | | | | | |
| | KZN227 Richmond | | | | | 3 | | 1 | | | | | 1 | 430 |
| DC23 Uthukela | KZN232 Emnambithi/Ladysmith | 1 | 1 | 98 | 100 | 13 | | 6 | 2 | | 1 | | | 452 |
| | KZN233 Indaka | | | | | 6 | | 3 | | | | | | |
| | KZN234 Umtshezi | | | | | 6 | | 4 | | 1 | | | | 338 |
| | KZN235 Okhahlamba | | | | | 7 | | 3 | | 1 | | | | 160 |
| | KZN236 Imbabazane | | | | | 5 | | 2 | | | | | | |
| | KZNDMA23 Giants Castle Game Reserve DMA | | | | | | | | | | | | | |
| DC24 Umzinyathi | KZN241 Endumeni | | | | | 6 | | 2 | | 1 | | | | 262 |
| | KZN242 Nqutu | | | | | 11 | | 3 | | 1 | | | | 349 |
| | KZN244 Msinga | | | | | 14 | | 3 | | 1 | | | | 352 |
| | KZN245 Umvoti | | | | | 10 | | 2 | | 1 | | | | 207 |
| DC25 Amajuba | KZN252 Newcastle | 1 | 1 | 90 | 90 | 12 | | 5 | | | 2 | | | 1 359 |
| | KZN253 Emadlangeni (Utrecht) | | | | | 1 | | 2 | | 1 | | | | 62 |
| | KZN254 Dannhauser | | | | | 8 | | | | | | | | |
| DC26 Zululand | KZN261 eDumbe | | | | | 6 | 1 | 1 | 1 | | | | | |
| | KZN262 uPhongolo | 1 | 1 | 26 | 26 | 9 | | 3 | | 1 | | | 1 | 163 |
| | KZN263 Abaqulusi | | | | | 14 | | 5 | | 1 | | | 3 | 669 |
| | KZN265 Nongoma | 1 | 1 | 11 | 11 | 12 | | 3 | | 1 | | | | 418 |
| | KZN266 Ulundi | | | | | 19 | | 3 | | 3 | | | | 491 |
| DC27 Umkhanyakude | KZN271 Umhlabuyalingana | | | | | 15 | | 5 | | 2 | | | | 423 |
| | KZN272 Jozini | | | | | 17 | | 5 | | 2 | | | | 421 |
| | KZN273 The Big 5 False Bay | | | | | 3 | | | | | | | | |
| | KZN274 Hlabisa | | | | | 13 | | 4 | | 1 | | | | 270 |
| | KZN275 Mtubatuba | | | | | 3 | | 1 | | | | | | |
| | KZNDMA27 St Lucia Park DMA | | | | | 1 | | | | | | | | |
| DC28 Uthungulu | KZN281 Mbonambi | | | | | 7 | | | | | | | | |
| | KZN282 uMhlathuze | 2 | 2 | 301 | 301 | 8 | 1 | 5 | | | 2 | | | 775 |
| | KZN283 Ntambanana | | | | | 2 | | | | | | | | |
| | KZN284 uMlalazi | | | | | 13 | | 5 | | 3 | | | | 809 |
| | KZN285 Mthonjaneni | | | | | 3 | | 1 | | | 1 | | | 142 |
| | KZN286 Nkandla | | | | | 16 | | 3 | | 2 | | | | 425 |
| DC29 iLembe | KZN291 Mandeni (eNdondakusuka) | | | | | 5 | 1 | 1 | 1 | | | | | |
| | KZN292 KwaDukuza | 1 | 1 | 117 | 119 | 7 | | 3 | 2 | | 1 | | | 415 |
| | KZN293 Ndwedwe | | | | | 6 | 1 | 3 | | 1 | | | | 168 |
| | KZN294 Maphumulo | | | | | 9 | | 3 | | 2 | | | | 251 |
| DC43 Sisonke | KZN431 Ingwe | | | | | 8 | 1 | 3 | | 1 | | | | 154 |
| | KZN432 Kwa Sani | 1 | 1 | 32 | 32 | 2 | | 1 | | | | | | |
| | KZN433 Greater Kokstad | 1 | 1 | 20 | 36 | 2 | | 2 | | 1 | | | | 216 |
| | KZN434 Ubuhlebezwe | | | | | 9 | | 3 | | 1 | | | | 197 |
| | KZN435 Uzmizmkhulu | | | | | 15 | | 2 | | 2 | | | 1 | 584 |
| | KZNDMA43 Mkhomazi Wilderness Area DMA | | | | | | | | | | | | | |
| ETH eThekweni | ETH eThekweni | 16 | 16 | 2 551 | 2 557 | 122 | 6 | 23 | 1 | 4 | 5 | 1 | 8 | 8 153 |
| KwaZulu-Natal Total | | 32 | 32 | 3 827 | 3 865 | 547 | 15 | 153 | 9 | 40 | 14 | 2 | 19 | 23 833 |

MUNICIPALITIES OF LIMPOPO



HEALTH
SYSTEMS
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Districts in Limpopo

| District | Color |
|------------------------------|----------------|
| Capricorn DM (DC35) | Light purple |
| Greater Sekhukhune DM (DC47) | Yellow |
| Mopani DM (DC33) | Light green |
| Vhembe (DC34) | Light red/pink |
| Waterberg (DC36) | Light orange |

The map illustrates the administrative divisions of Alberta. The Provincial Boundary is shown as a thick black line. The District Boundary is indicated by a thick orange line. The Municipal Boundary is marked with a thin grey line. The map also features a grid of latitude and longitude lines.

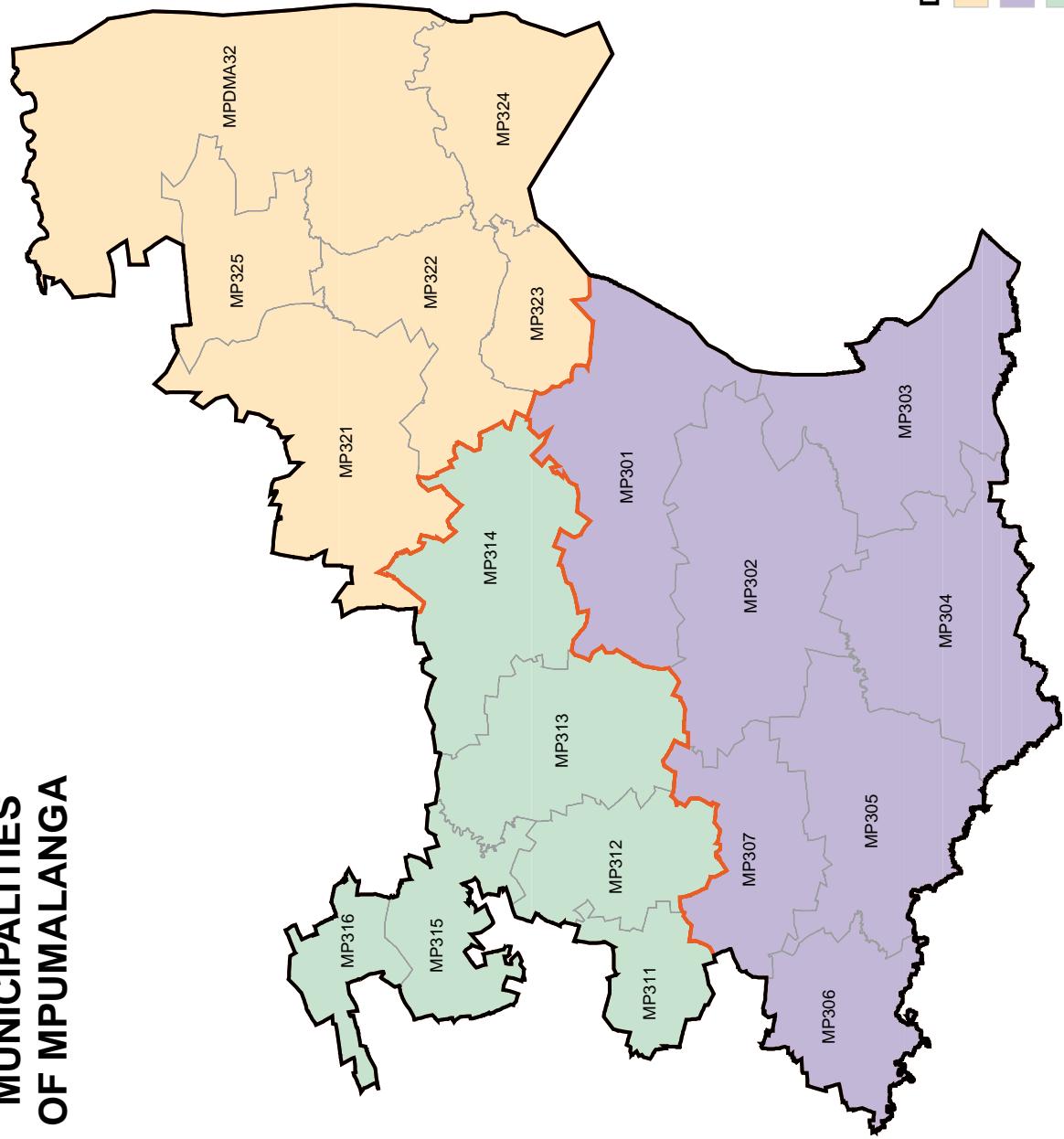
Limpopo

| Category A or C Municipality | | Category B Municipality | | Private hospitals | | Private hospital beds | | 2007 Number of public sector health facilities | | | | | | | 2005 | |
|------------------------------|--------------------|-------------------------|---------------------------------------|-------------------|----------|-----------------------|------------|--|-------------------------|----------------|------------------|-------------------|-------------------|---------------------|----------------------|--------------------|
| | | | | 2007 | 2008 | 2007 | 2008 | Clinic | Community Health Centre | Mobile Service | Satellite Clinic | District Hospital | Regional Hospital | Provincial Hospital | Specialised Hospital | Public sector beds |
| DC33 | Mopani | LIM331 | Greater Giyani | | | | | 20 | 2 | 4 | | 1 | | | 1 | 648 |
| | | LIM332 | Greater Letaba | | | | | 20 | | 4 | | 2 | | | | 195 |
| | | LIM333 | Greater Tzaneen | 1 | 1 | 64 | 64 | 28 | 4 | 10 | | 2 | 1 | | | 499 |
| | | LIM334 | Ba-Phalaborwa | | | | | 8 | 1 | 4 | | 2 | | | | 135 |
| | | LIM335 | Maruleng | | | | | 10 | | 4 | | 1 | | | | 142 |
| | | LIMDMA33 | Kruger Natioanal Park DMA | | | | | | | | | | | | | |
| DC34 | Vhembe | LIM341 | Musina | | | | | 4 | | 1 | | 1 | | | | 65 |
| | | LIM342 | Mutale | | | | | 14 | 1 | 3 | | 1 | | | | 349 |
| | | LIM343 | Thulamela | | | | | 51 | 3 | 7 | | 2 | 1 | 1 | | 856 |
| | | LIM344 | Makhado | | | | | 44 | 4 | 10 | | 3 | | | | 684 |
| DC35 | Capricorn | LIM351 | Blouberg | | | | | 21 | 2 | 4 | | 1 | | | | 149 |
| | | LIM352 | Aganang | | | | | 9 | | 6 | | 1 | | | | 184 |
| | | LIM353 | Molemole | | | | | 7 | | 2 | | 1 | | | | 56 |
| | | LIM354 | Polokwane | 1 | 1 | 186 | 186 | 30 | 2 | 13 | | 1 | 2 | | | 1 129 |
| | | LIM355 | Lepelle-Nkumpi | | | | | 21 | | 6 | | 2 | | 1 | | 1 048 |
| DC36 | Waterberg | LIM361 | Thabazimbi | 3 | 3 | 110 | 109 | 9 | | 5 | | 1 | | | | 55 |
| | | LIM362 | Lephalale | 1 | 1 | 12 | 12 | 6 | | 6 | | 2 | | | | 124 |
| | | LIM364 | Mookgopong | | | | | 3 | 1 | 2 | | | | | | |
| | | LIM365 | Modimolle | | | | | 3 | | 5 | | 1 | | 1 | | 122 |
| | | LIM366 | Bela-Bela | 1 | 1 | 83 | 83 | 4 | | 2 | | 1 | | | | 141 |
| | | LIM367 | Mogalakwena | | | | | 27 | 1 | 11 | | 2 | 1 | | | 448 |
| DC47 (CBDC3) | Greater Sekhukhune | LIM471 | Greater Marble Hall | | | | | 12 | | 4 | | 1 | | | | 191 |
| | | LIM472 | Elias Motoaledi (Greater Groblersdal) | | | | | 10 | 3 | 4 | | 1 | 1 | | | 402 |
| | | LIM473 | Makhuduthamaga | | | | | 20 | | 3 | | 2 | | | | 577 |
| | | LIM474 | Fetakgomo | | | | | 11 | 1 | 2 | | | | | | |
| | | LIM475 | Greater Tubatse | | | | | 19 | 2 | 6 | | 2 | | | | 232 |
| Limpopo Total | | | | 7 | 7 | 455 | 454 | 411 | 27 | 128 | | 33 | 5 | 2 | 4 | 8 431 |

MUNICIPALITIES OF MPUMALANGA



HEALTH
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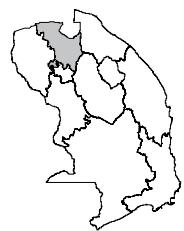
The map displays the provincial, district, and municipal boundaries of the Lower Mainland. Provincial boundaries are shown as black lines, district boundaries as red lines, and municipal boundaries as grey lines.

Districts in Mpumalanga

Ehlanzeni DM (DC32)

Gert Sibande DM (DC30)

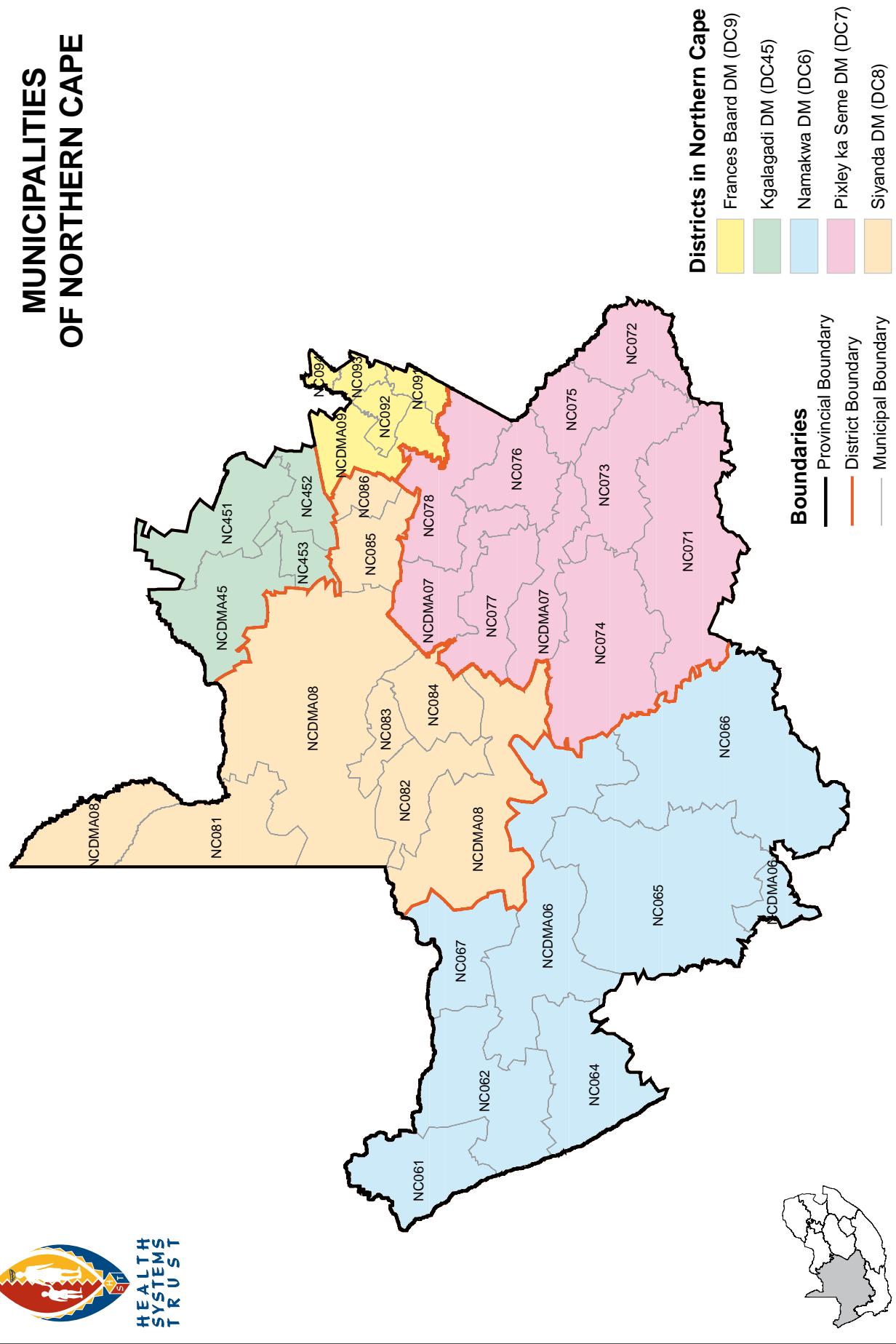
Nkangala DM (DC31)



Mpumalanga

| Category A or C Municipality | | Category B Municipality | | Private hospitals | | Private hospital beds | | 2007 Number of public sector health facilities | | | | | | | 2005 | |
|------------------------------|--------------|-------------------------|----------------------------|-------------------|------|-----------------------|-------|--|-------------------------|----------------|------------------|-------------------|-------------------|------------------------------|----------------------|--------------------|
| | | | | 2007 | 2008 | 2007 | 2008 | Clinic | Community Health Centre | Mobile Service | Satellite Clinic | District Hospital | Regional Hospital | Provincial/Tertiary Hospital | Specialised Hospital | Public sector beds |
| DC30 | Gert Sibande | MP301 | Albert Luthuli | | | | | 16 | 2 | 3 | | 2 | | | 265 | |
| | | MP302 | Msukaligwa | 1 | 1 | 40 | 40 | 12 | | 4 | | | 1 | | 192 | |
| | | MP303 | Mkhondo (Piet Retief) | | | | | 7 | 2 | 8 | 5 | 1 | | | 176 | |
| | | MP304 | Pixley Ka Seme | | | | | 5 | 2 | 2 | | 2 | | | 127 | |
| | | MP305 | Lekwa | | | | | 7 | | 3 | | 1 | | 1 | 339 | |
| | | MP306 | Dipaleseng | | | | | 4 | 1 | 2 | | | | | | |
| | | MP307 | Govan Mbeki | 2 | 2 | 245 | 245 | 9 | 2 | 5 | | 2 | | | 251 | |
| DC31 | Nkangala | MP311 | Delmas | | | | | 2 | | 3 | | 1 | | | 40 | |
| | | MP312 | Emalahleni | 2 | 2 | 339 | 339 | 10 | 2 | 7 | | 1 | 1 | 1 | 403 | |
| | | MP313 | Steve Tshwete (Middelburg) | 1 | 1 | 127 | 164 | 12 | | 5 | | 1 | | | 202 | |
| | | MP314 | Emakhazeni (Highlands) | | | | | 6 | | 2 | | 2 | | | 26 | |
| | | MP315 | Thembisile | | | | | 17 | 4 | 1 | | 1 | | | 153 | |
| | | MP316 | Dr JS Moroka | | | | | 18 | 9 | 3 | | 1 | | | 55 | |
| DC32 | Ehlanzeni | MP321 | Thaba Chweu | | | | | 10 | | 4 | | 3 | | | 239 | |
| | | MP322 | Mbombela | 1 | 1 | 240 | 240 | 27 | 5 | 10 | | | 1 | 1 | 902 | |
| | | MP323 | Umjindi | 1 | 1 | 30 | 30 | 10 | 1 | 5 | | 1 | | 1 | 412 | |
| | | MP324 | Nkomazi | | | | | 25 | 4 | 5 | | 2 | | | 480 | |
| | | MP325 | Bushbuckridge | | | | | 34 | 2 | 4 | | 2 | 1 | | 778 | |
| | | MPDMA32 | Kruger Natioanal Park DMA | | | | | | | | | | | | | |
| Mpumalanga Total | | | | 8 | 8 | 1 021 | 1 058 | 231 | 36 | 76 | 5 | 23 | 3 | 2 | 6 | 5 040 |

MUNICIPALITIES OF NORTHERN CAPE



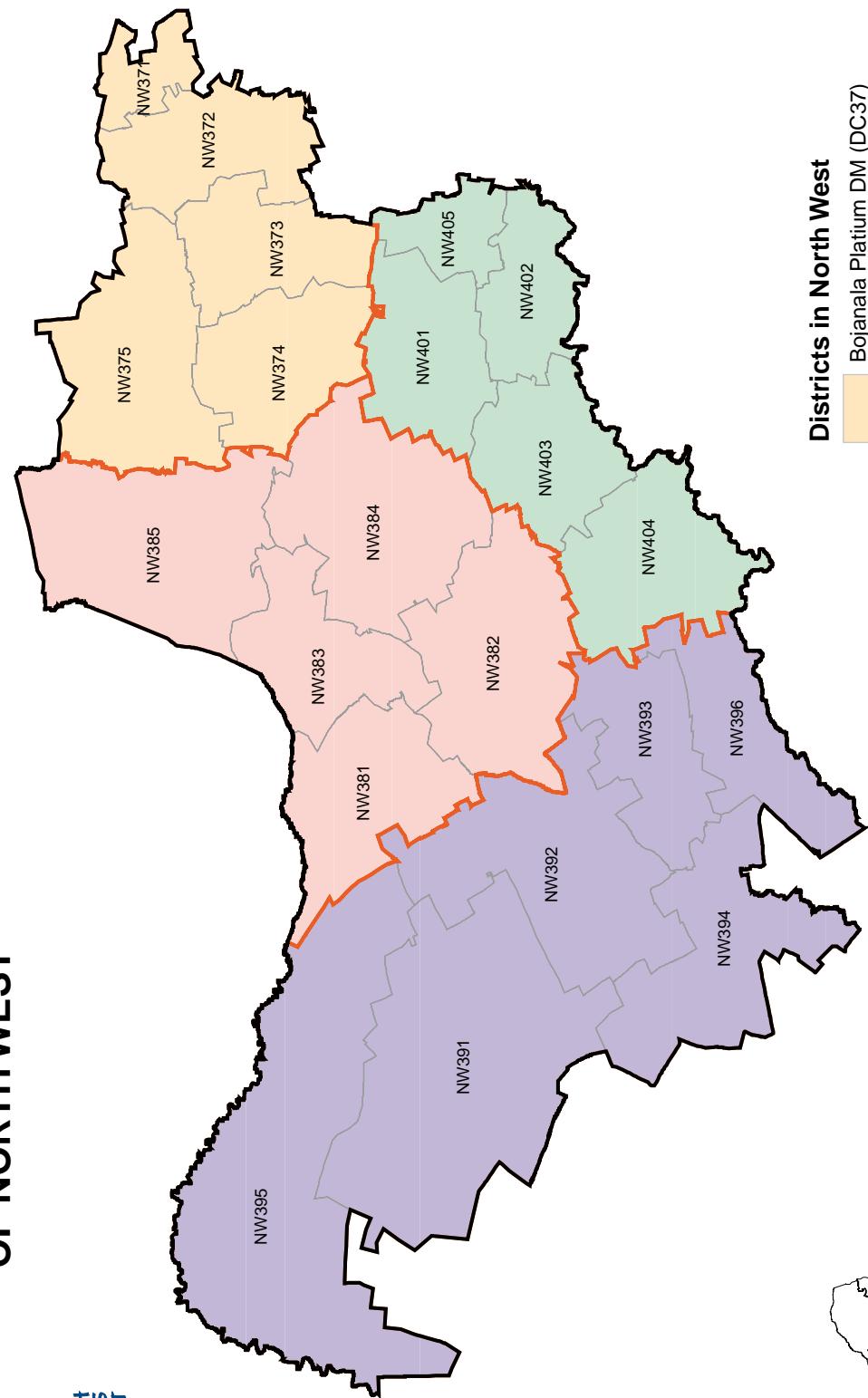
Northern Cape

| Category A or C Municipality | | Category B Municipality | | Private hospitals | | Private hospital beds | | 2007 Number of public sector health facilities | | | | | | | | 2005 |
|------------------------------|------------------------|-------------------------|-------------------------|-------------------|------|-----------------------|------|--|-------------------------|----------------|------------------|-------------------|-------------------|------------------------------|----------------------|--------------------|
| | | | | 2007 | 2008 | 2007 | 2008 | Clinic | Community Health Centre | Mobile Service | Satellite Clinic | District Hospital | Regional Hospital | Provincial/Tertiary Hospital | Specialised Hospital | Public sector beds |
| DC45 (CBDC1) | Kgalagadi | NC451 | Moshaweng (Kudumane) | | | | | 23 | | | | | | | | |
| | | NC452 | Ga-Segonyana (Kudumane) | | | | | 7 | 1 | 6 | | 2 | | | | 278 |
| | | NC453 | Gamagara | 1 | 1 | 25 | 25 | 3 | | | | | | | | |
| | | NCDMA45 | Kgalagadi DMA | | | | | 1 | | | | | | | | |
| DC6 | Namakwa | NC061 | Richtersveld | 1 | 1 | 26 | 26 | 2 | 1 | | 5 | 1 | | | | |
| | | NC062 | Nama Khoi | | | | | 7 | 1 | 2 | 6 | 3 | | | | 50 |
| | | NC064 | Kamiesberg | | | | | 3 | | | 12 | 1 | | | | 15 |
| | | NC065 | Hantam | | | | | 3 | 2 | 2 | | 1 | | | | 56 |
| | | NC066 | Karoo Hoogland | | | | | | 3 | 1 | | | | | | |
| | | NC067 | Khâi-Ma | | | | | 2 | 1 | 1 | 4 | | | | | |
| | | NCDMA06 | Namaqualand DMA | | | | | | | | | | | | | |
| DC7 | Pixley ka Seme (Karoo) | NC071 | Ubuntu | | | | | 3 | | | | 2 | | | | 43 |
| | | NC072 | Umsobomvu | | | | | 4 | | | | 2 | | | | 87 |
| | | NC073 | Emthanjeni | | | | | 6 | | | | 1 | | | | 51 |
| | | NC074 | Kareeberg | | | | | 2 | 1 | | | 1 | | | | 25 |
| | | NC075 | Renosterberg | | | | | 2 | | | 1 | | | | | |
| | | NC076 | Thembelihle | | | | | 2 | | 1 | | 1 | | | | 21 |
| | | NC077 | SiyaThemba | | | | | 4 | | | | 1 | | | | 30 |
| | | NC078 | Siyancuma | | | | | 4 | 1 | 2 | 3 | 1 | | | | 30 |
| | | NCDMA07 | Pixley ka Seme DMA | | | | | | | | | | | | | |
| DC8 | Siyanda | NC081 | Mier | | | | | 2 | 1 | 2 | | | | | | |
| | | NC082 | Kai !Garib | | | | | 3 | 1 | 6 | 7 | 2 | | | | 66 |
| | | NC083 | Khara Hais | 1 | 1 | 40 | 50 | 6 | | 3 | 4 | | 1 | 1 | | 170 |
| | | NC084 | !Kheis | | | | | 1 | 1 | 2 | 3 | | | | | |
| | | NC085 | Tsantsabane | | | | | 2 | 1 | 1 | 3 | 1 | | | | 40 |
| | | NC086 | Kgatelopele | | | | | | 1 | | | | | | | |
| | | NCDMA08 | Siyanda DMA | | | | | | | | | | | | | |
| DC9 | Frances Baard | NC091 | Sol Plaatjie | 1 | 1 | 234 | 234 | 11 | 2 | | 2 | | | 1 | 2 | 882 |
| | | NC092 | Dikgatlong | | | | | 7 | | 2 | 2 | 1 | | | | 30 |
| | | NC093 | Magareng | | | | | 3 | | | | 1 | | | | 30 |
| | | NC094 | Phokwane | | | | | 7 | 1 | 2 | 1 | 2 | | | | 84 |
| | | NCDMA09 | Diamondfields DMA | | | | | | | | | | | | | |
| Northern Cape Total | | | | 4 | 4 | 325 | 335 | 118 | 20 | 32 | 55 | 24 | 1 | 1 | 3 | 1988 |

MUNICIPALITIES OF NORTH WEST



HEALTH
SYSTEMS
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Districts in North West

- Bojanala Platinum DM (DC37)
 - Dr Ruth Segomotsi Mompati (Bophirima) DM (DC39)
 - Ngaka Modiri Molema (Central) DM (DC38)
 - Dr Kenneth Kaunda (Southern) DM (DC40)
- Boundaries**
- Provincial Boundary
 - District Boundary
 - Municipal Boundary

North West

| Category A or C Municipality | | Category B Municipality | | Private hospitals | | Private hospital beds | | 2007 Number of public sector health facilities | | | | | | | 2005 |
|------------------------------|---------------------------------------|-------------------------|--------------------------------|-------------------|------|-----------------------|-------|--|-------------------------|----------------|------------------|-------------------|-------------------|------------------------------|--------------------|
| | | | | 2007 | 2008 | 2007 | 2008 | Clinic | Community Health Centre | Mobile Service | Satellite Clinic | District Hospital | Regional Hospital | Provincial/Tertiary Hospital | Public sector beds |
| DC37 | Bojanala Platinum | NW371 | Moretele | | | | | 17 | 3 | | | 1 | | | 446 |
| | | NW372 | Local Municipality of Madibeng | 1 | 1 | 80 | 80 | 22 | 3 | 5 | | 1 | | | 66 |
| | | NW373 | Rustenburg | 4 | 4 | 432 | 432 | 25 | 3 | 9 | | | 1 | | 352 |
| | | NW374 | Kgetlengrivier | | | | | 5 | | 4 | | 2 | | | 82 |
| | | NW375 | Moses Kotane | | | | | 45 | 5 | 6 | | 1 | | | 281 |
| DC38 | Ngaka Modiri Molema (Central) | NW381 | Ratlou | | | | | 13 | 2 | 3 | | | | | |
| | | NW382 | Tswaing | | | | | 9 | 4 | 4 | | | | | |
| | | NW383 | Mafikeng | 1 | 1 | 93 | 93 | 26 | 4 | 5 | | 1 | 1 | 1 | 168 |
| | | NW384 | Ditsobotla | | | | | 18 | 2 | 7 | | 2 | | | 220 |
| | | NW385 | Ramotshere Moiloa (Zeerust) | | | | | 16 | 4 | 6 | | 2 | | | 189 |
| DC39 | Dr Ruth Segomotsi Mompati (Bophirima) | NW391 | Kagisano (Ganyesa) | | | | | 14 | 4 | 4 | | 1 | | | 60 |
| | | NW392 | Naledi | 1 | 1 | 40 | 40 | 3 | 1 | 13 | | 2 | | | 86 |
| | | NW393 | Mamusa (Schweizer Reneke) | | | | | 4 | 1 | 1 | | 1 | | | 68 |
| | | NW394 | Greater Taung | | | | | 18 | 3 | 3 | | 1 | | | 290 |
| | | NW395 | Molopo | | | | | 1 | 1 | 1 | | | | | |
| | | NW396 | Lekwa-Teemane | | | | | 4 | 3 | 1 | | 1 | | | 43 |
| DC40 | Dr Kenneth Kaunda (Southern) | NW401 | Ventersdorp | | | | | 11 | | 4 | 2 | 1 | | | 40 |
| | | NW402 | Tlokwe (Potchefstroom) | 1 | 1 | 114 | 114 | 8 | 1 | 1 | | | 1 | 1 | 1 365 |
| | | NW403 | City of Matlosana (Klerksdorp) | 7 | 7 | 1 073 | 1 316 | 11 | 4 | 10 | 1 | | 1 | | 842 |
| | | NW404 | Maquassi Hills | | | | | 5 | 2 | 4 | | 1 | | | 101 |
| | | NW405 | Merafong City | 2 | 2 | 90 | 90 | 11 | 1 | 3 | | 1 | | | 150 |
| North West Total | | | | 17 | 17 | 1 922 | 2 165 | 286 | 51 | 94 | 3 | 19 | 4 | 2 | 4 849 |

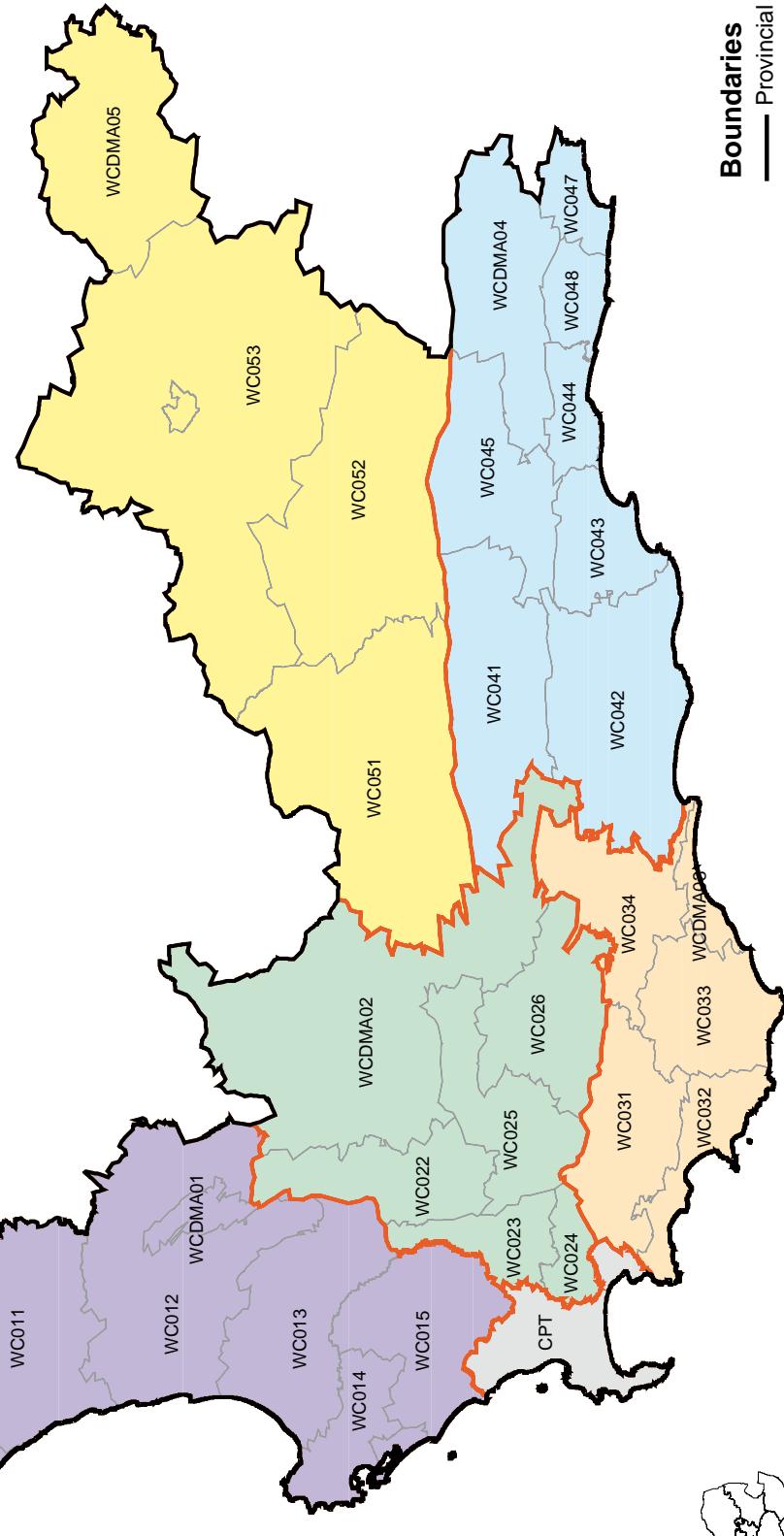
MUNICIPALITIES OF WESTERN CAPE



HEALTH
SYSTEMS
TRUST

Districts in Western Cape

- Cape Winelands DM (DC2)
- Central Karoo DM (DC5)
- City of Cape Town MM (CPT)
- Eden DM (DC4)
- Overberg DM (DC3)
- West Coast DM (DC1)



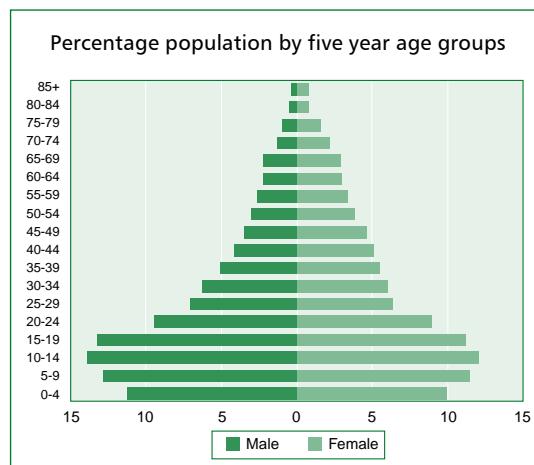
Boundaries

- Provincial Boundary
- District Boundary
- Municipal Boundary

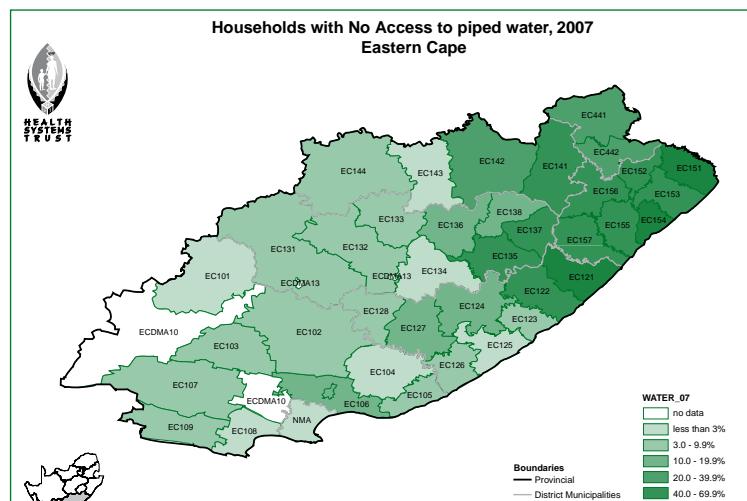
Western Cape

| Category A or C Municipality | | Category B Municipality | Private hospitals | | Private hospital beds | | 2007 Number of public sector health facilities | | | | | | | 2005 | | |
|------------------------------|-------------------------|-------------------------|-------------------------|------|-----------------------|--------|--|-------------------------|----------------|------------------|-------------------|-------------------|------------------------------|----------------------|--------------------|--------|
| | | | 2007 | 2008 | 2007 | 2008 | Clinic | Community Health Centre | Mobile Service | Satellite Clinic | District Hospital | Regional Hospital | Provincial/Tertiary Hospital | Specialised Hospital | Public sector beds | |
| CPT | City of Cape Town | CPT | City of Cape Town | 24 | 23 | 3 289 | 3 106 | 111 | 52 | 6 | 9 | 8 | 2 | 13 | 7 501 | |
| DC1 | West Coast | WC011 | Matzikama | | | | | 4 | | 6 | 4 | 2 | | | 84 | |
| | | WC012 | Cederberg | | | | | 3 | 1 | 6 | 1 | 2 | | | 82 | |
| | | WC013 | Bergvivier | | | | | 4 | | 6 | 4 | 2 | | | 48 | |
| | | WC014 | Saldanha Bay | 1 | 1 | 44 | 46 | 11 | | 2 | 2 | 1 | | | 53 | |
| | | WC015 | Swartland | | | | | 4 | 1 | 4 | 7 | 1 | | 1 | 138 | |
| | | WCDMA01 | West Coast DMA | | | | | 1 | | | 5 | | | | | |
| DC2 | Cape Winelands (Boland) | WC022 | Witzenberg | 1 | 1 | 28 | 28 | 12 | | 6 | | 1 | | | 76 | |
| | | WC023 | Drakenstein | 1 | 1 | 122 | 123 | 13 | 1 | 4 | 7 | | 1 | 1 | 340 | |
| | | WC024 | Stellenbosch | 1 | 1 | 90 | 90 | 10 | 1 | 4 | 2 | 1 | | | 95 | |
| | | WC025 | Breede Valley | 1 | 1 | 207 | 207 | 10 | 1 | 4 | | | 1 | 1 | 419 | |
| | | WC026 | Breede River/Winelands | | | | | 10 | | 6 | | 2 | | | 95 | |
| | | WCDMA02 | Cape Winelands DMA | | | | | | | | | | | | | |
| DC3 | Overberg | WC031 | Theewaterskloof | | | | | 10 | 1 | 7 | | 1 | | | 65 | |
| | | WC032 | Overstrand | 1 | 1 | 45 | 45 | 10 | | 1 | | 1 | | | 37 | |
| | | WC033 | Cape Agulhas | | | | | 6 | | 2 | | 2 | | | 40 | |
| | | WC034 | Swellendam | | | | | 5 | | 4 | | 1 | | | 51 | |
| | | WCDMA03 | Overberg DMA | | | | | | | | | | | | | |
| DC4 | Eden | WC041 | Kannaland | | | | | 3 | | 3 | 1 | 1 | | | 35 | |
| | | WC042 | Hessequa (Langeberg) | | | | | 3 | | 3 | 2 | 1 | | | 50 | |
| | | WC043 | Mossel Bay | 1 | 1 | 92 | 92 | 3 | 1 | 6 | 5 | 1 | | | 90 | |
| | | WC044 | George | 2 | 2 | 220 | 220 | 9 | 2 | 3 | 3 | | 1 | 1 | 286 | |
| | | WC045 | Greater Oudtshoorn | 1 | 1 | 38 | 38 | 6 | 1 | 3 | | 1 | | | 124 | |
| | | WC047 | Bitou (Plettenberg Bay) | | | | | 4 | 1 | 1 | 1 | | | | | |
| | | WC048 | Knysna | 1 | 1 | 47 | 47 | 4 | | 3 | 2 | 1 | | | 98 | |
| DC5 | Central Karoo | WCDMA04 | Eden DMA | | | | | 1 | | 2 | 1 | 1 | | | 20 | |
| | | WC051 | Laingsburg | | | | | 1 | | 1 | 1 | 1 | | | 20 | |
| | | WC052 | Prince Albert | | | | | 1 | | 1 | 1 | 1 | | | 29 | |
| | | WC053 | Beaufort West | | | | | 3 | 1 | 3 | 3 | 1 | | 1 | 131 | |
| | | WCDMA05 | Central Karoo DMA | | | | | 1 | | 1 | | 1 | | | 14 | |
| Western Cape Total | | | | 35 | 34 | 4 222 | 4 042 | 263 | 64 | 98 | 61 | 35 | 5 | 18 | 10 021 | |
| SA Total | | | | 211 | 212 | 28 834 | 28 980 | 3 077 | 313 | 883 | 179 | 269 | 54 | 12 | 84 | 87 870 |

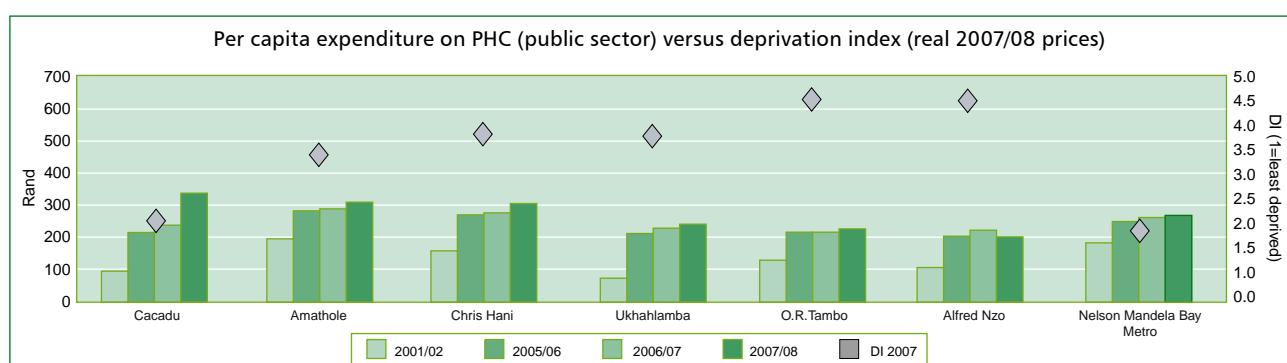
Eastern Cape



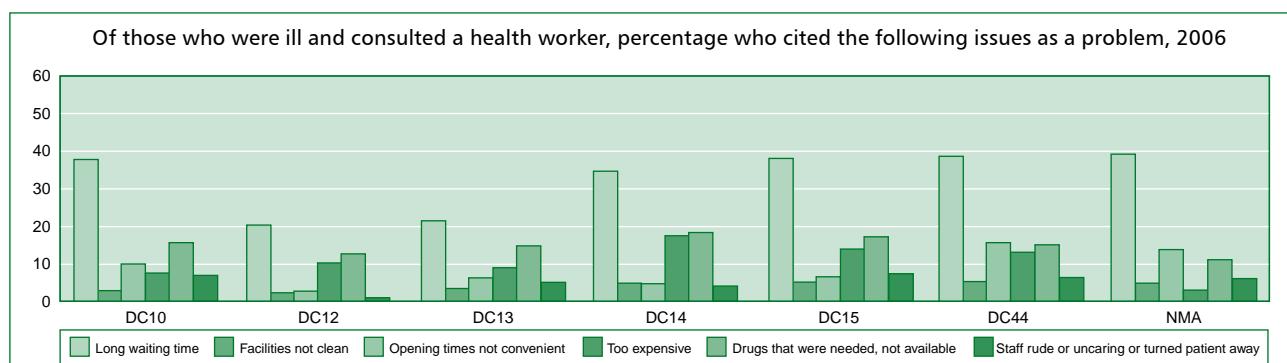
Source: Community Survey 2007.



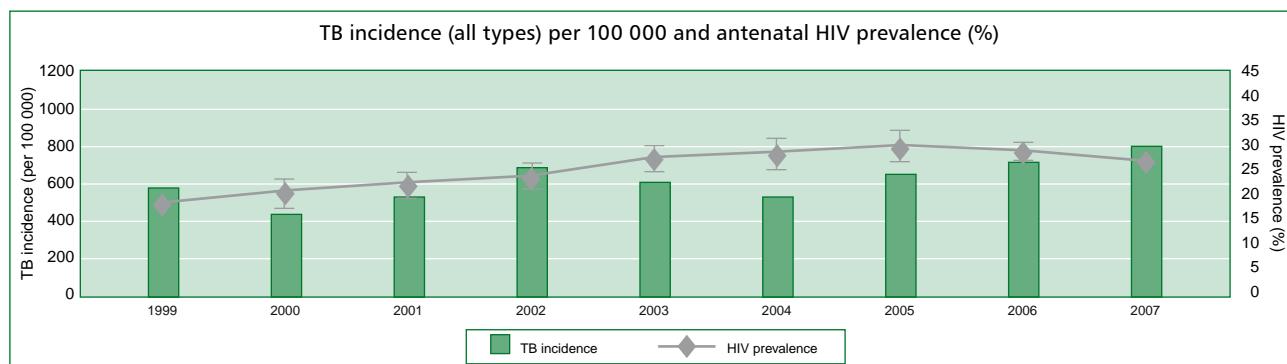
Source: Community Survey, 2007.



Source: Calculated from National Treasury, DHIS and StatsSA data.



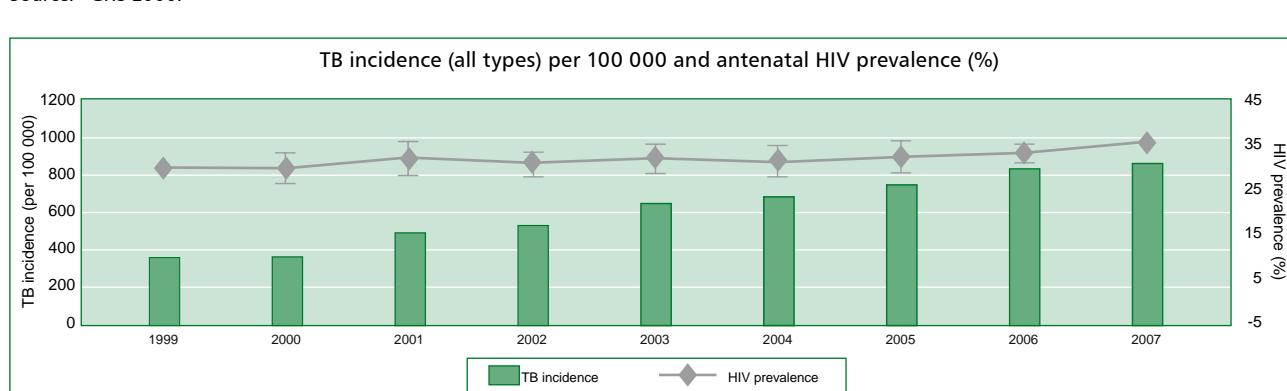
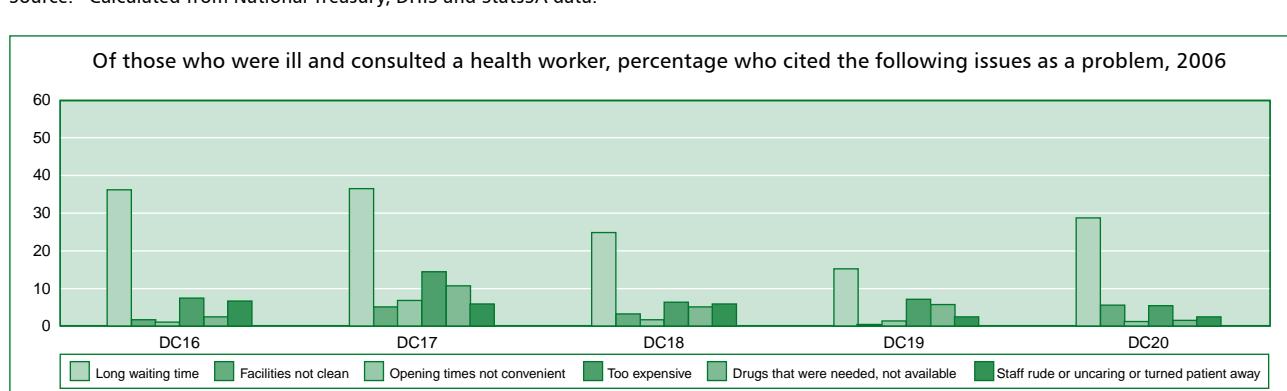
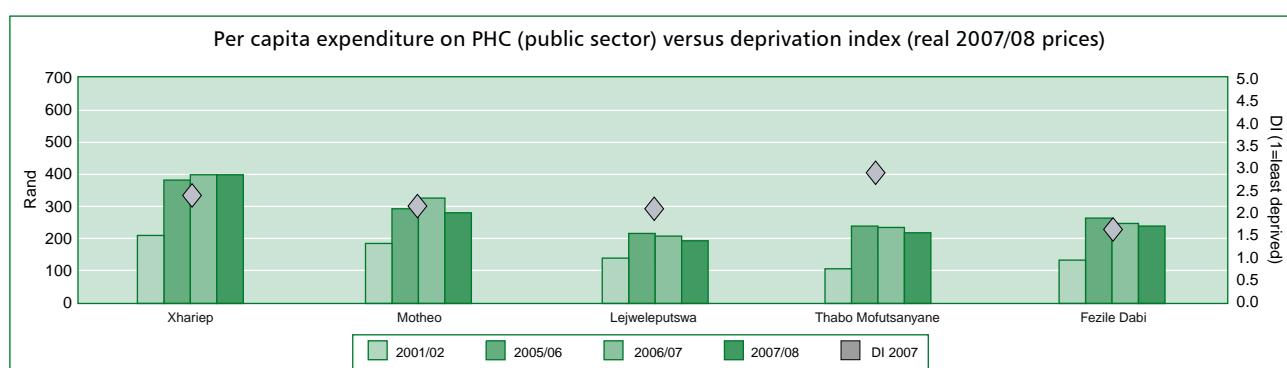
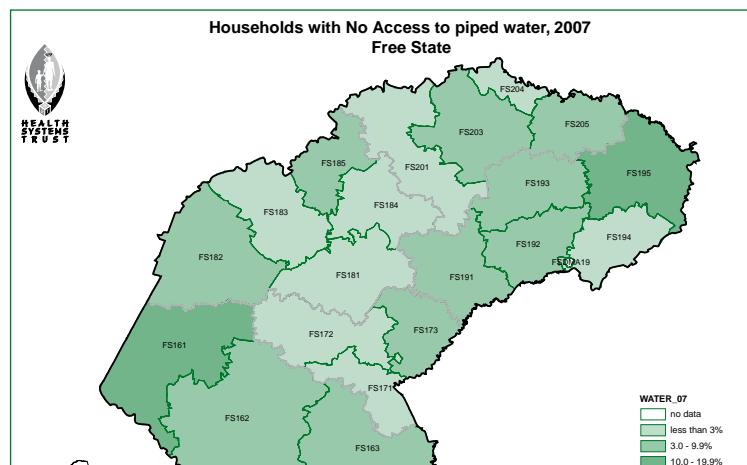
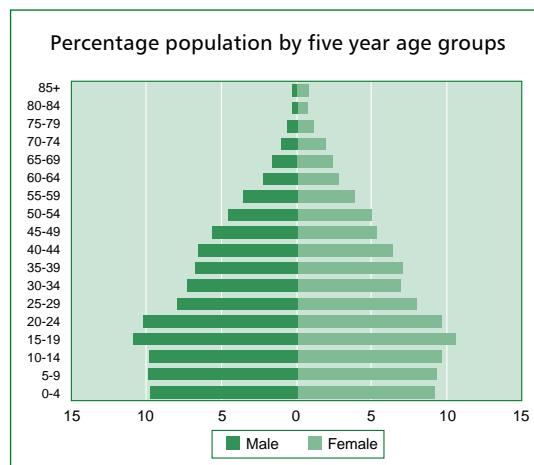
Source: GHS 2006.



Source: DoH TB and Antenatal Surveys.

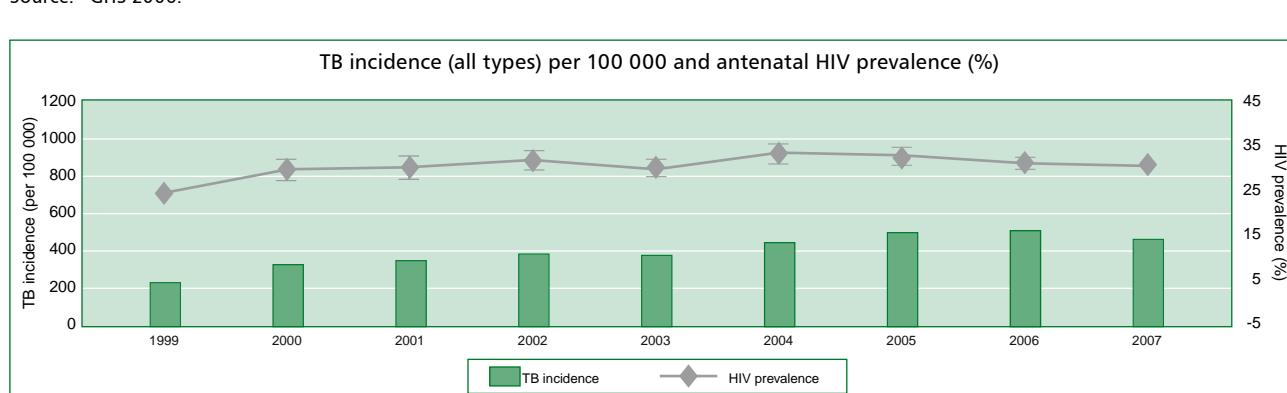
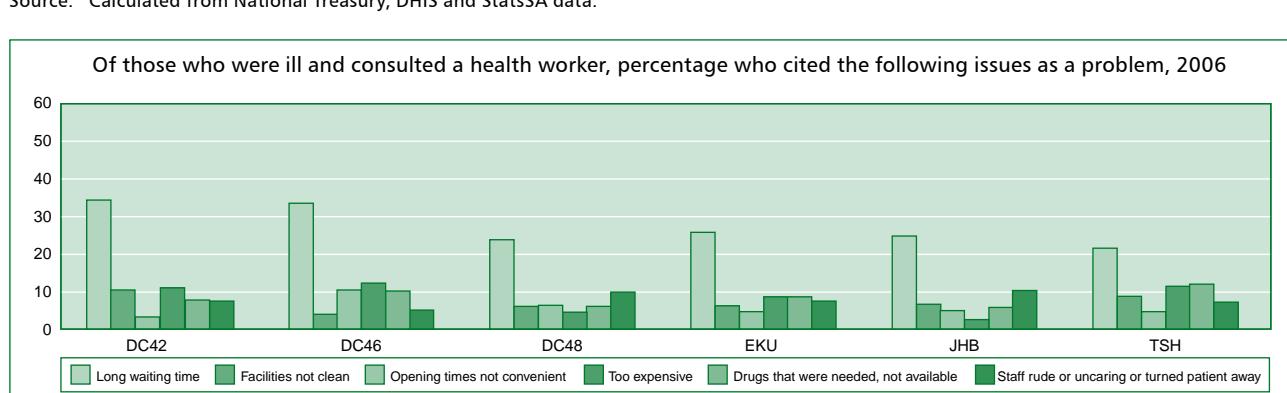
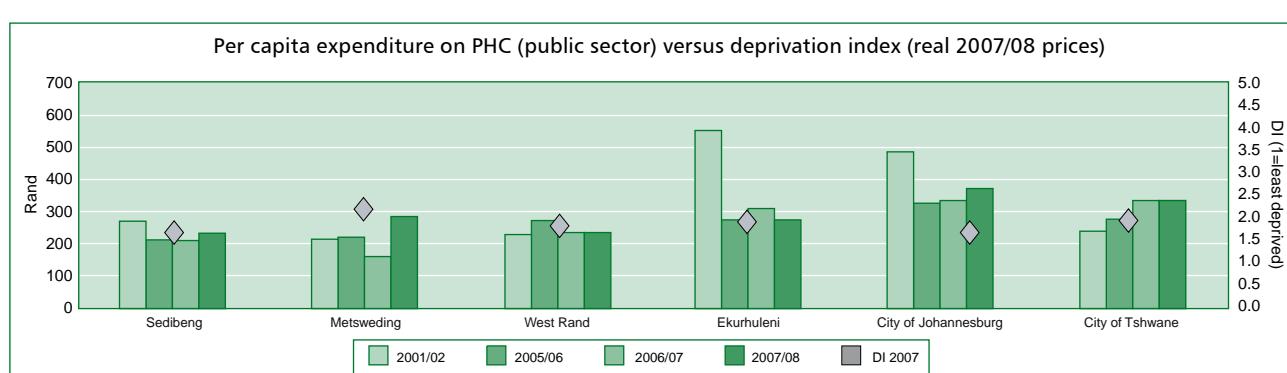
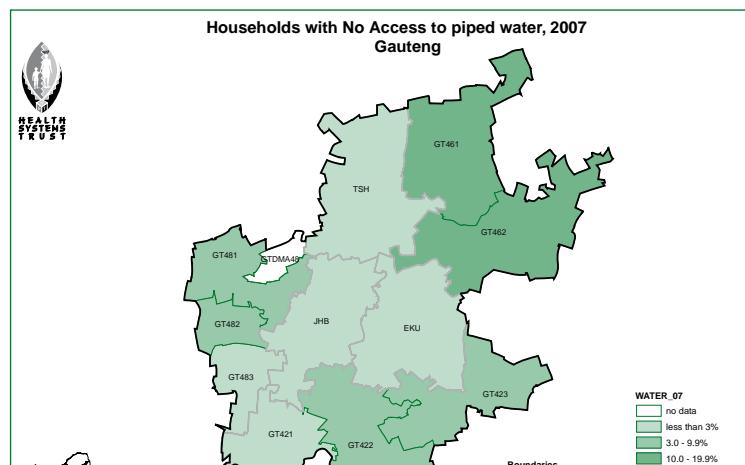
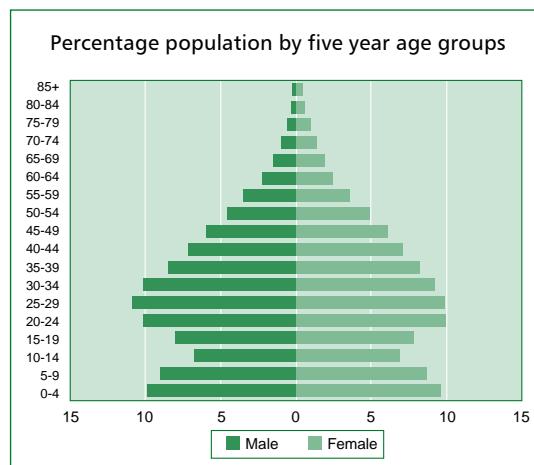
| District | LSA | Sub-district | Total population | | | 2007 Deprivation Index | Socio-economic quintile | Population 20 and older with no schooling | Community Survey 2007 indicators (%) | | | | |
|---------------------|---|-------------------------------------|------------------|-----------|-----------|------------------------|-------------------------|---|--------------------------------------|--|------------------------------------|---------------------------|------|
| | | | 2001 | 2007 | Mid-2007 | | | | Households with no refuse disposal | Households using electricity for cooking | Households with no internet access | Households with no toilet | |
| Eastern Cape | | | | | | | | | | | | | |
| DC10 Cacadu | EC101/2(3/7) DMA10 (Camdeboo LSA) | EC101 Camdeboo | 44 373 | 41 764 | 116 575 | 1.64 | 5 | 7.9 | 95.5 | 1.4 | 59.4 | 2.1 | 98.5 |
| | EC102 Blue Crane Route | EC102 Ikwezi | 35 009 | 25 574 | | 1.96 | 4 | 8.4 | 69.7 | 2.7 | 56.9 | 3.1 | 8.5 |
| | EC103 (Camdeboo LSA) | EC103 Baviaans | 10 367 | 11 516 | | 2.36 | 3 | 11.2 | 76.5 | 0.2 | 44.6 | 3.2 | 92.9 |
| | EC107 | EC107 Aberdeen Plain DMA | 15 337 | 13 949 | | 1.90 | 4 | 9.0 | 66.0 | 8.9 | 51.4 | 3.8 | 94.9 |
| | ECDMA10 | EC108 Kouga | 8 233 | 5 275 | | 12.0 | 4 | 49.8 | 11.3 | 51.7 | 6.0 | 11.1 | 94.4 |
| | EC104 Makana | EC109 Kou-Kamma | 75 303 | 70 057 | 138 188 | 2.23 | 4 | 5.5 | 67.9 | 0.5 | 54.2 | 7.0 | 92.3 |
| | (Makana LSA) | EC105 Ndlambe | 54 715 | 46 355 | | 2.21 | 4 | 12.2 | 69.0 | 1.1 | 53.0 | 12.8 | 2.1 |
| | EC106 Sunday's River Valley (Kouga LSA) | EC106 Sunday's River Valley | 39 863 | 34 932 | 159 009 | 1.96 | 4 | 8.7 | 72.0 | 7.3 | 51.8 | 4.2 | 97.8 |
| | EC108 Kouga | EC109 Kouga | 70 693 | 73 274 | | 1.71 | 5 | 4.8 | 86.0 | 1.4 | 67.1 | 12.7 | 1.9 |
| | EC110 | EC121 Mbhashe | 34 283 | 40 783 | | 1.84 | 5 | 7.8 | 70.1 | 8.0 | 49.1 | 3.5 | 99.3 |
| | EC122 Mnquma | EC123 Great Kei | 285 070 | 262 010 | 279 560 | 4.64 | 1 | 25.9 | 12.0 | 33.4 | 53.3 | 0.4 | 74.7 |
| | EC124 Amathole | EC125 Buffalo City | 286 306 | 297 659 | 317 705 | 3.75 | 1 | 10.0 | 33.6 | 12.9 | 64.6 | 0.6 | 38.9 |
| | EC126 Ngquisha | EC127 Nkonkobe | 138 648 | 112 736 | 154 774 | 3.42 | 2 | 13.2 | 40.8 | 13.8 | 63.1 | 0.9 | 81.4 |
| | EC128 (Nkonkobe LSA) | EC129 Inxuba | 44 462 | 33 386 | 936 248 | 3.25 | 2 | 21.1 | 34.6 | 2.7 | 51.0 | 4.3 | 91.0 |
| | EC130 Yethemba | EC131 Tswalana | 84 234 | 83 079 | | 3.53 | 2 | 17.5 | 51.4 | 6.7 | 51.6 | 0.0 | 3.1 |
| | EC132 Vethemba (Nkonkobe LSA) | EC133 Inkwanca | 128 659 | 130 101 | 171 841 | 3.36 | 2 | 7.0 | 47.1 | 7.2 | 55.7 | 1.0 | 83.0 |
| | EC134 Lukhanji LSA) | EC135 Intsika Yethu | 28 824 | 21 473 | | 2.56 | 3 | 6.3 | 69.2 | 0.9 | 55.1 | 4.5 | 93.2 |
| | EC136 Emahleni | EC137 Engcobo | 60 296 | 48 400 | 102 527 | 1.72 | 5 | 11.4 | 79.0 | 0.6 | 60.6 | 4.3 | 93.8 |
| | EC138 Sakhisizwe | EC139 Mount Zebra National Park DMA | 32 516 | 27 662 | | 3.45 | 2 | 24.6 | 40.1 | 31.4 | 50.1 | 2.2 | 23.1 |
| | (Lukhanji LSA) | EC140 Elundini | 20 243 | 14 285 | 224 934 | 2.24 | 4 | 12.4 | 50.9 | 2.6 | 49.6 | 1.4 | 94.4 |
| | EC141 Seniqu | EC142 Maleswai | 184 545 | 208 079 | | 2.68 | 3 | 7.9 | 61.8 | 5.4 | 65.1 | 1.8 | 97.8 |
| | (Maleswai LSA) | EC143 Ganep | 175 219 | 185 344 | 186 898 | 4.47 | 1 | 20.3 | 17.2 | 33.4 | 60.2 | 0.1 | 51.3 |
| | EC144 Mbizana | EC145 Ntshanga | 125 413 | 123 291 | 134 075 | 4.25 | 1 | 19.0 | 23.2 | 36.9 | 56.4 | 0.9 | 81.9 |
| | EC146 Mhlonilo | EC147 Engcobo | 148 404 | 135 972 | 158 497 | 4.66 | 1 | 25.1 | 16.7 | 24.2 | 49.7 | 0.0 | 51.2 |
| | EC148 Nelson Mandela Bay (Port Elizabeth) | EC149 Nelson Mandela Bay | 62 856 | 53 466 | 68 498 | 3.59 | 2 | 8.8 | 40.9 | 32.1 | 65.5 | 0.2 | 80.5 |
| | EC150 O.R.Tambo | EC151 (Qaukeni LSA) | 137 475 | 123 634 | 134 948 | 4.18 | 1 | 11.8 | 17.0 | 18.0 | 56.6 | 0.4 | 30.8 |
| | EC152 Nqazwa Hill (Qaukeni) | EC153 Port St Johns | 135 734 | 118 174 | 134 736 | 3.52 | 2 | 14.6 | 26.4 | 22.6 | 60.5 | 0.5 | 41.1 |
| | EC154 Nyandeni LSA) | EC155 Nyandeni | 37 306 | 42 846 | | 2.50 | 3 | 11.9 | 60.4 | 7.0 | 66.6 | 3.5 | 69.2 |
| | EC156 (Mhlonilo LSA) | EC157 King Sabata Dalindyebo | 31 314 | 23 709 | | 2.33 | 3 | 15.8 | 68.7 | 1.4 | 47.4 | 5.1 | 98.4 |
| | EC158 Matatiele (Maluti) | EC159 Umzimvubu | 245 731 | 279 736 | 688 285 | 4.38 | 1 | 19.5 | 14.8 | 27.4 | 59.5 | 0.2 | 42.9 |
| | EC160 Nelson Mandela Bay (Port Elizabeth) | EC161 Nelson Mandela Bay | 135 798 | 141 361 | | 4.73 | 1 | 20.8 | 11.9 | 22.0 | 50.3 | 0.0 | 38.6 |
| | EC162 (Mhlonilo LSA) | EC163 Nqazwa Hill (Qaukeni) | 254 483 | 279 791 | | 4.24 | 1 | 18.9 | 15.5 | 33.8 | 54.8 | 0.4 | 47.8 |
| | EC164 Port St Johns | EC165 Nyandeni | 146 965 | 165 086 | 456 097 | 4.43 | 1 | 22.5 | 8.1 | 23.5 | 55.6 | 0.2 | 48.9 |
| | EC166 (Nyandeni LSA) | EC167 (Nyandeni LSA) | 274 420 | 314 276 | | 4.27 | 1 | 15.7 | 20.0 | 34.4 | 60.9 | 1.1 | 52.5 |
| | EC168 (Nyandeni LSA) | EC169 (Nyandeni LSA) | 202 849 | 237 136 | 220 724 | 4.19 | 1 | 16.7 | 10.8 | 16.9 | 57.4 | 0.3 | 38.3 |
| | EC170 (Nyandeni LSA) | EC171 (Nyandeni LSA) | 416 347 | 444 832 | 457 634 | 3.52 | 2 | 11.3 | 38.7 | 18.7 | 68.3 | 2.1 | 30.0 |
| | EC172 (Nyandeni LSA) | EC173 (Nyandeni LSA) | 194 628 | 258 765 | 17 366 | 4.01 | 1 | 5.3 | 24.2 | 5.8 | 54.8 | 0.5 | 15.5 |
| | EC174 (Nyandeni LSA) | EC175 (Nyandeni LSA) | 197 551 | 220 630 | 432 531 | 4.34 | 1 | 11.2 | 18.9 | 10.0 | 62.2 | 0.3 | 71.8 |
| | EC176 (Nyandeni LSA) | EC177 (Nyandeni LSA) | 1 005 780 | 1 050 934 | 1 131 016 | 1.85 | 4 | 3.2 | 85.3 | 4.7 | 64.7 | 7.8 | 61.7 |
| | EC178 (Nyandeni LSA) | EC179 (Nyandeni LSA) | 6 278 655 | 6 527 730 | 6 881 930 | | | 10.7 | 45.3 | 13.9 | 61.2 | 3.2 | 23.5 |
| | Eastern Cape Total | | | | | | | | | | | | 70.8 |

Free State



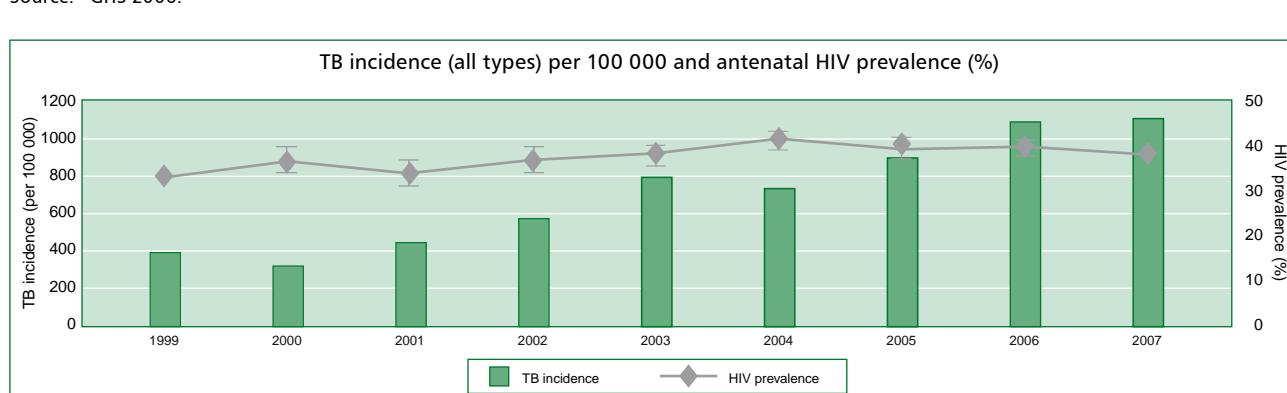
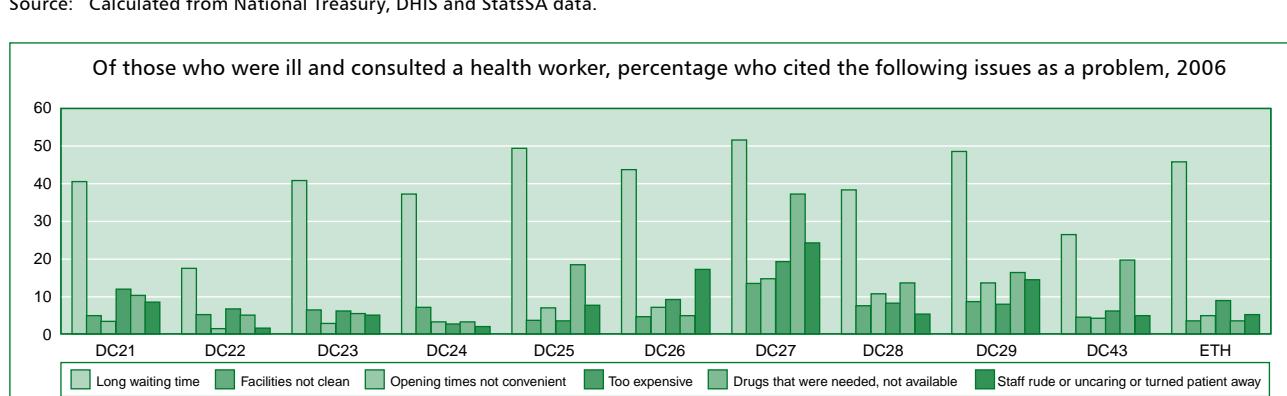
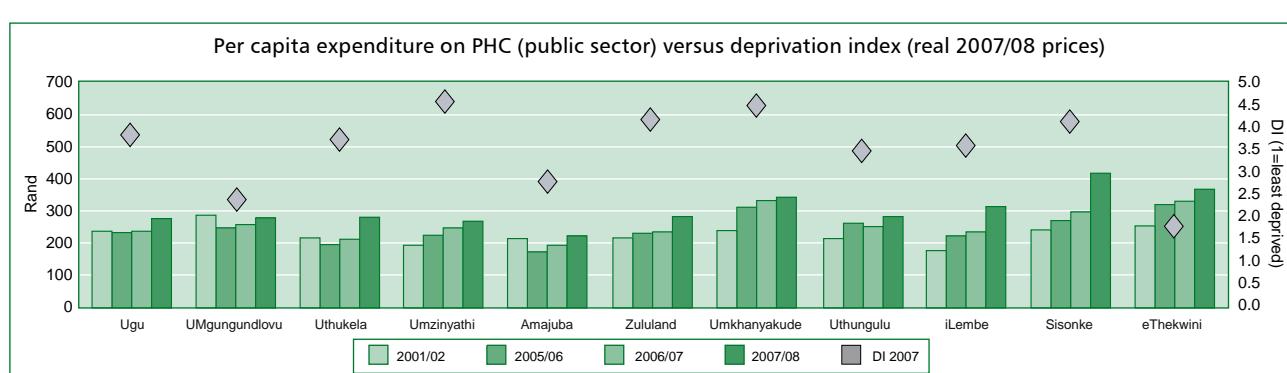
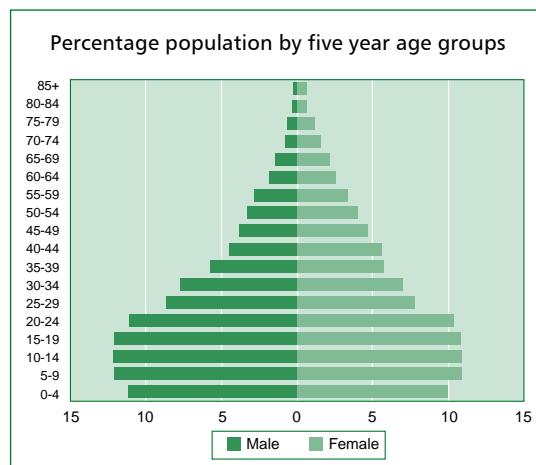
| District | Sub-district | Population | | | 2007 | | | Community Survey 2007 indicators (%) | | | | | | |
|--|-------------------------|---|-----------|-----------|-------------------|-------------------------|---|--|------------------------------------|------------------------------|---------------------------------|---------------------------|-----------------------------|------|
| | | 2001 | 2007 | Mid-2007 | Deprivation Index | Socio-economic quintile | Population 20 and older with no schooling | Households using electricity for cooking | Households with no refuse disposal | Households with a cell phone | Households with internet access | Households with no toilet | Households with piped water | |
| Free State | | | | | | | | | | | | | | |
| DC16 Xhariep | FS161 | Letsameng | 42 984 | 36 329 | 42 434 | 2.17 | 4 | 21.8 | 61.7 | 3.9 | 60.3 | 2.5 | 4.1 | 89.0 |
| | FS162 | Kopanong | 55 944 | 49 423 | 55 350 | 2.13 | 4 | 14.8 | 77.8 | 4.0 | 55.5 | 3.8 | 5.8 | 94.3 |
| | FS163 | Mohokare | 36 321 | 41 859 | 35 882 | 2.88 | 3 | 15.0 | 49.8 | 4.3 | 54.1 | 1.2 | 11.7 | 93.5 |
| DC17 Moltheo | FS171 | Naledi | 27 479 | 25 445 | 29 858 | 2.21 | 4 | 7.0 | 55.0 | 1.5 | 60.0 | 1.7 | 5.0 | 98.0 |
| | FS172 | Mangauing | 645 440 | 752 906 | 700 896 | 2.17 | 4 | 4.9 | 80.2 | 5.4 | 73.3 | 6.0 | 3.8 | 99.1 |
| | FS173 | Mantsopa | 55 342 | 59 028 | 60 201 | 2.27 | 4 | 5.2 | 68.0 | 4.8 | 62.0 | 4.4 | 4.7 | 96.2 |
| DC18 Lejweleputswa | FS181 | Masilonyana | 64 411 | 80 101 | 74 678 | 1.85 | 4 | 16.3 | 85.1 | 1.7 | 62.2 | 0.7 | 1.9 | 98.6 |
| | FS182 | Tolologo | 32 455 | 21 321 | 37 783 | 2.67 | 3 | 23.5 | 69.4 | 22.1 | 55.1 | 1.9 | 16.8 | 94.4 |
| | FS183 | Tswelopale | 53 713 | 40 617 | 62 035 | 2.61 | 3 | 14.3 | 67.3 | 1.4 | 57.8 | 0.9 | 2.4 | 97.3 |
| | FS184 | Malibabeng | 408 169 | 405 032 | 469 565 | 1.98 | 4 | 5.8 | 77.0 | 1.7 | 68.9 | 3.9 | 2.1 | 97.9 |
| | FS185 | Nala | 98 265 | 92 589 | 114 036 | 2.95 | 3 | 11.7 | 63.0 | 2.0 | 63.7 | 1.6 | 3.1 | 94.2 |
| DC19 Thabo Mofutsanyane | FS191 | Sesoto | 123 195 | 102 829 | 130 580 | 2.65 | 3 | 10.4 | 60.4 | 12.0 | 61.0 | 3.6 | 6.5 | 95.5 |
| | FS192 | Dihlabeng | 128 928 | 108 451 | 137 410 | 2.23 | 4 | 8.5 | 70.1 | 4.6 | 66.7 | 5.6 | 3.2 | 93.7 |
| | FS193 | Nkatoana | 61 951 | 62 365 | 65 575 | 3.03 | 3 | 16.9 | 54.9 | 10.3 | 54.6 | 3.2 | 5.4 | 94.0 |
| | FS194 | Mauti a Phofung | 360 786 | 385 419 | 380 127 | 3.11 | 2 | 9.3 | 66.7 | 11.5 | 71.1 | 1.8 | 1.8 | 98.8 |
| | FS195 | Phumelela | 50 907 | 35 089 | 54 170 | 2.51 | 3 | 10.9 | 55.5 | 14.9 | 71.8 | 3.1 | 11.2 | 89.8 |
| | FSDMA19 | Golden Gate Highlands National Park DmA | 169 | 169 | | | | | | | | | | |
| DC20 Fezile Dabi (Northern Free State) | FS201 | Moqhaka | 167 892 | 170 525 | 188 935 | 1.51 | 5 | 6.6 | 88.4 | 2.6 | 65.4 | 3.3 | 1.0 | 97.1 |
| | FS203 | Ngwane | 118 809 | 95 188 | 133 983 | 2.03 | 4 | 5.5 | 86.7 | 2.8 | 71.5 | 3.6 | 1.5 | 94.7 |
| | FS204 | Meisimaholo | 115 955 | 154 658 | 130 406 | 1.92 | 4 | 4.7 | 84.4 | 2.1 | 74.8 | 9.9 | 0.5 | 99.8 |
| | FS205 | Matube | 57 662 | 53 721 | 64 700 | 2.40 | 3 | 13.1 | 75.9 | 2.6 | 68.4 | 3.5 | 4.3 | 95.7 |
| | Free State Total | | 2 706 777 | 2 773 064 | 2 968 604 | | | 7.9 | 75.2 | 5.2 | 68.3 | 4.1 | 3.2 | 97.3 |

Gauteng



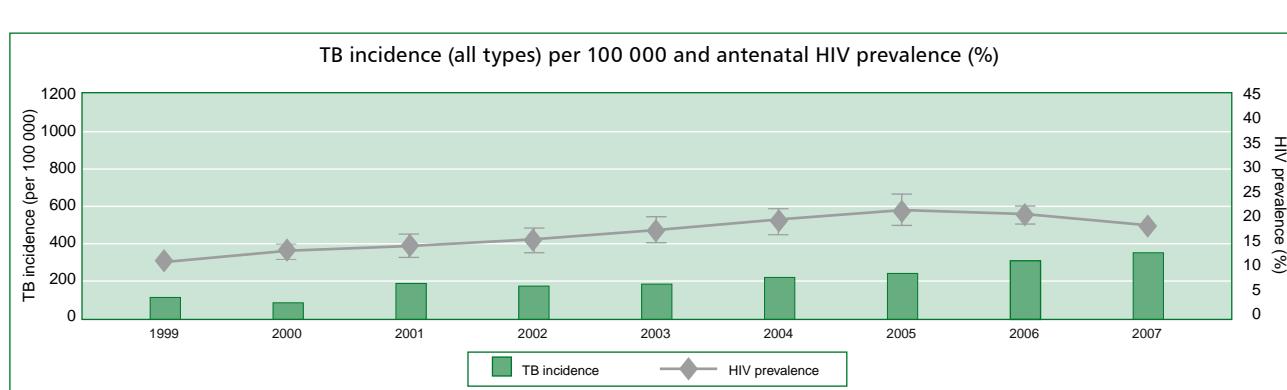
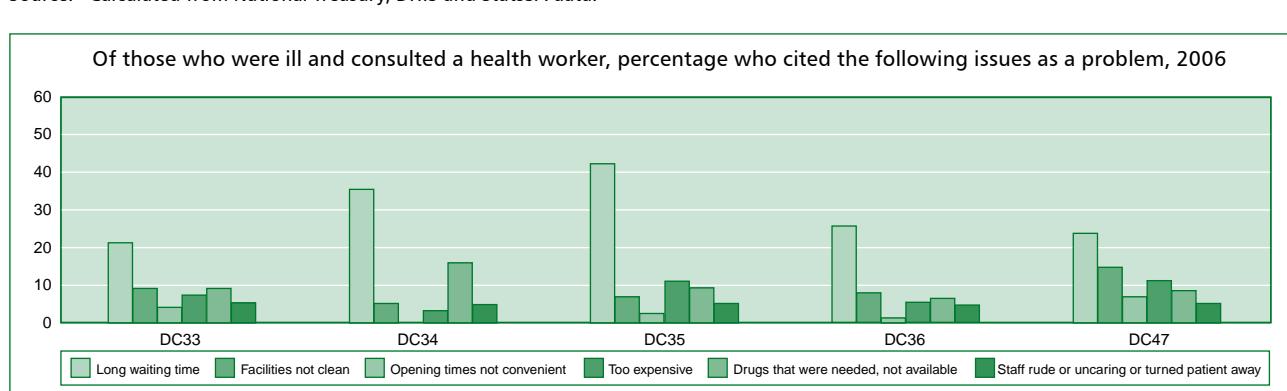
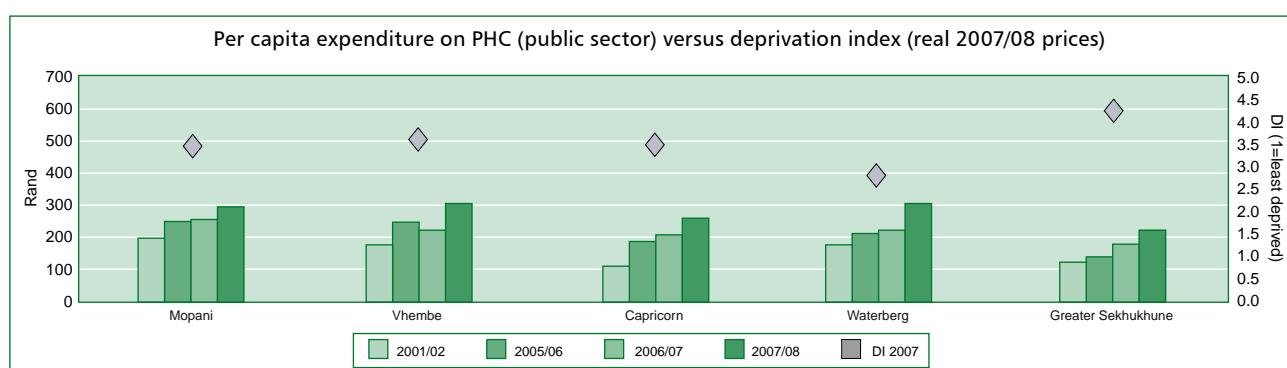
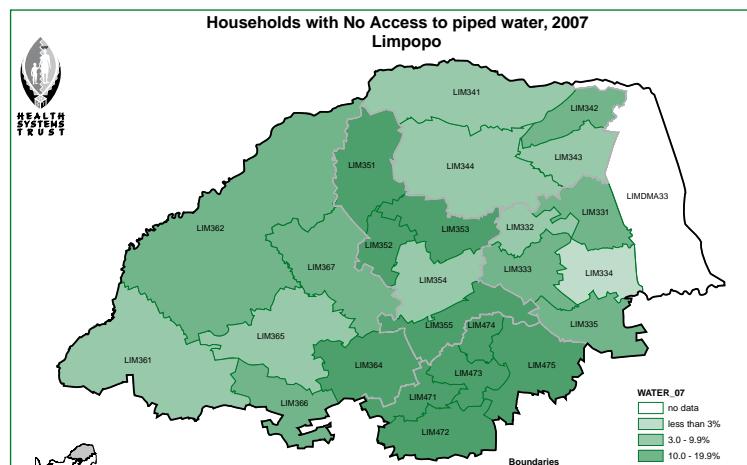
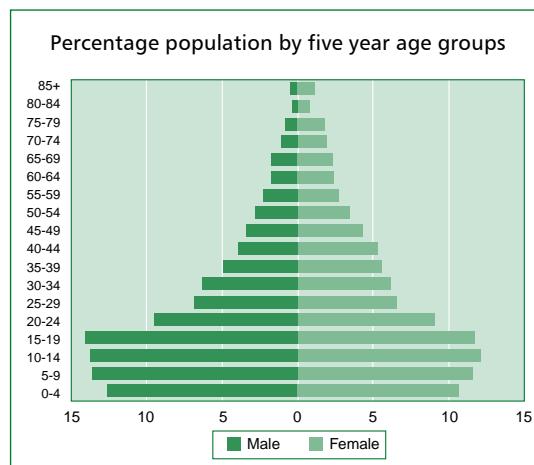
| District | Sub-district | Population | | 2007 | | 2007 | | Community Survey 2007 indicators (%) | | | | | | | | |
|----------------------|----------------------------|------------|----------------------|-----------|-------------------|-------------------------|---|--|------------------------------------|------------------------------|---------------------------------|---------------------------|-----------------------------|------|------|------|
| | | 2001 | 2007 | Mid-2007 | Deprivation Index | Socio-economic quintile | Population 20 and older with no schooling | Households using electricity for cooking | Households with no refuse disposal | Households with a cell phone | Households with internet access | Households with no toilet | Households with piped water | | | |
| Gauteng | | | | | | | | | | | | | | | | |
| DC42 | Sedibeng | GT421 | Emfuleni | 658 424 | 650 872 | 764 963 | 2.00 | 4 | 3.7 | 92.2 | 3.8 | 72.9 | 4.4 | 0.4 | 98.2 | |
| | | GT422 | Midvaal | 64 642 | 83 445 | 76 017 | 1.53 | 5 | 4.9 | 85.7 | 5.9 | 74.4 | 9.5 | 1.4 | 94.0 | |
| | | GT423 | Lesedi | 73 692 | 66 516 | 83 476 | 1.78 | 5 | 8.1 | 75.8 | 5.8 | 71.8 | 11.3 | 4.8 | 95.9 | |
| DC46 | Metswedding (CBDC2) | GT461 | Noleng tsa Taemane | 53 203 | 49 389 | 69 129 | 1.93 | 4 | 4.0 | 67.6 | 7.5 | 82.2 | 6.3 | 4.0 | 87.2 | |
| | | GT462 | Kungwini | 109 063 | 104 150 | 143 690 | 2.32 | 3 | 8.6 | 71.3 | 7.9 | 82.2 | 6.9 | 3.0 | 86.2 | |
| DC48 | West Rand (CBDC8) | GT481 | Mogale City | 289 834 | 319 633 | 314 703 | 1.81 | 5 | 5.6 | 82.0 | 4.0 | 75.8 | 10.4 | 1.9 | 96.8 | |
| | | GT482 | Randfontein | 128 731 | 117 265 | 140 534 | 1.82 | 5 | 4.9 | 76.2 | 10.5 | 74.7 | 5.2 | 9.7 | 94.3 | |
| | | GT483 | Westonaria | 109 327 | 99 214 | 115 356 | 2.40 | 3 | 8.1 | 65.0 | 1.2 | 68.6 | 2.8 | 0.0 | 99.3 | |
| | | GTDMA48 | West Rand DMA | 5 781 | 2 917 | 6 278 | | | | 6.6 | 67.9 | 16.6 | 74.5 | 8.2 | 8.8 | 66.7 |
| EKU | Ekurhuleni (East Rand) | EKU | Ekurhuleni | 2 478 629 | 2 724 227 | 2 577 446 | 2.03 | 4 | 4.2 | 76.8 | 3.6 | 79.5 | 10.5 | 2.3 | 99.0 | |
| JHB | City of Johannesburg | JHB | City of Johannesburg | 3 225 310 | 3 888 182 | 3 288 132 | 1.86 | 4 | 3.4 | 88.2 | 1.9 | 81.6 | 14.2 | 1.2 | 98.3 | |
| TSH | City of Tshwane (Pretoria) | TSH | City of Tshwane | 1 982 233 | 2 345 909 | 2 140 964 | 2.03 | 4 | 4.1 | 74.1 | 5.6 | 83.3 | 12.8 | 1.4 | 97.2 | |
| Gauteng Total | | | | 9 178 869 | 10 451 719 | 9 720 688 | | 4.0 | 81.3 | 3.6 | 80.3 | 11.7 | 1.6 | 97.9 | | |

KwaZulu-Natal



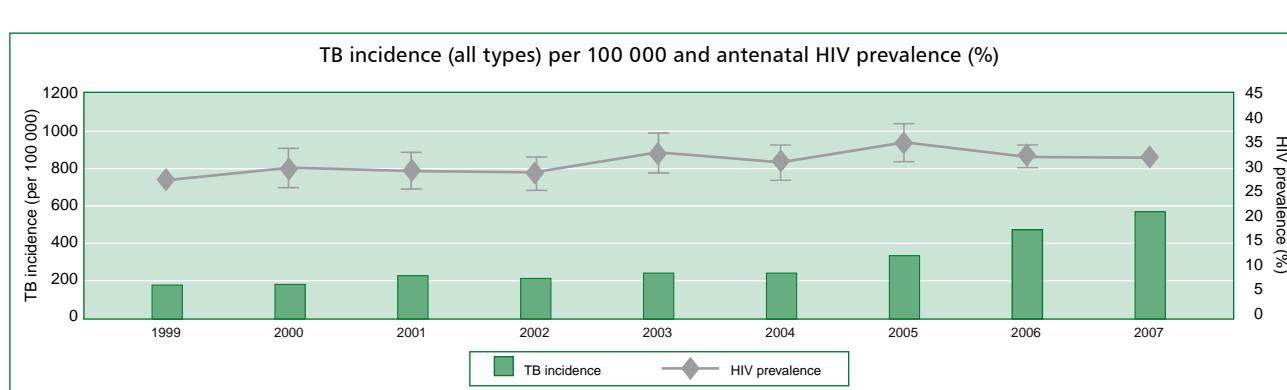
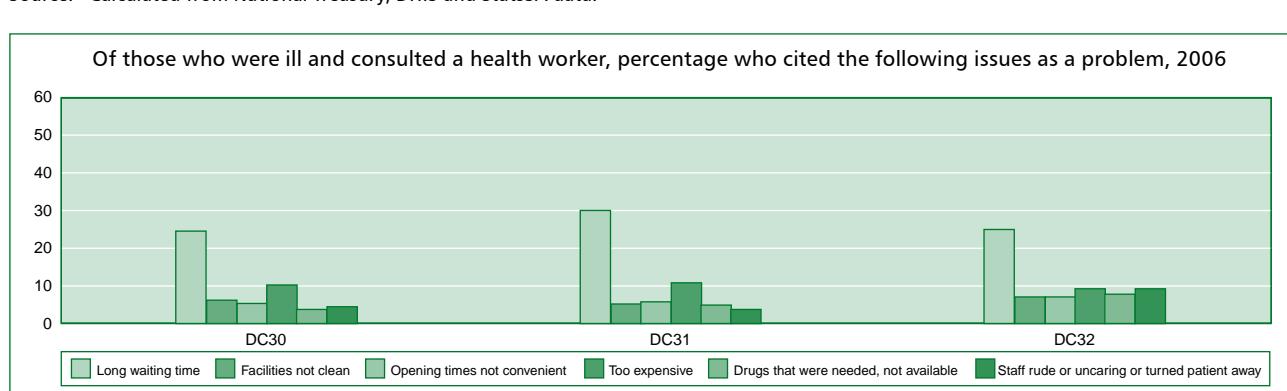
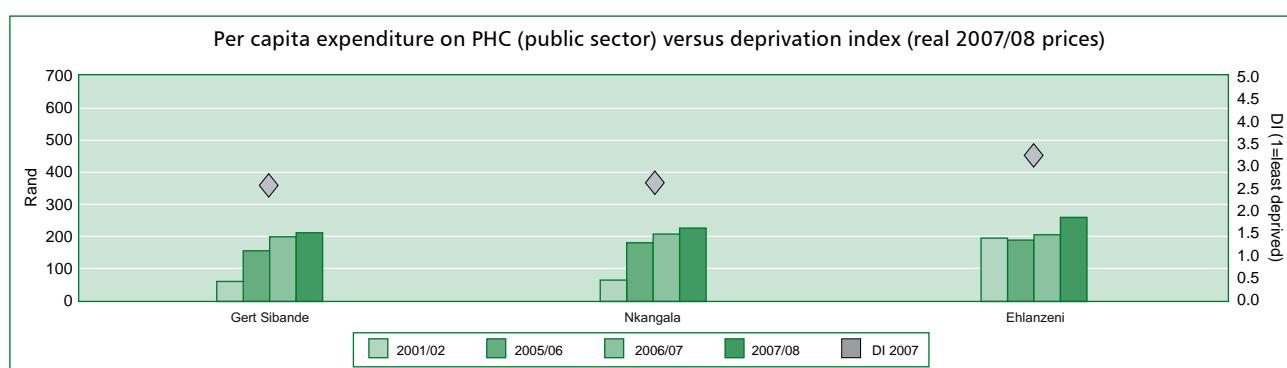
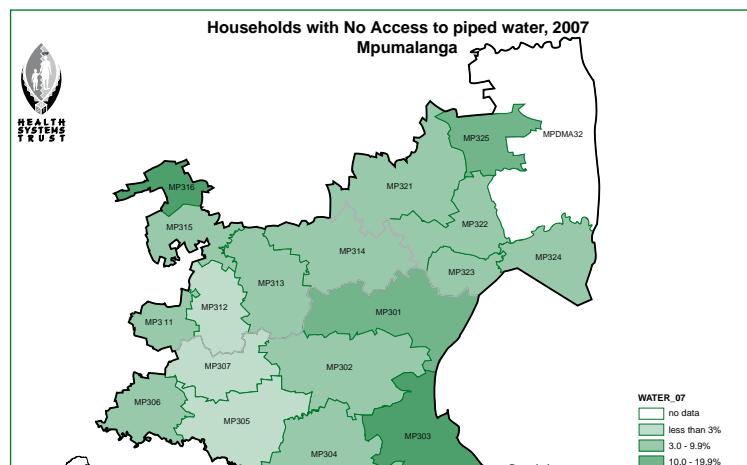
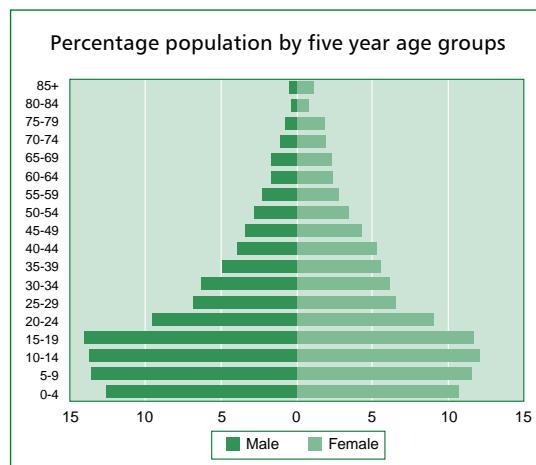
| District | Sub-district | Population | | | 2007 | | | 2007 | | | Community Survey 2007 indicators (%) | | |
|----------------------|---------------|------------|----------------------------------|-----------|-------------------|-------------------------|---|--|------------------------------------|------------------------------|--------------------------------------|---------------------------|-----------------------------|
| | | 2001 | 2007 | Mid-2007 | Deprivation Index | Socio-economic quintile | Population 20 and older with no schooling | Households using electricity for cooking | Households with no refuse disposal | Households with a cell phone | Households with internet access | Households with no toilet | Households with piped water |
| KwaZulu-Natal | | | | | | | | | | | | | |
| DG21 | Ugu | KZN211 | Vulamelelo | 83 045 | 74 023 | 82 877 | 4.61 | 1 | 26.1 | 20.3 | 16.0 | 49.1 | 0.0 |
| | | KZN212 | Umdoni | 62 292 | 74 327 | 63 740 | 2.96 | 3 | 13.4 | 51.0 | 57.0 | 67.0 | 3.1 |
| | | KZN213 | Umzumbe | 193 769 | 176 283 | 191 990 | 4.40 | 1 | 19.2 | 26.3 | 16.0 | 56.6 | 0.9 |
| | | KZN214 | Umzivambu | 92 328 | 104 829 | 91 448 | 3.96 | 1 | 15.8 | 31.8 | 20.4 | 57.9 | 1.2 |
| | | KZN215 | Ezindoleni | 54 326 | 56 872 | 54 169 | 4.39 | 1 | 17.4 | 26.6 | 17.6 | 68.6 | 0.4 |
| | | KZN216 | Hibiscus Coast | 218 170 | 224 272 | 221 337 | 2.80 | 3 | 8.5 | 72.1 | 10.2 | 77.8 | 10.2 |
| | | KZN217 | uMshwathi | 108 422 | 113 051 | 115 194 | 3.22 | 2 | 13.5 | 40.3 | 3.9 | 73.2 | 9.3 |
| DG22 | Umgungundlovu | KZN221 | Umgungundlovu | 73 896 | 78 783 | 79 683 | 2.20 | 4 | 8.8 | 63.6 | 6.6 | 72.3 | 10.0 |
| | | KZN222 | Mpofana | 36 819 | 31 614 | 39 639 | 2.62 | 3 | 14.7 | 55.9 | 6.0 | 66.3 | 1.1 |
| | | KZN223 | Impendle | 33 572 | 38 403 | 35 999 | 3.55 | 2 | 9.3 | 24.3 | 23.9 | 66.8 | 2.6 |
| | | KZN224 | The Msunduzi | 55 235 | 61 673 | 59 462 | 2.16 | 4 | 4.8 | 87.1 | 2.7 | 70.0 | 7.5 |
| | | KZN225 | Mkhambathini | 59 067 | 46 866 | 63 885 | 3.50 | 2 | 18.0 | 39.4 | 16.9 | 58.9 | 3.0 |
| | | KZN226 | Richmond | 63 223 | 56 772 | 67 582 | 3.25 | 2 | 17.6 | 51.4 | 5.9 | 65.5 | 2.6 |
| | | KZN227 | Hijimoor/Kamberg Park tDMA | 15 | 9 | | | | | | | | |
| DG23 | Uthukela | KZN228 | Emambathini/Ladysmith | 225 458 | 236 756 | 218 919 | 2.93 | 3 | 7.8 | 52.2 | 4.6 | 75.5 | 2.8 |
| | | KZN229 | Indaka | 113 447 | 101 555 | 107 810 | 4.09 | 1 | 18.9 | 32.0 | 2.7 | 68.3 | 0.0 |
| | | KZN230 | Umsheszi | 59 917 | 83 910 | 58 805 | 2.93 | 3 | 16.3 | 60.5 | 18.6 | 76.5 | 4.4 |
| | | KZN235 | Ookahlamba | 137 324 | 151 456 | 132 473 | 4.03 | 1 | 17.4 | 33.7 | 5.7 | 76.3 | 2.1 |
| | | KZN236 | Imbazarane | 119 926 | 140 753 | 114 836 | 4.50 | 1 | 16.8 | 24.2 | 15.4 | 66.4 | 0.0 |
| | | KZN237 | Giant's Castle Game Reserve tDMA | 514 | 515 | | | | | | | | |
| DC24 | Umrintathi | KZN241 | Endumeni | 51 102 | 54 440 | 54 089 | 2.23 | 4 | 9.7 | 71.6 | 3.2 | 66.0 | 4.7 |
| | | KZN242 | Nantu | 168 991 | 164 888 | 150 039 | 4.75 | 1 | 22.6 | 21.8 | 15.5 | 65.2 | 1.0 |
| | | KZN244 | Mzinga | 168 827 | 161 889 | 170 224 | 5.27 | 1 | 49.4 | 8.1 | 60.6 | 60.9 | 0.0 |
| | | KZN245 | Umtoto | 92 292 | 114 509 | 96 008 | 3.47 | 2 | 23.1 | 34.5 | 12.9 | 67.6 | 21.7 |
| DG25 | Amajuba | KZN252 | Newcastle | 332 980 | 327 641 | 419 658 | 2.69 | 3 | 6.7 | 73.9 | 3.6 | 74.3 | 2.6 |
| | | KZN253 | Emangeni/(Utrecht) | 32 278 | 23 259 | 41 119 | 3.19 | 2 | 10.8 | 37.6 | 17.0 | 73.8 | 2.6 |
| | | KZN254 | Danrhause | 102 776 | 91 363 | 129 046 | 3.69 | 2 | 9.6 | 43.9 | 13.4 | 75.9 | 1.5 |
| | | KZN261 | edDume | 82 243 | 75 998 | 85 504 | 3.86 | 1 | 18.6 | 25.8 | 20.7 | 57.1 | 2.0 |
| | | KZN262 | uPhongolo | 119 782 | 137 757 | 125 276 | 3.57 | 2 | 17.9 | 49.8 | 4.6 | 77.7 | 3.1 |
| | | KZN263 | Abaquusi | 191 018 | 247 616 | 200 477 | 3.53 | 2 | 16.6 | 40.6 | 21.7 | 76.4 | 1.8 |
| | | KZN265 | Nongoma | 198 443 | 244 502 | 202 652 | 4.78 | 1 | 24.0 | 29.9 | 9.0 | 68.4 | 0.3 |
| | | KZN266 | Umlundi | 189 015 | 197 905 | 218 877 | 3.85 | 1 | 19.9 | 53.5 | 24.4 | 75.9 | 1.1 |
| DG26 | Zululand | KZN271 | Umlabuyalingana | 140 956 | 163 892 | 145 216 | 4.37 | 1 | 33.3 | 9.2 | 10.8 | 70.3 | 0.6 |
| | | KZN272 | Jozini | 184 049 | 207 246 | 190 292 | 4.08 | 1 | 27.2 | 27.9 | 25.1 | 75.7 | 0.5 |
| | | KZN273 | The Big 5 False Bay | 31 295 | 34 992 | 32 850 | 4.09 | 1 | 27.9 | 29.5 | 22.8 | 71.4 | 3.1 |
| | | KZN274 | Haibusa | 176 690 | 150 553 | 182 266 | 4.30 | 1 | 24.6 | 22.5 | 17.6 | 64.6 | 0.2 |
| | | KZN275 | Muhabatua | 33 610 | 46 589 | 37 803 | 2.60 | 3 | 11.5 | 76.7 | 1.3 | 80.0 | 2.9 |
| | | KZN277 | Silicia Park DMA | 6 537 | 10 957 | 5 524 | | | | | | | |
| DG28 | Uthungulu | KZN281 | Mbonambi | 106 843 | 118 078 | 105 415 | 3.37 | 2 | 16.5 | 56.1 | 8.2 | 72.6 | 1.2 |
| | | KZN282 | uMhlatuze | 289 889 | 332 154 | 290 565 | 2.28 | 3 | 9.6 | 84.9 | 5.3 | 75.6 | 8.0 |
| | | KZN283 | Ntambanana | 84 775 | 94 187 | 83 238 | 4.14 | 1 | 24.2 | 32.9 | 10.4 | 70.4 | 0.0 |
| | | KZN284 | uMlazi | 221 076 | 175 872 | 217 403 | 4.05 | 1 | 20.9 | 36.5 | 15.6 | 57.6 | 2.4 |
| | | KZN285 | Mthonjaneni | 50 381 | 47 907 | 49 866 | 4.22 | 1 | 29.2 | 29.2 | 40.2 | 48.9 | 1.3 |
| | | KZN286 | Nkanda | 133 804 | 121 454 | 129 676 | 4.80 | 1 | 28.8 | 62.7 | 16.3 | 58.2 | 0.2 |
| | | KZN291 | Mordeni (eNondakusuka) | 128 669 | 122 670 | 143 537 | 3.23 | 2 | 13.4 | 72.6 | 10.0 | 66.2 | 0.6 |
| | | KZN292 | Kwadukuza | 158 581 | 162 055 | 179 063 | 2.49 | 3 | 9.9 | 81.7 | 3.2 | 69.6 | 7.8 |
| | | KZN293 | Ndwedwe | 152 495 | 134 312 | 168 351 | 4.07 | 1 | 22.8 | 18.8 | 36.1 | 47.9 | 0.8 |
| | | KZN294 | Maphumulo | 120 644 | 109 155 | 131 741 | 4.66 | 1 | 31.8 | 20.6 | 14.5 | 67.2 | 0.0 |
| DC43 | Sisonke | KZN311 | Inqwe | 107 556 | 114 120 | 112 082 | 4.04 | 1 | 11.0 | 9.9 | 21.9 | 60.2 | 3.4 |
| | | KZN312 | Kwa Sani | 15 309 | 14 285 | 17 150 | 3.25 | 2 | 12.9 | 41.9 | 27.0 | 73.0 | 4.0 |
| | | KZN33 | Greater Kokstad | 56 328 | 46 718 | 60 807 | 2.62 | 3 | 3.9 | 45.9 | 7.6 | 67.4 | 3.7 |
| | | KZN34 | Ubulihlebewe | 101 959 | 80 801 | 106 882 | 4.08 | 1 | 25.6 | 31.6 | 2.2 | 52.6 | 2.5 |
| | | KZN35 | Mkhonazi Wilderness Area Duma | 174 336 | 243 241 | 199 991 | 4.28 | 1 | 6.6 | 18.2 | 1.6 | 61.5 | 0.0 |
| | | KZN36 | eThekwinini | 810 | 812 | | | | | | | | |
| ETH | eThekwinini | ETH | | 3 090 121 | 3 468 087 | 3 183 936 | 2.02 | 4 | 4.3 | 82.7 | 2.5 | 77.6 | 2.5 |
| | | | | 9 584 125 | 10 259 196 | 9 999 720 | | | 11.4 | 61.0 | 8.8 | 71.9 | 5.5 |
| | | | | | | | | | | | | 97.5 | |
| | | | | | | | | | | | | 79.3 | |

Limpopo



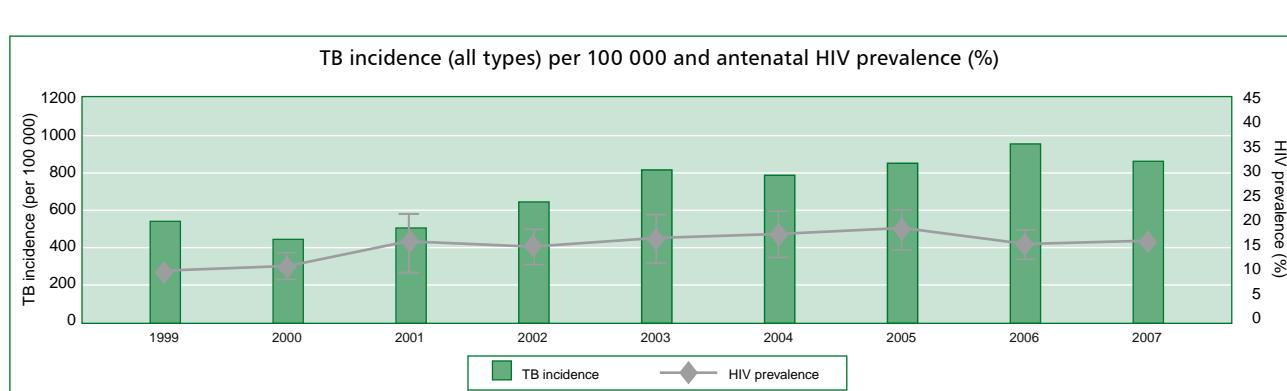
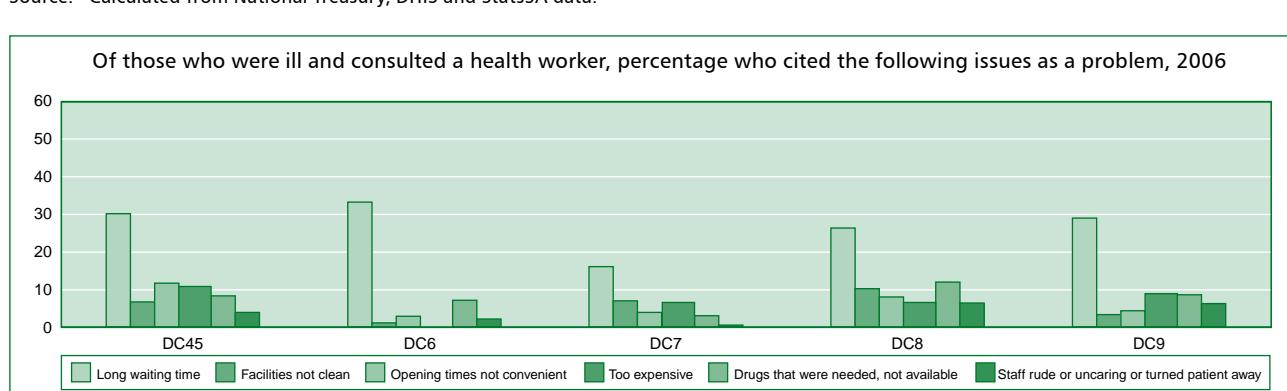
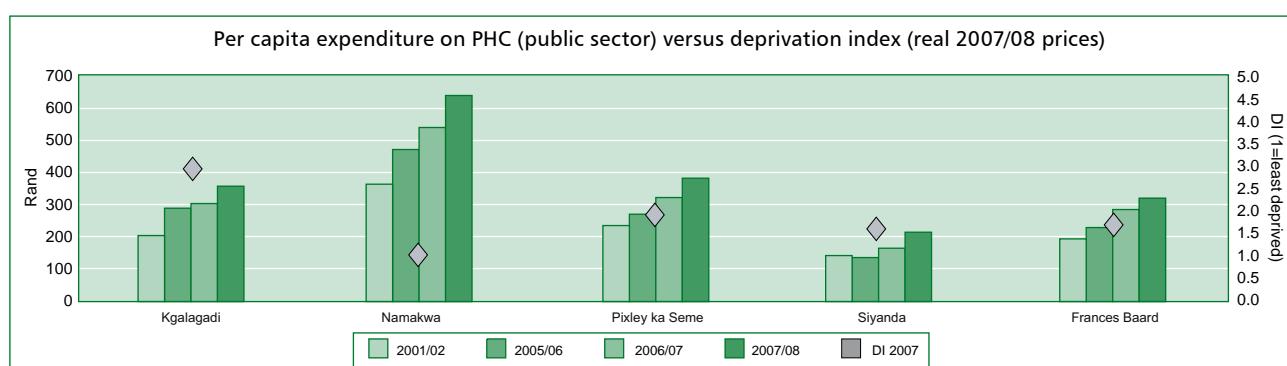
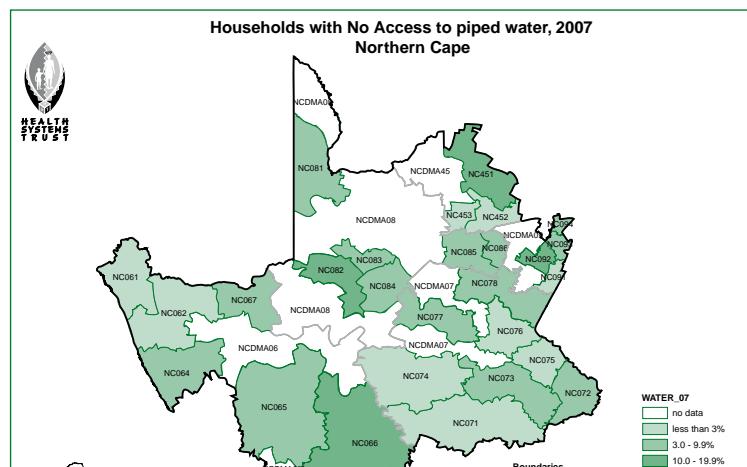
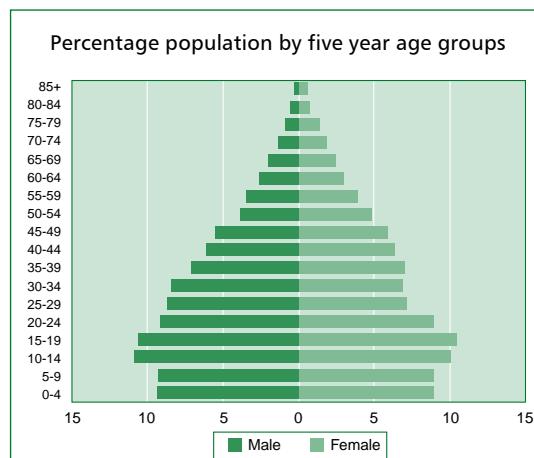
| District | Sub-district | Population | | | Deprivation Index | Socio-economic quintile | Community Survey 2007 indicators (%) | | | | | | | | |
|----------------|----------------------------|----------------------|---------------------------------------|-----------|-------------------|-------------------------|---|--|------------------------------------|------------------------------|---------------------------------|---------------------------|-----------------------------|------|------|
| | | 2001 | 2007 | Mid-2007 | | | Population 20 and older with no schooling | Households using electricity for cooking | Households with no refuse disposal | Households with a cell phone | Households with internet access | Households with no toilet | Households with piped water | | |
| Limpopo | | | | | | | | | | | | | | | |
| DC33 | Mopani | LIM331 | Greater Giyani | 239 288 | 247 665 | 244 357 | 3.62 | 2 | 24.3 | 19.6 | 19.4 | 71.6 | 0.6 | 40.7 | 83.5 |
| | | LIM332 | Greater Letaba | 220 100 | 247 745 | 226 498 | 3.55 | 2 | 26.8 | 24.6 | 23.9 | 62.6 | 0.8 | 18.6 | 92.9 |
| | | LIM333 | Greater Tzaneen | 375 588 | 349 081 | 390 136 | 3.15 | 2 | 20.0 | 36.5 | 27.9 | 66.8 | 1.5 | 15.2 | 84.4 |
| | | LIM334 | Ba-Phalaborwa | 131 089 | 127 307 | 138 008 | 2.37 | 3 | 13.7 | 60.1 | 13.7 | 76.8 | 4.6 | 19.6 | 98.1 |
| | | LIM335 | Maruleeng | 94 383 | 95 769 | 117 653 | 3.13 | 2 | 23.8 | 29.4 | 9.8 | 63.1 | 2.3 | 20.0 | 87.2 |
| | | LIMDMA33 | Kruger National Park DMA | 997 | 992 | | | | | | | | | | |
| DC34 | Vhembe | LIM341 | Musina | 39 309 | 57 196 | 44 702 | 2.66 | 3 | 15.3 | 66.6 | 10.2 | 68.7 | 2.2 | 12.6 | 93.1 |
| | | LIM342 | Mutale | 82 656 | 108 215 | 89 906 | 3.65 | 2 | 12.4 | 11.9 | 37.8 | 63.9 | 0.5 | 29.4 | 86.7 |
| | | LIM343 | Thulamela | 580 830 | 602 825 | 631 320 | 3.39 | 2 | 18.3 | 28.2 | 11.5 | 70.8 | 1.2 | 17.5 | 92.0 |
| | | LIM344 | Makhado | 495 259 | 471 808 | 539 691 | 3.38 | 2 | 20.3 | 30.6 | 15.3 | 73.5 | 1.8 | 9.5 | 93.0 |
| DC35 | Capricorn | LIM351 | Blouberg | 161 321 | 194 120 | 166 243 | 4.10 | 1 | 31.7 | 23.0 | 26.1 | 55.9 | 0.3 | 21.4 | 79.2 |
| | | LIM352 | Aganang | 147 686 | 145 453 | 152 230 | 3.60 | 2 | 18.4 | 42.6 | 0.8 | 71.3 | 0.3 | 9.1 | 77.6 |
| | | LIM353 | Moilemole | 109 439 | 100 404 | 113 729 | 3.28 | 2 | 22.8 | 52.5 | 1.5 | 73.3 | 0.7 | 6.7 | 63.5 |
| | | LIM354 | Potokwane | 508 277 | 561 783 | 533 385 | 2.91 | 3 | 6.0 | 62.0 | 6.9 | 78.4 | 3.5 | 8.3 | 94.1 |
| | | LIM355 | Lepelle-Nkumpi | 227 972 | 241 411 | 235 665 | 3.43 | 2 | 19.6 | 53.5 | 4.5 | 66.9 | 0.4 | 2.6 | 73.3 |
| DC36 | Waterberg | LIM361 | Thabazimbi | 63 918 | 60 036 | 69 251 | 1.92 | 4 | 6.1 | 68.1 | 9.3 | 80.9 | 4.6 | 4.6 | 92.0 |
| | | LIM362 | Lephalaile | 96 103 | 80 141 | 104 010 | 2.96 | 3 | 16.9 | 47.0 | 0.3 | 71.0 | 4.8 | 6.1 | 85.7 |
| | | LIM364 | Modikgong | 30 758 | 16 820 | 33 530 | 2.02 | 4 | 11.3 | 60.5 | 5.6 | 75.5 | 5.0 | 6.7 | 76.4 |
| | | LIM365 | Modimolle | 72 813 | 52 602 | 79 056 | 2.28 | 3 | 11.0 | 67.2 | 3.7 | 72.0 | 4.4 | 5.1 | 95.3 |
| | | LIM366 | Bela-Bela | 52 121 | 55 844 | 56 562 | 2.38 | 3 | 9.0 | 61.6 | 3.9 | 62.6 | 3.2 | 5.7 | 87.1 |
| | | LIM367 | Mogalakwena | 298 439 | 330 644 | 320 894 | 3.12 | 2 | 17.5 | 47.7 | 18.3 | 72.5 | 2.6 | 4.5 | 87.0 |
| DC47 | Greater Sekhukhune (CDBD3) | LIM471 | Greater Marble Hall | 121 324 | 124 511 | 131 233 | 3.43 | 2 | 24.7 | 35.3 | 19.1 | 69.4 | 2.4 | 3.9 | 78.1 |
| | | LIM472 | Elias Motsaledi (Greater Groblersdal) | 221 648 | 247 486 | 237 270 | 3.73 | 1 | 30.0 | 37.3 | 13.6 | 77.9 | 1.4 | 3.8 | 49.3 |
| | | LIM473 | Makhuduthamaga | 262 006 | 262 738 | 279 602 | 4.20 | 1 | 33.6 | 37.3 | 11.4 | 65.0 | 0.2 | 6.4 | 61.7 |
| | | LIM474 | Fetalkomo | 92 083 | 112 232 | 98 184 | 4.12 | 1 | 29.5 | 30.8 | 4.8 | 61.0 | 1.1 | 8.0 | 63.1 |
| | | LIM475 | Greater Tubatse | 270 124 | 343 470 | 289 794 | 3.97 | 1 | 19.7 | 40.5 | 13.4 | 68.9 | 0.6 | 10.1 | 72.5 |
| | | Limpopo Total | | 4 995 531 | 5 238 298 | 5 323 009 | | 19.4 | 40.3 | 13.8 | 70.5 | 1.8 | 12.4 | 83.6 | |

Mpumalanga



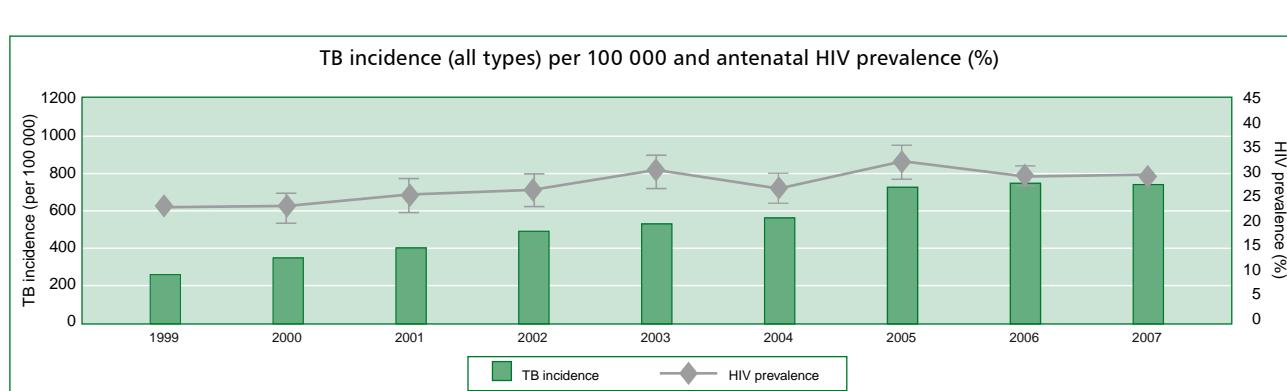
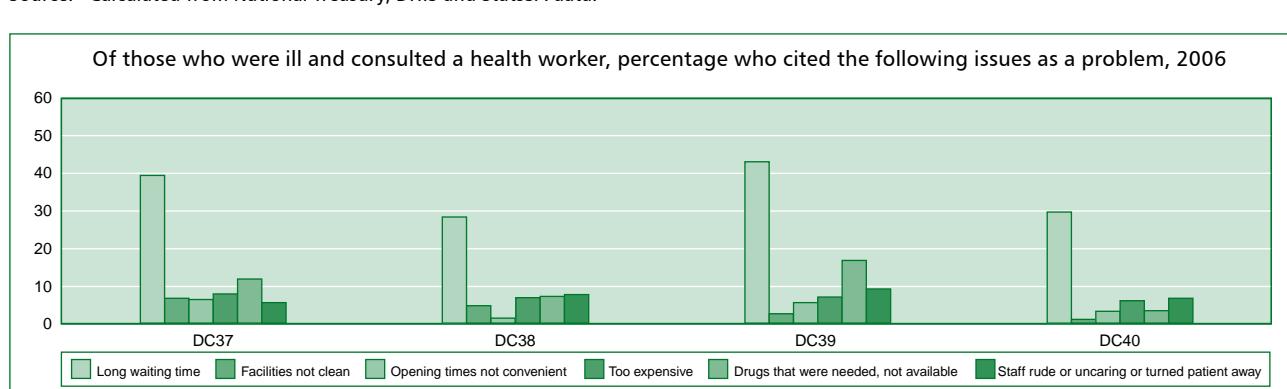
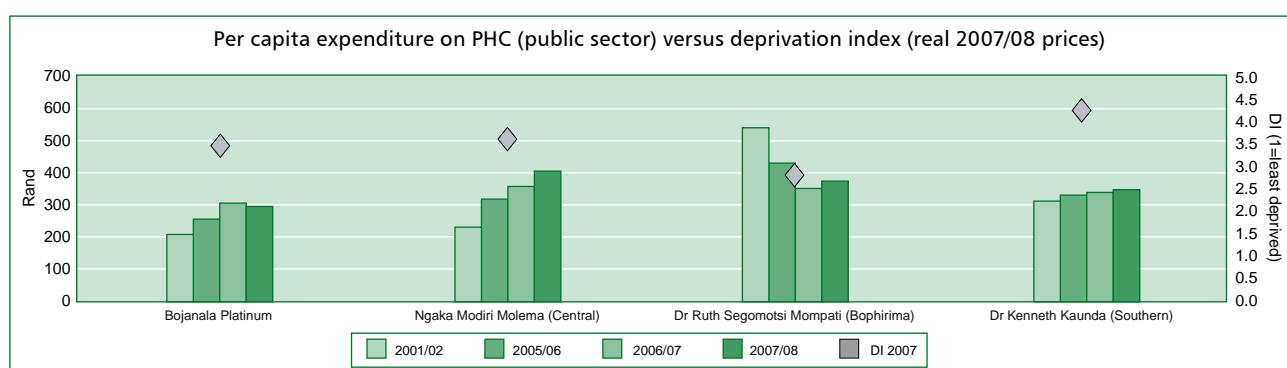
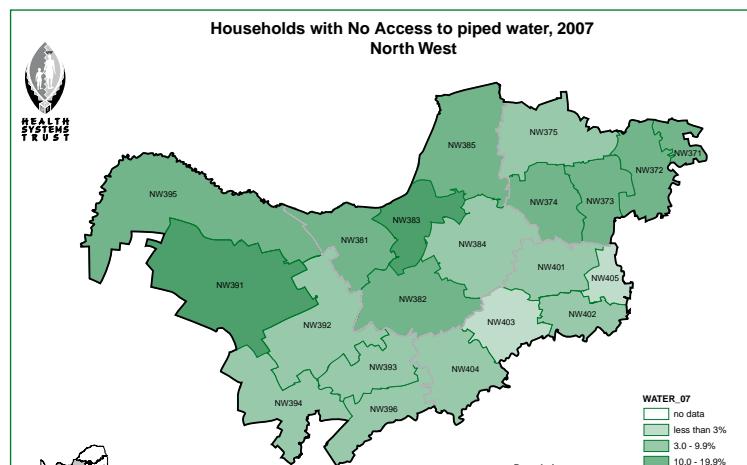
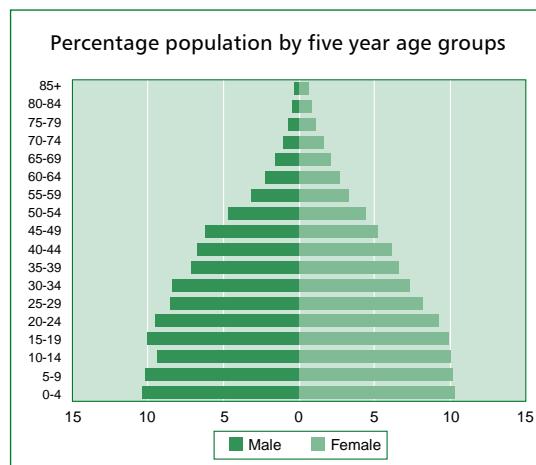
| District | Sub-district | Population | | | Deprivation Index | Socio-economic quintile | Community Survey 2007 indicators (%) | | | | | | | | |
|-------------------|--------------|-------------------------|----------------------------|-----------|-------------------|-------------------------|---|--|------------------------------------|------------------------------|---------------------------------|---------------------------|-----------------------------|-------|------|
| | | 2001 | 2007 | Mid-2007 | | | Population 20 and older with no schooling | Households using electricity for cooking | Households with no refuse disposal | Households with a cell phone | Households with internet access | Households with no toilet | Households with piped water | | |
| Mpumalanga | | | | | | | | | | | | | | | |
| DC30 | Gert Sibande | MF301 | Albert Luthuli | 187 938 | 194 088 | 189 873 | 3.57 | 2 | 20.8 | 33.0 | 23.4 | 71.6 | 1.8 | 6.5 | 84.2 |
| | | MF302 | Mskukaligwa | 124 812 | 126 274 | 127 202 | 2.48 | 3 | 11.2 | 38.6 | 5.1 | 83.7 | 5.3 | 6.0 | 93.5 |
| | | MF303 | Mkhondo (Piet Retief) | 142 893 | 106 459 | 144 904 | 3.29 | 2 | 17.1 | 46.3 | 14.6 | 76.0 | 3.0 | 16.2 | 79.9 |
| | | MF304 | Pixley Ka Seme | 80 736 | 65 928 | 82 087 | 3.20 | 2 | 24.0 | 41.4 | 10.5 | 64.0 | 4.5 | 4.3 | 93.0 |
| | | MF305 | Lekwa | 103 265 | 91 130 | 105 547 | 2.10 | 4 | 8.6 | 67.0 | 1.8 | 80.9 | 6.9 | 5.0 | 97.5 |
| | | MF306 | Dipaleseng | 38 619 | 37 880 | 39 566 | 2.35 | 3 | 10.2 | 57.3 | 11.2 | 68.0 | 5.8 | 16.5 | 95.5 |
| | | MF307 | Govan Mbeki | 221 747 | 268 947 | 226 273 | 1.84 | 5 | 6.9 | 71.7 | 1.4 | 76.7 | 6.5 | 1.4 | 97.5 |
| DC31 | Nkangala | MF311 | Delmas | 56 207 | 50 452 | 61 863 | 2.27 | 4 | 12.3 | 54.1 | 0.0 | 79.7 | 5.8 | 1.4 | 90.8 |
| | | MF312 | Emalahleni | 276 414 | 435 226 | 303 842 | 2.47 | 3 | 7.4 | 56.4 | 6.0 | 81.5 | 5.2 | 5.8 | 98.2 |
| | | MF313 | Steve Tshwete (Middelburg) | 142 770 | 182 513 | 156 735 | 1.78 | 5 | 8.6 | 77.0 | 3.1 | 82.1 | 7.8 | 3.3 | 95.1 |
| | | MF314 | Emakhazeni (Highlands) | 43 008 | 32 839 | 47 363 | 2.07 | 4 | 13.2 | 55.9 | 3.2 | 82.8 | 2.3 | 4.3 | 93.2 |
| | | MF315 | Tembisa | 257 115 | 278 518 | 279 070 | 3.06 | 2 | 22.2 | 58.1 | 1.2 | 83.4 | 0.5 | 1.7 | 96.4 |
| | | MF316 | Dr JS Moroka | 243 313 | 246 965 | 265 005 | 3.40 | 2 | 23.6 | 54.2 | 5.1 | 77.1 | 0.6 | 1.9 | 70.9 |
| DC32 | Ehlanzeni | MF321 | Thaba Chweu | 81 679 | 87 544 | 85 192 | 2.19 | 4 | 9.4 | 57.1 | 7.5 | 77.2 | 4.0 | 5.2 | 90.8 |
| | | MF322 | Mbombela | 476 593 | 527 198 | 490 861 | 2.48 | 3 | 13.6 | 73.6 | 5.4 | 79.3 | 5.5 | 8.7 | 91.5 |
| | | MF323 | Umlindi | 53 744 | 60 477 | 56 233 | 2.16 | 4 | 9.9 | 69.2 | 2.4 | 75.5 | 4.1 | 5.0 | 96.0 |
| | | MF324 | Nkomazi | 334 421 | 338 098 | 341 772 | 3.41 | 2 | 26.0 | 44.1 | 3.2 | 76.2 | 2.9 | 17.3 | 90.7 |
| | | MF325 | Bushbuckridge | 497 958 | 509 979 | 615 895 | 3.72 | 2 | 22.4 | 36.0 | 7.9 | 71.2 | 0.1 | 17.0 | 87.0 |
| | | MFDMA32 | Kruger National Park DMA | 2 655 | 2 944 | | | 0.9 | 61.8 | 6.6 | 93.3 | 24.7 | 0.0 | 100.0 | |
| | | Mpumalanga Total | | 3 365 887 | 3 643 459 | 3 619 283 | | 15.3 | 55.7 | 6.0 | 77.4 | 3.7 | 8.0 | 91.1 | |

Northern Cape



| District | Sub-district | Population | | | Deprivation Index | Socio-economic quintile | Community Survey 2007 indicators (%) | | | | | | | | |
|----------------------|------------------------|----------------------------|-------------------------|----------|-------------------|-------------------------|---|--|------------------------------------|------------------------------|---------------------------|-----------------------------|------|------|------|
| | | 2001 | 2007 | Mid-2007 | | | Population 20 and older with no schooling | Households using electricity for cooking | Households with no refuse disposal | Households with a cell phone | Households with no toilet | Households with piped water | | | |
| Northern Cape | | | | | | | | | | | | | | | |
| DC5 (CDBC1) | Kgalagadi | NC451 | Moshaweng (Kudumane) | 91 711 | 70 013 | 101 581 | 4.05 | 1 | 23.3 | 31.9 | 7.9 | 58.6 | 0.0 | 17.2 | 80.3 |
| | | NC452 | Ga-Segonyana (Kudumane) | 70 388 | 69 790 | 74 048 | 2.76 | 3 | 10.6 | 74.3 | 0.3 | 76.4 | 3.3 | 11.3 | 98.4 |
| | | NC453 | Gamgatara | 23 202 | 28 053 | 17 104 | 1.48 | 5 | 12.4 | 94.6 | 0.2 | 78.2 | 7.0 | 2.4 | 98.9 |
| DC6 | Namakwa | NCDMA45 | Kgalagadi DMA | 6 237 | 5 596 | 4 604 | | | 18.7 | 86.0 | 0.2 | 77.5 | 5.0 | 6.9 | 97.5 |
| | | NC061 | Richtersveld | 10 124 | 14 614 | 10 764 | 1.18 | 5 | 2.3 | 91.2 | 1.6 | 72.7 | 12.5 | 1.7 | 98.5 |
| | | NC062 | Nama Khoi | 44 750 | 54 646 | 47 806 | 1.14 | 5 | 1.7 | 94.2 | 0.7 | 60.6 | 3.0 | 3.6 | 97.4 |
| | | NC064 | Kamiesberg | 10 754 | 12 117 | 11 565 | 1.42 | 5 | 5.1 | 77.4 | 0.0 | 46.8 | 5.4 | 3.8 | 95.8 |
| | | NC065 | Hantam | 19 813 | 21 235 | 21 243 | 1.51 | 5 | 15.8 | 88.5 | 1.2 | 51.5 | 6.1 | 2.9 | 93.9 |
| | | NC066 | Karoo Hoogland | 10 513 | 10 419 | 11 301 | 1.76 | 5 | 16.7 | 80.9 | 1.0 | 37.1 | 7.2 | 3.5 | 85.4 |
| | | NC067 | Khai-Ma | 11 345 | 12 568 | 12 090 | 1.13 | 5 | 2.7 | 83.9 | 0.6 | 58.5 | 2.6 | 2.2 | 96.8 |
| | | NCDMA06 | Namaqualand DMA | 811 | 905 | 874 | | | 11.9 | 10.5 | 4.5 | 32.6 | 7.2 | 9.2 | 83.6 |
| DC7 | Pixley ka Seme (Karoo) | NC071 | Ubuntu | 16 375 | 16 148 | 18 441 | 2.00 | 4 | 22.1 | 83.3 | 1.1 | 49.3 | 7.2 | 5.3 | 97.7 |
| | | NC072 | Umsobomvu | 23 642 | 21 995 | 26 584 | 2.38 | 3 | 19.5 | 68.8 | 1.3 | 58.1 | 6.3 | 7.2 | 94.6 |
| | | NC073 | Emthanjeni | 35 547 | 38 225 | 40 053 | 1.80 | 5 | 13.8 | 89.8 | 3.4 | 59.7 | 5.3 | 1.9 | 94.5 |
| | | NC074 | Kareeburg | 9 490 | 9 868 | 10 713 | 1.91 | 4 | 13.4 | 71.5 | 1.5 | 46.8 | 3.9 | 4.5 | 98.1 |
| | | NC075 | Renosterberg | 9 069 | 9 186 | 10 245 | 2.20 | 4 | 12.7 | 64.0 | 1.2 | 43.7 | 3.4 | 8.7 | 97.5 |
| | | NC076 | Thembelihle | 13 987 | 13 216 | 15 753 | 1.79 | 5 | 17.4 | 61.7 | 4.3 | 56.6 | 5.1 | 8.5 | 99.2 |
| | | NC077 | Siyathemba | 17 512 | 20 121 | 19 704 | 1.91 | 4 | 14.1 | 81.8 | 3.9 | 50.7 | 4.5 | 6.6 | 96.9 |
| | | NC078 | Siyancuma | 35 809 | 35 967 | 40 338 | 2.20 | 4 | 20.4 | 83.6 | 2.0 | 61.1 | 3.5 | 4.4 | 91.7 |
| | | NCDMA07 | Pixley ka Seme DMA | 3 177 | 2 111 | 3 609 | | | 15.1 | 42.8 | 0.4 | 55.9 | 4.3 | 30.2 | 91.6 |
| | | DC8 | Siyanda | 6 847 | 7 328 | 7 979 | 2.12 | 4 | 15.1 | 57.3 | 4.5 | 61.7 | 1.7 | 14.8 | 92.4 |
| | | NC082 | Kai!Garib | 55 700 | 56 502 | 64 300 | 1.70 | 5 | 11.9 | 82.6 | 4.0 | 48.0 | 3.0 | 8.8 | 88.8 |
| | | NC083 | Khara Hais | 75 671 | 100 917 | 87 651 | 1.64 | 5 | 8.2 | 87.7 | 1.0 | 62.3 | 5.6 | 5.3 | 96.4 |
| | | NC084 | !Kheis | 16 123 | 18 914 | 18 639 | 2.14 | 4 | 14.1 | 69.6 | 6.4 | 46.4 | 2.9 | 15.5 | 92.2 |
| | | NC085 | Tsantsabane | 23 988 | 28 008 | 27 721 | 2.12 | 4 | 12.7 | 72.2 | 3.2 | 68.6 | 4.1 | 16.3 | 94.9 |
| | | NC086 | Kgetlopele | 14 741 | 21 501 | 16 981 | 1.39 | 5 | 9.7 | 93.4 | 0.4 | 74.5 | 8.0 | 6.4 | 95.2 |
| | | NCDMA08 | Siyanda DMA | 9 092 | 4 889 | 10 555 | | | 26.0 | 33.7 | 14.7 | 45.3 | 2.4 | 31.9 | 80.0 |
| | | NC091 | Sol Plaatjie | 201 466 | 243 015 | 229 977 | 1.75 | 5 | 8.5 | 81.9 | 2.2 | 68.5 | 10.4 | 1.1 | 99.4 |
| | | DC9 | Frances Baard | 35 765 | 40 748 | 41 017 | 2.25 | 4 | 12.5 | 63.6 | 7.4 | 61.1 | 1.9 | 6.2 | 89.4 |
| | | NC092 | Dikhalong | 21 734 | 20 431 | 24 927 | 2.29 | 3 | 16.2 | 77.1 | 12.9 | 61.2 | 3.2 | 13.7 | 92.4 |
| | | NC093 | Magareng | 61 321 | 46 409 | 68 096 | 2.46 | 3 | 20.1 | 71.1 | 4.2 | 62.0 | 4.8 | 9.7 | 90.7 |
| | | NC094 | Phokwane | 5 215 | 2 591 | 6 009 | | | 37.6 | 56.3 | 9.3 | 59.7 | 2.2 | 27.2 | 72.5 |
| | | NCDMA09 | Diamondfields DMA | 991 919 | 1 058 046 | 1 102 272 | | | 11.9 | 77.2 | 3.0 | 61.8 | 5.4 | 6.9 | 94.4 |
| | | Northern Cape Total | | | | | | | | | | | | | |

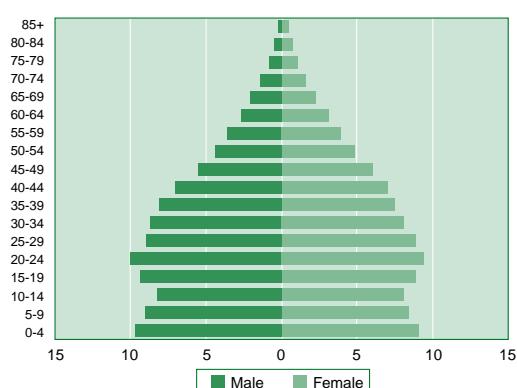
North West



| District | Sub-district | Population | | | 2007 | | | Community Survey 2007 indicators (%) | | | | | | | |
|-------------------|---------------------------------------|-------------------------|--------------------------------|-----------|-------------------|-------------------------|---|--|------------------------------------|------------------------------|---------------------------------|---------------------------|-----------------------------|------|------|
| | | 2001 | 2007 | Mid-2007 | Deprivation Index | Socio-economic quintile | Population 20 and older with no schooling | Households using electricity for cooking | Households with no refuse disposal | Households with a cell phone | Households with internet access | Households with no toilet | Households with piped water | | |
| North West | | | | | | | | | | | | | | | |
| DC37 | Bojanala Platinum | NW371 | Moretele | 181 038 | 182 414 | 191 542 | 3.14 | 2 | 12.2 | 62.6 | 1.5 | 72.5 | 0.3 | 1.3 | 88.0 |
| | | NW372 | Local Municipality of Madibeng | 346 672 | 371 183 | 372 171 | 2.61 | 3 | 10.5 | 71.2 | 19.9 | 76.9 | 3.0 | 4.4 | 87.6 |
| | | NW373 | Rustenburg | 387 097 | 449 771 | 413 596 | 2.19 | 4 | 6.1 | 71.0 | 11.2 | 75.3 | 2.3 | 5.6 | 86.6 |
| | | NW374 | Kgatlengrivier | 36 478 | 37 791 | 39 429 | 2.56 | 3 | 15.6 | 61.1 | 14.3 | 66.5 | 3.5 | 8.8 | 89.4 |
| | | NW375 | Moses Kotane | 237 175 | 227 427 | 254 796 | 3.06 | 2 | 11.4 | 65.7 | 1.3 | 71.5 | 1.5 | 3.8 | 95.3 |
| DC38 | Ngaka Modiri Molema (Central) | NW381 | Ratlou | 104 323 | 104 902 | 104 994 | 3.97 | 1 | 29.3 | 37.9 | 11.8 | 56.2 | 0.0 | 12.7 | 85.8 |
| | | NW382 | Tswaing | 114 155 | 81 004 | 115 162 | 3.06 | 2 | 25.4 | 68.3 | 8.3 | 71.4 | 2.5 | 5.6 | 88.8 |
| | | NW383 | Matikeng | 259 482 | 290 226 | 261 841 | 3.11 | 2 | 12.6 | 66.0 | 3.5 | 72.6 | 2.3 | 7.1 | 67.8 |
| | | NW384 | Disobota | 147 596 | 200 150 | 149 515 | 2.95 | 3 | 21.6 | 61.4 | 15.6 | 65.2 | 4.5 | 6.9 | 93.6 |
| | | NW385 | Ramotshere Moloa (Zeerust) | 137 442 | 129 301 | 138 538 | 3.38 | 2 | 21.7 | 43.4 | 6.2 | 60.4 | 3.2 | 6.3 | 89.5 |
| DC39 | Dr Ruth Segomotsi Mompati (Bophinima) | NW391 | Kagisano (Ganyesa) | 88 780 | 75 946 | 96 069 | 3.90 | 1 | 34.4 | 35.7 | 14.5 | 63.7 | 0.7 | 20.0 | 76.5 |
| | | NW392 | Naledi | 58 104 | 57 931 | 62 795 | 2.55 | 3 | 19.1 | 63.2 | 4.1 | 67.1 | 5.4 | 12.4 | 92.7 |
| | | NW393 | Mamusa (Schweizer Reneke) | 48 366 | 36 539 | 52 194 | 2.88 | 3 | 30.5 | 53.2 | 0.9 | 66.7 | 2.3 | 15.1 | 96.2 |
| | | NW394 | Greater Taung | 182 165 | 144 820 | 195 705 | 3.67 | 2 | 22.6 | 54.8 | 7.9 | 67.4 | 0.5 | 17.2 | 95.2 |
| | | NW395 | Molopo | 11 690 | 6 508 | 12 635 | 3.01 | 3 | 43.9 | 51.0 | 19.8 | 59.0 | 3.5 | 38.4 | 81.0 |
| | | NW396 | Lekwa-Teebane | 42 966 | 32 813 | 46 674 | 2.54 | 3 | 16.5 | 75.4 | 1.5 | 63.6 | 1.8 | 4.0 | 90.3 |
| DC40 | Dr Kenneth Kaunda (Southern) | NW401 | Ventersdorp | 43 076 | 36 531 | 45 802 | 2.75 | 3 | 19.3 | 55.0 | 4.5 | 56.7 | 2.7 | 6.2 | 93.6 |
| | | NW402 | Tlokwe (Potchefstroom) | 128 353 | 124 349 | 135 340 | 1.74 | 5 | 7.7 | 83.0 | 4.3 | 78.5 | 10.3 | 3.8 | 93.7 |
| | | NW403 | City of Matlosana (Klerksdorp) | 359 203 | 385 780 | 378 098 | 2.03 | 4 | 8.3 | 71.8 | 4.1 | 72.6 | 4.5 | 1.9 | 97.5 |
| | | NW404 | Maquassi Hills | 69 037 | 87 465 | 72 939 | 3.15 | 2 | 23.9 | 56.8 | 8.7 | 55.7 | 2.1 | 6.1 | 95.2 |
| | | NW405 | Merafong City | 210 482 | 215 860 | 228 682 | 1.89 | 4 | 9.6 | 72.2 | 4.9 | 70.7 | 3.2 | 1.2 | 99.0 |
| | | North West Total | | 3 193 680 | 3 271 911 | 3 368 517 | | 13.3 | 65.8 | 8.1 | 70.9 | 2.9 | 5.8 | 89.9 | |

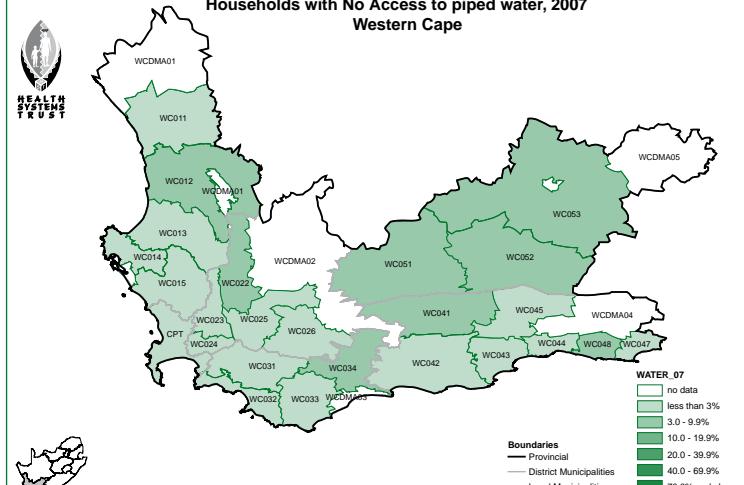
Western Cape

Percentage population by five year age groups



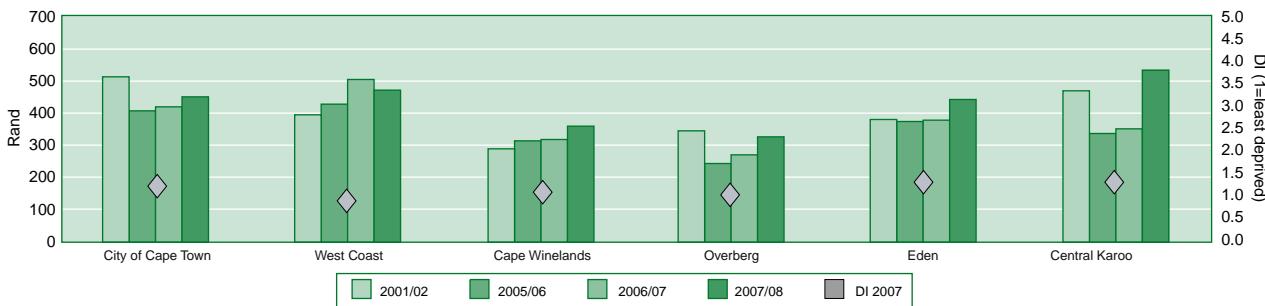
Source: Community Survey 2007.

Households with No Access to piped water, 2007
Western Cape



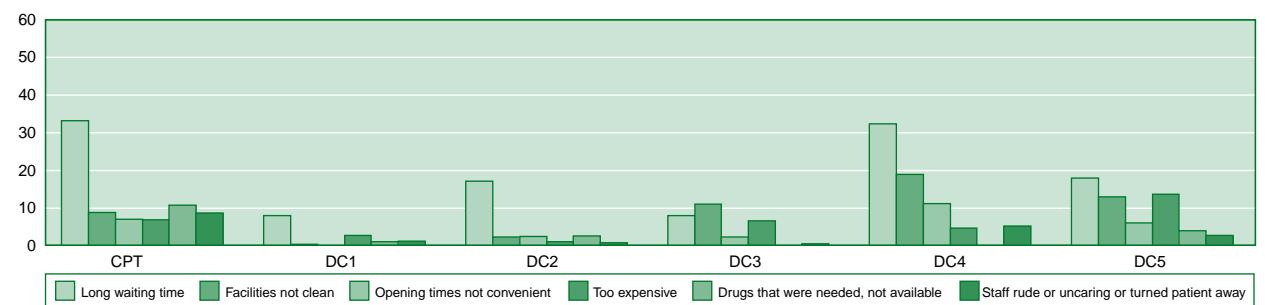
Source: Community Survey, 2007.

Per capita expenditure on PHC (public sector) versus deprivation index (real 2007/08 prices)



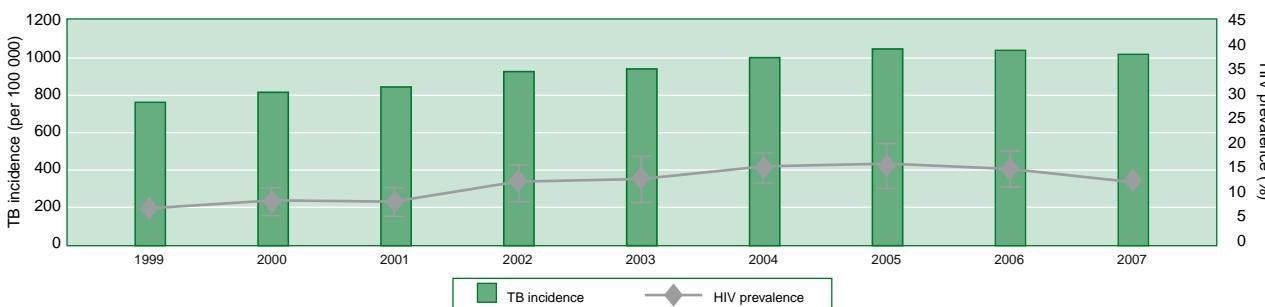
Source: Calculated from National Treasury, DHIS and StatsSA data.

Of those who were ill and consulted a health worker, percentage who cited the following issues as a problem, 2006



Source: GHS 2006.

TB incidence (all types) per 100 000 and antenatal HIV prevalence (%)



Source: DoH TB and Antenatal Surveys.

| District | Sub-district | Population | | | 2007 | | | Community Survey 2007 indicators (%) | | | | | | | |
|---------------------------|-------------------------|------------|-----------------|-----------|-------------------|-------------------------|---|--|------------------------------------|------------------------------|---------------------------------|---------------------------|-----------------------------|------|------|
| | | 2001 | 2007 | Mid-2007 | Deprivation Index | Socio-economic quintile | Population 20 and older with no schooling | Households using electricity for cooking | Households with no refuse disposal | Households with a cell phone | Households with internet access | Households with no toilet | Households with piped water | | |
| Western Cape | | | | | | | | | | | | | | | |
| CPT | City of Cape Town CPT | 2 892 243 | 3 497 101 | 3 179 237 | 1.54 | 5 | 1.9 | 89.5 | 1.0 | 77.1 | 18.9 | 3.5 | 99.4 | | |
| DC1 | West Coast | WC011 | Matzikama | 50 208 | 46 359 | 50 663 | 1.43 | 5 | 7.4 | 89.7 | 4.6 | 67.5 | 8.6 | 4.9 | 99.3 |
| | Cederberg | WC012 | 39 326 | 31 943 | 39 700 | 1.04 | 5 | 7.2 | 94.7 | 2.0 | 62.4 | 7.4 | 7.7 | 96.2 | |
| | Bergvlier | WC013 | 46 325 | 44 742 | 46 810 | 1.19 | 5 | 4.1 | 97.3 | 0.2 | 67.2 | 9.7 | 1.9 | 98.2 | |
| | Saldanha Bay | WC014 | 70 439 | 78 985 | 70 858 | 1.16 | 5 | 2.5 | 96.4 | 0.6 | 82.3 | 12.4 | 1.8 | 99.6 | |
| | Swartland | WC015 | 72 116 | 77 520 | 72 720 | 1.16 | 5 | 7.9 | 93.7 | 0.5 | 72.9 | 11.9 | 1.6 | 99.1 | |
| | West Coast DMA | WCDMA01 | 4 259 | 7 199 | 4 348 | | 9.8 | 92.0 | 4.5 | 41.0 | 6.4 | 3.1 | 93.7 | | |
| DC2 | Cape Winelands (Boland) | WC022 | 83 567 | 75 154 | 91 391 | 1.31 | 5 | 7.2 | 73.3 | 1.0 | 62.7 | 5.8 | 2.3 | 92.6 | |
| | Drakenstein | WC023 | 194 418 | 217 094 | 200 945 | 1.51 | 5 | 2.8 | 84.7 | 1.4 | 70.9 | 9.3 | 2.3 | 98.9 | |
| | Stellenbosch | WC024 | 118 708 | 200 527 | 123 259 | 1.31 | 5 | 3.5 | 97.5 | 1.7 | 79.6 | 17.3 | 2.1 | 98.6 | |
| | Brede Valley | WC025 | 146 029 | 134 272 | 151 931 | 1.50 | 5 | 6.3 | 93.5 | 1.3 | 64.2 | 6.4 | 5.2 | 99.2 | |
| | Breda River/Winelands | WC026 | 81 272 | 80 124 | 84 772 | 1.28 | 5 | 6.1 | 94.8 | 1.1 | 62.0 | 10.2 | 5.7 | 97.4 | |
| | Cape Winelands DMA | WCDMA02 | 6 499 | 5 267 | | | 11.9 | 70.0 | 1.2 | 36.7 | 5.0 | 4.3 | 94.1 | | |
| DC3 | Overberg | WC031 | Theewaterskloof | 93 277 | 86 722 | 93 682 | 1.47 | 5 | 3.9 | 87.5 | 1.0 | 62.6 | 5.6 | 8.6 | 99.0 |
| | Overstrand | WC032 | 55 449 | 74 548 | 56 093 | 1.29 | 5 | 2.7 | 89.7 | 0.2 | 76.2 | 19.9 | 0.8 | 99.0 | |
| | Cape Agulhas | WC033 | 26 469 | 28 440 | 27 532 | 1.00 | 5 | 2.7 | 88.8 | 1.3 | 67.3 | 19.3 | 4.1 | 98.1 | |
| | Swellendam | WC034 | 28 075 | 22 832 | 28 603 | 1.28 | 5 | 8.9 | 93.1 | 0.7 | 71.8 | 7.4 | 1.3 | 95.9 | |
| | Overberg DMA | WCDMA03 | 246 | 237 | | | | | | | | | | | |
| DC4 | Eden | WC041 | Karnaland | 23 971 | 24 717 | 24 479 | 1.37 | 5 | 5.6 | 78.7 | 2.7 | 57.9 | 3.8 | 4.5 | 94.0 |
| | Hessequa (Langenberg) | WC042 | 44 115 | 39 083 | 45 285 | 1.05 | 5 | 4.8 | 90.9 | 0.3 | 66.5 | 12.7 | 1.7 | 98.6 | |
| | Mossel Bay | WC043 | 71 494 | 117 839 | 73 283 | 1.50 | 5 | 2.6 | 85.2 | 0.8 | 76.6 | 15.9 | 3.2 | 97.5 | |
| | George | WC044 | 135 408 | 136 539 | 137 774 | 1.56 | 5 | 2.9 | 81.8 | 2.3 | 74.9 | 15.4 | 9.7 | 98.4 | |
| | Greater Oudtshoorn | WC045 | 84 691 | 79 606 | 86 240 | 1.49 | 5 | 4.9 | 87.9 | 1.3 | 60.4 | 7.5 | 6.9 | 98.6 | |
| | Bitou (Plettenberg Bay) | WC047 | 29 183 | 39 011 | 29 811 | 1.92 | 4 | 3.8 | 69.3 | 0.5 | 73.6 | 9.2 | 2.6 | 98.4 | |
| | Knysna | WC048 | 51 469 | 65 051 | 52 773 | 1.90 | 4 | 2.3 | 71.1 | 1.8 | 71.7 | 15.1 | 10.4 | 95.2 | |
| | Eden DMA | WCDMA04 | 14 596 | 11 479 | 14 846 | | | | 4.7 | 79.1 | 0.6 | 56.1 | 4.5 | 1.8 | 99.4 |
| DC5 | Central Karoo | WC051 | 6 679 | 5 154 | 7 003 | 1.70 | 5 | 18.5 | 80.6 | 3.9 | 41.7 | 7.4 | 3.4 | 93.6 | |
| | Prince Albert | WC052 | 10 513 | 8 378 | 11 011 | 1.45 | 5 | 13.9 | 88.4 | 1.2 | 51.1 | 5.2 | 1.9 | 94.1 | |
| | Beaufort West | WC053 | 37 106 | 37 085 | 38 810 | 1.64 | 5 | 9.2 | 85.6 | 0.3 | 61.9 | 7.0 | 1.2 | 96.0 | |
| | Central Karoo DMA | WCDMA05 | 6 185 | 5 605 | 6 465 | | | | 9.6 | 75.1 | 0.0 | 44.4 | 7.2 | 1.9 | 90.8 |
| Western Cape Total | | | 4 524 335 | 5 278 613 | 4 850 324 | | | | 2.8 | 88.8 | 1.1 | 74.5 | 16.3 | 3.8 | 98.9 |
| South Africa | | | | | | | | | 9.4 | 66.4 | 7.1 | 72.7 | 7.2 | 8.3 | 88.7 |

Health status indicators

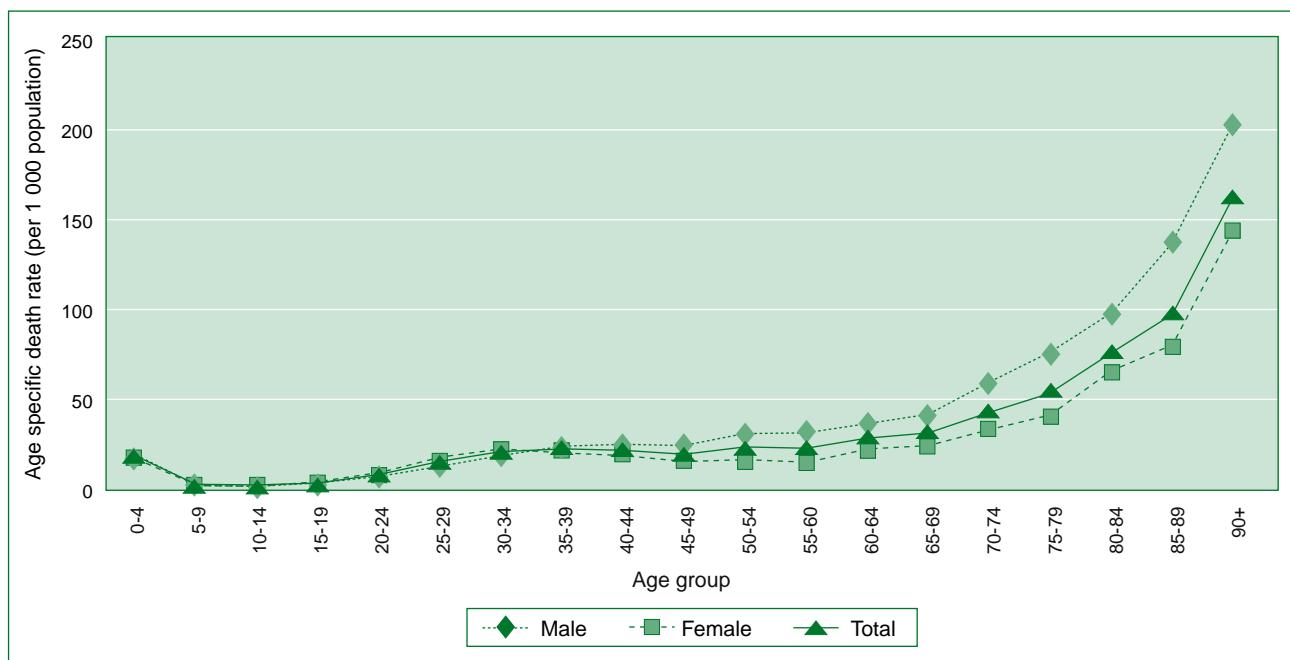
Mortality

Although estimates of crude mortality are reported as a basic demographic variable in the section above, developing more targeted public health interventions requires far more detailed data about what people die from, particularly if those deaths are premature. This demands a high level of accuracy in the completion and collation of death notification forms. As Groenewald and Pieterse put it in a 2007 editorial in the South African Medical Journal (SAMJ), “*Medical doctors ... know what caused the death of their patients, and by accurately sharing this knowledge on the death notification form, can assist in preventing future deaths*” [SAMJ 97(1056-8)]. This editorial accompanied an article by Burger et al. which reported the frequency of errors in the cause of death sequence and the completeness of information recorded on death notification forms (DNFs) for all residents of two residential areas in the Cape Town metropole who died during the period 1 June 2003 to 31 May 2004 [SAMJ 97(1077-81)]. A total of 844 DNFs were evaluated and errors were found in 91.7% (95% CI: 89.7-93.4%) of DNFs. At least one major error (defined as “*those that could affect the accurate coding of the underlying cause of death, including any of the following: (i) no acceptable cause of death in part 1; (ii) competing causes of death in part 1; (iii) immediate, intermediate and underlying causes*”

of death presented in an incorrect order (sequencing error); or (iv) mechanism of death not followed by a proper cause of death”) were detected in 43.4% (95% CI: 40.1-46.7%). The most common error was an illogical cause of death sequence. While this study considered a relatively small sample of DNFs from a single urban setting, the authors nonetheless felt that their results had “*far-reaching implications for the reliability of mortality data in South Africa*”. At the very least they provide some basis for the critical appreciation of any trends seen over time, or small differences between geographical areas.

Data from small, localised surveys can also help illuminate this topic. Mashego et al. reported on a cross-sectional survey in a rural area of KZN, between February and July 2004, based on structured questionnaires and verbal autopsies [SAMJ 97(587-92)]. These data clearly indicated the high mortality rates being seen in many rural areas before access to antiretroviral treatment became available. An overall crude death rate of 29 (95% CI: 25-33) deaths per 1 000 person-years was recorded, with the highest mortality rate occurring among women aged 30 to 34 years. In men, the highest mortality was in those aged 35 to 39 years and those over 60. Of the 185 verbal autopsies reported,

Figure 6: Observed age specific mortality rates per 1 000 population, 2006



Source: Community Survey 2007.

77 (42%) deaths were attributed to AIDS and 16 (9%) to violence or accidents. The majority of deaths resulted from pulmonary TB, reported in 44% of the AIDS-related deaths. As HIV and AIDS prevention and treatment improves, and greater integration with TB management is achieved, it will be important to repeat such surveys in similar settings.

As in so many areas, the StatsSA Community Survey 2007 has provided new data on mortality as well. Respondents were asked to indicate whether the cause of death for all those that had died in the previous twelve months (February 2006 to January 2007) were due to unnatural or natural causes and to provide details on the age at death and the sex of the deceased. They reported that about 15% of all deaths were due to unnatural causes. Not unsurprisingly,

more males (18.8%) were reportedly to have died from unnatural causes than females (10.1%). The percentage of deaths noted as unnatural was highest in those aged 15 to 19 years, accounting for 42.4% of deaths in this age group. The crude death rate for 2006 was estimated at 14.3 per 1 000 population. Age specific mortality rates by sex were also provided. Although, at younger ages, there appears to be little differences in death rates between males and females, differences become evident later. It was reported that death rates in the age groups 20-24 to 30-34 were higher for females than for males. Male death rates were higher than female death rates at all other age groups. Age-specific mortality by sex is shown in Figure 6, taken from the Community Survey 2007 report.

Table 9: Mortality indicators by province

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|--|------|------|------|------|------|------|------|------|------|------|---|
| Adult mortality (45q15 – probability of dying between 15-64 years of age) | | | | | | | | | | | |
| Burden of disease analysis | | | | | | | | | | | |
| 2000 | 38.6 | 42.6 | 39.3 | 48.7 | 39.9 | 47.5 | 34.2 | 42.0 | 30.8 | 42.9 | a |
| 2000 female | 32.2 | 35.9 | 32.7 | 42.8 | 33.1 | 41.3 | 27.5 | 35.2 | 24.1 | 35.7 | a |
| 2000 male | 45.0 | 49.3 | 46.0 | 54.6 | 46.7 | 53.8 | 40.9 | 48.8 | 37.5 | 49.4 | a |
| ASSA2003 model | | | | | | | | | | | |
| 2004 | - | - | - | - | - | - | - | - | - | 54.0 | b |
| 2006 ASSA2003 | 58.5 | 63.7 | 54.5 | 71.1 | 46.9 | 65.1 | 44.4 | 58.5 | 36.4 | 56.3 | c |
| 2007 ASSA2003 | 59.8 | 64.4 | 54.7 | 71.5 | 47.5 | 65.1 | 45.6 | 59.5 | 37.2 | 56.9 | c |
| 2008 ASSA2003 | 60.7 | 64.6 | 54.5 | 71.5 | 47.7 | 64.7 | 46.9 | 60.1 | 38.0 | 57.1 | c |
| 2008 ASSA2003 female | 55.8 | 60.2 | 51.0 | 67.2 | 42.8 | 60.7 | 42.7 | 55.5 | 34.4 | 53.0 | c |
| 2008 ASSA2003 male | 65.5 | 69.1 | 58.0 | 75.7 | 52.7 | 68.7 | 51.0 | 64.7 | 41.7 | 61.3 | c |
| Crude death rate (deaths per 1000 population) | | | | | | | | | | | |
| 2006 CS | - | - | - | - | - | - | - | - | - | 14.3 | d |
| Life expectancy at birth | | | | | | | | | | | |
| Burden of disease analysis | | | | | | | | | | | |
| 2000 | 56.2 | 55.1 | 58.0 | 51.6 | 57.1 | 53.1 | 60.5 | 55.9 | 63.4 | 55.2 | a |
| 2000 female | 59.0 | 57.9 | 61.0 | 53.8 | 60.1 | 55.5 | 63.9 | 58.8 | 67.0 | 58.5 | a |
| 2000 male | 53.3 | 52.4 | 55.1 | 49.4 | 54.3 | 50.7 | 57.2 | 53.1 | 59.8 | 52.4 | a |
| ASSA2003 model | | | | | | | | | | | |
| 2006 ASSA2003 | 48.8 | 46.7 | 52.2 | 43.0 | 56.0 | 46.4 | 57.3 | 50.2 | 61.5 | 50.7 | c |
| 2008 ASSA2003 | 48.1 | 46.6 | 52.4 | 43.1 | 55.8 | 46.8 | 56.4 | 49.6 | 60.9 | 50.5 | c |
| 2008 ASSA2003 female | 49.9 | 48.0 | 53.6 | 44.2 | 58.0 | 48.1 | 58.4 | 51.1 | 63.0 | 52.1 | c |
| 2008 ASSA2003 male | 46.4 | 45.2 | 51.2 | 41.9 | 53.7 | 45.6 | 54.4 | 48.2 | 58.8 | 49.0 | c |
| StatsSA | | | | | | | | | | | |
| 1996 | 60.4 | 52.8 | 59.6 | 53.0 | 60.1 | 53.5 | 55.6 | 53.3 | 60.8 | 57.0 | e |
| 2006 StatsSA | - | - | - | - | - | - | - | - | - | 50.7 | f |
| 2007 StatsSA | - | - | - | - | - | - | - | - | - | 50.0 | f |
| 2007 StatsSA female | - | - | - | - | - | - | - | - | - | 51.6 | f |
| 2007 StatsSA male | - | - | - | - | - | - | - | - | - | 48.4 | f |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

a Burden of Disease Prov 2000.

b HIV Indicators 2004.

c ASSA 2003. Downloaded 2006-06-19.

d StatsSA Community Survey 2007.

e Census 1996.

f StatsSA Mid-year Estimates.

Table 10: Mortality indicators by ethnic group

| | African | Coloured | Indian | White | Other | All | |
|---|---------|----------|--------|-------|-------|------|---|
| Adult mortality (45q15 – probability of dying between 15-64 years of age) ASSA2000 model | | | | | | | |
| 2002 female | 52.0 | 32.0 | 20.0 | 15.0 | - | 43.0 | a |
| 2002 male | 65.0 | 43.0 | 34.0 | 23.0 | - | 56.0 | a |
| Life expectancy at birth | | | | | | | |
| 1996 | 55.5 | 58.6 | 61.5 | 65.5 | - | 57.0 | b |
| 2002 female | 50.4 | 64.0 | 69.5 | 73.7 | - | 55.0 | a |
| 2002 male | 45.8 | 58.4 | 63.4 | 67.7 | - | 49.9 | a |
| 2004 | 49.2 | 56.2 | 63.5 | 63.6 | - | 51.4 | c |
| 2004 female | 50.7 | 58.4 | 66.0 | 65.6 | - | 52.9 | c |
| 2004 male | 47.8 | 54.1 | 61.1 | 61.7 | - | 49.9 | c |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

a HIV Indicators 2002.

b StatsSA HDI 2001.

c StatsSA Mid-year Estimates. 2004 mid-year estimates. Life expectancy assumptions used in development of the current mid-year estimates. Source includes comparison of values to other estimates.

Disability

As reported in the Community Survey 2007 report, StatsSA defines disability 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”. In the Community Survey, respondents were accordingly asked whether they were affected by disabilities related to sight, hearing, communication, physical, intellectual, mental and emotional state. These questions were also posed in the Census 2001, but not in the Census 1996, in which questions related to communication and emotional disabilities were not asked. The 2007 report outlined other methodological differences in detail:

- “In Census 1996, respondents were asked to indicate whether or not there were any people with serious visual, hearing, physical or mental disabilities in the household. The seriousness of the disability was not clearly defined. Rather, the respondent’s perceptions of seriousness were relied on.”

- “In Census 2001, disability was defined as a physical or mental handicap which has lasted for six months or more, or was 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.”
- “During the Community Survey 2007, the disability question was split into three distinct questions and respondents were asked whether they had any kind of disability; if they had, the type of disability; and the intensity of the disability (that is, whether the disability seriously prevents the person from full participation in life activities such as education, work, social life, etc.).” [Community Survey 2007].

Notwithstanding these differences in methodology, StatsSA reported that the percentage of persons with disabilities had decreased from 6.5% in 1996 to 4.0% in 2007.

Table 11: Disability indicators by province

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|---|------|-----|-----|-----|-----|-----|-----|-----|-----|-------|---|
| Cataract surgery rate (surgeries per million uninsured population) | | | | | | | | | | | |
| 2001 | - | - | - | - | - | - | - | - | - | 711 | a |
| 2004 | - | - | - | - | - | - | - | - | - | 1 039 | b |
| 2005 | - | - | - | - | - | - | - | - | - | 1 030 | c |
| 2006 | - | - | - | - | - | - | - | - | - | 1 146 | d |
| Prevalence of disability (%) | | | | | | | | | | | |
| 1996 | 7.3 | 9.8 | 6.2 | 6.0 | 6.0 | 7.6 | 5.6 | 8.3 | 3.7 | 6.5 | e |
| 1998 | 8.9 | 5.8 | 5.2 | 6.7 | 6.3 | 4.5 | 4.5 | 3.1 | 3.8 | 5.9 | f |
| 1998 rural | 6.2 | 4.3 | 3.4 | 6.4 | 5.1 | 3.8 | 4.1 | 2.7 | 3.3 | 5.1 | f |
| 1998 urban | 10.9 | 6.7 | 5.2 | 6.9 | 8.2 | 5.6 | 4.6 | 3.4 | 3.9 | 6.3 | f |
| 2001 | 5.8 | 6.8 | 3.8 | 5.0 | 5.1 | 5.8 | 5.7 | 5.8 | 4.1 | 5.0 | g |
| 2007 CS | 5.1 | 4.9 | 2.9 | 4.3 | 3.7 | 3.7 | 5.4 | 4.3 | 3.4 | 4.0 | h |
| Prevalence of hearing disability (%) | | | | | | | | | | | |
| 1996 | 1.1 | 1.3 | 0.8 | 0.9 | 1.1 | 1.2 | 0.8 | 1.6 | 0.5 | 1.0 | e |
| 1998 | - | - | - | - | - | - | - | - | - | 1.0 | f |
| 2001 | 0.8 | 1.0 | 0.4 | 0.7 | 0.8 | 0.9 | 0.7 | 0.7 | 0.6 | 0.7 | g |
| 2007 CS | - | - | - | - | - | - | - | - | - | 0.4 | h |
| Prevalence of mental illness (%) | | | | | | | | | | | |
| 1996 | 0.7 | 5.4 | 0.3 | 0.5 | 0.4 | 0.5 | 0.5 | 0.7 | 0.4 | 0.5 | e |
| 1998 | - | - | - | - | - | - | - | - | - | 1.1 | f |
| 2001 | - | - | - | - | - | - | - | - | - | 0.6 | g |
| 2007 CS | - | - | - | - | - | - | - | - | - | 0.3 | h |
| Prevalence of physical disability (%) | | | | | | | | | | | |
| 1996 | 1.9 | 1.6 | 1.0 | 1.6 | 1.5 | 1.1 | 1.2 | 1.8 | 0.9 | 1.4 | e |
| 1998 | - | - | - | - | - | - | - | - | - | 2.0 | f |
| 2001 | 1.5 | 1.3 | 1.0 | 1.3 | 1.0 | 1.3 | 1.6 | 1.4 | 1.2 | 1.2 | g |
| 2007 CS | - | - | - | - | - | - | - | - | - | 1.6 | h |

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|---|-----------|-----------|-----------|------------|-----------|-----------|-----------|-----------|-----------|-----------|---|
| Prevalence of sight disability (%) | | | | | | | | | | | |
| 1996 | 2.6 | 5.2 | 2.9 | 2.2 | 2.3 | 3.6 | 2.3 | 3.4 | 3.8 | 2.7 | e |
| 1998 | - | - | - | - | - | - | - | - | - | 1.7 | f |
| 2001 | 1.3 | 2.2 | 1.0 | 1.2 | 1.3 | 1.6 | 1.5 | 1.7 | 0.8 | 1.3 | g |
| 2007 CS | - | - | - | - | - | - | - | - | - | 0.5 | h |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

- a DoH Annual Report 2001/02.
- b DoH Annual Report 2004/05.
- c DoH Annual Report 2005/06.
- d DoH Annual Report 2006/07.
- e Census 1996.
- f CASE Disability Survey. National survey of nearly 10 000 households.
- g Census 2001.
- h StatsSA Community Survey 2007.

Table 12: Disability indicators by ethnic group

| | African | Coloured | Indian | White | Other | All | |
|--|----------------|-----------------|---------------|--------------|--------------|------------|---|
| Prevalence of disability (%) | | | | | | | |
| 1996 | 7.5 | 3.6 | 4.1 | 3.3 | 4.4 | 6.5 | a |
| 1998 | 6.1 | 4.5 | 4.7 | 5.7 | - | 5.9 | b |
| 2001 | 5.2 | 4.2 | 3.7 | 4.5 | - | 5.0 | c |
| Prevalence of hearing disability (%) | | | | | | | |
| 1996 | 1.1 | 0.4 | 0.5 | 0.6 | 0.6 | 1.0 | a |
| 2001 | 0.7 | 0.5 | 0.4 | 0.8 | - | 0.7 | c |
| Prevalence of mental illness (%) | | | | | | | |
| 1996 | 0.5 | 0.4 | 0.4 | 0.3 | 0.4 | 0.5 | a |
| 2001 | - | - | - | - | - | 0.6 | c |
| Prevalence of physical disability (%) | | | | | | | |
| 1996 | 1.6 | 0.9 | 0.9 | 0.6 | 0.8 | 1.4 | a |
| 2001 | 1.2 | 1.3 | 1.1 | 1.3 | - | 1.2 | c |
| Prevalence of sight disability (%) | | | | | | | |
| 1996 | 3.2 | 1.0 | 1.5 | 0.7 | 1.3 | 2.7 | a |
| 2001 | 1.4 | 0.8 | 0.8 | 0.7 | - | 1.3 | c |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

- a Census 1996.
- b CASE Disability Survey.
- c Census 2001.

Infectious disease

The World Health Report 2007 noted that “*inadequate investment in public health, resulting from a false sense of security in the absence of infectious disease outbreaks, has led to reduced vigilance and a relaxing of adherence to effective prevention programmes*”. South Africa cannot be described as unaffected by infectious diseases, but the degree to which public health efforts are directed at the HIV / TB challenge is not at all matched by the effort expended in surveillance of other infectious diseases, including those designated as ‘notifiable’. Disappointingly, no new data on notifiable diseases, such as cholera, rabies and tetanus, are available from the NDoH. An appropriate information management system for notifiable diseases is still being implemented.

Table 13: Syphilis prevalence by province

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|---|------|------|-----|------|-----|-----|-----|------|-----|------|---|
| Syphilis prevalence rate (%) (antenatal) | | | | | | | | | | | |
| 1998 | 9.6 | 4.4 | 3.8 | 15.8 | 5.6 | 8.6 | 3.8 | 9.1 | 4.4 | 10.8 | a |
| 1999 | 4.4 | 15.8 | 9.6 | 3.8 | 8.6 | 9.7 | 3.8 | 5.6 | 4.4 | 7.3 | a |
| 2000 | 3.3 | 4.8 | 9.6 | 2.6 | 4.2 | 3.7 | 5.1 | 3.6 | 5.2 | 4.9 | a |
| 2001 | 3.3 | 2.0 | 2.7 | 1.3 | 4.9 | 2.0 | 6.2 | 4.0 | 2.9 | 2.8 | b |
| 2002 | 3.1 | 5.0 | 6.0 | 1.5 | 1.9 | 2.5 | 5.2 | 3.2 | 2.0 | 3.2 | b |
| 2003 | 3.8 | 3.8 | 2.1 | 1.4 | 1.7 | 1.8 | 8.6 | 2.0 | 5.5 | 2.7 | b |
| 2004 | 2.4 | 3.8 | 0.9 | 0.8 | 0.9 | 1.3 | 7.0 | 2.1 | 1.6 | 1.6 | b |
| 2005 | 2.5 | 3.0 | 4.3 | 1.2 | 1.1 | 2.9 | 8.5 | 1.9 | 4.0 | 2.7 | b |
| 2006 | 2.6 | 2.5 | 2.3 | 1.0 | 0.6 | 1.1 | 6.9 | 1.8 | 1.9 | 1.8 | b |
| 2006 DHIS | 12.9 | 4.2 | 4.0 | 4.9 | 2.2 | 3.3 | 6.7 | 11.9 | 8.5 | 4.6 | c |
| 2007 | 2.6 | 2.2 | 5.6 | 0.6 | 1.2 | 1.4 | 5.6 | 2.7 | 5.7 | 2.8 | b |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

a DoH Notification System. Data from the annual antenatal surveys.

b Antenatal Surveys 2001-2007.

c DHIS. For the DHIS data, approximately two-thirds of antenatal clients were tested for syphilis overall, substantially more than in previous years, although there is quite a lot of variation between provinces in the coverage. Data for 2006 extracted July 2007.

Tuberculosis

The Global Tuberculosis Control 2008 report noted that “[t]reatment success rates in South Africa remain low, with death and default the most common negative outcomes” [Global TB Control 2008]. The report however recorded that the 70% case detection rate target was reached for the first time in 2006. On the negative side, the point was made that, in 2005 at least, only one third of patients with TB were tested for HIV, and that no information was available on the proportion tested for multi-drug resistance.

The 4th Global Report on ‘Anti-tuberculosis drug resistance in the world’ was also released in 2008 [MDR TB 2008]. The press release highlighted data from South Africa, which showed that 996 (almost 6%) of 17 615 of the specimens collected that were multi-drug resistant (MDR) between 2004 and October 2007 met the definition for extensively drug resistant (XDR) TB. In KZN, 656 (14%) of 4 701 MDR cases recorded in this time period were XDR-TB. The press release also noted the link between HIV infection and MDR-TB, commenting that in South Africa alone, 44% of TB patients were estimated to be co-infected with HIV. Globally, it was estimated that nearly 5% of new TB cases were MDR-TB. The highest rates of MDR-TB were recorded in Azerbaijan, where nearly a quarter of all TB cases in the capital were MDR-TB.

As always, the in-depth data that can be gathered in a Demographic Surveillance Site can provide important insights. Data from the Agincourt DSS from 1999 were reported in the theme issue of the Scandinavian Journal of Public Health [Scand J Public Health Suppl 69:(8-20)]. During 1999, data on TB prevalence were obtained from three different sources. These were the hospital register (reflecting passive case-finding), a systematic household assessment of chronic coughers (active case finding) and verbal autopsy. A total of 38 251 permanent adult residents were included in the analysis. Through passive case finding, a total of 102 cases of pulmonary TB (PTB) were detected. The active case finding sweep detected 366 chronic coughers, with six confirmed as PTB. Of the 28 PTB deaths detected by verbal autopsy, 13 had not previously been identified by the health service. The total PTB prevalence was thus estimated at 157 per 100 000 population, but only 110 per 100 000 (about 70%) were detected by passive case finding. Of the balance, about half were undiagnosed in the community and half died of PTB prior to diagnosis. Of note, nearly 90% of those detected through active case finding and verbal autopsy had previously sought treatment in the health service, and further, it was noted that ‘most’ had done so on ‘a number of occasions’. The conclusion reached, which would in many cases be as valid today as it was when the study was conducted (in 1999), was that “while issues of transport,

distance, culture and use of non-Western health care may be barriers, interventions to improve the quality of the health system to facilitate early TB diagnosis remain paramount”.

The challenges of measuring TB burden, trends over time and the impact of control programmes were reviewed by Dye et al. in the Lancet Infectious Diseases Journal in 2008 [Lancet Inf 8(233-43)]. This useful publication reviewed the relative strengths and limitations of measures of disease incidence, disease and infection prevalence, and TB mortality. It concluded that “[b]y 2015, every country should be able to assess progress in tuberculosis control by estimating the time trend in incidence, and the magnitude of reductions in either prevalence or death”. It was pointed out that in a system that relied on tracking of outcomes in directly observed treatment short-course (DOTS) cohorts, deaths during treatment which were not directly attributable to TB, would nevertheless be attributed to TB. The ‘bigger problem’, however, was the number of DOTS cohort members for whom outcomes were not known. Globally, it was estimated that the treatment results of 5.6 million smear-positive, smear-negative, and extra-pulmonary patients were not known. In contrast, only 4.5 million of 8.9 million new patients were recorded in DOTS and other control programmes in 2004, and of these, results were known in only 3.3 million cases. The hope was expressed that, ultimately, “DOTS cohorts should include nearly all tuberculosis cases arising in any country, so that cohort outcomes converge more closely with national death registrations”. The point was made that “convergence will never be complete unless the number of patients lost to follow-up (default, transfer) can be reduced to zero”. What was advocated was “linking and cross-referencing between patient cohorts and vital registration”, in which “each case and death must be uniquely identified in the recording system”. This level of data linkage is not yet possible in South Africa, although this is also true of most high-burden countries.

The point is often made that South Africa produces excellent policy documents, but falls somewhat short in implementing these policies. The Draft Tuberculosis Strategic Plan for South Africa 2007-2011 is an extensive document and a useful source of data on the disease [TB Plan 2007-2011]. At times, there seems to be a lack of candour reflected in the text. For example, while it is stated that “DOTS coverage reached 100% at the end of 2004” (followed by a caveat about MP being declared a ‘non-DOTS province’ in 2005), a later paragraph states that “all DOTS components show major quality deficiencies that require urgent improvement”. Examples provided make depressing reading:

- commenting on the smear conversion rates for 2006, it is noted that “*close on one in three patients (28%) do not have results available*” (with MP, EC, KZN and NC at more than 35%);
- while death and defaulter rates during the intensive phase are described as ‘low’ (1.7-5.7% and 1-3.4% respectively), it is noted that 7% of patients remained smear positive at the end of the intensive phase (and thus likely to have drug-resistant disease);
- in particular, since this high positivity rate at the end of the intensive phase does not correlate with the reported low failure rate at the end of treatment, this casts doubt on the “*quality of the laboratory results or the quality of data*”.

The ‘major deficiencies’ identified in the draft plan relate to the quantity and quality of human resources, TB-HIV collaboration, access to diagnostic services and the proper use of the reporting and recording system.

The draft plan is most useful for the candid appraisal of MDR- and XDR-TB data. It provides a table showing the number of identified MDR-TB cases per province in 2004 to 2006, and the first quarter of 2007. For the whole country, these show a steady increase from 3 278 cases in 2004 to 6 716 cases in 2006, and 2 140 cases in the first quarter of 2007 only. The draft plan, however, notes that 36% of these were reported in only one province, WC. The point is made that “*this province has arguably the best TB control programme in the country*”, but also that the proportion of MDR cases has remained “*fairly constant at 2.6%*”. The explanation offered is that the WC “*has a higher degree of suspicion of MDR-TB and that it is being relatively under-diagnosed in other provinces*”. In contrast, it is noted that MP, “*where the TB control programme has not been functioning optimally*”, has seen a decrease in the proportion of MDR-TB over the same time period (from 1.99% to 0.7%). The most likely explanation is that “*many patients with MDR-TB are not being diagnosed*”.

Time trends in relation to XDR-TB are also provided, but these are even more difficult to interpret. The cases noted were retrospectively diagnosed on the basis of laboratory records. A total of 898 cases were noted from 2004 until the end of the first quarter of 2007, but 221 of these were detected in that last quarter alone. KZN accounted for 65% of all XDR-TB cases, but again, the best that could be said of MP and LP was that their figures represented “*gross under detection because of poor access to the culture and DST services*”.

Some data on the integration of TB and HIV services were also presented. It was reported that, by the end of the

2006/07 year, 211 sub-districts were implementing TB and HIV activities. It was claimed that 58% of TB patients were offered HIV counselling and testing and that 68% agreed to be tested. Conversely, ‘systematic TB screening’ amongst people living with HIV had been ‘low’, but it was reported that 29% of the HIV patients screened were found to have TB disease. It was also noted that the TB preventive therapy policy was “*not implemented widely at this stage and the reasons for this will be investigated further this year*”.

The following targets and indicators were included in the Draft Plan:

Main Indicators with proposed targets to be reached by 2011

| | |
|------------------------|------|
| Case detection rate | 70% |
| Cure Rate | 85% |
| Treatment Success rate | >85% |

Subsidiary Indicators with proposed targets to be reached by 2011

| | |
|--|--|
| Bacteriological coverage | 100% |
| Smear Conversion Rate (at 2 months) | >75% |
| Smear Conversion Rate (at 3 months) | >85% |
| Defaulter rate | <5% |
| Not evaluated rate | 0% |
| Sputum result Turn Around Time (TAT) | 80% of facilities with a TAT of <48hours |
| Proportion of MDR-TB patients started on treatment | 100% |
| Proportion of XDR-TB patients started on treatment | 100% |
| Proportion of TB patients offered counselling and tested for HIV | 100% |
| Proportion of HIV-positive TB patients started on CPT | 100% |
| Proportion of HIV-positive TB patients qualifying for ART and started on ART | 100% |

Annexure D to the Draft Plan is labelled as the ‘Framework’. In addition to the targets mentioned above, one of the specific objectives listed is “*to reduce the death rates as a result of TB*”. The ‘objectively verifiable indicator’ stated is that there would be a “*reduction in death rates from 71 to 60 per 100 000 by 2011*”. The Global Tuberculosis Control 2008 country profile for South Africa, however, records the 2006 death rate as 218 per 100 000 population. Based on the StatsSA cause of death data (not adjusted for under-reporting), the death rate due to TB in 2005 was 158 per 100 000 population. There are differences in the definition of ‘death due to TB’ used in vital registration and the TB programme, but the baseline figure for the Draft Plan seems questionable.

Table 14: TB programme management and other indicators by province

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|---|
| DOTS population coverage (%) | | | | | | | | | | | |
| 2001 | - | - | - | - | - | - | - | - | - | 77.0 | a |
| 2002 | - | - | - | - | - | - | - | - | - | 98.0 | a |
| 2003 | - | - | - | - | - | - | - | - | - | 99.5 | a |
| 2004 | - | - | - | - | - | - | - | - | - | 93.0 | a |
| 2005 | - | - | - | - | - | - | - | - | - | 94.0 | a |
| 2006 | - | - | - | - | - | - | - | - | - | 100.0 | a |
| Tuberculosis, DOTS detection rate (%) | | | | | | | | | | | |
| 2001 | - | - | - | - | - | - | - | - | - | 56 | a |
| 2002 | - | - | - | - | - | - | - | - | - | 66 | a |
| 2003 | - | - | - | - | - | - | - | - | - | 71 | a |
| 2004 | - | - | - | - | - | - | - | - | - | 70 | a |
| 2005 | - | - | - | - | - | - | - | - | - | 67 | a |
| 2006 | - | - | - | - | - | - | - | - | - | 71 | a |
| Tuberculosis, DOTS treatment success, (%) | | | | | | | | | | | |
| 2001 | - | - | - | - | - | - | - | - | - | 65 | a |
| 2002 | - | - | - | - | - | - | - | - | - | 68 | a |
| 2003 | - | - | - | - | - | - | - | - | - | 67 | a |
| 2004 | - | - | - | - | - | - | - | - | - | 70 | a |
| 2005 | - | - | - | - | - | - | - | - | - | 71 | a |
| Prevalence (%) of multidrug resistance among new TB cases | | | | | | | | | | | |
| 2001 | 1.0 | 1.8 | 1.4 | 1.7 | 2.4 | 2.6 | - | 2.2 | 0.9 | - | b |
| 2004 | - | - | - | - | - | - | - | - | - | 1.8 | a |
| Tuberculosis death rate per 100 000 | | | | | | | | | | | |
| <i>Global TB estimates for South Africa</i> | | | | | | | | | | | |
| 2001 GlobalTB | - | - | - | - | - | - | - | - | - | 186 | a |
| 2002 GlobalTB | - | - | - | - | - | - | - | - | - | 177 | a |
| 2003 GlobalTB | - | - | - | - | - | - | - | - | - | 199 | a |
| 2004 GlobalTB | - | - | - | - | - | - | - | - | - | 202 | a |
| 2005 GlobalTB | - | - | - | - | - | - | - | - | - | 213 | a |
| 2006 GlobalTB | - | - | - | - | - | - | - | - | - | 218 | a |
| <i>Vital registration crude estimates</i> | | | | | | | | | | | |
| 2003 vital registration | 154 | 195 | 117 | 219 | 69 | 158 | 167 | 159 | 94 | 148 | c |
| 2004 vital registration | 167 | 193 | 119 | 226 | 73 | 168 | 177 | 156 | 87 | 152 | c |
| 2005 vital registration | 176 | 200 | 118 | 236 | 78 | 184 | 186 | 162 | 84 | 158 | c |
| Tuberculosis prevalence rate per 100 000 population | | | | | | | | | | | |
| 2001 GlobalTB | - | - | - | - | - | - | - | - | - | 872 | a |
| 2002 GlobalTB | - | - | - | - | - | - | - | - | - | 849 | a |
| 2003 GlobalTB | - | - | - | - | - | - | - | - | - | 929 | a |
| 2004 GlobalTB | - | - | - | - | - | - | - | - | - | 948 | a |
| 2005 GlobalTB | - | - | - | - | - | - | - | - | - | 987 | a |
| 2006 GlobalTB | - | - | - | - | - | - | - | - | - | 998 | a |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

- a Global TB database.
- b MDR TB 2004. Note that the Northern Cape was not included in this study.
- c StatsSA Causes of death 2005.
2003: Calculated from 67 711 deaths due to TB and StatsSA mid-year population estimates for the relevant year.
2004: Calculated from 70 355 deaths due to TB and StatsSA mid-year population estimates for the relevant year.
2005: Calculated from 73 903 deaths due to TB as underlying cause of death (ICD-10 A15-A19) and StatsSA mid-year population estimates for the relevant year.
No adjustment has been made for under-reporting of death notification. The rate for South Africa includes deaths that are not allocated to a specific province and will therefore be higher than the average provincial value.

Table 15: TB case finding indicators by province

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA |
|---|--------|--------|--------|---------|--------|--------|-------|--------|---------|---------|
| Bacteriological coverage rate | | | | | | | | | | |
| 2001 | 82 | 90 | 90 | 54 | 79 | 83 | 90 | 83 | 90 | 80 |
| 2006 | 82 | 89 | 92 | 79 | 78 | 72 | 86 | 77 | 95 | - |
| Incidence of TB (PTB new Sm+) (per 100 000) | | | | | | | | | | |
| 2002 | 228.1 | 274.3 | 188.9 | 203.4 | 91.9 | 130.0 | 339.4 | 260.3 | 430.1 | 218.7 |
| 2003 | 263.7 | 288.8 | 185.6 | 332.2 | 105.8 | 138.0 | 413.6 | 267.4 | 372.3 | 250.6 |
| 2004 | 225.4 | 283.7 | 214.3 | 258.3 | 113.4 | 108.7 | 387.7 | 269.4 | 391.8 | 235.5 |
| 2005 | 255.5 | 322.0 | 233.8 | 299.8 | 121.6 | 172.4 | 395.4 | 350.9 | 399.2 | 267.5 |
| 2006 | 285.2 | 322.5 | 223.9 | 337.6 | 133.6 | 222.3 | 394.2 | 325.5 | 369.3 | 277.8 |
| 2007 | 339.7 | 314.5 | 187.9 | 372.7 | 143.1 | 256.3 | 340.1 | 298.2 | 343.4 | 283.4 |
| Incidence of TB (all types) (per 100 000) | | | | | | | | | | |
| 2002 | 674.8 | 497.4 | 376.4 | 564.6 | 172.8 | 207.1 | 635.1 | 481.2 | 919.1 | 496.8 |
| 2003 | 590.9 | 611.1 | 373.4 | 782.2 | 181.0 | 238.1 | 812.4 | 525.3 | 931.5 | 550.1 |
| 2004 | 518.7 | 642.0 | 435.8 | 723.3 | 214.7 | 229.5 | 783.6 | 551.2 | 988.1 | 550.9 |
| 2005 | 637.9 | 708.3 | 487.8 | 885.9 | 237.2 | 333.6 | 846.0 | 711.5 | 1 037.2 | 645.0 |
| 2006 | 705.0 | 789.2 | 500.7 | 1 075.8 | 305.2 | 463.3 | 949.9 | 737.9 | 1 030.7 | 722.4 |
| 2007 | 786.9 | 818.3 | 453.6 | 1 094.0 | 350.0 | 561.5 | 858.4 | 732.6 | 1 005.7 | 739.6 |
| Proportion of extra-pulmonary TB | | | | | | | | | | |
| 2002 | 12 | 16 | 23 | 16 | 13 | 10 | 7 | 14 | 11 | 15 |
| 2003 | 17 | 17 | 24 | 15 | 12 | 13 | 8 | 15 | 12 | 16 |
| 2004 | 14 | 19 | 23 | 17 | 15 | 13 | 6 | 14 | 12 | 16 |
| 2005 | 15 | 17 | 23 | 14 | 16 | 10 | 8 | 13 | 12 | 15 |
| 2006 | 15 | 19 | 26 | 16 | 18 | 10 | 8 | 14 | 12 | 16 |
| 2007 | 12 | 18 | 23 | 15 | 18 | 10 | 8 | 13 | 11 | 15 |
| Reported cases of TB (PTB) | | | | | | | | | | |
| 2002 | 41 554 | 11 630 | 23 346 | 43 055 | 7 265 | 5 893 | 4 918 | 15 082 | 29 840 | 182 583 |
| 2003 | 31 758 | 13 963 | 26 862 | 65 111 | 8 590 | 6 711 | 6 135 | 17 007 | 39 017 | 215 154 |
| 2004 | 31 631 | 15 323 | 29 663 | 58 216 | 10 084 | 6 508 | 6 614 | 18 083 | 39 597 | 215 719 |
| 2005 | 38 319 | 17 423 | 33 866 | 73 735 | 11 236 | 9 712 | 7 053 | 23 689 | 42 571 | 257 604 |
| 2006 | 42 582 | 19 058 | 34 290 | 88 271 | 14 118 | 13 496 | 7 951 | 24 519 | 43 155 | 287 440 |
| 2007 | 47 795 | 19 941 | 33 986 | 93 204 | 15 569 | 17 858 | 8 721 | 21 695 | 43 133 | 301 902 |
| Reported cases of TB (all types) | | | | | | | | | | |
| 2002 | 48 130 | 14 221 | 30 515 | 52 016 | 10 098 | 6 536 | 5 642 | 17 612 | 39 650 | 224 420 |
| 2003 | 38 430 | 16 733 | 35 161 | 76 838 | 9 797 | 7 732 | 6 652 | 19 918 | 44 161 | 255 422 |
| 2004 | 36 771 | 18 943 | 38 559 | 69 912 | 11 832 | 7 447 | 7 047 | 20 986 | 45 165 | 256 662 |
| 2005 | 44 909 | 20 915 | 43 990 | 85 507 | 13 366 | 10 746 | 7 633 | 27 208 | 48 193 | 302 467 |
| 2006 | 49 766 | 23 374 | 46 093 | 104 705 | 17 301 | 15 035 | 8 631 | 28 421 | 48 989 | 342 315 |
| 2007 | 54 343 | 24 267 | 43 946 | 109 556 | 18 910 | 19 857 | 9 461 | 24 867 | 48 672 | 353 879 |
| Reported cases of TB (new Sm+) | | | | | | | | | | |
| 2002 | 16 266 | 7 841 | 15 315 | 18 737 | 5 369 | 4 102 | 3 024 | 9 593 | 18 553 | 98 800 |
| 2003 | 17 149 | 7 907 | 17 471 | 32 431 | 5 725 | 4 479 | 3 387 | 10 138 | 17 650 | 116 337 |
| 2004 | 15 978 | 8 370 | 18 965 | 24 970 | 6 248 | 3 527 | 3 487 | 10 257 | 17 907 | 109 709 |
| 2005 | 17 984 | 9 508 | 21 086 | 28 938 | 6 854 | 5 554 | 3 567 | 13 419 | 18 550 | 125 460 |
| 2006 | 20 135 | 9 553 | 20 609 | 32 855 | 7 574 | 7 216 | 3 582 | 12 539 | 17 555 | 131 618 |
| 2007 | 23 459 | 9 327 | 18 208 | 37 323 | 7 734 | 9 065 | 3 749 | 10 120 | 16 619 | 135 604 |
| Smear positivity (percentage of new PTB cases which are Sm+) | | | | | | | | | | |
| 2002 | 39 | 67 | 66 | 44 | 74 | 70 | 61 | 64 | 62 | 54 |
| 2003 | 54 | 57 | 65 | 50 | 67 | 67 | 55 | 60 | 45 | 54 |
| 2004 | 51 | 55 | 64 | 43 | 62 | 54 | 53 | 57 | 45 | 51 |
| 2005 | 47 | 55 | 62 | 39 | 61 | 57 | 51 | 57 | 44 | 49 |
| 2006 | 47 | 50 | 60 | 37 | 54 | 54 | 45 | 51 | 41 | 46 |
| 2007 | 49 | 47 | 54 | 40 | 50 | 51 | 43 | 47 | 39 | 45 |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

Source: DoH TB.

Table 16: TB case holding indicators by province

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA |
|--|------|------|------|------|------|------|------|------|------|------|
| Cure rate (new Sm+ cases) | | | | | | | | | | |
| 2001 | 47.0 | 64.1 | 58.2 | 36.5 | 46.7 | 53.1 | 58.7 | 50.4 | 65.3 | 53.7 |
| 2002 | 50.9 | 67.7 | 57.4 | 36.4 | 52.2 | 53.0 | 62.6 | 53.3 | 68.2 | 54.1 |
| 2003 | 50.7 | 64.8 | 61.3 | 44.0 | 53.6 | 43.7 | 64.6 | 59.8 | 71.9 | 56.7 |
| 2004 | 40.8 | 67.2 | 62.6 | 34.8 | 69.5 | 32.0 | 38.3 | 56.6 | 70.1 | 50.8 |
| 2005 | 53.7 | 67.5 | 66.7 | 45.2 | 60.8 | 51.8 | 50.1 | 57.6 | 71.9 | 57.6 |
| 2006 | 59.6 | 68.7 | 74.4 | 52.9 | 60.4 | 56.1 | 69.7 | 59.0 | 77.3 | 62.9 |
| Interruption (defaulter) rate (new Sm+ cases) | | | | | | | | | | |
| 2001 | 12.8 | 8.9 | 12.9 | 12.1 | 10.2 | 12.9 | 15.9 | 7.9 | 12.2 | 12.0 |
| 2002 | 14.5 | 7.2 | 12.0 | 16.6 | 7.0 | 14.0 | 13.7 | 11.4 | 12.7 | 12.9 |
| 2003 | 12.3 | 7.0 | 9.7 | 18.3 | 8.1 | 12.2 | 11.5 | 9.2 | 11.9 | 12.4 |
| 2004 | 10.8 | 5.9 | 8.2 | 13.1 | 3.6 | 11.0 | 14.5 | 7.9 | 11.9 | 10.3 |
| 2005 | 9.0 | 5.9 | 6.9 | 14.7 | 7.4 | 10.8 | 13.1 | 9.5 | 11.1 | 10.4 |
| 2006 | 7.5 | 5.0 | 5.9 | 12.3 | 8.2 | 11.3 | 6.8 | 9.8 | 9.7 | 9.1 |
| Retreatment ratio | | | | | | | | | | |
| 2002 | 26 | 22 | 14 | 13 | 6 | 12 | 24 | 15 | 31 | 20 |
| 2003 | 29 | 22 | 15 | 16 | 11 | 10 | 25 | 16 | 31 | 21 |
| 2004 | 30 | 22 | 15 | 18 | 13 | 11 | 26 | 17 | 30 | 22 |
| 2005 | 32 | 23 | 17 | 20 | 14 | 10 | 28 | 18 | 32 | 23 |
| 2006 | 31 | 23 | 17 | 21 | 15 | 13 | 30 | 19 | 33 | 24 |
| 2007 | 28 | 22 | 16 | 19 | 14 | 13 | 28 | 21 | 34 | 22 |
| Smear conversion rate (new Sm+ cases) | | | | | | | | | | |
| 2004 | 37.3 | 58.5 | 57.8 | 38.7 | 43.2 | 34.2 | 31.8 | 48.4 | 58.0 | 46.6 |
| 2005 | 41.8 | 61.1 | 62.2 | 40.4 | 62.0 | 35.6 | 40.5 | 47.7 | 60.7 | 50.5 |
| 2006 | 49.9 | 67.2 | 69.2 | 48.4 | 54.3 | 44.4 | 48.3 | 48.1 | 66.9 | 55.8 |
| 2007 | 58.9 | 71.8 | 75.1 | 52.0 | 56.4 | 57.8 | 50.3 | 49.2 | 71.1 | 60.4 |
| Successful completion rate (new Sm+) | | | | | | | | | | |
| 2001 | 60.3 | 69.3 | 68.0 | 58.8 | 66.4 | 68.0 | 64.7 | 59.0 | 70.9 | 65.4 |
| 2002 | 68.3 | 72.7 | 67.0 | 63.3 | 61.1 | 62.4 | 68.8 | 69.3 | 75.3 | 68.1 |
| 2003 | 70.5 | 75.3 | 69.9 | 61.0 | 72.6 | 67.3 | 72.7 | 73.1 | 79.3 | 70.0 |
| 2004 | 63.4 | 76.7 | 67.8 | 55.1 | 77.2 | 49.6 | 65.8 | 69.2 | 78.9 | 65.5 |
| 2005 | 72.9 | 76.9 | 71.7 | 64.2 | 70.0 | 65.7 | 71.4 | 70.0 | 79.7 | 70.8 |
| 2006 | 75.3 | 76.5 | 77.9 | 69.3 | 69.4 | 66.0 | 80.9 | 69.1 | 82.0 | 73.8 |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

Source: DoH TB.

Malaria

The 2007 South African Health Review (SAHR) chapter noted the apparent mismatch between malaria deaths recorded in the notifiable disease system and those reported by StatsSA in their cause of death reports based on vital registration. In particular, the existence of deaths recorded on death notification forms as due to malaria in provinces other than KZN, MP and LP was noted. Marked differences were also noted in the figures for LP, from these two sources. Getting to the bottom of this apparent paradox is not easy. Although the vital registration system reflects a substantial number of deaths due to malaria in other provinces, it was noted that a number of the deaths recorded in EC and WC, for example, gave the province of residence as LP. Misclassification of non-malarial deaths to malaria may have occurred in the vital registration system, if the diagnosis was clinical rather than based on a laboratory test. However, it is also likely that the notifiable disease system is missing some data, to a greater extent outside of the three traditional malaria-affected provinces [Malaria Report 2007]. In contrast to countries with stable transmission of malaria where children under five and pregnant women are at greatest risk of severe malaria, neither the notification nor the vital registration data indicate a high proportion of deaths among children under five years, since all age groups have a high risk of malaria due to low levels of acquired immunity.

The NDoH's notifiable disease recording system shows malaria cases and deaths in the three affected provinces, up to the end of March 2008. A more detailed analysis of the data from LP, from 1998 to 2007, was presented at the Public Health Association of South Africa (PHASA) Conference in 2008 [PHASA 2008 L025]. Malaria incidence rates in LP showed a statistically significant decreasing trend from the 1998/99 (173 per 100 000 person-years) to the 2006/07 season (51 per 100 000 person-years), while the case fatality rate remained fairly stable over the whole period (a mean of 1.1% per season). Incidence was reported to be lowest in the 0-4 year olds, gradually increasing to a peak at 30-39 years, then gradually decreasing. While at first this may seem incongruous, it was argued that children in the 0-4 year age group were more likely to be indoors at night, and thus likely to benefit from indoor house spraying. In contrast, the case fatality rate was shown to increase with increasing age. Data were also provided for the six districts in LP. Incidence was highest in Vhembe (adjoining Zimbabwe), followed by Mopani and Bohlabela. However, the case fatality rate in Capricorn was high (3.4%) compared to that of the other districts. This could be explained by either late presentation and / or delayed or inaccurate diagnosis and / or treatment.

The following steps are taken to ensure the greatest possible accuracy in malaria notifications in the three provinces in which malaria programmes are operated:

- health facilities in the malaria risk areas are visited weekly, and in some cases daily;
- each case is followed up by malaria teams;
- for each malaria death that is notified, a full mortality review is done;
- malaria cases are only captured if they are smear or rapid test positive (patients treated for malaria, based on a clinical diagnosis, despite negative test results, are excluded);
- deaths noted as due to malaria based on a clinical diagnosis, but in which test results are negative, are also excluded; and
- while compliance by private general practitioners may be lower, close collaboration is maintained with private hospitals in the risk areas (Kruger P 2008, personal communication).

The SADHS 2003 also seems to confirm that patients with malaria are more widespread than generally acknowledged; *"When women were asked about malaria during pregnancy, 17 report that they had this illness during their last pregnancy (0.8 percent of women who have ever been pregnant). Interestingly, the women who report having malaria came from across all the provinces, except Mpumalanga."* Although based on patient recall, the variability in management of malaria suggests that treatment guidelines may not be well known throughout the country; *"Of the 2 088 women who had ever been pregnant, 27 women were unsure whether they had taken an antimalarial drug during pregnancy. However, 22 report that they had taken such medication; three took Daramal, three took Mirquin, three took Doximal, three took Plasmoquine and a further 12 took a medication but could not remember the name."* [SADHS 2003].

The SADHS 2003 also provided some data on the prevention measures taken by households. Of the 3 005 households surveyed in KZN, MP and LP, only 17 reported owning bed nets. In 13 of these households, there was only a single bed net and nine reported that the nets were not in use at the time of the survey. Of those households that had been sprayed, the majority (82%) had been sprayed by a government official. Where other measures were taken, these included the use of mosquito coils and repellents.

Two publications have provided useful summaries of the history of malaria interventions and the challenges that are still faced. Blumberg and Frean included some data on

malaria presentation in returning travellers, noting that this was “*an increasing and significant problem*”. Citing unpublished data from GP, they noted “*a significant delay in presentation to health practitioners, a higher mortality than in the traditional transmission malaria areas with established malaria control programmes, and a definite need for health promotion to advise travellers on prevention of malaria*”. They also reported 46 cases of Odyssean malaria in GP between 1996 and 2004 (presumably “*transmitted by mosquitoes imported in various forms of transport including suitcases, mini-buses and aeroplanes*”) [SAMJ 97(1193-7)]. An SAMJ news piece recently reported on the van den Ende Memorial Lecture delivered at the University of Cape Town [SAMJ 98(17-8)]. In her comments on the ‘shifting provincial differences’, Professor Karen Barnes, was quoted as saying malaria control was ‘not as good’ in the area of Mozambique bordering on MP and LP. While MP formed the main thoroughfare between Mozambique and South

Africa, LP was bearing the brunt of failing malaria control in neighbouring Zimbabwe. Analysis of the probable place of infection for cases reported in GP, MP and KZN showed that the majority of cases were imported from Mozambique or Zimbabwe [Malaria Report 2007]. These factors may explain some of the differences seen in malaria notification and vital registration data.

Whatever the truth about the true burden of malaria in South Africa, the available data at least form the basis for comparison over time. It has been stated that the MDG for malaria (to “*halt and begin to reverse the incidence of malaria and other major diseases by the target date of 2015*”, specifically to “*reduce malaria morbidity and mortality by 75% by 2015 from the 2005 baseline level*” (<http://www.un.org/millenniumgoals/>) is difficult to interpret and measure, as “*for virtually all countries and the world, there is no baseline level*” [Am J Trop Med Hyg 77(36-47)].

Table 17: Malaria indicators by province

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|--|----|----|-----|-------|-------|-------|----|----|----|--------|---|
| Case fatality rate: malaria | | | | | | | | | | | |
| 2004 | - | - | - | 0.5 | 1.0 | 0.4 | - | - | - | 0.7 | a |
| 2005 | - | - | - | 1.4 | 0.9 | 0.5 | - | - | - | 0.8 | a |
| 2006 | - | - | - | 0.9 | 0.9 | 0.5 | - | - | - | 0.7 | a |
| 2007 | - | - | - | 0.9 | 1.0 | 0.8 | - | - | - | 0.9 | a |
| Reported cases of malaria | | | | | | | | | | | |
| 2004 | - | - | - | 4 417 | 4 899 | 4 064 | - | - | - | 13 399 | a |
| 2005 | - | - | - | 1 220 | 3 458 | 3 077 | - | - | - | 7 755 | a |
| 2006 | - | - | - | 1 236 | 6 369 | 4 558 | - | - | - | 12 163 | a |
| 2007 | - | - | - | 557 | 2 601 | 2 052 | - | - | - | 5 210 | a |
| Reported cases of malaria (per 100 000) | | | | | | | | | | | |
| 2004 | - | - | - | 45.7 | 88.7 | 120.5 | - | - | - | 28.8 | a |
| 2005 | - | - | - | 12.6 | 61.4 | 95.6 | - | - | - | 16.5 | a |
| 2006 | - | - | - | 12.7 | 112.3 | 140.1 | - | - | - | 25.7 | a |
| 2007 | - | - | - | 5.6 | 48.1 | 58.0 | - | - | - | 10.9 | a |
| Reported deaths from malaria | | | | | | | | | | | |
| <i>Notifiable diseases system</i> | | | | | | | | | | | |
| 2004 | - | - | - | 22 | 50 | 17 | - | - | - | 89 | a |
| 2005 | - | - | - | 17 | 31 | 16 | - | - | - | 64 | a |
| 2006 | - | - | - | 11 | 57 | 21 | - | - | - | 89 | a |
| 2007 | - | - | - | 5 | 26 | 17 | - | - | - | 48 | a |
| Vital registration | | | | | | | | | | | |
| 2004 | 80 | 10 | 133 | 60 | 312 | 127 | 4 | 20 | 3 | 756 | b |
| 2005 | 28 | 14 | 133 | 54 | 295 | 81 | 2 | 23 | 6 | 644 | b |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

a DoH Malaria Statistics. Incidence calculated using StatsSA mid-year population estimates for the relevant year.

Note that that SA value may include any other provinces for which details are not given.

b StatsSA Causes of death 2005. Calculated from StatsSA Causes of death 2005 database using ICD-10 codes B50-B54 for underlying cause of death. No adjustment made for under-reporting of death registration. SA total includes a few deaths that took place outside of the country.

HIV and AIDS

Just as debate on HIV and AIDS tends to dominate the political space, the related data tends to be available in a breadth and depth unmatched by other diseases. In his foreword to the 2008 Report on the global AIDS epidemic, Dr Peter Piot, UNAIDS Executive Director and Under-Secretary-General of the United Nations, stated that "*AIDS is a supremely complex issue that demands an unparalleled response from all sectors of society, worldwide. But as this report shows, it is increasingly evident that—given the will and given the resources—we can do it*" [AIDS Global Report 2008]. The report notes that 2008 marks "*the halfway mark between the 2001 UNGASS^b Declaration of Commitment and the 2015 target for Millennium Development Goal 6, and only two years before the agreed target date for universal access*". While progress was noted, the global scale of the epidemic remained 'staggering' – as the report summarised "[i]n 2007 alone, 33 million [30.3 million-36.1 million] people were living with HIV, 2.7 million [2.2 million-3.2 million] people became infected with the virus, and 2 million [1.8 million-2.3 million] people died of HIV-related causes". South Africa featured prominently in the report, with the overall characterization being as follows: "*HIV data from antenatal clinics in South Africa suggest that the country's epidemic might be stabilizing ..., but there is no evidence yet of major changes in HIV-related behaviour. The estimated 5.7 million [4.9 million-6.6 million] South Africans living with HIV in 2007 make this the largest HIV epidemic in the world*". The figures in brackets are the low and high estimates.

Although much attention was paid in 2007 to the adjustment of national prevalence estimates by UNAIDS, this chapter will instead focus on the issue of access to treatment. The South African UNGASS country progress report for the period January 2006 to December 2007 was submitted in February 2008 [UNGASS 2008]. It noted that the South African government remained the main source of funding for the national response, and made the statement that "*South Africa now has the largest number of people enrolled on antiretroviral therapy in the world*". Some of the key figures provided in this report were:

- by the middle of 2006, 764 000 children and adults in South Africa were at WHO Stage 4, and therefore needing treatment; of these, by the middle of 2006 a total of 353 945 (46%) had enrolled in the antiretroviral therapy (ART) programme and 273 400 (36%) had been initiated on ART;
- by 2007, 889 000 people needed treatment of which 488 739 (55%) had enrolled and 371 731 (42%) initiated

on ART programme (approximately 55% female and 45% male); and

- the estimated number of children (younger than 15 years) needing treatment was 52 000 in 2006 and 65 000 in 2007, of which 23 369 received treatment in 2006 and 32 060 in 2007.

The UNAIDS 2008 report provided the following estimates of the number of South Africans infected [AIDS Global Report 2008]:

- total infected (low-high) – 5 700 000 (4 900 000-6 600 000);
- total adults and children over 15 infected (low-high) – 5 400 000 (4 700 000-6 200 000);
- total children 0-14 years infected (low-high) – 280 000 (230 000-320 000);
- total country reported need – 889 000;
- total reported by the country as receiving treatment in 2007 (%; low-high) – 458 953 (28; 22-36); and
- total need estimated using UNAIDS / WHO Reference group on Estimates, Modelling and Projections methodology (low-high) – 1 700 000 (1 300 000-2 100 000).

The differences in the estimates of those in need of treatment (assumed to be presenting with advanced HIV) vary considerably, and thus so do the estimates of the percentage covered.

The South African UNGASS country progress report also included data on the number of public sector accredited service points providing 'comprehensive HIV and AIDS services'. By the end of 2007, such services were available from 362 public sector health facilities, located in more than 80% of the 254 local municipalities and metropolitan areas. It did, however, identify a number of remaining challenges, including "*recruitment of adequate numbers of human resources, strengthening the district based referral systems with effective utilisation of primary health care facilities, promotion of healthy lifestyles and strengthening of national health information systems*". Similar challenges – the results of "*weak health systems, a critical shortage of human resources and lack of long-term sustained financing*" – have been identified in many countries failing to meet the challenge of universal access [Universal Access 2008]. This joint WHO / UNAIDS / UNICEF publication also points out that "*even high-income countries with well-developed infrastructure have difficulty in reaching 100% of the people who need interventions*". It cited evidence that, as recently as 2005, only 55% of the people who needed ART in the

^b United Nations General Assembly Special Session.

United States received it. The report unpacked 'access' in terms of three dimensions:

- "availability" – defined in terms of the physical access, economic access and socio-cultural access of services that meet a minimum standard of quality;
- "coverage" – defined as the proportion of the people needing an intervention who receive it; and
- "outcome and impact" – defined in terms of behavioural change, lower infection rates or higher survival rates.

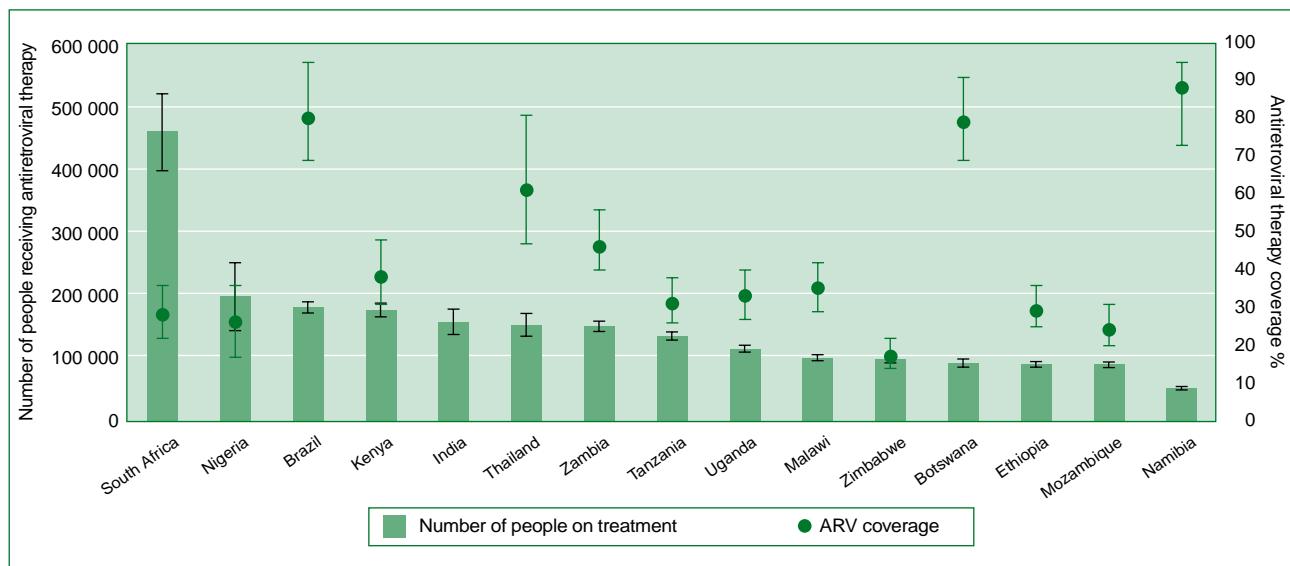
Put another way, "[o]utcome and impact are the result of coverage, modulated by the efficiency and effectiveness of interventions. In addition to the availability, coverage and outcome and impact of interventions, other aspects also determine the attainment of universal access, including whether the services are provided in an equitable manner and their quality, acceptability and effectiveness".

It also noted that estimating ART need and coverage raised a number of methodological questions. While the numerator (the number receiving treatment) could be derived fairly simply from national programme reporting systems, the denominator (the number in need of treatment) required statistical modelling. Key to this modelling exercise were the assumptions about when treatment would be needed. Figure 7 clearly shows how, while South Africa's ART programme dwarfs many others, it still lags behind many other developing countries' programmes in terms of coverage.

A number of other factors need to be taken into account when assessing ART coverage. The first is the local policy

for initiation of ART, and how this relates to the most recent guidelines issued by various authorities. South Africa has retained a lower CD4 cut-off for initiation of adult and adolescent patients than is the internationally accepted norm. The difference between 'enrolled in the ART programme', 'initiated on ART' and 'currently receiving ART' also need to be explored. Despite a clear commitment in the 2004 Comprehensive Plan to develop suitable patient record systems that would allow for each of these three parameters to be tracked with acceptable accuracy, such systems are not yet in place. The national programme in South Africa is thus notable to say how many patients enrolled on the programme fail to start ART (either defaulting during the preparedness phase or dying before accessing treatment), and how many of those who initiated ART are still receiving treatment. In addition, those data that are available are not suitably disaggregated in order to show the extent to which access is equitable. These issues were extensively aired in a roundtable conference held in October 2007 at the University of the Free State [Health Systems ARV access]. Also presented were more detailed data from individual provincial programmes. Data from the Free State highlighted the problems of late enrolment. Of a cohort of 14 627 patients enrolled over 18 months, 6 889 (48%) were assessed as eligible to start ART. However, only 3 619 (53% of those eligible) actually received ART. More tellingly, of the 2 422 deaths recorded, 87% were in the pre-ART group. Mortality was reduced by 86% in those who did start ART. Data from WC showed that, of a cohort of 12 587 patients started on ART between 2001 and 2005, 82% remained on treatment after 24 months, while at 48 months, 72% remained in care. Of those remaining in care,

Figure 7: Antiretroviral therapy coverage in the 15 countries accounting for 75% of the 3 million people receiving treatment in low- and middle-income countries, 2007



Source: Universal Access 2008.

90% had undetectable viral loads (defined as <400 copies per ml). Some of the key points made at the conference were as follows:

- *"Universal access to ART is unlikely to be achieved with the predominant model of ART service delivery currently being implemented in the public health system, namely, vertical services funded through ring-fenced resources and provided in 313 (at the time of presentation) accredited comprehensive care, management and treatment (CCMT) sites, based in hospitals, community health centres or PHC clinics, and provided by doctors, professional nurses and pharmacists."*
- *"The need for ART is expanding by about 500 000 people per annum. In order to meet 80% of this need, each of the existing 313 accredited sites would have to enrol more than 100 new patients each month with current use of resources. Very few CCMT sites are able to achieve this level of enrolment. Quite the converse is true: as sites become more saturated, the rates of enrolment tend to decline – and simultaneously the ability to ensure retention in care."*

Calls for simplified and standardised approaches to monitoring and evaluation (M&E) have been made repeatedly, but there is little evidence of progress in this regard. A district-level determination of the 'treatment gap' may well be the first step, as advocated by Barker and Venter [SAMJ 97(916-7)]. Table 18 shows some selected national targets from the current national HIV Strategic Plan. In the absence of accurate national treatment figures, it is impossible to show progress towards attainment of the treatment target over time.

Some idea of the possibilities can be gauged from reports from single programmes, though these are in all likelihood far removed from the norm. For example, Fredlund and Nash have reported on a decentralised approach in a rural northern KZN district which achieved 60% coverage 24 months after initiation [J Infect Dis 196(S469-73)]. Similarly, a Medecins Sans Frontieres (MSF)-directed programme in the rural EC achieved 95% coverage as well as high retention on treatment, again using a highly decentralised approach using nurses and mid-level workers [J Infect Dis 196(S464-8)].

A study by the Reproductive Health Research Unit at Tshepong Wellness Clinic, using retrospective chart review of patient files from 2006, showed that about 14% of patients started on ARVs had stopped taking treatment, but confirmed the high drop out rate before even initiating treatment [Tshepong Review]. While about 20% of patients were lost in the pre-treatment phase, the reasons for this attrition could not be determined. The authors referred, however, to subsequent data collected from inner-city clinics in Johannesburg, which indicated that about 50% of pre-treatment patients were lost between CD4 testing and treatment initiation.

Although emphasis has been placed on treatment, attention to the effectiveness of the PMTCT programme has continued. Data on the extent to which dual-ARV PMTCT has been provided across the public sector are not yet available. However, data from a single state-aided hospital in Durban have shown what can be achieved [SAMJ 98(458-62)]. Of a cohort of 2 624 women who attended the PMTCT clinic at McCord Hospital between 1 March 2004 and 31 August 2005, all received HIV counselling, and 2 388 (91%) were tested for HIV. HIV prevalence in this cohort was 13% (95% CI: 11.6-14.2). Of the 338 identified as HIV-positive, 302 (89%)

Table 18: Selected targets from the HIV & AIDS and STI Strategic Plan for South Africa, 2007-2011

| Objective | Intervention | 5 year target | | | | |
|---|---|--|---------------|---------------|---------------|---------------|
| | | 2007 | 2008 | 2009 | 2010 | 2011 |
| Increase the accessibility and availability of comprehensive sexual assault care including PEP and psychosocial support | Increase the proportion of facilities offering the comprehensive package of sexual assault care in accordance with the National Policy on Sexual Assault Care of NDoH | 40% | 60% | 80% | 90% | 95% |
| Scale up coverage and improve quality of PMTCT to reduce MTCT to less than 5% | Increase proportion of pregnant women tested through implementation of provider-initiated VCT for all pregnant women | 70% | 85% | 90% | 95% | 95% |
| Increase access to VCT services that recognise diversity of needs | Implement provider-initiated VCT in all health facilities, with a special focus on STI, TB, antenatal, IMCI, family planning and general curative services | 60% of all health facilities in country (public, private, NGO) | 75% | 90% | 95% | 95% |
| Scale up coverage of the comprehensive care and treatment package | Increase the number of new adults starting ART | 120 000 (24% new AIDS cases) | 180 000 (35%) | 285 000 (55%) | 370 000 (70%) | 420 000 (80%) |
| | Increase the number of new children starting ART | 17 000 | 24 000 | 33 000 | 38 000 | 40 000 |

completed their pregnancy at the hospital. There were three intrauterine deaths, one miscarriage, one maternal death (with the baby in utero) and 297 live births with one early neonatal death. Of the 297 live births in hospital, 209 (70%) were delivered by caesarean section. The period reviewed covered a change of PMTCT policy, so while 290 babies (98%) received nevirapine, 224 (75%) received zidovudine as well. Follow-up testing by polymerase chain reaction test at six weeks was completed in 239 of 269 (81%) surviving infants, with an HIV transmission rate at this point of only 2.9% (95% CI: 1.3-6.2). Equally important, 668 of the partners of all women attending the antenatal clinic were tested for HIV.

Routine district-level data have also been reported in the District Health Barometer [DHB 2006/07]. Nationally, nevirapine uptake among pregnant HIV-positive women was shown to have increased somewhat, from 52% in 2005/06 to 61% in 2006/07. These averages hide considerable inter-district variability. Data on other elements of the PMTCT programme illustrate this point – for example, the proportion of antenatal clients who are tested for HIV varied from a low of 44% (in the eThekweni metropole, KZN) to 100% coverage in a number of districts, mostly in WC. These results concur with the estimated percentage of pregnant women who received ARVs for PMTCT of 57% (49-69%) in the Universal Access 2008 report, which estimated that 127 164 of about 220 000 women in need received ARVs for PMTCT in 2007.

Prevention research has not been neglected in South Africa. A comprehensive study entitled 'Concurrent Sexual Partnerships amongst young adults in South Africa. Challenges for HIV prevention communication' was published in 2007, focusing on heterosexual respondents in the 20-30 year age group [CADRE Sexual Partnerships]. The qualitative component of this research confirmed high levels of awareness and knowledge about HIV and AIDS among the target group. However, awareness did not necessarily translate into risk avoidance. The authors noted a "pervasive norm of sexual partner turnover, sexual partner concurrency and casual sex", which were not always recognized as risky. Quantitative data showed that marriage in South African society occurred at a relatively older age, with only 10.4% of people in the 20-30 year age group being married. As a result, it was likely that most people in this age group would have a series of partners over many years. A third of males and about one in ten females reported having two or more partners in the preceding year. Over two decades, this could translate into more than 40 cumulative partners. About a third of men and women who reported having more than two partners in the preceding year also reported having two or more partners in the preceding month. Here concurrency is higher, sexual networks are even more concentrated, and the risk of exposure to HIV higher still. There was a positive

orientation towards condom use, with high levels of claimed use. More than a third of the respondents had also been tested for HIV, and more than a half of these were tested in the preceding year. More details on reproductive behaviour are provided in the next section.

As before, the tables below focus predominantly on prevalence, in various populations and as estimated by various means. More detailed data at district level are available from the new antenatal sero-prevalence survey [Antenatal Survey 2007]. This latest survey suggests an overall stabilisation or even decline in HIV prevalence, which has resulted in more conservative modelled estimates for the total population; an estimated HIV prevalence amongst adults (15-49 years) of 17.6% (95% CI: 16.95-18.33%); and the number of HIV-infected people estimated to be approximately 5.27 million, including 184 680 children. However, extreme caution should be exercised in interpreting these data, and in particular, in making any comparisons between data from different years. Dorrington and Bourne have pointed out that the 2006 survey differed markedly from those in previous years, making such comparisons difficult [SAMJ 98(754-5)]. However, they have also pointed to a major fault in the way data were weighted for age in the 2007 analysis. They explained that, while "*[i]n 2006, as intended, the districts were treated as self-weighting and the estimates of provincial prevalence rates were therefore simply the total of the results from the districts within the province*", the "*national estimate was then derived, as in previous surveys, by taking a weighted average of the provincial results using the number of women aged 15-49 years in each province according to Statistics South Africa (StatsSA) mid-year population estimates as weights*". They described the apparent method used in 2007 as follows: "*In 2007 the Department appears to have introduced age weighting. Instead of treating the district data as self-weighting according to the survey design, the provincial estimates appear to have been derived by weighting each age group according to number of women in each age group in the province according to StatsSA mid-year population estimates*." The implications are explained in detail: "*It is clearly problematic to use the age distribution of the population of all women to weight data representing women attending public antenatal clinics by age to produce an estimate of the prevalence of women attending public antenatal clinics. By definition women attending antenatal clinics are pregnant, and have therefore been exposed to unprotected sex, and since fertility rates have a very distinctive pattern with respect to age (low for the 15-19 age group, peaking in the 20-24 age group and falling steadily to very low levels beyond age 35), the age distribution of women attending antenatal clinics is very different from that of the female population, which is highest in the 15-19 age*

group and decreases gradually with increasing age. Since the prevalence of HIV also has a distinct age pattern and prevalence is lower in the youngest and oldest age groups, using the population of all women to reweight the data will inevitably underestimate the prevalence of women attending public antenatal clinics in that year." In short, these authors feel that "most of the decline in overall prevalence between 2006 and 2007 is simply an artefact of the inappropriate reweighting of the data".

Table 19: HIV and AIDS indicators by province

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|---|---------|---------|---------|---------|---------|---------|--------|---------|--------|-----------|---|
| AIDS orphans (maternal orphans <18 years) | | | | | | | | | | | |
| 2006 ASSA2003 | 124 055 | 69 265 | 203 287 | 360 026 | 78 569 | 106 895 | 7 884 | 78 262 | 29 830 | 1 018 548 | a |
| 2007 ASSA2003 | 148 125 | 81 572 | 243 785 | 416 347 | 94 208 | 123 233 | 9 579 | 92 749 | 36 677 | 1 201 675 | a |
| 2008 ASSA2003 | 171 679 | 93 029 | 282 151 | 467 328 | 109 481 | 137 826 | 11 355 | 106 634 | 44 067 | 1 374 883 | a |
| 2009 ASSA2003 | 194 060 | 103 265 | 316 989 | 511 666 | 123 950 | 150 297 | 13 179 | 119 513 | 51 873 | 1 532 991 | a |
| AIDS sick (number of people with AIDS-defining conditions) | | | | | | | | | | | |
| 2006 ASSA2003 | 64 096 | 46 249 | 156 328 | 193 028 | 39 474 | 57 470 | 5 385 | 54 083 | 19 736 | 599 298 | a |
| 2007 ASSA2003 | 70 031 | 48 392 | 162 429 | 200 628 | 42 559 | 59 017 | 6 075 | 57 718 | 22 524 | 633 931 | a |
| 2008 ASSA2003 | 75 300 | 49 656 | 165 632 | 204 976 | 45 229 | 59 581 | 6 787 | 60 618 | 25 499 | 659 637 | a |
| 2009 ASSA2003 | 79 705 | 50 111 | 166 078 | 206 294 | 47 390 | 59 336 | 7 459 | 62 634 | 28 391 | 676 058 | a |
| HIV incidence | | | | | | | | | | | |
| ASSA models | | | | | | | | | | | |
| 2002 Mother's milk (of infants) | 3.5 | 4.1 | 3.5 | 5.4 | 3.2 | 4.4 | 2.1 | 3.7 | 1.0 | 3.8 | b |
| 2002 Perinatal (births) | 5.5 | 6.5 | 5.6 | 8.3 | 5.2 | 6.9 | 3.4 | 5.9 | 1.5 | 6.0 | c |
| 2002 adult female (18-64) | 3.2 | 2.9 | 2.4 | 2.5 | 2.6 | 2.9 | 2.0 | 2.6 | 1.4 | 2.4 | c |
| 2002 adult male (18-64) | 1.5 | 1.7 | 1.5 | 1.6 | 1.5 | 1.7 | 0.9 | 1.6 | 0.4 | 1.5 | c |
| 2002 adults (18-64) | 3.4 | 3.4 | 2.9 | 3.3 | 3.1 | 3.5 | 2.0 | 3.2 | 1.1 | 3.1 | c |
| 2002 total population | 2.1 | 2.3 | 2.1 | 2.3 | 1.9 | 2.3 | 1.3 | 2.1 | 0.7 | 2.1 | c |
| 2004 total population | - | - | - | - | - | - | - | - | - | 1.3 | d |
| 2007 total population | 1.3 | 1.4 | 1.3 | 1.6 | 0.9 | 1.4 | 0.8 | 1.3 | 0.6 | 1.2 | a |
| Updated estimates based on HIV Household Survey 2005 | | | | | | | | | | | |
| 2005 age 2-14 | - | - | - | - | - | - | - | - | - | 0.5 | e |
| 2005 age 15-24 | - | - | - | - | - | - | - | - | - | 2.2 | e |
| 2005 age 15-49 | - | - | - | - | - | - | - | - | - | 2.4 | e |
| 2005 female age 20-29 | - | - | - | - | - | - | - | - | - | 5.6 | e |
| 2005 male age 20-29 | - | - | - | - | - | - | - | - | - | 0.9 | e |
| 2005 rural formal | - | - | - | - | - | - | - | - | - | 1.6 | e |
| 2005 rural informal | - | - | - | - | - | - | - | - | - | 1.4 | e |
| 2005 urban formal | - | - | - | - | - | - | - | - | - | 0.8 | e |
| 2005 urban informal | - | - | - | - | - | - | - | - | - | 5.1 | e |
| 2005 total population | 0.7 | 1.9 | 1.9 | 1.7 | 1.6 | 2.4 | 0.2 | 1.0 | 0.8 | 1.4 | e |
| HIV prevalence (%) (antenatal) | | | | | | | | | | | |
| Antenatal surveys | | | | | | | | | | | |
| 2002 | 23.6 | 28.8 | 31.6 | 36.5 | 15.6 | 28.6 | 15.1 | 26.2 | 12.4 | 26.5 | f |
| 2003 | 27.1 | 30.1 | 29.6 | 37.5 | 17.5 | 32.6 | 16.7 | 29.9 | 13.1 | 27.9 | f |
| 2004 | 28.0 | 29.5 | 33.1 | 40.7 | 19.3 | 30.8 | 17.6 | 26.7 | 15.4 | 29.5 | f |
| 2005 | 29.5 | 30.3 | 32.4 | 39.1 | 21.5 | 34.8 | 18.5 | 31.8 | 15.7 | 30.2 | f |
| 2006 | 28.6 | 31.1 | 30.8 | 39.1 | 20.6 | 32.1 | 15.6 | 29.0 | 15.1 | 29.1 | f |
| 2007 | 26.0 | 33.5 | 30.3 | 37.4 | 18.5 | 32.0 | 16.1 | 29.0 | 12.6 | 28.0 | f |
| 2002 age <20 | - | - | - | - | - | - | - | - | - | 14.8 | f |
| 2003 age <20 | - | - | - | - | - | - | - | - | - | 15.8 | f |
| 2004 age <20 | - | - | - | - | - | - | - | - | - | 16.1 | f |
| 2005 age <20 | - | - | - | - | - | - | - | - | - | 15.9 | f |
| 2006 age <20 | - | - | - | - | - | - | - | - | - | 13.7 | f |
| 2007 age <20 | - | - | - | - | - | - | - | - | - | 12.9 | f |
| 2002 age 15-24 | - | - | - | - | - | - | - | - | - | 23.5 | f |
| 2003 age 15-24 | - | - | - | - | - | - | - | - | - | 24.8 | f |

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|--|---------|---------|-----------|-----------|---------|---------|--------|---------|---------|-----------|---|
| HIV prevalence (%) (antenatal) | | | | | | | | | | | |
| <i>Antenatal surveys</i> | | | | | | | | | | | |
| 2004 age 15-24 | - | - | - | - | - | - | - | - | - | 25.1 | f |
| 2005 age 15-24 | - | - | - | - | - | - | - | - | - | 24.8 | f |
| 2006 age 15-24 | - | - | - | - | - | - | - | - | - | 23.1 | f |
| <i>DHIS</i> | | | | | | | | | | | |
| 2005 DHIS | 22.6 | 26.1 | 29.3 | 34.3 | 17.7 | 27.4 | 12.4 | 27.4 | 12.7 | 28.1 | g |
| 2006 DHIS | 22.8 | 25.3 | 28.3 | 25.6 | 17.3 | 29.5 | 12.8 | 26.8 | 14.1 | 26.6 | g |
| HIV prevalence (%) (total population) | | | | | | | | | | | |
| <i>HIV Household surveys</i> | | | | | | | | | | | |
| 2002 age 2+ | 6.6 | 14.9 | 14.7 | 11.7 | 9.8 | 14.1 | 8.4 | 10.3 | 10.7 | 11.4 | h |
| 2005 age 2+ | 8.9 | 12.6 | 10.8 | 16.5 | 8.0 | 15.2 | 5.4 | 10.9 | 1.9 | 10.8 | i |
| 2005 age 2-14 | - | - | - | - | - | - | - | - | - | 3.3 | i |
| 2005 age 15-24 | - | - | - | - | - | - | - | - | - | 10.3 | i |
| 2005 age 15-49 | - | - | - | - | - | - | - | - | - | 16.2 | i |
| 2005 age =>25 | - | - | - | - | - | - | - | - | - | 15.6 | i |
| 2005 age =>50 | - | - | - | - | - | - | - | - | - | 5.7 | i |
| 2005 female | - | - | - | - | - | - | - | - | - | 13.3 | i |
| 2005 male | - | - | - | - | - | - | - | - | - | 8.2 | i |
| <i>Labour force</i> | | | | | | | | | | | |
| 2002 health workers | - | 9.6 | - | 17.1 | - | 19.6 | - | 19.7 | - | 15.7 | j |
| 2005 health workers | - | - | 11.5 | - | - | - | - | - | - | - | k |
| 2007 Legal services sector | - | - | 13.6 | 23.7 | - | - | - | - | 2.1 | 13.8 | l |
| 2007 Private security sector | - | - | 17.8 | 22.8 | - | - | - | - | 3.4 | 15.9 | l |
| <i>HIV Youth 2003 – RHRU / loveLife survey</i> | | | | | | | | | | | |
| 2003 age 15-19 | - | - | - | - | - | - | - | - | - | 4.8 | m |
| 2003 age 15-24 | 12.8 | 10.0 | 9.2 | 14.1 | 4.8 | 11.7 | 6.7 | 9.9 | 6.8 | 10.2 | m |
| 2003 female age 15-19 | - | - | - | - | - | - | - | - | - | 7.3 | m |
| 2003 female age 15-24 | - | - | - | - | - | - | - | - | - | 15.5 | m |
| 2003 female age 20-24 | - | - | - | - | - | - | - | - | - | 24.5 | m |
| 2003 male age 15-19 | - | - | - | - | - | - | - | - | - | 2.5 | m |
| 2003 male age 15-24 | - | - | - | - | - | - | - | - | - | 4.8 | m |
| 2003 male age 20-24 | - | - | - | - | - | - | - | - | - | 7.6 | m |
| <i>HIV Children 2005</i> | | | | | | | | | | | |
| 2004 age 2-9 public sector | - | 14.8 | - | - | - | - | - | - | - | - | n |
| <i>StatsSA</i> | | | | | | | | | | | |
| 2005 StatsSA | - | - | - | - | - | - | - | - | - | 9.8 | o |
| 2006 StatsSA | - | - | - | - | - | - | - | - | - | 10.9 | o |
| 2004 StatsSA age 15-49 | - | - | - | - | - | - | - | - | - | 15.2 | o |
| 2005 StatsSA age 15-49 | - | - | - | - | - | - | - | - | - | 16.7 | o |
| 2006 StatsSA age 15-49 | - | - | - | - | - | - | - | - | - | 18.2 | o |
| <i>ASSA2003 model</i> | | | | | | | | | | | |
| 2006 ASSA2003 | 10.0 | 13.9 | 14.5 | 15.7 | 6.9 | 13.4 | 6.9 | 12.7 | 5.4 | 11.2 | a |
| 2007 ASSA2003 | 10.4 | 14.0 | 14.7 | 15.8 | 7.1 | 13.4 | 7.2 | 12.9 | 5.6 | 11.4 | a |
| 2008 ASSA2003 | 10.8 | 14.1 | 14.7 | 15.8 | 7.3 | 13.5 | 7.5 | 13.0 | 5.8 | 11.6 | a |
| 2009 ASSA2003 | 11.1 | 14.2 | 14.8 | 15.8 | 7.5 | 13.5 | 7.7 | 13.1 | 6.0 | 11.7 | a |
| 2006 ASSA2003 age 15-49 | 17.4 | 22.2 | 22.2 | 26.2 | 12.1 | 21.8 | 11.2 | 20.5 | 8.6 | 18.4 | a |
| 2007 ASSA2003 age 15-49 | 17.9 | 22.3 | 22.5 | 26.1 | 12.3 | 21.8 | 11.6 | 20.6 | 9.0 | 18.6 | a |
| 2008 ASSA2003 age 15-49 | 18.4 | 22.4 | 22.7 | 26.0 | 12.5 | 21.8 | 12.0 | 20.7 | 9.3 | 18.8 | a |
| 2009 ASSA2003 age 15-49 | 18.8 | 22.5 | 22.8 | 25.8 | 12.7 | 21.7 | 12.3 | 20.8 | 9.6 | 18.9 | a |
| <i>People living with HIV</i> | | | | | | | | | | | |
| 2007 | - | - | - | - | - | - | - | - | - | 5 270 000 | p |
| 2007 ASSA2003 | 698 699 | 391 527 | 1 431 389 | 1 552 390 | 415 652 | 450 975 | 64 610 | 489 585 | 283 742 | 5 511 751 | a |
| 2008 ASSA2003 | 728 915 | 393 863 | 1 446 094 | 1 560 573 | 433 820 | 455 135 | 67 330 | 496 274 | 297 669 | 5 628 475 | a |
| 2009 ASSA2003 | 757 818 | 395 344 | 1 454 006 | 1 567 048 | 451 553 | 459 051 | 69 595 | 501 066 | 309 102 | 5 728 713 | a |

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|---|------|------|------|------|------|------|------|------|-------|------|---|
| Percentage of deaths due to AIDS | | | | | | | | | | | |
| 2002 | 29.5 | 43.1 | 43.6 | 51.7 | 34.2 | 50.5 | 21.6 | 40.7 | 13.1 | 39.8 | c |
| 2004 ASSA2002 | - | - | - | - | - | - | - | - | - | 44.0 | d |
| 2005 StatsSA | - | - | - | - | - | - | - | - | - | 50.8 | o |
| 2006 ASSA2003 | 38.0 | 51.3 | 55.7 | 57.1 | 39.1 | 56.6 | 29.1 | 51.6 | 22.2 | 47.5 | a |
| 2007 ASSA2003 | 39.5 | 51.9 | 55.8 | 57.5 | 40.2 | 56.7 | 31.1 | 52.5 | 24.0 | 48.2 | a |
| 2008 ASSA2003 | 40.7 | 52.1 | 55.5 | 57.6 | 40.9 | 56.4 | 32.9 | 53.2 | 25.6 | 48.6 | a |
| 2009 ASSA2003 | 41.9 | 52.2 | 55.4 | 57.7 | 41.7 | 56.2 | 34.5 | 53.6 | 27.1 | 49.0 | a |
| Proportion of ANC clients tested for HIV | | | | | | | | | | | |
| 2005 DHIS | 43.5 | 37.3 | 44.6 | 59.7 | 43.9 | 24.0 | 45.1 | 43.4 | 100.6 | 46.7 | g |
| 2006 DHIS | 68.7 | 59.6 | 56.3 | 64.2 | 67.5 | 52.4 | 80.2 | 66.2 | 93.7 | 57.6 | g |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

- a ASSA 2003. Downloaded 2006-06-19.
- b HIV Indicators 2002. No. of new infections through breast milk as % of babies born uninfected.
- c HIV Indicators 2002.
- d HIV Indicators 2004.
- e SAMJ 97(194-9). Based on the HSRC HIV Household Survey 2005. Adjustment formulas were recently reviewed and correct for both false long-term infections (sensitivity) and false recent infections (specificity) determined by the assay.
- f Antenatal Surveys 2002-2007. Estimates for age 15-24 calculated from weighted average of prevalence in <20 and 20-24 age groups were not given in publication. At time of publication there is controversy about whether the national and provincial estimates for 2007 are correctly calculated.
- g DHIS. Data extracted June 2006 and July 2007. Values for WC obtained directly from province and not included in calculation of national average. Published in District Health Barometer 2006-7. Health Systems Trust.
- h HIV Household Survey 2002. 95% CI: 10.0-12.7 Prevalence estimates for the general population aged 2 years and older. See source

document for details of methodology, limitations of the survey, and results that are of variable reliability due to sampling and other issues. Reported figures should also be viewed together with the confidence intervals to get a better understanding of the reliability of the estimates. The imprecision of estimates for WC, NC and LP is at the statistical borderline.

- i HIV Household Survey 2005.
- j HIV and AIDS Impact Health Sector.
- k SAMJ 97(115-20). Health workers at Coronation and Helen Joseph hospitals. Prevalence also given for various categories including doctors (2.0%), Nurses (13.7%), females (12.0%), males (7.9%), by age groups and ethnic groups.
- l HSRC Security Legal 2007.
- m HIV Youth 2003.
- n HIV Children 2005. This value is the HIV prevalence of children attending public health services in the Free State between April and July 2004. HIV prevalence in this group is likely to differ from HIV prevalence in the general population.
- o StatsSA Mid-year Estimates.
- p Antenatal Survey 2007.

Table 20: HIV and AIDS indicators by ethnic group

| | African | Coloured | Indian | White | Other | All | |
|--|---------|----------|--------|-------|-------|------|---|
| HIV incidence | | | | | | | |
| 2005 total population adjusted | 1.8 | - | - | - | 0.2 | 1.4 | a |
| HIV prevalence (%) (total population) | | | | | | | |
| 2002 age 2+ | 12.9 | 6.1 | 1.6 | 6.2 | - | 11.4 | b |
| 2002 age 15-49 | 18.4 | 6.6 | 1.8 | 6.2 | - | 15.6 | b |
| 2003 age 15-24 | 11.8 | 3.8 | 0.9 | 2.0 | - | 10.2 | c |
| 2004 StatsSA age 15-49 | 16.0 | 6.8 | 2.7 | 5.6 | - | 15.2 | d |
| 2005 age 2+ | 13.3 | 1.9 | 1.6 | 0.6 | - | 10.8 | e |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

- a SAMJ 97(194-9). Population 2 years and older. Based on the HSRC HIV Household Survey 2005. Adjustment formulas were recently reviewed and correct for both false long-term infections (sensitivity) and false recent infections (specificity) determined by the assay.
- b HIV Household Survey 2002. 95% CI: 10.0-12.7 Prevalence estimates for the general population aged 2 years and older. See source document for details of methodology, limitations of the survey, and results that are of variable reliability due to sampling and other issues. Reported figures should also be viewed together with the confidence intervals to get a better understanding of the reliability of the estimates. The results for Whites and Indians have wide confidence intervals, largely due to a low response rate.
- c HIV Youth 2003.
- d StatsSA Mid-year Estimates.
- e HIV Household Survey 2005. Prevalence estimates for the general population aged 2 years and older.

Reproductive health

Contraception and sexual behaviour

As was noted before, a major new set of data was provided by the South African National Burden of Disease (SA NBD) study [Comparative Risk Assessment]. Although based on data from 2000, this study provided a ranking of the contribution of various factors to the burden of disease, expressed in terms of both deaths and disability-adjusted life years lost (DALYs). Unsafe sex and sexually transmitted diseases were ranked as the single largest risk factor, responsible for 26.3% of all deaths and 31.5% of all DALYs in 2000.

Issues of reproductive health and sexual behaviour were addressed in the 2003 South Africa Health and Demographic Survey [SADHS 2003]. Similarly to the CADRE study cited in the previous section under HIV, these data showed that marriage levels among South Africans were low, while sexual partnerships outside marital and cohabiting relationships were common. It was accordingly adjudged that almost all sexually active women (95%) and men (99%) in the 15-19 year age group were engaging in high risk sex. Condom use at last higher risk sex was reported at higher levels among men (68%) than women (46%). Higher condom use at last higher risk sex was seen in urban areas compared to non-urban areas among men (71% vs 62%) and women (49% vs 39%) [SADHS 2003].^c

The use of condoms at last higher risk sex increased with education level for both sexes:

- only 16% of women with no education used a condom at last higher risk sex, compared with 63% of those with higher education; and
- condom use at last higher risk sex for men with no education was 54% increasing to 80% for men with higher education [SADHS 2003].^c

Provincially, condom use was highest for women in GP (51%) and KZN (57%), and was highest for men in NC (77%) and MP (77%) [SADHS 2003].^c

Although national policy towards the use of male circumcision as a strategy to reduce transmission of sexually transmissible infections and HIV seems mired in controversy, the SADHS 2003 did show that 45% of men reported to be circumcised. The proportion of circumcised men was highest in WC (68%) and FS (71%), and lowest in GP (25%) and KZN (27%).

As was emphasised in the SA NBD study, the availability of ranked determinants of disease and ill-health allows for the prioritisation of interventions. One of those recommended

in relation to unsafe sex / STIs was to “*maintain promotion and distribution of condoms*”. While condom distribution has been maintained across the country, dramatic increases have been demonstrated in WC, as a result of concerted efforts to tackle STIs.

^c Amended according to errata received 2008 August.

Table 21: Contraception and sexual behaviour indicators by province

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|---|------|------|------|------|------|------|------|------|------|------|---|
| Age of first sex =<14 years (% having first had sex at age 14 or younger) | | | | | | | | | | | |
| 2003 age 15-24 | - | - | - | - | - | - | - | - | - | 8 | a |
| 2003 female age 15-24 | - | - | - | - | - | - | - | - | - | 5 | a |
| 2003 male age 15-24 | - | - | - | - | - | - | - | - | - | 12 | a |
| 2003 age 20-24 | - | - | - | - | - | - | - | - | - | 7 | a |
| 2003 female age 20-24 | - | - | - | - | - | - | - | - | - | 4 | a |
| 2003 male age 20-24 | - | - | - | - | - | - | - | - | - | 10 | a |
| 2006 female age 20-30 | - | - | - | - | - | - | - | - | - | 3 | b |
| 2006 male age 20-30 | - | - | - | - | - | - | - | - | - | 14 | b |
| Condom use at last sex | | | | | | | | | | | |
| SADHS | | | | | | | | | | | |
| 1998 female age 15-24 | - | - | - | - | - | - | - | - | - | 17 | c |
| 2003 female age 15-19 | - | - | - | - | - | - | - | - | - | 48 | d |
| 2003 female age 15-49 | 31 | 28 | 35 | 47 | 27 | 27 | 20 | 33 | 24 | 33 | d |
| 2003 female age 20-24 | - | - | - | - | - | - | - | - | - | 49 | d |
| HSRC Household Surveys | | | | | | | | | | | |
| 2002 female age 15-24 | - | - | - | - | - | - | - | - | - | 46 | e |
| 2002 male age 15-24 | - | - | - | - | - | - | - | - | - | 57 | e |
| 2005 female age 15-24 | - | - | - | - | - | - | - | - | - | 56 | f |
| 2005 female age 25-49 | - | - | - | - | - | - | - | - | - | 29 | f |
| 2005 female age =>15 | - | - | - | - | - | - | - | - | - | 33 | f |
| 2005 male age 15-24 | - | - | - | - | - | - | - | - | - | 73 | f |
| 2005 male age 25-49 | - | - | - | - | - | - | - | - | - | 35 | f |
| 2005 male age =>15 | - | - | - | - | - | - | - | - | - | 38 | f |
| RHRU / loveLife Survey | | | | | | | | | | | |
| 2003 age 15-19 | - | - | - | - | - | - | - | - | - | 56 | g |
| 2003 age 15-24 | - | - | - | - | - | - | - | - | - | 52 | g |
| 2003 age 20-24 | - | - | - | - | - | - | - | - | - | 50 | g |
| 2003 female age 15-19 | - | - | - | - | - | - | - | - | - | 55 | g |
| 2003 female age 15-24 | - | - | - | - | - | - | - | - | - | 48 | g |
| 2003 female age 20-24 | - | - | - | - | - | - | - | - | - | 44 | g |
| 2003 male age 15-19 | - | - | - | - | - | - | - | - | - | 57 | g |
| 2003 male age 15-24 | - | - | - | - | - | - | - | - | - | 57 | g |
| 2003 male age 20-24 | - | - | - | - | - | - | - | - | - | 57 | g |
| Kaiser HIV Awareness survey | | | | | | | | | | | |
| 2006 age 15-24 | - | - | - | - | - | - | - | - | - | 62 | h |
| CADRE survey | | | | | | | | | | | |
| 2006 age 20-30 | - | - | - | - | - | - | - | - | - | 62 | i |
| 2006 female age 20-30 | - | - | - | - | - | - | - | - | - | 54 | i |
| 2006 male age 20-30 | - | - | - | - | - | - | - | - | - | 70 | i |
| Condom use at the last high-risk sex | | | | | | | | | | | |
| 2003 female 15-24 | - | - | - | - | - | - | - | - | - | 51.6 | j |
| 2003 male 15-24 | - | - | - | - | - | - | - | - | - | 71.1 | j |
| 2003 female 15-49 | 39.9 | 43.5 | 50.6 | 57.4 | 36.2 | 40.1 | 35.4 | 43.0 | 37.7 | 45.7 | j |
| 2003 male 15-49 | 63.0 | 71.2 | 58.4 | 63.9 | 65.6 | 76.9 | 77.1 | 70.3 | 45.5 | 68.2 | j |
| 2005 age =>15 | - | - | - | - | - | - | - | - | - | 43.9 | k |
| Condom use rate of the contraceptive prevalence rate | | | | | | | | | | | |
| 2003 | - | - | - | - | - | - | - | - | - | 7.7 | j |
| Contraceptive prevalence rate (any method) | | | | | | | | | | | |
| 1998 sexually active | 59.9 | 67.9 | 60.9 | 57.1 | 53.3 | 53.2 | 65.9 | 69.6 | 73.7 | 61.2 | c |
| 2003 sexually active | 62.4 | 59.7 | 63.1 | 76.8 | 58.6 | 62.3 | 60.1 | 60.5 | 63.4 | 64.7 | j |
| Ever had sex (%) | | | | | | | | | | | |
| 2002 NYRBS | 44 | 47 | 47 | 37 | 42 | 41 | 45 | 35 | 38 | 41 | i |
| 2003 age 15-19 | - | - | - | - | - | - | - | - | - | 48 | g |
| 2003 age 15-24 | - | - | - | - | - | - | - | - | - | 67 | g |
| 2003 age 20-24 | - | - | - | - | - | - | - | - | - | 89 | g |
| 2005 age 15-24 | - | - | - | - | - | - | - | - | - | 58 | f |
| 2005 female age 15-24 | - | - | - | - | - | - | - | - | - | 62 | f |

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|--|--------|--------|---------|--------|--------|--------|-------|--------|--------|---------|---|
| Ever had sex (%) | | | | | | | | | | | |
| 2005 male age 15-24 | - | - | - | - | - | - | - | - | - | 54 | f |
| 2006 age 15-19 | - | - | - | - | - | - | - | - | - | 47 | h |
| 2006 age 15-24 | - | - | - | - | - | - | - | - | - | 67 | h |
| 2006 age 20-24 | - | - | - | - | - | - | - | - | - | 88 | h |
| Female condom distribution rate (per 100 females) | | | | | | | | | | | |
| 2002 STI Baseline | 7.2 | 8.6 | 10.4 | 6.7 | 3.5 | 4.6 | 11.8 | 14.8 | 5.6 | 7.8 | m |
| HIV knowledge, people who know that a person can protect him / herself from HIV infection by condom use | | | | | | | | | | | |
| 2003 female | 66.6 | 73.8 | 74.0 | 66.4 | 61.7 | 79.9 | 74.3 | 75.0 | 73.5 | 70.9 | j |
| 2003 male | 74.0 | 80.3 | 83.4 | 90.6 | 85.0 | 87.9 | 85.0 | 87.9 | 87.4 | 85.2 | j |
| 2005 | - | - | - | - | - | - | - | - | - | 89.0 | n |
| Male circumcision (% of men who are circumcised) | | | | | | | | | | | |
| 2003 | 43.8 | 70.7 | 25.2 | 26.8 | 47.5 | 36.3 | 34.1 | 32.8 | 67.5 | 44.7 | j |
| Male condom distribution rate | | | | | | | | | | | |
| 2000 DHS | 6.1 | 4.2 | - | 2.6 | 5.0 | 3.8 | 1.9 | 4.9 | 4.3 | 4.3 | o |
| 2001 DHS | 6.8 | 5.3 | - | 6.5 | 8.1 | 6.5 | 3.4 | 5.5 | 5.9 | 6.4 | o |
| 2002 DHS | 7.4 | 5.2 | - | 6.4 | 8.8 | 7.3 | 3.5 | 4.8 | 8.3 | 6.9 | o |
| 2002 STI Baseline | 9.1 | 5.7 | 6.1 | 5.8 | 9.0 | 10.0 | 7.5 | 6.7 | 8.1 | 7.2 | p |
| 2003 DHS | 8.5 | 7.4 | 0.6 | 7.2 | 8.8 | 8.0 | 4.8 | 5.1 | 10.1 | 5.9 | o |
| 2004 DHS | 9.2 | 6.8 | 3.0 | 6.2 | 9.9 | 4.1 | 4.3 | 6.4 | 7.3 | 6.3 | o |
| 2004 DHS | 9.1 | 6.0 | 5.2 | 6.9 | 9.9 | 11.3 | 5.2 | 5.5 | 14.4 | 7.8 | o |
| 2005 DHS | 10.0 | 7.1 | 5.5 | 7.5 | 12.0 | 13.7 | 5.2 | 6.0 | 17.1 | 8.8 | o |
| 2006 DHS | 9.8 | 7.3 | 7.0 | 7.6 | 12.7 | 10.1 | 5.6 | 5.8 | 30.9 | 10.7 | o |
| Male condoms distributed (thousands) | | | | | | | | | | | |
| 2002 | 18 085 | 35 116 | 56 645 | 15 978 | 18 095 | 11 802 | 1 142 | 18 415 | 14 294 | 189 572 | q |
| 2003 | 27 330 | 13 910 | 82 395 | 44 175 | 34 135 | 20 153 | 2 116 | 17 575 | 28 228 | 270 017 | q |
| 2005 | - | - | - | - | - | - | - | - | - | 413 243 | r |
| 2006 | 21 169 | 13 536 | 129 000 | - | - | - | - | - | - | 453 000 | s |
| Teenage pregnancy | | | | | | | | | | | |
| 1998 ever pregnant | 18.2 | 12.6 | 9.5 | 16.7 | 20.0 | 25.2 | 18.0 | 13.4 | 16.4 | 16.4 | t |
| 2002 NYRBS | 12.5 | 15.9 | 13.3 | 21.8 | 29.8 | 27.1 | 9.3 | 17.1 | 12.0 | 19.1 | u |
| 2003 ever pregnant | 13.6 | 15.4 | 12.3 | 2.0 | 16.8 | 13.1 | 16.1 | 14.3 | 14.3 | 11.9 | v |
| 2003 ever pregnant RHRU | - | - | - | - | - | - | - | - | - | 15.0 | w |
| 2006 ever pregnant | - | - | - | - | - | - | - | - | - | 39.0 | x |
| Women year protection rate | | | | | | | | | | | |
| 2004 DHS | 58.7 | 25.6 | 19.7 | 19.7 | 30.7 | 20.7 | 28.8 | 24.6 | 34.5 | 28.4 | o |
| 2005 DHS | 26.4 | 26.4 | 18.9 | 19.8 | 31.2 | 18.4 | 29.1 | 24.6 | 33.0 | 23.9 | o |
| 2006 DHS | 25.1 | 26.9 | 26.3 | 21.8 | 32.4 | 23.2 | 30.9 | 25.0 | 47.5 | 27.8 | o |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

- a HIV Youth 2003. Percentage of all surveyed. 59% had first sex when older than 14, and 33% reported never having had sex.
- b CADRE Sexual Partnerships. Of all respondents in this age group, 79.8% said that they had ever had sex. Those who were unmarried and who had previously had sex were asked about their age at first sex. Of this group, 14.3% of males and 3.3% of females reported having first had sex at age 14 or younger, whilst over a third of males (43.8%) and a quarter of females (25.8%) reported first sex at the age of 16 or younger.
- c SADHS 1998.
- d SADHS 2003 (Preliminary). Among women 15-49 who had sexual intercourse in the 12 months preceding the survey.
- e HIV Household Survey 2002.
- f HIV Household Survey 2005.
- g HIV Youth 2003.
- h Kaiser HIV Awareness.
- i CADRE Sexual Partnerships.
- j SADHS 2003. Data for condom use at last high risk sex amended according to errata received 2008 Aug.
- k HIV Household Survey 2005. Data for male and female respondents age 15 years and older.
- l NYRBS 2002.
- m STI HIV Baseline Survey.
- n HIV Household Survey 2005. Note that only 67.2% knew that having fewer sexual partners can reduce the risk of HIV.
- o DHIS.
- p STI HIV Baseline Survey. Calculated from data on number of male condoms distributed, annualised.
- q LMIS.
- r DoH Annual Report 2005/06.
- s DoH Annual Report 2006/07. Provincial values from provincial annual reports downloaded / received from provinces.
- t SADHS 1998. Note that by age 19, the survey found that 35% of all teenagers have been pregnant or have had a child. Table 16 pg 27.
- u NYRBS 2002. Of those learners who had ever had sex
- v SADHS 2003 (Preliminary). The estimates from this DHS are considered to be implausibly low and should not be used. Moultrie TA, McGrath N. Teenage fertility rates falling in South Africa. S Afr Med J 2007 Jun; 97(6): 442-443.
- w HIV Youth 2003. 33% of women age 15-19 who report ever having had sex reported ever having been pregnant, while 15% of all surveyed reported ever having been pregnant – the latter is more comparable to the SADHS indicator definition. The source includes more detailed data on pregnancy by age.
- x Kaiser HIV Awareness. Of those who are sexually active.

Table 22: Contraception and sexual behaviour indicators by ethnic group

| | African | Coloured | Indian | White | Other | All | |
|--|---------|----------|--------|-------|-------|------|---|
| Age of first sex =<14 years (% having first had sex at age 14 or younger) | | | | | | | |
| 2003 age 15-24 | 9 | 5 | 5 | 4 | - | 8 | a |
| Condom use at last sex | | | | | | | |
| 2003 female age 15-49 SADHS | 36 | 21 | 9 | 26 | - | 33 | b |
| 2005 female age =>15 | 38 | 13 | 10 | 15 | - | 33 | c |
| 2005 male age =>15 | 44 | 22 | 35 | 17 | - | 38 | c |
| Condom use at the last high-risk sex | | | | | | | |
| 2003 female 15-49 | 46.2 | 34.8 | 42.8 | 58.2 | - | 45.7 | d |
| 2003 male 15-49 | 67.5 | 62.0 | 87.0 | 87.7 | - | 68.2 | d |
| Contraceptive prevalence rate (any method) | | | | | | | |
| 1998 sexually active | 57.6 | 68.4 | 80.1 | 74.9 | - | 61.2 | e |
| 2003 sexually active | 62.2 | 70.0 | 75.2 | 80.9 | - | 64.7 | d |
| Ever had sex (%) | | | | | | | |
| 2002 NYRBS | 44 | 36 | 25 | 26 | - | 41 | f |
| 2003 age 15-24 | 71 | 58 | 43 | 43 | - | 67 | g |
| 2005 age 15-24 | 61 | 52 | 32 | 38 | - | 58 | c |
| HIV knowledge, people who know that a person can protect him / herself from HIV infection by condom use | | | | | | | |
| 2003 female | 69.3 | 70.4 | 87.4 | 90.1 | - | 70.9 | d |
| 2003 male | 83.8 | 86.2 | 97.9 | 96.4 | - | 85.2 | d |
| Male circumcision (% of men who are circumcised) | | | | | | | |
| 2003 | 50.4 | 15.8 | 18.8 | 21.7 | - | 44.7 | d |
| Teenage pregnancy | | | | | | | |
| 1998 ever pregnant | 17.8 | 19.3 | 4.3 | 2.2 | - | 16.4 | h |
| 2002 NYRBS | 20.8 | 10.7 | 27.1 | 5.8 | - | 19.1 | i |
| 2003 ever pregnant | 12.5 | 11.7 | 2.2 | 2.4 | - | 11.9 | j |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

- a HIV Youth 2003. Percentage of all surveyed. 59% had first sex when older than 14, and 33% reported never having had sex.
- b SADHS 2003 (Preliminary). Among women 15-49 who had sexual intercourse in the 12 months preceding the survey.
- c HIV Household Survey 2005.
- d SADHS 2003. Data for condom use at last high risk sex amended according to errata received 2008 Aug.
- e SADHS 1998. Sexually active in last 4 weeks.
- f NYRBS 2002.
- g HIV Youth 2003.
- h SADHS 1998. Note that by age 19, the survey found that 35% of all teenagers have been pregnant or have had a child. Table 16 pg 27.
- i NYRBS 2002. Of those learners who had ever had sex
- j SADHS 2003 (Preliminary). The estimates from this DHS are considered to be implausibly low and should not be used. Moultrie TA, McGrath N. Teenage fertility rates falling in South Africa. S Afr Med J 2007 Jun; 97(6): 442-443.

Maternal health

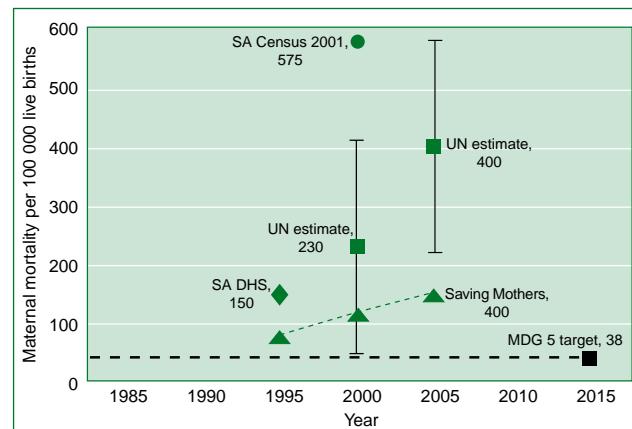
The 'Countdown to 2015' has brought increased attention to the linked issues of maternal and child health. Data from the 2003 SADHS have shown good coverage of antenatal care, with women reporting having accessed such care in 92% of births in the preceding five years [SADHS 2003]. More women reported delivering in a health facility (89%, compared with 83% in the 1998 survey), and much of this increase had occurred in non-urban settings. The proportion of home deliveries had fallen sharply in MP (from 23 to 7%), EC (25 to 6%), FS (13 to 3.5%), LP (19 to 10%), KZN (14 to 5%) and NW (12 to 5%). However, the SADHS failed to measure the level of maternal mortality, due to problems with data quality.

The challenges of accurately measuring maternal mortality were well described in a joint WHO / UNICEF / UNFPA / World Bank publication released in 2007, entitled 'Maternal Mortality in 2005' [Maternal Mortality in 2005]. Globally, maternal mortality has decreased by less than 1% per year between 1990 and 2005. This is far less than the 5.5% per year decline which would be necessary to meet MDG target 5. The challenge in sub-Saharan Africa is even greater, where the reduction in maternal mortality has been of the order of 0.1% per year over the same period. Maternal death is defined in the ICD-10 system as "*the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes*". An alternative concept of 'late maternal death', defined as "*the death of a woman from direct or indirect obstetric causes, more than 42 days but less than one year after termination of pregnancy*", has been added in countries with more advanced vital registration systems. The standard measure in this area is the maternal mortality ratio (MMR), defined as "*the number of maternal deaths in a population divided by the number of live births*". By contrast; the maternal mortality rate (MM Rate) is defined as "*the number of maternal deaths in a population divided by the number of women of reproductive age*". Determining either measure of maternal mortality is challenging, as it is not easy to identify maternal deaths precisely. This is particularly true of countries where routine recording of deaths is not complete. In addition, even if the death of a woman is recorded, her pregnancy status may not have been known and the death would therefore not be recorded as a maternal death. If medical certification of the cause of death does not occur, accurate recording of female deaths as maternal death is unlikely to occur. The report provides a useful table showing the relative merits of alternative methods that can be used

in the absence of effective vital registration, including household surveys, sisterhood methods, reproductive-age mortality studies, verbal autopsies, and censuses [Maternal Mortality in 2005]. It has been pointed out that health and demographic surveillance sites may provide an additional source of data on maternal deaths, particularly those operated in rural areas where maternal deaths may not take place in health facilities or be recorded [SAMJ 97(944-5)]

Much debate was engendered with the publication in March 2008 of the 'Every death counts' report, which drew on the data presented in three ongoing efforts – the Confidential Enquiry into Maternal Deaths in South Africa (NCCEMD), the Perinatal Problem Identification Programme (PPIP) and the Child Healthcare Problem Identification Programme (Child PIP). A detailed account was published in the Lancet in April 2008 [Lancet 371(1294-304)]. Figure 8 illustrates the local situation relative to the MDG 5 target.

Figure 8: Various estimates of maternal mortality in South Africa



Source: Every Death Counts.

It is worthwhile recounting the method used by the NCCEMD, as South Africa is one of few developing countries to have instituted such an inquiry. Provincial assessors analyse every maternal death case (identified on completion of a maternal death notification form) with respect to primary and final causes of death, and any suboptimum care that was received. These reports are then sent to a national ministerially-appointed committee for collation and analysis of the deaths. Recommendations are then made by the national committee, in a report that has to be cleared by the Minister of Health. As a result, data on maternal mortality since 1998 are available. The authors of the Lancet publication noted that "*all indications are that maternal and child mortality has increased since the baseline for the MDGs in 1990*".

Based on data from the national confidential inquiry, the reported maternal mortality ratio had increased from 117 per 100 000 live births in 1998 to 147 in 2004. It was also stated that “[p]reliminary analysis of the most recent confidential inquiry data suggests an even higher maternal mortality ratio than that reported”. It was acknowledged that “some of this increase is artefact because of improved reporting of deaths”, but it was nonetheless maintained that “other data suggest an increase in maternal mortality ratio over time in sites with high-quality data”. As shown in the graphic, United Nations (UN) estimates and data from the 2001 Census suggested an MMR in the range of 230 to 575 per 100 000 live births.

NCCEMD data provided the following pointers to the major causes of maternal death:

- the single largest cause was “non-pregnancy related infections, mainly HIV/AIDS, tuberculosis, and pneumonia”, responsible for 38% of all maternal deaths;
- hypertension (19%) and haemorrhage (antenpartum and postpartum) (13% in total) were major preventable causes; and
- ‘combined obstetric causes’ accounted for 54% of all maternal deaths.

A number of positive developments were noted, including:

- increased contraception use (60%);
- high antenatal coverage (94% of women attending at least one visit);
- reduced seroprevalence of syphilis in pregnant women; and
- reduced illegal abortion (abortion now accounted for only 3.5% of registered maternal deaths).

Despite this, a number of remaining challenges were identified, including a lack of knowledge about access to legal abortion, and problems with the timing, number and content of antenatal encounters. It was shown, for example, that only 68% of women who died of infections unrelated to pregnancy (such as AIDS) attended antenatal care. Those who did not have a four-fold risk of maternal death compared with the overall pregnant population. While it was acknowledged that little is known about the level of health care received by the estimated 15% of women who give birth outside of a health facility every year, it was equally important to state that while “[c]hildbirth services are widely available at primary health care facilities, midwife obstetric units, and district and regional hospitals ...the quality of care that is provided varies”. Given the prominence accorded non-pregnancy related infections as contributors to maternal death, the following points bear repeating: “Knowledge of HIV/AIDS

and prevention methods is consistently high in South African adolescents, but coverage of interventions for HIV/AIDS prevention and treatment decreases along the continuum of care. The associated stigma and no continuity of care means that often a patient’s HIV status remains unknown, resulting in little crucial follow-up – e.g., antiretroviral drugs and appropriate feeding for babies and continual treatment for mothers. According to national targets, all clinics in South Africa should offer prevention services for mother-to-child transmission of HIV, including HIV testing. However, only seven of the 52 districts in South Africa are testing more than 80% of women attending antenatal clinics, and 68% of pregnant women receiving antenatal care received an HIV test. Nevirapine uptake has increased substantially, with 61% of HIV-positive women taking this drug. Drop-off occurs around the time of birth, with only 47% of babies born to HIV-positive mothers receiving nevirapine, and 26% of babies receiving co-trimoxazole prophylaxis.” [Lancet 371(1294-304)].

As was noted above, the change to a dual-antiretroviral (ARV) PMTCT regimen, combined with more aggressive identification of pregnant women deserving ART, has the potential to not only reduce vertical transmission, but also reduce maternal mortality. The widespread and effective application of these changes is not, however, without challenges.

The prevention of mother-to-child transmission of HIV also requires ongoing care beyond the peri-partum period. It has been pointed out that, as in many developing countries, “[r]outine care during the postnatal period is scarce in South Africa” [Lancet 371(1294-304)]. This review provided data showing that, although 46% of women in South Africa breastfed within one hour after birth, only 7% of infants were exclusively breastfed for up to 6 months. It noted that, “until recently there has been no national policy for timing or content of routine postnatal visits”.

Table 23: Maternal health indicators by province

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|--|------|------|------|------|------|------|-------|------|------|-------|---|
| ANC coverage | | | | | | | | | | | |
| 1998 | 94.7 | 94.8 | 94.8 | 94.4 | 94.1 | 94.0 | 93.3 | 94.1 | 91.7 | 94.2 | a |
| 2003 doctor | 11.5 | 14.1 | 31.2 | 53.4 | 17.4 | 16.1 | 20.2 | 17.2 | 55.6 | 28.0 | b |
| 2003 nurse / midwife | 83.6 | 76.8 | 58.7 | 36.0 | 75.9 | 77.6 | 69.9 | 77.9 | 33.5 | 63.7 | b |
| 2003 doctor or nurse / midwife | 95.1 | 90.9 | 89.9 | 89.4 | 93.3 | 93.7 | 90.1 | 95.1 | 89.1 | 91.7 | b |
| 2003 no education | - | - | - | - | - | - | - | - | - | 77.7 | b |
| 2003 post Gr12 | - | - | - | - | - | - | - | - | - | 93.1 | b |
| 2003 rural | - | - | - | - | - | - | - | - | - | 93.1 | b |
| 2003 urban | - | - | - | - | - | - | - | - | - | 91.0 | b |
| ANC visits per client | | | | | | | | | | | |
| 2006 DHIS | 3.4 | 4.3 | 3.5 | 3.5 | 4.2 | 3.8 | 4.5 | 3.8 | 4.9 | 3.8 | c |
| Births assisted by trained health personnel | | | | | | | | | | | |
| 1998 | 74.6 | 88.0 | 94.0 | 82.6 | 78.5 | 76.0 | 90.3 | 88.3 | 96.1 | 84.4 | a |
| 2003 doctor | 18.8 | 15.2 | 33.9 | 57.8 | 9.0 | 18.1 | 30.7 | 13.9 | 39.1 | 26.4 | b |
| 2003 nurse / midwife | 64.8 | 76.5 | 61.3 | 33.3 | 78.6 | 74.4 | 63.6 | 79.4 | 51.9 | 64.8 | b |
| 2003 doctor or nurse / midwife | 83.6 | 91.7 | 95.2 | 91.1 | 87.6 | 92.5 | 94.3 | 93.3 | 91.0 | 91.2 | b |
| 2003 no education | - | - | - | - | - | - | - | - | - | 75.0 | b |
| 2003 post Gr12 | - | - | - | - | - | - | - | - | - | 97.0 | b |
| 2003 rural | - | - | - | - | - | - | - | - | - | 85.1 | b |
| 2003 urban | - | - | - | - | - | - | - | - | - | 94.4 | b |
| Caesarean section rate | | | | | | | | | | | |
| 2003 SADHS | 21.8 | 15.4 | 20.5 | 14.1 | 9.7 | 20.4 | 18.9 | 21.9 | 33.6 | 20.6 | b |
| 2003 SADHS no education | - | - | - | - | - | - | - | - | - | 13.3 | b |
| 2003 SADHS post Gr12 | - | - | - | - | - | - | - | - | - | 30.4 | b |
| 2003 SADHS rural | - | - | - | - | - | - | - | - | - | 14.8 | b |
| 2003 SADHS urban | - | - | - | - | - | - | - | - | - | 23.7 | b |
| Caesarean section rate – Public sector | | | | | | | | | | | |
| 2000 Public sector | - | - | 15.0 | - | - | - | - | - | - | - | d |
| 2002 Public sector | 12.6 | 14.4 | 20.4 | 22.8 | 13.1 | 13.6 | 19.6 | 6.8 | 23.5 | - | e |
| 2003 District Hospitals | - | - | - | - | - | - | - | - | - | 13.0 | f |
| 2003 Regional Hospitals | - | - | - | - | - | - | - | - | - | 22.0 | f |
| 2003 National Central Hosp | - | - | - | - | - | - | - | - | - | 31.0 | f |
| 2003 all hospitals | 12.7 | 15.4 | 17.7 | 22.2 | 10.8 | 12.2 | 15.3 | 10.5 | 16.6 | 16.0 | c |
| 2006 all hospitals | 17.0 | 17.5 | 18.8 | 23.3 | 13.6 | 12.9 | 16.1 | 12.2 | 18.3 | 17.6 | c |
| 2006 PPIP | 12.9 | 15.4 | 23.0 | 24.2 | 12.8 | - | 15.5 | 10.3 | - | - | g |
| Caesarean section rate – Private sector | | | | | | | | | | | |
| 2005 Private sector | - | - | - | - | - | - | - | - | - | 61.9 | h |
| Delivery rate in facility | | | | | | | | | | | |
| 2004 DHIS | 89.1 | 72.4 | 84.7 | 83.5 | 86.2 | 70.7 | 101.7 | 76.9 | 81.7 | 82.6 | c |
| 2005 DHIS | 93.3 | 85.6 | 83.8 | 85.3 | 97.5 | 70.2 | 87.9 | 72.7 | 64.7 | 83.1 | c |
| 2006 DHIS | 65.0 | 80.0 | 79.3 | 77.9 | 84.6 | 81.9 | 91.6 | 72.6 | 92.4 | 78.3 | c |
| Maternal mortality ratio (MMR) | | | | | | | | | | | |
| 1990 MDG | - | - | - | - | - | - | - | - | - | 230 | i |
| 1998 | - | 135 | 67 | - | - | - | - | - | 50 | - | j |
| 1998 SADHS | - | - | - | - | - | - | - | - | - | 150 | k |
| 2000 | - | 199 | 112 | - | - | - | 168 | - | 68 | - | l |
| 2000 MDG | - | - | - | - | - | - | - | - | - | 230 | i |
| 2001 updated | 68 | 182 | 107 | 108 | 52 | 116 | 110 | 121 | 46 | 96 | m |
| 2002 | 77 | 168 | 125 | 115 | 67 | 120 | 173 | 103 | 66 | 104 | m |
| 2003 | 81 | 234 | 114 | 118 | 78 | 143 | 147 | 102 | 70 | 110 | m |
| 2004 | - | - | - | - | - | - | - | - | - | 147 | n |
| 2004 PPIP | - | - | 167 | - | - | - | - | - | - | - | o |
| 2005 | - | - | - | - | - | - | - | - | - | 400 | p |
| Number of maternal deaths | | | | | | | | | | | |
| 1998 | 56 | 94 | 131 | 188 | 27 | 66 | 22 | 58 | 34 | 676 | q |
| 1999 | 95 | 79 | 138 | 252 | 63 | 72 | 18 | 54 | 34 | 805 | r |
| 2000 | 120 | 96 | 171 | 238 | 88 | 128 | 29 | 115 | 50 | 1 035 | s |
| 2001 | 103 | 119 | 184 | 245 | 71 | 97 | 23 | 106 | 42 | 990 | t |

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|----------------------------------|-----|-----|-----|-----|-----|-----|----|----|----|-------|---|
| Number of maternal deaths | | | | | | | | | | | |
| 2002 | 119 | 107 | 220 | 259 | 91 | 97 | 35 | 90 | 60 | 1 078 | t |
| 2003 | 129 | 147 | 208 | 267 | 108 | 112 | 29 | 90 | 64 | 1 154 | t |
| 2004 | - | - | - | - | - | - | - | - | - | 1 173 | u |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

- a SADHS 1998. While antenatal care coverage is high among all groups of women, the type of provider varies considerably – e.g. in EC and LP almost all care is obtained from nurses, while in GP, WC and NC more than 40% of care is provided by doctors.
- b SADHS 2003.
- c DHIS.
- d Saving Babies 2000. Data only available for perinatal care in public sector institutions.
- e Saving Babies 2002.
- f DHIS. Data from Hospital Minimum Data Set, reported in South African Health Review 2003/04
- g Saving Babies 2003-2005. Data from Oct 2003 - Mar 2006.
- h Risk Equalisation Fund. Data from the REF Study 2005. Based on data obtained from 4 administrators (Discovery Health, Medscheme, Old Mutual Healthcare and Metropolitan Health Group) who provide services for about 4.2 million lives. Related article published: Rothberg AD, McLeod H. Private Sector Caesareans in Perspective. S Afr Med J, 2005; 95: 257-60.
- i Millennium Development Goals.
- j Maternal Deaths 1998.
- k SADHS 1998. The 'big five' causes of maternal deaths in 1998 were complications of hypertensive conditions in pregnancy (23.2%), AIDS (14.5%), obstetric haemorrhage (13.3%), pregnancy related sepsis (11.9%) and pre-existing medical conditions, mainly pre-existing cardiac disease (10.4%). These five causes of deaths accounted for 73.3% of all the maternal deaths reported.
- l Maternal Deaths 2001. Provincial problems.
- m Maternal Deaths 2003. Calculated using proxy for number of live births of population <1 *1.04 to adjust for infant mortality – of population estimates by age group generated for DoH based on StatsSA data for the mid-year population.
- n Lancet 371(1294-304). Based on Saving Mothers: Third Report on Confidential Enquiries into Maternal Deaths in South Africa, 2002-2004.
- o Saving Babies 2003-2005.
- p Lancet 370(1311-19). Calculated based on a model using the Census 2001 data on pregnancy-related deaths. Range of uncertainty 270-530.
- q Maternal Deaths 2000.
- r Maternal Deaths 2001.
- s Maternal Deaths 2001. There is a significant increase in reported deaths in some provinces when compared with 1999. It is not known whether this is just due to improved reporting or due to an actual increase in maternal deaths. There remains concern that in the EC and LP that there is still significant under-reporting since the maternal deaths per 100 000 female population are much lower when compared to MP and KZN. All 4 provinces are similar and have similar problems, hence one would expect similar rates of maternal deaths.
- t Maternal Deaths 2003.
- u Every Death Counts.

Table 24: Maternal health indicators by ethnic group

| | African | Coloured | Indian | White | Other | All | |
|--|---------|----------|--------|-------|-------|------|---|
| ANC coverage | | | | | | | |
| 1998 | 94.8 | 91.8 | 93.4 | 88.4 | - | 94.2 | a |
| 2003 doctor | 24.0 | 43.1 | 67.1 | 61.5 | - | 28.0 | b |
| 2003 nurse / midwife | 68.6 | 43.1 | 28.6 | 24.8 | - | 63.7 | b |
| 2003 doctor or nurse / midwife | 92.6 | 86.2 | 95.7 | 86.3 | - | 91.7 | b |
| Births assisted by trained health personnel | | | | | | | |
| 1998 doctor | 24.8 | 40.3 | 52.7 | 89.0 | - | 30.0 | a |
| 1998 nurse / midwife | 57.3 | 54.5 | 46.4 | 10.0 | - | 54.4 | a |
| 1998 doctor or nurse / midwife | 82.1 | 94.8 | 99.1 | 99.0 | - | 84.4 | a |
| 2003 doctor | 22.5 | 36.8 | 70.2 | 67.9 | - | 26.4 | b |
| 2003 nurse / midwife | 68.3 | 54.2 | 27.2 | 30.4 | - | 64.8 | b |
| 2003 doctor or nurse / midwife | 90.8 | 91.0 | 97.4 | 98.3 | - | 91.2 | b |
| Caesarean section rate | | | | | | | |
| 2003 SADHS | 18.1 | 28.4 | 44.3 | 43.1 | - | 20.6 | b |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

- a SADHS 1998. While antenatal care coverage is high among all groups of women, the type of provider varies considerably.
- b SADHS 2003.

Termination of pregnancy

The legalisation of abortion in South Africa in 1996 has been credited with marked reductions in maternal morbidity (9%) and mortality (50%) related to unsafe abortion, but remains controversial [SAMJ 97(1238-42)]. Recent data on the numbers of legal terminations of pregnancy provided in designated facilities are incomplete. Some localised data have been presented. For example, Khajoane et al. presented data at the PHASA Conference 2008, showing that 92.2% of terminations of pregnancies (TOPs) provided in the Free State between 1999 and 2007 were for mothers aged 18 years and older. Only 1.5% of TOPs were performed on mothers aged 12 to 14 years and 6.3% on mothers aged 15 to 17 years. The TOP rate in the province increased from 97 per 1 000 live births in 1999 to 176 per 1 000 live births in 2007. The majority (53.9%) of TOPs were performed before 13 weeks of gestation.

Internationally, the number of induced abortions has been estimated to have declined, from 46 million in 1995 to 42 million in 2003 [Lancet 370(1338-45)]. However, in 2003, 48% of all abortions worldwide were unsafe, and more than 97% of all unsafe abortions were in developing countries. Although this article provided data disaggregated to regions (e.g. southern Africa), it was not specific to countries. The breakdown between 'safe' (5 per 1000 women) and 'unsafe' (18 per 1000 women) abortions in southern Africa, and the percentage of pregnancies that end in 'safe' (4%) and 'unsafe' (13%) abortions, are therefore not reflective of the local situation. The recommendations remain valid though – "[e]nsuring that the need for contraception is met and that all abortions are safe".

Table 25: Termination of pregnancy indicators by province

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|---|--------|-------|--------|--------|-------|-------|-------|-------|--------|--------|------|
| TOP facilities functioning (%) | | | | | | | | | | | |
| 2000 Total | 90.9 | 55.6 | 44.0 | 12.1 | 13.9 | 27.3 | 100.0 | 75.0 | 23.7 | 31.5 | a |
| 2003 Total | 58.1 | 72.7 | 60.0 | 30.4 | 85.4 | 41.7 | 60.0 | 100.0 | 76.4 | 61.8 | a |
| TOPs (Terminations of Pregnancy) | | | | | | | | | | | |
| 1997 | 2 670 | 2 527 | 13 497 | 1 259 | 570 | 1 489 | 429 | 218 | 3 796 | 26 455 | b |
| 1998 | 2 938 | 4 107 | 19 005 | 5 167 | 823 | 1 857 | 552 | 455 | 5 008 | 39 912 | b |
| 1999 | 3 109 | 4 062 | 19 195 | 5 766 | 1 288 | 2 269 | 642 | 2 166 | 5 741 | 44 238 | b |
| 2000 | 3 264 | 6 919 | 15 172 | 11 592 | 1 962 | 3 697 | 583 | 2 286 | 6 697 | 52 172 | b |
| 2001 | 4 652 | 4 824 | 19 970 | 4 688 | 4 254 | 3 520 | 738 | 3 021 | 8 300 | 53 967 | c |
| 2002 | 5 814 | 3 949 | 18 227 | 9 592 | 4 706 | 3 218 | 910 | 3 070 | 10 065 | 59 551 | d |
| 2003 | 6 819 | 4 952 | 29 021 | 11 015 | 4 236 | 2 206 | 779 | 2 011 | 10 513 | 71 552 | d |
| 2004 | 6 210 | 8 343 | 37 806 | 10 602 | 4 587 | 3 757 | 1 408 | 3 165 | 11 157 | 87 035 | d |
| 2005 | 10 034 | 8 890 | 33 727 | 12 706 | 4 357 | 1 346 | 1 305 | 2 336 | 15 149 | 89 850 | d |
| 2006 | 10 015 | 7 834 | 32 464 | 9 679 | 4 241 | - | 1 418 | 4 948 | 13 314 | 83 913 | d |
| 2007 | - | 7 142 | 21 844 | 3 883 | 6 506 | - | 1 734 | 1 377 | 13 959 | 56 442 | d |
| TOPs by gestational age (%) | | | | | | | | | | | |
| 1997 >12 wks | 42.2 | 47.7 | 35.0 | 30.7 | 8.4 | 25.1 | 44.3 | 23.9 | 20.1 | 33.5 | b |
| 1998 >12 wks | 24.0 | 58.5 | 28.2 | 24.9 | 42.0 | 25.8 | 41.5 | 18.9 | 20.4 | 29.9 | b |
| 1999 >12 wks | 15.7 | 50.8 | 23.2 | 15.8 | 48.4 | 32.3 | 33.2 | 4.0 | 23.0 | 24.6 | b |
| 2000 >12 wks | 13.2 | 38.8 | 29.1 | 18.5 | 40.7 | 39.2 | 24.5 | 9.1 | 23.3 | 26.5 | b |
| 2001 >12 wks | 16.7 | 32.4 | 23.2 | 23.2 | 17.5 | 38.7 | 27.0 | 5.8 | 22.5 | 23.0 | c |
| 2002 >12 wks | - | - | - | - | - | - | - | - | - | - | 22.3 |
| 2003 >12 wks | - | - | - | - | - | - | - | - | - | - | 18.3 |
| 2004 >12 wks | - | - | - | - | - | - | - | - | - | - | 20.5 |
| 2005 >12 wks | - | - | - | - | - | - | - | - | - | - | 19.3 |
| 2006 >12 wks | - | - | - | - | - | - | - | - | - | - | 19.6 |
| 2007 >12 wks | - | - | - | - | - | - | - | - | - | - | 19.1 |
| TOPs by maternal age (%) | | | | | | | | | | | |
| 1997 <18 yrs | 13.9 | 14.3 | - | 6.6 | 5.6 | 12.2 | 38.5 | 10.1 | 21.9 | 7.7 | b |
| 1998 <18 yrs | 8.2 | 16.9 | - | 12.0 | 14.9 | 12.6 | 28.3 | 12.1 | 17.2 | 7.5 | b |
| 1999 <18 yrs | 8.1 | 12.7 | - | 5.3 | 14.8 | 12.2 | 19.9 | 8.6 | 14.9 | 6.1 | b |
| 2000 <18 yrs | 5.8 | 6.6 | - | 4.8 | 16.0 | 11.5 | 20.8 | 15.4 | 15.6 | 6.6 | b |
| 2001 <18 yrs | 6.0 | 8.0 | - | 9.5 | 9.2 | 10.9 | 17.2 | 41.2 | 15.4 | 8.4 | c |
| 2002 <18 yrs | - | - | - | - | - | - | - | - | - | - | 6.8 |
| 2003 <18 yrs | - | - | - | - | - | - | - | - | - | - | 11.0 |
| 2004 <18 yrs | - | - | - | - | - | - | - | - | - | - | 10.6 |
| 2005 <18 yrs | - | - | - | - | - | - | - | - | - | - | 10.2 |
| 2006 <18 yrs | - | - | - | - | - | - | - | - | - | - | 11.9 |
| 2007 <18 yrs | - | - | - | - | - | - | - | - | - | - | 12.7 |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

- a RRA 1997-2002.
- b RRA Barometer Aug 2001. Total calculated from sum of monthly provincial totals and differs from total given in publication which is for years of implementation running from Feb-Jan.
- c RRA Barometer May 2002. Total calculated from sum of monthly provincial totals. There are some problems with these figures, where for example the number of TOPs at <12 weeks and >12 weeks is more than the total reported TOPs.
- d DoH. Data spreadsheet received from DoH Directorate: Epidemiology and Surveillance August 2006 and July 2008. Data for 2006 and 2007 are incomplete.

Sexually transmitted infections

Although no new routine or survey data on sexually transmitted infections (STIs) were available, important insights have been provided from the SA NBD study, based on the underlying causes of premature mortality and morbidity experienced in South Africa in 2000 [Comparative Risk Assessment].

The SA NBD study noted that the prevalence of sexually transmissible infections other than HIV was high in South Africa, and that these infections were “*a significant threat – both as a common cause of infertility and adverse pregnancy outcomes, and as infections that increase the risk of HIV transmission*”. An example of an STI consequence is cervical cancer, which causes more female deaths than any other cancer in South Africa. This places considerable pressure on the state to consider the provision of vaccination against human papillomavirus (HPV), for which effective vaccines have recently been registered. The cost of these vaccines is, however, a significant barrier to their inclusion in the expanded programme on immunisation, and they have to compete with other new vaccines that have recently received positive mention (polyvalent pneumococcal vaccine and rotavirus vaccine).

More than five million disability-adjusted life years (DALYs) were attributable to STIs in 2000, of which 98% were due to HIV and AIDS. The burden of disease due to STIs was 20% greater in women than in men, because of higher STI prevalence and the greater number of women in the adult population. The authors felt that there were “*a host of political, economic, social, behavioural and biomedical factors influencing the STI epidemic*” in South Africa, and that these demanded a ‘multifaceted strategy’, not just a focus on ‘unsafe sex’.

Some of the insights provided included:

- despite adoption of the syndromic management protocols for STI treatment in public health facilities, these measures have “*not been adopted with equal enthusiasm by private practitioners, who are estimated to treat roughly half of all STI cases*”;
- in addition, in “*some public STI clinics, drug shortages and heavy patient loads limit capacity to implement syndromic management protocols*”;
- there was a lack of evidence (for example from periodic cross-sectional studies in sentinel populations) about changes in the prevalence of STIs other than syphilis and HIV;

- the success of STI screening programmes has been variable – in particular, there continue to be “*lengthy delays between drawing of blood and return of test results, women presenting too late in pregnancy to receive the full course of syphilis treatment, and women not going to the clinics to which they are referred for treatment*”;
- PMTCT of HIV programmes have not “*achieved significant reductions in vertical transmission in less well-resourced settings*”; and
- despite South Africa being one of the few developing countries to have a public cervical cancer screening programme, “*access to this programme remains poor in rural areas, and utilisation of screening services has been low due to the common misconception that this screening is diagnostic rather than preventive*”.

Each of these insights can help to direct remedial action, and in particular complement a comprehensive PHC approach that seeks to emphasise preventive and promotive elements alongside effective curative services.

Table 26: STI indicators by province

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|--|------|------|-------|------|------|------|------|------|-------|------|---|
| Incidence of STI treated | | | | | | | | | | | |
| 2002 STI Baseline | 6.6 | 6.5 | 2.9 | 8.7 | 10.6 | 7.9 | 5.0 | 7.2 | 4.6 | 6.5 | a |
| 2004 DHIS | 6.3 | 4.3 | 3.6 | 7.1 | 7.1 | 5.1 | 4.1 | 5.8 | 3.1 | 5.3 | b |
| 2005 DHIS | 5.4 | 4.2 | 3.2 | 6.9 | 6.5 | 4.8 | 3.6 | 4.9 | 2.8 | 4.8 | b |
| 2006 DHIS | 5.0 | 3.8 | 4.2 | 7.2 | 5.7 | 5.1 | 3.4 | 4.5 | 3.0 | 5.0 | b |
| Male urethritis syndrome (MUS) rate | | | | | | | | | | | |
| 2004 DHIS | 28.4 | 25.0 | 23.9 | 26.2 | 23.9 | 39.9 | 33.3 | 24.3 | 28.8 | 26.9 | b |
| 2005 DHIS | 26.2 | 24.7 | 23.5 | 25.0 | 25.2 | 36.6 | 33.0 | 24.1 | 29.8 | 26.1 | b |
| 2006 DHIS | 25.6 | 23.8 | 22.2 | 26.1 | 25.4 | 28.1 | 29.6 | 23.5 | 31.9 | 25.5 | b |
| STI partner notification rate (%) | | | | | | | | | | | |
| 2006 DHIS | 95.7 | 82.2 | 102.1 | 98.8 | 90.3 | 95.1 | 75.1 | 68.3 | 111.3 | 95.1 | b |
| STI partner tracing rate (%) | | | | | | | | | | | |
| 2006 DHIS | 25.7 | 25.0 | 21.1 | 22.6 | 26.7 | 26.8 | 30.6 | 38.1 | 16.4 | 24.1 | b |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

- a STI HIV Baseline Survey. Indicator calculated from estimated number of STI clients from survey in July 2002, annualised.
- b DHIS. Data for 2005 extracted June 2006, data for 2006 extracted July 2007.

Nutrition

Although the most recent National Food Consumption Survey (NFCS) was conducted in 2005, the report was only released by the DoH in late 2008. These data provide an important means of monitoring progress towards the MDG goals related to nutrition, and should guide interventions related to micronutrient deficiencies and overall nutritional status.

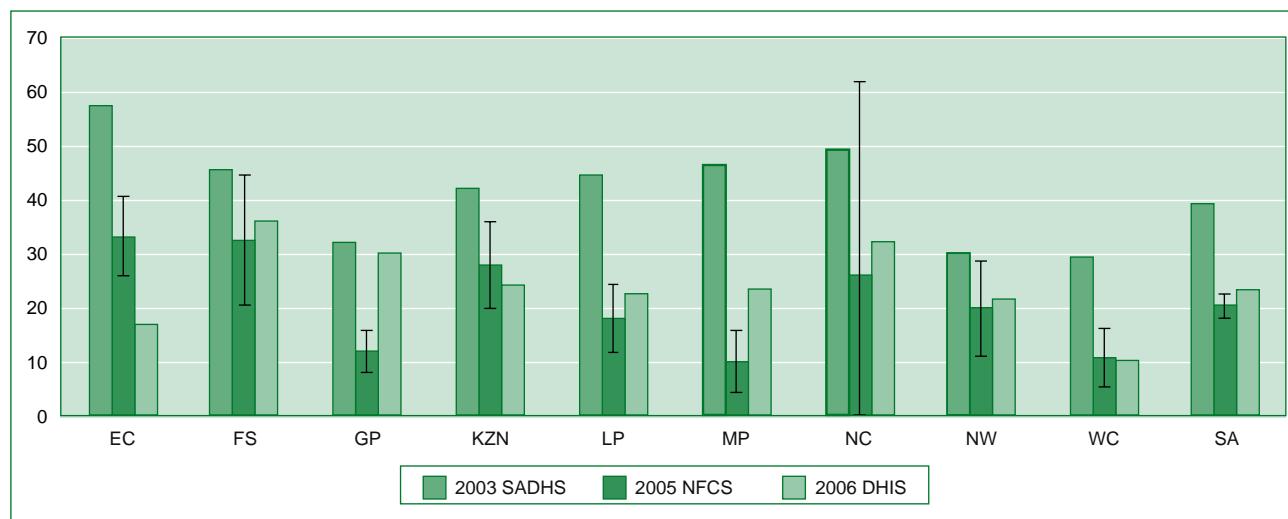
There is a growing recognition that many developing countries are having to simultaneously address issues of under-nutrition, not least in children, and issues of obesity and the resultant increase in non-communicable diseases (such as hypertension and diabetes). In 2006, the South African Medical Research Council (MRC) released a report entitled 'Dietary Changes and the Health Transition in South Africa: Implications for Health Policy' [Dietary changes 2006]. It showed that there were data to support the view that "*the black population is undergoing a transition from a traditional high fibre, high carbohydrate intake to a more typically western diet, which has an increased fat and added sugar intake, a lower unrefined carbohydrate intake and an increased intake of animal protein sources and saturated fat*". The consequences of this shift were expected to be "*high prevalence of overweight and obesity in the adult and child population*" (though noting that "*stunting and chronic energy deficiency still affects a large number of infants and children*").

Globally, much attention has been paid to interventions aimed at under-nutrition. Heikens et al. noted that southern Africa was "*faced with an overwhelming burden of HIV, and the treatment of seriously ill children with chronic infections leading to undernourishment is challenging*" [Lancet 371(181-2)]. Many factors had changed as a result of HIV, including the clinical presentation, pathophysiology, and prognosis of infected children. Noting that "*over 50% of child deaths result from under-nutrition*", they expressed support for "*a strong child-health system that supports exclusive breastfeeding in HIV-infected women*", continued use of "*community-based management of uncomplicated severe malnutrition without HIV infection*", including the use of "*ready-to-use therapeutic food for children with uncomplicated severe malnutrition*". All, however, required improved operational capacity. Another article in the same Lancet series, by Bryce et al., pointed out that 80% of the world's under-nourished children live in just 20 countries [Lancet 371(510-26)]. These are the Democratic Republic of the Congo, Ethiopia, Kenya, Madagascar, Nigeria, South Africa, Sudan, Uganda, Tanzania, Egypt, Yemen, Afghanistan, Bangladesh, India, Burma, Nepal, Pakistan, Indonesia, Philippines and Vietnam. In order

to reach the MDG Goal 1 target, as well as the related MDG 4 and 5 targets, intensified action would need to be taken in these countries. Some of the intervention indicators tracked in this paper were the proportion of households consuming iodised salt, the proportion of children exclusively breastfed, the proportion of children aged 6-59 months who received two doses of vitamin A in the past 12 months, the proportion of children aged 6-9 months who were breastfed and received complementary food and the proportion of the population using adequate sanitation facilities. Also in the same series, Black et al. provided a global overview of both maternal and child under-nutrition [Lancet 371(243-60)]. It was estimated that "*stunting, severe wasting, and intrauterine growth restriction together were responsible for 2.2 million deaths and 21% of disability-adjusted life-years (DALYs) for children younger than 5 years*". About 35% of child deaths and 11% of the total global disease burden was estimated to be due to the inter-related (and often concurrent) effects of vitamin A and zinc deficiencies, iron and iodine deficiencies, and suboptimum breastfeeding.

Estimates of under-nutrition among children have had to be recalculated since the release of the new WHO Child Growth Standards (<http://www.who.int/childgrowth/en>). The World Health Statistics 2007 report included recalculated global, regional and country estimates, using the new standards [World Health Statistics 2007].

Although based on 2000 data, the SA NBD study also provided useful analysis of the issues of nutrition [Comparative Risk Assessment]. It showed that, among children under five years, 12.3% of deaths (95% uncertainty interval 11.5-13.1%) were attributable to being underweight. Of the total attributable burden, protein-energy malnutrition contributed 44.7% and diarrhoeal disease 29.6%. Childhood and maternal underweight accounted for 2.7% (95% uncertainty interval 2.6-2.9%) of all DALYs in South Africa in 2000 and 10.8% (95% uncertainty interval 10.2-11.5%) of DALYs in children under 5. Further, it was estimated that about 7.3% of perinatal deaths and 4.9% of maternal deaths were attributed to iron deficiency anaemia in 2000. Although this was a lower burden of disease due to iron deficiency than had been shown in other developing countries, it was entirely preventable and supported the continued need to disseminate dietary guidelines and monitor the impact of the food fortification programme. It was also estimated that about 28% of deaths among children aged 0-4 years in 2000 resulting from diarrhoeal diseases, 23% of those from measles, and 21% of those from malaria were attributable to vitamin A deficiency, accounting for some 3 000 deaths

Figure 9: Vitamin A coverage in children

Source: SADHS 2003 (children age 6-59 months), Food Consumption Survey 2005 and DHIS (children age 12-59 months).

in total. These contributed to between 0.5% and 0.8% of all DALYs in South Africa in 2000. The need for continuing monitoring of the vitamin A programme was also noted.

Some indications of the implementations of these programmes can be gleaned from the SADHS 2003, although these data are now five years old [SADHS 2003]. Less than 40% of children 6-59 months were reported to have received vitamin A supplementation in the preceding six months [SADHS 2003] and the 2005 survey reported only 20.5% of children 12-59 months to have received supplementation (with 10% being unsure about whether supplementation was received) [Food Consumption Survey 2005]. Figure 9 shows provincial estimates from three different sources. It shows a fair range of uncertainty in the estimates, which may be partially due to fairly small sample sizes in the surveys, but confirms that coverage overall is inadequate. In addition, the 2005 data indicate that over 60% of children are vitamin A deficient, suggesting that there are problems with this programme [Food Consumption Survey 2005].

The 2003 survey included questions about the nutritional status of children under five years of age. It was shown that 12% of children were underweight (below minus 2 standard deviations (SD) of the expected weight for height), 27% were stunted (below minus 2 SD of the expected height for age) and 5% were wasted [SADHS 2003]. These results were somewhat higher than those reported in the 1994 South Africa Vitamin A Consulting Group (SAVACG) survey conducted on children aged 6-72 months (9.3% underweight, 22.9% stunted, 2.6% wasted) and the 1999 National Food Consumption Survey conducted on children

aged 1-9 years (10.3% underweight, 21.6% stunted, 3.7% wasted). Importantly, the SADHS measurements were only conducted on children whose mother was interviewed. Orphans and other children not living with their biological mothers were excluded. Despite the differences in methodology, the SADHS report concluded that *"there are no indications that the nutritional status of children has changed substantially over the past 10 years"*.

Of relevance to intervention strategies, stunting was shown to correlate strongly with the mother's level of education, ranging from 38% in the cases when the mother had no education to 13% in the cases when the mother had a post-Grade 12 level education.

As pointed out before, increasing attention is now also being paid to the problems of overweight and obesity. The SADHS 2003 reported that 55% women and 30% per cent of men aged 15 years and above were overweight or obese. To mark International Day for the Evaluation of Abdominal Obesity (IDEA), randomly chosen primary care physicians in 63 countries recruited consecutive patients aged 18 to 80 years on two pre-specified half days and measured waist circumference, determined body mass index (BMI) and the presence of cardiovascular disease (CVD) and diabetes mellitus [Circulation 116(1942-51)]. Overall, 24% of the 69 409 men and 27% of the 98 750 women who agreed to participate were obese, and a further 40% and 30% of men and women, respectively, were overweight. The authors also reported that *"[a] statistically significant graded increase existed in the frequency of CVD and diabetes mellitus with both BMI and [waist circumference], with a stronger*

relationship for [waist circumference] than for BMI across regions for both genders. This relationship between [waist circumference], CVD, and particularly diabetes mellitus was seen even in lean patients".

Physical activity was measured for the first time in the SADHS 2003. The final report stated that 48% of men and 63% of women surveyed were inactive, and that levels of inactivity were higher in urban than in non-urban settings. The SA NBD study estimated that, in adults ≥ 15 years in 2000, 30% of ischaemic heart disease, 27% of colon cancer, 22% of ischaemic stroke, 20% of type 2 diabetes, and 17% of breast cancer were attributable to physical inactivity [Comparative Risk Assessment]. Physical inactivity was thus estimated to have caused 17 037 (95% uncertainty interval 11 394-20 407), or 3.3% (95% uncertainty interval 2.2-3.9%) of all deaths in 2000, and 1.1% (95% uncertainty interval 0.8-1.3%) of all DALYs in 2000. Also, 87% of type 2 diabetes, 68% of hypertensive disease, 61% of endometrial cancer, 45% of ischaemic stroke, 38% of ischaemic heart disease, 31% of kidney cancer, 24% of osteoarthritis, 17% of colon cancer, and 13% of postmenopausal breast cancer were attributable to excess body weight (a $BMI \geq 21 \text{ kg/m}^2$). Excess body weight was thus estimated to have caused 36 504 deaths (95% uncertainty interval 31 018-38 637) or 7% (95% uncertainty interval 6.0-7.4%) of all deaths in 2000, accounting for 2.9% of all DALYs (95% uncertainty interval 2.4-3.0%). The burden in females was approximately double that in males. Levels of inactivity were notably higher in South Africans than elsewhere in the world [Am J Prev Med 34(486-94)].

A view in microcosm was provided by a study conducted in Khayelitsha and presented by Matoti-Mvalo and Puoane at the PHASA 2008 Conference. The study aimed to explore the perception that a thin person is infected with HIV and AIDS and the effect of this perception on women's body images. It was reported that more than 80% of the women who participated in the study were overweight or obese and thought that being overweight or obese was healthy. A large body size was associated by women with many positive attributes such as dignity, attractiveness and having enough money to feed the family. As expected, while some participants were aware that being overweight and obese was a risk factor for non-communicable diseases, they feared that weight loss might label them as being infected with HIV.

An overview of the global epidemic of obesity has identified the following factors as major contributors [Epidemiol Rev 29(1-5)]:

- "limited and/or unsafe public spaces for recreational physical activity and for children to walk to school";
- "the pervasive presence of food outlets and opportunities to eat, usually fast, energy-dense foods"; and
- "increasing dependency on prepared foods, usually consumed away from home."

Each of these are amenable to public policy interventions, and are examples of what might be termed as PHC targets outside of direct health care. Other interventions can also make a difference. For example, the SA NBD study estimated that low fruit and vegetable intake accounted for 3.2% of total deaths and 1.1% of the 16.2 million attributable DALYs in 2000. Effects were estimated to be seen, in both men and women, in relation to ischaemic heart disease, ischaemic stroke, but also oesophageal and lung cancer. It was concluded that "*[t]he challenge lies in creating the environment that facilitates changes in dietary habits such as the increased intake of fruit and vegetables*".

Nutritional interventions can also have other benefits. An assessment of the impact of South Africa's programme of folic acid fortification of staple foods showed a significant decline in the prevalence of neural tube defects from 1998 to 2005, from 1.41 to 0.98 per 1 000 births (RR = 0.69; 95% CI: 0.49-0.98) [Birth Defects 82(211-6)]. Similarly, the median urinary iodine concentration in women and children indicates adequate dietary intake following mandatory iodation of table salt, although now six out of nine provinces have concentrations in the excessive range, with particularly high levels in the NC [Food Consumption Survey 2005].

Table 27: Nutrition indicators by province

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|---|------|------|------|------|------|------|------|------|------|------|---|
| Anaemia prevalence | | | | | | | | | | | |
| 1995 | 20.6 | 17.1 | 16.3 | 10.4 | 34.2 | 27.7 | 21.5 | 24.5 | 28.6 | 21.4 | a |
| 2005 1-5 years | 30.0 | 27.6 | 25.6 | 21.8 | 34.4 | 21.3 | 5.0 | 28.2 | 41.2 | 28.9 | b |
| Iodine deficiency | | | | | | | | | | | |
| 1998 children <50mcg/l rural | 15.0 | 17.0 | 5.0 | 8.0 | 22.0 | 24.0 | 3.0 | 15.0 | 10.0 | - | c |
| 1998 children <50mcg/l urban | 3.0 | 10.0 | 8.0 | 3.0 | 3.0 | 27.0 | 0.3 | 7.0 | 5.0 | - | c |
| 1998 children <100mcg/l rural | 29.8 | 42.1 | 19.7 | 20.8 | 36.7 | 44.7 | 7.4 | 13.1 | 22.5 | - | c |
| 1998 children <100mcg/l urban | 9.2 | 18.9 | 24.9 | 6.4 | 11.7 | 50.5 | 10.8 | 30.2 | 35.0 | - | c |
| 2005 children <100mcg/l | 28.8 | 10.8 | 21.3 | 11.7 | 15.8 | 20.3 | 0.0 | 25.2 | 17.7 | 19.2 | b |
| Iodised salt consumption | | | | | | | | | | | |
| 1998 <10mg/kg | 24.0 | 29.0 | 30.0 | 24.0 | 31.0 | 25.0 | 15.0 | 46.0 | 16.0 | 25.5 | c |
| Iron deficiency anaemia prevalence | | | | | | | | | | | |
| 1995 | 2.4 | 3.9 | 3.8 | 3.5 | 9.1 | 7.0 | 6.5 | 5.0 | 8.2 | 5.0 | a |
| 2005 1-5 years | 8.4 | 16.1 | 10.4 | 11.3 | 13.8 | 11.6 | - | 8.7 | 12.0 | 11.3 | b |
| Iron deficiency prevalence | | | | | | | | | | | |
| 1995 | 5.0 | 6.8 | 9.2 | 13.4 | 11.0 | 11.5 | 10.9 | 8.1 | 16.4 | 9.8 | a |
| 2005 1-5 years | 10.2 | 40.3 | 17.8 | 18.8 | 21.2 | 17.0 | 12.5 | 18.8 | 20.3 | 19.7 | b |
| Obesity (%) | | | | | | | | | | | |
| 1998 female | 29.7 | 29.2 | 35.6 | 35.4 | 20.1 | 25.8 | 24.8 | 18.9 | 31.2 | 30.1 | d |
| 2003 female | 31.9 | 26.2 | 30.1 | 24.5 | 21.8 | 28.0 | 24.2 | 24.4 | 30.3 | 27.4 | e |
| 2003 female rural | - | - | - | - | - | - | - | - | - | 21.0 | e |
| 2003 female urban | - | - | - | - | - | - | - | - | - | 31.0 | e |
| 2005 female 16-35 years | 22.6 | 31.1 | 26.5 | 24.8 | 16.9 | 20.6 | 25.0 | 24.9 | 32.7 | 24.9 | b |
| 1998 male | 10.1 | 8.1 | 10.2 | 10.4 | 6.2 | 7.5 | 7.6 | 5.5 | 13.1 | 9.3 | d |
| 2003 male | 8.8 | 8.6 | 9.7 | 9.0 | 4.6 | 6.0 | 5.4 | 4.8 | 14.5 | 8.8 | e |
| 2003 male rural | - | - | - | - | - | - | - | - | - | 5.1 | e |
| 2003 male urban | - | - | - | - | - | - | - | - | - | 10.6 | e |
| 2004 boys 6-13 years | - | - | - | - | - | - | - | - | - | 3.2 | f |
| 2004 girls 6-13 years | - | - | - | - | - | - | - | - | - | 4.9 | f |
| Overweight (%) – adults | | | | | | | | | | | |
| 1998 female | 25.7 | 26.0 | 26.6 | 27.4 | 24.0 | 24.9 | 24.9 | 25.8 | 25.9 | 26.1 | d |
| 2003 female | 28.2 | 23.3 | 28.2 | 33.0 | 24.2 | 25.9 | 21.6 | 25.1 | 25.9 | 27.5 | e |
| 2005 female 16-35 years | 32.1 | 24.5 | 28.9 | 26.7 | 21.1 | 27.5 | 20.8 | 20.7 | 26.0 | 26.6 | b |
| 1998 male | 20.5 | 16.3 | 21.1 | 21.4 | 16.0 | 16.6 | 14.4 | 15.4 | 25.3 | 19.8 | d |
| 2003 male | 16.5 | 13.5 | 20.2 | 31.9 | 11.0 | 16.3 | 13.8 | 17.5 | 23.6 | 21.0 | e |
| Overweight (%) – children | | | | | | | | | | | |
| 1999 age 1-9 years | 7.9 | 6.4 | 5.6 | 6.5 | 3.7 | 16.7 | 4.4 | 0.9 | 5.2 | 6.0 | g |
| 2002 NYRBS | 17.1 | 14.3 | 18.5 | 22.9 | 10.5 | 17.0 | 12.3 | 11.9 | 21.5 | 17.2 | h |
| 2004 boys 6-13 years | - | - | - | - | - | - | - | - | - | 10.8 | i |
| 2004 girls 6-13 years | - | - | - | - | - | - | - | - | - | 13.0 | i |
| 2005 age 1-9 years | 6.1 | 1.4 | 6.4 | 6.3 | 2.4 | 3.4 | - | 4.9 | 3.3 | 4.8 | b |
| Stunting (%) | | | | | | | | | | | |
| 1994 age 6-71 months | 28.8 | 28.7 | 11.5 | 15.6 | 34.2 | 20.4 | 22.8 | 24.7 | 11.6 | 22.9 | a |
| 1999 age 1-9 years | 20.5 | 29.6 | 20.4 | 18.5 | 23.1 | 26.4 | 29.6 | 24.9 | 14.5 | 21.6 | g |
| 1999 age 12-71 months | - | - | - | - | - | - | - | - | - | 23.8 | g |
| 2003 under 5 years | 28.5 | 32.9 | 26.5 | 13.3 | 26.6 | 22.2 | 37.1 | 24.0 | 34.7 | 27.4 | j |
| 2005 age 1-9 years | 18.0 | 28.2 | 16.8 | 15.1 | 23.8 | 17.8 | 27.7 | 15.1 | 12.0 | 18.0 | b |
| Underweight (%) – adults | | | | | | | | | | | |
| 1998 female | 5.8 | 7.0 | 3.4 | 5.4 | 7.2 | 4.9 | 12.5 | 8.1 | 4.9 | 5.6 | d |
| 2003 female | 3.2 | 7.6 | 5.6 | 3.2 | 9.1 | 6.0 | 12.2 | 8.0 | 9.5 | 6.2 | e |
| 2003 female rural | - | - | - | - | - | - | - | - | - | 7.1 | e |
| 2003 female urban | - | - | - | - | - | - | - | - | - | 5.7 | e |
| 1998 male | 11.5 | 18.8 | 9.7 | 11.1 | 19.7 | 16.9 | 23.1 | 17.5 | 5.8 | 12.9 | d |
| 2003 male | 10.9 | 18.0 | 14.3 | 4.1 | 19.5 | 16.4 | 25.7 | 19.8 | 9.2 | 12.5 | e |
| 2003 male rural | - | - | - | - | - | - | - | - | - | 14.0 | e |
| 2003 male urban | - | - | - | - | - | - | - | - | - | 11.8 | e |

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|---|-----------|-----------|-----------|------------|-----------|-----------|-----------|-----------|-----------|-----------|---|
| Underweight (%) – children | | | | | | | | | | | |
| 1999 <5 years | - | - | - | - | - | - | - | - | - | 11.5 | k |
| 1999 age 1-9 years | 7.1 | 14.3 | 8.8 | 6.0 | 15.0 | 4.2 | 23.7 | 15.3 | 8.3 | 10.3 | g |
| 1999 age 12-71 months | - | - | - | - | - | - | - | - | - | 11.1 | g |
| 2002 NYRBS | 7.7 | 9.5 | 7.4 | 7.2 | 12.1 | 8.2 | 14.3 | 14.2 | 6.0 | 9.0 | h |
| 2003 under 5 years | 7.1 | 15.9 | 10.1 | 11.3 | 14.2 | 9.1 | 25.8 | 12.4 | 10.9 | 11.5 | j |
| 2005 age 1-9 years | 7.8 | 14.1 | 6.4 | 5.0 | 12.3 | 10.9 | 38.3 | 12.4 | 8.2 | 9.3 | b |
| Vitamin A coverage children 12-59 months | | | | | | | | | | | |
| 2003 SADHS | 57.7 | 45.8 | 32.3 | 42.3 | 44.6 | 46.6 | 49.4 | 30.2 | 29.6 | 39.4 | l |
| 2003 DHIS | 20.9 | 47.3 | - | - | 16.8 | 39.2 | 38.6 | 14.2 | - | 25.0 | m |
| 2004 DHIS | 61.7 | 26.8 | 7.1 | 41.3 | 33.5 | 39.8 | 33.0 | 34.9 | - | 30.9 | m |
| 2006 DHIS | 17.2 | 36.1 | 30.1 | 24.3 | 22.7 | 23.7 | 32.4 | 21.7 | 10.2 | 23.4 | m |
| 2005 NFCS | 33.3 | 32.6 | 12 | 27.9 | 18.1 | 10.1 | 26.1 | 20 | 10.7 | 20.5 | n |
| Vitamin A coverage infants 6-11 months | | | | | | | | | | | |
| 2003 DHIS | 79.8 | 76.8 | - | - | 37.1 | 57.5 | 90.5 | 35.3 | - | 57.6 | m |
| 2004 DHIS | 96.3 | 82.4 | 44.0 | 82.8 | 86.0 | 76.3 | 73.4 | 87.6 | - | 69.9 | m |
| 2006 DHIS | 81.0 | 103.9 | 99.3 | 110.6 | 101.1 | 97.9 | 136.4 | 85.3 | 60.4 | 95.3 | m |
| Vitamin A deficiency | | | | | | | | | | | |
| 1995 | 31.1 | 26.8 | 23.5 | 38.0 | 43.5 | 33.0 | 18.5 | 32.0 | 21.0 | 33.3 | a |
| 2005 age 1-9 years | 64.2 | 61.7 | 65.2 | 89.1 | 75.7 | 52.1 | 23.0 | 49.6 | 43.5 | 63.6 | b |
| Waist-hip ratio (WHR) above cut-off (%) | | | | | | | | | | | |
| 1998 female | 32.8 | 28.5 | 22.2 | 36.7 | 34.2 | 26.8 | 34.2 | 41.3 | 39.6 | 32.0 | d |
| 1998 male | 5.3 | 6.5 | 6.5 | 10.2 | 6.8 | 3.9 | 5.8 | 8.9 | 8.7 | 7.4 | d |
| 2003 female | 27.6 | 29.5 | 27.7 | 48.8 | 28.0 | 22.8 | 20.3 | 27.2 | 34.1 | 32.0 | e |
| 2003 male | 4.7 | 3.6 | 9.3 | 7.4 | 4.3 | 3.2 | 3.7 | 3.5 | 6.8 | 6.4 | e |
| Wasting (%) | | | | | | | | | | | |
| 1994 age 6-71 months | 3.2 | 4.5 | 1.2 | 0.7 | 3.8 | 2.5 | 1.7 | 4.5 | 1.3 | 2.6 | a |
| 1999 age 1-9 years | 1.8 | 3.4 | 1.2 | 4.3 | 7.5 | 2.8 | 9.6 | 5.7 | 0.9 | 3.7 | g |
| 1999 age 1-9 years rural | - | - | - | - | - | - | - | - | - | 4.9 | g |
| 1999 age 1-9 years urban | - | - | - | - | - | - | - | - | - | 2.4 | g |
| 1999 age 12-71 months | - | - | - | - | - | - | - | - | - | 3.6 | g |
| 2003 under 5 years | 0.8 | 8.4 | 4.2 | 7.5 | 5.3 | 6.0 | 10.0 | 6.0 | 6.2 | 5.2 | j |
| 2005 age 1-9 years | 4.1 | 2.8 | 3.3 | 1.3 | 4.4 | 7.5 | 19.1 | 3.2 | 11.5 | 4.5 | b |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

- a SAVACG Survey.
- b Food Consumption Survey 2005.
- c Iodine Deficiency 2000.
- d SADHS 1998.
- e SADHS 2003. Of respondents age 15 and above.
- f SAMJ 96(439-44). Data collected during 2001-2004. Defined as the percentage classified as obese, with predicted Body Mass Index (BMI) $\geq 30\text{kg}/\text{m}^2$ at 18 years, according to curves developed by Cole et al. (Cole TJ, Bellizzi MC, Flega KM, Dietz WH. Establishing a standard definition for child overweight and obesity worldwide: international survey. BMJ 2000; 320: 1240-1243.)
- g Food Consumption Survey 1999.
- h NYRBS 2002.
- i SAMJ 96(439-44). Data collected during 2001-2004. Defined as the percentage classified as overweight but not obese, with predicted Body Mass Index (BMI) $\geq 25\text{kg}/\text{m}^2$ at 18 years, according to curves developed by Cole et al. (Cole TJ, Bellizzi MC, Flega KM, Dietz WH. Establishing a standard definition for child overweight and obesity worldwide: international survey. BMJ 2000; 320: 1240-1243.)
- j SADHS 2003.
- k Millennium Development Goals. Based on Food Consumption Survey 1999. Age group is 12-59 months for SA data.
- l SADHS 2003. Percentage of children 6-59 months of age reported to have received Vitamin A supplements in the 6 months preceding the survey.
- m DHIS. Data for 2005 extracted June 2006, data for 2006 extracted July 2007.
- n Food Consumption Survey 2005. A further 10.1% nationally were unsure whether Vitamin A supplements were received or not.

Table 28: Nutrition indicators by ethnic group

| | African | Coloured | Indian | White | All | |
|--|---------|----------|--------|-------|------|---|
| Obesity (%) | | | | | | |
| 1998 female | 31.2 | 28.5 | 21.3 | 25.5 | 30.1 | a |
| 1998 male | 7.8 | 9.2 | 9.0 | 20.1 | 9.3 | a |
| 2003 female | 28.5 | 26.5 | 24.8 | 13.7 | 27.4 | b |
| 2003 male | 7.1 | 14.9 | 10.9 | 23.0 | 8.8 | b |
| 2004 boys 6-13 years | 2.1 | 3.0 | - | 4.3 | 3.2 | c |
| 2004 girls 6-13 years | 4.7 | 4.8 | - | 7.8 | 4.9 | c |
| Overweight (%) | | | | | | |
| 1998 female | 25.9 | 25.3 | 27.3 | 27.4 | 26.1 | a |
| 1998 male | 17.1 | 22.1 | 23.7 | 36.1 | 19.8 | a |
| 2002 NYRBS | 16.6 | 13.0 | 25.3 | 23.4 | 17.2 | d |
| 2003 female | 27.7 | 25.7 | 34.4 | 24.3 | 27.5 | b |
| 2003 male | 20.1 | 21.3 | 33.7 | 25.1 | 21.0 | b |
| 2004 boys 6-13 years | 7.6 | 8.7 | - | 15.4 | 10.8 | e |
| 2004 girls 6-13 years | 12.3 | 10.7 | - | 15.5 | 13.0 | e |
| Stunting (%) | | | | | | |
| 2003 under 5 years | 27.0 | 37.4 | 13.1 | 7.0 | 27.4 | f |
| Underweight (%) | | | | | | |
| 1998 female | 4.9 | 9.9 | 15.6 | 2.9 | 5.6 | a |
| 1998 male | 14.0 | 11.4 | 16.6 | 4.7 | 12.9 | a |
| 2002 NYRBS | 9.5 | 10.6 | 4.8 | 1.9 | 9.0 | d |
| 2003 female | 5.6 | 12.1 | 5.7 | 4.9 | 6.2 | b |
| 2003 male | 13.3 | 11.5 | 10.1 | 4.9 | 12.5 | b |
| 2003 under 5 years | 10.6 | 18.1 | 8.7 | 12.6 | 11.5 | f |
| Waist-hip ratio (WHR) above cut-off (%) | | | | | | |
| 1998 female | 33.3 | 36.2 | 23.2 | 20.4 | 32.0 | a |
| 1998 male | 6.5 | 5.2 | 11.2 | 14.7 | 7.4 | a |
| 2003 female | 31.9 | 36.1 | 33.5 | 24.0 | 32.0 | b |
| 2003 male | 5.1 | 8.2 | 22.1 | 6.7 | 6.4 | b |
| Wasting (%) | | | | | | |
| 2003 under 5 years | 5.0 | 7.5 | 9.1 | 2.2 | 5.2 | f |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

- a SADHS 1998.
- b SADHS 2003. Of respondents age 15 and above.
- c SAMJ 96(439-44). Data collected during 2001-2004. Defined as the percentage classified as obese, with predicted Body Mass Index (BMI) $\geq 30\text{kg}/\text{m}^2$ at 18 years, according to curves developed by Cole et al. (Cole TJ, Bellizzi MC, Flega KM, Dietz WH. Establishing a standard definition for child overweight and obesity worldwide: international survey. BMJ 2000; 320: 1240-1243.)
- d NYRBS 2002.
- e SAMJ 96(439-44). Data collected during 2001-2004. Defined as the percentage classified as overweight but not obese, with predicted Body Mass Index (BMI) $\geq 25\text{kg}/\text{m}^2$ at 18 years, according to curves developed by Cole et al. (Cole TJ, Bellizzi MC, Flega KM, Dietz WH. Establishing a standard definition for child overweight and obesity worldwide: international survey. BMJ 2000; 320: 1240-1243.)
- f SADHS 2003.

Child health

Any system based on PHC principles will place a premium on policies related to child health. The overall trends in this regard have been reviewed by the South African Child Gauge [SA Child Gauge 2007/08]. While noting the increased public expenditures on health, education and the social grant system over the last decade, the authors nonetheless felt that "*there remain challenges in addressing historical inequities caused by apartheid, particularly access to quality education, health care services, basic infrastructure and social welfare programmes and services for the population, of which more than a third are children*". Of relevance to any debates on the application of PHC principles, they noted that "[*it is of paramount importance to go beyond a loose concept of 'co-ordination' across departments and sectors where the reality is that, more often than not, governmental agencies keep working within 'silos'*]".

Child mortality

As the various definitions of mortality in this age group are potentially confusing and overlapping, the following graphic is provided. At the outset, it is important to note that the estimates of childhood mortality from the SADHS 2003 are not considered plausible or reliable, and should not be used.

| Still births | Early neonatal deaths | Late neonatal deaths | Post-neonatal deaths | Child deaths |
|---------------------|----------------------------|---------------------------|-----------------------------|----------------------------|
| >28 weeks gestation | Birth → end of the 7th day | 8th day → end of 27th day | 28th day → end of 365th day | 1st year → end of 4th year |
| Perinatal Mortality | | | | |
| | Neonatal Mortality | Post-neonatal Mortality | | |
| | Infant Mortality | | Child Mortality | |
| | Under-5 Mortality | | | |

If it is accepted that the under-five mortality rate (U5MR) rate in South Africa in 1990 was 60, then the country needs to achieve an U5MR of 20 by 2015 to meet its MDG target. As has been pointed out by Sanders et al., in contrast to most countries, the U5MR in South Africa is rising rather than declining [Critical Health Perspectives 1]. The publication in Lancet in 2008 by the South Africa Every Death Counts Writing Group ('Every death counts: use of mortality audit data for decision making to save the lives of mothers, babies, and children in South Africa') provides an overview of the best available data and estimates for both U5MR and MMR [Lancet 371(1294-304)]. The authors point out that

"[s]everal point estimates have been reported for national mortality rates in children younger than 5 years, but four of the five estimates for 2005 were between 69 per 1 000 and 76 per 1 000, all within overlapping uncertainty. Although the data are too uncertain for us to be sure about present trends, South Africa is one of 12 countries in which the child mortality rate has increased instead of falling since 1990. As a result, South Africa has to now achieve an average yearly rate of reduction of 14% to meet MDG 4 by 2015" (see Figure 11 in Chapter 4).

The perinatal mortality rate (PNMR) indicator is more amenable to regular monitoring through various sources such as DHIS, vital registration and PPIP. Data from these sources were presented in the chapter last year [SAHR 2007 Ch15]. Although there are some discrepancies, at a national level data between 2000 and 2006 suggest that the minimum estimate for PNMR in South Africa has varied between about 34-40 per 1 000 births.

The new report of the Child Healthcare Problem Identification Programme (Child PIP) provides detailed insight into the context and causes of child deaths from 26 hospitals around the country [Saving Children 2006]. As with the previous reports, the latest evidence confirms that many of the deaths were avoidable and that socio-economic issues and human resources are critical factors; "*The health context of children who died was one of HIV, malnutrition and poverty, and the main causes of death were acute respiratory tract infection (including pneumocystis pneumonia), diarrhoeal disease, sepsis and tuberculosis... Sixty-five percent of the children who died were malnourished. Almost half of the children who died (49%) were eligible for ART on the basis of clinical HIV staging. Modifiable factors occurred in the home, clinics, emergency and paediatric wards with the majority attributable to clinical personnel.*" It is also apparent that poor implementation of proven interventions is an ongoing issue, with for example only 5% of children who died on ART when 49% of children were eligible for ART, and 35% of children with confirmed or suspected pneumocystis pneumonia never having received cotrimoxazole. Almost 83% of modifiable factors listed at the PHC level showed a failure to successfully practice the Integrated Management of Childhood Illnesses (IMCI) programme [Saving Children 2006].

As the only data showing child mortality and related indicators by ethnic group are obtainable from the SADHS, and in many instances no estimate can be given for White children, due to the small numbers included in the survey, these data are not represented. However, as race remains a proxy for

socio-economic class, it is worth noting the stark differences in survival rates between the poorest and wealthiest children in South Africa cited in the latest State of the Worlds Mothers report [SWM 2008]. These suggest that if the U5MR among

the poorest South African children were raised to those of the richest, 68% of deaths could be prevented, equivalent to about 52 000 child deaths per year.

Table 29: Child mortality and related indicators by province

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|--|------|------|------|------|------|------|------|------|------|------|---|
| Child mortality (deaths between 1-4 years per 1 000 live births) | | | | | | | | | | | |
| 1998 SADHS | 20.5 | 19.0 | 9.3 | 23.6 | 15.7 | 17.3 | 14.3 | 14.0 | 9.0 | 15.4 | a |
| 2003 SADHS | 11.6 | 21.1 | 9.4 | 3.0 | 10.1 | 12.3 | 10.6 | 15.3 | 13.6 | 15.8 | b |
| Infant mortality rate (deaths under 1 year per 1 000 live births) | | | | | | | | | | | |
| 1998 highest asset quintile | - | - | - | - | - | - | - | - | - | 17.0 | c |
| 1998 lowest asset quintile | - | - | - | - | - | - | - | - | - | 61.6 | c |
| 1998 revised | 61.2 | 53.0 | 36.3 | 52.1 | 37.2 | 47.3 | 41.8 | 42.0 | 30.0 | 45.0 | d |
| 1998 rural | - | - | - | - | - | - | - | - | - | 52.2 | a |
| 1998 urban | - | - | - | - | - | - | - | - | - | 32.6 | a |
| 2000 | 70.9 | 61.8 | 44.4 | 68.4 | 51.6 | 58.9 | 46.4 | 55.2 | 31.7 | 59.1 | e |
| 2003 | 68.3 | 48.1 | 33.5 | 30.4 | 34.1 | 40.5 | 28.7 | 61.9 | 43.5 | 42.5 | b |
| Infant mortality rate ASSA model predictions | | | | | | | | | | | |
| 2006 ASSA2003 | 62.0 | 58.0 | 37.0 | 62.0 | 37.0 | 53.0 | 34.0 | 44.0 | 26.0 | 48.0 | f |
| 2007 ASSA2003 | 60.3 | 56.0 | 35.3 | 60.0 | 36.2 | 50.8 | 33.4 | 42.6 | 25.3 | 46.1 | f |
| 2008 ASSA2003 | 58.8 | 54.1 | 33.4 | 58.0 | 35.2 | 48.9 | 32.5 | 41.5 | 24.4 | 44.6 | f |
| 2009 ASSA2003 | 57.7 | 52.6 | 32.0 | 56.5 | 34.5 | 47.5 | 31.7 | 40.6 | 23.6 | 43.4 | f |
| 2010 ASSA2003 | 57.1 | 51.9 | 31.6 | 55.8 | 34.1 | 46.9 | 30.9 | 40.1 | 22.9 | 42.8 | f |
| Low birth weight rate (% live births <2500g) | | | | | | | | | | | |
| 1998 | - | - | - | - | - | - | - | - | - | 15.0 | g |
| 2002 | 15.0 | 18.7 | 19.2 | 18.2 | 13.8 | 14.1 | 22.0 | 14.4 | 17.6 | - | h |
| 2006 DHIS | 9.6 | 14.3 | 0.6 | 9.2 | 7.8 | 7.8 | 24.4 | 11.9 | 16.6 | 8.9 | i |
| 2006 PPIP | 13.0 | 13.6 | 16.3 | 12.8 | 13.8 | 14.5 | 21.0 | 12.4 | 18.1 | 15.5 | j |
| Neonatal death rate (NNDR) (deaths <28 days old per 1 000 live births) | | | | | | | | | | | |
| 1998 | 24.7 | 9.9 | 17.8 | 23.2 | 18.3 | 23.6 | 20.5 | 20.0 | 4.0 | 19.8 | a |
| 2002 | 14.0 | 10.4 | 12.1 | 10.4 | 12.0 | 9.0 | 9.0 | 11.5 | 5.0 | - | h |
| 2003 | 11.9 | 33.0 | 24.2 | 22.6 | 19.9 | 21.5 | 18.4 | 26.9 | 5.4 | 15.0 | b |
| 2006 DHIS | 15.3 | 15.1 | 8.6 | 11.0 | 11.4 | 9.3 | 12.6 | 56.1 | 6.0 | 14.4 | i |
| 2006 PPIP | 11.3 | - | 9.4 | 8.8 | 11.2 | 12.3 | 13.9 | 12.4 | 9.5 | 13.6 | j |
| Perinatal care index (perinatal MR / LBWR) | | | | | | | | | | | |
| 2002 | 2.32 | 2.16 | 1.90 | 2.32 | 2.12 | 2.30 | 1.45 | 3.00 | 1.15 | - | h |
| 2006 PPIP | 2.00 | - | 1.60 | 1.70 | 1.90 | 2.00 | 1.40 | 2.70 | 1.78 | 1.80 | j |
| Perinatal mortality rate (deaths <8 days old per 1 000 total births) | | | | | | | | | | | |
| 2000 Public sector | - | - | 32.1 | - | - | - | - | - | 18.4 | 40.0 | k |
| 2002 | 35.0 | 40.3 | 37.0 | 35.0 | 29.0 | 30.0 | 32.0 | 43.3 | 20.2 | - | h |
| 2003 DHIS | 44.0 | 44.4 | 36.1 | 50.7 | 45.0 | 43.7 | 45.4 | - | 23.1 | 38.4 | i |
| 2004 DHIS | 42.4 | 51.8 | 32.0 | 41.3 | 38.5 | 41.0 | 42.9 | - | 26.6 | 38.2 | i |
| 2005 DHIS | 49.2 | 39.7 | 32.2 | 40.3 | 35.4 | 46.1 | 32.6 | - | 25.4 | 34.9 | i |
| 2006 DHIS | 40.3 | 37.6 | 27.4 | 35.5 | 32.7 | 31.2 | 38.1 | 36.8 | 25.2 | 33.1 | i |
| 2006 PPIP ≥1 000g | 25.5 | 24.1 | 25.5 | 19.8 | 26.0 | 29.7 | 43.3 | 30.2 | 18.6 | 27.9 | j |
| 2006 PPIP ≥500g | 32.3 | 33.0 | - | 26.5 | 30.4 | 36.5 | - | 34.0 | 32.2 | 37.5 | j |
| Post-neonatal mortality rate (deaths 28-365 days age per 1 000 live births) | | | | | | | | | | | |
| 1998 | 36.5 | 26.9 | 18.5 | 28.9 | 18.9 | 23.6 | 21.3 | 16.8 | 4.4 | 25.6 | a |
| 2003 | 56.4 | 15.1 | 9.3 | 7.8 | 14.2 | 18.9 | 10.3 | 35.0 | 38.1 | 27.5 | b |
| Stillbirth rate (per 1 000 total births) | | | | | | | | | | | |
| 2003 District Hospitals | - | - | - | - | - | - | - | - | - | 31.0 | i |
| 2003 Regional Hospitals | - | - | - | - | - | - | - | - | - | 40.0 | i |
| 2003 National Central Hosp | - | - | - | - | - | - | - | - | - | 62.0 | i |
| 2003 All hospitals | 30.0 | 34.0 | 36.0 | 43.0 | 24.0 | 27.0 | 34.0 | 30.0 | 18.0 | 32.0 | i |
| 2004 All hospitals | 28.0 | 30.0 | 47.0 | 33.0 | 21.0 | 24.0 | 24.0 | 22.0 | 18.0 | 27.0 | i |
| 2005 All hospitals | 33.0 | 30.5 | 21.0 | 31.3 | 22.7 | 35.5 | 25.0 | - | 18.8 | 24.9 | i |
| 2006 All hospitals | 25.9 | 28.3 | 19.6 | 26.7 | 22.1 | 22.4 | 27.0 | 25.2 | 19.2 | 23.5 | i |
| 2006 PPIP | 21.3 | - | 18.2 | 17.9 | 19.5 | - | 30.5 | 23.6 | 23.0 | 24.3 | j |

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|--|-----------|-----------|-----------|------------|-----------|-----------|-----------|-----------|-----------|-----------|---|
| Under-5 mortality rate (deaths under 5 years per 1 000 live births) | | | | | | | | | | | |
| 1998 revised | 80.5 | 72.0 | 45.3 | 74.5 | 52.3 | 63.7 | 55.5 | 56.0 | 39.0 | 61.0 | d |
| 1998 rural | - | - | - | - | - | - | - | - | - | 71.2 | a |
| 1998 urban | - | - | - | - | - | - | - | - | - | 43.2 | a |
| 2000 | 105.0 | 99.0 | 74.6 | 116.4 | 80.7 | 99.8 | 68.1 | 88.5 | 46.3 | 94.7 | e |
| 2003 | 79.1 | 68.2 | 42.6 | 33.2 | 43.9 | 52.2 | 39.1 | 76.3 | 56.5 | 57.6 | b |
| 2005 Murray | - | - | - | - | - | - | - | - | - | 69.0 | m |
| Under-5 mortality rate ASSA model predictions | | | | | | | | | | | |
| 2006 ASSA2003 | 91.0 | 89.0 | 61.0 | 97.0 | 57.0 | 82.0 | 51.0 | 69.0 | 39.0 | 73.0 | f |
| 2007 ASSA2003 | 89.2 | 85.5 | 58.1 | 93.2 | 54.9 | 78.8 | 50.4 | 67.1 | 38.8 | 70.9 | f |
| 2008 ASSA2003 | 87.4 | 82.8 | 55.8 | 90.3 | 53.6 | 75.9 | 49.6 | 65.6 | 38.1 | 68.9 | f |
| 2009 ASSA2003 | 86.3 | 81.2 | 54.7 | 88.4 | 52.8 | 74.3 | 48.7 | 64.6 | 37.3 | 67.7 | f |
| 2010 ASSA2003 | 85.8 | 80.6 | 54.8 | 87.7 | 52.5 | 73.8 | 47.8 | 64.3 | 36.6 | 67.3 | f |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

- a SADHS 1998.
- b SADHS 2003 (Preliminary). The estimates of child mortality rates from the SADHS are considered to be implausibly low. Bradshaw D, Dorrington R. Child mortality in South Africa – we have lost touch. *S Afr Med J* 2007; 97(8): 582-3.
- c World Development Report 2006.
- d SAHR 2000 Ch4. Comparison of the provincial estimates from different sources revealed that the SADHS 1998 estimates for three provinces required some adjustment.
- e Burden of Disease Prov 2000.
- f ASSA 2003.
- g SWChildren 2006. Based on SADHS 1998 but adjusted since figure reported was 8.3% with birth weight unknown for one third of deliveries.
- h Saving Babies 2002.
- i DHIS. Some data for NW are implausible and have been suppressed.
- j Saving Babies 2003-2005. Data from Oct 2003 - Mar 2006 in most cases, although for some sites it included a different part of the period. Most data are reported according to the international standard that includes all births ≥ 500 g, although in some cases data were only presented according to births $\geq 1\ 000$ g.
- k Saving Babies 2000. Data only available for perinatal care in public sector institutions. There is insufficient data to accurately calculate the national PNMR, however from existing data it is estimated that the rate is in the order of 40/1 000 births.
- l DHIS. Data from Hospital Minimum Data Set, reported in South African Health Review 2003/04.
- m Lancet 370(1040-54): Murray CJL, Laakso T, Shibuya K, Lopez AD. Can we achieve Millennium Development Goal 4? New analysis of country trends and forecasts of under-5 mortality to 2015. *Lancet* 2007; 370: 1040-54.

Child health status and services

Annually, the release of UNICEF's flagship report, The State of the World's Children, draws attention to issues of child health [SWChildren 2008]. In 2008, the focus was on "[s]trategies that can help reduce the number of children who die before their fifth birthday". Attention was given to "[c]ommunity-level integration of essential services for mothers, newborns and young children, and sustainable improvements in national health systems". It has been noted that "South Africa has health-service packages throughout the lifecycle for mothers, babies, and children, which together form the basis of an effective continuum of care" [Lancet 371(1294-304)]. However, the same publication noted that "[l]ittle information exists in the postnatal period and for the characteristic cascade of HIV interventions through the years", and also that "[d]espite fairly high coverage of most of the major packages, including antenatal care, skilled birth attendance, and Integrated Management of Childhood Illness

(IMCI), coverage of some important effective interventions and quality of care within existing packages is low".

Data from the final report of the 2003 SADHS provide some insights, though by now they are dated [SADHS 2003]. Based on this survey, it was shown that the proportion of babies ever breastfed was below 80% in four provinces (EC, FS, KZN, NW). In the last of these, the reported level was only 54%. NW had also reported the lowest level of breastfeeding in the 1998 SADHS (62%). Worryingly, the report noted that the proportion of mothers with no education not giving breast milk to their babies increased from 9% in 1998 to 26% in 2003. Other data on nutritional status relevant to child health are included in the Nutrition section of this chapter.

The SADHS 2003 also provided some data on the prevalence of orphanhood at that time. The final report stated that the proportion of children under 15 years who had lost both parents had increased from 0.8% in 1998 to 2.4% in 2003 [SADHS 2003].

Table 30: Child health indicators by province

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA |
|--|---------|---------|---------|---------|---------|---------|--------|---------|---------|-----------|
| Children under 5 years weighing rate | | | | | | | | | | |
| 2004 DHIS | 74.1 | 75.5 | 71.9 | 82.1 | 75.8 | 60.3 | 70.3 | 24.0 | 60.2 | 66.0 |
| 2006 DHIS | 77.4 | 79.9 | 81.3 | 85.0 | 82.8 | 83.5 | 79.4 | 66.8 | 67.0 | 79.0 |
| Diarrhoea incidence under 5 years (per 1 000) | | | | | | | | | | |
| 2004 DHIS | 112.3 | 112.8 | 8.1 | 244.2 | 184.7 | 99.7 | 211.2 | 102.4 | 83.3 | 128.7 |
| 2005 DHIS | 88.9 | 193.5 | 93.9 | 487.0 | 388.5 | 229.7 | 203.2 | 260.5 | 106.4 | 268.7 |
| 2006 DHIS | 40.3 | 154.3 | 120.0 | 430.6 | 377.3 | 215.3 | 160.1 | 129.2 | 101.7 | 214.9 |
| Exclusive breastfeeding rate | | | | | | | | | | |
| 1998 <6 months | - | - | - | - | - | - | - | - | - | 6.8 |
| 2003 <6 months | - | - | - | - | - | - | - | - | - | 8.3 |
| Not gaining weight under 5 years rate (%) | | | | | | | | | | |
| 2004 DHIS | 2.0 | 3.5 | 0.8 | 1.4 | 1.2 | 2.5 | 3.5 | 3.7 | 1.2 | 2.2 |
| 2005 DHIS | 1.3 | 3.3 | 0.7 | 1.5 | 0.9 | 1.4 | 3.3 | 2.4 | 0.8 | 1.4 |
| 2006 DHIS | 1.1 | 3.6 | 0.7 | 1.3 | 0.9 | 1.2 | 2.8 | 1.5 | 1.2 | 1.2 |
| Number of orphans | | | | | | | | | | |
| 2005 | 796 525 | 266 850 | 300 598 | 864 643 | 429 652 | 247 393 | 44 159 | 274 018 | 136 667 | 3 360 505 |
| 2005 double | 116 909 | 66 722 | 64 475 | 199 623 | 55 274 | 37 395 | 7 514 | 60 723 | 17 718 | 626 362 |
| 2005 maternal | 118 254 | 38 867 | 40 746 | 137 379 | 66 404 | 39 558 | 9 720 | 41 373 | 20 686 | 512 987 |
| 2005 paternal | 561 361 | 161 261 | 195 376 | 527 641 | 307 974 | 170 440 | 26 925 | 171 914 | 98 264 | 2 221 156 |
| 2007 ASSA2003 | 245 266 | 113 491 | 316 291 | 531 029 | 150 665 | 158 778 | 18 656 | 127 728 | 84 295 | 1 708 032 |
| 2008 ASSA2003 | 264 241 | 123 341 | 353 040 | 576 531 | 164 144 | 171 845 | 20 197 | 140 151 | 91 216 | 1 862 672 |
| 2009 ASSA2003 | 282 000 | 131 966 | 386 035 | 615 360 | 176 797 | 182 792 | 21 760 | 151 544 | 98 399 | 2 001 479 |
| 2010 ASSA2003 | 298 255 | 139 276 | 414 971 | 647 284 | 188 501 | 191 617 | 23 308 | 161 720 | 105 694 | 2 123 286 |
| Severe malnutrition under 5 years incidence (per 1 000) | | | | | | | | | | |
| 2003 DHIS | 13.7 | 6.1 | 18.6 | 42.1 | 10.1 | - | 21.5 | 13.8 | 4.2 | 19.9 |
| 2004 DHIS | 8.3 | 6.7 | 3.3 | 20.5 | 6.2 | 8.9 | 16.5 | 13.3 | 4.6 | 9.8 |
| 2006 DHIS | 5.9 | 4.2 | 2.6 | 10.1 | 3.6 | 4.5 | 9.8 | 7.3 | 3.2 | 5.7 |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

a DHIS. Data for 2005 extracted June 2006, data for 2006 extracted July 2007.

b SADHS 2003. Quoting SAHDS 1998.

c SADHS 2003.

d SA Child Gauge 2006. Based on GHS 2005, Statistics South Africa.

e ASSA 2003. Children whose mother has died, regardless of whether or not father has died. i.e. maternal plus double orphans.

Immunisation

Problems with the determination of accurate denominator data continue to bedevil the calculation of immunisation coverage. All figures on vaccination coverage need to be viewed with extreme caution.

During the SADHS 2003 survey only 55% of the children in the overall sample had received all their vaccinations, compared with 63% in 1998. In contrast, routine data from the DHIS showed immunisation coverage of 75% in 2003 and 84% in 2004. The authors of the SADHS report felt that even though "different service providers have different ways in which they chart doses", and thus that "data errors could

have occurred if interviewers had not been adequately informed of all the possibilities of charting vaccines administered", "the discrepancy between the survey and the routine statistics is extremely large and cannot be explained by the methodological differences alone". In addition, while acknowledging that this survey included only 408 children, it was noted that the percentage of children who received no vaccination at all had increased substantially from 2.6% in 1998, to 17% in 2003.

Table 31: Immunisation indicators by province

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|---|-------|------|------|------|------|------|-------|------|-------|------|---|
| Immunisation coverage of children 12-23 months (%) | | | | | | | | | | | |
| 1998 SADHS | 52.6 | 67.8 | 72.4 | 49.5 | 74.9 | 67.2 | 80.8 | 60.6 | 64.2 | 63.4 | a |
| 2003 SADHS | - | - | - | - | - | - | - | - | - | 54.7 | b |
| Immunisation coverage of children <1 year | | | | | | | | | | | |
| 2004 DHIS | 91.3 | 82.7 | 79.3 | 85.8 | 83.5 | 74.3 | 100.9 | 75.9 | 85.3 | 83.1 | c |
| 2005 DHIS | 103.0 | 90.1 | 84.4 | 97.3 | 91.2 | 76.2 | 102.2 | 81.0 | 87.3 | 90.2 | c |
| 2006 DHIS | 73.2 | 87.5 | 91.8 | 83.3 | 83.7 | 82.0 | 98.0 | 71.4 | 98.4 | 84.0 | c |
| Immunisation drop out rate (DTP1-3) | | | | | | | | | | | |
| 2004 DHIS | 10.2 | 5.5 | 6.9 | 9.1 | 7.8 | 6.2 | 1.3 | 7.2 | 5.9 | 7.7 | c |
| 2005 DHIS | 6.3 | 2.5 | 3.6 | 5.5 | 3.8 | 2.9 | 5.2 | 5.9 | 5.7 | 4.7 | c |
| 2006 DHIS | 5.1 | 3.9 | 1.8 | 5.5 | 4.2 | 2.0 | 0.8 | 5.0 | 5.4 | 4.0 | c |
| Immunisation drop out rate (measles 1 to 2) | | | | | | | | | | | |
| 2004 DHIS | 24.9 | 13.7 | 16.3 | 13.3 | 15.1 | 11.9 | 11.0 | 14.3 | 9.0 | 15.2 | c |
| 2005 DHIS | 25.8 | 18.6 | 19.1 | 20.6 | 21.9 | 19.8 | 15.0 | 21.0 | 10.7 | 20.0 | c |
| 2006 DHIS | 21.0 | 11.8 | 11.3 | 12.4 | 19.2 | 15.3 | 9.8 | 15.7 | 13.8 | 14.7 | c |
| Measles 1st dose coverage (annualised) | | | | | | | | | | | |
| 2004 DHIS | 94.4 | 84.1 | 79.9 | 88.3 | 84.4 | 78.1 | 102.5 | 78.1 | 86.5 | 85.0 | c |
| 2005 DHIS | 109.2 | 91.3 | 85.1 | 96.0 | 92.9 | 81.0 | 105.4 | 85.3 | 88.8 | 92.0 | c |
| 2006 DHIS | 75.2 | 88.5 | 93.3 | 85.8 | 84.6 | 84.7 | 99.8 | 73.2 | 100.5 | 85.8 | c |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

a SADHS 1998.

b SADHS 2003. Estimates for several provinces are unreliable due to small sample sizes at this level.

c DHIS.

Non-communicable and chronic diseases of lifestyle

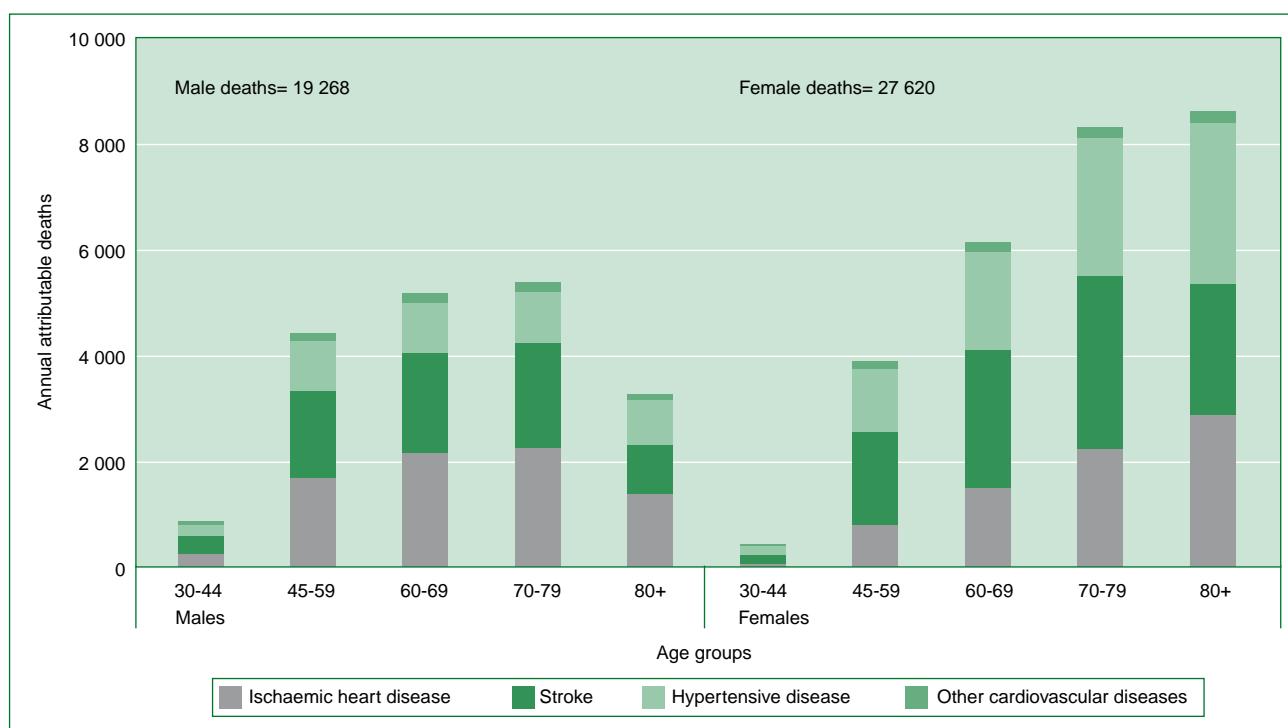
Consistent with a PHC approach, an updated approach to managing the social determinants of health has been advocated [Primer Social Determinants]. Accordingly, health authorities are urged to “move from an individually focused biomedical and lifestyle approach to preventing chronic disease to a collective action approach focused on reducing the impact of challenges with the social determinants of health”.

There have been calls to ensure that cardiovascular and other chronic diseases, such as diabetes mellitus, chronic respiratory disease, and cancer, enjoy the necessary attention on both the global health agenda and the global development agenda [Circulation 116(1966-70); Circulation 116(1871-3)]. It has been pointed out that, by 2001, cardiovascular disease was already the number one cause of death worldwide, and was on the rise in developing countries. Notably, chronic diseases do not appear among the MDGs. The disease burden and loss of economic output associated with chronic diseases (mainly cardiovascular diseases, cancer, chronic respiratory diseases, and diabetes) were estimated in the 23 low-income and middle income countries which accounted for around 80% of the total burden of chronic disease mortality [Lancet 370(1929-38)]. In the selected countries, chronic diseases

were responsible for 50% of the total disease burden in 2005. In 15 of the selected countries, including South Africa, death registration data are available. From these it was shown that the estimated age-standardised death rates for chronic diseases in 2005 were 54% higher for men and 86% higher for women than those for men and women in high-income countries. A review of the evidence base for chronic disease prevention was also published in Lancet in 2007 [Lancet 370(1939-46)]. Considerable challenges were identified in relation to low and middle income countries, including the need for further studies “to assess the best national policies to reduce consumption of saturated and trans fats at a reasonable cost”. However, a number of interventions were considered to have strong cost-effectiveness data for scale-up in such countries, including tobacco control, salt reduction, and a multi-drug strategy to treat individuals with high-risk cardiovascular disease.

The SA NBD study has provided much new data on the burden of disease associated with various chronic diseases [Comparative Risk Assessment]. High blood pressure was estimated to have caused 2.4% of all DALYs in South Africa in 2000 (based on 46 888 deaths or 9% of all deaths in South Africa in that year). Overall, 50% of stroke, 42% of ischaemic

Figure 10: Deaths attributable to high blood pressure, by gender and age group, 2000



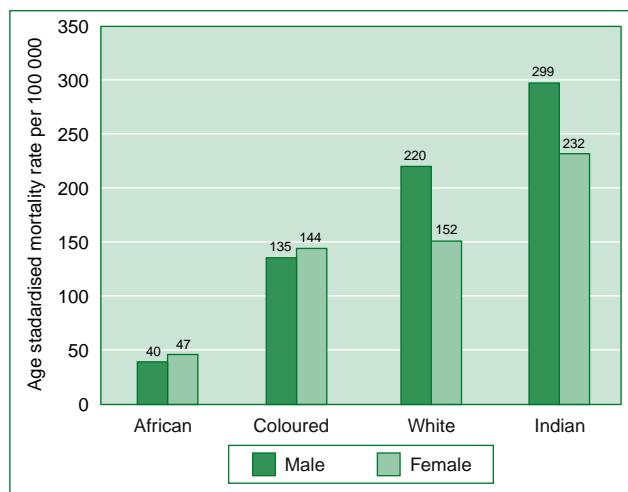
Source: Comparative Risk Assessment.

heart disease, 72% of hypertensive disease and 22% of other cardiovascular burden in adult males and females aged 30 years and older were attributable to having a systolic blood pressure ≥ 115 mmHg. It was noted that there were “*linear associations between blood pressure and cholesterol levels as well as the degree of obesity and CVD in both developed and developing countries*”, and therefore interventions should be based on the total risk in any patient, rather than on simple blood pressure cut-off points (e.g. a blood pressure greater than 140/90 mmHg).

The SA NBD also noted that 5.5% of all South Africans aged 30 years or older had diabetes, estimating that about 14% of ischaemic heart disease, 10% of stroke, 12% of hypertensive disease and 12% of renal disease burden in adult males and females were attributable to diabetes. Diabetes was estimated to have caused 22 412 or 4.3% (95% uncertainty interval 4.0-4.8%) of all deaths in South Africa in 2000, or 1.6% (95% uncertainty interval 1.5-1.8%) of the total burden measured in DALYs.

Similarly, high cholesterol was estimated to have caused 24 144 deaths or 4.6% (95% uncertainty interval 4.3-4.9%) of all deaths in South Africa in 2000. This equated to 1.4% of all DALYs (95% uncertainty interval 1.3-1.4%) in South Africa in that year, and about 59% of ischaemic heart disease, and 29% of ischaemic stroke burden in adult males and females were attributable to high cholesterol (defined as ≥ 3.8 mmol/l). There were marked differences in cholesterol by ethnic group, but it was held that total cholesterol levels were “*increasing in the black African population, particularly in the younger and more urbanised sector*”.

Figure 11: Age-standardised cholesterol-attributable mortality rates by race and gender, 2000



Source: Comparative Risk Assessment.

Data from the SADHS 2003 relating to respiratory conditions and hypertension as well as patterns of prescribed medication for common chronic diseases are difficult to interpret, as is acknowledged in the report. Some anomalous results recorded include a reduction in the proportion of adults reporting that they have ever had TB, a marked decline in chronic bronchitis among older women (but a significant increase in abnormal peak flow measurements), and an overall marked reduction in the use of inhaled corticosteroids. The prevalence of hypertension based on medication remained the same as in 1998 for all ages and sex groups, but the recorded diastolic blood pressures were systematically too low for men and older women in the survey, despite all efforts at training field workers in the correct use of the equipment. Systolic blood pressures were not, however, reduced to the same extent, nor was there a difference in the prevalence of risk factors (obesity, high salt and alcohol intake) among those with hypertension.

The 2007 SAHR chapter [SAHR 2007 Ch15] presented data on the prevalence per 1 000 population of a range of common chronic non-communicable diseases (hypertension, hyperlipidaemia, asthma and type 2 diabetes mellitus), drawing on the SADHS 2003 Preliminary Report (representing the total population, as at 2003) and the Risk Equalisation Fund (REF) project (representing those seeking care in the private sector in 2007). Data for selected age groups are again presented in the tables below with updates from the full SADHS report. Apart from the obvious difference in time period, caution should also be exercised in comparing these two sources, as the methods used are very different. The SADHS data are based on self-reported diagnoses and some measurements (blood pressure and peak flow, for example) and the full report indicates substantial quality concerns regarding the measurement of blood pressure. The REF data represent returns provided by medical schemes on the basis of claims submitted. The age groups included are also different. The disease burden is best interpreted by viewing data for all 5-year age groups, since the total value for all age groups combined (age 1 and up in the REF study) tends to under-estimate the prevalence of chronic disease which occurs mostly in adults, with the older age groups most affected. The overall prevalence from the SADHS is based on adults 15 years and older.

Mental health

Globally, increased attention has also been paid to the burden of disease posed by mental health problems. The availability of nationally representative psychiatric epidemiological data for common mental disorders in South African adults (from the South African Stress and Health (SASH) survey) have resulted in calls to scale up evidence-based services as well as research [SAMJ 98(444-6); SASH 2002-4] The survey showed that 16.5% of South Africans reported having suffered from a common mental disorder (such as depression, anxiety and somatoform disorders) in the preceding year. The SA NBD study ranked neuropsychiatric conditions third in their contribution to the overall burden of disease in South Africa, after HIV and AIDS and other infectious diseases [Comparative Risk Assessment]. SASH data showed that only 28% of people with severe or moderate common mental disorders accessed mental health professionals in the 12 months preceding the survey.

A situational analysis of mental health policy development and implementation in South Africa was published by the Mental Health and Poverty Project in 2008 [Mental Situation Analysis]. Among the many problems highlighted were major disparities in the human resources available in different provinces. For example, the number of psychiatrists was shown to vary from one psychiatrist per five million people (in NW) to one psychiatrist per 111 111 people (in WC). Overall there were a total of about 12 personnel working in mental health facilities per 100 000 population. At the district level, a continued focus on emergency management and ongoing psychopharmacological care of patients with chronic stabilised mental disorders was detected, with little attention to community-based rehabilitation programmes.

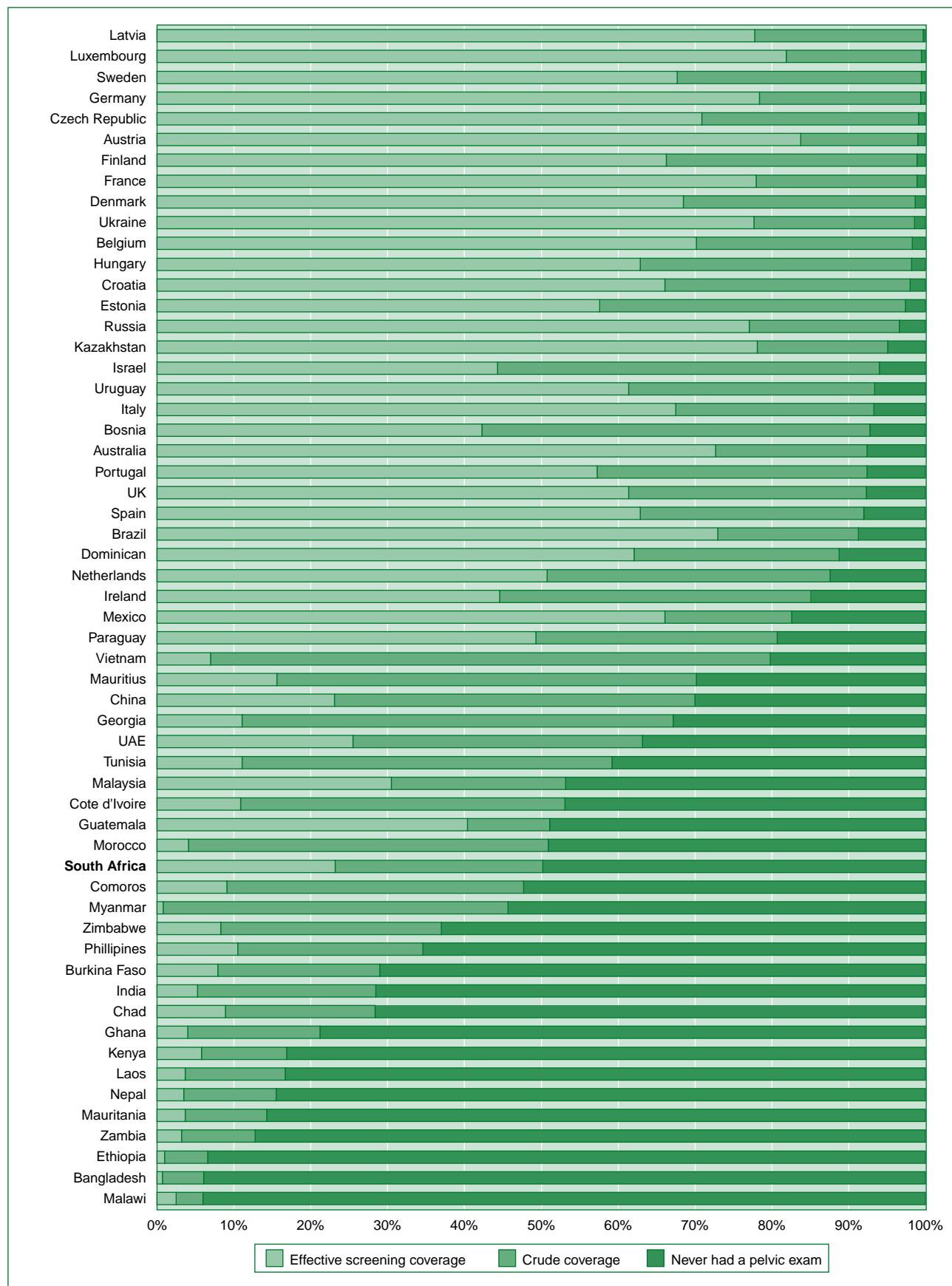
Cancer

An in-depth analysis of cancer incidence in selected municipalities of the EC (comprising 10 magisterial areas of the former Transkei) was published by the MRC in 2007, as part of the Programme on Mycotoxin and Experimental Carcinogenesis (PROMEC) [PROMEC 1998-2002]. Overall, cancer of the oesophagus was the leading cancer in men, accounting for 42.2% of all cancers between 1998 and 2002. Lung cancer was responsible for 7.9% of cancers in men over this period. In women, cancers of the cervix (33.8%) and oesophagus (31.5%) were the leading cancers detected over the same time period. Breast cancer was responsible for 11.4% of cancers detected in women. The age standardised rates for all cancers were 72.8 per 100 000 in men and 59.1 per 100 000 in women. While Kaposi's sarcoma was rated 8th in men (1.3%), it did not feature among the leading cancers in women. However, given the increased prevalence

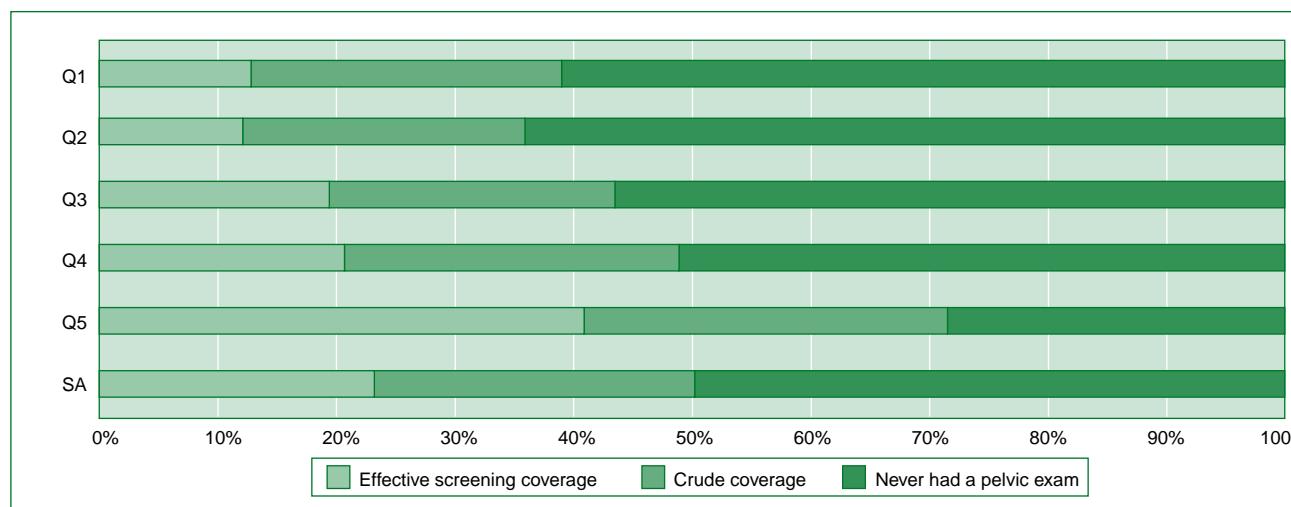
of HIV in South Africa, this would be expected to change over time.

As has been mentioned before, South Africa is unusual among developing countries in having a cervical cancer screening service in the public sector, even though uptake of this service remains unacceptably low. Globally, the coverage of cervical screening was reviewed by Gakidou et al. [PLoS Med 5(e132)]. Data provided in the online supplement showed that coverage in South Africa was lowest in those at greatest need, the poor and older women. Crude coverage was defined as the proportion of eligible women who reported that they have had a pelvic exam (regardless of when the exam occurred), and effective coverage was defined as the proportion of eligible women who reported that they have had a pelvic exam and Pap smear in the past three years. As can be seen in the Figure 12, almost half of South African women have never had a pelvic examination at all and only about a quarter have enjoyed 'effective' services. Many developing countries have far higher levels of effective coverage, though most are not African. Additional graphs provide more detailed data for South Africa, disaggregated by wealth quintile (Figure 13) and by age group (Figure 14), as at 2002.

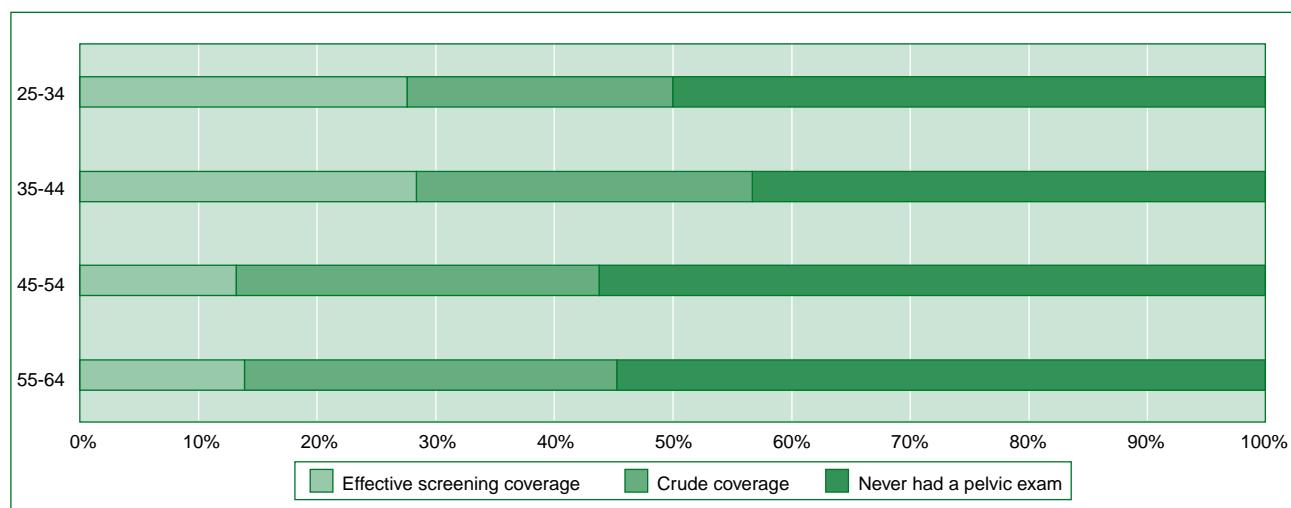
Figure 12: Crude and effective cervical cancer screening coverage for women ages 25-64, 2002



Source: PLoS Med 5(e132).

Figure 13: Crude and effective coverage for cervical cancer in women ages 25-64 by wealth quintiles, 2002

Source: PLoS Med 5(e132).

Figure 14: Crude and effective coverage for cervical cancer in women ages 25-64 by age groups, 2002

Source: PLoS Med 5(e132).

Table 32: Percentage of cancer deaths by type of cancer as underlying cause of death, by leading cause, by province, 2005

| ICD-10 | Type of cancer | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA |
|--------|---|------|------|------|------|------|------|------|------|------|------|
| C34 | Malignant neoplasm of bronchus and lung | 15.8 | 10.7 | 11.9 | 11.5 | 8.0 | 9.6 | 17.9 | 11.7 | 21.6 | 13.9 |
| C15 | Malignant neoplasm of oesophagus | 21.2 | 7.7 | 6.2 | 9.7 | 10.8 | 9.8 | 8.5 | 12.7 | 5.3 | 10.0 |
| C53 | Malignant neoplasm of cervix uteri | 7.3 | 12.7 | 5.9 | 8.9 | 16.0 | 14.2 | 8.2 | 11.1 | 3.6 | 8.1 |
| C50 | Malignant neoplasm of breast | 6.3 | 7.5 | 9.0 | 7.0 | 7.2 | 8.4 | 6.6 | 8.7 | 8.7 | 7.9 |
| C80 | Malignant neoplasm without specification of site | 5.8 | 7.1 | 7.9 | 7.7 | 5.3 | 5.5 | 5.3 | 5.7 | 7.5 | 6.9 |
| C61 | Malignant neoplasm of prostate | 5.3 | 6.2 | 6.3 | 4.4 | 7.8 | 8.0 | 8.5 | 7.0 | 6.0 | 6.1 |
| C22 | Malignant neoplasm of liver and intrahepatic bile ducts | 5.9 | 3.8 | 3.8 | 6.2 | 8.1 | 6.7 | 4.2 | 5.2 | 3.9 | 5.1 |
| C18 | Malignant neoplasm of colon | 2.9 | 3.7 | 5.2 | 3.7 | 2.2 | 3.1 | 2.9 | 2.9 | 5.5 | 4.0 |
| C16 | Malignant neoplasm of stomach | 3.9 | 2.8 | 3.2 | 3.4 | 3.4 | 4.0 | 4.4 | 2.9 | 5.8 | 3.9 |
| C25 | Malignant neoplasm of pancreas | 2.4 | 4.2 | 4.4 | 2.9 | 2.2 | 3.7 | 4.6 | 2.9 | 3.4 | 3.4 |
| C85 | Other and unspecified types of non-Hodgkin's lymphoma | 1.6 | 3.1 | 3.4 | 2.6 | 1.8 | 1.9 | 1.2 | 2.1 | 2.4 | 2.4 |
| C46 | Kaposi's sarcoma | 2.0 | 3.3 | 2.1 | 4.1 | 3.0 | 3.1 | 0.8 | 3.4 | 0.6 | 2.4 |

Source: StatsSA Causes of death 2005. Calculated from data.

Table 33: Chronic disease indicators by province

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|
| Asthma prevalence (per 1 000) | | | | | | | | | | |
| 2003 female 55-64 | - | - | - | - | - | - | - | - | - | 67.0 a |
| 2003 female 15+ | - | - | - | - | - | - | - | - | - | 44.0 a |
| 2003 male 55-64 | - | - | - | - | - | - | - | - | - | 55.0 a |
| 2003 male 15+ | - | - | - | - | - | - | - | - | - | 30.0 a |
| 2007 female 60-64 | - | - | - | - | - | - | - | - | - | 28.5 b |
| 2007 female total | - | - | - | - | - | - | - | - | - | 16.3 b |
| 2007 male 60-64 | - | - | - | - | - | - | - | - | - | 20.3 b |
| 2007 male total | - | - | - | - | - | - | - | - | - | 15.8 b |
| Cervical cancer screening coverage | | | | | | | | | | |
| 2003 | - | 2.6 | 2.1 | 0.4 | - | 0.8 | 2.5 | - | 3.7 | 1.8 c |
| 2004 | - | 2.3 | 2.6 | 0.2 | - | 0.8 | 2.8 | - | 3.8 | 1.9 c |
| 2005 | - | 3.2 | 2.9 | 1.9 | 1.4 | 1.3 | 3.6 | 0.3 | 4.0 | 2.3 c |
| 2006 | 0.2 | 3.6 | 5.1 | 3.7 | 6.5 | 2.4 | 5.1 | 1.1 | 4.8 | 3.7 c |
| Cervical cancer screening effective coverage | | | | | | | | | | |
| 2003 | - | - | - | - | - | - | - | - | - | 23.2 d |
| 2003 age 25-34 | - | - | - | - | - | - | - | - | - | 27.7 d |
| 2003 age 35-44 | - | - | - | - | - | - | - | - | - | 28.5 d |
| 2003 age 45-54 | - | - | - | - | - | - | - | - | - | 13.3 d |
| 2003 age 55-64 | - | - | - | - | - | - | - | - | - | 14.0 d |
| 2003 wealth quintile 5 (wealthiest) | - | - | - | - | - | - | - | - | - | 40.9 d |
| 2003 wealth quintile 1 (poorest) | - | - | - | - | - | - | - | - | - | 12.8 d |
| Diabetes prevalence (per 1 000) | | | | | | | | | | |
| 2000 age 30+ | - | - | - | - | - | - | - | - | - | 55.0 e |
| 2000 age 30-44 | - | - | - | - | - | - | - | - | - | 14.0 e |
| 2000 age 45-59 | - | - | - | - | - | - | - | - | - | 87.0 e |
| 2000 age 60-69 | - | - | - | - | - | - | - | - | - | 126.0 e |
| 2000 age 70-79 | - | - | - | - | - | - | - | - | - | 131.0 e |
| 2000 age 80+ | - | - | - | - | - | - | - | - | - | 138.0 e |
| 2003 female 15+ | - | - | - | - | - | - | - | - | - | 39.0 a |
| 2003 male 15+ | - | - | - | - | - | - | - | - | - | 26.0 a |
| 2007 private sector all females | - | - | - | - | - | - | - | - | - | 10.1 b |
| 2007 private sector all males | - | - | - | - | - | - | - | - | - | 14.8 b |
| 2007 private sector female 60-64 | - | - | - | - | - | - | - | - | - | 36.8 b |
| 2007 private sector male 60-64 | - | - | - | - | - | - | - | - | - | 58.8 b |
| Hyperlipidaemia prevalence (per 1 000) | | | | | | | | | | |
| 2000 age 30+ | - | - | - | - | - | - | - | - | - | 476.0 f |
| 2000 age 30-44 | - | - | - | - | - | - | - | - | - | 344.0 f |
| 2000 age 45-59 | - | - | - | - | - | - | - | - | - | 574.0 f |
| 2000 age 60+ | - | - | - | - | - | - | - | - | - | 707.0 f |
| 2003 female 55-64 | - | - | - | - | - | - | - | - | - | 48.0 a |
| 2003 female 15+ | - | - | - | - | - | - | - | - | - | 21.0 a |
| 2003 male 55-64 | - | - | - | - | - | - | - | - | - | 17.0 a |
| 2003 male 15+ | - | - | - | - | - | - | - | - | - | 20.0 a |
| 2007 female 60-64 | - | - | - | - | - | - | - | - | - | 93.7 b |
| 2007 female total | - | - | - | - | - | - | - | - | - | 19.0 b |
| 2007 male 60-64 | - | - | - | - | - | - | - | - | - | 138.3 b |
| 2007 male total | - | - | - | - | - | - | - | - | - | 29.6 b |
| Hypertension prevalence (per 1 000) | | | | | | | | | | |
| 1998 female (any HTN) | 264.0 | 286.0 | 257.0 | 245.0 | 163.0 | 186.0 | 297.0 | 261.0 | 272.0 | 246.0 g |
| 1998 female (mod-sev) | 142.0 | 155.0 | 131.0 | 147.0 | 66.0 | 85.0 | 170.0 | 162.0 | 142.0 | 132.0 g |
| 1998 female 65+ (any HTN) | - | - | - | - | - | - | - | - | - | 604.0 g |
| 1998 male (any HTN) | 241.0 | 259.0 | 249.0 | 218.0 | 174.0 | 148.0 | 287.0 | 230.0 | 257.0 | 229.0 g |
| 1998 male (mod-sev) | 125.0 | 145.0 | 117.0 | 111.0 | 64.0 | 62.0 | 142.0 | 118.0 | 109.0 | 110.0 g |
| 1998 male 65+ (any HTN) | - | - | - | - | - | - | - | - | - | 520.0 g |
| SADHS 2003 – self-reported | | | | | | | | | | |
| 2003 female 15+ | 221.0 | 265.0 | 212.0 | 112.0 | 145.0 | 149.0 | 252.0 | 209.0 | 232.0 | 188.0 h |
| 2003 female 55-64 | - | - | - | - | - | - | - | - | - | 401.0 h |
| 2003 male 15+ | 92.0 | 133.0 | 92.0 | 62.0 | 66.0 | 31.0 | 141.0 | 92.0 | 148.0 | 88.0 h |
| 2003 male 55-64 | - | - | - | - | - | - | - | - | - | 179.0 h |

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| SADHS 2003 – measured | | | | | | | | | | |
| 2003 female 15+ | 192.0 | 239.0 | 207.0 | 129.0 | 110.0 | 148.0 | 279.0 | 187.0 | 214.0 | 179.0 |
| 2003 male 15+ | 109.0 | 116.0 | 173.0 | 97.0 | 54.0 | 62.0 | 177.0 | 112.0 | 183.0 | 125.0 |
| REF study | | | | | | | | | | |
| 2007 female 60-64 | - | - | - | - | - | - | - | - | - | 238.7 |
| 2007 female total | - | - | - | - | - | - | - | - | - | 58.9 |
| 2007 male 60-64 | - | - | - | - | - | - | - | - | - | 200.7 |
| 2007 male total | - | - | - | - | - | - | - | - | - | 50.3 |
| Prevalence of mental disorders (%) | | | | | | | | | | |
| 2004 | - | - | - | - | - | - | - | - | - | 16.5 |
| Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387): | | | | | | | | | | |

- a SADHS 2003 (Preliminary). SADHS figures converted from % to per 1 000. Data for adults 15 years and older.
- b Risk Equalisation Fund. Data from the REF study 2005 – prevalence estimates for 2007.
- c DHIS: Since the policy is that each woman age 30 and older should be tested once every 10 years, this annual indicator should be multiplied by 10 to assess overall coverage.
- d PLoS Med 2008 17;5(6). Extracted from supplementary data. Percentage of eligible women (aged 25 to 64) who report that they have had a pelvic exam and Pap smear in the past three years.
- e Comparative Risk Assessment. The prevalence of diabetes was estimated as a weighted average of the results from selected studies to represent subpopulations.
- f Comparative Risk Assessment. This article used data from nine community studies to derive estimates of national prevalence of

- exposure to high total cholesterol in adults aged 30 years and older. Prevalence was calculated for the proportion with serum cholesterol values above 5mmol/l (converted to a rate per 1 000 for comparability).
- g SADHS 1998. All SADHS figures converted from % to per 1 000. Based on hypertension measured (not self-reported). mod-sev = Moderate and severe hypertension.
- h SADHS 2003 (Preliminary). Defined in source as percentage of respondents age 15 and above who were told by a doctor nurse or health worker at a clinic or hospital that they have this condition. All SADHS figures converted from % to per 1 000.
- i SADHS 2003.
- j SASH 2002-4. 12-month prevalence.

Table 34: Chronic disease indicators by ethnic group

| | African | Coloured | Indian | White | All | |
|---|---------|----------|--------|-------|-----|---|
| Diabetes prevalence (per 1 000) | | | | | | |
| 2000 age 30+ | - | 62 | 171 | 62 | 55 | a |
| 2000 age 30+ rural | 32 | - | - | - | - | a |
| 2000 age 30+ urban | 64 | - | - | - | - | a |
| Hyperlipidaemia prevalence (per 1 000) | | | | | | |
| 2000 age 30+ | 276 | 807 | 817 | 892 | 476 | b |
| Hypertension prevalence (per 1 000) | | | | | | |
| 1998 female (any HTN) | 235 | 295 | 221 | 291 | 246 | c |
| 1998 female (mod-sev) | 130 | 171 | 93 | 120 | 132 | c |
| 1998 male (any HTN) | 202 | 259 | 299 | 380 | 229 | c |
| 1998 male (mod-sev) | 103 | 124 | 99 | 152 | 110 | c |
| SADHS 2003 – self-reported | | | | | | |
| 2003 female 15+ | 189 | 240 | 203 | 99 | 188 | d |
| 2003 male 15+ | 69 | 153 | 141 | 233 | 88 | d |
| SADHS 2003 – measured | | | | | | |
| 2003 female 15+ | 174 | 210 | 291 | 153 | 179 | e |
| 2003 male 15+ | 100 | 161 | 270 | 358 | 125 | e |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

- a Comparative Risk Assessment. The prevalence of diabetes was estimated as a weighted average of the results from selected studies to represent subpopulations.
- b Comparative Risk Assessment. This article used data from nine community studies to derive estimates of national prevalence of exposure to high total cholesterol in adults aged 30 years and older. Prevalence was calculated for the proportion with serum cholesterol values above 5mmol/l (converted to a rate per 1 000 for comparability).
- c SADHS 1998. All SADHS figures converted from % to per 1 000. mod-sev = Moderate and severe hypertension.
- d SADHS 2003 (Preliminary). Defined in source as percentage of respondents age 15 and above who were told by a doctor nurse or health worker at a clinic or hospital that they have this condition. All SADHS figures converted from % to per 1 000.
- e SADHS 2003.

Behaviour and awareness

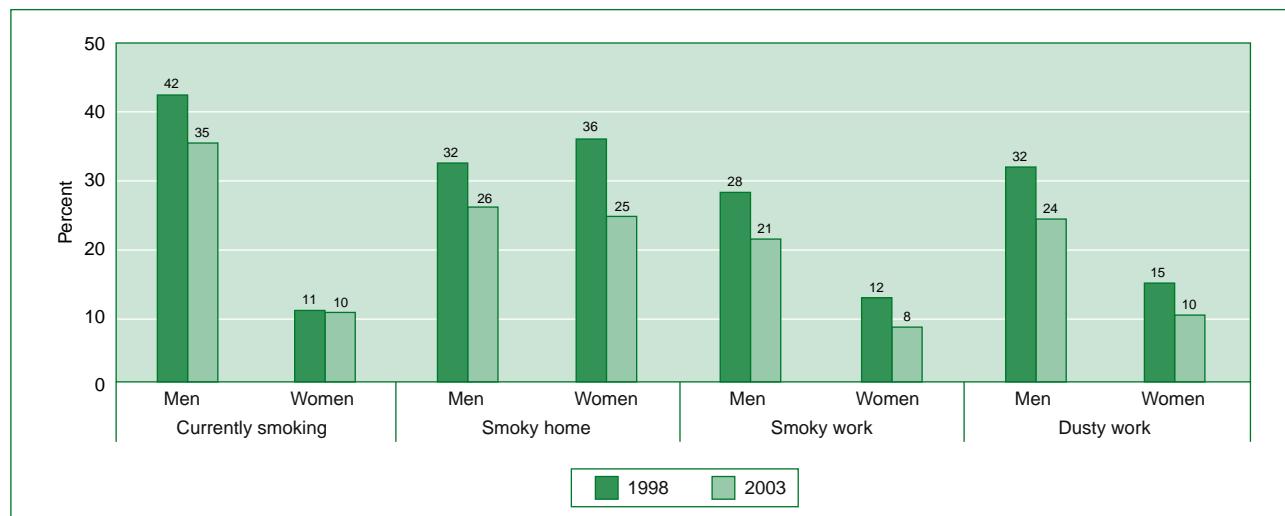
The sections above have emphasised the public health interventions that are needed to reduce the burden of chronic diseases. Although chronic diseases can no longer be explained only as an outcome based on engaging in 'wrong health behaviours' it is important for public health to understand the ways in which the social environment shapes the decisions and behaviours engaged in [Primer Social Determinants].

Despite widespread knowledge of the harmful effects of smoking, tobacco is considered responsible for about five million deaths worldwide each year. The Global Tobacco Atlas^d is a useful online mapping resource showing the global context, while the 2008 WHO report on the Global Tobacco Epidemic is the first in a series of WHO reports that will track the status of the tobacco epidemic and the impact of interventions implemented to stop it [Global Tobacco 2008].

The SADHS 2003 also reported on the prevalence of smoking, living with smokers working with smokers and working in dusty environments [SADHS 2003]. A comparison between results from the 1998 and 2003 surveys, by sex, is shown in Figure 15.

Although some gratifying trends are visible, age disaggregated data were not as positive. Tobacco smoking in adolescents had increased slightly between 1998 and 2003, in both boys (17 to 20% reporting having ever smoked) and girls (9 to 10%). The World Health Survey 2003 also suggested a high prevalence of smoking in youths at 23.6%, with further details by age groups and gender given in Table 35.

Figure 15: Prevalence of smoking and smoky environments, 1998 and 2003



Source: SADHS 2003.

Table 35: Prevalence of current tobacco use, 2003

| Age group | Male (% - 95% CI) | | Female (% - 95% CI) | | Both (% - 95% CI) | |
|-----------|-------------------|-----------|---------------------|-----------|-------------------|-----------|
| 18-29 | 31.4 | 25.2-37.5 | 7.5 | 4.8-10.3 | 19.3 | 16.2-22.4 |
| 30-39 | 36.8 | 30.0-43.5 | 10.3 | 6.8-13.7 | 22.7 | 18.6-26.8 |
| 40-49 | 43.1 | 35.4-50.9 | 15.4 | 10.4-20.4 | 29.1 | 24.3-33.9 |
| 50-59 | 42.8 | 30.8-54.9 | 12.8 | 5.6-20.0 | 26.1 | 20.1-32.1 |
| 60-69 | 37.3 | 22.2-52.4 | 12.8 | 4.7-21.0 | 23.2 | 15.1-31.2 |
| 70+ | 22.7 | 5.9-39.5 | 1.7 | 0-5.1 | 8.8 | 2.4-15.1 |
| 18+ | 36.0 | 31.6-40.5 | 10.2 | 8.3-12.1 | 22.4 | 19.9-24.8 |

Source: World Health Survey 2003, available from <http://www.who.int/infobase/>.

^d The Global Tobacco Atlas website:
<http://tobaccoresearch.net/atlas.htm>

The contribution of tobacco smoking to death had been assessed after the inclusion of a new question on the South African death notification form in 1998 ("Was the deceased a smoker five years ago?") using a case-control method [Tob Control 13(396-9)]. Significantly increased risks were found for deaths from TB (odds ratio (OR) 1.61, 95% confidence interval (CI): 1.23-2.11), chronic obstructive pulmonary disease (COPD) (OR 2.5, 95% CI: 1.9-3.4), lung cancer (OR 4.8, 95% CI: 2.9-8.0), other upper aerodigestive cancer (OR 3.0, 95% CI: 1.9-4.9) and ischaemic heart disease (OR 1.7, 95% CI: 1.2-2.3). Based on the South African National Burden of Disease (SA NBD) study, smoking was estimated to have caused between 41 632 and 46 656 deaths in South Africa in 2000, accounting for 8.0-9.0% of deaths and 3.7-4.3% of DALYs [Comparative Risk Assessment].

Although the SADHS report acknowledged that "*[a]lcohol consumption is difficult to measure accurately in household surveys*", the available data did show some reductions in alcohol use in the seven days before the survey, in both men (from 45% in 1998 to 30% in 2003) and women (17% to 10%). Again, no change was recorded in alcohol consumption among younger adults [SADHS 2003]. Problems due to alcohol depend largely on the type of use; the SADHS shows a high proportion of excessive or risky drinking, and although some declines in risky drinking rates were evident between 1998 and 2003 it is concerning that there was no change evident in younger adults.

Data on various substances that are abused are also available from the periodic reports issued by the South African Community Epidemiology Network on Drug Use (SACENDU) Project, based on sentinel surveillance sites in all nine provinces [SACENDU]. Alcohol remained the dominant substance of abuse across all sites in 2007, except the WC. Admissions to treatment sites for Ecstasy, LSD or methamphetamine as the primary drugs of abuse were low in all sites, except for Cape Town. In Cape Town, methamphetamine (also known as 'tik') remained the most common drug of abuse, although the proportion of patients abusing this agent declined somewhat from over 40% to 36%. As in previous years, all sites reported significant levels of abuse of over-the-counter and prescription medicines, including slimming tablets, analgesics, and benzodiazepine sedative-hypnotics.

The SA NBD study estimated that alcohol harm accounted for an estimated 7.1% (95% uncertainty interval 6.6-7.5%) of all deaths and 7.0% (95% uncertainty interval 6.6-7.4%) of total DALYs in 2000. Top rankings for overall attributable burden were interpersonal violence (39.0%), neuropsychiatric conditions (18.4%) and road traffic injuries (14.3%). Many negative effects related to alcohol, including social and economic consequences, are not captured in this

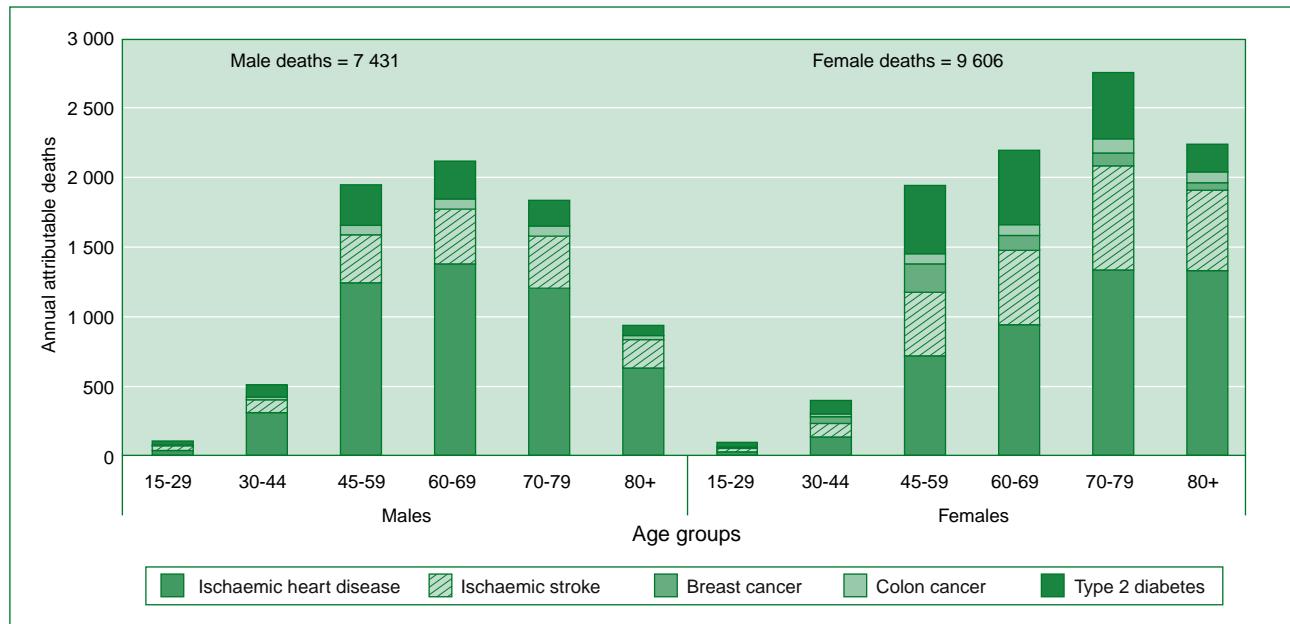
analysis. Costs of these negative consequences have been shown to exceed direct health costs, emphasising the need for a public health response to this risk factor. To date, alcohol interventions have been fragmented across different departments and levels of government, and are poorly distributed [Comparative Risk Assessment]. A new civil society initiative, which includes a working group entitled 'Action for a Sober South Africa', has compiled evidence on the strong association between alcohol, crime, violence and injury and has developed recommendations for interventions and priority strategies that are wide-ranging and emphasise community participation to address this.^e

The substantial risk to health resulting from inactivity has also been covered in the section on Nutrition in this chapter owing to its connection with indicators of overweight and its contribution to several chronic diseases. Evidence from several sources confirms that South Africans, particularly women, have very high levels of inactivity compared to other countries in Africa and the world, and that this is worse in urban settings and among older people [Comparative Risk Assessment; SADHS 2003; Am J Prev Med 34(486-94)]. Inactivity is an important indicator of risk; recent data from the US have shown how misleading it can be to rely only on BMI measurements [Arch Intern Med 168(1617-24)]. Based on data from the National Health and Nutrition Examination Surveys 1999-2004, it was shown that 23.5% of US adults 20 years and older of normal weight (based on BMI) were metabolically abnormal, whereas 51.3% of overweight adults and 31.7% of obese adults were metabolically healthy. The metabolic abnormalities considered, which are linked to cardiac risk, were elevated blood pressure, elevated levels of triglycerides, fasting plasma glucose or C-reactive protein, low high-density lipoprotein cholesterol levels, and the presence of insulin resistance. In normal-weight adults, those of older age, lower physical activity levels, or larger waist circumference were more likely to show cardiometabolic abnormalities.

The PHC demand for attention to promotive and preventive health would argue for a greater emphasis on physical inactivity, not only in terms of interventions, but also in terms of data collected. Simple calls for greater levels of physical activity during leisure time are unlikely to be effective. A comprehensive programme would need to address barriers to active living, such as crime, lack of 'green' areas and recreation facilities in many urban settings, as well as cultural beliefs. Although promoting physical activity must be part of the primary care programme for managing chronic diseases, there is clearly a need for effective intersectoral interventions.

^e Action for a Sober South Africa website:
<http://www.safesouthafrica.org.za/>

Figure 16: Annual number of deaths attributable to physical inactivity by age and sex, 2000



Source: Comparative Risk Assessment.

Table 36: Health risk behaviour and awareness indicators by province

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|--|------|------|-------|------|------|------|------|------|-------|-------|---|
| Alcohol and drug abuse | | | | | | | | | | | |
| Alcohol dependence (%) | | | | | | | | | | | |
| 1998 female | 10.9 | 11.9 | 10.4 | 6.9 | 6.1 | 11.5 | 18.5 | 11.5 | 11.7 | 9.9 | a |
| 1998 male | 33.7 | 34.4 | 23.7 | 22.5 | 23.7 | 38.2 | 38.6 | 24.8 | 27.6 | 27.6 | a |
| 2003 female | 9.1 | 13.2 | 4.8 | 1.9 | 9.4 | 2.7 | 18.8 | 9.7 | 9.6 | 6.9 | b |
| 2003 male | 35.9 | 27.7 | 14.6 | 11.4 | 23.1 | 18.1 | 38.0 | 34.5 | 31.0 | 21.4 | b |
| Currently drink alcohol (%) | | | | | | | | | | | |
| 1998 female | 16.2 | 24.4 | 20.6 | 11.4 | 8.6 | 14.1 | 23.2 | 17.0 | 24.1 | 16.9 | a |
| 1998 male | 47.4 | 56.0 | 49.5 | 39.7 | 28.3 | 45.8 | 48.4 | 46.6 | 43.5 | 44.6 | a |
| 2003 female | 10.5 | 21.0 | 21.0 | 3.6 | 11.3 | 8.3 | 29.3 | 18.2 | 28.8 | 15.5 | b |
| 2003 male | 42.5 | 45.9 | 48.4 | 14.1 | 33.6 | 41.0 | 51.8 | 52.5 | 55.1 | 39.1 | b |
| Ever drank alcohol (%) | | | | | | | | | | | |
| 1998 female | 22.3 | 31.6 | 32.4 | 17.9 | 15.7 | 21.0 | 34.4 | 23.7 | 40.1 | 25.7 | a |
| 1998 male | 60.1 | 66.5 | 59.1 | 54.4 | 45.1 | 62.1 | 63.4 | 57.5 | 61.4 | 58.1 | a |
| 2002 NYRBS | 45.4 | 58.7 | 62.1 | 38.8 | 36.5 | 52.4 | 71.5 | 53.4 | 63.5 | 49.1 | c |
| 2003 female | 18.1 | 27.5 | 27.8 | 6.6 | 17.2 | 12.3 | 39.1 | 21.5 | 39.2 | 21.6 | b |
| 2003 male | 58.8 | 52.5 | 56.6 | 22.2 | 45.7 | 43.2 | 61.4 | 57.9 | 70.3 | 48.5 | b |
| Risky drinking (%) – weekends | | | | | | | | | | | |
| 1998 female | 29.4 | 36.2 | 47.6 | 45.4 | 29.6 | 42.1 | 21.9 | 46.5 | 33.0 | 32.0 | a |
| 1998 male | 27.2 | 31.2 | 36.7 | 40.6 | 33.2 | 42.2 | 23.3 | 48.5 | 30.9 | 32.3 | a |
| 2003 female | 32.8 | 33.5 | 23.7 | 17.4 | 13.4 | 18.2 | 38.7 | 24.2 | 27.0 | 25.4 | b |
| 2003 male | 21.7 | 20.8 | 26.8 | 27.3 | 10.0 | 16.4 | 37.5 | 15.8 | 22.7 | 22.5 | b |
| Number of admissions for alcohol and other drug abuse | | | | | | | | | | | |
| 2006 Jul-Dec | 645 | - | 3 295 | 921 | - | 539 | - | - | 2 798 | 8 771 | d |
| 2007 Jul-Dec | 608 | - | 3 053 | 943 | - | - | - | - | 3 058 | 8 924 | e |
| Primary drug of abuse as % of all drugs of abuse | | | | | | | | | | | |
| 2006 alcohol | 45.0 | - | 48.0 | 54.0 | - | 47.0 | - | - | 26.0 | - | f |
| 2006 cannabis | 19.0 | - | 22.0 | 19.0 | - | 34.0 | - | - | 11.0 | - | f |
| 2006 cocaine | 19.0 | - | 11.0 | 11.0 | - | 5.0 | - | - | 5.0 | - | f |
| 2006 heroin | 2.0 | - | 10.0 | 9.0 | - | 10.0 | - | - | 10.0 | - | f |
| 2006 mandrax | 8.0 | - | 1.0 | 1.0 | - | 0.4 | - | - | 3.0 | - | f |
| 2006 methamphetamine | 3.0 | - | 0.2 | 0.0 | - | 0.0 | - | - | 42.0 | - | f |

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|---|------|------|------|------|------|------|------|------|------|------|---|
| Primary drug of abuse as % of all drugs of abuse | | | | | | | | | | | |
| 2007 alcohol | 39.0 | - | 47.0 | 39.0 | - | - | - | - | 30.0 | - | g |
| 2007 cannabis | 16.0 | - | 19.0 | 17.0 | - | - | - | - | 13.0 | - | g |
| 2007 cocaine | 23.0 | - | 14.0 | 9.0 | - | - | - | - | 4.0 | - | g |
| 2007 heroin | 5.0 | - | 10.0 | 32.0 | - | - | - | - | 13.0 | - | g |
| 2007 mandrax | 9.0 | - | 2.0 | 0.4 | - | - | - | - | 3.0 | - | g |
| 2007 methamphetamine | 4.0 | - | 0.4 | 0.0 | - | - | - | - | 36.0 | - | g |
| Smoking | | | | | | | | | | | |
| Ever smoked cigarettes (%) | | | | | | | | | | | |
| 1999 youth | - | - | - | - | - | - | - | - | - | 46.7 | h |
| 2002 NYRBS | 27.5 | 40.4 | 41.4 | 18.2 | 21.6 | 35.2 | 38.4 | 31.5 | 51.1 | 30.5 | c |
| 2002 youth | - | - | - | - | - | - | - | - | - | 37.6 | h |
| 2003 female 15+ | 18.1 | 36.2 | 26.2 | 10.5 | 21.9 | 18.9 | 50.2 | 31.2 | 39.6 | 24.5 | b |
| 2003 male 15+ | 54.4 | 49.7 | 49.2 | 25.4 | 41.8 | 44.0 | 63.4 | 48.1 | 62.2 | 44.9 | b |
| Frequent smokers (%) | | | | | | | | | | | |
| 1999 youth | - | - | - | - | - | - | - | - | - | 10.1 | h |
| 2002 youth | - | - | - | - | - | - | - | - | - | 5.8 | h |
| Prevalence of smoking (%) | | | | | | | | | | | |
| 1993 | - | - | - | - | - | - | - | - | - | 32.6 | i |
| 1998 | - | - | - | - | - | - | - | - | - | 24.0 | a |
| 1998 female | 10.8 | 10.9 | 12.2 | 4.8 | 1.8 | 6.3 | 31.0 | 7.6 | 29.4 | 10.7 | a |
| 1998 male | 45.9 | 44.0 | 42.4 | 38.1 | 29.2 | 40.0 | 57.7 | 45.3 | 48.9 | 42.3 | a |
| 1999 youth | 27.8 | 32.9 | 35.6 | 30.0 | 28.5 | 26.9 | 35.1 | 36.7 | 44.8 | 32.5 | j |
| 1999 youth – female | 21.3 | 28.9 | 33.0 | 22.1 | 23.9 | 19.3 | 30.4 | 29.1 | 40.0 | 26.5 | j |
| 1999 youth – male | 33.0 | 37.1 | 38.0 | 37.2 | 30.0 | 33.8 | 39.2 | 44.5 | 48.2 | 38.0 | j |
| 2000 | - | - | - | - | - | - | - | - | - | 27.1 | i |
| 2000 female | - | - | - | - | - | - | - | - | - | 11.7 | i |
| 2000 male | - | - | - | - | - | - | - | - | - | 44.0 | i |
| 2002 youth | 28.4 | 31.2 | 35.8 | 25.3 | 17.4 | 22.7 | 31.4 | 24.1 | 42.4 | 27.6 | k |
| 2002 youth – female | 21.1 | 26.0 | 28.0 | 19.2 | 14.3 | 15.3 | 24.2 | 17.6 | 38.4 | 21.6 | k |
| 2002 youth – male | 37.3 | 36.5 | 44.1 | 32.6 | 20.7 | 29.9 | 38.5 | 30.8 | 46.9 | 34.3 | k |
| 2003 female 15+ | 8.9 | 11.7 | 9.4 | 4.2 | 3.8 | 4.0 | 35.0 | 7.3 | 28.7 | 10.2 | b |
| 2003 male 15+ | 43.9 | 40.6 | 38.5 | 21.0 | 24.9 | 33.4 | 51.4 | 37.6 | 49.8 | 35.1 | b |
| 2003 female 15-19 | - | - | - | - | - | - | - | - | - | 5.4 | b |
| 2003 male 15-19 | - | - | - | - | - | - | - | - | - | 16.0 | b |
| 2003 female 18+ WHS | - | - | - | - | - | - | - | - | - | 10.2 | l |
| 2003 male 18+ WHS | - | - | - | - | - | - | - | - | - | 36.0 | l |
| 2003 total 18+ WHS | - | - | - | - | - | - | - | - | - | 22.4 | l |
| Smoking age of initiation <10 years | | | | | | | | | | | |
| 1999 youth | 17.5 | 21.9 | 12.7 | 28.9 | 21.6 | 18.3 | 18.2 | 11.4 | 14.7 | 18.5 | j |
| 1999 youth – female | 16.4 | 23.6 | 10.1 | - | - | 17.1 | 15.9 | 4.8 | 15.3 | 17.7 | j |
| 1999 youth – male | 17.1 | 20.6 | 15.9 | 25.3 | 20.1 | 17.8 | 20.6 | 15.0 | 14.8 | 18.9 | j |
| 2002 NYRBS | 6.0 | 7.0 | 6.3 | 4.9 | 4.9 | 9.2 | 9.2 | 7.1 | 7.5 | 6.2 | c |
| 2002 youth | 15.5 | 11.1 | 14.4 | 23.8 | 14.0 | 16.8 | 10.6 | 14.5 | 16.7 | 16.2 | h |
| 2002 youth – female | 14.6 | 9.9 | 13.7 | 23.2 | - | 17.7 | 9.7 | 19.1 | 11.1 | 15.3 | h |
| 2002 youth – male | 16.1 | 11.7 | 14.8 | 24.1 | 14.4 | 16.9 | 11.2 | 11.6 | 22.5 | 16.9 | h |
| Inactivity | | | | | | | | | | | |
| Percentage participating in insufficient physical activity | | | | | | | | | | | |
| 2002 youth | 41.5 | 31.9 | 31.2 | 42.3 | 35.5 | 32.6 | 46.2 | 33.2 | 41.7 | 37.5 | c |
| 2002 youth – female | 45.9 | 38.4 | 37.9 | 46.5 | 40.7 | 35.5 | 58.3 | 37.9 | 49.1 | 43.0 | c |
| 2002 youth – male | 35.3 | 24.4 | 23.8 | 37.0 | 28.6 | 29.0 | 26.2 | 28.0 | 30.8 | 30.5 | c |
| 2003 female 15+ | 76.3 | 92.0 | 85.9 | 94.0 | 69.9 | 79.5 | 95.0 | 94.2 | 92.5 | 86.0 | b |
| 2003 male 15+ | 58.7 | 83.3 | 82.0 | 85.4 | 59.2 | 66.2 | 84.3 | 75.1 | 78.1 | 76.4 | b |
| 2003 female 15-24 | - | - | - | - | - | - | - | - | - | 82.0 | b |
| 2003 female 25-34 | - | - | - | - | - | - | - | - | - | 87.1 | b |
| 2003 female 35-44 | - | - | - | - | - | - | - | - | - | 85.8 | b |
| 2003 female 45-54 | - | - | - | - | - | - | - | - | - | 87.8 | b |
| 2003 female 55-64 | - | - | - | - | - | - | - | - | - | 87.4 | b |
| 2003 female 65+ | - | - | - | - | - | - | - | - | - | 92.0 | b |
| 2003 male 15-24 | - | - | - | - | - | - | - | - | - | 66.0 | b |

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|---|-----------|-----------|-----------|------------|-----------|-----------|-----------|-----------|-----------|-----------|---|
| Percentage participating in insufficient physical activity | | | | | | | | | | | |
| 2003 male 25-34 | - | - | - | - | - | - | - | - | - | 74.6 | b |
| 2003 male 35-44 | - | - | - | - | - | - | - | - | - | 80.9 | b |
| 2003 male 45-54 | - | - | - | - | - | - | - | - | - | 86.3 | b |
| 2003 male 55-64 | - | - | - | - | - | - | - | - | - | 83.8 | b |
| 2003 male 65+ | - | - | - | - | - | - | - | - | - | 92.9 | b |
| 2003 men WHS | - | - | - | - | - | - | - | - | - | 43.0 | m |
| 2003 women WHS | - | - | - | - | - | - | - | - | - | 46.6 | m |
| Watch TV more than 3 hours per day | | | | | | | | | | | |
| 2002 youth | 17.2 | 25.4 | 34.1 | 23.2 | 21.4 | 30.3 | 25.6 | 22.9 | 31.2 | 25.2 | c |
| 2002 youth – female | 19.1 | 28.1 | 39.1 | 28.2 | 21.7 | 29.7 | 23.2 | 22.1 | 34.5 | 27.5 | c |
| 2002 youth – male | 14.6 | 22.3 | 28.4 | 16.9 | 21.0 | 31.0 | 29.8 | 23.7 | 26.6 | 22.2 | c |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

- a SADHS 1998.
- b SADHS 2003.
- c NYRBS 2002.
- d SACENDU. Update 15 May 2007. The total figure includes 572 patients from FS, NW and NC combined.
- e SACENDU. Update 27 May 2008. The total figure includes 602 patients from MP and LP (Northern Region) and 657 from FS, NW and NC combined (Central Region).
- f SACENDU. Update 15 May 2007. Data for Jul-Dec 2006.
- g SACENDU. Update 27 May 2008. Data for Jul-Dec 2007.
- h GYTS 2002.
- i SAMJ 92(468-72).
- j GYTS 1999. Students in grades 8-10 currently using any tobacco product.
- k GYTS 2002. The definition of current smokers used in this source was: Percentage of people who smoked on one or more of the 30 days preceding the survey. These data are for use of any tobacco product.
- l WHO Global Infobase. Based on World Health Survey 2003.
- m Am J Prev Med 2008;34(6). Based on World Health Survey 2003. The definition of physical inactivity used is too long to include here and is described in the source.

Table 37: Health risk behaviour and awareness indicators by ethnic group

| | African | Coloured | Indian | White | Other | All | |
|---|---------|----------|--------|-------|-------|------|---|
| Alcohol | | | | | | | |
| Alcohol dependence (%) | | | | | | | |
| 1998 female | 9.6 | 18.4 | 1.7 | 6.1 | - | 9.9 | a |
| 1998 male | 29.4 | 33.6 | 20.1 | 9.9 | - | 27.6 | a |
| 2003 female | 6.6 | 14.0 | 2.7 | 1.7 | - | 6.9 | b |
| 2003 male | 21.6 | 31.2 | 11.0 | 10.0 | - | 21.4 | b |
| Currently drink alcohol (%) | | | | | | | |
| 1998 female | 12.3 | 23.7 | 9.0 | 50.5 | - | 16.9 | a |
| 1998 male | 41.4 | 44.7 | 37.3 | 71.0 | - | 44.6 | a |
| 2003 female | 11.4 | 27.7 | 24.4 | 50.9 | - | 15.5 | b |
| 2003 male | 35.2 | 52.3 | 50.3 | 69.9 | - | 39.1 | b |
| Ever drank alcohol (%) | | | | | | | |
| 1998 female | 18.8 | 40.6 | 69.8 | 14.9 | - | 25.7 | a |
| 1998 male | 53.4 | 63.6 | 64.7 | 84.9 | - | 58.1 | a |
| 2002 NYRBS | 44.0 | 66.0 | 39.7 | 86.0 | - | 49.1 | c |
| 2003 female | 16.4 | 40.2 | 37.7 | 58.6 | - | 21.6 | b |
| 2003 male | 44.2 | 68.0 | 66.3 | 74.5 | - | 48.5 | b |
| Risky drinking (%) – weekends | | | | | | | |
| 1998 female | 41.9 | 34.0 | 0.0 | 13.7 | - | 32.0 | a |
| 1998 male | 35.6 | 39.0 | 5.5 | 17.6 | - | 32.3 | a |
| 2003 female | 28.5 | 38.7 | 4.6 | 6.9 | - | 25.4 | b |
| 2003 male | 23.5 | 28.4 | 14.7 | 13.8 | - | 22.5 | b |
| Smoking | | | | | | | |
| Ever smoked cigarettes (%) | | | | | | | |
| 2002 NYRBS | 23.9 | 56.6 | 47.4 | 66.7 | - | 30.5 | c |
| 2003 female 15+ | 20.2 | 52.5 | 24.1 | 37.5 | - | 24.5 | b |
| 2003 male 15+ | 41.8 | 60.7 | 56.0 | 67.4 | - | 44.9 | b |
| Prevalence of smoking (%) | | | | | | | |
| 2000 | 22.7 | 48.7 | 28.2 | 36.6 | - | 27.1 | d |
| 2003 female 15+ | 5.2 | 41.8 | 13.1 | 27.3 | - | 10.2 | b |
| 2003 male 15+ | 32.8 | 52.1 | 55.5 | 35.7 | - | 35.1 | b |
| Smoking age of initiation <10 years | | | | | | | |
| 2002 NYRBS | 5.1 | 9.5 | 10.0 | 13.5 | - | 6.2 | c |
| Inactivity | | | | | | | |
| Percentage participating in insufficient physical activity | | | | | | | |
| 2002 youth | 37.5 | 45.6 | 33.0 | 29.4 | - | 37.5 | c |
| 2002 youth – female | 42.4 | 56.8 | 36.0 | 37.0 | - | 43.0 | c |
| 2002 youth – male | 31.1 | 32.5 | 30.1 | 19.9 | - | 30.5 | c |
| 2003 female 15+ | 85.3 | 91.6 | 83.0 | 89.2 | - | 86.0 | b |
| 2003 male 15+ | 75.4 | 81.1 | 76.6 | 83.5 | - | 76.4 | b |
| Watch TV more than 3 hours per day | | | | | | | |
| 2002 youth | 24.7 | 29.6 | 29.0 | 20.4 | - | 25.2 | c |
| 2002 youth – female | 26.9 | 33.2 | 30.3 | 19.9 | - | 27.5 | c |
| 2002 youth – male | 21.9 | 25.4 | 27.6 | 20.9 | - | 22.2 | c |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

a SADHS 1998.

b SADHS 2003.

c NYRBS 2002.

d SAMJ 92(468-72).

Injuries

Data from the SA NBD study showed that injuries directly related to interpersonal violence caused an estimated 27 563 deaths in South Africa in 2000 [Comparative Risk Assessment]. The age-standardised homicide rate (65 per 100 000) was more than seven times the global average, and homicide was the leading cause of fatal injury in males.

The 2007 Community Survey reported that about 15% of all deaths were due to unnatural causes, with more males (18.8%) than females (10.1%) reportedly dying from unnatural causes. Deaths due to unnatural causes were, as expected, highest in the 15-19 year age group. In this group, 42.4% of all deaths were ascribed by respondents to unnatural causes [Community Survey 2007].

Data from the National Injury Mortality Surveillance System (NIMSS) are only available as far as 2005, but show a similar picture. Based on analysis of the 23 541 unnatural deaths recorded by the NIMSS in 2005, it was estimated that there were approximately 60 000 unnatural deaths in South Africa per annum, accounting for 12% of all mortality. The leading causes of death were violence / homicide (38.8%) and accidental (or unintentional) injuries (38.8%), of which transport-related injuries accounted for the majority of deaths. Suicide accounted for 10.7% of deaths due to unnatural causes [NIMSS].

More recent data are available on road traffic accidents. Although the overall level of mortality due to road accidents is still high at over 30 fatalities per 100 000 population per year it is encouraging to note that between mid-2006 and 2008, a steady downward trend in the number of fatal crashes and fatalities was experienced on a national basis, as shown in Figure 17 [Arrive Alive].

Given the national priority accorded to injuries, questions about physical violence were included in the SADHS 2003 [SADHS 2003]. The survey reported that 13% of men and 7% of women reported having experienced a physical attack in the preceding 12 months. While the majority of men were attacked in a public road (53%), most attacks on women occurred at home (48%). All-cause injury rates for men and women, by age band, are shown in Figure 18. The estimated annual injury rate in South Africa was 21 713 per 100 000 population for males and 13 123 for females in 2003. Unintentional injuries (such as traffic collisions, burns, falls, or poisoning) accounted for nearly 80% of all injuries requiring medical treatment in both males and females, with intentional injuries (such as violence, assault and self-inflicted injuries) accounting for the balance. This was not markedly different from the situation reported in 1998.

Figure 17: Crashes and fatalities due to road accidents per 10 000 vehicles (12-month moving average), 2006-2008

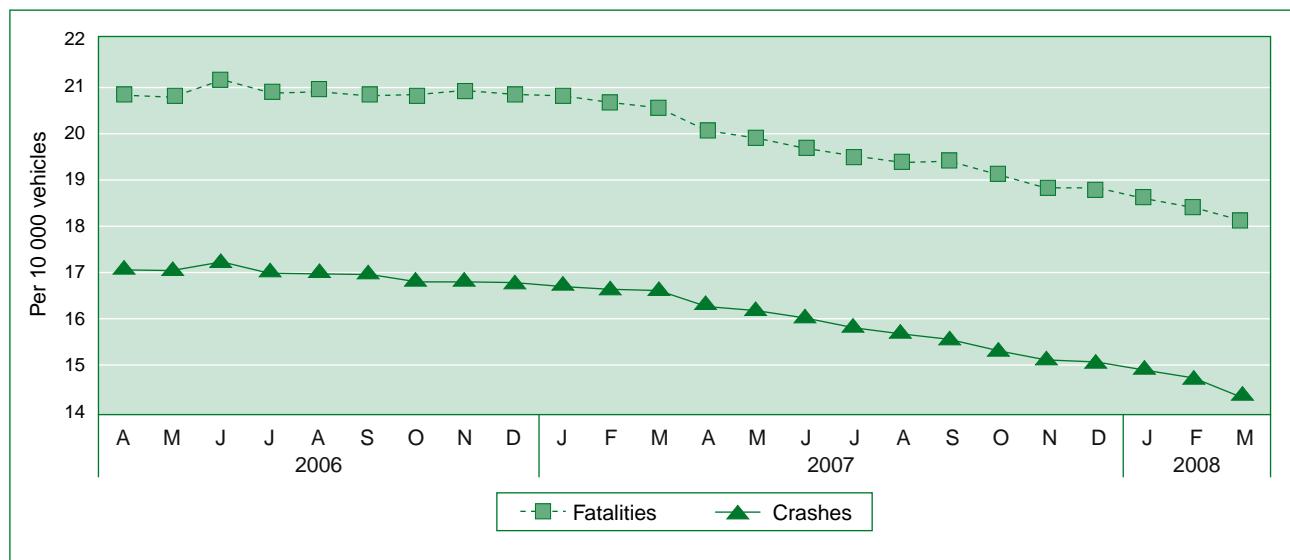
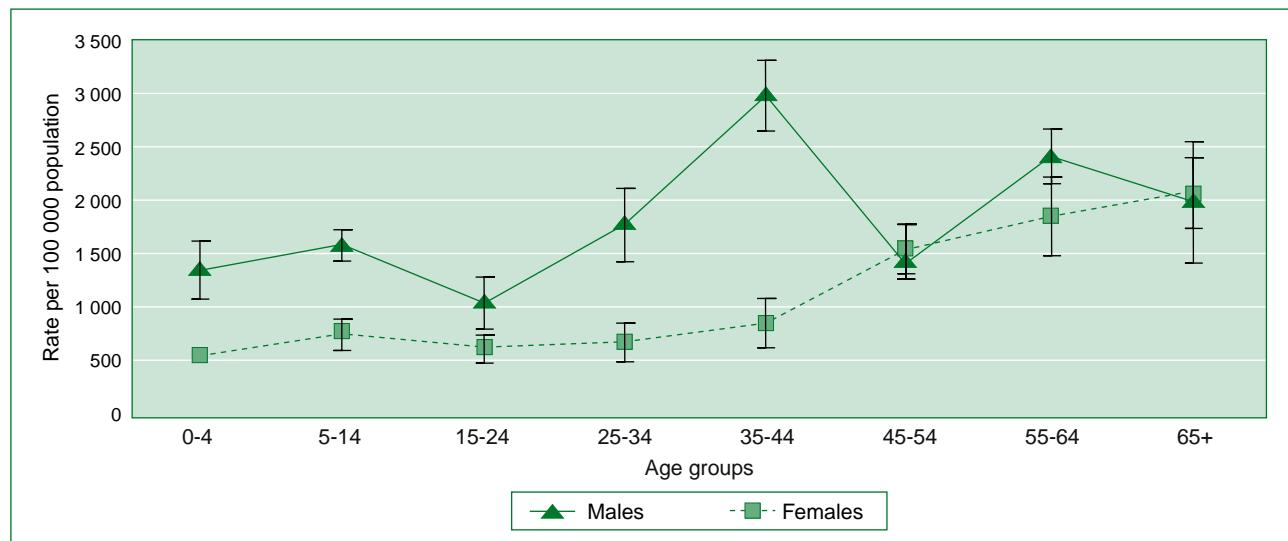


Figure 18: All cause injury rate in the last 30 days per 100 000 population, 2003

Source: SADHS 2003.

Table 38: Injury indicators by province

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|--|------|------|------|------|------|------|------|------|------|------|---|
| Percentage adults experienced work related illness / injuries | | | | | | | | | | | |
| 1998 | 6.3 | 5.1 | 8.0 | 9.0 | 8.2 | 7.1 | 7.4 | 2.8 | 8.2 | 7.3 | a |
| 2003 | 7.5 | 7.2 | 6.4 | 2.7 | 7.4 | 5.5 | 4.7 | 6.5 | 8.6 | 6.2 | b |
| Road accident fatalities per 100 000 population | | | | | | | | | | | |
| 2003 | 15.6 | 33.0 | 31.5 | 27.8 | 17.3 | 35.5 | 39.0 | 28.0 | 33.7 | 26.8 | c |
| 2004 | 17.6 | 32.1 | 29.2 | 28.0 | 19.0 | 40.9 | 38.5 | 28.9 | 31.3 | 27.3 | c |
| 2005 | 19.3 | 34.3 | 32.4 | 30.0 | 23.9 | 46.1 | 39.2 | 30.3 | 34.1 | 30.1 | c |
| 2006 | 24.8 | 40.3 | 37.5 | 30.4 | 22.8 | 45.7 | 44.6 | 31.6 | 34.7 | 32.5 | c |
| 2007 | 23.7 | 37.8 | 33.8 | 24.7 | 25.4 | 50.3 | 34.4 | 36.8 | 34.0 | 31.2 | c |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

- a SADHS 1998.
- b SADHS 2003 (Preliminary).
- c Arrive Alive. Website and Reports from the Road Traffic Management Corporation.
Road Traffic and Fatal Crash statistics 2003-2004. Road Traffic Management Corporation; Jun 2005.
December 2005 Road Traffic Report on Number of Registered, Un-Roadworthy and Un-Licenced Vehicles, Driving Licences, PrDPs, Traffic Volumes, Speed, Distance Travelled and Fatal Crashes. Road Traffic Management Corporation; Jan 2006.
Interim Road Traffic and Fatal Crash Report for the Year 2006. Road Traffic Management Corporation; 26 Jan 2007.
Road Traffic Report: March 2008. Road Traffic Management Corporation; 17 April 2008.

Health services indicators

Health facilities

The survey of PHC facilities has not been repeated recently, and so no new data in that series can be reported. Data collected by provincial facilities audits or the hospital revitalisation programme are not easily accessible or comparable. Only data on private hospitals and bed numbers have therefore been updated in Table 40.

An indirect source of commentary on the perceived operational status of health facilities is provided by the annual StatsSA General Household Survey, which includes questions on health-seeking behaviour and experiences [GHS 2007]^f. Of those questioned for the 2007 survey, 11.1% stated that they had been ill or injured in the month preceding the survey. Of those who were ill or injured, 79.7% consulted a health worker. Reasons for not seeking health care services were that it was not necessary (73.2%), related to the expense of health care (14.4%) and the distance to the health worker (5.8%). The 2007 report noted that, since 2002, the percentage citing expense as the reason for not seeking health care services had reduced from 31.3% to 14.4%. A slight reduction in those citing distance as the barrier was shown over the same time period, from 6.8% to 5.8%. Levels of satisfaction with services obtained at health care facilities increased marginally in both the public sector (87.6%) and the private sector (96.5%). Among beneficiaries of medical schemes, only 6.5% used the public sector, but 28.3% of uninsured people made use of the private sector. Put another way, almost all of the people accessing the public sector were uninsured (97.1%), but over half (51.9%) of those accessing the private sector were uninsured. Details are provided in Table 39. Those who were insured sought health care services predominantly from medical practitioners (64% of visits), followed by private hospitals (15.1% of visits). The uninsured sought services mostly from public sector clinics (45.5%), followed by public sector hospitals (23.9%) and private sector medical practitioners (21.6%). Contrary to the oft-cited claim that 80% of South Africans routinely make use of traditional healers, only 1% of visits described by respondents were to these services. Relatively small percentages of both insured (3.2%) and uninsured (1.6%) of respondents indicated that they had sought health care services from a private sector pharmacy.

It is interesting to compare these results with those from a similar question posed in the SADHS 2003. In 2003, 14.8% of

Table 39: Use of public and private sector facilities according to medical insurance (of those who were ill / injured and sought care), 2007

| | n (1 000) | | | Percentage | |
|----------------------------|-----------|-----------|-------|------------|-----------|
| | Insured | Uninsured | Total | Insured | Uninsured |
| Public Hospitals | 29 | 777 | | 3.2 | 23.9 |
| Public Clinics | 26 | 1 481 | | 2.8 | 45.5 |
| Public Other | | 22 | | 0.0 | 0.7 |
| Private Hospital | 139 | 59 | | 15.1 | 1.8 |
| Private Clinic | 81 | 55 | | 8.8 | 1.7 |
| Private doctor/specialist | 589 | 702 | | 64.0 | 21.6 |
| Traditional healer | | 33 | | 0.0 | 1.0 |
| Pharmacy/chemist | 29 | 52 | | 3.2 | 1.6 |
| Employer provided | | | | 0.0 | 0.0 |
| Alternative medicine | | | | 0.0 | 0.0 |
| Private other | | 13 | | 0.0 | 0.4 |
| Private total | 848 | 922 | 1 775 | | |
| Unspecified | 12 | 54 | | 1.3 | 1.7 |
| Total | 920 | 3 257 | 4 177 | 100.0 | 100.0 |
| % using the private sector | 92.2% | 28.3% | 42.5% | | |

Source: GHS 2007. Calculated.

adult men surveyed and 23.8% of adult women reported that they sought care at a public sector facility in the preceding 30 days. In addition, 12.4% of men and 17.3% of women sought care at a private sector health facility. In total, 5.4% of men and 6.9% of women reported having sought care from a private sector pharmacy, and only 2.5% of men and 2.7% of women reported having sought care from a traditional healer. The major reasons given for dissatisfaction with the public sector facilities were long waiting times, staff attitudes, prescribed medication not being available and shortages of staff (doctors / pharmacists). Long waiting time was noted in both public and private sector facilities. In the private sector, other causes of dissatisfaction were staff attitude, and doctors and pharmacists being too expensive. Private medical practitioners were also criticised for short consultations.

A health system based on PHC still requires appropriate hospital-level facilities. A series in the SAMJ in 2007 covered a project completed under the auspices of the Critical Care Society of Southern Africa in 2003/04 [SAMJ 97(1308-10)]. An audit of all public and private sector intensive care and high care units in South Africa was undertaken, and a 100% census of facilities was achieved. This showed that 23% of public and 84% of private hospitals had intensive care or high care units, comprising 1 783 public and 2 385 private beds. Only 18% of all such beds were in high care units. As expected, the majority of units and beds, in both the public and private sectors, were located in three provinces (GP, KZN, WC). The public sector bed:population ratio in FS, GP and WC was less than 1:20 000, but in the other provinces, the ratio ranged from 1:30 000 to 1:80 000.

^f Methodological note: Due to revisions in population denominators and methods used for calculation of some indicators, historical data appearing in tables and graphs in this issue have been revised accordingly and do not always correspond exactly with previously published statistics.

Table 40: Health facilities indicators by province

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|--|--------|-------|--------|--------|-------|-------|-------|-------|--------|--------|---|
| Length of stay | | | | | | | | | | | |
| 2003 District Hospitals | 5.8 | 3.2 | 4.1 | 6.9 | 5.4 | 3.0 | 3.2 | 3.5 | 3.0 | 4.2 | a |
| 2003 Regional Hospitals | - | - | - | - | - | - | - | - | - | 4.7 | a |
| 2003 National Central Hosp | - | - | - | - | - | - | - | - | - | 6.5 | a |
| 2006 DHIS | 7.3 | 5.1 | 5.2 | 6.2 | 5.9 | 4.5 | 2.9 | 6.1 | 5.7 | 5.7 | b |
| Number of beds | | | | | | | | | | | |
| 2005 Public sector | 13 421 | 4 970 | 15 317 | 23 833 | 8 431 | 5 040 | 1 988 | 4 849 | 10 021 | 87 870 | f |
| 2008 Private sector | 1 488 | 2 119 | 13 454 | 3 865 | 454 | 1 058 | 335 | 2 165 | 4 042 | 28 980 | g |
| Number of health facilities | | | | | | | | | | | |
| 2005 Public hosp total | 83 | 33 | 32 | 67 | 44 | 27 | 29 | 26 | 55 | 396 | b |
| 2008 Private hosp total | 14 | 14 | 81 | 32 | 7 | 8 | 4 | 17 | 34 | 211 | g |
| Percentage PHC facilities where condoms are freely available | | | | | | | | | | | |
| 1998 | 76.0 | 79.0 | 100.0 | 97.0 | 57.0 | 91.0 | 89.0 | 65.0 | 84.0 | 79.0 | i |
| 2000 | 86.2 | 84.0 | 100.0 | 92.5 | 85.4 | 78.6 | 91.7 | 90.6 | 74.1 | 86.9 | j |
| 2003 | 98.0 | 86.0 | 99.0 | 97.0 | 99.0 | 100.0 | 94.0 | 97.0 | 93.0 | 97.0 | k |
| Percentage clinics with EPI services every week day | | | | | | | | | | | |
| 1998 | 76.0 | 79.0 | 69.0 | 52.0 | 93.0 | 42.0 | 67.0 | 54.0 | 44.0 | 67.0 | i |
| 2000 | 89.0 | 72.0 | 50.0 | 85.0 | 97.9 | 32.1 | 66.7 | 71.9 | 40.0 | 73.7 | j |
| 2003 | 86.0 | 77.0 | 38.0 | 83.0 | 88.0 | 70.0 | 34.0 | 53.0 | 47.0 | 67.0 | k |
| Percentage clinics with STI services every week day | | | | | | | | | | | |
| 1998 | 100.0 | 93.0 | 94.0 | 94.0 | 100.0 | 92.0 | 100.0 | 93.0 | 78.0 | 94.0 | i |
| 2000 | 97.8 | 100.0 | 89.3 | 95.0 | 100.0 | 82.1 | 83.3 | 100.0 | 90.0 | 94.9 | j |
| 2003 | 94.0 | 100.0 | 85.0 | 94.0 | 96.0 | 100.0 | 87.0 | 100.0 | 96.0 | 94.0 | k |
| Percentage clinics with TB services every week day | | | | | | | | | | | |
| 1998 | 85.0 | 82.0 | 94.0 | 65.0 | 82.0 | 79.0 | 82.0 | 89.0 | 84.0 | 82.0 | i |
| 2000 | 94.5 | 100.0 | 89.3 | 57.5 | 81.3 | 60.7 | 83.3 | 93.8 | 86.7 | 84.1 | j |
| 2003 | 92.0 | 100.0 | 74.0 | 91.0 | 88.0 | 89.0 | 88.0 | 97.0 | 97.0 | 89.0 | k |
| Percentage clinics with antenatal services every week day | | | | | | | | | | | |
| 1998 | 59.0 | 71.0 | 25.0 | 26.0 | 91.0 | 33.0 | 33.0 | 39.0 | 22.0 | 50.0 | i |
| 2000 | 78.0 | 44.0 | 32.1 | 70.0 | 95.8 | 21.4 | 50.0 | 56.3 | 10.0 | 59.3 | j |
| 2003 | 70.0 | 52.0 | 22.0 | 72.0 | 92.0 | 59.0 | 26.0 | 67.0 | 16.0 | 55.0 | k |
| Percentage clinics with emergency response < 1 hour | | | | | | | | | | | |
| 1998 | 37.0 | 61.0 | 79.0 | 29.0 | 65.0 | 65.0 | 71.0 | 27.0 | 77.0 | 55.0 | i |
| 2000 | 40.0 | 54.0 | 71.4 | 55.3 | 52.1 | 65.3 | 91.7 | 60.0 | 76.7 | 57.7 | j |
| Percentage clinics with family planning services every week day | | | | | | | | | | | |
| 1998 | 94.0 | 96.0 | 81.0 | 58.0 | 100.0 | 58.0 | 89.0 | 79.0 | 72.0 | 83.0 | i |
| 2000 | 96.7 | 96.0 | 82.1 | 95.0 | 100.0 | 46.4 | 87.5 | 87.5 | 70.0 | 87.1 | j |
| 2003 | 97.0 | 97.0 | 74.0 | 91.0 | 97.0 | 85.0 | 64.0 | 94.0 | 81.0 | 88.0 | k |
| Percentage of PHC facilities offering VCT | | | | | | | | | | | |
| 1998 | 39.0 | 79.0 | 75.0 | 48.0 | 20.0 | 79.0 | 100.0 | 46.0 | 97.0 | 56.0 | i |
| 2000 | 44.0 | 87.5 | 100.0 | 40.0 | 14.6 | 57.1 | 100.0 | 53.1 | 100.0 | 56.2 | j |
| 2002 | 48.0 | 81.0 | 86.0 | 55.0 | 64.0 | 69.0 | 84.0 | 74.0 | 95.0 | 67.0 | l |
| 2003 | 54.0 | 96.0 | 76.0 | 53.0 | 78.0 | 88.0 | 64.0 | 59.0 | 81.0 | 70.0 | k |
| Useable bed utilisation (occupancy) rate | | | | | | | | | | | |
| 2006 DHIS | 65 | 71 | 76 | 67 | 69 | 67 | 64 | 66 | 84 | 71 | b |
| Useable beds per 100 000 population | | | | | | | | | | | |
| 2003 District Hospitals | 1.3 | 1.0 | 0.2 | 1.2 | 1.3 | 0.7 | 1.3 | 1.0 | 0.5 | 1.0 | a |
| 2003 Regional Hospitals | 0.7 | 0.8 | 1.0 | 1.0 | 0.7 | 0.5 | 0.6 | 0.7 | 0.5 | 0.8 | a |
| 2003 National Central Hosp | 0.0 | 0.4 | 1.0 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.3 | a |
| 2003 Specialised Hospitals | 0.8 | 0.6 | 0.4 | 0.9 | 0.4 | 0.2 | 0.4 | 0.5 | 1.4 | 0.7 | a |
| 2003 Total | 2.8 | 2.9 | 2.7 | 3.5 | 2.4 | 1.4 | 2.3 | 2.3 | 3.4 | 2.8 | a |
| Utilisation rate PHC | | | | | | | | | | | |
| 2004 DHIS | 2.3 | 2.2 | 1.4 | 2.0 | 2.6 | 2.0 | 3.1 | 2.5 | 2.8 | 2.1 | b |
| 2005 DHIS | 2.4 | 2.2 | 1.4 | 1.9 | 2.6 | 2.0 | 2.9 | 2.5 | 2.7 | 2.1 | b |
| 2006 DHIS | 2.3 | 2.0 | 1.8 | 2.1 | 2.7 | 2.1 | 3.0 | 2.5 | 2.8 | 2.3 | b |

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|---|-----------|-----------|-----------|------------|-----------|-----------|-----------|-----------|-----------|-----------|---|
| Utilisation rate PHC <5 years | | | | | | | | | | | |
| 2004 DHIS | 4.1 | 3.6 | 3.1 | 4.0 | 5.8 | 3.9 | 5.2 | 6.0 | 6.8 | 4.5 | b |
| 2005 DHIS | 4.6 | 3.8 | 3.2 | 4.0 | 6.0 | 4.1 | 4.8 | 5.9 | 5.4 | 4.5 | b |
| 2006 DHIS | 3.7 | 3.5 | 3.3 | 3.9 | 5.5 | 4.4 | 4.1 | 4.3 | 4.8 | 4.1 | b |
| Utilisation rate PHC ≥5 years | | | | | | | | | | | |
| 2004 DHIS | 2.1 | 2.0 | 1.2 | 1.7 | 2.2 | 1.8 | 2.9 | 2.1 | 2.4 | 1.9 | b |
| 2005 DHIS | 2.2 | 2.0 | 1.2 | 1.7 | 2.2 | 1.8 | 2.7 | 2.2 | 2.5 | 1.9 | b |
| 2006 DHIS | 2.2 | 1.8 | 1.6 | 1.9 | 2.3 | 1.8 | 2.8 | 2.3 | 2.6 | 2.0 | b |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

- a DHIS. Data from Hospital Minimum Data Set, reported in South African Health Review 2003/04.
- b DHIS. Data for 2004-2005 extracted June 2006, data for 2006 extracted July 2007.
- c Health Annals 2004.
- d Hospital Yearbook 2004. Includes private and aided hospitals.
- e Hospital Yearbook 2004. In addition there are 9175 beds in Institutions licenced under the Mental Disorder Act, 4526 in Mining clinics & hospitals and 3787 in TB hospitals nationally that are not included in this total.
- f DHIS. Useable beds.
- g Hospitals Direct Database.
- h Hospital Yearbook 2004. In addition there are 35 Institutions licenced under the Mental Disorder Act, 56 Mining clinics & hospitals and 21 TB hospitals nationally that are not included in this total.
- i Facilities Survey 1998.
- j Facilities Survey 2000.
- k Facilities Survey 2003.
- l STI HIV Baseline Survey. Percentage of PHC public sector health facilities that consider themselves voluntary counselling and testing (VCT) sites.

Health personnel

The focus on human resources for health (HRH) has remained intense, for good reason. The WHO has stated that “*challenges with the health workforce are the single most important obstacle to improving the performance of health systems and achieving key health objectives, particularly in low and middle income countries*” [HR Spotlight 4]. WHO has also acknowledged that the global evidence base to support decision making on HRH remains weak. A core dimension for improving the global evidence base on HRH is the setting of standards for disaggregation of health workforce statistics. Imbalance (or maldistribution) in the supply, deployment and composition of HRH, leading to inequities in the effective provision of health services, is an issue of social and political concern in many countries. At least four typologies for monitoring the distribution of health workers should be considered: profession / specialty imbalances, geographic imbalances, institutional and services imbalances, and demographic imbalances. In South Africa it has been difficult to disaggregate human resource data according to sector of work (public / private) and also by level of care within the public sector. Geographic imbalances are also difficult to determine below provincial level, although this is crucial for supporting health services particularly in rural areas.

The tables below represent the most up-to-date data available on health worker numbers, as well as on the health worker density in the public sector (that is, the number of health workers per 100 000 uninsured population, by cadre). Targets for health worker density have not been set by the national authorities, although it has been stated by the WHO that countries with fewer than 230 physicians, nurses and midwives per 100 000 population generally fail to achieve adequate coverage rates to attain the health-related MDGs [World Health Report 2006]. Data are only disaggregated to provincial level, and this is an inadequate measure of the distribution of available human resources at district and facility level.

It is apparent from the data provided from the personnel administration (PERSAL) system that, while the number of health professional posts filled has increased over recent years, the percentage of vacant posts for key professional categories has also increased. It seems unlikely that new posts would be created, while so many posts remain unfilled. Determining which of the unfilled posts is funded is also difficult, as the situation is fluid. Posts are sometimes combined and then filled, or personnel from one category of health worker are employed against one or more unfilled posts from another category. In some cases, new post structures have been approved at provincial level, increasing the number of available posts. Budgetary constraints

may recently have resulted in many of these posts being considered ‘frozen’. Overall there has been a slight increase in the ratio of medical practitioners and professional nurses to the uninsured population (Figure 19).

Daviaud and Chopra applied an adapted version of the WHO workload indicator of staff needs tool to determine the specific staff requirements of PHC facilities in South Africa [Bull World Health Organ 86(46-51)]. They found that, across all districts, there was a wide variation in staffing levels between facilities, leading to inefficient use of professional staff. Consistently, there was either an absence of medical practitioners visiting clinics or too few medical practitioners to cover the opening times of community health centres. Overall, they estimated that only 7% of the number of medical practitioners needed was available at this level of the health system. The provision of professional nurses was closer to that needed (94%), but with wide variations between districts. While a few districts were assessed as having an excess of professional nurses, most showed shortages. Many professional staff are, however, being required to perform non-professional tasks. Given that personnel costs typically represent 70% of district health expenditure, such inefficiencies can have major consequences.

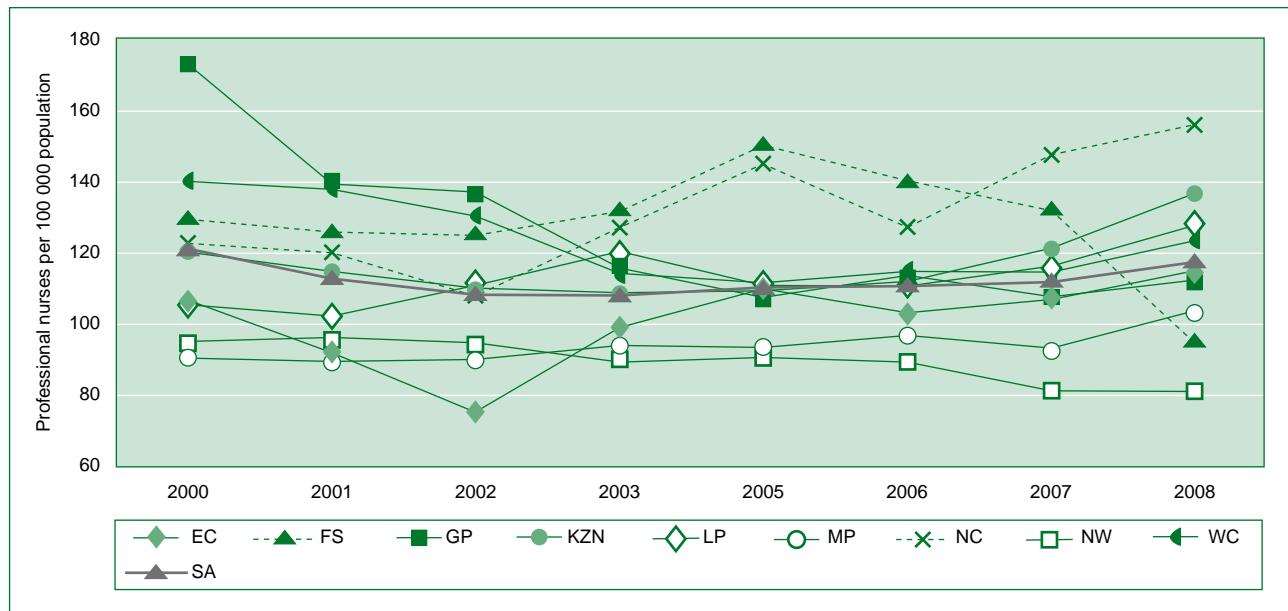
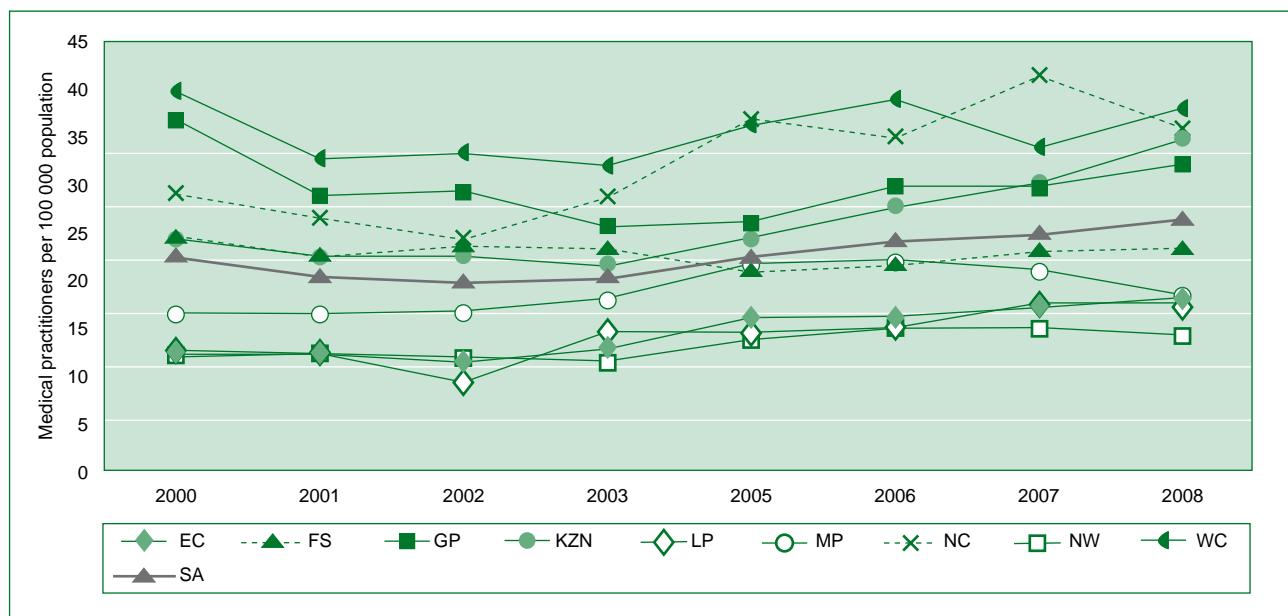
Delays in implementing the promised occupation-specific dispensations (OSDs) for all cadres of health worker in the public sector have focused attention on the incentives necessary to attract and retain sufficient human resources in this sector. In 2008, the Global Health Workforce Alliance (comprising the International Council of Nurses, International Hospital Federation, International Pharmaceutical Federation, World Confederation for Physical Therapy, World Dental Federation, and World Medical Association) issued guidelines on incentives [Incentives Guidelines]. Locally, research reported at the PHASA 2008 Conference showed that community service rehabilitation therapists (audiologists, occupational therapists, speech therapists and physiotherapists) were not persuaded by the availability of a rural allowance to work in a rural area in KZN in 2005 [PHASA 2008 P046]. The proportion of therapists who indicated that they would work in the public sector in the future declined from 50% at the onset of their community service programme to 35% by exit, and only 16% were planning to remain at their allocated community service institution.

The figures cited below do not take into account the potential consequences of the erasure of practitioners for non-payment of annual fees, recently announced by the Health Professions Council [e-Chronicle Aug 2008]. The Registrar of the Health Professions Council of South Africa (HPCSA)

was quoted as saying that more than 11 500 health care practitioners would be erased for non-payment, including more than 6 300 emergency care practitioners and 1 942 medical practitioners and dentists.

The figures on community service personnel (CSP) provided below contain two notable features: the inclusion of community service nurses for the first time in 2008; and the expected drop in the number of community service medical practitioners, caused by the introduction of the extended internship programme.

Figure 19: Public sector medical practitioners and nurses per 100 000 uninsured population, 2000-2008



Source: PERSAL.

Table 41: Number of health personnel by province

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|--|--------|-------|--------|--------|--------|-------|-------|-------|--------|---------|---|
| Number of dental practitioners | | | | | | | | | | | |
| 2008 Public sector | 71 | 60 | 215 | 69 | 76 | 83 | 26 | 41 | 121 | 762 | a |
| 2008 Registered with HPCSA | 262 | 183 | 2 066 | 682 | 171 | 226 | 75 | 161 | 1 138 | 5 110 | b |
| Number of dental specialists | | | | | | | | | | | |
| 2008 Public sector | 0 | 0 | 23 | 5 | 1 | 2 | 0 | 0 | 1 | 32 | a |
| Number of dental therapists | | | | | | | | | | | |
| 2008 Public sector | 6 | 4 | 24 | 32 | 49 | 15 | 2 | 14 | 3 | 149 | a |
| 2008 Registered with HPCSA | 11 | 20 | 143 | 149 | 54 | 31 | 7 | 37 | 3 | 455 | b |
| Number of enrolled nurses | | | | | | | | | | | |
| 2007 Registered with SANC | 2 628 | 1 441 | 10 032 | 14 499 | 2 970 | 1 688 | 466 | 2 162 | 4 696 | 40 582 | c |
| 2008 Public sector | 2 059 | 425 | 3 581 | 9 710 | 2 729 | 1 186 | 208 | 773 | 2 035 | 22 707 | a |
| Number of environmental health practitioners | | | | | | | | | | | |
| 2008 Public sector | 148 | 56 | 42 | 186 | 221 | 90 | 21 | 41 | 8 | 814 | a |
| 2008 Registered with HPCSA | 247 | 169 | 683 | 589 | 261 | 153 | 95 | 81 | 450 | 2 731 | b |
| Number of medical practitioners | | | | | | | | | | | |
| 2008 Public sector | 1 157 | 609 | 2 196 | 3 044 | 883 | 567 | 275 | 498 | 1 418 | 10 653 | a |
| 2008 Registered with HPCSA | 2 242 | 1 714 | 12 290 | 5 845 | 1 193 | 1 141 | 449 | 965 | 7 396 | 34 687 | b |
| Number of medical researchers | | | | | | | | | | | |
| 2008 Public sector | 0 | 7 | 14 | 13 | 5 | 0 | 1 | 0 | 29 | 100 | a |
| Number of medical specialists | | | | | | | | | | | |
| 2008 Public sector | 159 | 386 | 1 530 | 545 | 88 | 49 | 22 | 47 | 1 193 | 4 026 | a |
| Number of nursing assistants | | | | | | | | | | | |
| 2008 Public sector | 4 927 | 2 418 | 5 475 | 6 776 | 4 805 | 2 126 | 758 | 2 728 | 4 017 | 34 030 | a |
| Number of occupational therapists | | | | | | | | | | | |
| 2008 Public sector | 65 | 79 | 167 | 131 | 107 | 67 | 20 | 44 | 105 | 785 | a |
| 2008 Registered with HPCSA | 136 | 248 | 1 139 | 367 | 120 | 133 | 57 | 81 | 856 | 3 174 | b |
| Number of pharmacists | | | | | | | | | | | |
| 2008 Public sector | 189 | 98 | 291 | 438 | 228 | 125 | 44 | 109 | 324 | 1 853 | a |
| 2008 Registered with SAPC | 963 | 502 | 4 573 | 1 784 | 414 | 453 | 133 | 608 | 2 049 | 11 905 | d |
| Number of physiotherapists | | | | | | | | | | | |
| 2008 Public sector | 65 | 59 | 176 | 256 | 82 | 63 | 39 | 40 | 123 | 903 | a |
| 2008 Registered with HPCSA | 233 | 287 | 2 011 | 754 | 172 | 187 | 70 | 148 | 1 355 | 5 314 | b |
| Number of professional nurses | | | | | | | | | | | |
| 2007 Registered with SANC | 12 658 | 7 203 | 27 201 | 21 131 | 8 018 | 5 100 | 2 007 | 6 733 | 13 741 | 103 792 | c |
| 2008 Public sector | 7 386 | 2 485 | 7 663 | 11 973 | 6 471 | 3 184 | 1 193 | 2 862 | 4 615 | 47 834 | a |
| Number of psychologists | | | | | | | | | | | |
| 2008 Public sector | 43 | 25 | 161 | 67 | 43 | 11 | 4 | 14 | 65 | 433 | a |
| 2008 Registered with HPCSA | 358 | 243 | 3 182 | 722 | 107 | 133 | 41 | 203 | 1 369 | 6 498 | b |
| Number of radiographers | | | | | | | | | | | |
| 2008 Public sector | 293 | 164 | 478 | 484 | 149 | 74 | 41 | 54 | 401 | 2 141 | a |
| 2008 Registered with HPCSA | 429 | 429 | 1 999 | 1 056 | 181 | 182 | 99 | 176 | 1 152 | 5 760 | b |
| Number of student nurses | | | | | | | | | | | |
| 2008 Public sector | 1 448 | 22 | 3 837 | 2 107 | 821 | 588 | 43 | 897 | 0 | 9 763 | a |
| Total number of health professional posts | | | | | | | | | | | |
| 2005 Public sector (filled) | 17 650 | 7 871 | 22 482 | 29 640 | 14 274 | 7 467 | 2 399 | 8 585 | 12 844 | 123 268 | a |
| 2006 Public sector (filled) | 17 389 | 7 870 | 23 381 | 30 879 | 14 781 | 7 720 | 2 478 | 8 762 | 13 171 | 126 485 | a |
| 2007 Public sector (filled) | 18 080 | 7 930 | 24 006 | 32 027 | 16 183 | 8 103 | 2 777 | 8 449 | 13 539 | 131 145 | a |
| 2008 Public sector (filled) | 18 016 | 6 897 | 25 873 | 35 836 | 16 758 | 8 230 | 2 697 | 8 162 | 14 458 | 136 985 | a |
| Vacancies in the public health sector | | | | | | | | | | | |
| Percentage of Medical Practitioner posts vacant | | | | | | | | | | | |
| 2006 Public sector | 36.1 | 33.6 | 20.9 | 34.3 | 26.8 | 38.5 | 53.4 | 29.9 | 12.6 | 29.9 | a |
| 2007 Public sector | 32.7 | 35.0 | 27.4 | 39.5 | 31.6 | 41.8 | 51.1 | 42.8 | 14.8 | 34.1 | a |
| 2008 Public sector | 40.1 | 33.8 | 29.4 | 36.7 | 35.4 | 51.3 | 60.2 | 21.3 | 17.4 | 34.9 | a |
| Percentage of Professional Nurse posts vacant | | | | | | | | | | | |
| 2006 Public sector | 34.0 | 31.4 | 26.0 | 42.5 | 15.0 | 40.0 | 33.2 | 22.8 | 22.0 | 31.5 | a |
| 2007 Public sector | 35.8 | 35.7 | 39.9 | 42.0 | 20.0 | 40.2 | 35.9 | 42.4 | 23.8 | 36.3 | a |
| 2008 Public sector | 53.6 | 51.6 | 34.4 | 39.6 | 43.7 | 29.8 | 25.3 | 13.2 | 31.0 | 40.3 | a |

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|---|-----------|-----------|-----------|------------|-----------|-----------|-----------|-----------|-----------|-----------|---|
| Percentage of health professional posts vacant | | | | | | | | | | | |
| 2006 Public sector | 32.6 | 40.4 | 24.2 | 32.4 | 16.4 | 43.1 | 37.8 | 23.1 | 16.9 | 29.0 | a |
| 2007 Public sector | 33.3 | 41.9 | 32.8 | 35.6 | 20.0 | 42.5 | 41.8 | 41.9 | 18.7 | 33.3 | a |
| 2008 Public sector | 48.0 | 50.7 | 28.1 | 33.3 | 42.1 | 37.6 | 36.3 | 11.6 | 23.3 | 35.7 | a |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

- a PERSAL. Figure for South Africa includes the sum of the provinces plus staff at national DoH. Data for Environmental Health Practitioners only include those employed by provincial government. Note that for provinces such as GP and WC a substantial number may be employed by local government.
- b HPCSA. Total for South Africa includes professionals with REGION indicated as 'Foreign'.
- c SANC.
- d SAPC. National total includes pharmacists in Namibia and for whom the provincial allocation is undefined.

Table 42: Public sector health personnel per 100 000 uninsured population

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|--|-----------|-----------|-----------|------------|-----------|-----------|-----------|-----------|-----------|-----------|--|
| Dental practitioners per 100 000 population | | | | | | | | | | | |
| 2000 Public sector | 0.80 | 1.10 | 4.90 | 0.80 | 0.60 | 1.80 | 1.60 | 1.40 | 3.80 | 1.70 | |
| 2001 Public sector | 0.90 | 1.29 | 3.88 | 0.66 | 0.89 | 1.89 | 1.97 | 1.59 | 3.70 | 1.71 | |
| 2002 Public sector | 0.58 | 1.35 | 3.71 | 0.70 | 0.78 | 2.08 | 1.48 | 1.32 | 3.61 | 1.59 | |
| 2003 Public sector | 0.99 | 1.50 | 2.79 | 0.70 | 1.01 | 1.75 | 1.87 | 1.49 | 3.35 | 1.58 | |
| 2005 Public sector | 0.90 | 2.01 | 2.62 | 0.71 | 1.18 | 1.69 | 2.37 | 1.42 | 3.63 | 1.63 | |
| 2006 Public sector | 0.99 | 2.12 | 3.16 | 0.73 | 1.15 | 2.51 | 2.94 | 1.35 | 3.48 | 1.78 | |
| 2007 Public sector | 1.04 | 2.20 | 3.26 | 0.72 | 1.50 | 2.55 | 3.25 | 1.36 | 2.93 | 1.82 | |
| 2008 Public sector | 1.10 | 2.30 | 3.10 | 0.80 | 1.50 | 2.70 | 3.40 | 1.20 | 3.20 | 1.90 | |
| Dental specialists per 100 000 population | | | | | | | | | | | |
| 2000 Public sector | 0.00 | 0.00 | 0.70 | 0.10 | 0.00 | 0.10 | 0.00 | 0.00 | 0.40 | 0.20 | |
| 2001 Public sector | 0.00 | 0.00 | 0.53 | 0.04 | 0.00 | 0.08 | 0.00 | 0.00 | 0.30 | 0.12 | |
| 2002 Public sector | 0.00 | 0.00 | 0.73 | 0.04 | 0.00 | 0.08 | 0.00 | 0.00 | 0.30 | 0.15 | |
| 2003 Public sector | 0.00 | 0.00 | 0.17 | 0.04 | 0.00 | 0.08 | 0.00 | 0.00 | 0.39 | 0.08 | |
| 2005 Public sector | 0.00 | 0.00 | 0.23 | 0.03 | 0.02 | 0.07 | 0.30 | 0.03 | 0.52 | 0.11 | |
| 2006 Public sector | 0.00 | 0.00 | 0.25 | 0.07 | 0.02 | 0.07 | 0.13 | 0.03 | 0.38 | 0.10 | |
| 2007 Public sector | 0.00 | 0.00 | 0.30 | 0.06 | 0.02 | 0.06 | 0.00 | 0.00 | 0.05 | 0.07 | |
| 2008 Public sector | 0.00 | 0.00 | 0.30 | 0.10 | 0.00 | 0.10 | 0.00 | 0.00 | 0.00 | 0.10 | |
| Dental therapists per 100 000 population | | | | | | | | | | | |
| 2000 Public sector | 0.00 | 0.00 | 0.60 | 0.40 | 0.50 | 0.30 | 0.30 | 0.50 | 0.10 | 0.30 | |
| 2001 Public sector | 0.05 | 0.10 | 0.50 | 0.34 | 0.60 | 0.34 | 0.14 | 0.51 | 0.07 | 0.32 | |
| 2002 Public sector | 0.06 | 0.12 | 0.47 | 0.36 | 0.64 | 0.27 | 0.12 | 0.53 | 0.07 | 0.33 | |
| 2003 Public sector | 0.12 | 0.17 | 0.42 | 0.34 | 0.62 | 0.30 | 0.13 | 0.52 | 0.06 | 0.32 | |
| 2005 Public sector | 0.07 | 0.17 | 0.37 | 0.33 | 0.82 | 0.48 | 0.30 | 0.56 | 0.06 | 0.36 | |
| 2006 Public sector | 0.05 | 0.16 | 0.39 | 0.34 | 0.89 | 0.45 | 0.26 | 0.56 | 0.06 | 0.36 | |
| 2007 Public sector | 0.06 | 0.11 | 0.40 | 0.34 | 0.93 | 0.58 | 0.26 | 0.48 | 0.05 | 0.37 | |
| 2008 Public sector | 0.10 | 0.20 | 0.30 | 0.40 | 1.00 | 0.50 | 0.30 | 0.40 | 0.10 | 0.40 | |
| Enrolled nurses per 100 000 population | | | | | | | | | | | |
| 2000 Public sector | 59.2 | 36.1 | 46.6 | 85.0 | 63.6 | 42.7 | 44.0 | 46.1 | 60.0 | 59.7 | |
| 2001 Public sector | 52.4 | 30.5 | 39.2 | 85.1 | 57.6 | 46.1 | 40.9 | 42.2 | 61.1 | 55.8 | |
| 2002 Public sector | 46.9 | 27.9 | 41.5 | 88.3 | 55.4 | 48.3 | 33.5 | 39.2 | 59.6 | 54.5 | |
| 2003 Public sector | 45.1 | 24.7 | 38.6 | 89.2 | 59.3 | 47.7 | 37.5 | 35.6 | 52.2 | 53.3 | |
| 2005 Public sector | 38.2 | 17.5 | 41.3 | 92.7 | 49.5 | 40.9 | 35.9 | 31.8 | 49.3 | 51.5 | |
| 2006 Public sector | 34.5 | 16.0 | 45.1 | 94.1 | 49.7 | 43.3 | 31.2 | 30.3 | 50.5 | 51.7 | |
| 2007 Public sector | 36.4 | 16.0 | 45.0 | 96.2 | 54.3 | 41.9 | 36.3 | 26.5 | 50.7 | 52.3 | |
| 2008 Public sector | 31.8 | 16.2 | 52.2 | 110.5 | 53.8 | 38.3 | 27.0 | 21.9 | 54.4 | 55.4 | |

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|--|-----------|-----------|-----------|------------|-----------|-----------|-----------|-----------|-----------|-----------|---|
| Environmental health practitioners per 100 000 population | | | | | | | | | | | |
| 2002 Public sector | 1.26 | 1.60 | 0.30 | 1.63 | 3.11 | 2.00 | 0.74 | 1.29 | 0.43 | 1.42 | a |
| 2003 Public sector | 2.35 | 2.31 | 0.32 | 2.44 | 4.03 | 2.97 | 2.27 | 2.00 | 0.48 | 2.02 | a |
| 2005 Public sector | 2.45 | 2.26 | 0.48 | 2.27 | 4.01 | 4.50 | 2.22 | 2.59 | 0.29 | 2.23 | a |
| 2006 Public sector | 2.34 | 1.89 | 0.54 | 2.37 | 4.50 | 3.13 | 3.07 | 2.23 | 0.32 | 2.19 | a |
| 2007 Public sector | 2.44 | 1.55 | 0.58 | 2.37 | 4.63 | 3.27 | 2.47 | 1.61 | 0.22 | 2.12 | a |
| 2008 Public sector | 2.30 | 2.10 | 0.60 | 2.10 | 4.40 | 2.90 | 2.70 | 1.20 | 0.20 | 2.00 | a |
| Medical practitioners per 100 000 population | | | | | | | | | | | |
| 2000 Public sector | 12.3 | 24.3 | 36.6 | 24.0 | 12.5 | 16.4 | 28.9 | 11.9 | 39.7 | 21.9 | |
| 2001 Public sector | 12.2 | 22.2 | 28.7 | 22.3 | 12.2 | 16.4 | 26.3 | 12.2 | 32.5 | 19.8 | |
| 2002 Public sector | 11.3 | 23.4 | 29.1 | 22.4 | 9.1 | 16.6 | 24.2 | 11.8 | 33.1 | 19.3 | |
| 2003 Public sector | 12.7 | 23.1 | 25.4 | 21.3 | 14.3 | 17.9 | 28.4 | 11.5 | 31.9 | 19.7 | |
| 2005 Public sector | 15.8 | 20.7 | 25.9 | 24.2 | 14.3 | 21.5 | 36.5 | 13.6 | 36.1 | 21.9 | |
| 2006 Public sector | 16.1 | 21.4 | 29.7 | 27.5 | 14.8 | 22.0 | 34.7 | 14.8 | 38.8 | 23.7 | |
| 2007 Public sector | 17.0 | 22.8 | 29.5 | 30.1 | 17.4 | 20.9 | 41.2 | 14.9 | 33.8 | 24.4 | |
| 2008 Public sector | 17.9 | 23.2 | 32.0 | 34.7 | 17.4 | 18.3 | 35.7 | 14.1 | 37.9 | 26.0 | |
| Medical researchers per 100 000 population | | | | | | | | | | | |
| 2002 Public sector | 0.00 | 0.70 | 0.95 | 0.06 | 0.04 | 0.00 | 0.00 | 0.03 | 1.97 | 0.50 | |
| 2003 Public sector | 0.00 | 0.30 | 0.15 | 0.04 | 0.22 | 0.00 | 0.13 | 0.00 | 1.94 | 0.35 | |
| 2005 Public sector | 0.00 | 0.25 | 0.20 | 0.03 | 0.11 | 0.00 | 0.00 | 0.00 | 1.48 | 0.26 | |
| 2006 Public sector | 0.00 | 0.31 | 0.21 | 0.07 | 0.09 | 0.00 | 0.00 | 0.00 | 1.33 | 0.26 | |
| 2007 Public sector | 0.00 | 0.27 | 0.25 | 0.10 | 0.10 | 0.00 | 0.13 | 0.00 | 0.65 | 0.22 | |
| 2008 Public sector | 0.00 | 0.30 | 0.20 | 0.10 | 0.10 | 0.00 | 0.10 | 0.00 | 0.80 | 0.20 | |
| Medical specialists per 100 000 population | | | | | | | | | | | |
| 2000 Public sector | 2.6 | 10.9 | 32.4 | 7.4 | 1.0 | 1.2 | 2.0 | 1.5 | 42.7 | 11.2 | |
| 2001 Public sector | 2.6 | 9.3 | 24.6 | 6.5 | 0.8 | 0.6 | 2.4 | 1.7 | 44.5 | 10.3 | |
| 2002 Public sector | 2.3 | 9.2 | 25.0 | 6.3 | 0.7 | 0.7 | 2.2 | 1.5 | 39.3 | 9.8 | |
| 2003 Public sector | 2.3 | 9.2 | 19.7 | 6.0 | 1.0 | 0.7 | 2.7 | 1.5 | 32.6 | 8.9 | |
| 2005 Public sector | 2.3 | 13.8 | 18.3 | 6.2 | 1.5 | 0.5 | 2.5 | 1.9 | 29.1 | 8.8 | |
| 2006 Public sector | 2.2 | 13.3 | 20.8 | 6.2 | 1.4 | 1.3 | 3.1 | 1.9 | 31.3 | 9.2 | |
| 2007 Public sector | 2.4 | 14.2 | 21.9 | 6.3 | 1.6 | 1.8 | 2.7 | 1.7 | 33.2 | 9.8 | |
| 2008 Public sector | 2.5 | 14.7 | 22.3 | 6.2 | 1.7 | 1.6 | 2.9 | 1.3 | 31.9 | 9.8 | |
| Nursing assistants per 100 000 population | | | | | | | | | | | |
| 2000 Public sector | 72.3 | 94.4 | 108.2 | 71.8 | 57.6 | 59.6 | 82.2 | 79.1 | 131.2 | 81.3 | |
| 2001 Public sector | 65.4 | 90.4 | 93.3 | 73.5 | 51.3 | 51.5 | 78.4 | 79.3 | 135.3 | 77.3 | |
| 2002 Public sector | 59.9 | 93.5 | 92.7 | 72.2 | 53.6 | 53.3 | 77.2 | 77.4 | 134.9 | 75.9 | |
| 2003 Public sector | 71.0 | 98.5 | 75.4 | 70.1 | 68.6 | 46.5 | 86.0 | 73.8 | 118.2 | 74.8 | |
| 2005 Public sector | 74.9 | 104.3 | 72.7 | 67.0 | 73.2 | 60.4 | 97.3 | 85.4 | 110.0 | 77.6 | |
| 2006 Public sector | 71.8 | 97.1 | 78.7 | 69.6 | 76.0 | 66.6 | 81.5 | 87.5 | 110.8 | 79.1 | |
| 2007 Public sector | 73.8 | 94.4 | 80.9 | 69.1 | 96.0 | 69.2 | 97.1 | 79.2 | 105.0 | 81.3 | |
| 2008 Public sector | 76.2 | 91.9 | 79.8 | 77.1 | 94.7 | 68.7 | 98.5 | 77.3 | 107.4 | 83.0 | |
| Occupational therapists per 100 000 population | | | | | | | | | | | |
| 2000 Public sector | 0.2 | 1.4 | 2.5 | 0.9 | 1.1 | 0.8 | 0.7 | 0.6 | 2.9 | 1.2 | |
| 2001 Public sector | 0.2 | 1.4 | 2.0 | 0.7 | 1.1 | 0.6 | 0.8 | 0.5 | 2.9 | 1.1 | |
| 2002 Public sector | 0.2 | 1.6 | 2.0 | 0.7 | 1.2 | 0.8 | 0.6 | 0.5 | 2.8 | 1.1 | |
| 2003 Public sector | 0.2 | 2.5 | 2.0 | 1.1 | 1.5 | 1.7 | 0.9 | 0.9 | 2.6 | 1.4 | |
| 2005 Public sector | 0.5 | 2.6 | 1.8 | 1.1 | 1.7 | 2.1 | 2.2 | 1.1 | 2.4 | 1.5 | |
| 2006 Public sector | 0.6 | 2.5 | 2.1 | 1.2 | 1.9 | 2.3 | 2.3 | 1.1 | 2.9 | 1.7 | |
| 2007 Public sector | 0.9 | 3.0 | 2.3 | 1.2 | 2.0 | 2.2 | 3.1 | 1.1 | 2.8 | 1.8 | |
| 2008 Public sector | 1.0 | 3.0 | 2.4 | 1.5 | 2.1 | 2.2 | 2.6 | 1.2 | 2.8 | 1.9 | |
| Pharmacists per 100 000 population | | | | | | | | | | | |
| 2000 Public sector | 2.3 | 2.3 | 5.1 | 3.3 | 2.0 | 2.3 | 2.3 | 1.6 | 6.1 | 3.1 | |
| 2001 Public sector | 1.8 | 3.0 | 4.6 | 3.5 | 2.2 | 3.1 | 3.1 | 2.4 | 7.3 | 3.4 | |
| 2002 Public sector | 1.7 | 3.5 | 4.6 | 3.4 | 2.2 | 2.9 | 2.8 | 2.0 | 7.3 | 3.3 | |
| 2003 Public sector | 2.2 | 3.2 | 3.7 | 3.2 | 2.2 | 2.7 | 3.1 | 2.1 | 6.4 | 3.1 | |
| 2005 Public sector | 3.4 | 4.1 | 3.8 | 4.2 | 2.8 | 4.3 | 5.2 | 3.2 | 7.5 | 4.0 | |
| 2006 Public sector | 3.0 | 3.9 | 4.1 | 4.7 | 3.3 | 4.8 | 6.9 | 3.3 | 8.1 | 4.3 | |
| 2007 Public sector | 3.1 | 3.3 | 4.3 | 5.0 | 4.1 | 3.9 | 6.6 | 3.6 | 8.2 | 4.5 | |
| 2008 Public sector | 2.9 | 3.7 | 4.2 | 5.0 | 4.5 | 4.0 | 5.7 | 3.1 | 8.7 | 4.5 | |

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|---|-----------|-----------|-----------|------------|-----------|-----------|-----------|-----------|-----------|-----------|--|
| Physiotherapists per 100 000 population | | | | | | | | | | | |
| 2000 Public sector | 0.60 | 1.20 | 2.60 | 1.50 | 0.90 | 0.50 | 0.60 | 0.40 | 2.90 | 1.30 | |
| 2001 Public sector | 0.45 | 1.37 | 1.99 | 1.40 | 0.81 | 0.34 | 0.70 | 0.45 | 3.37 | 1.24 | |
| 2002 Public sector | 0.30 | 1.19 | 2.11 | 1.47 | 0.90 | 0.43 | 0.49 | 0.63 | 2.99 | 1.22 | |
| 2003 Public sector | 0.48 | 2.14 | 2.22 | 2.03 | 1.03 | 1.41 | 1.61 | 1.06 | 2.75 | 1.62 | |
| 2005 Public sector | 0.82 | 2.42 | 2.03 | 2.18 | 1.22 | 2.01 | 2.22 | 1.36 | 2.84 | 1.81 | |
| 2006 Public sector | 0.96 | 2.32 | 2.28 | 2.22 | 1.23 | 2.30 | 4.22 | 1.09 | 3.30 | 1.94 | |
| 2007 Public sector | 0.97 | 2.50 | 2.44 | 2.49 | 1.67 | 1.97 | 4.55 | 1.27 | 3.04 | 2.08 | |
| 2008 Public sector | 1.00 | 2.20 | 2.60 | 2.90 | 1.60 | 2.00 | 5.10 | 1.10 | 3.30 | 2.20 | |
| Professional nurses per 100 000 population | | | | | | | | | | | |
| 2000 Public sector | 106.1 | 128.9 | 172.5 | 119.8 | 104.6 | 90.5 | 122.3 | 94.3 | 139.9 | 120.3 | |
| 2001 Public sector | 91.2 | 125.2 | 138.7 | 114.4 | 101.7 | 89.0 | 119.7 | 95.7 | 137.5 | 111.9 | |
| 2002 Public sector | 74.9 | 124.1 | 136.3 | 109.0 | 110.5 | 89.6 | 107.1 | 94.1 | 130.0 | 106.8 | |
| 2003 Public sector | 98.5 | 130.7 | 115.1 | 107.3 | 119.3 | 93.7 | 127.1 | 88.9 | 113.9 | 107.1 | |
| 2005 Public sector | 109.1 | 149.7 | 106.9 | 108.8 | 110.0 | 93.2 | 144.6 | 90.0 | 111.2 | 109.2 | |
| 2006 Public sector | 102.3 | 139.4 | 113.1 | 111.4 | 110.3 | 96.4 | 126.9 | 88.9 | 114.7 | 109.5 | |
| 2007 Public sector | 106.3 | 131.6 | 107.3 | 120.9 | 115.3 | 92.5 | 147.1 | 81.0 | 114.0 | 110.4 | |
| 2008 Public sector | 114.2 | 94.5 | 111.7 | 136.3 | 127.5 | 102.9 | 155.0 | 81.1 | 123.4 | 116.6 | |
| Psychologists per 100 000 population | | | | | | | | | | | |
| 2000 Public sector | 0.40 | 0.50 | 2.10 | 0.50 | 0.10 | 0.10 | 0.10 | 0.30 | 1.80 | 0.70 | |
| 2001 Public sector | 0.40 | 0.42 | 1.84 | 0.48 | 0.27 | 0.04 | 0.28 | 0.38 | 1.63 | 0.70 | |
| 2002 Public sector | 0.39 | 0.49 | 1.92 | 0.45 | 0.28 | 0.04 | 0.25 | 0.31 | 1.71 | 0.71 | |
| 2003 Public sector | 0.46 | 0.73 | 1.63 | 0.59 | 0.73 | 0.27 | 0.40 | 0.55 | 1.43 | 0.82 | |
| 2005 Public sector | 0.61 | 1.21 | 1.72 | 0.77 | 0.67 | 0.59 | 1.04 | 0.80 | 1.68 | 1.00 | |
| 2006 Public sector | 0.56 | 1.02 | 1.98 | 0.75 | 0.76 | 0.52 | 0.64 | 0.73 | 1.74 | 1.01 | |
| 2007 Public sector | 0.70 | 1.10 | 2.00 | 0.74 | 0.81 | 0.42 | 0.39 | 0.48 | 1.93 | 1.03 | |
| 2008 Public sector | 0.70 | 1.00 | 2.30 | 0.80 | 0.80 | 0.40 | 0.50 | 0.40 | 1.70 | 1.10 | |
| Radiographers per 100 000 population | | | | | | | | | | | |
| 2000 Public sector | 3.9 | 8.5 | 13.7 | 4.7 | 1.7 | 1.7 | 3.1 | 2.1 | 16.3 | 6.1 | |
| 2001 Public sector | 3.7 | 6.9 | 10.4 | 4.3 | 1.7 | 1.6 | 3.2 | 2.0 | 16.5 | 5.6 | |
| 2002 Public sector | 3.4 | 6.3 | 9.9 | 4.2 | 1.9 | 1.6 | 2.7 | 2.0 | 16.3 | 5.3 | |
| 2003 Public sector | 4.3 | 7.1 | 8.4 | 4.1 | 2.0 | 1.9 | 4.4 | 2.0 | 13.1 | 5.2 | |
| 2005 Public sector | 4.2 | 6.7 | 7.8 | 4.5 | 2.2 | 2.8 | 6.8 | 2.5 | 10.4 | 5.1 | |
| 2006 Public sector | 4.1 | 6.7 | 7.8 | 4.7 | 2.4 | 3.1 | 6.1 | 2.3 | 11.3 | 5.2 | |
| 2007 Public sector | 4.3 | 6.2 | 7.2 | 5.1 | 2.8 | 2.4 | 5.3 | 1.8 | 10.8 | 5.1 | |
| 2008 Public sector | 4.5 | 6.2 | 7.0 | 5.5 | 2.9 | 2.4 | 5.3 | 1.5 | 10.7 | 5.2 | |
| Student nurses per 100 000 population | | | | | | | | | | | |
| 2000 Public sector | 21.2 | 22.2 | 43.3 | 18.5 | 14.8 | 14.8 | 13.0 | 10.8 | 26.7 | 21.6 | |
| 2001 Public sector | 20.9 | 12.0 | 31.5 | 15.9 | 12.3 | 15.3 | 12.5 | 13.9 | 25.0 | 18.9 | |
| 2002 Public sector | 21.5 | 4.8 | 31.9 | 20.2 | 11.7 | 17.8 | 12.4 | 12.7 | 22.8 | 19.2 | |
| 2003 Public sector | 29.0 | 1.3 | 28.9 | 22.5 | 12.2 | 16.7 | 19.3 | 13.3 | 15.1 | 19.9 | |
| 2005 Public sector | 36.6 | 1.4 | 30.7 | 23.4 | 9.4 | 23.2 | 16.3 | 17.0 | 6.4 | 21.4 | |
| 2006 Public sector | 29.5 | 1.4 | 40.5 | 25.4 | 11.4 | 19.9 | 13.1 | 20.9 | 2.4 | 22.2 | |
| 2007 Public sector | 30.0 | 1.1 | 47.6 | 24.8 | 15.8 | 18.3 | 10.5 | 24.0 | 0.4 | 23.7 | |
| 2008 Public sector | 22.4 | 0.8 | 55.9 | 24.0 | 16.2 | 19.0 | 5.6 | 25.4 | 0.0 | 23.8 | |

Source: PERSAL.

- a Data only include Environmental Health Practitioners employed by provincial government. Note that for provinces such as GP and WC a substantial number may be employed by local government.

Table 43: Number of health personnel by ethnic group

| | African | Coloured | Indian | White | Other | All | |
|---|---------|----------|--------|--------|-------|--------|---|
| Number of dental practitioners | | | | | | | |
| 2001 Public sector | 172 | 45 | 125 | 292 | - | 634 | a |
| 2007 Public sector | 314 | 65 | 135 | 230 | - | 744 | a |
| 2008 Public sector | 324 | 76 | 139 | 223 | - | 762 | a |
| 2007 Registered with HPCSA | 453 | 90 | 582 | 1 690 | 2 122 | 4 937 | b |
| 2008 Registered with HPCSA | 504 | 111 | 656 | 1 785 | 2 054 | 5 110 | b |
| Number of dental specialists | | | | | | | |
| 2001 Public sector | 4 | 0 | 9 | 32 | - | 45 | a |
| 2007 Public sector | 8 | 0 | 10 | 12 | - | 30 | a |
| 2008 Public sector | 12 | 0 | 8 | 12 | - | 32 | a |
| Number of dental therapists | | | | | | | |
| 2001 Public sector | 102 | 0 | 14 | 4 | - | 120 | a |
| 2007 Public sector | 131 | 1 | 13 | 5 | - | 150 | a |
| 2008 Public sector | 132 | 0 | 14 | 3 | - | 149 | a |
| 2007 Registered with HPCSA | 186 | 2 | 72 | 27 | 163 | 450 | b |
| 2008 Registered with HPCSA | 196 | 2 | 80 | 31 | 146 | 455 | b |
| Number of enrolled nurses | | | | | | | |
| 2001 Public sector | 17 227 | 2 375 | 278 | 811 | - | 20 691 | a |
| 2007 Public sector | 18 152 | 2 231 | 420 | 576 | - | 21 379 | a |
| 2008 Public sector | 19 389 | 2 321 | 426 | 571 | - | 22 707 | a |
| Number of environmental health practitioners | | | | | | | |
| 2002 Public sector | 445 | 16 | 14 | 62 | - | 537 | a |
| 2007 Public sector | 798 | 16 | 19 | 35 | - | 868 | a |
| 2008 Public sector | 746 | 19 | 17 | 32 | - | 814 | a |
| 2008 Registered with HPCSA | 1 075 | 101 | 57 | 442 | 1 056 | 2 731 | b |
| Number of medical practitioners | | | | | | | |
| 2001 Public sector | 2 042 | 267 | 1 365 | 3 678 | - | 7 352 | a |
| 2007 Public sector | 4 103 | 453 | 1 861 | 3 542 | - | 9 959 | a |
| 2008 Public sector | 4 646 | 522 | 1 920 | 3 565 | - | 10 653 | a |
| 2007 Registered with HPCSA | 5 143 | 481 | 4 269 | 15 367 | 9 064 | 34 324 | b |
| 2008 Registered with HPCSA | 5 564 | 521 | 4 467 | 15 744 | 8 391 | 34 687 | b |
| Number of medical researchers | | | | | | | |
| 2002 Public sector | 33 | 10 | 13 | 133 | - | 189 | a |
| 2007 Public sector | 33 | 1 | 14 | 40 | - | 88 | a |
| 2008 Public sector | 32 | 4 | 20 | 44 | - | 100 | a |
| Number of medical specialists | | | | | | | |
| 2001 Public sector | 474 | 131 | 509 | 2 698 | - | 3 812 | a |
| 2007 Public sector | 794 | 172 | 745 | 2 289 | - | 4 000 | a |
| 2008 Public sector | 828 | 174 | 770 | 2 254 | - | 4 026 | a |
| Number of nursing assistants | | | | | | | |
| 2001 Public sector | 21 711 | 4 920 | 409 | 1 606 | - | 28 646 | a |
| 2007 Public sector | 27 628 | 4 218 | 303 | 1 070 | - | 33 219 | a |
| 2008 Public sector | 28 555 | 4 157 | 296 | 1 022 | - | 34 030 | a |
| Number of occupational therapists | | | | | | | |
| 2001 Public sector | 136 | 49 | 50 | 167 | - | 402 | a |
| 2006 Public sector | 231 | 72 | 64 | 300 | - | 667 | a |
| 2007 Public sector | 258 | 77 | 65 | 336 | - | 736 | a |
| 2008 Public sector | 285 | 75 | 82 | 343 | - | 785 | a |
| 2007 Registered with HPCSA | 285 | 103 | 177 | 1 806 | 644 | 3 015 | b |
| 2008 Registered with HPCSA | 310 | 127 | 202 | 1 964 | 571 | 3 174 | b |
| Number of pharmacists | | | | | | | |
| 2001 Public sector | 290 | 74 | 290 | 606 | - | 1 260 | a |
| 2006 Public sector | 600 | 133 | 368 | 645 | - | 1 746 | a |
| 2007 Public sector | 657 | 135 | 399 | 639 | - | 1 830 | a |
| 2008 Public sector | 700 | 144 | 383 | 626 | - | 1 853 | a |
| 2008 Registered with SACP | 1 302 | 347 | 1 895 | 7 864 | - | 11 905 | c |

| | African | Coloured | Indian | White | Other | All | |
|--|---------|----------|--------|--------|-------|---------|---|
| Number of physiotherapists | | | | | | | |
| 2001 Public sector | 191 | 62 | 74 | 132 | - | 459 | a |
| 2006 Public sector | 292 | 114 | 124 | 253 | - | 783 | a |
| 2007 Public sector | 308 | 113 | 127 | 302 | - | 850 | a |
| 2008 Public sector | 342 | 112 | 139 | 310 | - | 903 | a |
| 2007 Registered with HPCSA | 472 | 179 | 374 | 2 581 | 1 453 | 5 059 | b |
| 2008 Registered with HPCSA | 515 | 217 | 419 | 2 784 | 1 379 | 5 314 | b |
| Number of professional nurses | | | | | | | |
| 2001 Public sector | 32 747 | 4 360 | 892 | 3 461 | - | 41 460 | a |
| 2007 Public sector | 36 807 | 4 520 | 1 092 | 2 683 | - | 45 102 | a |
| 2008 Public sector | 39 105 | 4 844 | 1 210 | 2 675 | - | 47 834 | a |
| Number of psychologists | | | | | | | |
| 2001 Public sector | 69 | 17 | 27 | 146 | - | 259 | a |
| 2007 Public sector | 126 | 26 | 34 | 233 | - | 419 | a |
| 2008 Public sector | 144 | 26 | 37 | 226 | - | 433 | a |
| 2007 Registered with HPCSA | 390 | 125 | 279 | 3 224 | 2 292 | 6 310 | b |
| 2008 Registered with HPCSA | 441 | 150 | 307 | 3 454 | 2 146 | 6 498 | b |
| Number of radiographers | | | | | | | |
| 2001 Public sector | 884 | 427 | 160 | 590 | - | 2 061 | a |
| 2007 Public sector | 1 009 | 390 | 244 | 457 | - | 2 100 | a |
| 2008 Public sector | 1 071 | 398 | 245 | 427 | - | 2 141 | a |
| 2007 Registered with HPCSA | 737 | 230 | 351 | 1 545 | 2 646 | 5 509 | b |
| 2008 Registered with HPCSA | 854 | 289 | 414 | 1 694 | 2 509 | 5 760 | b |
| Number of student nurses | | | | | | | |
| 2001 Public sector | 5 063 | 775 | 300 | 869 | - | 7 007 | a |
| 2007 Public sector | 8 673 | 378 | 288 | 332 | - | 9 671 | a |
| 2008 Public sector | 8 835 | 331 | 286 | 311 | - | 9 763 | a |
| Total number of health professional posts | | | | | | | |
| 2005 Public sector (filled) | 92 177 | 12 801 | 5 225 | 13 065 | - | 123 268 | a |
| 2006 Public sector (filled) | 95 165 | 12 786 | 5 619 | 12 915 | - | 126 485 | a |
| 2007 Public sector (filled) | 99 799 | 12 796 | 5 769 | 12 781 | - | 131 145 | a |
| 2008 Public sector (filled) | 105 146 | 13 203 | 5 992 | 12 644 | - | 136 985 | a |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

-
- a PERSAL.
 - b HPCSA.
 - c SAPC.

Table 44: Number of community service professionals

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA |
|--|-----|-----|-----|-----|-----|-----|----|-----|-----|-------|
| Number of CS clinical psychologists | | | | | | | | | | |
| 2004 | 11 | 7 | 24 | 22 | 1 | 13 | 3 | 7 | 11 | 135 |
| 2005 | 8 | 5 | 24 | 21 | 8 | 3 | 6 | 14 | 8 | 134 |
| 2006 | - | - | - | - | - | - | - | - | - | 122 |
| 2007 | 10 | 3 | 31 | 22 | 0 | 3 | 3 | 20 | 19 | 132 |
| 2008 | 13 | 1 | 38 | 21 | 8 | 8 | 0 | 4 | 9 | 121 |
| Number of CS dentists | | | | | | | | | | |
| 2001 | 15 | 10 | 12 | 32 | 15 | 25 | 8 | 26 | 10 | 164 |
| 2002 | 9 | 11 | 1 | 9 | 5 | 7 | 2 | 3 | 0 | 53 |
| 2003 | - | - | - | - | - | - | - | - | - | 200 |
| 2004 | 8 | 18 | 11 | 9 | 5 | 17 | 10 | 34 | 4 | 120 |
| 2005 | 8 | 19 | 9 | 9 | 4 | 15 | 8 | 17 | 8 | 109 |
| 2006 | - | - | - | - | - | - | - | - | - | 241 |
| 2007 | 20 | 28 | 33 | 24 | 26 | 40 | 14 | 26 | 16 | 260 |
| 2008 | 16 | 23 | 20 | 25 | 12 | 29 | 13 | 16 | 15 | 199 |
| Number of CS dieticians | | | | | | | | | | |
| 2004 | 4 | 20 | 27 | 14 | 0 | 28 | 2 | 7 | 6 | 115 |
| 2005 | 6 | 18 | 19 | 16 | 8 | 10 | 7 | 21 | 7 | 120 |
| 2006 | - | - | - | - | - | - | - | - | - | 161 |
| 2007 | 10 | 16 | 34 | 21 | 12 | 13 | 9 | 10 | 6 | 144 |
| 2008 | 18 | 13 | 36 | 17 | 16 | 19 | 7 | 17 | 9 | 155 |
| Number of CS doctors | | | | | | | | | | |
| 1999 | 132 | 102 | 163 | 238 | 160 | 79 | 19 | 78 | 103 | 1 112 |
| 2000 | 110 | 74 | 132 | 261 | 140 | 105 | 33 | 86 | 135 | 1 115 |
| 2001 | 149 | 79 | 126 | 271 | 150 | 107 | 34 | 97 | 141 | 1 194 |
| 2002 | 68 | 75 | 128 | 248 | 89 | 95 | 33 | 77 | 152 | 1 005 |
| 2003 | 100 | 73 | 164 | 231 | 103 | 113 | 41 | 73 | 153 | 1 092 |
| 2004 | 137 | 86 | 93 | 280 | 145 | 145 | 48 | 64 | 80 | 1 128 |
| 2005 | 127 | 60 | 114 | 330 | 121 | 165 | 59 | 87 | 127 | 1 233 |
| 2006 | - | - | - | - | - | - | - | - | - | 1 324 |
| 2007 | 150 | 57 | 195 | 169 | 127 | 160 | 76 | 106 | 129 | 1 224 |
| 2008 | 48 | 29 | 33 | 43 | 19 | 19 | 22 | 14 | 36 | 295 |
| Number of CS environmental health practitioners | | | | | | | | | | |
| 2004 | 25 | 17 | 10 | 60 | 26 | 40 | 11 | 8 | 1 | 216 |
| 2005 | 31 | 16 | 14 | 60 | 29 | 63 | 10 | 31 | 7 | 269 |
| 2006 | - | - | - | - | - | - | - | - | - | 166 |
| 2007 | 28 | 19 | 15 | 60 | 35 | 34 | 12 | 34 | 8 | 253 |
| 2008 | 24 | 24 | 13 | 59 | 44 | 9 | 9 | 23 | 16 | 226 |
| Number of CS nurses | | | | | | | | | | |
| 2008 | 237 | 72 | 591 | 226 | 206 | 86 | 11 | 184 | 272 | 1 950 |
| Number of CS occupational therapists | | | | | | | | | | |
| 2004 | 10 | 18 | 43 | 33 | 17 | 30 | 8 | 12 | 13 | 190 |
| 2005 | 11 | 22 | 31 | 39 | 25 | 38 | 10 | 18 | 10 | 209 |
| 2006 | - | - | - | - | - | - | - | - | - | 248 |
| 2007 | 27 | 24 | 59 | 45 | 14 | 28 | 17 | 14 | 21 | 255 |
| 2008 | 24 | 23 | 60 | 49 | 14 | 39 | 11 | 20 | 12 | 254 |
| Number of CS pharmacists | | | | | | | | | | |
| 2001 | 33 | 39 | 68 | 82 | 33 | 39 | 5 | 31 | 48 | 406 |
| 2002 | 18 | 50 | 144 | 91 | 38 | 34 | 7 | 19 | 61 | 484 |
| 2003 | 27 | 22 | 70 | 69 | 22 | 19 | 6 | 27 | 57 | 341 |
| 2004 | 27 | 26 | 59 | 40 | 34 | 42 | 9 | 24 | 9 | 299 |
| 2005 | 34 | 35 | 56 | 49 | 36 | 40 | 16 | 37 | 40 | 345 |
| 2006 | - | - | - | - | - | - | - | - | - | 473 |
| 2007 | 41 | 42 | 70 | 65 | 52 | 42 | 33 | 42 | 53 | 472 |
| 2008 | 40 | 38 | 59 | 57 | 42 | 61 | 26 | 39 | 53 | 457 |

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA |
|---------------------------------------|-----------|-----------|-----------|------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Number of CS physiotherapists | | | | | | | | | | |
| 2004 | 26 | 25 | 61 | 66 | 18 | 35 | 10 | 8 | 8 | 272 |
| 2005 | 21 | 25 | 65 | 72 | 21 | 38 | 11 | 20 | 15 | 300 |
| 2006 | - | - | - | - | - | - | - | - | - | 289 |
| 2007 | 27 | 23 | 76 | 66 | 34 | 37 | 26 | 21 | 23 | 343 |
| 2008 | 22 | 19 | 69 | 69 | 18 | 35 | 23 | 14 | 23 | 297 |
| Number of CS radiographers | | | | | | | | | | |
| 2004 | 20 | 24 | 73 | 29 | 17 | 16 | 11 | 5 | 23 | 227 |
| 2005 | 18 | 23 | 77 | 58 | 8 | 10 | 16 | 21 | 32 | 271 |
| 2006 | - | - | - | - | - | - | - | - | - | 277 |
| 2007 | 20 | 13 | 102 | 50 | 23 | 14 | 8 | 5 | 47 | 285 |
| 2008 | 35 | 20 | 92 | 69 | 24 | 8 | 10 | 7 | 43 | 309 |
| Number of CS speech therapists | | | | | | | | | | |
| 2004 | 4 | 14 | 23 | 34 | 7 | 23 | 1 | 11 | 6 | 134 |
| 2005 | 3 | 13 | 35 | 40 | 13 | 22 | 7 | 10 | 6 | 154 |
| 2006 | - | - | - | - | - | - | - | - | - | 134 |
| 2007 | 6 | 5 | 37 | 38 | 11 | 25 | 12 | 6 | 3 | 147 |
| 2008 | 6 | 8 | 41 | 41 | 13 | 28 | 12 | 8 | 4 | 163 |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

Source: DoH. The national figure also includes CSPs allocated to SA Military Health Services (SAMHS) and Department of Correctional Services (DCS) and is therefore greater than the sum of provincial figures. 2006 data were not supplied by province.

Health financing

Budgeting and expenditure on the public sector PHC sector has been tracked in some detail in recent years. In a system based on PHC principles, a shift towards preferential funding of this level of care would have been expected. More recently, there has been increasing attention paid to the effect of this shift, to the extent that it actually happened, on the quality of hospital-based services.

The Strategies for Health Insurance for Equity in Less Developed countries (SHIELD) work package report provides an extensive overview of health system financing, showing the flow of funds between key financing intermediaries (i.e. direct purchasers of health services) and health care providers [SHIELD WP1]. Although not based on the most recent data for each source it traces useful trends since 1994. About 40% of total health care funds in South Africa flow via public sector financing intermediaries (primarily the national, provincial and local Departments of Health), while 60% flows via private intermediaries. Medical schemes are the largest financing intermediaries, accounting for nearly 46% of health care expenditure. Provincial health departments follow as the next largest intermediary, with 38% of all health care funds flowing via them. Households' out-of-pocket payments directly to health care providers also account for a sizeable contribution, at nearly 14% of all health care expenditure. Given that estimated out-of-pocket payments rely on extrapolating from the now somewhat dated (late 1990s) National Health Accounts, it is likely that out-of-pocket payments are underestimated here. The national and local government health departments and direct expenditure by firms each account for less than 1% of total expenditure.

At the time of the first democratic elections in 1994, the key challenges facing the public health sector included allocative inefficiencies and geographic inequities. In particular, there was an inefficient distribution of resources between levels of care with hospitals accounting for nearly 89% of expenditure on the major categories of health services and non-hospital primary care accounting for only 11% in the early 1990s. This relative distribution has shifted with hospitals accounting for 77.5% and primary care for 22.5% respectively in 2005. It is encouraging that over one-third of all expenditure is devoted to the district level (i.e. primary care and district hospitals), followed by the next referral level of provincial hospitals at almost a fifth of total expenditure and finally by the highest referral level of tertiary and central hospitals. Recent data appear to follow this trend (Table 46).

For a few years after the elections in 1994, public sector health care resources were actively redistributed by the

NDoH between provinces, based on the relative needs of individual provinces. During this period, differences in per capita spending between provinces reduced considerably. However, with the adoption of the final constitution in 1996, a fiscal federal system was introduced whereby considerable autonomy was granted to individual provinces to determine their own budgetary allocations between sectors (e.g. between the education and health sector). Thus, from the 1997/98 financial year, disparities in health spending between provinces began increasing in some cases. In more recent years, there has again been progress towards greater equity in interprovincial health care expenditure.

Data presented indicate that there has certainly been progress towards addressing both the allocative efficiency and geographic equity challenges that faced the public health sector at the time of the first democratic elections.

Controlling the rapid spiral of medical scheme contributions and expenditure is one of the greatest challenges facing the private sector. This has been compounded by the fact that medical scheme beneficiary numbers have remained stagnant for a number of years, and have declined in percentage terms. It would thus appear that a growing number of South Africans find medical scheme cover either unaffordable or unattractive, despite the introduction of community rating and late-joiner penalties. Although the quantity of financial and human resources available to medical scheme members continues to increase, the proportion of the population served by these schemes is declining and some policymakers consider the medical schemes environment to be unsustainable or at risk of becoming so. One area of rapid increase in expenditure has been 'non-health care' items such as administration, managed care initiatives in South Africa and brokers fees. More is spent on these activities than is spent on general practitioners and dentists combined, or on medicines. It is also of concern that direct out-of-pocket payments, which are the most regressive form of health care financing, account for almost a quarter of private health care financing.

Health services utilisation is an initial and crude indicator of benefit incidence. Health services utilisation shows a strong relationship with socio-economic status in South Africa. Significantly higher proportions of lower income groups do not seek health care when sick or injured. The use of public versus private health care is also closely linked to socio-economic status. Some data supporting this have been presented in other sections of this chapter.

Private sector financing

The primary source for private sector financing information is the annual reports of the Council for Medical Schemes (CMS) and indicators from these reports were discussed extensively in the chapter last year. The 2007/08 report shows similar trends for most issues, with high expenditure on hospitals (36% of total benefits paid in 2007), followed by medical specialists (21.7%) and medicines provided outside of hospitals (16.7%). There was a decline in utilisation per beneficiary of general practitioners, private nurses and public hospitals, but a small increase in usage of private hospitals [Medical Schemes 2007-8].

Research by McLeod and McIntyre includes some interesting perspectives on how the private sector has deviated from a PHC approach.⁹ There has been a long-term shift in medical schemes in South Africa away from funding primary care

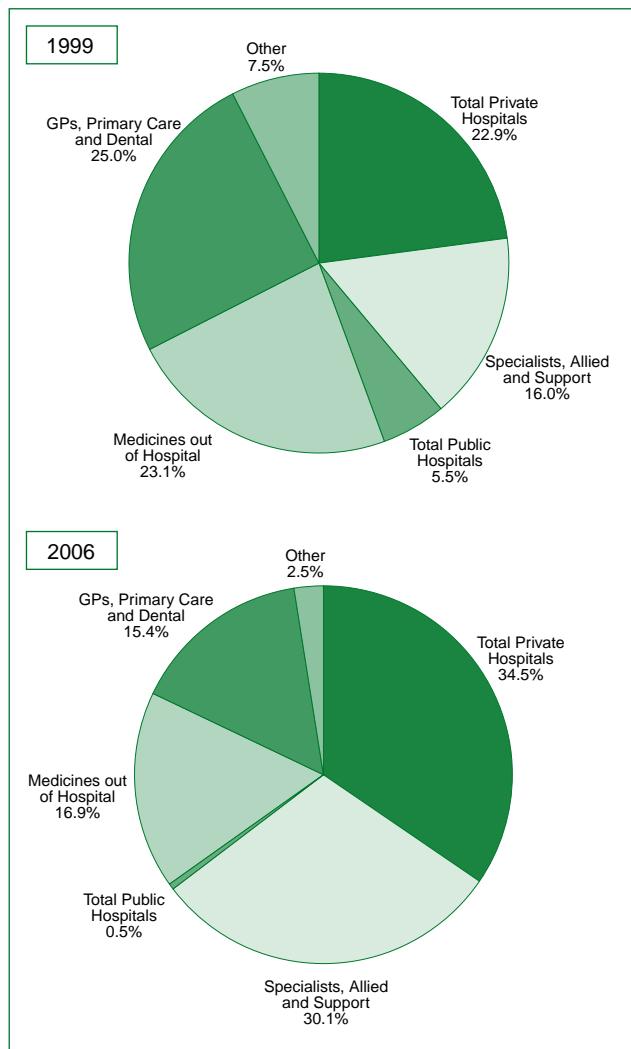
towards funding major medical benefits (hospitals and specialists, together with the chronic diseases included in the chronic disease list) (Figure 20). Major medical expenditure accounted for only 42.5% of pooled funds in 1974 but 71.4% by 2005. This shift has been driven partly by the strong increases in hospital expenditure and the shifting of out-of-hospital expenses to medical savings accounts, and is underpinned by the minimum package emphasis on major medical benefits. Although there is some acknowledgement of the need for 'primary care' to be covered by the prescribed minimum benefits in the current review process, the approach is very much one of 'selective PHC', thus perpetuating the divergent paths of the private and public sectors.

There has been a substantial shift since 1993 in the number of beneficiaries out of restricted schemes and to open schemes, through the actions of brokers who receive commission from open schemes. Open schemes have almost universally adopted medical savings accounts (MSAs). Expenditure from MSAs is concentrated on out-of-hospital care; whereas MSAs are used for less than 0.5% of private hospital expenditure, nearly a third of visits to dentists and dental specialists is paid from MSAs. This understates the out-of-pocket expenditure by members as the doctor may be paid directly by the member rather than submitting the account to the medical scheme to be paid from the savings account. In total, 11.7% of benefit expenditure in 2005 was from MSAs. As MSAs are personalised for the individual member and his or her dependents, they undermine income and risk cross-subsidies even more than risk-pooled private insurance, and so can be said to be even more detrimental to the overall South African health system than other components of private health insurance. Thus these changes in the medical schemes industry suggest that a substantial amount of PHC in the private sector is regressively funded by individual members, but there is no evidence from claims data that this has in fact promoted efficient use of health care.

It is too early to assess whether there is a change in the trend of funding an increasing proportion of benefits out of MSAs, but it is encouraging to note that in 2007 there was a decrease in contributions and claims per beneficiary from MSAs [Medical Schemes 2007-8].

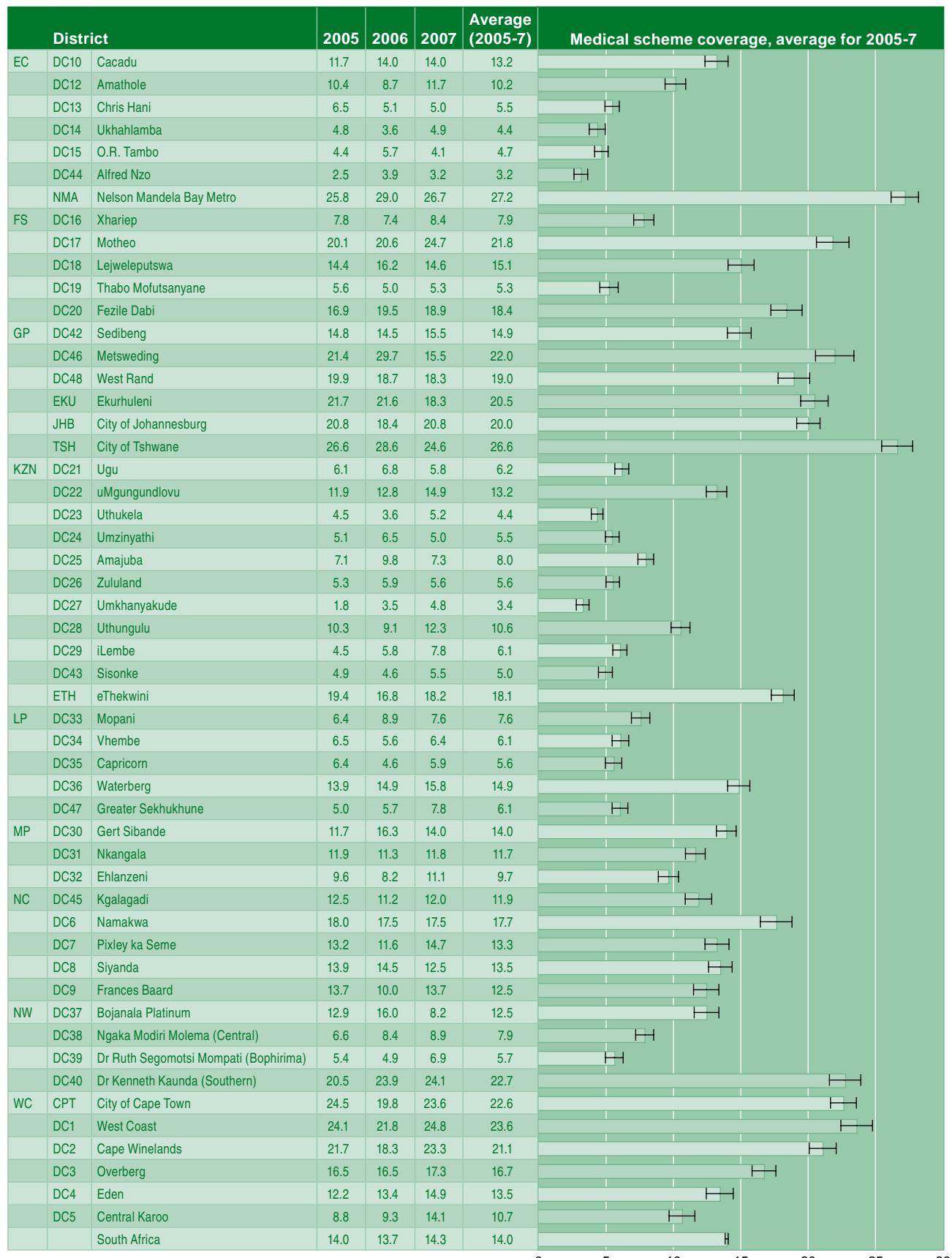
Findings from the SADHS 2003 confirm the trend of stagnant or even declining medical scheme coverage shown by CMS data and the General Household Surveys (GHS) [SADHS 2003]. A useful feature of the recent GHS reports is district-level estimates of medical scheme coverage, which allows for more accurate estimation of the public sector dependent population for planning and monitoring public sector service delivery (Table 45).

Figure 20: Shift in medical scheme benefits away from PHC from 1999 to 2006



Source: H McLeod, based on Medical Schemes annual reports.

^g H McLeod, D McIntyre, Medical Savings Accounts in South Africa. 2008 October. Chapter in forthcoming publication.

Table 45: Medical scheme coverage by district, 2005-2007

Source: GHS 2005, 2006 and 2007.

Public sector financing

Annual spending on public health services has been growing in step changes above inflation since 2002/03. Strong growth in health spending is sustained over the medium term expenditure framework (MTEF) period and will reach R500 per uninsured family per month by 2009/10. Spending on PHC is projected to grow sharply over the next three years. By 2010, PHC spending will be more than double what it was in 2003/04, showing real annual growth of 8%. [Fiscal Review 2007].

Compensation of employees makes up the largest share of total provincial health spending, at 53.6% for 2006/07.

However, due to large investments in medicines, equipment, clinic building programmes and hospital revitalisation, the share of spending on goods and services, and capital assets grew sharply to reach 33.5% and 8.7% respectively. [Fiscal Review 2007]

The actual expenditure by programme at provincial level is shown in Table 46, with a more detailed breakdown for district health services in Table 47. Estimated expenditure on non-hospital PHC per capita at district level is given in the next section and further information on health financing is included in another chapter in this review [SAHR 2008 Ch12].

Table 46: Provincial health expenditure by programme (Rand thousands), 2007/08

| Programme | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA |
|---------------------------------|-----------|-----------|------------|------------|-----------|-----------|-----------|-----------|-----------|------------|
| 1. Administration | 570 710 | 338 233 | 346 765 | 279 689 | 160 618 | 186 681 | 65 913 | 174 375 | 205 247 | 2 328 231 |
| 2. District Health Services | 3 890 487 | 1 351 718 | 3 294 562 | 7 256 993 | 3 303 989 | 1 928 487 | 704 339 | 1 879 724 | 2 706 779 | 26 317 079 |
| 3. Emergency Health Services | 318 784 | 185 567 | 363 054 | 548 796 | 196 746 | 136 595 | 87 487 | 131 804 | 340 863 | 2 309 697 |
| 4. Provincial Hospital Services | 2 719 510 | 949 402 | 3 343 530 | 3 889 757 | 884 931 | 533 444 | 374 474 | 978 456 | 1 305 741 | 14 979 244 |
| 5. Central Hospital Services | 0 | 685 001 | 4 094 738 | 1 407 703 | 559 264 | 444 659 | 0 | 80 119 | 2 349 009 | 9 620 493 |
| 6. Health Sciences and Training | 375 061 | 98 728 | 348 280 | 524 390 | 210 397 | 99 369 | 23 146 | 124 818 | 133 693 | 1 937 882 |
| 7. Health Care Support Services | 24 126 | 64 002 | 114 237 | 12 649 | 391 677 | 66 944 | 8 170 | 93 914 | 81 765 | 857 484 |
| 8. Health Facilities Management | 582 615 | 192 110 | 1 202 867 | 1 092 815 | 423 322 | 173 079 | 200 644 | 383 699 | 371 678 | 4 622 829 |
| Other | - 1 | - 12 513 | - 21 522 | 41 | 3 224 | 0 | 0 | 0 | 3 093 | - 27 678 |
| Total | 8 481 293 | 3 852 248 | 13 086 510 | 15 012 834 | 6 134 168 | 3 569 258 | 1 464 173 | 3 846 909 | 7 497 868 | 62 945 260 |

Source: National Treasury (BAS) and NW province.

Table 47: Provincial health expenditure on district health services (Rand thousands), 2007/08

| Sub-programme | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|----------|-----------|-----------|------------|
| 2.1 District Management | 270 446 | 50 199 | 272 474 | 163 743 | 132 025 | 129 191 | 50 930 | 170 968 | 102 910 | 1 342 887 |
| 2.2 Community Health Clinics | 796 607 | 237 250 | 710 127 | 1 295 203 | 805 305 | 352 602 | 146 473 | 313 745 | 430 608 | 5 087 920 |
| 2.3 Community Health Centres | 320 568 | 61 354 | 528 257 | 435 897 | 147 484 | 223 936 | 82 925 | 380 773 | 677 515 | 2 858 709 |
| 2.4 Community-based Services | 232 945 | 240 580 | 333 274 | 103 464 | 98 137 | 0 | 93 | 4 459 | 125 735 | 1 138 688 |
| 2.5 Other Community Services | 8 333 | 0 | 0 | 411 553 | 141 900 | 0 | 37 195 | 36 427 | 52 412 | 687 820 |
| 2.6 HIV and AIDS | 356 473 | 167 878 | 579 941 | 1 059 010 | 205 137 | 195 131 | 80 832 | 243 774 | 239 900 | 3 128 075 |
| 2.7 Nutrition | 23 146 | 11 401 | 28 072 | 84 647 | 19 313 | 11 847 | 1 996 | 11 909 | 16 513 | 208 842 |
| 2.8 Coroner Services | 120 276 | 54 486 | 83 109 | 107 176 | 34 164 | 0 | 35 344 | 27 636 | 122 265 | 584 456 |
| 2.9 District Hospitals | 1 761 693 | 528 570 | 759 308 | 3 596 301 | 1 720 524 | 1 015 779 | 327 371 | 663 501 | 854 246 | 11 227 293 |
| 2. Other | 0 | 0 | 0 | 0 | 0 | 0 | - 58 820 | 26 533 | 84 676 | 52 388 |
| Total District Health Services | 3 890 487 | 1 351 718 | 3 294 562 | 7 256 993 | 3 303 989 | 1 928 487 | 704 339 | 1 879 724 | 2 706 779 | 26 317 079 |

Source: National Treasury (BAS) and NW province.

Table 48: Health financing indicators by province

| | EC | FS | GP | KZN | LP | MP | NC | NW | WC | SA | |
|--|---------|---------|-----------|-----------|---------|---------|---------|---------|-----------|-----------|---|
| Claims ratio (% of contributions paid in benefits) | | | | | | | | | | | |
| 2005 | - | - | - | - | - | - | - | - | - | 84.4 | a |
| 2006 | - | - | - | - | - | - | - | - | - | 88.0 | b |
| 2007 | - | - | - | - | - | - | - | - | - | 86.4 | c |
| Health as percentage of total expenditure | | | | | | | | | | | |
| 2007 | - | - | - | - | - | - | - | - | - | 14.1 | d |
| Health expenditure % of GDP | | | | | | | | | | | |
| 2005 Private sector | - | - | - | - | - | - | - | - | - | 4.6 | e |
| 2005 Public sector | - | - | - | - | - | - | - | - | - | 3.5 | e |
| 2005 Total | - | - | - | - | - | - | - | - | - | 8.1 | e |
| 2007 Private sector | - | - | - | - | - | - | - | - | - | 5.0 | f |
| 2007 Public sector | - | - | - | - | - | - | - | - | - | 3.5 | f |
| 2007 Total | - | - | - | - | - | - | - | - | - | 8.5 | f |
| Medical scheme beneficiaries | | | | | | | | | | | |
| 2004 | 595 826 | 318 822 | 2 579 404 | 1 028 600 | 279 658 | 454 208 | 152 333 | 312 930 | 1 193 885 | 6 915 666 | g |
| 2005 | 601 154 | 326 151 | 2 535 991 | 1 038 174 | 261 955 | 468 066 | 143 971 | 334 919 | 1 119 247 | 6 835 621 | h |
| 2006 | 614 197 | 341 549 | 2 593 809 | 1 091 744 | 300 856 | 492 387 | 149 399 | 365 692 | 1 157 483 | 7 127 343 | i |
| 2007 | 644 387 | 345 571 | 2 732 777 | 1 145 014 | 325 811 | 511 160 | 158 226 | 394 000 | 1 209 703 | 7 478 040 | c |
| Medical scheme coverage | | | | | | | | | | | |
| 2004 | 8.4 | 10.8 | 29.2 | 10.6 | 5.1 | 14.0 | 16.9 | 8.2 | 26.1 | 14.8 | j |
| 2005 | 8.5 | 11.0 | 28.1 | 10.8 | 4.7 | 14.5 | 16.0 | 8.8 | 24.1 | 14.6 | k |
| 2006 | 8.7 | 11.5 | 28.2 | 11.2 | 5.3 | 15.1 | 16.4 | 9.5 | 24.4 | 15.0 | l |
| 2007 | 9.8 | 12.1 | 26.6 | 11.4 | 6.2 | 14.3 | 14.1 | 11.6 | 23.3 | 15.5 | c |
| 2004 GHS | 9.6 | 14.9 | 26.2 | 11.3 | 6.4 | 12.2 | 14.2 | 11.8 | 25.9 | 14.9 | m |
| 2005 GHS | 9.8 | 13.9 | 22.5 | 11.4 | 6.7 | 10.5 | 15.6 | 11.1 | 22.4 | 14.0 | m |
| 2006 GHS | 10.2 | 14.8 | 21.8 | 10.8 | 6.7 | 11.2 | 13.5 | 13.5 | 18.8 | 13.7 | m |
| 2007 GHS | 10.9 | 15.8 | 20.9 | 11.8 | 7.1 | 11.9 | 14.9 | 10.6 | 22.5 | 14.3 | m |
| Pensioner ratio | | | | | | | | | | | |
| 2005 | - | - | - | - | - | - | - | - | - | 6.4 | k |
| 2006 | - | - | - | - | - | - | - | - | - | 6.3 | l |
| 2007 | - | - | - | - | - | - | - | - | - | 6.2 | c |
| Per capita expenditure (non-hospital PHC) (nominal prices) | | | | | | | | | | | |
| 2001 | 107 | 99 | 285 | 165 | 102 | 72 | 126 | 204 | 317 | 168 | n |
| 2005 | 214 | 223 | 252 | 231 | 181 | 157 | 221 | 275 | 334 | 232 | o |
| 2006 | 232 | 237 | 282 | 252 | 198 | 190 | 270 | 304 | 365 | 256 | o |
| 2007 | 265 | 233 | 312 | 312 | 271 | 237 | 341 | 340 | 428 | 302 | p |
| Per capita health expenditure (private sector – average benefits per beneficiary per annum, nominal prices) | | | | | | | | | | | |
| 2004 Private total | - | - | - | - | - | - | - | - | - | 6 012 | q |
| 2005 Private total | - | - | - | - | - | - | - | - | - | 6 767 | r |
| 2006 Private total | - | - | - | - | - | - | - | - | - | 7 346 | s |
| 2007 Private total | - | - | - | - | - | - | - | - | - | 7 680 | c |
| Per capita health expenditure (public sector – expenditure per uninsured population, nominal prices) | | | | | | | | | | | |
| 2004/05 Public | 827 | 1 133 | 1 284 | 1 029 | 803 | 798 | 1 103 | 772 | 1 505 | 1 028 | t |
| 2005/06 Public | 955 | 1 238 | 1 496 | 1 211 | 915 | 944 | 1 415 | 878 | 1 670 | 1 191 | t |
| 2006/07 Public | 1 142 | 1 307 | 1 605 | 1 366 | 1 038 | 1 066 | 1 792 | 1 041 | 1 766 | 1 347 | t |
| 2007/08 Public | 1 290 | 1 395 | 1 681 | 1 508 | 1 195 | 1 162 | 1 571 | 1 226 | 1 933 | 1 440 | t |
| Ratio of private to public sector per capita health expenditure | | | | | | | | | | | |
| 2002/03 | - | - | - | - | - | - | - | - | - | 7.1 | n |
| 2005/06 | - | - | - | - | - | - | - | - | - | 5.7 | u |
| 2006/07 | - | - | - | - | - | - | - | - | - | 5.5 | u |
| 2007/08 | - | - | - | - | - | - | - | - | - | 5.3 | u |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

- a Medical Schemes 2005-6. The claims ratio is expected to increase given that most schemes have already attained the prescribed level of reserves – the accumulation of the necessary reserves had caused the ratio to deteriorate over previous years.
- b Medical Schemes 2006-7.

- c Medical Schemes 2007-8.
- d Mark Blecher. Forthcoming chapter in SAHR 2008.
- e National Treasury. Mark Blecher, National Treasury, personal communication May 2006. For 2005/06 financial year. Total health exp as a % of GDP is lower than previous estimates – but higher in absolute numbers. These differences are due to recent upward revisions of GDP and the estimate of private out of pocket expenditure used here is a fairly conservative one based on Reserve Bank consumption data.
- f Fiscal Review 2007. For 2007/08 financial year.
- g Medical Schemes 2004-5. Note that the figures reported in the 2005-6 report for 2004 are significantly different, with a total of 6 662 563 beneficiaries.
- h Medical Schemes 2005-6. South African total includes 5 993 beneficiaries outside the country. Data are collected primarily on the basis of the location of principal members. Note that from 2005 the total beneficiaries are reported excluding figures for Bargaining Council Schemes due to lack of information. The actual number of beneficiaries in all other schemes increased from 2004 to 2005.
- i Medical Schemes 2006-7. South African total includes 20 227 beneficiaries outside the country. Data are collected primarily on the basis of the location of principal members. The total beneficiaries are reported excluding figures for Bargaining Council Schemes due to lack of information.
- j Medical Schemes 2004-5. The data on the provincial breakdown of beneficiaries were collected primarily on the basis of the location of principal members.
- k Medical Schemes 2005-6.
- l Medical Schemes 2006-7.
- m StatsSA GHS 2004-2007.
- n SAHR 2003/04 Ch20.
- o SAHR 2007 Ch 15. Updated.
- p Calculated using data from National Treasury and NW province (expenditure), StatsSA GHS (medical scheme coverage) and DHIS (population).
- q Medical Schemes 2004-5. Calculated from average benefits paid per beneficiary per month x 12.
- r Medical Schemes 2005-6. Calculated from average benefits paid per beneficiary per month x 12.
- s Medical Schemes 2006-7. Calculated from average benefits paid per beneficiary per month x 12.
- t Fiscal Review 2007: Provincial Budgets and Expenditure Review 2003/04 - 2009/10. Pretoria: National Treasury; September 2007. Data for 2004/5-2005/6 – outcome, 2006/7 – preliminary outcome, 2007/8 – medium-term estimates.
- u Calculated from data (National Treasury – Fiscal Review 2007 and Medical Schemes data on private expenditure).

Table 49: Medical scheme coverage by ethnic group

| | African | Coloured | Indian | White | Other | All | |
|--------------------------------|---------|----------|--------|-------|-------|------|---|
| Medical scheme coverage | | | | | | | |
| 1996 OHS | 10.0 | 21.7 | 29.5 | 68.8 | - | 18.1 | a |
| 1998 OHS | 6.3 | 19.7 | 24.0 | 63.3 | - | 14.1 | b |
| 1999 OHS | 8.4 | 21.3 | 28.9 | 67.8 | - | 16.4 | c |
| 2004 GHS | 7.2 | 18.4 | 36.0 | 69.7 | - | 14.9 | d |
| 2005 GHS | 7.1 | 18.1 | 32.4 | 64.2 | - | 14.0 | d |
| 2006 GHS | 7.2 | 16.1 | 29.1 | 63.1 | - | 13.7 | d |
| 2007 GHS | 7.3 | 18.9 | 31.2 | 66.1 | - | 14.3 | d |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

a StatsSA OHS 1995-9. Quoting October Household Survey 1996.

b StatsSA OHS 1995-9. Quoting October Household Survey 1998.

c Fiscal Review 2001. Quoting October Household Survey 1999.

d StatsSA GHS 2004-2007.

District health financing indicators

District level estimates of expenditure per capita on non-hospital PHC have once again been updated. The general trend shows that equity between districts is improving, with the ratio between the highest and lowest expenditure reducing from 9.3 in 2001/02 to 3.5 in 2005/06 and 3.3 in 2007/08. It is less clear whether improvements in expenditure are occurring in relation to need (i.e. a measure of deprivation) although there does appear to be a reduction in the ratio of median expenditure of districts in the wealthiest and poorest socio-economic quintiles (Table 52).

Methodology

The expenditure on non-hospital PHC per capita is calculated from various sources. Provincial expenditure on five sub-programmes under District Health Services (Table 50) was obtained from the Basic Accounting System (BAS) database of National Treasury. North West uses a different system and data were obtained directly from the province. All expenditure is coded by district where possible using information in the database. Expenditure which could not be allocated to a specific district was subsequently allocated to all districts within the relevant province in proportion to the total population share of each district. Net local government expenditure on health services per district was added. This total expenditure on PHC per district was then divided by the uninsured population to obtain expenditure per capita.

The figures for each year have been adjusted to take the effect of inflation into account and are presented in real 2007/08 prices.

Data quality issues

As in previous years, we note that expenditure is still not clearly allocated to districts for most provinces, suggesting that financial management of health is still not taking place with a focus at district level. There are also still issues with expenditure for cross-border areas, and expenditure being allocated to regions rather than individual districts.

The only time series population estimates at district level are those developed by the DoH (see section on Demographic indicators) and it is acknowledged that for recent years these estimates may not be an accurate reflection of actual population size per district, which will affect the accuracy of the per capita expenditure estimates. It is also noted that there is a fair amount of variability in the estimates of the medical schemes coverage at district level from the General Household surveys, and this also affects the denominator for this indicator. Thus for these calculations the 3-year average (2005-2007) of medical scheme coverage was used to

calculate uninsured populations for 2005 to 2007, to reduce fluctuations due to sampling error.

Table 50: Budget programme structure for provincial health expenditure

| Programmes | | Sub-programmes | |
|------------|------------------------------|------------------|---|
| PR1 | Administration | | |
| PR2 | District Health Services | Non-hospital PHC | District management Community health clinic services Community health centres Community-based services Other community services |
| | | | HIV and AIDS Nutrition District Hospitals Coroner Services Others |
| PR3 | Emergency Medical Service | | |
| PR4 | Provincial Hospital Services | | |
| PR5 | Central Hospital Services | | |
| PR6 | Health Sciences and Training | | |
| PR7 | Health Care Support Services | | |
| PR8 | Health Facilities Management | | |
| | Other | | |

Source: National Treasury.

Table 51: Non-hospital PHC expenditure by district, 2001/02 and 2005/06 - 2007/08 (real 2007/08 prices)

| | District | PR2 Non-hospital PHC expenditure ^a | Local government ^b | 2007/08 | | | Non-hospital PHC expenditure per capita (real 2007/08 prices) | | | | |
|-----|------------------------------|--|----------------------------------|--|-------------------------------|---|--|---------|----------------------|----------------------|----------------------|
| | | | | Non-hospital PHC expenditure ^c | Total population ^c | Medical scheme coverage ^d | Uninsured population | 2007/08 | 2001/02 ^e | 2005/06 ^a | 2006/07 ^a |
| EC | DC10 Cacadu | 114 110 097 | 7 433 044 | 121 544 041 | 413 772 | 13.2 | 358 965 | 339 | 98 | 218 | 240 |
| | DC12 Amathole | 490 929 675 | 18 372 549 | 509 302 224 | 1 860 128 | 10.2 | 1 670 229 | 305 | 194 | 282 | 284 |
| | DC13 Chris Hani | 250 121 894 | 377 764 | 250 499 658 | 875 429 | 5.5 | 827 004 | 303 | 154 | 264 | 274 |
| | DC14 Ukhahlamba | 77 282 294 | 0 | 77 282 294 | 338 948 | 4.4 | 323 923 | 239 | 68 | 210 | 224 |
| | DC15 O.R.Tambo | 386 391 587 | 0 | 386 391 587 | 1 822 740 | 4.7 | 1 736 419 | 223 | 129 | 212 | 214 |
| | DC44 Alfred Nzo | 116 760 787 | 4 133 315 | 120 884 102 | 632 022 | 3.2 | 611 633 | 198 | 106 | 200 | 217 |
| | NMA Nelson Mandela Bay Metro | 193 303 340 | 23 919 380 | 217 222 720 | 1 131 016 | 27.2 | 823 944 | 264 | 182 | 248 | 259 |
| FS | DC16 Xhariep | 47 701 726 | - 21 230 | 47 680 496 | 133 666 | 7.9 | 123 153 | 387 | 205 | 373 | 387 |
| | DC17 Motneoo | 169 427 053 | 0 | 169 427 053 | 790 955 | 21.8 | 618 361 | 274 | 181 | 286 | 318 |
| | DC18 Lejweleputswa | 122 960 383 | 29 600 | 122 979 983 | 788 097 | 15.1 | 643 982 | 191 | 136 | 210 | 204 |
| | DC19 Thabo Mofutsanyane | 152 447 673 | 674 839 | 153 122 512 | 767 862 | 5.3 | 727 126 | 211 | 100 | 232 | 229 |
| | DC20 Fezile Dabi | 96 856 212 | 189 965 | 97 046 177 | 518 024 | 18.4 | 422 665 | 230 | 126 | 256 | 238 |
| GP | DC42 Sedibeng | 183 607 320 | 0 | 183 607 320 | 924 456 | 14.9 | 786 472 | 233 | 269 | 212 | 210 |
| | DC46 Metswedeng | 47 597 489 | 0 | 47 597 489 | 212 819 | 22.0 | 166 059 | 287 | 214 | 223 | 161 |
| | DC48 West Rand | 145 813 661 | 8 370 392 | 154 184 053 | 805 553 | 19.0 | 652 847 | 236 | 231 | 272 | 237 |
| | EKU Ekurhuleni | 330 924 203 | 229 101 551 | 560 025 754 | 2 577 446 | 20.5 | 2 049 711 | 273 | 550 | 274 | 307 |
| | JHB City of Johannesburg | 728 064 043 | 248 579 000 | 976 643 043 | 3 288 132 | 20.0 | 2 629 486 | 371 | 484 | 324 | 336 |
| | TSH City of Tshwane | 408 125 795 | 118 843 325 | 526 969 220 | 2 140 964 | 26.6 | 1 571 800 | 335 | 239 | 276 | 334 |
| KZN | DC21 Ugu | 179 481 731 | 484 810 | 179 966 541 | 705 561 | 6.2 | 661 484 | 272 | 233 | 230 | 233 |
| | DC22 UMngungundlovu | 205 652 009 | 32 506 094 | 238 158 103 | 995 303 | 13.2 | 863 432 | 276 | 283 | 244 | 253 |
| | DC23 Uthukela | 154 351 926 | 12 774 289 | 167 126 215 | 632 343 | 4.4 | 604 357 | 277 | 212 | 193 | 209 |
| | DC24 Umzinyathi | 117 218 431 | 0 | 117 218 431 | 471 260 | 5.5 | 445 158 | 263 | 190 | 223 | 244 |
| | DC25 Amajuba | 114 318 188 | 5 040 740 | 119 358 928 | 590 023 | 8.0 | 542 679 | 220 | 209 | 171 | 190 |
| | DC26 Zululand | 220 380 464 | - 25 369 | 220 385 095 | 832 786 | 5.6 | 786 360 | 280 | 214 | 227 | 232 |
| | DC27 Umkhanyakude | 194 862 055 | 0 | 194 862 055 | 593 551 | 3.4 | 573 625 | 340 | 235 | 308 | 330 |
| | DC28 Uhungulu | 204 737 290 | 12 706 217 | 217 443 507 | 876 153 | 10.6 | 783 424 | 278 | 212 | 256 | 246 |
| | DC29 Ilembe | 173 723 566 | 7 641 630 | 181 365 196 | 622 692 | 6.1 | 584 668 | 310 | 175 | 219 | 233 |
| | DC30 Sisonke | 123 983 489 | 0 | 123 983 489 | 313 987 | 5.0 | 298 185 | 416 | 239 | 269 | 298 |
| LP | ETH eThekweni | 721 141 302 | 231 133 990 | 952 275 292 | 3 183 936 | 18.1 | 2 606 350 | 365 | 253 | 318 | 327 |
| | DC33 Mopani | 295 958 378 | 3 066 481 | 299 024 859 | 1 116 652 | 7.6 | 1 031 374 | 290 | 198 | 245 | 253 |
| | DC34 Vhembe | 362 782 429 | 6 196 082 | 368 978 511 | 1 305 619 | 6.1 | 1 225 380 | 301 | 175 | 245 | 217 |
| | DC35 Capricorn | 282 103 342 | 8 387 880 | 290 491 222 | 1 201 352 | 5.6 | 1 133 579 | 256 | 109 | 185 | 207 |
| | DC36 Waterberg | 166 410 085 | 4 511 048 | 170 921 133 | 663 303 | 14.9 | 564 589 | 303 | 177 | 210 | 220 |
| | DC47 Greater Sekhukhune | 214 842 354 | 475 530 | 215 317 884 | 1 036 083 | 6.1 | 972 799 | 221 | 123 | 137 | 175 |

| District | Non-hospital PHC expenditure ^a | Local government ^b | Non-hospital PHC expenditure | Total population ^c | Medical scheme coverage ^d | Uninsured population | Non-hospital PHC expenditure per capita (real 2007/08 prices) | | | |
|-----------|---|-------------------------------|------------------------------|-------------------------------|--------------------------------------|----------------------|---|----------------------|----------------------|----------------------|
| | | | | | | | 2007/08 | 2001/02 ^e | 2005/06 ^a | 2006/07 ^a |
| MP | DC30 Gert Sibande | 149 987 991 | 16 423 007 | 166 410 998 | 915 452 | 14.0 | 787 600 | 211 | 59 | 155 |
| | DC31 Nkangala | 204 663 832 | 17 940 427 | 222 594 259 | 1 113 878 | 11.7 | 983 799 | 226 | 62 | 180 |
| | DC32 Ehlanzeni | 353 842 029 | 13 533 748 | 367 375 777 | 1 589 953 | 9.7 | 1 436 002 | 256 | 190 | 184 |
| NC | DC45 Kgalagadi | 58 503 884 | 2 904 974 | 61 408 856 | 197 337 | 11.9 | 173 839 | 353 | 198 | 285 |
| | DC6 Namakwa | 60 173 361 | 78 000 | 60 251 361 | 115 643 | 17.7 | 95 231 | 633 | 359 | 468 |
| | DC7 Pixley ka Seme | 59 741 247 | 697 566 | 60 438 813 | 185 440 | 13.3 | 160 830 | 376 | 231 | 266 |
| | DC8 Siyanda | 44 437 419 | -2 773 434 | 41 663 985 | 233 826 | 13.5 | 202 208 | 206 | 141 | 134 |
| | DC9 Francois Baard | 94 759 751 | 7 007 204 | 101 766 955 | 370 026 | 12.5 | 323 827 | 314 | 191 | 227 |
| NW | DC37 Bojanala | 310 716 705 | 12 210 902 | 322 927 607 | 1 271 534 | 12.5 | 1 112 555 | 290 | 202 | 249 |
| | DC38 Central | 277 444 924 | 4 443 562 | 281 888 486 | 770 050 | 7.9 | 708 929 | 398 | 225 | 316 |
| | DC39 Bophirima | 161 460 351 | - 4 499 | 161 455 852 | 466 072 | 5.7 | 439 541 | 367 | 535 | 427 |
| | DC40 Southern | 156 750 502 | 10 494 412 | 167 244 914 | 632 179 | 22.7 | 488 377 | 342 | 305 | 328 |
| WC | CPT City of Cape Town | 868 662 676 | 225 356 691 | 1 094 018 767 | 3 179 237 | 22.6 | 2 460 158 | 445 | 505 | 399 |
| | DC1 West Coast | 101 131 725 | 419 570 | 101 551 295 | 285 099 | 23.6 | 217 827 | 466 | 389 | 420 |
| | DC2 Cape Winelands | 180 683 677 | 1 102 690 | 181 786 367 | 652 298 | 21.1 | 514 785 | 353 | 284 | 306 |
| | DC3 Overberg | 54 780 482 | 0 | 54 780 482 | 205 910 | 16.7 | 171 430 | 320 | 339 | 239 |
| | DC4 Eden | 154 282 316 | 20 681 534 | 174 943 850 | 464 491 | 13.5 | 401 889 | 435 | 375 | 366 |
| | DC5 Central Karoo | 29 659 404 | 80 810 | 29 740 214 | 63 289 | 10.7 | 56 521 | 526 | 460 | 331 |
| EC Total | | 1 628 899 675 | 54 236 952 | 1 683 136 627 | 7 074 055 | 10.3 | 6 345 042 | 265 | 151 | 242 |
| FS Total | | 589 383 047 | 873 174 | 590 256 221 | 2 968 604 | 14.8 | 2 528 371 | 233 | 140 | 251 |
| GP Total | | 1 844 132 511 | 604 894 368 | 2 449 026 879 | 9 949 370 | 21.0 | 7 859 354 | 312 | 403 | 288 |
| KZN Total | | 2 409 860 453 | 302 262 401 | 2 712 122 854 | 9 817 595 | 11.3 | 8 703 488 | 312 | 233 | 260 |
| LP Total | | 1 322 066 589 | 22 637 021 | 1 344 733 610 | 5 323 009 | 6.9 | 4 958 121 | 271 | 144 | 204 |
| MP Total | | 708 483 851 | 47 897 182 | 756 381 033 | 3 619 283 | 11.7 | 3 195 889 | 237 | 102 | 176 |
| NC Total | | 317 615 662 | 7 914 310 | 325 529 972 | 1 102 272 | 13.3 | 956 023 | 341 | 178 | 249 |
| NW Total | | 906 372 483 | 27 144 377 | 933 516 860 | 3 139 835 | 12.4 | 2 749 171 | 340 | 288 | 309 |
| WC Total | | 1 389 180 280 | 247 640 695 | 1 636 820 975 | 4 850 324 | 21.2 | 3 821 048 | 428 | 448 | 376 |
| SA | | 11 116 024 550 | 1 315 500 480 | 12 431 525 030 | 47 844 347 | 14.0 | 41 146 135 | 302 | 238 | 261 |
| | | | | | | | | | | 275 |

Footnotes (indicator definitions from page 381 and bibliography of reference sources from page 387):

a BAS expenditure data (Vulindlela) and NW province financial data. Values adjusted for inflation to real 2007/08 prices.

b National Treasury.

c DHIS.

d StatsSA GHS 2005, 2006 and 2007. Average for 2005-7 used to reduce fluctuation due to sampling variation.

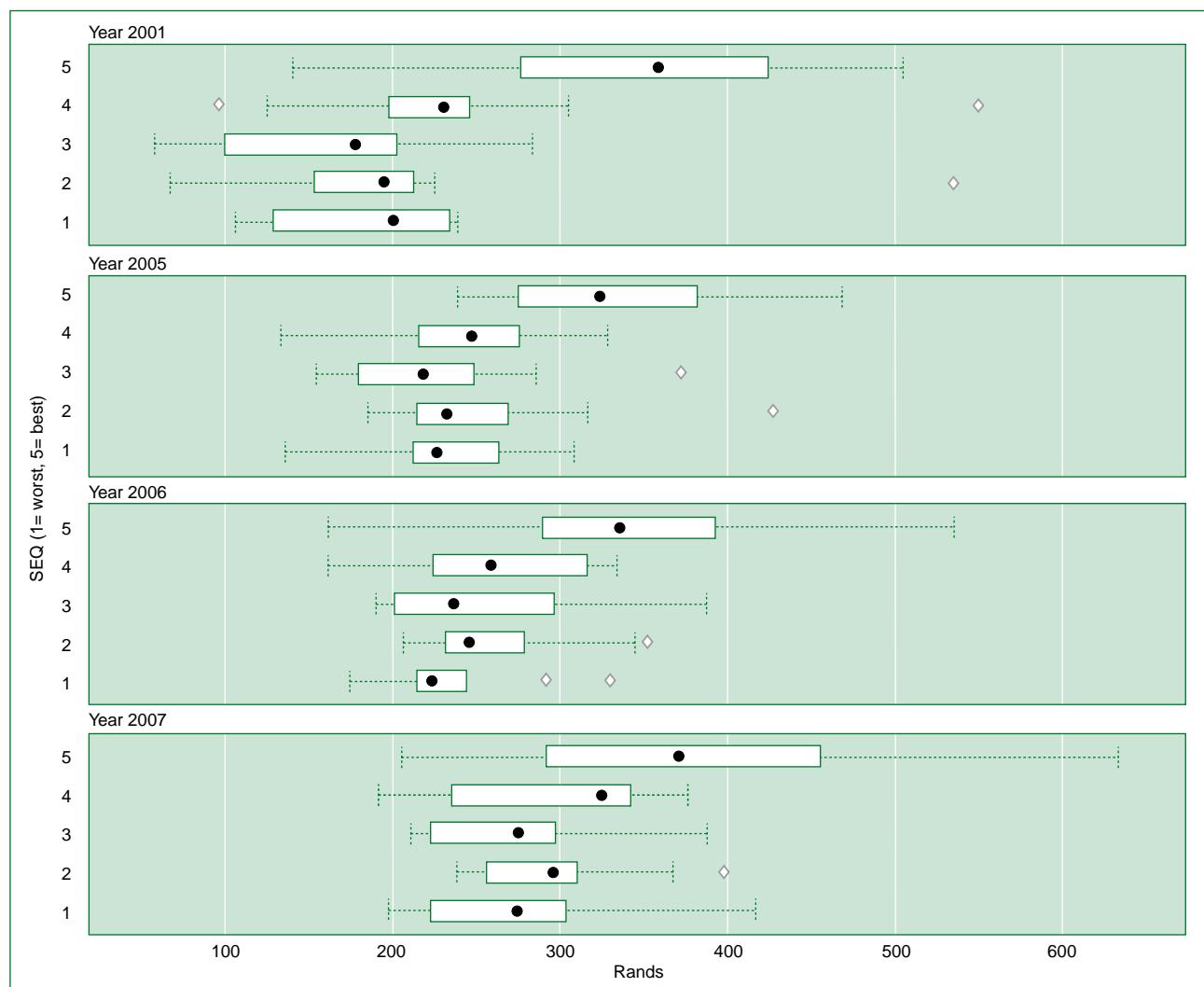
e SAHR 2003/04 Ch20. Values adjusted for inflation to real 2007/08 prices.

Table 52: Equity in district level PHC expenditure per capita, 2001-2007 (real 2007/08 prices)

| PHC expenditure per capita | 2001/02 | 2005/06 | 2006/07 | 2007/08 |
|---|---------|---------|---------|---------|
| SA average | 238 | 261 | 275 | 302 |
| Maximum | 550 | 468 | 535 | 633 |
| Minimum | 59 | 134 | 161 | 191 |
| Ratio (max/min) | 9.3 | 3.5 | 3.3 | 3.3 |
| Median for districts in SEQ5 (wealthiest) | 359 | 324 | 336 | 371 |
| Median for districts in SEQ1 (poorest) | 201 | 227 | 224 | 274 |
| Ratio of median (SEQ5/SEQ1) | 1.8 | 1.4 | 1.5 | 1.4 |

Source: Calculations on data from BAS, NW province, DHIS (population), StatsSA GHS (medical scheme coverage) and Socio-economic quintiles calculated from StatsSA GHS and Community Survey 2007 according to methodology reported in DHB 2006/07.

Figure 21: Distribution of district per capita expenditure on non-hospital PHC according to socio-economic quintile of districts, 2001-2007 (real 2007/08 prices)



Source: Calculations on data from BAS, NW province, DHIS (population), StatsSA GHS (medical scheme coverage) and Socio-economic quintiles calculated from StatsSA GHS and Community Survey 2007 according to methodology reported in DHB 2006/07.

International indicators

Because so much international data are now readily available through international agencies, only a minimal set of indicators is included here for Southern African Development Community (SADC) Member States.

The Human Development Index (HDI) is a measure of well-being developed by the United Nations Development Programme (UNDP), and reported in the UNDP's annual Human Development Reports. The South African HDI rose steadily in the last years of apartheid, peaked around 1995, and then declined steadily thereafter [Human Development Report 2007/08]. The HDI comprises three components: an

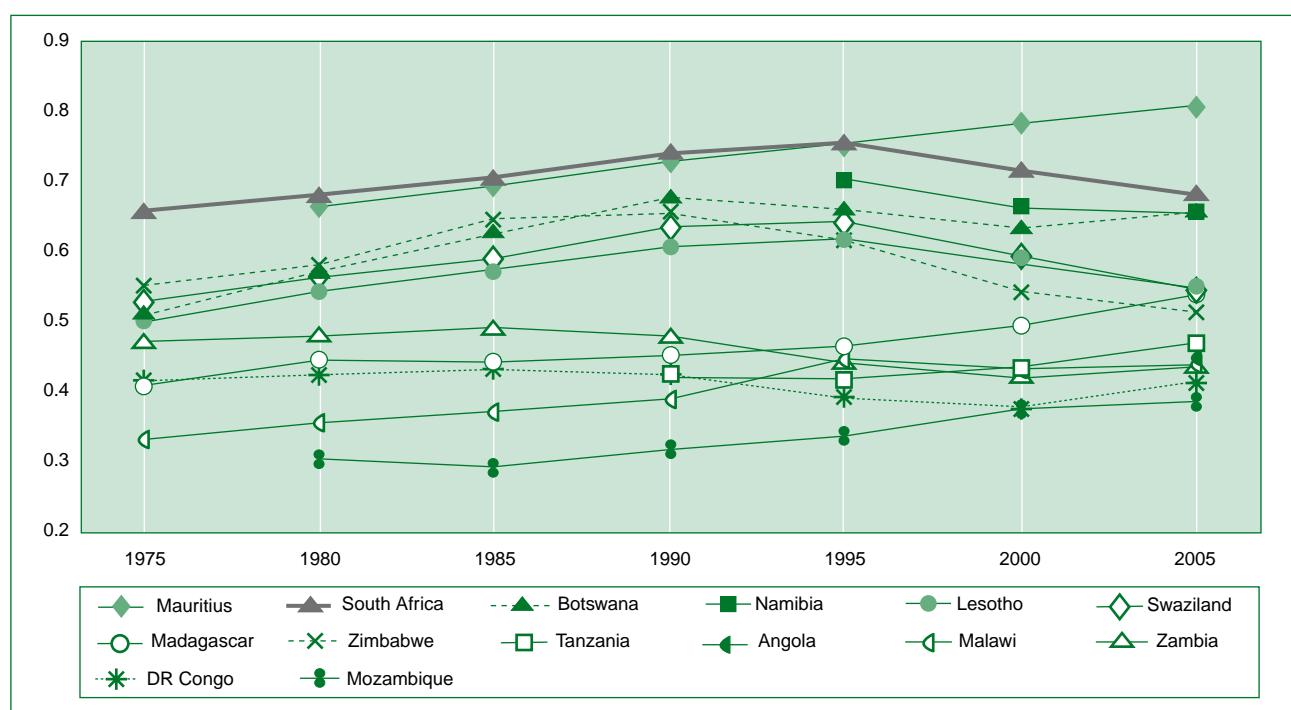
'educational attainment index' constructed out of adult literacy rates and gross school enrolment rates; a 'life expectancy index' derived from data on life expectancy at birth; and an index of GDP per capita taking into account purchasing power. The UNDP selected these variables for the HDI because they were readily measured and together provide a good indication of the reality of social and economic well-being in a country or region. The rapid decline in South Africa's absolute and relative HDI is entirely due to the rapid decline in life expectancy, most of which is attributed to AIDS [Seekings 2007].

Table 53: Selected international indicators for SADC Member States

| | Angola | Botswana | DR Congo | Lesotho | Madagascar | Mauritius | Malawi | Mozambique | Namibia | Swaziland | Tanzania | South Africa | Zambia | Zimbabwe |
|-------------------------------------|--------|----------|----------|---------|------------|-----------|--------|------------|---------|-----------|----------|--------------|--------|----------|
| GDP per capita (PPP US\$) | | | | | | | | | | | | | | |
| 2005 | 2 335 | 12 387 | 714 | 3 335 | 923 | 12 715 | 667 | 1 242 | 7 586 | 4 824 | 744 | 11 110 | 1 023 | 2 038 |
| Human development index | | | | | | | | | | | | | | |
| 2005 | 0.446 | 0.654 | 0.411 | 0.549 | 0.533 | 0.804 | 0.437 | 0.384 | 0.650 | 0.547 | 0.467 | 0.674 | 0.434 | 0.513 |
| Human development index rank | | | | | | | | | | | | | | |
| 2005 | 162 | 124 | 168 | 138 | 143 | 65 | 164 | 172 | 125 | 141 | 159 | 121 | 165 | 151 |

Source: Human Development Report 2007/08.

Figure 22: Trends in Human Development Index for South Africa and SADC Member States, 1975-2005



Source: Human Development Report 2007/08.

Millennium Development Goals

The following tables define the health-related MDGs and provide the best available data for these indicators.

Table 54: Health-related MDGs, targets and indicators

| Goal | Target | Indicator |
|--|---|--|
| Goal 1: Eradicate extreme poverty and hunger | Target 2: Halve, between 1990 and 2015, the proportion of people who suffer from hunger | 4. Prevalence of underweight children under five years of age 5. Proportion of population below minimum level of dietary energy consumption |
| Goal 4: Reduce child mortality | Target 5: Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate | 13. Under-five mortality rate 14. Infant mortality rate 15. Proportion of 1 year old children immunised against measles |
| Goal 5: Improve maternal health | Target 6: Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio | 16. Maternal mortality ratio 17. Proportion of births attended by skilled health personnel |
| Goal 6: Combat HIV and AIDS, malaria and other diseases | Target 7: Have halted by 2015, and begun to reverse, the spread of HIV and AIDS Target 8: Have halted by 2015, and begun to reverse, the incidence of malaria and other major diseases | 18. HIV prevalence among 15-24 year old pregnant women 19. Condom use rate of the contraceptive prevalence rate (Condom use to overall contraceptive use among currently married women aged 15-49, %) ^a 19a. Condom use at last high-risk sex 19b. Percentage of population aged 15-24 years with comprehensive correct knowledge of HIV and AIDS ^b 19c. Contraceptive prevalence rate 20. Ratio of school attendance of orphans to school attendance of non-orphans aged 10-14 years 21. Prevalence and death rates associated with malaria Malaria death rate per 100 000, ages 0-4 Malaria death rate per 100 000, all ages Malaria prevalence, notified cases per 100 000 population 22. Proportion of population in malaria risk areas using effective malaria prevention and treatment measures Malaria prevention, use of insecticide-treated bed nets in population <5, per cent Malaria treatment, percentage of population <5 with fever being treated with anti-malarial drugs 23. Prevalence and death rates associated with tuberculosis Tuberculosis death rate per 100 000 Tuberculosis prevalence rate per 100 000 population 24. Proportion of TB cases detected and cured under DOTS (Directly Observed Treatment Short Course) Tuberculosis, DOTS detection rate, per cent Tuberculosis, DOTS treatment success, per cent |
| Goal 7: Ensure environmental sustainability | Target 10: Halve by 2015 the proportion of people without sustainable access to safe drinking water Target 11: By 2020 to have achieved a significant improvement in the lives of at least 100 million slum dwellers | 30. Proportion of population with sustainable access to an improved water source, urban and rural 31. Proportion of people with access to improved sanitation, urban and rural |
| Goal 8: Develop a Global Partnership for Development | Target 17: In cooperation with pharmaceutical companies, provide access to affordable, essential drugs in developing countries | 46. Proportion of population with access to affordable essential drugs on a sustainable basis |

- a Among contraceptive methods, only condoms are effective in preventing HIV transmission. Since the condom use rate is often only measured amongst women in union, it is supplemented by an indicator on condom use in high-risk situations (indicator 19a) and an indicator on HIV and AIDS knowledge (indicator 19b). Indicator 19c (contraceptive prevalence rate) is also useful in tracking progress in other health, gender and poverty goals.

- b This indicator is defined as the percentage of population aged 15-24 who correctly identify the two major ways of preventing the sexual transmission of HIV (using condoms and limiting sex to one faithful, uninfected partner), who reject the two most common local misconceptions about HIV transmission, and who know that a healthy-looking person can transmit HIV. However, since there are currently not a sufficient number of surveys to be able to calculate

the indicator as defined above, UNICEF, in collaboration with UNAIDS and WHO, produced two proxy indicators that represent two components of the actual indicator. They are: (a) percentage of women and men 15-24 who know that a person can protect him / herself from HIV infection by 'consistent use of condom'; (b) percentage of women and men 15-24 who know a healthy-looking person can transmit HIV.

Table 55: Selected values for the MDG Indicators

| Indicator | | Available baseline | | Current data | | | Target (2015) |
|------------------|---|--------------------|-----------------------------|--------------------------------|------------------------------|--|---------------|
| No. ^a | Name | Year | Value | Year | Value | Range | |
| 4 | Underweight (%) | 1994 | 9.3 [8.5-10.1] ^b | 1999 | 11.1 [9.7-12.5] ^c | | 4.7 |
| 13 | Under-5 mortality rate | 1990 | 60 ^e | 2003 SADHS ^d | 11.5 | 7.1 (EC) - 25.8 (NC) | |
| | | | | 1998 SADHS ^f | 61 | 39 (WC) - 81 (EC) 43 (urban) - 71 (rural) | 20 |
| | | | | 2000 BoD ^g | 94.7 | 46 (WC) - 116 (KZN) | |
| | | | | 2005 Murray ^h | 69.0 | | |
| 14 | Infant mortality rate | 1990 | 45 ^e | 1998 SADHS | 45.0 | 17 (highest asset quintile) 61.6 (lowest asset quintile) 33 (urban) - 53 (rural) | 15 |
| | | | | | 59.1 | 32 (WC) - 71 EC) | |
| | | | | | 44.6 | 24 (WC) - 59 (EC) | |
| 15 | Measles 1st dose coverage | 1990 | 79 ^e | 2006 DHIS | 85.8 | 73 (NW) - 100 (WC) | |
| 16 | Maternal mortality ratio (MMR) | 1990 | 230 ^e | 1998 SADHS | 150 | | 38 |
| | | | | 2004 ⁱ | 147 | | |
| | | | | 2005 ^k | 400 | 270-530 (uncertainty) | |
| 17 | Births assisted by trained health personnel | 1998 | 84 | 2003 SADHS | 91.2 | 75 (no education) 97 (post Gr12) | |
| 17* | ANC coverage | 1998 | 94.2 | 2003 SADHS | 91.7 | | |
| 17* | Delivery rate in facility | | | 2006 DHIS | 78.3 | 65 (EC) - 92.4 (WC) | |
| 18 | HIV prevalence (%) (antenatal) age 15-24 | 1990 | 0.7 | 2006 (SA) ^l | 23.1 | | |
| 19 | Condom use rate of the contraceptive prevalence rate | | | 2003 SADHS | 7.7 | | |
| 19a | Condom use at the last high-risk sex, female | | | 2003 SADHS | 45.7 | | |
| | | | | 2005 | 43.9 ^m | | |
| 19b* | HIV knowledge, people who know that a person can protect herself from HIV infection by condom use | | | 2003 SADHS | 70.9 | female | |
| | | | | | 85.2 | | |
| | | | | 2005 ⁿ | 89.0 | male | |
| 19c | Contraceptive prevalence rate (any method), currently married women | 1990 | 48.4 ^o | 2003 SADHS | 60.3 | | |
| 20 | AIDS orphans | 2000 | 158 073 ^l | 2008 ASSA ⁱ | 1 374 883 | | |
| 21 | Case fatality rate: malaria | | | 2007 Notification ^p | 0.9 | | |
| 21* | Reported cases of malaria (per 100 000) | 1990 | 6822 cases | 2007 Notification | 10.9 5 210 cases | 58.0 (MP) | |
| 22 | Access to malaria treatment within 24 hours | | | 2003 | 80 | | |
| 23 | Tuberculosis prevalence rate per 100 000 population | 1990 | 735 ^q | 2006 | 998 ^q | | |
| 23 | Tuberculosis death rate per 100 000 | 1990 | 89 ^q | 2006 | 218 ^q | | |
| | | | | 2005 ^r | 158 | 78 (LP) - 236 (KZN) | |
| | | | | 2005 ^s | 64 | 30 (LP) - 96 (FS) | |
| 23* | Incidence of TB (all types) (per 100 000) | 1999 | 360 ^t | 2006 | 740 ^t | 350 (LP) - 1094 (KZN) | |
| 24 | Tuberculosis, DOTS detection rate (%) | 1997 | 6 ^e | 2006 ^u | 71 | | |
| 24 | Tuberculosis, DOTS treatment success (%) | 1996 | 69 ^e | 2005 ^u | 71 | | |
| 24 | Cure rate (new Sm+ cases) | 1996 | 54 ^t | 2006 | 63 ^t | 53 (KZN) - 77 (WC) | |
| 30 | Proportion of population with sustainable access to an improved water source | 1990 | 83 ^e | 2004 | 88 ^e | 73 (rural) - 99 (urban) | |
| 30* | Percentage of households with access to piped water | | | 2007 CS ^u | 88.7 | 70.8 (EC) - 98.9 (WC) | |
| 31 | Proportion of people with access to improved sanitation | 1990 | 63 ^e | 2004 | 65 ^e | 46 (rural) - 79 (urban) | |
| 31* | Percentage of households with no toilet | | | 2007 CS | 8.3 ^v | 3.2 (FS) - 23.5 (EC) | |

- a Indicators marked with stars are not MDG indicators but have been included as proxy measures.
- b SAVACG Survey. Data are for age group 6-71 months, not under-5 years.
- c Food Consumption Survey. Data are for age group 12-71 months.
- d SADHS 2003.
- e Millennium Development Goals. Downloaded from database.
- f SADHS 1998.
- g Burden of Disease Prov 2000.
- h Murray CJL, Laakso T, Shibuya K, Lopez AD. Can we achieve Millennium Development Goal 4? New analysis of country trends and forecasts of under-5 mortality to 2015. Lancet 2007; 370: 1040-54.

- i ASSA 2003.
- j South Africa Every Death Counts Writing Group. Every death counts: use of mortality audit data for decision making to save the lives of mothers, babies and children in South Africa. Lancet 2008; 371: 1294-304.
- k Lancet 370(1311-19).
- l Antenatal Survey 2006.
- m HIV Household Survey 2005. Data for male and female respondents age 15 years and older.
- n HIV Household Survey 2005.
- o Pop and Repro Indicators 2005.
- p DoH Notification System. Note that death notification data (StatsSA Causes of death 2005) records 644 deaths from malaria in 2005

- compared to 64 deaths recorded by the Notifiable disease system, therefore it is likely that there is substantial under-reporting of malaria statistics.
- q Global TB Database.
 - r StatsSA Causes of death 2005. Calculated from number of recorded deaths with TB as the underlying cause (73 903) per 100 000 population. Not adjusted for under-reporting of deaths.
 - s DoH TB. Calculated from number of TB deaths for treatment outcomes for all types of TB (30 113). Clearly a lot of deaths due to TB are not being captured by the TB management system.
 - t DoH TB.
 - u Community Survey 2007. Note that even provincial ranges hide huge disparities between municipalities.
 - v Community Survey 2007. Note that this indicator is approximately an inverse measure of the MDG indicator for access to sanitation.

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Indicator definitions

| Type | Indicator | Definition |
|----------------|--|--|
| Demographic | Average household size | Average number of people living in each household where household is defined as a person, or a group of persons, who occupy a common dwelling (or part of it) for at least four days a week and who provide themselves jointly with food and other essentials for living. In other words, they live together as a unit. People who occupy the same dwelling, but who do not share food or other essentials, are enumerated as separate households. |
| | Crude death rate | Number of deaths in a year per 1 000 population. |
| | Total fertility rate | The average number of children that a woman gives birth to in her lifetime, assuming that the prevailing rates remain unchanged. |
| Population | Annual population growth rate | The rate at which the population is increasing or decreasing in a given year expressed as a percentage of the base population size. It takes into consideration all the components of population growth, namely births, deaths and migration. |
| | Population | Total number of people. Projected population figures are based on various projection models attempting to quantify the expected effects of HIV and AIDS on population growth. |
| | Population % by province | Proportion of South African population in each province (calculated from population per province and population for whole of South Africa). |
| | Population % by ethnic group | Proportion of South African population in each ethnic group (calculated from population per ethnic group and population for whole of South Africa). |
| | Population % composition | Percentage of the population by various categories. e.g. 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. |
| | Public sector dependent population | This is an adjustment of the total population to the number assumed to be dependent on services in the public health sector based on medical scheme (health insurance) coverage. It is calculated by subtracting the number of people with medical scheme cover (determined from medical scheme membership reports, or surveys indicating percentage of population on medical schemes) from the total population. |
| Distribution | Area (square km) | Land area covered by geographic entity. |
| | Area as a % of total area of South Africa | Area of province divided by total area of country (South Africa). |
| | Population density (people per km ²) | Number of people per square kilometre. |
| | Rural (non-urban) percentage | Proportion of population living in a non-urban environment. Non-urban, or rural areas include commercial farms, small settlements, rural villages and other areas which are further away from towns and cities. The definition includes semi-urban areas which are not part of a legally proclaimed urban area, but adjoin it. |
| | Urban percentage | Proportion of population living in urban environment. An urban area is one which has been legally proclaimed as being urban e.g. towns, cities and metropolitan areas. |
| Socio-Economic | Deprivation index | The deprivation index is a measure of relative deprivation across districts and sub-districts within South Africa, and is a composite measure derived from a set of variables. Variables included in the analysis are considered to be indicators of material and social deprivation. The area that is least deprived has a deprivation index of 1. Areas with higher values are relatively more deprived. The score itself does not have any intrinsic meaning, but the relative scores show which areas are more deprived than others and can be used to rank areas. The areas thus ranked according to levels of deprivation can be categorised into quintiles. Areas that fall into socio-economic quintile 1 (SEQ 1) are most deprived, while those that fall into SEQ 5 are the least deprived (best off) |
| | GDP per capita (PPP US\$) | Gross Domestic Product (GDP) – the total output of goods and services for final use produced by an economy, by both residents and non-residents, regardless of the allocation to domestic and foreign claims. It does not include deductions for depreciation of physical capital or depletion and degradation of natural resources. Purchasing Power Parity (PPP) – A rate of exchange that accounts for price differences across countries allowing international comparisons of real output and incomes. At the PPP US\$ rate, PPP US\$1 has the same purchasing power in the domestic economy as \$1 has in the United States. |
| | Human development index | The HDI is a summary measure of human development. It measures the average achievements in a country in three basic dimensions of human development: <ul style="list-style-type: none">- A long and healthy life, as measured by life expectancy at birth- Knowledge, as measured by the adult literacy rate (with two-thirds weight) and the combined primary, secondary and tertiary gross enrolment ratio (with one-third weight)- A decent standard of living, as measured by GDP per capita (PPP US\$). Caution: Calculation of HDI is an evolving methodology, and comparisons should not be made between years (when methods might have varied) but can be made between countries, as issued by the same source. A high value for the HDI represents better human development. |
| | Human development index rank | Rank from 1 to end given to each country according to value of HDI. (Value of 1 represents the best (highest) human development index.) |
| | Poverty prevalence | Proportion of people / households living in poverty. Depending on the poverty line and the methodology used there are various estimates of the extent of poverty, therefore caution should be observed in comparing estimates from different sources, and comparative reliability can be assessed from the rank order correlation between different sets of estimates. |
| Education | Education level | Percentage of people in a given age group who have received a particular level of education. In this chapter, data are presented for the percentage of the population aged 20 years and above with no schooling. |
| Employment | Unemployment rate (official definition) | The official definition of the unemployed is that they are those people within the economically active population who (a) did not work during the 7 days prior to the interview, (b) want to work and are available to work within a week of the interview, and (c) have taken active steps to look for work or to start some form of self-employment in the 4 weeks prior to the interview. Note that the census produces lower estimates of labour force participation because there are less prompts to identify employed people, and the Labour Force Survey provides the official labour market statistics. |

| Type | Indicator | Definition |
|----------------------|--|---|
| Household Facilities | Percentage of households by type of housing | Percentage of households that are categorised as formal, informal, traditional or other. |
| | Percentage of households using electricity for cooking | Percentage of households using electricity as their main energy source for cooking. |
| | Percentage of households with access to piped water | Includes households with piped water in dwelling, piped water inside yard or piped water on a community stand (< 200m away or further). |
| | Percentage of households with no toilet | Percentage of households that have no toilet of any kind. |
| | Percentage of households with telephone | Percentage of households with a telephone in the dwelling or a cellular telephone. |
| | Proportion of people with access to improved sanitation | Percentage of the population using improved sanitation facilities (including flush to piped sewer system, flush to septic tank, flush / pour flush to pit, flush / pour flush to elsewhere). |
| | Proportion of population with sustainable access to an improved water source | 'Improved' water supply technologies are: household connection, public standpipe, borehole, protected dug well, protected spring, rainwater collection. 'Not improved' are: unprotected well, unprotected spring, vendor-provided water, bottled water (based on concerns about the quantity of supplied water, not concerns over the water quality), tanker truck provided water. It is assumed that if the user has access to an 'improved source' then such source would be likely to provide 20 litres per capita per day at a distance no longer than 1 000 metres. |
| Mortality | Adult mortality (45q15) | The probability of dying between the ages of 15 and 60 years of age (percentage of 15 year olds who die before 60th birthday). |
| | Life expectancy at birth | The average number of additional years a person could expect to live if current mortality trends were to continue for the rest of that person's life. (Most commonly cited as life expectancy at birth.) |
| Disability | Cataract surgery rate | Number of cataract surgeries done per year per 1 million public sector dependent population. |
| | Prevalence of disability (%) | Percentage of people reporting moderate to severe disability in a survey where disability is defined as a limitation in one or more activities of daily living (seeing, hearing, communication, moving, getting around, daily life activities, learning, intellectual and emotional). In the Community Survey 2007 and Census 2001, disability is defined 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. The definition of disability used in Census 2001 is not comparable with that used in Census 1996. |
| | Syphilis prevalence rate (%) (antenatal) | Percentage of women surveyed testing positive for syphilis. |
| Tuberculosis (TB) | Bacteriological coverage rate | The bacteriological coverage rate reflects the percentage of cases of PTB for which sputum microscopy results were available. As such, it reflects both the availability of laboratory services and compliance with the national TB guidelines which stress the use of sputum microscopy in the diagnosis of PTB. |
| | Cure rate (new Sm+ cases) | Percentage of patients who are proven to be cured using smear microscopy at the end of treatment. The cure rate for new smear positive patients is regarded as the key indicator in high-burden countries. South Africa is working towards achieving the accepted WHO target of an 85% cure rate for new smear positive cases. |
| | DOTS population coverage (%) | Percentage of population falling within administrative areas where the DOTS TB control strategy is used. |
| | Incidence of TB (all types) (per 100 000) | Number of cases of tuberculosis (all types) reported to the DoH per 100 000 population (for the year). Note that reporting rates in some areas are far from complete and this may influence the values quite significantly. |
| | Incidence of TB (PTB new Sm+) (per 100 000) | Number of cases of tuberculosis (pulmonary TB, new smear positive cases) reported to the DoH per 100 000 population (for the year). Note that reporting rates in some areas are far from complete and this may influence the values quite significantly. |
| | Interruption rate (new Sm+ cases) | Percentage of patients who do not complete their course of treatment (of new smear positive patients). Also called percentage of patients who defaulted treatment. |
| | Prevalence (%) of multidrug resistance among new TB cases | Estimated percentage of new cases of TB which are multidrug resistant. |
| | Proportion of extra-pulmonary TB | Number of extra-pulmonary TB cases divided by total number of TB cases. HIV-infected individuals are more likely to suffer from extra-pulmonary TB. The rising proportion of extra-pulmonary TB reflects the effect of the HIV epidemic on patterns of TB infection. |
| | Reported cases of TB (new Sm+) | Number of cases of tuberculosis (new smear positive) reported to the DoH for the year |
| | Reported cases of TB (PTB) | Number of cases of tuberculosis (Pulmonary TB) reported to the DoH for the year |
| | Retreatment ratio | Number of Sm+ retreatment cases divided by the number of Sm+ cases (new + retreatment) expressed as a percentage. High interruption rates contribute to high retreatment ratios. |
| | Smear conversion rate (new Sm+ cases) | Percentage of new smear positive PTB cases who are smear negative after two or three months of anti-TB treatment and are therefore no longer infectious. Numerator: Number of new PTB cases who were Sm+ before starting treatment but show a Sm- after 2-3 months treatment. Denominator: Total number of new Sm+ cases registered during specified time. |
| | Smear positivity (percentage of new PTB cases which are Sm+) | Number of new smear positive PTB cases divided by number of new PTB cases |
| | Successful completion rate (new Sm+) | Percentage of patients who are cured plus those who complete treatment but without laboratory proof of cure, of new smear positive patients) |
| | Tuberculosis death rate per 100 000 | Number of deaths due to tuberculosis (all types) reported per 100 000 population (for the year). |
| | Tuberculosis prevalence rate per 100 000 population | Number of people with TB (all types) per 100 000 population. |
| | Tuberculosis, DOTS detection rate (%) | Percentage of TB cases detected under DOTS. |
| | Tuberculosis, DOTS treatment success, (%) | Percentage of TB cases cured under DOTS. |

| Type | Indicator | Definition |
|----------------------------|---|--|
| Malaria | Case fatality rate: malaria | Number of deaths divided by number of cases expressed as a percentage. The national target is to maintain a CFR below 0.5% |
| | Reported cases of malaria (per 100 000) | The number of cases of malaria reported to the DoH per 100 000 population (for the relevant year). Also known as incidence of malaria. |
| HIV and AIDS | AIDS orphans | <p>Number of children under 18 years who have lost either a mother (maternal orphan), a father (paternal orphan) or both parents (a double orphan) due to HIV and AIDS.</p> <p>Previously the definition used was: Number of children under 15 years whose mothers have died of HIV and AIDS. A summary of the definitions used:</p> <ul style="list-style-type: none"> ASSA 2000 - maternal orphans less than 15 years ASSA 2002 - maternal orphans less than 18 years ASSA 2003 - maternal orphans less than 18 years |
| | AIDS sick | Number of people estimated to be living with AIDS defining conditions. |
| | HIV incidence | The HIV incidence rate is the percentage of people who are uninfected at the beginning of the period who will become infected over the twelve months. It refers to the annual diagnosis rate, or the number of new cases of HIV diagnosed each year. (The term 'prevalence' refers to the estimated population of people who have HIV at any given time.) |
| | HIV prevalence (%) (antenatal) | Percentage of women surveyed testing positive for HIV. |
| | HIV prevalence (%) (total population) | Percentage of population estimated to be HIV-positive. Population used as denominator is generally the projected population calculated from the given model. |
| | People living with HIV | The number of people who are HIV-positive. |
| | Percentage of deaths due to AIDS | Percentage of total deaths attributed to AIDS related causes. |
| | Proportion of ANC clients tested for HIV | Proportion of women coming for their first antenatal visit who are tested for HIV. |
| | Age of first sex ≤14 years | Percentage of people surveyed (of various age groups) who report having first had sexual intercourse at age 14 years or younger. |
| Reproductive Health | ANC coverage | <p>Proportion of pregnant women receiving some antenatal care.</p> <p>DHS data source: Estimated from the number of first ANC visits divided by the population <1 year × 1.15 (as a proxy for the number of pregnant women). The compensation factor accounts for the loss due to infant mortality, stillbirths and abortions between 10 and 28 weeks.</p> <p>SADHS data source: Percentage of women surveyed who reported receiving some antenatal care from a nurse, midwife or doctor during the five years preceding the survey.</p> |
| | ANC visits per client | The total number of antenatal visits over the number of first antenatal visits (equivalent to number of antenatal clients). |
| | Births assisted by trained health personnel | Percentage of women who gave birth in the 5 years preceding the survey who reported receiving medical assistance at delivery from either a doctor, a nurse or a midwife. |
| | Caesarean section rate | Percentage of births that are by caesarean section. |
| | Condom use at last sex | Percentage of those, who reported ever having had sex, who used a condom the last time they had sex. Note that the precise definition of this indicator varies between surveys. |
| | Condom use at the last high-risk sex | Condom use, women aged 15-24 at last high-risk sex, per cent |
| | Condom use rate of the contraceptive prevalence rate | Condom use to overall contraceptive use among currently married women aged 15-49, per cent |
| | Contraceptive prevalence rate (any method) | Percentage of women of reproductive age (15-49) who are using (or whose partner is using) a modern contraceptive method. Contraceptive methods include female and male sterilisation, injectable and oral hormones, intrauterine devices, diaphragms, spermicides and condoms, natural family planning and lactational amenorrhoea. |
| | Delivery rate in facility | The percentage of deliveries taking place in health facilities under supervision of trained personnel. (The number of children under one year, factorised by 1.04 due to infant mortality, is used as an estimated proxy denominator for expected deliveries.) |
| | Ever had sex (%) | Percentage of people who report that they have ever had sexual intercourse. |
| | Female condom distribution rate (per 100 females) | <p>The number of female condoms distributed per 100 females 15 years and older.</p> <p>Current data for female condom distribution are much lower than male condom distribution, therefore the indicator is given per 100 females (compared to per male). Numerator: Female condoms distributed × 100 Denominator: Female target population 15 years and older.</p> |
| | HIV knowledge, people who know that a person can protect him / herself from HIV infection by condom use | HIV knowledge, people aged 15-24 who know that a person can protect him / herself from HIV infection by consistent use of a condom. |
| | Male circumcision (% of men who are circumcised) | The percentage of men 15-59 years who have been circumcised. |
| | Male condom distribution rate | The number of male condoms distributed (to patients at the facility or through other channels) per male 15 years and older. Numerator: Male condoms distributed Denominator: Male target population 15 years and older |
| | Maternal mortality ratio (MMR) | The number of women who die as a result of childbearing, during the pregnancy or within 42 days of delivery or termination of pregnancy in one year, per 100 000 live births during that year. |
| | Number of maternal deaths | The number of women who die as a result of childbearing, during the pregnancy or within 42 days of delivery or termination of pregnancy in one year. |
| | Teenage pregnancy | <p>Percentage of women aged 15-19 who are mothers or who have ever been pregnant. The percentage of women who are mothers at the time of the survey is a more restrictive definition.</p> <p>Note that some of the surveys report this indicator as the percentage who have ever been pregnant of those WHO HAVE EVER HAD SEX. This is a different denominator to that used by the Demographic and Health Surveys, and the data can therefore not be directly compared.</p> |

| Type | Indicator | Definition |
|---------------------|---|--|
| Reproductive Health | TOP facilities functioning (%) | Percentage of functioning TOP facilities. Numerator: Number of designated facilities providing termination of pregnancy services. Denominator: Total number of designated TOP facilities. Note that data may be reported for the public or private sectors or total (public and private). Objective: Increase TOP provision from 30% to 75% of facilities. |
| | TOPs (Terminations of Pregnancy) | The number of terminations of pregnancy. |
| | TOPs by gestational age (%) | Percentage of total terminations of pregnancy for various gestational ages. |
| | TOPs by maternal age (%) | Percentage of total terminations of pregnancy for various maternal ages. Caution should be exercised in interpreting these data due to the high proportion of unknown data. |
| STIs | Women year protection rate | The rate at which couples (specifically women) are protected against pregnancy. |
| | Incidence of STI treated | The percentage of people 15 years and older that have been treated for a new episode of an STI. |
| | Male urethritis syndrome (MUS) rate | Male urethritis syndrome cases as a percentage of all new STI episodes treated. |
| | STI partner notification rate (%) | Number of STI partner notification slips issued divided by number of STIs treated, new episode, expressed as a percentage. |
| Nutrition | STI partner tracing rate (%) | Number of STI partners treated new divided by number of STI partner notification slips issued, expressed as a percentage. |
| | Anaemia prevalence | Percentage of children with Hb <11g/dl. |
| | Iodine deficiency | Iodine deficient school (narrow definition) = median urinary iodine concentration < 100mcg/litre Iodine deficient child = urinary iodine concentration < 100mcg/litre Indicator reported as proportion of schools or proportion of children as appropriate. |
| | Iodised salt consumption | Proportion of households' salt samples with specified iodine concentrations. The legal concentration at packaging is 40-60mg/kg. A concentration <10mg/kg is probably insufficient to prevent iodine deficiency disorder. |
| | Iron deficiency anaemia prevalence | Percentage of children with Hb <11g/dl and ferritin <12mcg/l |
| | Iron deficiency prevalence | Percentage of children with ferritin <12mcg/l |
| | Obesity (%) | Percentage of people with a body mass index (BMI) (body mass in kg divided by the square of the height in m) equal to or more than 30kg/m ² . |
| | Overweight (%) | Children: Proportion of children with weight for height over 2 standard deviations from the norm (reference population median). Adults: Percentage of people with body mass index (BMI) of 25-29.9 kg/m ² . BMI is weight in kg divided by the square of height in m. |
| | Stunting (%) | Proportion of children with height for age under 2 standard deviations from the norm (reference population median). |
| | Underweight (%) | Children: Proportion of children with weight for age under 2 standard deviations from the norm (reference population median). Adults: Percentage of people with body mass index (BMI) <18.5 kg/m ² . BMI is weight in kg divided by the square of height in m. |
| | Vitamin A deficiency | Percentage of children with serum retinol <20mcg/dl |
| | Waist-hip ratio (WHR) above cut-off (%) | Percentage of people with the ratio of waist / hip circumference ≥ 1.0 (for men) or ≥0.85 (for women). |
| Child Health | | Body Mass Index does provide an index for obesity, but has limitations in predicting risk for cardiovascular events. Research has indicated that measurement of WHR enables prediction of cardiovascular risk (Am Heart J 2005 Jan 149: 54-60.) |
| | Wasting (%) | Proportion of children with weight for height under 2 standard deviations from the norm (reference population median). |
| | Children under-5 years weighing rate | The percentage of PHC headcount under-5 years that were weighed. Monitoring whether the policy of weighing all children seen at least once a month is being adhered to. |
| | Child mortality | The number of children aged 12 months to 5 years (i.e. to the end of the 4th year) who die in a year, per 1 000 live births. |
| | Diarrhoea incidence <5 per 1 000 | The number of children under-5 years with diarrhoea per 1 000 population under-5 years per year. |
| | Exclusive breastfeeding rate | Percentage of living children receiving only breast milk from birth to various ages. Optimal breastfeeding practices include exclusive breastfeeding (breast milk with no other foods or liquids) for the first six months of life, followed by breastmilk and complementary foods (solid or semi-solid foods) from about six months of age on, and continued breastfeeding for up to at least two years of age while receiving complementary foods. (http://www.childinfo.org/eddb/bffeed/) |
| | Immunisation coverage of children <1 year | Percentage of children under-1 year who are fully immunised. Calculated from the number of children fully immunised (defined as first visit where all required vaccinations are completed) divided by the population <1 year. |
| | Immunisation drop out rate (DTP1-3) | The percentage of children who dropped out of the immunisation schedule between the first dose (normally at 6 weeks) and the third dose (normally at 14 weeks). |
| | Immunisation drop out rate (measles 1 to 2) | The percentage of children who dropped out of the immunisation schedule between the first (normally at 9 months) and second (normally at 18 months) measles dose. |
| | Infant mortality rate | The number of children less than one year old who die in a year, per 1 000 live births during that year. |
| | Low birth weight rate | Percentage of live births under 2 500g. |
| | Measles 1st dose coverage | The percentage of children who received their 1st measles dose (normally at 9 months) – annualised. Equivalent to MDG indicator 'Proportion of 1 year-old children immunised against measles'. |
| | Neonatal death rate (NNDR) | Number of deaths within the first 28 days of life, in a year, per 1 000 live births during that year. Also called Neonatal Mortality Rate (NNMR). |
| | Not gaining weight under-5 years rate | The percentage of children weighed who had an episode of growth faltering / failure during the period. Note that WC uses a 'tighter' definition of not gaining weight. |
| | Number of orphans | Number of children under 18 years whose biological mother, biological father or both parents have died. Different kinds of orphans are defined as: maternal orphans – a child whose mother has died, or whose living status is not known, but whose father is alive. paternal orphans – a child whose father has died, or whose living status is not known, but whose mother is alive. double / dual orphan – a child whose mother and father have both died, or whereabouts are unknown. |
| | Perinatal care index | Perinatal mortality rate divided by the Low birth weight rate. |
| | Perinatal mortality rate | The number of perinatal deaths per 1 000 births. The perinatal period starts as the beginning of foetal viability (28 weeks gestation or 1 000g) and ends at the end of the 7th day after delivery. Perinatal deaths are the sum of stillbirths plus early neonatal deaths. As from the Saving Babies 2003-2005 report, reporting has been brought into line with the international standard of reporting according to all births ≥500g. |
| | Post-neonatal mortality rate | Number of deaths occurring between 28 and 365 days after birth per 1 000 live births in the same period. |
| | Severe malnutrition under-5 years incidence | The number of children who weigh below 60% Expected Weight for Age (new cases that month) per 1 000 children in the target population. |

| Type | Indicator | Definition |
|-----------------------|---|--|
| Child Health | Stillbirth rate | Number of stillbirths per 1 000 total births. |
| | Under-5 mortality rate | The number of children under-5 years who die in a year, per 1 000 live births during the year. It is a combination of the infant mortality rate, plus the age 1-4 mortality rate. |
| | Vitamin A coverage children 12-59 months | Percentage of children 12-59 months receiving vitamin A 200 000 units – full coverage is 200% or two doses per child per year. For surveys this indicator is usually given as the percentage of children who received Vitamin A supplements in the preceding 6 months. |
| | Vitamin A coverage infants 6-11 months | Percentage of infants 6-11 months receiving vitamin A 100 000 units. |
| Chronic Diseases | Asthma prevalence (per 1 000) | Number of people with asthma per 1 000 people in the target population. Data for the private sector are based on the number of people being TREATED for this condition. Data for the total population from SADHS are based on the number of adults 15 years and older who were told by a doctor, nurse or health worker that they have a chronic health condition. |
| | Cervical cancer screening coverage | Number of cervical cancer smears in women age 30 and older screened for cervical cancer divided by the female target population (age 30 and older). Since the policy is that each woman should be tested once every 10 years, when considered annually this indicator should be multiplied by 10 to assess the annual coverage. |
| | Cervical cancer screening effective coverage | Percentage of eligible women (aged 25 to 64) who report that they have had a pelvic exam and Pap smear in the past three years. |
| | Diabetes prevalence (per 1 000) | Number of people with diabetes per 1 000 people in the target population. |
| | Hyperlipidaemia prevalence (per 1 000) | Number of people with hyperlipidaemia per 1 000 people in the target population. Data for the private sector are based on the number of people being TREATED for this condition. Data for the total population from SADHS are based on the number of adults 15 years and older who were told by a doctor, nurse or health worker that they have a chronic health condition. |
| | Hypertension prevalence | Number of people with hypertension per 1 000 people in the target population. Data for the private sector are based on the number of people being TREATED for this condition. In the SADHS 1998, the prevalence of hypertension reported here is classified as follows: Moderate and severe hypertension: BP equal to or above 160/95 mmHg or taking hypertension medication Any hypertension: BP equal to or above 140/90 mmHg or taking hypertension medication. In the SADHS 2003, the prevalence of hypertension was defined as percentage of respondents age 15 and above who were told by a doctor, nurse or health worker at a clinic or hospital that they have this condition. SADHS data have been converted from a percentage to the rate per 1 000 population. |
| Behaviour & Awareness | Prevalence of mental disorders | Percentage of the population suffering from any common mental disorders. |
| | Alcohol dependence (%) | Percentage of people who show signs of alcohol dependence. Alcohol dependence is identified using four screening questions that indirectly inquire about alcohol use (CAGE questionnaire). An affirmative answer to two or more questions is classified as alcohol dependence. CAGE questions are: C – Has anyone ever felt you should Cut down on your drinking? A – Have people Annoyed you by criticizing your drinking? G – Have you ever felt Guilty about your drinking? E – Have you ever had a drink first thing in the morning (Eye-opener) to steady your nerves or to get rid of a hangover? |
| | Currently drink alcohol (%) | Percentage of people who currently drink alcohol. |
| | Ever drank alcohol (%) | Percentage of people who ever drank alcohol. |
| | Ever smoked cigarettes (%) | Percentage of people who have ever smoked a cigarette, even one or two puffs. |
| | Frequent smokers (%) | Percentage of people who smoked (cigarettes) on 20 or more days of the past 30 days. |
| | Number of admissions for alcohol and other drug abuse | Number of patients admitted for treatment by treatment centres who are part of the SACENDU Project sentinel surveillance system. As at 15 May 2007 these included 28 centres in Cape Town, 6 centres in Durban / Pietermaritzburg, 9 centres in the Eastern Cape, 19 centres in Johannesburg and Pretoria (GP), 4 centres in Mpumalanga and 7 centres in Free State, Northern Cape and North West provinces. Where data for the latter 3 have not been disaggregated these are included in the national total. |
| | Percentage participating in insufficient physical activity | Percentage of those surveyed who did not participate in either vigorous or moderate physical activity that would have been sufficient to gain any health benefit, in the 7 days preceding the survey. Vigorous activity is defined as activities for 20 or more minutes on 3 or more of the 7 days preceding the survey such as soccer, netball, rugby or basketball. Moderate activity is defined as 30 or more minutes on 5 or more of the 7 days preceding the survey such as fast walking, slow bicycling, skating, mopping or sweeping floors. |
| | Prevalence of smoking (%) | Percentage of population who currently smoke. This indicator is also known as 'Current smokers (%)'. Note that the indicator may be given just for cigarettes or for other tobacco products. |
| | Primary drug of abuse as % of all drugs of abuse | Percentage breakdown of the primary drug of abuse reported by patients admitted to treatment centres that are part of the SACENDU sentinel surveillance system. Note that poly-substance abuse is high, with 34% of patients in treatment centres in Gauteng and 55% in Cape Town reporting more than one substance of abuse. |
| | Risky drinking (%) – weekends | Percentage of current drinkers of alcohol who engage in risky drinking at the weekend, defined as ≥ 5 drinks per day (males) or ≥ 3 drinks per day (females). |
| Injuries | Smoking age of initiation <10 years | Percentage of people who first smoked cigarettes before age 10 years (of those who have ever smoked) |
| | Watch TV more than 3 hours per day | Percentage of those surveyed (who have access to a TV, video or computer games) who spent 3 hours or more watching TV or playing video / computer games during an average school day. |
| | Percentage adults experienced work related illness / injuries | Proportion of working adults (adults = 15+ years) who reported suffering from a work-related illness or injury. |
| | Road accident fatalities per 100 000 population | Number of fatalities due to road accidents per 100 000 population. |

| Type | Indicator | Definition |
|-------------------|---|--|
| Health Facilities | Length of stay | Average duration of patient stay in health facility. Numerator: Inpatient days + 1/2 Day patients Denominator: Discharges + Deaths + Transfers out + Day patients |
| | Number of beds | |
| | Number of health facilities | |
| | Percentage clinics with antenatal services every week day | |
| | Percentage clinics with emergency response < 1 hour | Percentage of clinics with emergency response time shorter than 1 hour |
| | Percentage clinics with EPI services every week day | |
| | Percentage clinics with family planning services every week day | |
| | Percentage clinics with STI services every week day | |
| | Percentage clinics with TB services every week day | |
| | Percentage PHC facilities where condoms are freely available | |
| | Percentage of PHC facilities offering VCT | Percentage of PHC facilities offering Voluntary Counselling and HIV Testing (VCT). Indicator was previously known as 'Percentage PHC facilities where HIV testing is made available' but since about 2000, testing and counselling is together known as VCT. The STI Baseline Survey used this definition: Percentage of PHC public sector health facilities that consider themselves voluntary counselling and testing (VCT) sites. |
| | Useable bed utilisation (occupancy) rate | Measure of the occupancy of the beds available for use. Numerator: (Inpatient days + 1/2 Day patients) x 100 Denominator: Useable beds x days in period. |
| | Useable beds per 100 000 population | The number of useable beds divided by the population x 100 000. Where this is calculated for public health sector beds, the population used is the public sector dependent (uninsured) population. |
| | Utilisation rate PHC | Number of visits per person to PHC health facilities per year. Calculated from PHC headcount divided by total population. |
| Health Personnel | Utilisation rate PHC <5 years | Number of visits per person <5 years to PHC health facilities per year. |
| | Utilisation rate PHC ≥5 years | Number of visits per person ≥5 years to PHC health facilities per year. |
| | (Health professionals) per 100 000 population | Ratio of the number of (health professionals) to the population (per 100 000). Note that where this is reported for public health sector personnel, the population has been adjusted to be the public sector dependent (uninsured) population. |
| | Number of (health professionals) | The number of posts for each health profession. Community Service (CS) posts are allocated against existing (vacant) posts, therefore these health professionals form part of the figure reported by PERSAL for the relevant profession. |
| | Percentage of health professional posts vacant | Percentage of all health sector (professional) posts that are vacant. Vacancy rates are also given for medical practitioners and professional nurses. |
| Health Financing | Total number of health professional posts | Total number of health sector posts (health professional categories) including dental, medical, nursing, pharmacy, occupational therapy, physiotherapy, radiography and psychology professions. Data from 2002 also includes environmental health professionals. Note that older data from PERSAL also included some vacant posts for each profession. Newer data have most of the vacant posts identified, and therefore the number of posts primarily reflects filled posts. |
| | Claims ratio | Percentage of member contributions that has been utilised for the payment of benefits claimed by members of medical schemes, as opposed to allocation of contributions for non-health benefits and the building of reserves |
| | Health expenditure % of GDP | Percentage of national Gross Domestic Product that is spent on health care. |
| | Medical scheme beneficiaries | Number of medical aid (scheme) beneficiaries, as reported by the Medical Schemes Council. |
| | Medical scheme coverage | Percentage of population covered by medical schemes. |
| | Pensioner ratio | Percentage of members of medical schemes who are 65 years or older, in registered medical schemes. |
| | Per capita health expenditure | Amount spent on health per person (in Rands) For the public sector, this is often calculated for the population without medical scheme coverage (public sector dependent population). For the private sector this is usually calculated for the number of medical schemes beneficiaries. Attention should be given to the notes for each data item, since financial indicators are affected by inflation, and expenditure may be reported according to currency value for a particular year to facilitate comparison of real differences. The nominal value is the value of anything expressed in money of the day, versus real value which removes the effect of inflation. |
| | Per capita expenditure (non-hospital PHC) | Amount spent on non-hospital PHC services by the public sector per person without medical scheme coverage (in Rands). Includes provincial expenditure from sub-programmes 2.1-2.5 (District management, Community health clinics, Community health centres, Community-based services and Other community services) under District Health Services, plus net Local government expenditure on health services. Expenditure is divided by the population without medical scheme coverage. Expenditure may be given in nominal terms (prices for the year of expenditure) or real terms (inflation adjusted prices to a particular base year). |
| | Ratio of private to public per capita health expenditure | Total medical scheme expenditure divided by number of beneficiaries / total public health sector expenditure divided by population covered (public sector dependent or uninsured population). |

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