
**An Overview of Health and Health care in South Africa 1994 – 2010:
Priorities, Progress and Prospects for New Gains**

A Discussion Document Commissioned by the Henry J. Kaiser Family Foundation to
Help Inform the National Health Leaders' Retreat
Muldersdrift, January 24-26 2010*

David Harrison
December 2009

**opinions, recommendations and conclusions reflected in this paper are solely those of the author*

EXECUTIVE SUMMARY

This paper describes progress and challenges in efforts to improve the health of South Africans since 1994. It reviews the state of health and the health care system, identifies major accomplishments and shortcomings, and outlines some opportunities for new gains in national health priorities. The purpose of the paper is to help inform discussion of macro health policy and planning by identifying key priorities and opportunities for consideration.

Although restructuring of the public health sector post-1994 achieved substantial improvements in terms of access, rationalisation of health management and more equitable health expenditure, fifteen years later these early gains have been eroded by a greatly increased burden of disease related to HIV/AIDS, generally weak health systems management and low staff morale. The result is poor health outcomes relative to total health expenditure.

The following table summarises the principal accomplishments and shortcomings of the past 15 years:

Accomplishments	Shortcomings
Legislation and gazetted policy	Insufficient prevention and control of epidemics
1 Free primary health care	1 Limited effort to curtail HIV/AIDS
2 Essential drugs programme	2 Emergence of MDR-TB and XDR-TB
3 Choice on termination of pregnancy	3 Lack of attention to the epidemic of alcohol abuse
4 Anti-tobacco legislation	Persistently skewed allocation of resources between public & private sectors
5 Community service for graduating health professionals	4 Inequitable spending patterns compared to health needs
	5 Insufficient health professionals in public sector
Better health systems management	Weaknesses in health systems management
6 Greater parity in district expenditure	6 Poor quality of care in key programmes
7 Clinic expansion and improvement	7 Operational inefficiencies
8 Hospital revitalisation programme	8 Insufficient delegation of authority
9 Improved immunisation programme	9 Persistently low health worker morale
10 Improved malaria control	10 Insufficient leadership and innovation

Accomplishments of the past decade are largely overshadowed by the burden of AIDS on mortality and the health system. Indeed, continuing to manage the HIV and AIDS epidemic will dominate the next decade and beyond. Efforts to sustain financing for the prevention and treatment of HIV and AIDS, while improving service efficiency and quality of care, will require new funding formulas such as those envisaged in a national health insurance system. But, despite the enormity of the challenge there are opportunities for significant systems improvements and progress on the major policy priorities.

The challenge for policymakers is to demonstrate rapid improvements in the quality of care and service delivery indicators such as waiting time and patient satisfaction; while at the same time addressing the intractable health management issues that bedevil efficiency and drive up costs. The establishment of a district-based system was one of the biggest post-1994 innovations, making health management more responsive to local conditions and distributing resources more equitably. In retrospect, its success has been hamstrung by the failure to devolve authority fully, and by the erosion of efficiencies through lack of leadership and low staff morale. Retooling district health management to improve local service delivery would seem to be an example of a 'breakthrough strategy' that could be fairly easily accomplished.

As urgent health systems problems are addressed, policymakers must also focus on larger macro policy issues and programmes. In terms of reducing the burden of disease, the most critical objective is to reduce the rate of new HIV infection in South Africa - by implementing a comprehensive national HIV prevention programme at sufficient scale to have real impact. If existing programmes were scaled up and fully implemented, the incidence of HIV could be halved within five years. Although this is ambitious target, it is vital to the long-term sustainability of the treatment and care components of a comprehensive response to HIV/AIDS.

At the same time, management of the AIDS epidemic should not obscure the effects of other chronic disease epidemics on the health system such as TB and alcohol abuse. And the growing burden of chronic disease prevention and treatment on the health system also underscores the urgency of new health financing, pushing consideration of mechanisms such as national health insurance to the fore of policy priorities.

The adept policymaker will understand the linkages between these priorities and seek to balance progress on all these fronts simultaneously; while at the same time recognizing that attitudes to the health system are shaped at its interface with the public. Grand policy initiatives therefore will only be applauded if they can be implemented effectively and produce demonstrable benefits.

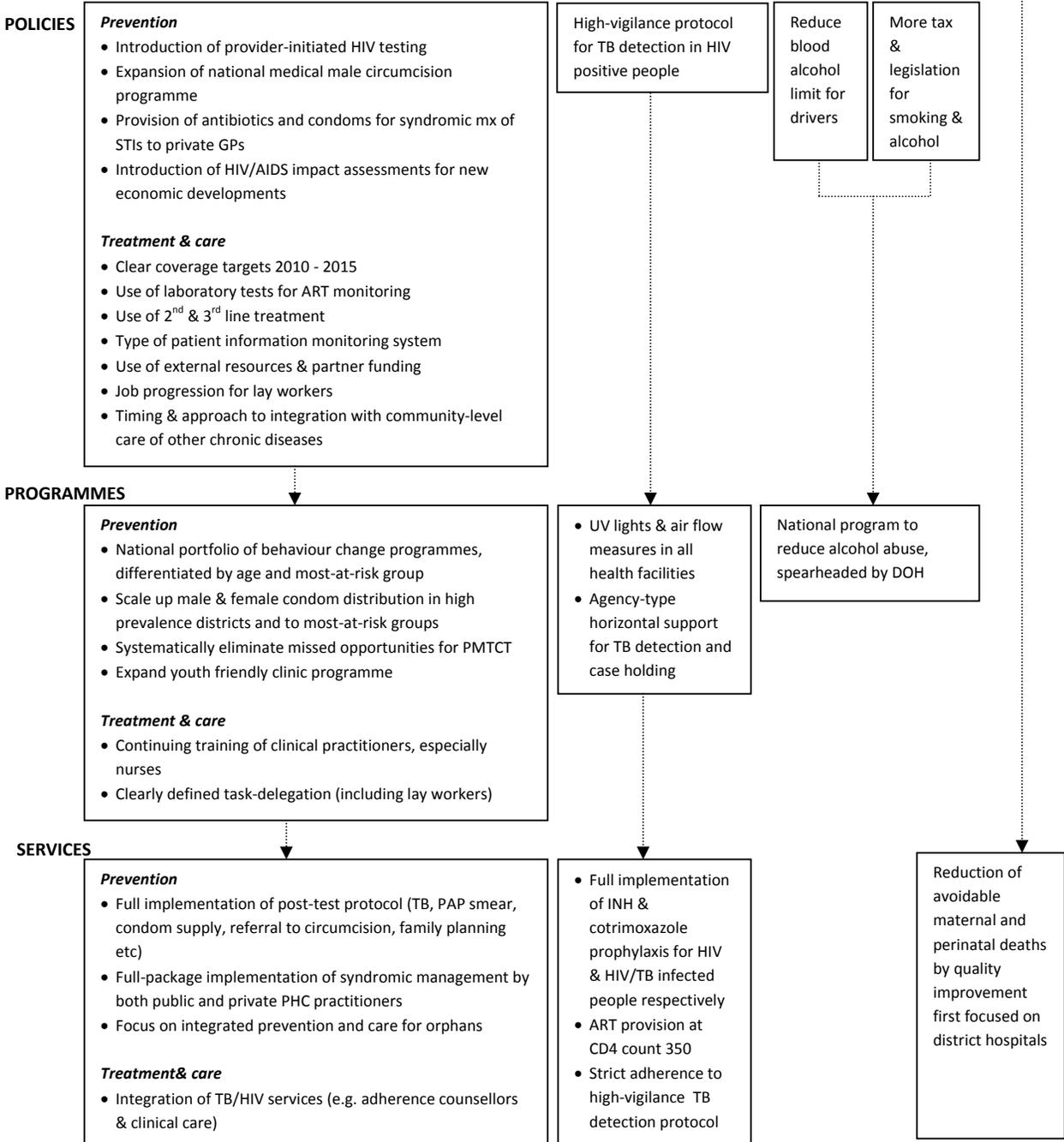
The following table outlines examples of some 'breakthrough strategies' that could accomplish the above goal:

Key strategies to reduce burden of disease	Key strategies to improve the health system
1 Implement a comprehensive portfolio of HIV prevention, at sufficient scale for impact	6 Lead from the front: Give health workers a clear vision of health sector reform over the next five years and be seen to be working with them in its implementation
2 Scale up ART programme, with specific costed targets and clear decisions on trade-offs between coverage and quality	7 Implement a national 'horizontal support' programme to improve the quality of care, focused first on HIV, TB, STIs and maternal & perinatal care; and on district hospitals
3 High-vigilance detection of TB among people with HIV, and greatly improved case-holding	8 Implement a focused programme to improve operational efficiencies - including clear devolution of district & hospital authorities, simplification and better use of management information, and better financial and performance accounting
4 Take the lead in implementing a comprehensive national programme to prevent alcohol abuse	9 Establish clear service provision norms for the public sector, and implement a package of incentives to retain personnel and make better use of private sector personnel, academics and NGOs
5 Continue to strengthen policy instruments that help prevent non-communicable diseases	10 Develop a clear plan for financing ART expansion over the next five years, even as longer-term financing options are being considered.

These strategies are laid out more systematically in the following diagrams. The first describes key policy, programme and service priorities to reduce the burden of premature death in South Africa between 2010 and 2015. The second outlines some of the most important policy and management instruments to improve the state of the health system.

**National priorities to reduce the burden of premature death
2010 - 2015**

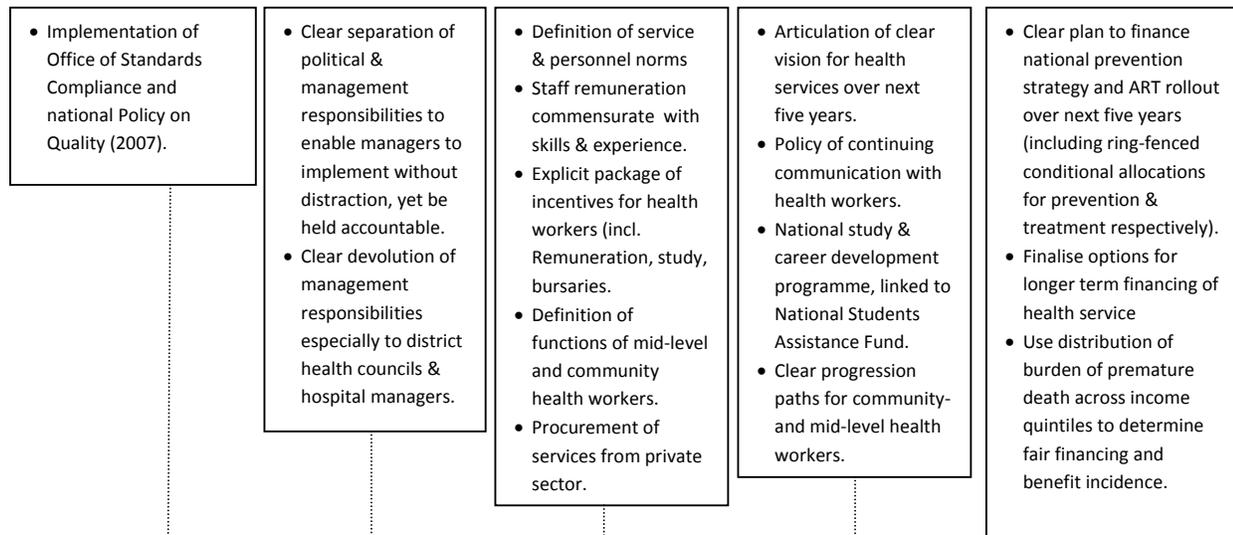
HIV/AIDS	TB	Injuries	Chronic diseases	MCH
-----------------	-----------	-----------------	-------------------------	------------



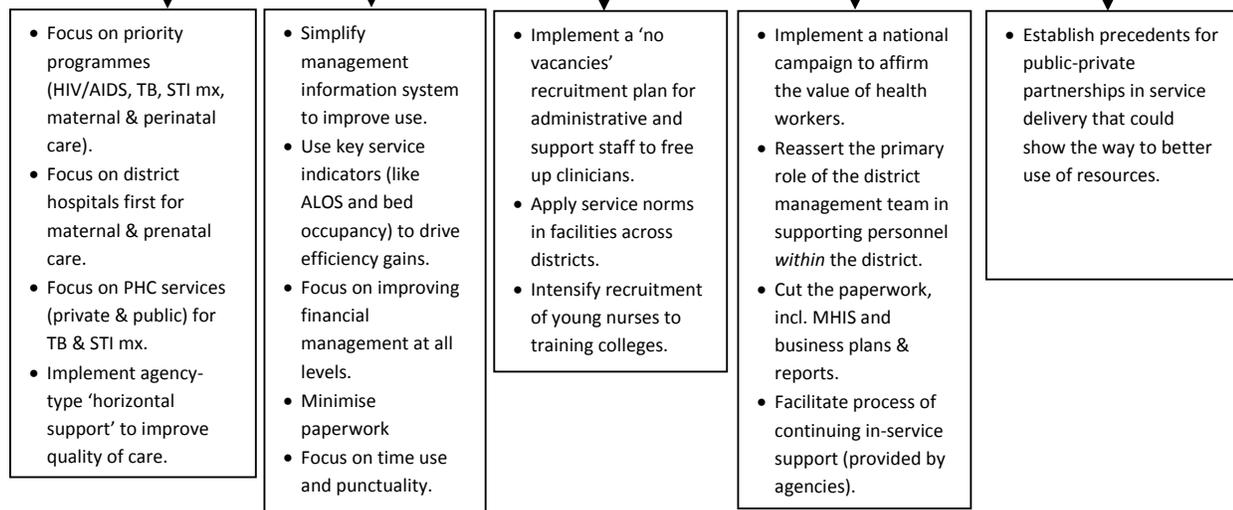
**National priorities to improve equity,
efficiency and quality of health care
2010 - 2015**



POLICIES



MANAGEMENT

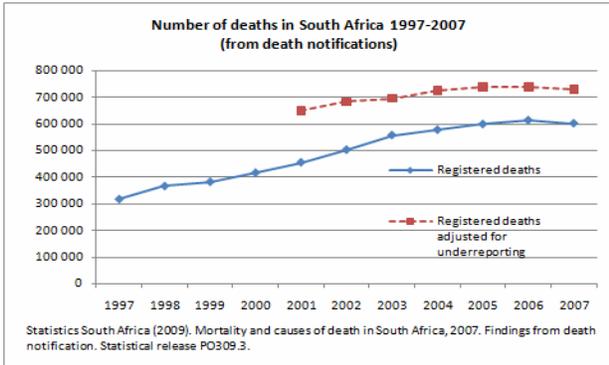


1. THE STATE OF HEALTH

1.1 Mortality

One of the first tasks of the new Government in 1994 was to establish a comprehensive system of vital registration. Since 1996, the completeness of death registrations has improved from about 67% to 82% (Statistics SA 2009a). This variation makes it difficult to gauge changes in mortality with accuracy, but there is no doubt that the real number of deaths in South Africa has increased sharply since 1998 – probably almost doubling [Figure 1].

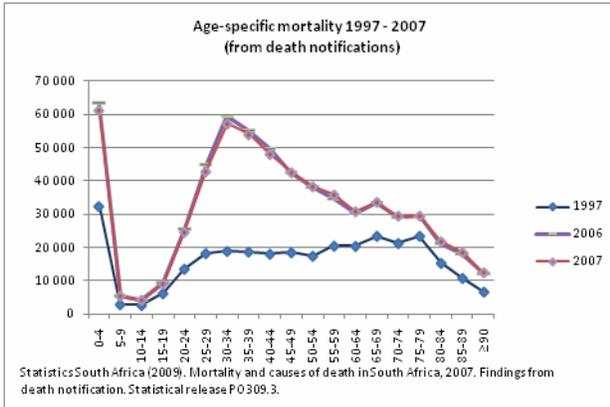
Figure 1. Total number of deaths in South Africa, 1997 - 2007



The number of deaths seems to have peaked in 2006, with a slight decline (-1.85%) registered in 2007. To date, AIDS has resulted in the deaths of at least 2.6 million South Africans, mostly children under five and young adults.

The number of deaths registered for children younger than five doubled over that time period, while that among 20-39 yr olds trebled [Figure 2]. Even when accounting for differences in completeness of data, these findings still hold true.

Figure 2. Trends in age-specific mortality 1997 – 2007



As a result, the median age of death has fallen from 52 years of age in 1997 to 43 years in 2007¹. Among women, the decline in longevity has been even more pronounced, from 57 to 42 years of age [Figure 3].

The increased number of deaths among infants and young children has reversed the declines in mortality that had occurred from about 1980. The infant mortality rate increased from roughly 50 per 1,000 live births in 1994 to about 60 in 2003. With the expansion of prevention of mother-to-child transmission, it has now reverted to 1994 levels (Health Systems Trust, 1995 – 2008). Child mortality has probably also peaked and should decline further with increasing availability of PMTCT and anti-retroviral treatment [Figure 4].

Figure 3. Trends in the median age of death, 1997 - 2007

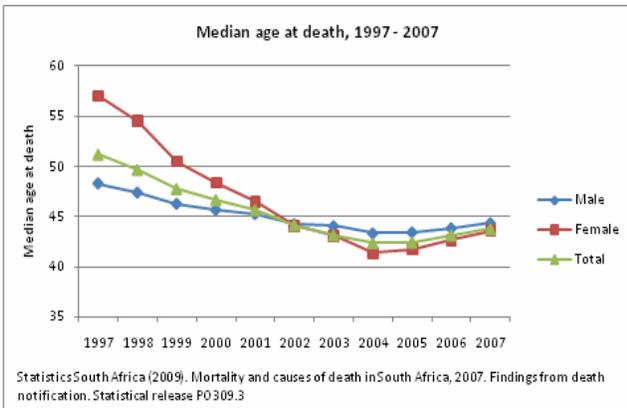
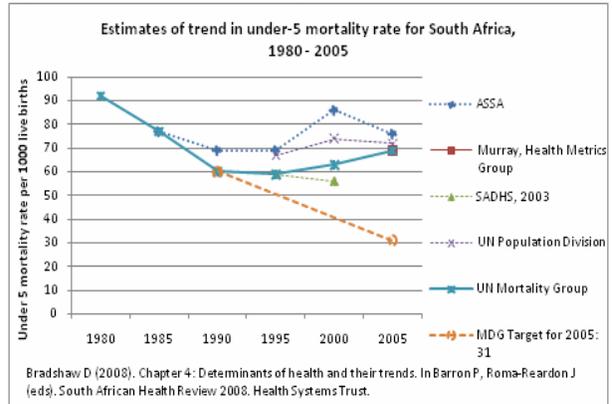


Figure 4. Trends in under-5 mortality rate, 1980 - 2005



¹ Median age of death is the age at which half of the people born in a particular year will have died.

The changing burden of disease is illustrated in Figures 5 and 6 below. It shows the exponential growth of AIDS-related deaths in the late 1990's.² In 1996, there was a slight bulge in overall mortality among 20-39 year old women (related both to sexual & reproductive causes and injuries). However, just four years later, AIDS accounted for over two-thirds of all deaths among women in this age group. Among men of this age group, AIDS-related deaths also increased (by 43%), but the disproportionate impact on women has reversed the gender ratio of deaths among young adults: In 1997, 20-39 year old men were 1.6 times more likely to die than women of similar age – mostly the consequence of more fatal injuries. But by 2007, 20-39 year old men were marginally (0.95) less likely to die than women of the same age (Statistics SA 2009a).

Figure 5. Trends in age-specific mortality among women, 1996 and 2000

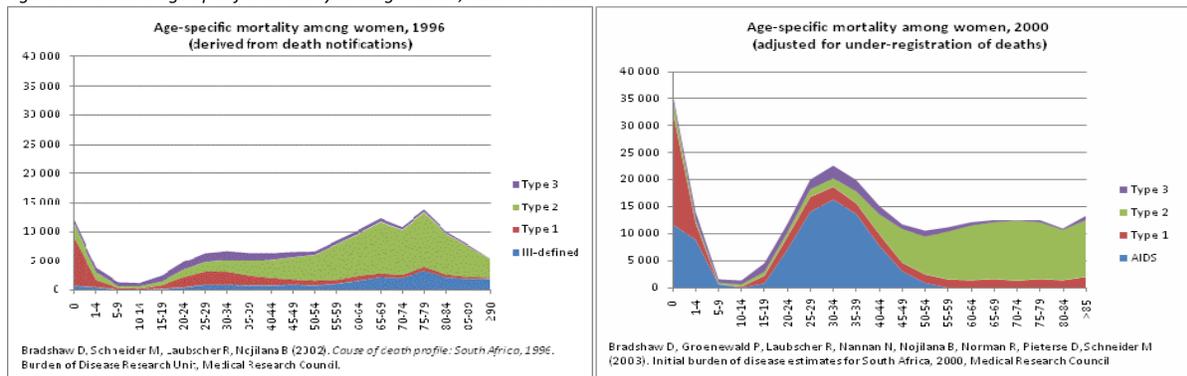
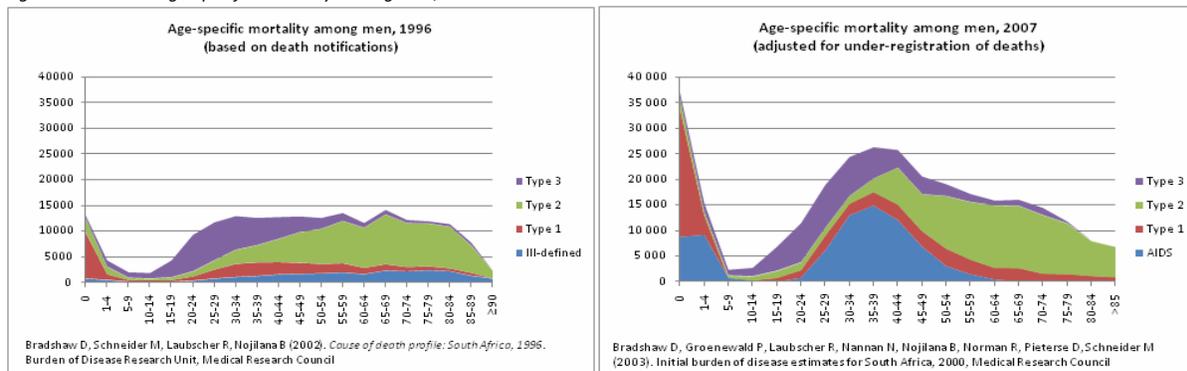


Figure 6. Trends in age-specific mortality among men, 1996 and 2000



Note: Type 1 is infectious and poverty-related conditions; Type 2 is non-communicable disease and Type 3 is death from external causes

The full scale of AIDS-related mortality is difficult to gauge, because AIDS deaths have been extensively misclassified. But it is likely that AIDS and HIV-related TB account for all of the increase in deaths from communicable disease, as well as a considerable part of the added mortality classified as non-communicable. Figure 7 shows that, while the number of deaths from external causes remained static between 1997 and 2004, the numbers of deaths in the other two categories both increased – most markedly for communicable diseases (4-fold), but also for non-communicable diseases (1.5 fold). Deaths attributable to tuberculosis alone accounted for an eighth (12.7%) of all recorded deaths in 2007 (Statistics SA 2009a) [See Figure 8].

² Type 1 refers to communicable and poverty-related diseases (other than AIDS). Type 2 is non-communicable diseases. Type 3 is injuries and other non-natural causes of death.

Figure 7. Contribution of three Global Burden of Disease categories to mortality, 1997 - 2004

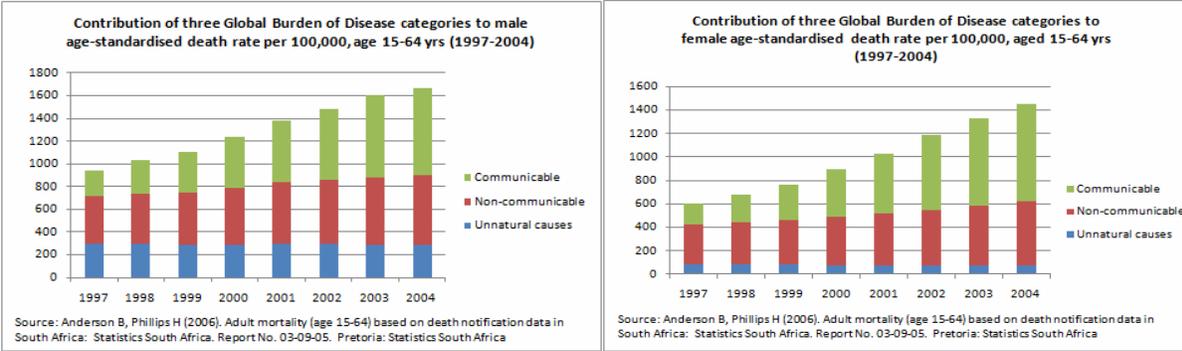
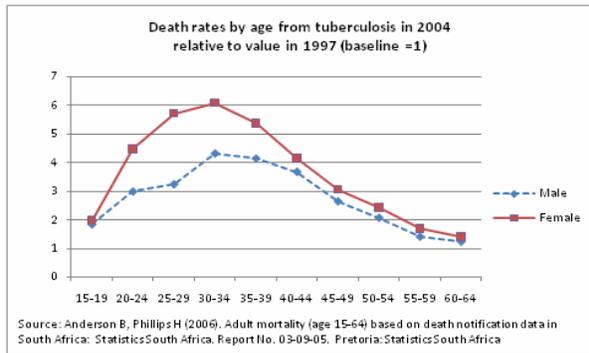


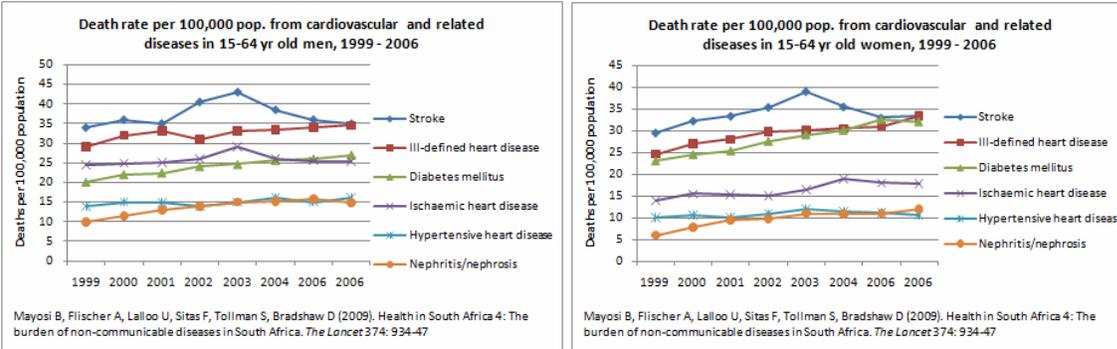
Figure 8. Age-specific death rates from tuberculosis in 2004 relative to 1997



The death rates for many, but not all, categories of non-communicable diseases have increased [Figure 9]. Given the relatively short time over which these trends are reviewed, it is not surprising that mortality rates for some diseases (such as hypertensive and ischaemic heart disease) show little change – even in a fast-transitioning state like South Africa. It is nevertheless important to note that these conditions now disproportionately affect poorer people in urban areas (Mayosi et al 2009). On the other hand, the trend in other diseases – such as stroke, diabetes mellitus and chronic kidney disease – has been

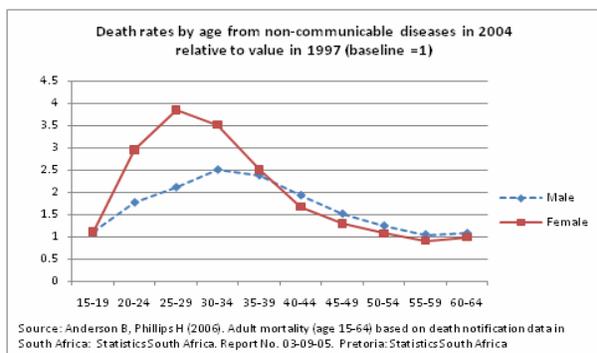
sharply upward, which must be explained.

Figure 9. Death rates per 100,000 pop. from cardiovascular and related diseases in men and women aged 15-64, 1999 - 2006



It is apparent that most of the changes in mortality attributed to non-communicable disease follow the same age pattern as deaths attributed to infectious diseases. This suggests strongly that most of the apparent increase in deaths from non-communicable deaths is AIDS-related [Figure 11].

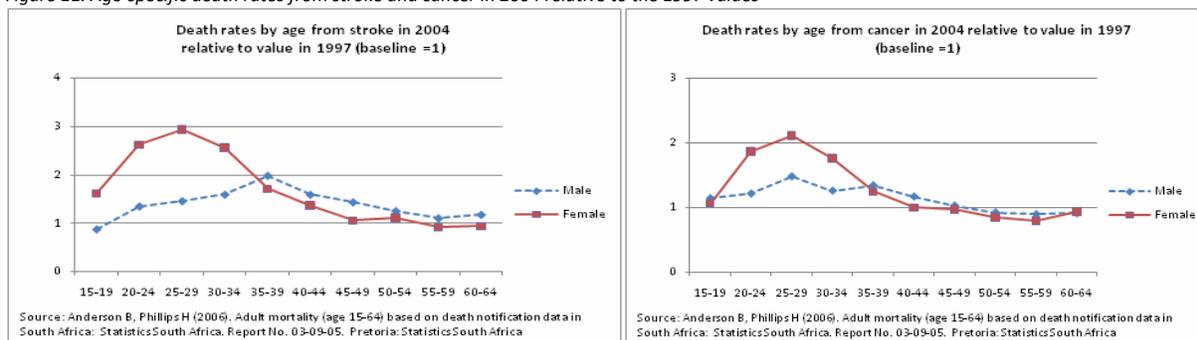
Figure 10. Age-specific deaths rates in 2004 relative to a baseline value in 1997



This is illustrated by the 5-fold increase in mortality attributed to 'certain (non-communicable) disorders of the immune system' (Anderson & Phillips, 2006). This apparent increase almost certainly reflects misclassification of AIDS-related death. However, not all of the increase in other categories is due to wilful or ignorant misclassification, but rather a greater predisposition to some non-communicable diseases among people living with HIV and AIDS. It is likely that HIV underlies the higher death rates from stroke (Patel et al

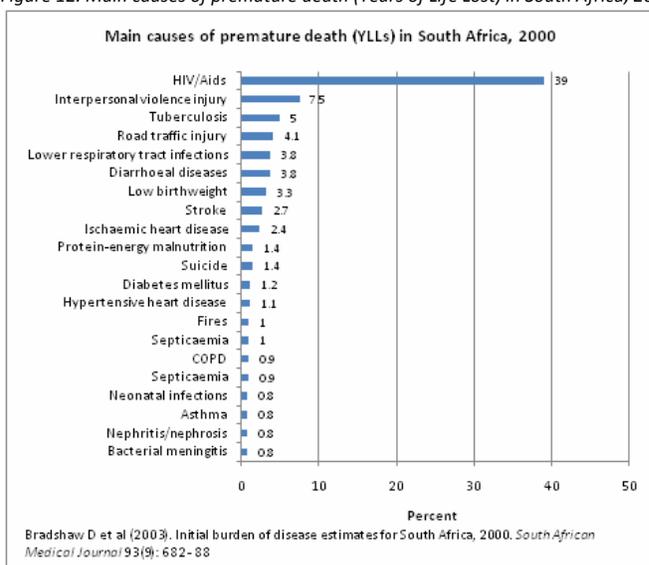
2005) and neoplasms such as cervical cancer (Bourke 2008) among younger people [Figure 11]. Further, it is possible that the significant declines in stroke-related deaths since 2005 may be linked to greater availability of anti-retroviral treatment (although the declines in rates of tobacco smoking may also have had an impact).

Figure 11. Age-specific death rates from stroke and cancer in 2004 relative to the 1997 values



On the other hand, there are real increases in mortality from diabetes mellitus, chronic kidney disease and cancer of the prostate that are probably unrelated to HIV (Mayosi et al 2009). These reinforce the fact that South Africa faces a quadruple burden of disease associated with AIDS, other diseases of inequality and poverty, diseases of transition and a persistently high fatality rate from injury and other external causes. However, sight should not be lost of the fact that HIV/AIDS is projected to account for about 75% of *premature* cause of death in South Africa in 2010 (Bradshaw 2003) – up from 39% just a decade ago [Figure 12].

Figure 12. Main causes of premature death (Years of Life Lost) in South Africa, 2000



While the prevalence of HIV has now peaked, and there are indications of significant declines among younger people, the enormity of the epidemic will continue to dwarf other causes of mortality for the next decade at least. Based on ASSA modelling,³ the number of deaths from AIDS will continue to exceed 300,000 per annum even if 90% ART coverage is achieved. While this would curtail any further growth in mortality and mean a saving of 200,000 lives a year, the total number of deaths p.a. would still be about the same as today. The only way in which the burden of AIDS will be reduced from current levels is by preventing new infection. This must be the main aim of efforts to reduce the burden of disease in South Africa.

This analysis of mortality in 2000,⁴ together with updated picture presented above, indicates that the four greatest disease priorities in reducing premature mortality in South Africa are:

- HIV/AIDS and TB (~75%);
- Injuries from interpersonal violence and road traffic accidents (~5%);
- Other infectious diseases and conditions related to poverty, mostly affecting children (~5%).
- Cardiovascular conditions (chronic diseases of lifestyle) (~5%)

Together, they probably now account for about 90% of premature deaths⁵.

³ Actuarial Society of Southern Africa

⁴ Done as part of the first Burden of Disease Study in South Africa; an update of the Burden of Disease study is currently underway. While not pre-empting the updated study, estimates in brackets give a rough indication of the relative contribution to current burden of disease.

1.2 Trends in underlying risk factors

Not surprisingly, the national health risk profile—calculated in terms of relative contribution of risk factors to disability adjusted life years (DALYS)—mirrors the mortality profile [Table 1].⁶ Following is a description of trends related to these factors and associated morbidity.

Table 1. Relative contribution of risk factors to total DALYS, 2000

Rank	Risk factor	% of total DALYS	Rank
1	Unsafe sex	31.5	1
2	Interpersonal violence	8.4	2
3	Alcohol harm	7.0	3
4	Tobacco smoking	4.0	4
5	Excess body weight	2.9	5
6	Childhood and maternal underweight	2.7	6
7	Unsafe water, sanitation & hygiene	2.6	7
8	High blood pressure	2.4	8
9	Diabetes (risk factors)	1.6	9
10	High cholesterol	1.4	10

Norman R, Bradshaw D, Schneider M et al (2007). A comparative risk assessment for South Africa in 2000: towards promoting health and preventing disease. *South African Medical Journal* 97: 637 – 41

1.2.1 Unsafe sexual behaviour

Most (>95%) of HIV infection in South Africa is sexually transmitted. The HIV prevalence among people older than 2 yrs has stabilised at about 11%. As people live longer on ART, it is likely to remain at that level for at least the next five years – even if a 50% reduction in incidence is achieved (Scott & Harrison, 2009). Women experience a spike of infection in late adolescence that is sustained into adulthood. The spike of infection in men happens a few years later and does not quite reach the peak levels found among women [Figure 13]. People living in informal settlements have the highest rates of HIV infection – probably associated with the socially fragmenting effects of urban transition [Figure 14].

Figure 13. Age-specific patterns of HIV prevalence, 2008

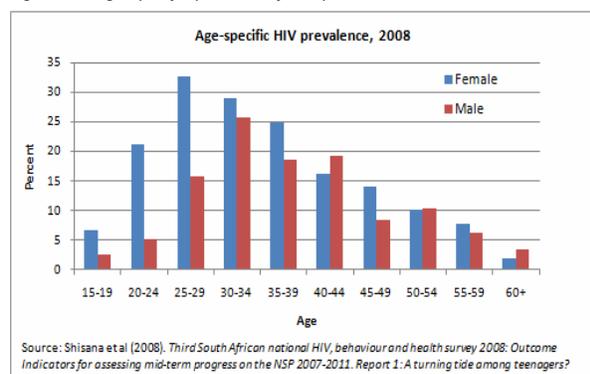
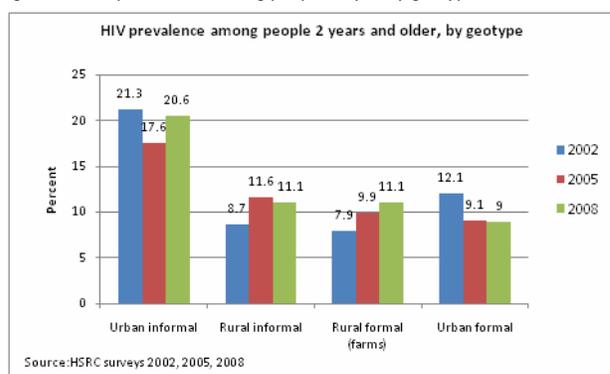


Figure 14. HIV prevalence among people ≥2 yrs, by geotype

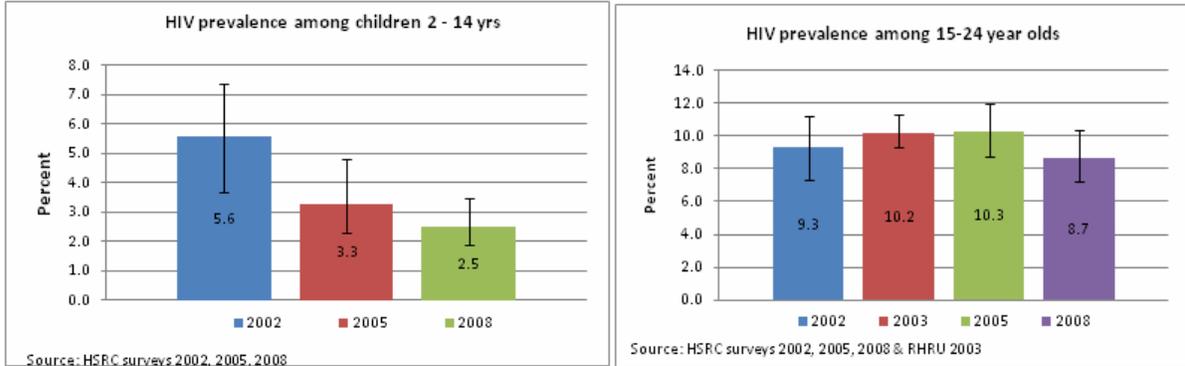


Encouragingly, the prevalence among children, teenagers and young adults has dropped significantly over the last eight years, and prevention efforts should sustain this downward momentum [Figure 15].

⁵ Premature deaths refer to deaths before the age of 65 years. Thus, if a person dies at 55 years of age, that death accounts for 10 years of life lost (YLL)

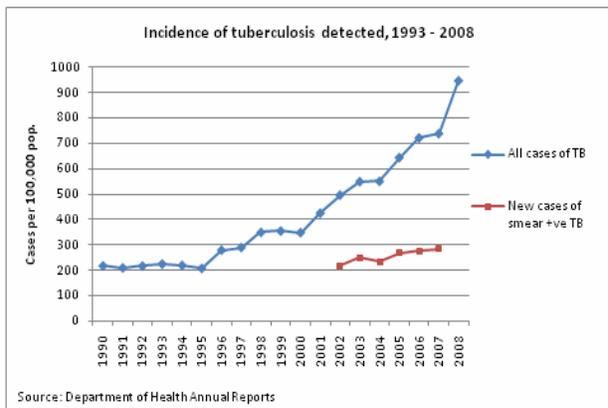
⁶ DALYS are the sum of years of potential life lost due to premature mortality and the years of productive life lost due to disability

Figure 15. HIV prevalence among children, teenagers and young adults, 2002 - 2008



The decline in prevalence in younger age groups is linked to better access to prevention of mother-to-child transmission (PMTCT) and much higher self-reported condom use. In 2008, two thirds (62.4%) of people over the age of fifteen said they used a condom at last sex compared to one quarter (27.3%) in 2002 (Shisana et al 2008). The increases in condom use among young people have been most marked in sexually active 15-24 year olds (>80% condom use at last sex), but there have also been substantial increases among older people (57% of 25-49 yr olds) – though perhaps not yet enough to confer protection at a population level.

Figure 16. Incidence of detected tuberculosis, 1993 – 2007



At the other end of the disease condition, the number of people living with HIV who now need ART is estimated to be 2.25 million, increasing to 2.75 million by 2012 (Walensky et al, 2008). This will be discussed in fuller detail in the next section.

The incidence of detected tuberculosis has tracked trends in the prevalence of HIV since 1994 [Figure 16]. Although the incidence of new cases of smear +ve pulmonary TB has not increased as sharply, this is mainly due to the high rate of smear negative TB and late detection of TB, especially among newly infected HIV positive people (meaning that people often present first with TB complications other than lung infection).

1.2.2 Interpersonal violence and traffic injuries

An estimated 3.5 million people in South Africa seek medical assistance for non-fatal injuries each year, of which half are due to interpersonal violence. Together, violence and traffic injuries account for three-quarters of death and injury from external causes (Seedat et al 2009). There has been a decline in the homicide rate since 1996, but the rate of reported rape and sexual assault has increased (by 8.2% since 2003) (SAPS 2009). Traffic injuries constitute roughly a tenth of all deaths from external causes, and the death rate from traffic injuries continues to edge up (18.0 and 6.0 fatalities per 100,000 males and females respectively (Statistics SA 2009b).

1.2.3 Alcohol harm

The most significant risk factor linked to injury is abuse of alcohol, which is a factor in over half of fatalities related to violence and traffic accidents [Table 2].

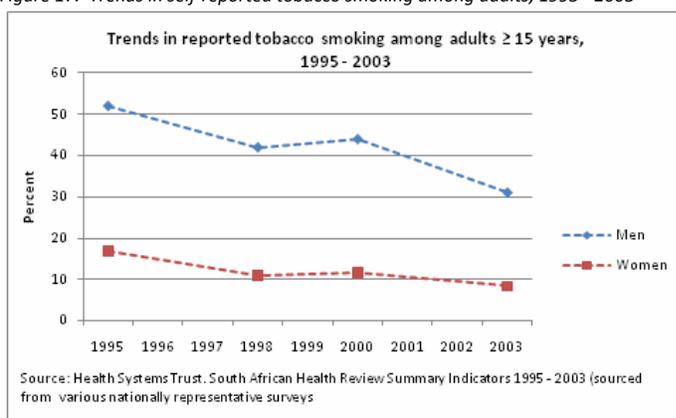
Table 2. Alcohol as a major factor in injury and death

	% of cases
Homicides	
Percent of victims with high alcohol levels in blood	57.7%
Intimate partner violence	
Alcohol a factor in homicides	67%
Traffic fatalities	
Percent of drivers over the legal limit of 0.05 g/100ml	46.5%
Percent of fatally injured pedestrians over legal limit	>50%

Source: Seedat M, van Niekerk A, Jewkes R, Suffla S, Ratele K (2009). Violence and injuries in South Africa: Prioritizing an agenda for prevention. The Lancet 374: 1011- 1022

1.2.4 Tobacco smoking

Figure 17. Trends in self-reported tobacco smoking among adults, 1995 - 2003



The prevalence of self-reported tobacco smoking has declined by over 40% since 1995 [Figure 17]. Among men, there has been a steady decline, whereas among women the prevalence dropped from 17% to 11% between 1995 and 1998, but has remained relatively constant since that time. Declines have been most marked among 25-44 year old men and poorer people – encouraging trends which will reduce the long-term burden of cardiovascular and respiratory disease. These declines may be attributed to the tobacco control legislation and strategies (Peer et al 2009).

1.2.5 Other major risk factors

Excess body weight: Roughly a tenth (8.3%) of adult men and a quarter (23.3%) of adult women were found to obese in 2003 (Dept of Health & MRC 2008). The proportion among men was similar to that in 1998, while that among women declined from 30.1%. The high rate of obesity is of particular concern among poorer African women, who are increasingly at risk for cardiovascular disease and diabetes mellitus.

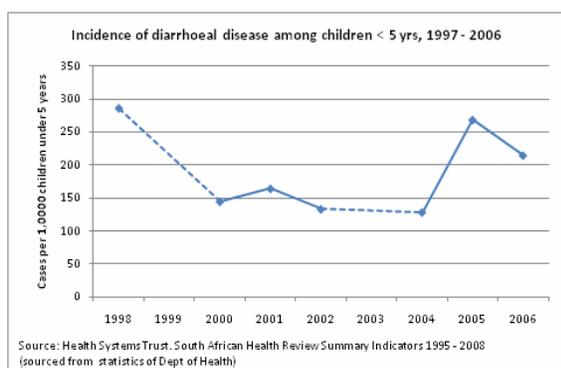
Childhood and maternal underweight: Our knowledge of the nutritional status of mothers and children is seriously inadequate, and no time series data are available to gauge progress since 1994. Table 3 summarises the available data with respect to children younger than six years of age. It shows significant levels of under nutrition, which accounted for 12.3% of deaths among children under five in 2000 (Nannan et al 2007).

Table 3. Percentage of children younger than six years with growth deficit

	1994 (6 - 71 mo.)	1999 (12 - 71 mo.)
Underweight	9.3%	11.1%
Stunting	22.9%	23.8%
Wasting	2.6%	3.8%

Source: Health Systems Trust. South African Health Reviews

Figure 18. Incidence of diarrhoeal disease among children under 5 presenting to PHC facilities 1998 - 2006



Unsafe water, sanitation and hygiene: Almost 10% of deaths of children under 5 years were attributable to unsafe water in 2000 (Lewin et al 2007). The incidence of cases of diarrhoeal disease treated at primary health care facilities has been recorded since 1998. The data are incomplete and no obvious trends are apparent, but the introduction of a vaccine against rotavirus in 2008 should significantly reduce the incidence of childhood diarrhoeal disease requiring medical attention [Figure 18]. However, these gains could be offset by deterioration in municipal water supplies. Although the Department of Water Affairs notes a high degree of compliance with national health standards of water quality (94%, DWAF 2009), the experience of Ukhahlamba district in the

Eastern Cape, where 80 infants died of contaminated water in 2008, points to the need for heightened vigilance and pre-emptive action between the Department of Health and local municipalities.

High blood pressure: The prevalence of hypertension was measured in the South African Demographic and Health Surveys of 1998 and 2003. They found that roughly a fifth of adults ≥ 15 years of age have hypertension (above 140/90 thresholds), with about 1 in 8 adults having moderate to severe hypertension. The mean diastolic pressure among men and women over 55 years declined significantly from 1998 – 2003, for reasons that are unclear. Of particular concern is that the groups with poorest hypertensive control were young men and Africans and coloureds, and young women – especially African women in rural areas. Given the long-term and incremental nature of hypertensive damage, hypertensive control among younger people is at least as important as among older people (Dept of Health & MRC, 2008).

The risk factors presented above point to the need for a far more systematic approach to risk reduction in South Africa (see Bradshaw et al 2007), and to the fact that the greatest impact on both communicable and non-communicable diseases in South Africa will be achieved through prevention.

2. THE STATE OF THE HEALTH CARE SYSTEM, 1994 - 2010

Progress and challenges in the South African health system since 1994 have been documented systematically by other authors.⁷ One of the consequences of the wealth of health systems analysis that has been built up since the early nineties is the difficulty in extracting the most pressing issues and priorities. Inevitably, there are different perspectives on what represent the greatest priorities. But at the same time, there is a remarkable convergence of some of the key areas of progress and remaining challenges. This review will highlight the ten areas of progress, as well as ten of the biggest challenges facing the Department of Health in the next decade⁸.

2.1 Progress: Ten most effective strategies

Ten strategies that led to significant progress include five instruments of legislation and gazetted policy, and five achieved through good health systems management [Box 1].

Box 1. Ten effective strategies that achieved significant progress since 1994

Legislation and gazetted policies	Better health systems management
1 Free primary health care	6 Greater parity in district expenditure
2 Essential drugs programme	7 Clinic expansion and improvement
3 Choice on termination of pregnancy	8 Hospital revitalization programme
4 Anti-tobacco legislation	9 Improved immunization programme
5 Community service for graduating health professionals	10 Improved malaria control

⁷ See for example Barron 2008, DBSA 2008 and Chopra et al 2009.

⁸ Although the selection of the 'top ten' is that of the author's, other critiques of the health system have identified similar areas of progress and challenge.

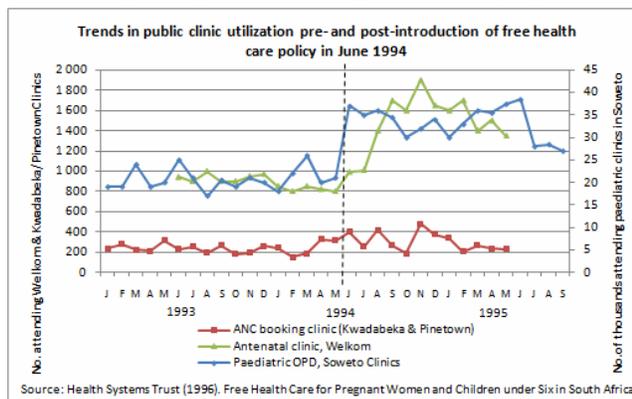
2.1.1 Free primary health care for all

On the 24th of May 1994, President Nelson Mandela announced in his State of the Nation address that all health care for pregnant women and children under the age of 6 years would be provided free to users of public health facilities. The free care policy at primary care level was extended to all users from 1 April 2006.

Figure 19. Trends in clinic utilisation pre- and post-introduction of free health care policy in June 1994

A national survey of health inequalities conducted in June 1994 found that 12.5% of people reported that they had delayed seeking health care. Of these, two thirds (64.3%) – and three quarters (73.8%) of Africans – cited the cost of health care as the main reason for delay (Hirschowitz & Orkin 1995). By 1999, 86% of people using public PHC facilities reported that there was no health care fee – although half still incurred travel costs (Smith et al 1999).

The initial effect on service utilisation was dramatic, but over time settled down to a new equilibrium that was fairly well accommodated within available resources [Figure 19]. However, health workers felt that the free health care policy imposed an additional burden on them, and it exacerbated discontent among nurses that culminated in a crippling countrywide strike in 1995. From the users' perspective however, the policy was largely welcomed (McCoy & Khosa 1996).



2.1.2 Essential drugs programme

In March 1996, Standard Treatment Guidelines (STGs) and an Essential Drugs List (EDL) were published for mandatory use in public sector facilities. This was reviewed and updated in 1998, and supplemented with STG/EDLs for adult and paediatric hospital care in 2003. There have been further updates since.

A review of implementation conducted in 2003 found that 90% of all prescribed items were in accordance with the National Essential Drugs List – a significant improvement from the average baseline of 65%. EDL formularies were available in 97% of facilities, up from the baseline of 59%. Most provinces complied well with the policy, with an average of 86% of drugs on the shelves of facilities from the National EDL (Dept of Health 2003a).⁹ The net effect of the policy was more efficient and rational use of drugs.

Government efforts to make medicines more affordable have also had a degree of success. The introduction of a single exit price for every pharmaceutical product in 2005¹⁰ (meaning that the manufacturer is required to specify a price) is thought to have helped reduce prices by about 20%. However, an increase in market competitiveness through expanded use of generic drugs may also account for changes in pricing structures (Taylor 2007).

2.1.3 Choice on termination of pregnancy

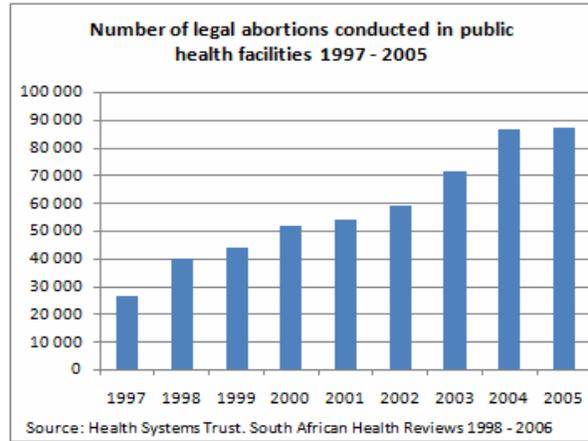
The Choice on Termination of Pregnancy Act of 1996 was introduced in response to the high number of 'backstreet abortions', estimated at about 44,000 per year (Barron et al 1997). About 425 women were thought to die each year as a result of unsafe abortions, accounting for about 3% of deaths among 20-29 year old women (Dept of Health 2003b). The Act provided for termination of pregnancy on request of the woman up to 12 weeks of pregnancy, and at the discretion of medical practitioner (for a variety of reasons) until 20 weeks of gestation.

⁹ In the 2003 survey, the provinces with the lowest compliance were KwaZulu-Natal (75%) and the Western Cape (77%).

¹⁰ Medicines and Related Substances Control Amendment Act (Act 90 of 1997)

Figure 20. Number of legal abortions in public health facilities 1997 – 2005

The number of terminations of pregnancy has increased steadily since 1997, and the rapid growth in numbers since 2002 may possibly be related to the increasing AIDS-related mortality during that period, in that HIV positive mothers may be more reluctant to bear children who may be orphaned [Figure 20].¹¹ Legalisation of abortion immediately decreased morbidity associated with unsafe abortions, although the clinical differences observed in hospitals were not that substantial (Jewkes et al 2002). The effect on abortion-related mortality was more marked, with 40 abortion-related deaths per annum being recorded between 1999 and 2001. This implies a 90% reduction in mortality (possible range 51.3% - 94.8%), compared with the estimates of the 1994 national incomplete-abortion survey (Jewkes & Rees 2005).



2.1.4 Anti-tobacco legislation

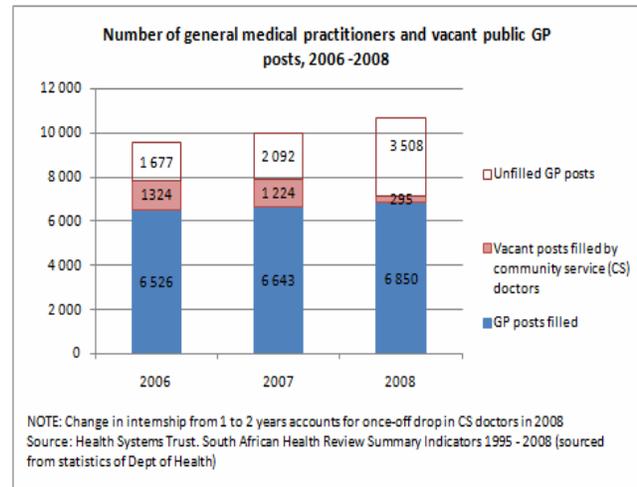
The Tobacco Products Control Act of 1993 was amended in 1999 to, amongst other things, prohibit advertising and promotion of tobacco products. Together with increasing taxation on cigarettes, this legislation has contributed to the decline in smoking illustrated in Figure 17 above. It is estimated that a 10% real increase in the price of cigarettes in South Africa resulted in a drop in demand of 6-8% (Peer et al 2009).

2.1.5 Community service for graduating health professionals

The one-year community service programme for newly-graduated health professionals has significantly improved the availability of human resources in the public sector. The first intake of doctors, dentists and pharmacists happened in 2001, while community service (CS) for other categories of health professionals was introduced in 2004. Figure 21 illustrates the effect of the CS programme on the number of general practitioners, increasing it by 20% in 2006 and 2007. (The introduction of a two-year internship in 2008 accounts for the once-off decline in CS doctors in 2008).

The increases in other categories of health professionals are even more marked: While comparable statistics are not available, the number of occupational therapists and physiotherapists in the public sector has increased by at least 33% and 40% respectively.¹²

Figure 21. Effect of CS programme on general practitioner supply 2006 - 2008



¹¹ Anecdotal reports have noted that many HIV +ve mothers are reluctant to have more children in the face of their own uncertain survival

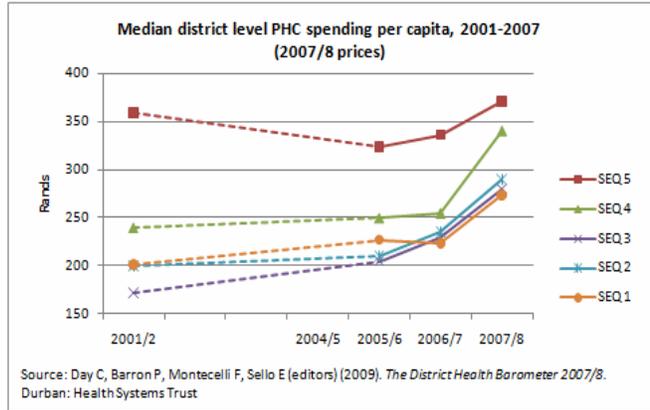
¹² This calculation is based on the numbers of CS health professionals and the number of specific posts available in the public sector.

2.1.6 Greater parity in district expenditure

A key objective since 1994 has been to increase equity in resource allocation. The White Paper for the Transformation of the Health System (1997) emphasized the importance of promoting equity and redressing the effects of apartheid. Specifically, it called for a relative redistribution of resources across provinces (Dept of Health 1997).

Figure 22. Public spending per capita on district level health care, 2001 - 2007

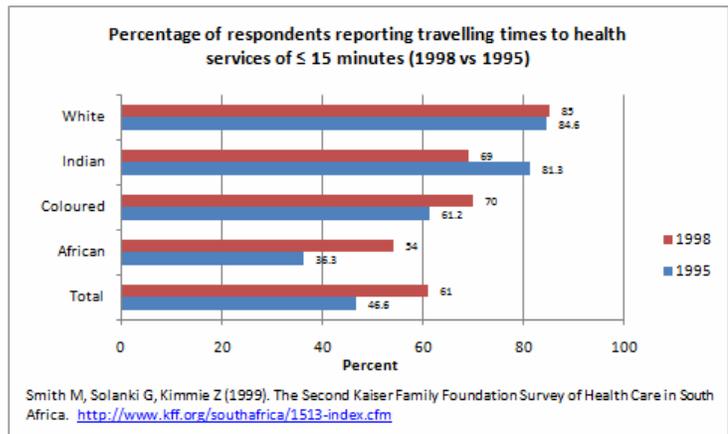
In 1993, the per capita public spending on health care by provinces ranged from R164 to R491.¹³ Average public expenditure per person on health services in the richest district quintile was 3.6 times more than that in the poorest district quintile¹⁴. These data understated the differences in that a higher proportion of residents of wealthier districts used private sector providers (McIntyre et al 1995). The median public spending on district health services in the wealthiest district quintile (SEQ5) is now 1.4 times that of the poorest quintile [Figure 22]. From 2001 to 2008, the ratio between the district with the highest and lowest public per capita spending dropped from 9.3 to 3.3 – a considerable improvement in the equitable allocation of public resources.



2.1.7 Clinic expansion and improvement

Figure 23. Percent of respondents travelling 15 minutes or less to health services, 1998 cf. 1995

The Clinic Upgrading and Building Programme (CUBP) was initiated as a Presidential Lead Project in 1994, but really only gained momentum in August 1996. By 1998, about 460 new clinics and 810 clinic residential units were built, as well as new additions to 175 existing clinics (Abbott 1997). Actually, the expansion of the clinic network in South Africa had started in 1992, with about 200 clinics being built, financed from the South African Government and Independent Development Trust. The combined effect was that clinic provision kept pace with the increasing population size between 1992 and 2,000 (roughly 13,000 people per fixed clinic). More importantly, access to primary health care improved for marginalized communities in both urban and rural areas [Figure 23]. The proportion of Africans who reported travelling 15 minutes or less from home to health services increased from just over a third (36.3%) to above half (54%) between 1995 and 1998 (Smith et al 1999).



2.1.8 Hospital revitalization programme

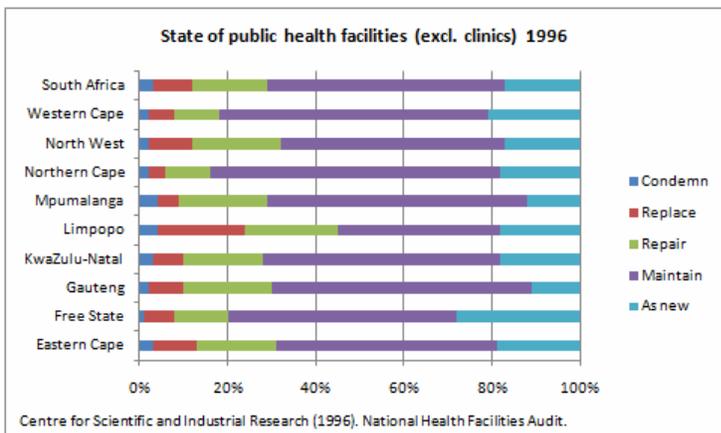
In 1996, the Department of Health commissioned the Council for Scientific and Industrial Research to undertake a national audit of health facilities (CSIR 1996). It found that almost a fifth (17%) required substantial repair, while 12% of the capital stock needed to be replaced or condemned [Figure 24]. The audit concluded that about R7.6 billion was needed to restore the estate to acceptable condition.

¹³ This figure included spending on tertiary hospitals.

¹⁴ A quintile is 20% of the population

In some provinces, the situation was much worse. For example, in Limpopo, almost a quarter of facilities needed to be replaced (20%) or condemned (4%). In response, substantial capital funding was made available to the worst-off provinces in 1995/6 and 1996/7, resulting in rapid and significant improvement. In Limpopo, a re-audit conducted in 1997 found that the proportion of facilities restored to suitable condition had increased from 11% to 16%.

Figure 24. State of public hospitals and health centres, 1996



In 1998, the Hospital Rehabilitation and Reconstruction Programme was initiated, which included the replacement of equipment and facilities in hospitals across South Africa, and the construction of 11 district and regional hospitals and three new academic complexes.¹⁵

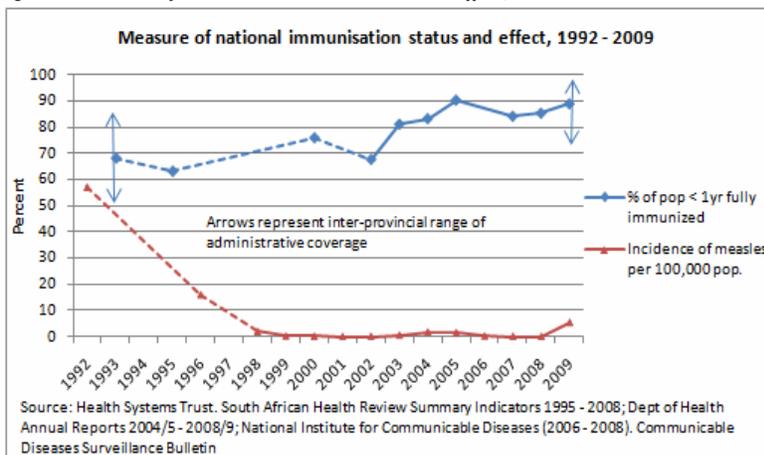
The importance of integrating the planning of physical assets with broader health systems planning was recognised in the Hospital Revitalisation Programme outlined in the Ten Point Plan Strategic Framework, 1999 – 2004. This programme sought to simultaneously improve infrastructure, health technology, organizational management and service

quality. By 2008, there were 40 participating hospitals. However, in 2009, this number was reduced to 27 as a result of a sharp reduction in infrastructural funding (Dept of Health 2009b). A further limitation on the success of the programme has been an inability to achieve the anticipated levels of staffing – a particular problem noted in the academic hospitals in Durban and Umtata (Barron 2008).

2.1.9 Improved immunization programme

A revised immunization schedule in April 1995 brought South Africa in line with internationally accepted practice. This schedule included Hepatitis B vaccine. A number of additional vaccines have recently been added or modified, including a pentavalent (diphtheria, pertussis, inactivated polio and *haemophilis influenzae* B), pneumococcal and rotavirus vaccine.¹⁶

Figure 25. Measure of national immunisation status and effect, 1992 - 2009



Although national coverage¹⁷ was already relatively high in 1992, there was considerable variation from a low of 50% in the Eastern Cape to 85% in Gauteng [Figure 25]. In 1996 and 1997, the first nationwide vaccination campaign was conducted, and the Department of Health has continued to report increases in coverage. Significantly, the inter-provincial range has decreased, with no province reporting lower than 70% in 2008 (Dept of Health 2009). By 2001, measles was virtually eliminated, with 8 confirmed cases that year.

An outbreak in 2003 – 2005 raised the possibility that vaccine effectiveness was diminished in HIV positive children. However, a study concluded that the primary cause was failure to vaccinate enough of the population to prevent endemic measles transmission

¹⁵ The three new academic complexes were Nkosi Albert Luthuli Central Hospital (Durban), Nelson Mandela Academic Hospital (Umtata) and the Steve Biko Academic Hospital (formerly Pretoria Academic Hospital).

¹⁶ The *haemophilis influenzae* type b vaccine was introduced in 1999 and the pneumococcal and rotavirus vaccines in 2009

¹⁷ Based on estimates of the number of doses delivered divided by the target population ('administrative coverage')

reintroduced from Mozambique (McMorrow et al 2009). The current epidemic, predominantly in Gauteng, is possibly due to the large number of economic refugees from neighbouring Zimbabwe, with lower rates of vaccination. It also suggests that the coverage (based on the number of doses given) is overestimated, failing to take into account the large number of foreign nationals in South Africa.

2.1.10 Malaria control

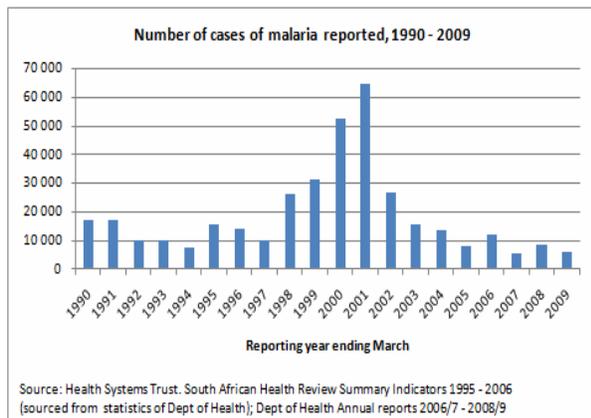


Figure 26. Number of cases of malaria reported, 1990 – 2009

The number of malaria cases starting rising in the mid-eighties when chloroquine resistance was first detected. During the 1990's, the number increased exponentially (in the provinces of Mpumalanga, KwaZulu-Natal and Limpopo) following the phasing out of DDT vector control in 1996. Its re-introduction¹⁸ in 2000, coupled with the introduction of artemisinin-based combined therapy and cross border control initiatives, brought about a 90% reduction in cases in KwaZulu-Natal within a year (Maharaj et al 2005). Since then, the number of cases of malaria has declined further [Figure 26]. The case fatality rate has remained constant at less than 1%.

Unfortunately, despite the environmental risks of DDT, it is singularly effective for malaria control in southern Africa.

Nevertheless, DDT resistance is likely to emerge over time, and new integrated vector control measures should be constantly assessed.

2.2 Challenges: Ten of the biggest

Ten of the biggest challenges facing the health sector relate to the prevention and control of epidemics, the allocation of resources for health care, and five intractable problems related to health management [Box 2]. These will be discussed below.

Box 2. Ten biggest challenges facing the health sector, 2010 - 2015

<i>Prevention and control of epidemics</i>	<i>Allocation of resources</i>	<i>Health systems management</i>
1 Prevention and treatment of HIV/AIDS	4 Distribution of financing & spending	6 Quality of care
2 Prevention of new epidemics (esp. MDR-TB)	5 Availability of health personnel in the public sector	7 Operational efficiency
3 Prevention of alcohol abuse		8 Devolution of authority
		9 Health worker morale
		10 Leadership & innovation

2.2.1 Prevention and treatment of HIV/AIDS

This review will not focus on past policies with respect to HIV/AIDS in South Africa. Suffice it to say that, while the returns on HIV prevention depend on many factors outside of health and state sectors, failure to mount a concerted and comprehensive prevention programme at sufficient scale has undoubtedly contributed to the high levels of morbidity and mortality. Similarly, failure to implement antiretroviral treatment early enough has placed a massive burden of orphanhood on the socio-economy.

The priority most keenly felt by national and provincial health ministries is the need to cope with the growing demand for antiretroviral therapy. Of itself, this pressing requirement creates a challenge to health service management, in that other health services that are equally or even more cost-effective may be unduly compromised. For this reason, a clear and rational approach to the prevention and treatment of HIV/AIDS is critical for the sustainability of the South African health system.

¹⁸ Pyrethroid insecticides continued to be used in cement-plastered and painted structures, and DDT used in mud, reed or wood structures.

This approach will need to take into account the:

- Continuing high mortality, even with ART
- Cost-effectiveness of ART scale-up
- Expected demand for ART
- Expected costs
- Affordability
- Trade-offs
- Prevention of new infections.

These issues are dealt with below:

Continuing high mortality: A critical point to note is that, even with an optimal ART programme, the number of deaths from AIDS will continue to exceed 300,000 p.a. for the next five to ten years [Figure 27]. The value of the ART programme is to prolong life and prevent further increases in death rates.

Cost-effectiveness of ART scale-up:

Failure to understand the cost-effectiveness of ART and specific treatment options could, over time, distort the allocation of available resources and lead to good treatment for some, but none for others who will require treatment in future years.

The cost-effectiveness of an intervention ultimately depends on society’s willingness to pay for it. The authors of a health service costing study in Khayelitsha concluded that ART may be considered cost-effective if South Africa is prepared to pay about R10,400 for each person-year of life gained (Cleary et al 2006).¹⁹ Although it is difficult to compare this cost to the benefits of other interventions requiring funding, a general benchmark proposed by the Commission on Macroeconomics and Health is that health interventions costing less than the per capita Gross Domestic Product are very cost-effective. Given that South Africa’s per capita GDP is about R47,000 (Statistics SA 2009c), provision of ART may be considered an efficient use of economic resources.

Even if ART is regarded as an efficient economic allocation, decisions still need to be taken about the use of resources available to the health sector. In this regard, there are clear clinical benefits to starting ART earlier (i.e. above a CD4 count of 200/microl). The mean life expectancy increases [Table 4]. But this positive effect comes at greater expense for each year of quality-life gained. In a resource-constrained context where not everybody will be able to be treated, the decision will need to be taken whether to spend additional resources on ensuring that every person derives at least minimum benefit from ART, or extending the lives of a selected group of people (based on clinical criteria) for longer.

Figure 27. Projected annual mortality associated with varying levels of ART coverage

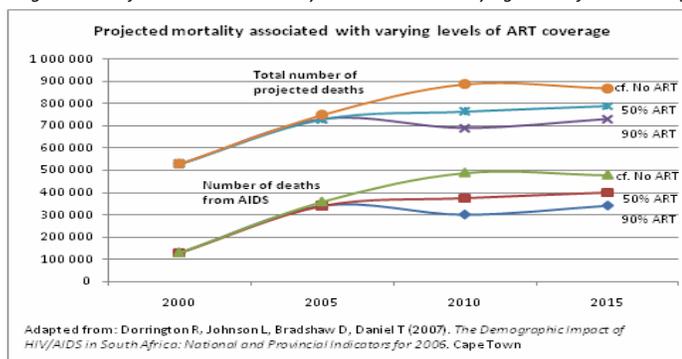


Table 4. Comparison between the costs and benefits of initiating ART at different CD4 thresholds

	No ART	CD count at the start of treatment		
		< 200	200 – 350	>350
Mean life expectancy (yrs)	6.2	18.8	21.0	23.3
Discounted (8%) QALY	3.1	6.2	6.7	7.4
Lifetime costs (US\$)	5 250	5 434	5 740	6 188
Incremental cost-effectiveness ratio		54	616	1 137

The effect of each treatment option on mean life expectancy, QALYs, lifetime costs and ICER is compared with the next most effective option

Source: Badri M et al (2006). When to initiate highly active antiretroviral therapy in sub-Saharan Africa? A South African cost-effectiveness study. *Antiviral Therapy* 11(1):63-72

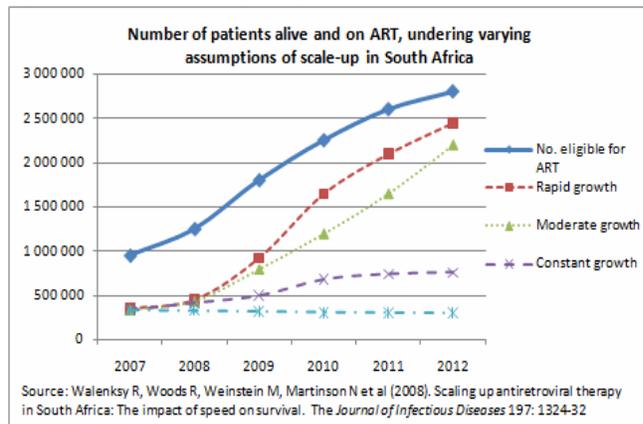
¹⁹ Authors’ calculations based on 2003 prices have been adjusted to account for inflation (less housing mortgage costs) and presented as 2009/10 prices (R:\$ exchange rate 7.5:1). The authors found an incremental cost-effectiveness ratio (incremental lifetime costs divided by incremental effectiveness in terms of preventing years of life lost) of \$984 (95% CI \$913 – 1,078), compared to no ART; life years lost discounted at 3% p.a.

Modelling based on the Cape Town AIDS Cohort shows the beneficial effect of starting ART earlier (Badri et al 2006). When treatment is initiated earlier, life expectancy increases. Each successive treatment option adds six or seven years of quality life, but the incremental cost of this added benefit is significantly higher for each treatment option.

Put another way, it costs 12 times more to gain an added year of quality life for a person started on ART at a CD4 threshold of 200-350/microl than it does to achieve the same gain for a person started on ART with a CD4 count < 200 (comparing the latter to no ART). Given the Government's commitment to equity, it would seem that the first priority is to ensure that every person gains access to ART at current CD4 thresholds. The exceptions are pregnant women and people with TB co-infection: the initiation of HAART at a threshold of 350/microl in pregnant women has been shown to virtually eliminate vertical transmission and is likely to be highly cost-effective (Mofenson 2009); similarly, earlier initiation of ART in TB-HIV co-infected patients may significantly reduce the health care costs of co-morbidity (Lawn & Wood 2007)). For these reasons, the policy changes announced on December 1, 2009 to lower the threshold for initiating ART for these groups to ≤ 350 /microl make good sense.

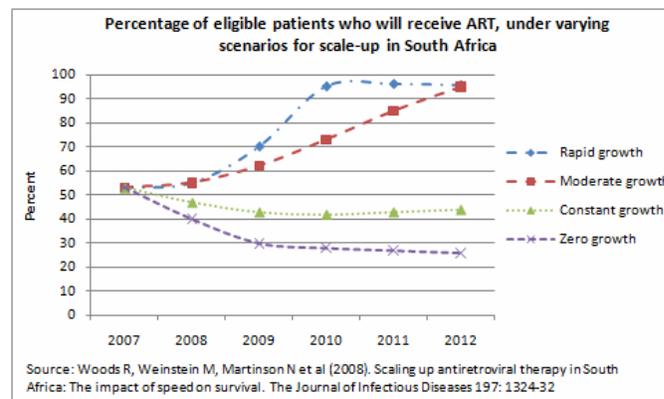
Expected demand for ART: Figure 28 shows the projected demand for ART until 2012, based on the projected numbers of people living with HIV who are eligible for ART using current clinical criteria (Walensky et al 2008).

Figure 28. Expected demand for ART, 2007 - 2012



There will be 2.75 million people requiring ARVs by 2012. Although South Africa has done well over the past three years to accelerate ART provision – and was tracking the ‘rapid growth’ curve in 2009 – the numbers of people requiring ART will grow exponentially during the course of 2010. Arguably, our response in 2010 will define the trajectory of ART provision over the next decade. Figure 29 illustrates that only a moderate to rapid growth response will enable South Africa to meet the growing demand. This implies a minimum of an additional 100,000 treatment slots opening up each year, compared to the prior year.²⁰

Figure 29. Proportion of eligible patients who receive ART under varying scenarios for scale-up in South Africa 2007 – 2012



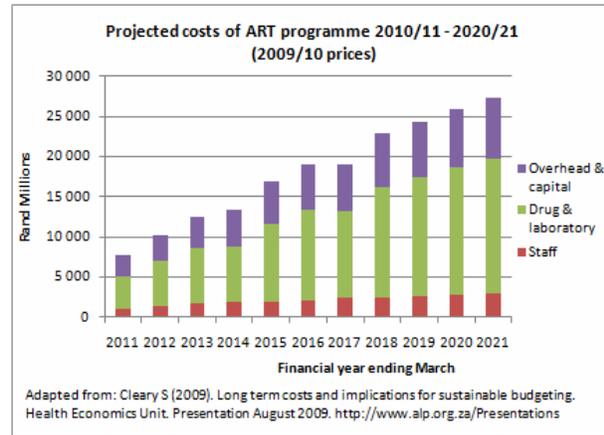
Projected costs: Figure 30 illustrates the likely costs of further scale-up of the ART programme, assuming 80% coverage. It shows that additional health systems requirements other than pharmaceuticals and laboratory services will comprise about 20% of total cost (Cleary 2009). Apart from the additional expenses at primary care level, the expanded roll-out of ARVs will significantly increase the resource requirements at secondary level (Kevany et al 2009).²¹

²⁰ Modelling categories: Zero growth – no new treatment slots; constant growth – a fixed number of new slots open each year; moderate growth – every year, an additional 100,000 new slots open compared to the prior year; rapid growth – each year, the number of new slots doubles compared to the prior year; full capacity – each year there are slots available to treat everyone in need. The ASSA default model is comparable to the ‘constant growth’ model, while the 90% coverage model of ASSA is comparable to the ‘rapid growth’ model.

²¹ Incremental costs at a dedicated antiretroviral unit at GF Jooste Hospital were found to be an average of R1,280 for per outpatient visit and R5,802 for inpatient episode

Figure 30. Projected costs of ART programme 2010/11 – 2020/21 (assuming 80% coverage)

Affordability: At current levels of public spending for the uninsured population (3% of GDP), the costs presented in Figure 30 will not be affordable and will overwhelm the health system. Under these conditions, spending on the ART programme will consume 40% of the total health budget by 2020, compared with 12% today (Cleary 2009). Assuming reasonable economic growth over the next decade, an ART programme of 80% coverage could be achieved if public spending on the public health systems were increased from 3% to 5% of GDP.²² In that case, spending on the ART programme would consume 14% of budget – a far more manageable proportion.



Trade-offs: Given the above issues related to cost-effectiveness of different treatment options, the expected demand and projected cost, there will need to be very specific policy decisions regarding the trade-offs between:

- Allocation of public resources for health care and for ART provision, relative to other sectors and other health services;
- Coverage and effectiveness of different treatment options (including CD4 thresholds for initiation of ART and availability of second and third line treatment); and
- Differing models of care (including the frequency and type of laboratory testing and the category of health professional providing the primary service).

Prevention of new HIV infection: The only way that South Africa will decrease its current mortality burden is to reduce the rate of new infection. This requires a sustained, comprehensive HIV prevention programme at scale. Table 5 outlines the range of strategies required in South Africa to halve the rate of new infection in South Africa by 50% over the next five years.

Table 5. Outline of strategies required to halve the rate of new HIV infection in South Africa by 2013

EXPAND HEALTH SERVICE STRATEGIES THAT DIRECTLY REDUCE THE RATE OF NEW HIV INFECTION	INTENSIFY HEALTH CARE PROGRAMMES THAT ENHANCE THE EFFECTIVENESS OF HIV PREVENTION
<ul style="list-style-type: none"> • Increase condom distribution to an average of 45 condoms per male > 15 yrs, focusing on most-at-risk groups and low distribution districts; increase female condom provision through public & private primary care facilities. • Achieve 95% completion of PMTCT for all HIV exposed babies: dual therapy for women with CD4 >350 and HAART for those with CD4 ≤350 (once new policy approved). • Scale up national medical male circumcision programme 	<ul style="list-style-type: none"> • Introduce provider-initiated HIV testing in health facilities. • Increase TB case detection through a high-vigilance protocol linked to HIV testing. • Provide a 'package deal' of HIV testing, condoms, information, PAP smears and STI treatment to people attending clinics and private GPS for STIs. • Improve service quality through focused support particularly aimed at improving the access and quality of sexual and reproductive services for young people and men.
IMPLEMENT A PORTFOLIO OF AGE- AND RISK-DIFFERENTIATED BEHAVIOUR CHANGE PROGRAMMES AT SUFFICIENT SCALE	
<ul style="list-style-type: none"> • High coverage behaviour change programmes: Age-differentiated, focused on most-at-risk and combining media and interpersonal services. • Focus on reducing risk tolerance associated with transition, social exclusion, gender violence and alcohol use. • Focus on social mobilization aimed at changing norms related to gender inequality and sexual violence • Focus on preventing early sexual debut and teen pregnancy - and protecting pregnant teenagers, by ensuring rapid reintegration into schooling. 	
CREATE IMPETUS FOR ACCELERATED HIV PREVENTION AT ALL LEVELS	
<ul style="list-style-type: none"> • Political leadership and participation in HIV prevention activities (including HIV testing). • Sustained high-visibility public communication. 	

²² Modelling assumes growth in GDP of 1.4% in 2009, 3% in 2010 and 4% in 2011 - 2020

Sensitivity analysis by Stover shows that, even if a low range of impact is used to calculate the cost-effectiveness of comprehensive prevention (compared to the treatment and care costs) of infection, HIV prevention saves money (USD 657 per infection averted). When probable impact of HIV prevention is compared to the costs of treatment and care for 5 years, the savings are USD 551. When compared with 10 years prevention and treatment, the cost savings increases to USD 2,080 per infection averted (Stover et al 2006). Although this modelling is generic, it gives an idea of the expected benefit of HIV prevention. Perhaps more importantly, it signals the levels of coverage and the combination of interventions required to have the expected impact.

Figure 31. Average number of male condoms distributed per district 2004 - 2008

In this regard, there are relatively easy and obvious gains to be achieved by: saturating high prevalence districts and most-at-risk groups (including prisoners) with male and female condoms; eradicating missed opportunities for PMTCT within public health facilities; and implementing a portfolio of behavioural interventions – differentiated by age and risk group – at sufficient scale.

The prospects of new gains are illustrated by the following:

- Ironically, some of the districts with the highest prevalence of HIV have the lowest condom supply [Figure 31].²³

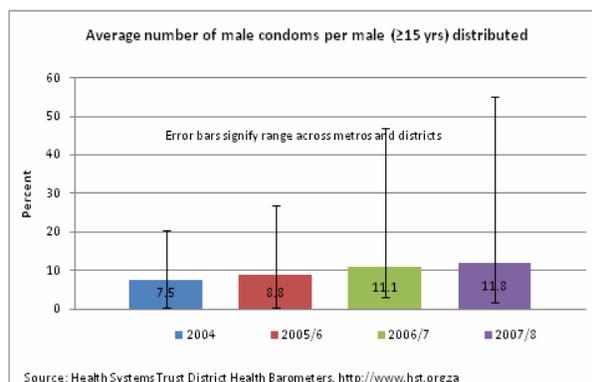


Figure 32. Estimated shortfalls in coverage of behavioural programmes, 2008

- Based on data collected through the district health information system, the cumulative failure rate for PMTCT was 37.5% in 2007/8, meaning that at least 4 out of 10 HIV-exposed babies failed to get any or all of the benefit of the programme (Harrison 2009).
- Although national coverage of HIV prevention media programmes is high, there is still insufficient community-level behavioural programming. Figure 32 shows the estimated coverage shortfalls for age-differentiated interpersonal programmes against targets of the National Operational Plan.

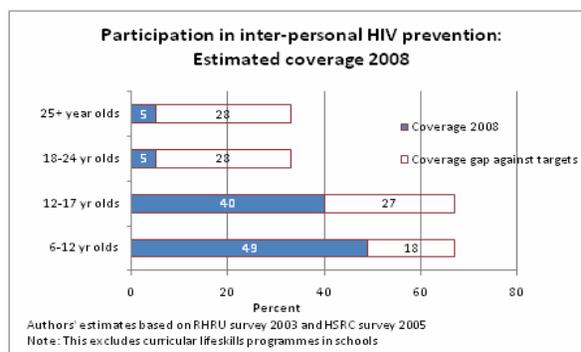
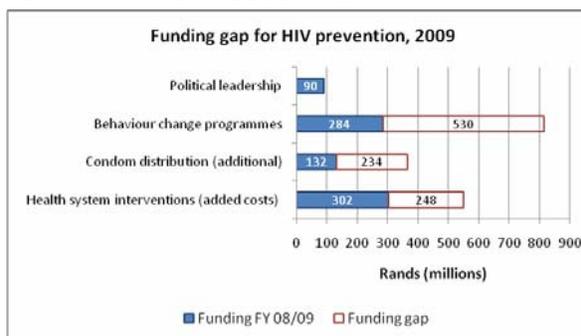


Figure 33. Estimated funding gap for HIV prevention, 2009

Excluding the scale-up of a national medical male circumcision programme, the net funding shortfall for the most urgent subset of HIV prevention programmes is estimated at about R1.033 billion (over and above the approximately R750 million allocated to existing DOH programmes in FY 09/10) [Figure 34].²⁴ The scenarios modelled through the AIDS 2031 forecasting initiative put the full cost much higher (~R3-5 billion). These estimates will need to be carefully reviewed, but ensuring that a fully-funded, well-executed national programme of HIV prevention is in place is a singular health priority.



²³ The districts that report the lowest number of condoms distributed are in KwaZulu-Natal, Free State and Mpumalanga

²⁴ Specific costs and rationale are provided in the *Basis for Operational Plan for HIV Prevention 2009-2013* (www.doh.gov.za). Note that this amount includes an additional amount of R130 million to expand the life skills programme in schools.

2.2.2 Prevention of new epidemics (esp. MDR-TB)

MDR-TB: It is uncertain whether HIV infection predisposes to drug resistant TB, or whether the increased detection of MDR-TB simply reflects the higher incidence of TB, together with inadequate case-management (Lawn & Churchyard 2009). Regardless, MDR and XDR TB represent a major public health threat in South Africa – that could significantly increase mortality over the next five years unless it is properly contained by effective HIV and TB prevention and case management.

The prevalence of multi-drug (MDR) and extensively drug resistant TB (XDR) is not accurately known. Nationally, the Department of Health estimates that 6% of retreated TB cases and 1% of new cases are multi-drug resistant (Dept of Health 2008). Assuming a retreatment ratio of 22% for 2008/9, this translates into 9,546 cases of MDR TB in 2008/9. The proportion of MDR isolates from all provinces other than KwaZulu-Natal (2004 - 2006) found to be extensively drug resistant was 2% (Coetzee & Koornhof 2006). However, it may be much higher in parts of KwaZulu-Natal,²⁵ and the Department of Health estimates the national prevalence of XDR-TB at 5% of MDR-TB (Dept of Health 2008). Cases of XDR-TB have now been identified in 60 hospitals in KwaZulu-Natal and in all nine provinces (Andrews et al 2007).

The prevention of MDR and XDR-TB requires a heightened response to TB, focused on:

- Earlier detection of patients with TB, particularly those with HIV who may be smear negative.
- Increasing patient adherence and treatment completion rates
- Instituting adequate drug susceptibility testing and drug resistance surveillance
- Preventing hospital outbreaks by proper ventilation and infection control measures (including ultra-violet lights and negative air ionization).

Pandemic influenza A H1N1 virus: In addition to MDR-TB, a vigilant eye should be kept on the evolution of H1N1 viral influenza. A total of 12,619 cases of H1N1 viral infection were confirmed in South Africa for the year up to 1 November 2009. The confirmed case fatality rate was 0.72%

Most fatalities were associated with co-existent disease (especially HIV infection) or pregnancy [Table 6].

Until an affordable vaccine is available in South Africa, the mainstay of the response should be active case management – identifying serious cases and treating complications aggressively. Health promotion – encouraging people suspected of the virus to stay at home for 7 days and to wash hands regularly – will also reduce transmission. Mass quarantine measures are not effective (NICD 2009).

Table 6. Factors associated with fatalities from H1N1 virus

Factor	Frequency of factor in cases where data available	%
HIV infected	18/36 tested	50
Pregnancy or puerperium	25/88	28
No co-morbidities identified	19/81	23
Diabetes	11/76	14
Obese	16/77	21
Cardiac disease	8/75	11
Active TB	7/75	9

National Institute for Communicable Diseases (2009). <http://www.nicd.ac.za/outbreaks/h1n1/h1n1.htm>

2.2.3 Prevention of alcohol abuse

Alcohol harm and interpersonal violence constitute the most significant health risk factors in South Africa after unsafe sex [see Table 1]. But with one notable exception – lowering of blood alcohol limit for drivers from 0.08 mg/dl to 0.05 mg/dl in 2004 - the Government's response to preventing alcohol abuse has been tepid.²⁶ The National Liquor Act of 2003 is intended to regulate the alcohol industry and proscribe advertising and sales to minors. However, this Act is actively flouted by the industry, with little active enforcement (Seedat 2009). The extensive liquor advertising on

²⁵ For example, a 2005/6 study in Msinga of 1,536 patients known or suspected to have TB found a prevalence of 39% for MDR among culture-confirmed TB patients (n=475) and 6% for XDR-TB (Gandhi et al 2006).

²⁶ The blood alcohol limit for drivers of heavy vehicles is 0.02 mg/dl.

television between 19.00 and 20.00 is a case in point. In 2007, the Department of Health promulgated regulations to require health warnings on alcohol advertising and sales.²⁷ Taxes on alcohol have been raised and there have been modest attempts to reduce drunk driving. However, in the absence of a clear policy statement from Government and a comprehensive programme of action, these measures have had little effect. Such a programme of action would need to include:

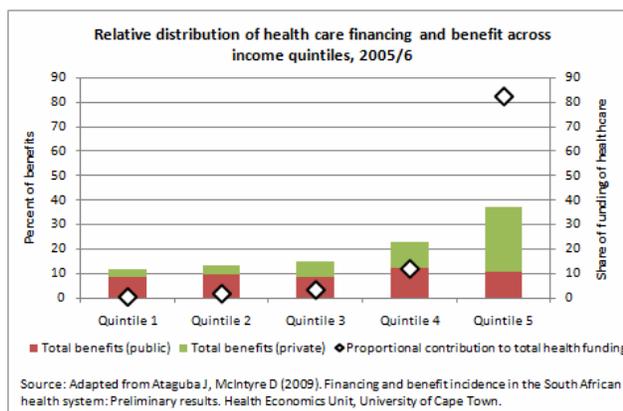
- A concerted national programme to shift prevailing norms about alcohol misuse
- Active enforcement of current legislation and a clampdown on advertising, especially that to which children and teenagers are exposed;
- Community-level programmes for alcohol prevention, starting at schools and involving a broad range of community stakeholders;
- Community engagement in action against illegal liquor outlets; and
- Great enforcement of laws against drunk driving (Seedat 2009).

Although South Africa's blood alcohol limit for driving is the same as most developed countries, there is a strong case to be made for further reducing the limit to 0.02mg/dl. At 0.05 mg/dl, driver reaction times are twice that of a completely sober driver, and low-limit countries which have further reduced the limit have shown significant declines in traffic injury and fatality (Nagata 2008). Although it could be argued that the priority is to ensure effective enforcement of current levels, the effect of lowering the limit even further may be to reduce the aggregate blood alcohol levels of drunk driving (IAS 2009). Preventing alcohol abuse, like HIV, requires a concerted, multi-faceted response - and measures should be combined with greater law enforcement related to seatbelt use, speeding and other traffic law violations.

2.2.4 Distribution of financing & spending on health care

Distribution of financing: In 2005/6, general tax accounted for about 40%, medical aid contributions 45% and out-of-pocket payments 14% of total health care funds (Health Economics Unit 2009). South Africa has a very progressive system of health care financing, with the richest 20% of the population contributing about three times the proportion of personal income than the poorest 60% of the population does. In fact, the richest quintile – which receives 68.7% of total income – contributes 82% of the total health care funding [Figure 34]. Of this amount, about 45% is retained as direct benefit from private health care (32%) and public health services (13%). 55% of total contribution by the richest quintile is redistributed to the other quintiles. All other income quintiles derive a greater share of benefit than the financial contributions they make (Ataguba and McIntyre 2009).

Figure 34. Relative distribution of health care financing and benefit, 2005/6



A common observation is the disproportionate financing of the private sector, relative to the number of beneficiaries. Almost five times as much is spent on each person on medical aid than on an uninsured person using the public sector. However, it should be noted that there is, in effect, no *financial* cross-subsidization of the wealthier by the poor – and the fact that wealthier people are prepared to spend more on private health care does not distort public sector financing.²⁸ Nevertheless, the distribution of *benefit* is still unfairly skewed to the wealthiest quintiles that bear the lowest burden of disease.

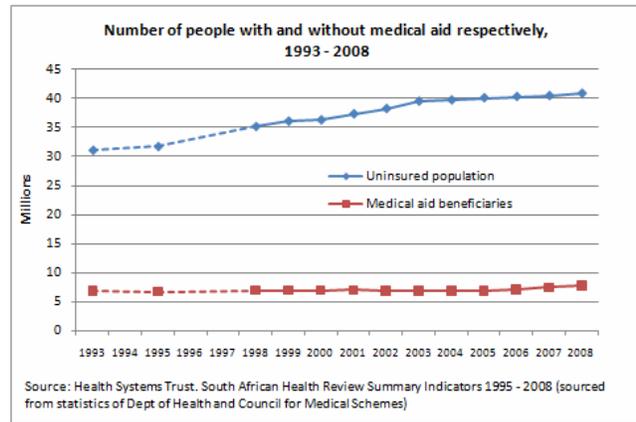
On the other hand, the financing incidence within the private sector is regressive, with the poorest 20% of medical aid contributors devoting twice as much of their income as the richest 20% (Health Economics Unit 2009). The unaffordability of private medical aid is the main reason why the number of medical aid beneficiaries has remained almost static since 1994 [Figure 35].

²⁷ These regulations were promulgated in terms of the Foodstuffs, Cosmetics and Disinfectants Act of 1972

²⁸ Although medical contributions are tax deductible (up to a limit), resulting a rebate of R2 billion to taxpayers who contribute to medical aids, the net effect is still cross-subsidization by the wealthiest quintile of the poorest 60% of the population.

Note that the financing incidence does however distort the distribution of health personnel, as will be shown later.

Figure 35. Number of people with access to medical aid, 1993 - 2008



Private health care costs spiralled upwards between 1989 and 2004. This was driven largely by escalating private hospital and pharmaceutical costs, and given further impetus by higher administrative costs as schemes switched from lower cost closed schemes to higher cost open schemes. The failure post-1994 to contain spiralling private sector costs, mainly from over-supply of services, may be ascribed to the lack of a clear policy and regulatory framework for the private sector – where was viewed largely as a resort for the wealthy (DBSA 2008). Key provisions of the National Health Act of 2004 to regulate the expansion of private hospitals (such as a Certificate of Need for new facilities) were never implemented.

In 2004, a Health Charter was drawn up between the public and private sectors to promote access, equity and quality in health services, and to foster black economic empowerment (BEE). It was revised in October 2005, but issued in draft form without finalization (Dept of Health 2005). The revisions incorporated specific targets for black economic empowerment as envisaged by the Broad-Based Black Economic Empowerment Act of 2003, which resulted in a number of black empowerment deals with the three major hospital groups and a number of smaller ones (Matsebula & Willie 2007). These deals met the BEE objectives of the Health Charter, but failed to address the other objectives of access, equity and quality in health service provision.

It should be noted that the payments per beneficiary by medical aids to providers have, in real terms, been stable for the past eight years (DBSA 2008). This would suggest greater cost-containment in the private sector. However, this analysis masks the fact that there has been a ‘buy-down’ by medical schemes contributors to lower cost (and hence lower coverage options). For example, there was a 27% decline in membership of ‘high risk’ schemes from 2007 – 2009, and a 19% increase in ‘low risk’ schemes²⁹. There has also been a cutback in benefits paid by medical schemes, resulting in higher out-of-pocket expenses. Medical schemes coverage tracks the taxpayer base in South Africa very closely, and as it stands, the private sector will not grow until the real incomes of people, particularly in the fourth income quintile, grow (Van den Heever 2009). The alternative mechanism for growth in the private sector is to supply services to the public sector.

As the National Health Insurance is contemplated, there is however a risk that financing for the health of the uninsured could chase up the gradient of spiralling private sector costs - driven by the willingness of the wealthy to pay for expensive medical care. Equity in health service provision will need to be carefully defined in terms of a minimum package of benefits, to which all are entitled. In the absence of a unified national health system (NHS), relative inequities in health care financing will always exist.

The primary issue is whether there is sufficient *risk* cross-subsidisation - in other words, whether everyone pays a fair enough proportion of their income to ensure that the entire population has access to basic health services according to their need. The benefit incidence analysis described above is based on health service utilization, and does not reflect the disproportionate burden of disease on lower income groups.³⁰ This has the effect of over-estimating the relative benefit to poorer people. Unfortunately, there is very little information about the distribution of the burden of disease across socio-economic groups. As South Africa considers new financing mechanisms for greater equity, this is a critical missing piece of information that is required before major decisions are made.

Distribution of public spending: Real per capita public spending on health care declined after 1996 and only regained 1996 levels in 2005 (not taking into account the added burden of HIV/AIDS) [Figure 36]. The net effect was a serious shrinkage in available resources in the public, including personnel. This is vividly illustrated in Figure 37.

²⁹ High risk schemes provide coverage for a broader range of benefits and are thus more expensive. Personal communication with B. Steenkamp, Project Specialist: Risk Equalisation Fund, Council for Medical Schemes, December 2009

³⁰ The analysis does include a crude measure of health need, namely a Likert scale of self-reported health assessment. However, this method is inadequate for health planning

Figure 36. Real per capita spending on health care, 1992 - 2008

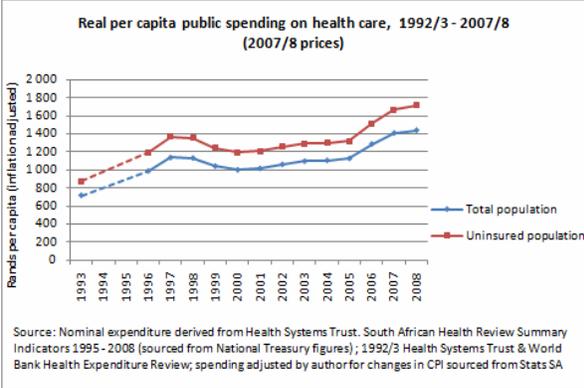
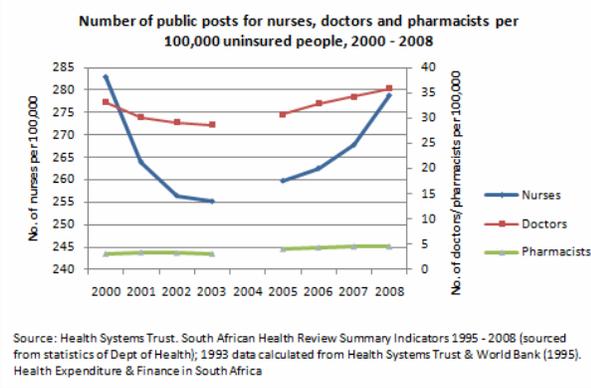


Figure 37. Availability of posts for selected categories, 2000 - 2008



Since 2005, there has been a real increase in spending, both on health services and health infrastructure (in addition to the growing spending on the ART programme) [Figures 38 & 39]. The only facility level that has not experienced real growth in the past three years is central hospitals.

Figure 38. Public spending on specified district services 04/5 – 07/8

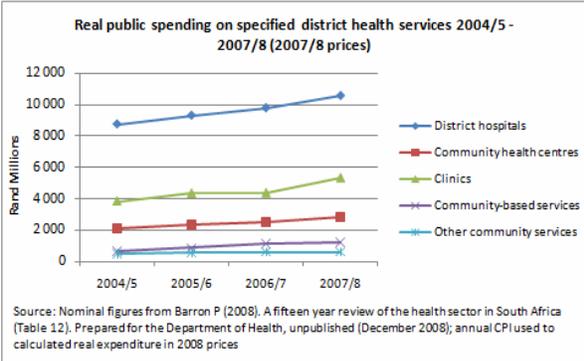
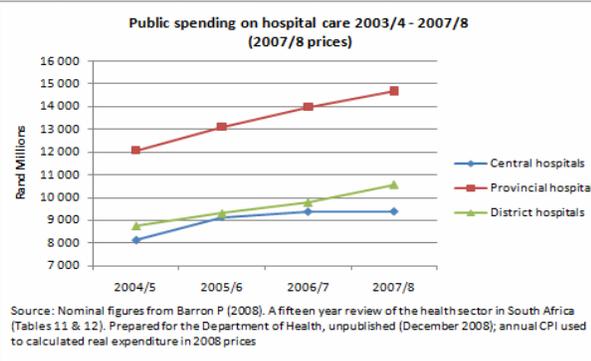


Figure 39. Real public spending on hospital care 03/4 - 07/8



Given the impact of HIV/AIDS across the health system, the real increases in public spending on clinics and hospitals are encouraging. However, it is doubtful whether this trend will be able to be sustained as costs for the ART programme continue to rise [see Figure 30]. In order to sustain the health system in South Africa, public spending on the uninsured population will need to increase to at least 5% of GDP (Cleary 2009). This can only be achieved through a combination of additional public funding, and redirection of some of the current private sector funding into the public purse.

However, expectations of the latter need to be realistic: There is clear evidence that medical scheme contributors choose higher cost options on the basis of pre-existing risk.³¹ In other words, the younger and wealthier tend to choose the low risk options, and the sicker contributors (whether rich or poorer) select the high risk (and more expensive) options. The apparent 'fat' in the high cost options compared to the lower cost options is not real, and seeking to appropriate it would only push sicker beneficiaries who are currently on medical aid into public hospitals. The real 'fat' rests in the entire cost-structure of the private sector, and the success or failure of any system of risk-pooling between the public and private sectors will depend on the degree to which the unit costs of private sector service delivery can be dramatically reduced. Table 7 compares the average cost of the prescribed minimum benefit package to medical schemes, compared with the PHC spending per capita uninsured population in 2008/9.³² Based on these figures, it is calculated that the prescribed minimum benefits currently provided to one low-risk scheme beneficiary would need to be provided to about 2½ people – at the same cost. These factors are discussed later with respect to the implementation of a National Health Insurance System, but it is clear that such a wide differential will not be adequately addressed through centralised procurement and economies of scale alone.

³¹ Personal communication with B. Steenekamp, Project Specialist: Risk Equalisation Fund, Council for Medical Schemes, December 2009

³² District health expenditure is used as a proxy for per capita PHC expenditure on the uninsured population. Note that the prescribed minimum benefit package (PMB) is only a sub-set of the comprehensive package of primary care services that need to be provided by Government for the public good

Table 7. Average costs of medical scheme PMB package cf. district level expenditure per capita uninsured population 2008/9

Population category	No. of beneficiaries	Ave. cost per beneficiary	Approx. total spend on primary & emergency care (millions)
Insured population	7 827 842	PMB	
High risk option	213 353	7680	1 639
Medium risk option	2 774 403	4740	13 151
Low risk option	4 840 403	2880	13 940
Per capita PHC allocation for uninsured	41 492 158	678	28 132

Source: Personal communication B. Steenekamp, Project Specialist: Risk Equalisation Fund, Council for Medical Schemes, December 2009 (unverified data)

2.2.5 Availability of health personnel in the public sector

In the absence of a uniform national health system, there will always be differential provision of human resources in the public and private sector - driven by the willingness of the wealthiest to pay for more health care. While a comparison between levels of provision in the public and private sector give some indication of the disparity in access between rich and poor, it is – for planning purposes – more helpful to assess adequacy of public provision against service norms.

In fact, the relative disparity between the public and private sector is still not known with any degree of accuracy: provision in the public sector is calculated from the number of posts in the PERSAL system (and vacancy rates are not known for all categories of health professionals); while private sector provision is often calculated from registrations with the Health Professions Council of South Africa, which fails to take into account the large number of professionals who have left the country or who are no longer practising³³. A factor that is also often ignored is the use of private general practitioners by a significant number of the uninsured population – estimated at about 7.5 million. A more accurate assessment of service utilisation is that about a third (32%) of the population use private general practitioners and a sixth (15%) use private hospitals (DBSA 2008).

South Africa has a largely nurse-based health system and international benchmarks should be used with caution. Nevertheless, it is of concern that both public provision of doctors and nurses fall well below the threshold of 230 per 100,000 regarded by the World Health Organisation as necessary to achieve the health-related Millennium Development Goals (World Development Report, 2006). Taking into account post vacancies, there were 23 doctors and 181 professional nurses per 100,000 uninsured (Health Systems Trust, 2008). These shortages are illustrated by an assessment of staffing in all PHC facilities in six districts in 2006, using an adapted version of the WHO's 'Workload Indicator of Staff Needs' (WISN) tool. It found that the number of doctors was only 7% of that required, and while the total number of professional nurses was 94% of requirement, there was considerable variation across facilities and districts. The adequacy of provision of enrolled nurses and nursing assistants was worse, at 60% and 17% respectively (Daviaud & Chopra 2008).

Since 1994, there have been a number of plans to remedy the shortfall in health professionals in the public sector, culminating in a comprehensive human resource plan in 2006 (Department of Health 2006). A full assessment of the success of implementation is beyond the scope of this paper, but the experience of the past fifteen years has illumined some of the most important strategies going forward:

- Adequate remuneration for health professionals (relative to other employees in other professional disciplines and not only the private sector) is probably the most important incentive to keep them in the public sector. The effects of the rural and scarce skills allowances and the occupation-specific dispensation will need to be closely monitored over the next three years.
- There are other material and morale-boosting incentives that could reduce the differentials between public and private sector. They include provision for study leave, preferential admission for specialisation, and a work environment respectful of professional autonomy and conducive to personal growth and development.
- The success of the community service programme suggests that supply could be further strengthened by incentives such as full study bursaries in return for years of work.

³³ There are other ways of gauging the number of doctors actively working in private practice, including the roll of practitioners who claim from medical aids. None of these measures is altogether accurate.

- Clinical associates (mid-level health workers) could significantly strengthen the health system at primary care level.
- Community health workers could play a critical part in the community-based component of patient adherence for TB and HIV - and in time in the prevention and management of other chronic diseases.³⁴ However, continued expansion of a cadre of lay workers with insufficiently defined mandate, conditions of service and career progression could seriously compromise the success of the ART programme down the line. Smartly designed, the community health worker programme could be linked to the national youth service, providing limited guaranteed tenure, but accredited training and structured career progression.
- Procurement of health services from professionals in the private sector could improve public sector supply and reduce the incentive to over-service the insured population.

Figure 40. Total annual enrolment in public and private nursing training institutions, 1999 - 2008

While many of these strategies are long-term, there are possibilities for more immediate gains as well. For example, a common problem is insufficient administrative and auxiliary support – even for unskilled categories such as hospital porters. An assessment of staffing at Chris Hani Baragwanath Hospital in 2006 found a 30% shortage of support staff and 46% shortage of managers and administrators (van Holdt and Murphy 2007). These shortages distract health professionals from patient care and often prolong hospital admission. A proactive strategy to fast-track appointments and replacement of support staff could rapidly improve the working environment, and improve the quality of patient care.

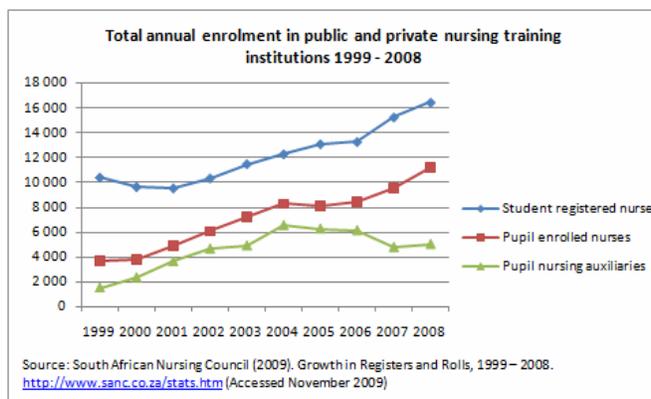
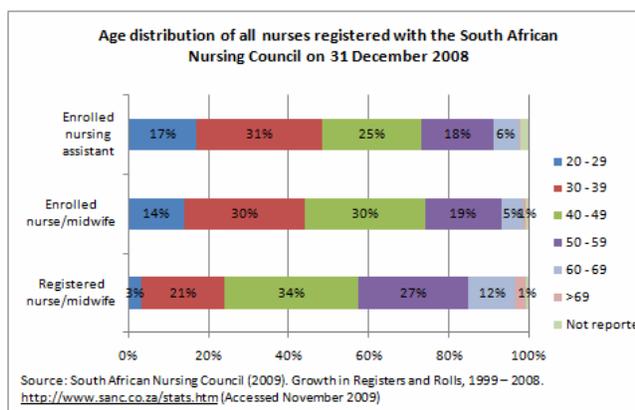


Figure 41. Age distribution of all nurses registered with the South African Nursing Council (2008)

Even as short-term gains are contemplated, there is a need to anticipate challenges over the medium to long term. The most obvious is the additional staff requirements of an expanding ART programme. Unfortunately, just at the time that the morbidity phase of the HIV epidemic was becoming apparent (1998 – 2002), there was a decline in both the number of public sector posts [see Figure 37 above] and enrolment in public and private nursing training institutions [Figure 40]. Since 2002, there has been a steady increase in enrolment of student registered nurses and pupil enrolled nurses.³⁵ These increases need to be accelerated to deal both with the growing personnel requirements of the public service, and to rejuvenate the age profile of nurses. At present, over two fifths of registered nurses and midwives are over the age of 50 years [Figure 41].



2.2.6 Operational efficiency

As important as sourcing new resources for health care for the uninsured population, is improving the efficiency of health service provision in the public sector. A number of commentators have noted the inefficiency of health outcomes relative to spending on health care [see for e.g. Chopra et al 2009]. To some extent, this comment is unfair – particularly as the primary drivers of the HIV epidemic relate more to social and economic inequalities than health service interventions. But on the other hand, there are serious inefficiencies in the management of the South African public health system, highlighted by the over expenditure by a number of provinces in the past two financial years.

³⁴ Note that while there is a call to integrate all community-based chronic care (including TB and HIV drug adherence), the immediate need for good adherence, monitoring and follow-up for HIV & TB strongly suggest that full integration should be deferred for the next decade at least.

³⁵ The decline in enrolment in pupil nursing auxiliaries was probably the result of uncertainty about the continuation of this category of health worker. Clear policy direction is required to provide applicants with confidence in their chosen career.

These inefficiencies occur at all levels and many were documented in a recent health sector audit and review commissioned by the former Minister of Health in 2009. The management and use of district hospitals is a case in point: Average length of stay across districts varies from 2.2 to 8 days, and the usable bed utilisation rate varies from 50% to nearly 90% [Figures 42 & 43].³⁶ Within districts, there is also considerable variation between individual hospitals.

Figure 42. Ave length of stay in district hospitals, 2007/8

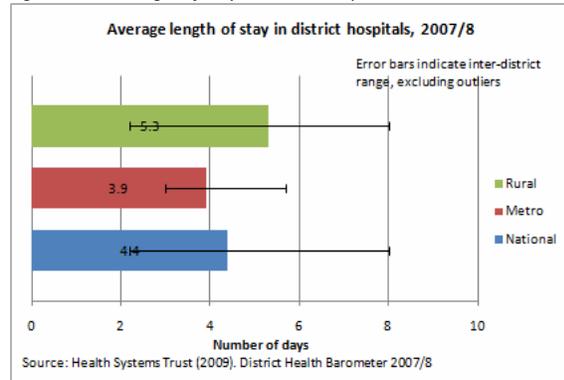
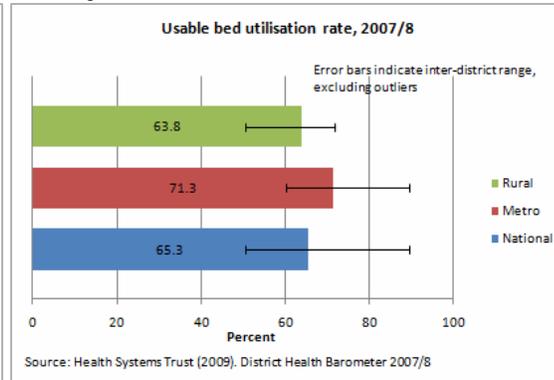


Figure 43. Usable bed utilisation, 2007/8



Improving operational efficiency requires a deliberate and multi-faceted strategy, involving:

- Greater separation of political and management responsibilities to enable senior health managers to focus on service management;
- Devolution of clear management responsibilities, linked to accountability for performance;
- Proper use of management information in decision-making (which in turn requires simplification and greater accuracy and efficacy of the health management information system);
- Better financial management, tracking expenditure and relating it to service performance;
- Effective planning for, and use of time, in meetings;
- Better use of time of health professionals and reduction in paperwork and data collection;
- A commitment to punctuality; and
- Systematic processes for improving the quality of care.

Some of these issues are addressed in more detail in the following sections.

2.2.7 Quality of care

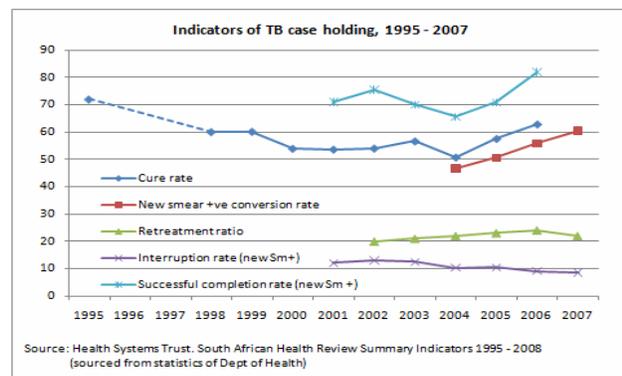
There are still significant inefficiencies in the health system stemming from poor quality of care. These weaknesses are endemic, and require a multi-faceted approach including facility-based accreditation and monitoring, and programme based monitoring and quality improvement. Following is a description of some of the critical weaknesses with respect to three national health priorities, namely TB, management of STIs and maternal & perinatal health:

Tuberculosis:

Figure 44 illustrates that there is considerable room for improvement in TB case holding. The number of smear positive cases proven microscopically to be cured (the cure rate) is just 65%, well below the World Health Organisation target of 85%.

The interrupter (defaulter) rate among new smear positive patients has shown a slight decrease since 2004, but in actual numbers has increased steadily. There is however some evidence of improvement: The smear positive conversion rate³⁷ was 69% in 2008/9 -

Figure 44. Indicators of TB case holding, 1995 - 2007



³⁶ The bed utilisation rate of close to 90% for district hospitals in the Western Cape suggests inadequate provision of district hospital beds, and resultant overload of secondary and tertiary services.

³⁷ The percentage of new smear positive patients who are smear negative after two months of anti-TB treatment

on national target, but perhaps still under-ambitious (Dept of Health 2009a). But in the past five years, there has been a general improvement in case holding, but still far from adequate in the face of the TB epidemic.

Of equal concern is the late detection of TB. Although the Department of Health cites performance in case detection³⁸ as 83% for 2008/9, this is likely to be an overstatement of progress in that many cases of TB are detected late in HIV positive people, who are more likely to present with smear negative, culture positive TB [Basset et al 2009]. The introduction of a high vigilance protocol for TB detection among HIV positive patients is a priority [Saranchuk 2007]. This should include heightened prevention and vigilance among pregnant HIV positive women and their HIV-exposed infants.³⁹

Syndromic management of STIs: Syndromic management of sexually transmitted infections is important for HIV prevention for the following reasons:

First, although treatable STIs play a smaller role in new HIV transmission in a mature epidemic than herpes simplex (HSV2), it probably still contributes about approximately 5 - 7.5% of total incidence.

Secondly, 8.5 million cases of STI are treated annually, representing a significant high risk population who should be properly counselled and supplied with condoms as part of effective syndromic management.

However, there is evidence of significant health systems failures in this regard:

- A study of the implementation of syndromic management in rural KwaZulu-Natal (1995-2004) found a median overall effectiveness⁴⁰ of 13.1% (White et al 2008).
- Treatment of STIs in the private sector is inadequate, particularly within cash practices that treat many men who cannot afford medical aid but choose to go to public clinics (Schneider et al 2005). Appropriate drug treatment in the private sector is significantly associated with the client having medical aid (16% of uninsured and 31% of insured patients received effective treatment) and more recent medical graduation of the practitioner. With an estimated 4 million episodes of STIs per year treated by private general practitioners, it is critical that there is a radical improvement in the quality of care (Schneider et al 2001).

Maternal and perinatal health: Notwithstanding the increased maternal mortality from AIDS, the fourth 'Saving Mothers' report (2005-2007) found that almost 60% of maternal deaths were avoidable (National Committee on Confidential Enquiries into Maternal Deaths 2008). Of these 55% were attributed to health systems failures [Table 8].

The 'Saving Babies' report for the same period (2005 – 2007) concluded that the quality of perinatal care in district hospitals was particularly bad, with over a third of perinatal deaths due to avoidable health systems failures [Figure 45] (Pattinson 2008). These reports provide the basis for prioritising sites of quality improvement.

Table 8. Proportion of assessable maternal deaths associated with health systems failures, 2005 - 2007

Factor contributing to death	% of assessable deaths (n=3,664)
Transport problem from home to institution	1.9
Transport problems between institutions	8.4
Barriers to entry	1
Lack of accessibility	1.3
Lack of specific health care facilities	8.6
Lack of ICU facilities	9.2
Lack of blood for transfusion	19
Lack of personnel	0.4
Lack of appropriately trained staff	8.9
Communication problems	4.2
Other	6.8

Source: National Committee on Confidential Enquiries into Maternal Deaths 2008

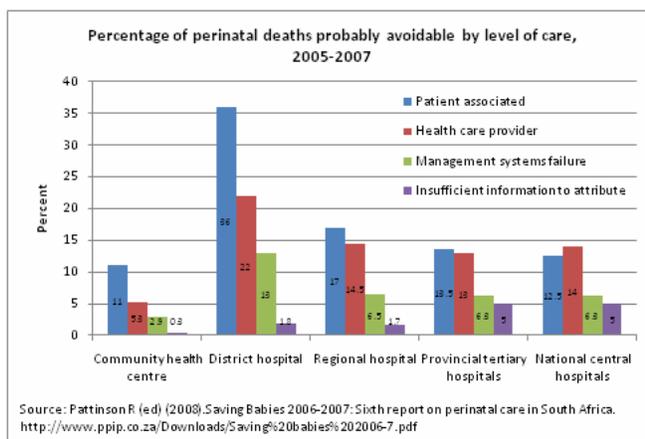
³⁸ Case detection is the number of smear positive TB cases detected microscopically divided by the estimated total of new smear positive cases.

³⁹ A 2005 study in the Western Cape found the risk of TB in HIV positive infants to be 24 times that of HIV negative infants (Hesseling et al 2005).

Routine antenatal care should include active TB detection among HIV positive women, including chest x-ray if both smear and culture are negative.

⁴⁰ Measured as the proportion of symptomatic curable episodes of STI cured by syndromic treatment

Figure 45. Percent of perinatal deaths avoidable by level of care, 2005 - 2007



Improving the quality of care requires both carrot and stick: incentivised processes of training and technical support need to be backed up by systems of accountability for quality and performance. The first requires a strong degree of ‘horizontal support’ – facilitated by government or non-government agencies that are mandated to achieve quality improvement.⁴¹ The second requires implementation of the provisions of the National Health Act of 2003 and the Policy for Quality (Dept of Health 2007), specifically with respect to the creation of an Office of Standards Compliance and the appointment of provincial Inspectorates of Health Establishment. The appointment of the latter was announced by the Deputy Minister in November 2009.

2.2.8 Devolution of management authority

There are two urgent priorities with respect to devolution of authority, namely the institutionalisation of the district health system and devolution of staffing, budgeting and expenditure control of hospitals to hospital management. Some of the key challenges are described below:

District health system: Since 1994, the district health system has been recognised as the main mechanism for implementation of primary health care (Owen 1995). Yet it has failed to be properly institutionalised. District management teams have been appointed and are responsible for day-to-day management of primary health facilities and community outreach. A number of initiatives have strengthened their capacity, including management training and tools for budgeting and expenditure analysis. But they have acted as units of a de-concentrated provincial system, rather than as management entities with delegated authority. The effect has been accountability to provincial government – often largely driven by the imperatives of the Public Finance Management Act – and insufficient accountability to the people of the district for health service provision.

The National Health Act of 2003 made provision for the appointment of district health councils charged with ensuring ‘co-ordination of planning, budgeting, provision and monitoring of all services that affect the residents of the health district for which the council was established.’ It also required provinces to legislate for the functioning of district health councils and to enter into agreements with municipalities where certain PHC services are provided by the latter. To date, only one province has legislated for district health councils.⁴²

Devolution of staffing, budgeting and expenditure control to hospitals: The high degree of management centralisation at provincial level sets up a vicious cycle: competent managers are frustrated by the lack of autonomy and leave – while provinces are reluctant to devolve management authority to junior or less competent managers. This cycle will only be broken if there is clear definition of the delegations of authority to hospital managers, linked to performance monitoring (van Holdt & Murphy 2007). Similarly, the sense of exclusion from decision-making experienced by many senior clinicians in central and provincial hospitals will need to be addressed.

Specific delegations need to include control over the staff establishment (staff numbers & mix), hiring and firing of personnel, budgeting and control of expenditure and greater control of procurement - in a streamlined system of interaction with provincial systems of monitoring and accountability. Without clear delegations of authority, the Inspectorates of Health Establishments will have no teeth, because hospital managers will be able to point to protracted delays in procurement, budget approval and staff appointments beyond their control.

⁴¹ Good examples of agency-led support for quality improvement include the Initiative for Sub-District Support of the Health Systems Trust, the Youth Friendly Clinic Initiative (DoH and loveLife), and the accelerated plan for PMTCT.

⁴² Free State Provincial Health Act No 8 of 1999

2.2.9 Health worker morale

A five year review of the public health sector conducted in 1999 found that, with respect to human resources, “the single most consistent finding in our field studies in all parts of the country is that morale among health workers is low, especially among nurses” (Segall 1999). It concluded that although nurses ascribed their morale to overwork, this was probably not the main factor – and that a sense of neglect and lack of support was at the heart of problems of low morale. Unfortunately, reviews of the health system since then have tended to reach the same conclusions.

Strategies that could improve health morale fairly rapidly include:

- A national campaign to affirm the value of health workers (linked to rewards and recognition);
- Re-asserting the primary role of the district management team in supporting personnel within the district (as opposed to interacting with provincial and national processes);
- The simplification of paperwork, including a brutal trimming of the national health information minimum dataset and condensing annual business plans and programme reports;
- Facilitated processes of in-service support to health workers that go beyond occasional trainings; and
- Incentivising further study and personnel development, through for example a dedicated programme linked to the National Students Financial Aid Scheme (NSFAS).

There are undoubtedly places of excellence and dedicated health workers in clinics and hospitals across the country, rendering high quality services even in the face of constrained resources. A common denominator in all these exemplars is strong and motivated leadership within the health facility, and it is now imperative that the type of leadership training that has been provided to senior and middle-level health managers should now be extended to clinic managers. But, ultimately, the morale of health workers will only improve if they have a real sense of mission and personal fulfilment, which to a large extent depends on the ability of national and provincial managers to articulate a clear vision and plan of action.

2.2.10 Leadership and innovation

Andrews and Pillay (2005) identified a number of factors critical to success of the implementation of the 2004-2009 Strategic Plan, including:

- Leadership, and in particular, political leaders as well as managers in the health system, must clearly articulate and communicate a vision and a mission that will resonate with front line health workers.
- A programme of action that is developed with, and that captures the imagination of, those charged with its implementation. This would require greater empowerment of leaders at the local level to drive the change agenda.

These critical success factors are just as relevant today. To these, a third should be added – namely a mechanism for leadership development and public innovation in the health sector. This mechanism – an agency (or agencies), working with provincial and district managers - would be able to provide ‘horizontal support to the district management team and health workers at facility level. In this way, an agenda of change would remain on the front burner, even as pressing concerns and management crises inevitably take up the time of senior health service managers. But neither should the latter abdicate responsibility: a mechanism of ‘horizontal support’ will only work if it enjoys the backing of senior management. A commitment by senior management to visit health facilities at least once a month to share the vision and provide encouragement could rebuild a sense of common purpose.

3. PROSPECTS FOR NEW GAINS

The review of successes presented in section 2.1 above shows that many of the breakthroughs were achieved through bold policy initiatives. Not surprisingly, many of them were accomplished in the first five years of democratic government, which presented a singular window of opportunity for policy development and implementation. The squeeze on public spending in the late nineties knocked the wind out of the sails of health systems transformation. But the loss of momentum was not only the result of financial constraints: Failure to regulate the private sector properly, coupled with the inability to motivate staff across the public sector, accelerated the drain of health professionals in the first few years of the new millennium.

The advent of the mortality phase of the AIDS epidemic – noticeable from about 1998 – signalled a period of growing pressure on the health system, and growing frustration from both health workers and civil society alike at the apparent

ambivalence of Government to deal with it effectively. Nevertheless, it should be noted that, even during this phase, there were some important breakthroughs in health policy, including anti-tobacco legislation and community service for graduating health professionals. There were also incremental improvements in health systems management and rationalisation in a number of provinces, which received little media attention. The time and effort taken to unravel and restructure the fragmented health services of apartheid should not be underestimated.

But now, the South African public health system stands on the edge of a chasm, which can only be bridged by new resources and decisive leadership. There is no way that the public health system will be able to be sustained at current levels of funding – if the rollout of the ART programme is to continue. To some extent, the resources may be obtained by better use of the public resources and services of the private sector. To a large extent, it will require new funding. This is the intent of the proposed national health insurance (NHI) system. There is however the risk that the NHI will be viewed as the panacea for both financing shortfalls and health service deficiencies, and sight should not be lost of the fact that the NHI is essentially a financing mechanism. In this regard, it would be injudicious to rule out the option of sourcing new funding through general taxation – as opposed to a dedicated payroll tax – until the implications of the latter are fully understood. The pressures on the health system over the next five years imply that there will be little margin for trial-and-error. Some of important factors to consider in decisions about an NHI are presented in Appendix 1, but the key point is that an NHI (and/or other financing mechanisms) will *enable* the implementation of policies and programmes that address national health priorities. Of itself, it is not a national health priority. These are described below.

HIV prevention: If health planning is informed by an analysis of the burden of disease, there is no doubt that the greatest health priority is to prevent new HIV infection. This will require the full and urgent implementation of the comprehensive strategies outlined in section 2.1. An urgent priority for the financial year 2010/11 is to saturate the demand for condoms in high prevalence districts and most-at-risk groups. The big gaps in coverage of community-level behaviour change programme will need to be urgently addressed – requiring additional funding from Government and its bilateral partners. And the elimination of missed opportunities for PMTCT provides an obvious source of incidence reduction in 2010.

HIV treatment: With such significant residual mortality – at least 250,000 deaths per annum even at 90% coverage ([see Figure 14](#)) – serious consideration will need to be given to simplifying the model of care for patients on ART. In particular, the routine use of laboratory tests to monitor progress (CD4 and viral load, in the absence of other clinical indications) will need to be reviewed. The trade-offs between earlier initiation of treatment and higher levels of coverage will need to be evaluated at policy, service management and clinical levels. Furthermore, the non-sustainability of a donor-dependent ART programme needs to be fully recognised.

Combating alcohol abuse: Morbidity and mortality data point strongly to the fact that the country can no longer ignore the impact of alcohol abuse, which contributes to injury, HIV transmission, domestic violence and child abuse. The experience of other countries and the precedent of the national anti-tobacco programme in South Africa both point to potential new gains if this risk factor is taken seriously. This will require collaboration across government departments and sectors of society and will need full political support.

Preventing non-communicable disease: The immediacy of the HIV epidemic means that the focus on non-communicable disease must be on their prevention. In this regard, further reductions in the prevalence of tobacco smoking remain a priority. As community-level adherence support for TB and HIV prevention and treatment become more entrenched, there will be opportunity to integrate community-level care for all chronic conditions. But it would be risky to attempt such integration now – when the priority must be integration of TB-HIV services.

Improving the quality of care: Clear priorities will need to be established in terms of both health programmes and facilities. They include prevention of mother-to-child transmission, ART adherence support, TB prevention and management, syndromic management of sexually transmitted infections, and maternal and perinatal care. In terms of health facilities, the findings of the maternal and perinatal mortality review point to the need to focus on district hospitals in particular. As discussed earlier, improving the quality of care will require both systems of monitoring and support to health workers. These require the establishment of deliberative programmes driven by dedicated agencies.

Most importantly, efforts to improve the quality of care need to be driven from the front, by political and health service leaders who can communicate the mission and inspire health workers to have the biggest possible impact on the health of the communities they serve.

REFERENCES

- Abbott G (1997). Upgrading health facilities. In Barron P (ed). *South African Health Review 1997*. Health Systems Trust. <http://www.hst.org.za/uploads/files/sahr2007.pdf> (Accessed November 2009)
- Anderson B, Phillips H (2006). Adult mortality (age 15-64) based on death notification data in South Africa: Statistics South Africa. Report No. 03-09-05. Pretoria: Statistics South Africa
- Andrews G, Pillay Y (2005). Strategic Priorities for the National Health System 2004-2009. In Ijumba P, Barron P (eds). *South African Health Review, 2005*. Durban: Health Systems Trust. <http://www.hst.org.za/uploads/files/sahr2005.pdf> (Accessed November 2009)
- Ataguba J, McIntyre D (2009). Financing and benefit incidence in the South African health system: Preliminary results. Health Economics Unit, University of Cape Town. <http://heu-uct.org.za/research/publications/reports-and-working-papers/#2009>
- Badri M, Cleary S, Maartens G, Pitt J, Bekker LG, Orrell C, Wood R (2006). When to initiate highly active antiretroviral therapy in sub-Saharan Africa? A South African cost-effectiveness study. *Antiviral Therapy* 11(1):63-72
- Barron P (2008). A fifteen year review of the health sector in South Africa. Prepared for the Department of Health, unpublished (December 2008)/ Barron P, Strachan K (1997). The Year in Review. In Barron P (ed). *South African Health Review 1997*. Health Systems Trust. <http://www.hst.org.za/uploads/files/sahr2007.pdf> (Accessed November 2009)
- Bassett I, Chetty S, Wang B, Giddy J, Losina E, Mazibuko M, Allen J, Walensky R, Freedberg K (2009). Intensive TB Screening for HIV-infected Patients Ready to Start ART in Durban, South Africa: Limitations of WHO Guidelines. Poster at the 16th Conference on Retroviruses and Opportunistic Infections. <http://www.retroconference.org/2009/Abstracts/34392.htm>
- Bourke D (2008). Women with AIDS face cervical cancer threat: Largest cervical cancer screening program in developing world finds new risk for women living with AIDS. Email article CIDRZ Cervical Cancer Prevention Program, Zambia. http://www.eurekalert.org/pub_releases/2007-11/cf-wwa113007.php
- Bradshaw D (2008). Chapter 4: Determinants of health and their trends. In Barron P, Roma-Reardon J (eds). *South African Health Review 2008*. Health Systems Trust. <http://www.hst.org.za/uploads/files/sahr2008.pdf> (Accessed November 2009)
- Bradshaw D, Norman R, Lewin S et al (2007). Strengthening public health in South Africa: Building a stronger evidence base for improving the health of the nation. *South African Medical Journal* 97: 643 - 649
- Bradshaw D, Groenewald P, Laubscher R, Nannan N, Nojilana B, Norman R, Pieterse D, Schneider M (2003). Initial burden of disease estimates for South Africa, 2000. Burden of Disease Research Unit, Medical Research Council. <http://www.mrc.ac.za/bod/bodestimates.pdf> (Accessed November 2009)
- Bradshaw D, Schneider M, Laubscher R, Nojilana B (2002). *Cause of death profile: South Africa, 1996*. Burden of Disease Research Unit, Medical Research Council. <http://www.mrc.ac.za/bod/1996deathcause.pdf>. (Accessed November 2009)
- Centre for Scientific and Industrial Research (1996). National Health Facilities Audit. Division of Building Technology, CSIR, in association with Department of Health and Raubenheimer & Partners. Boutek research Report Bouc 5a, April 1996
- Chopra M, Lawn J, Sanders D, Barron P et al (2009). Achieving the health Millennium Development Goals for South Africa: challenges and priorities. *The Lancet* 374: 1023 - 1031
- Cleary S (2009). Long term costs and implications for sustainable budgeting. Health Economics Unit. Presentation August 2009. <http://www.alp.org.za/Presentations>
- Cleary S, McIntyre D, Boule A (2006). The cost-effectiveness of antiretroviral treatment in Khayelitsha, South Africa – a primary data analysis. Cost Effectiveness and Resource Allocation 4:20. Doi:10.1186 1478-7547-4-20. <http://www.resource-allocation.com/content/4/1/20>
- Coetzee G, Koornhof H (2006). MDR/XDR tuberculosis in South Africa. *S African J Epidemiol Inf* 21(4):150-151
- Daviaud E, Chopra M (2008). How much is not enough? Human resources requirements for primary health care: a case study from South Africa. *Bull World Health Organ*. 2008 Jan;86(1):46-51. <http://www.who.int/bulletin/volumes/86/1/07-042283.pdf>
- Day C, Barron P, Montecelli F, Sello E (editors) (2009). *The District Health Barometer 2007/8*. Durban: Health Systems Trust

Day C, Gray A (2008). Health & Related Indicators. In Barron P, Roma-Reardon J (eds). South African Health Review 2008. Health Systems Trust. <http://www.hst.org.za/uploads/files/sahr2008.pdf> (Accessed November 2009)

Department of Health (2009a). Annual Report 2008/9. Pretoria. <http://www.doh.gov.za/docs/reports/annual/2009> (Accessed November 2009)

Department of Health (2009b). Strategic Plan 2009/10 – 2011/12. Pretoria. <http://www.doh.gov.za/docs/strategic09-11-f.htm> (Accessed November 2009)

Department of Health (2009c). Operational Plan for HIV Prevention (in final draft, December 2009). Pretoria

Department of Health and Medical Research Council (2008). South Africa Demographic and Health Survey 2003. <http://www.doh.gov.za/docs/reports-f.html>

Department of Health (2008). Annual Report 2007/8. Pretoria. <http://www.doh.gov.za/docs/reports/annual/2008> (Accessed November 2009)

Department of Health (2007). A policy on quality of health care in South Africa. Pretoria. <http://www.doh.gov.za/docs/policy/qhc.pdf>

Department of Health (2006). A National Human Resources Plan for Health to provide skilled human resources for healthcare adequate to take care of all South Africans; 2006. URL: http://www.doh.gov.za/docs/discuss/2006/hrh_plan/index.html

Department of Health (2005). The Charter of the Health Sector of the Republic of South Africa (Draft revised 28 October 2005). <http://www.doh.gov.za/docs/misc-f.html>

Department of Health (1997). White Paper for the Transformation of the Health System. Pretoria: Government Printer

Department of Water Affairs (2009). Media release. <http://www.dwaf.gov.za/Communications/PressReleases/2009/FinalTapWaterInSouthAfricaMediaRelease25Feb.pdf>

Development Bank of Southern Africa (2008). A Roadmap for the Reform of the South African Health System. A process convened and facilitated by the Development Bank of Southern Africa.

Dorrington R, Johnson L, Bradshaw D, Daniel T (2007). *The Demographic Impact of HIV/AIDS in South Africa: National and Provincial Indicators for 2006*. Cape Town: Centre for Actuarial Research, Medical Research Council and Actuarial Society of SA.

Gandhi N, Moll A, Sturm W, Pawinski R, Govender T, Lalloo U, Zeller K, Andrews J, Friedland G (2006). Extensively drug-resistant tuberculosis as a cause of death in patients co-infected with tuberculosis and HIV in a rural area of South Africa. *The Lancet Online*, October 26, 2006. DOI:10.1016/S0140-6736(06)69573-1

Harrison D (2009). Rationale for the National Operational Plan for HIV Prevention. Pretoria: Department of Health. <http://www.doh.gov.za/>

Health Economics Unit (2009). Who pays for health care in South Africa? HEU Information Sheet, University of Cape Town. <http://heu-uct.org.za/research/publications/information-sheets/>. (Accessed November 2009)

Health Systems Trust (1995 – 2008). Series of annual South African Health Reviews. <http://www.hst.org.za/sahr>

Hesseling A, Westra A, Werschkull H, Donald P, Beyers N, Hussey G, El-Sadr W, Simon Schaaf H (2005). Outcome of HIV infected children with culture confirmed tuberculosis. *Archives of Disease in Childhood* 90:1171-1174

Hirschowitz R, Orkin M (1995). *A national household survey of health inequalities in South Africa*. The Community Agency for Social Enquiry (CASE) for the Henry J. Kaiser Family Foundation, Menlo Park, CA.

IAS (2009). Drinking and driving. Institute for Alcohol Studies, United Kingdom. http://www.ias.org.uk/resources/factsheets/drink_driving.pdf.

Kevany S, Meintjies G, Rebe K, Maartens G, Cleary S (2009). Clinical and financial burdens of secondary level care in a public sector antiretroviral setting (G F Jooste Hospital). *South African Medical Journal* 99: 320 - 325

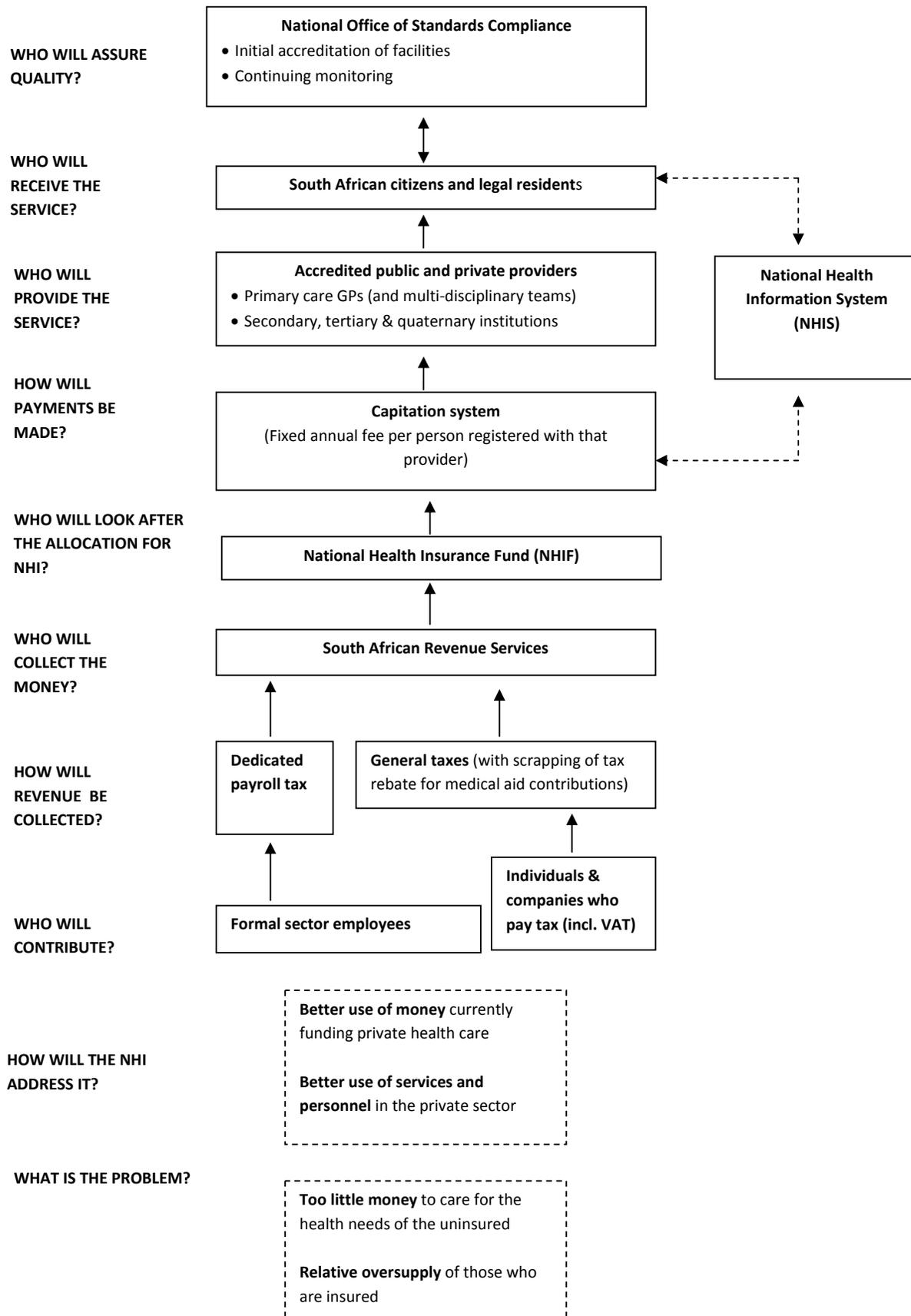
Lawn S, Churchyard G (2009). Epidemiology of HIV-associated tuberculosis. *Current Opinion in HIV and AIDS* 4:325-333

- Lawn S, Wood R (2007). When should antiretroviral treatment be started in patients with HIV-associated tuberculosis in South Africa? *South African Medical Journal* 97: 414 - 415
- Lewin S, Norman R, Nannan N, Thomas E, Bradshaw D and the South African Comparative Risk Assessment Collaborating Group (2007). Estimating the burden of disease attributable to unsafe water and lack of sanitation and hygiene in South Africa in 2000. *South African Medical Journal* 97: 755 – 762
- Maharaj R, Mthembu D, Sharp B (2005). Impact of DDT re-introduction on malaria transmission in KwaZulu-Natal. *South African Medical Journal* 95: 871 – 874
- Matsebula T, Willie M (2007). Private hospitals. In Harrison S, Bhana R, Ntuli A (eds). South African Health Review 2007. Health Systems Trust. <http://www.hst.org.za/uploads/files/sahr2007.pdf> (Accessed November 2009)
- Mayosi B, Flischer A, Lalloo U, Sitas F, Tollman S, Bradshaw D (2009). Health in South Africa 4: The burden of non-communicable diseases in South Africa. *The Lancet* 374: 934-47
- McIntyre D, Bloom G, Doherty J, Brijlal P (1995). *Health Expenditure and Finance in South Africa*. Durban: Health Systems Trust and World Bank
- McMorrow M, Genremedhin G, van den Heever J, Kezaala R et al (2009). Measles outbreak in South Africa, 2003 – 2005. *South African Medical Journal* 99: 314 – 319
- Mofenson L (2009). Update on the Science of Prevention of Mother to Child HIV Transmission. National Institutes of Child Health and Human Development. <http://www.pepfar.gov/documents/organization/117839.pdf>
- Nagata T, Setoguchi S, Hemenway D, Perry M (2008). Effectiveness of a law to reduce alcohol-impaired driving in Japan. *Injury Prevention* 14:19-23. <http://injuryprevention.bmj.com/content/14/1/19.full>
- National Institute for Communicable Diseases (2009). <http://www.nicd.ac.za/outbreaks/h1n1/h1n1.htm>
- Nannan N, Norman R, Hendricks M, Dhansay M, Bradshaw D and the South African Comparative Risk Assessment Collaborating Group (2007). Estimating the burden of disease attributable to childhood and maternal under nutrition in South Africa in 2000. *South African Medical Journal* 97: 733 - 739
- National Committee on Confidential Enquiries into Maternal Deaths (2008). Saving mothers 2005-2007. Fourth Report on Confidential Enquiries into Maternal Deaths (Expanded Executive Summary). <http://www.doh.gov.za/docs/reports-f.html>. (Accessed November 2009)
- Norman R, Bradshaw D, Schneider M et al (2007). A comparative risk assessment for South Africa in 2000: towards promoting health and preventing disease. *South African Medical Journal* 97: 637 - 641
- Patel V, Sacoor Z, Francis P, Bill P, Bhigjee A, Connolly C (2005). Ischemic stroke in young HIV-positive patients in KwaZulu-Natal, South Africa. *Neurology* 65:759-61
- Owen, CP ed. A Policy for the Development of a District Health System for South Africa (published for public comment). Department of Health, December 1995.
- Pattinson R (ed) (2008). Saving Babies 2006-2007: Sixth report on perinatal care in South Africa. <http://www.ppip.co.za/Downloads/Saving%20babies%202006-7.pdf> (accessed November 2009)
- Peer N, Bradshaw D, Laubscher R, Steyn K (2009). Trends in adult tobacco use from two South African demographic and health surveys conducted in 1998 and 2003. *South African Medical Journal* 99: 744 – 749
- Perumal R, Padayatchi N, Stiefwater E (2009). The whole is greater than the sum of the parts: recognizing missed opportunities for an optimal response to the rapidly maturing TB-HIV co-epidemic in South Africa. *BMC Public Health* 9:243 -250
- Saranchuk P, Boule A, Hildebrand K, Coetzee D, Bedelu M, van Curtsem G, Meintjies. Evaluation of a diagnostic algorithm for smear-negative pulmonary tuberculosis in HIV-infected adults. *South African Medical Journal* 2007: 517 - 523
- Schneider H, Chabikuli N, Blaauw D, Funani I, Brugha R (2005). Sexually transmitted infections – factors associated with quality of care among general practitioners. *South African Medical Journal* 95 (10): 782-785

- Schneider H, Blaauw D, Dartnall E et al (2001). STD in the South Africa private health sector. *South African Medical Journal* 91:151-156
- Scott R, Harrison D (2009). A gauge of HIV prevention in South Africa. Johannesburg: loveLife Trust. http://www.lovelife.org.za/prevention_gauge
- Seedat M, van Niekerk A, Jewkes R, Suffla S, Ratele K (2009). Violence and injuries in South Africa: Prioritizing an agenda for prevention. *The Lancet* 374: 1011- 1022
- Segall M (1999). "The Bottle Is Half Full": Policy Oriented Overview of The Main Findings of a Review of Public Health Service Delivery. May 1999
- Smith M, Solanki G, Kimmie Z (1999). The Second Kaiser Family Foundation Survey of Health Care in South Africa. Henry J. Kaiser Family Foundation, Menlo Park, CA. <http://www.kff.org/southafrica/1513-index.cfm> (Accessed November 2009)
- South African Nursing Council (2009). Growth in Registers and Rolls, 1999 – 2008. <http://www.sanc.co.za/stats.htm> (Accessed November 2009)
- South African Police Services (2009). Total sexual offences in the RSA for April to March 2004/4 to 2008/9. http://www.saps.gov.za/statistics/reports/crimestats/2009/categories/total_sexual_offences.pdf (Accessed November 2009)
- Statistics South Africa (2005). Mortality and causes of death in South Africa, 1997 – 2003. Statistical release PO309.3. <http://www.statssa.gov.za/publications/PO3093/PO3093.pdf>. (Accessed November 2009)
- Statistics South Africa (2009a). Mortality and causes of death in South Africa, 2007. Findings from death notification. Statistical release PO309.3. <http://www.statssa.gov.za/publications/PO3093/PO30932007.pdf>. (Accessed November 2009)
- Statistics South Africa (2009b). Road traffic accident deaths in South Africa, 2001 – 2006: Evidence from death notification. Report no. 03-09-07. Pretoria: <http://www.statssa.gov.za/publications/Report-03-09-07/Report-03-09-07.pdf>
- Statistics South Africa (2009c). Gross Domestic Product Annual Estimates 1993 – 2008: Third Quarter 2009. Statistical release PO441. <http://www.statssa.gov.za/publications/PO441/PO4413rdQuarter2009.pdf>
- Stover J, Bertozzi S, Gutierrez J-P, Walker N, Stanecki R, Greener R, Gouws E, Hankins C, Garnett G, Salmon J, Boerma J, De Lay P, Ghys P (2006). Supporting online material for The Global Impact of Scaling Up HIV/AIDS Prevention Programs in Low- and Middle-Income Countries. *Science Express* 2 February 2006 Doi: 10.1126/science.1121176. <http://sciencemag.org/cgi/content/full/1121176/DCI>
- Taylor B (2007). Rationing of Medicines and Health Care Technology. In Harrison S, Bhana R, Ntuli A (eds). South African Health Review 2007. Health Systems Trust. <http://www.hst.org.za/uploads/files/sahr2007.pdf> (Accessed November 2009)
- Van Holdt K, Murphy M (2007). Public hospitals in South Africa: stressed institutions, disempowered management. In Buhlungu S, Daniel J, Southall R, Lutchman J. State of the Nation: South Africa 2007. Cape Town: HSRC Press
- Van den Heever A (2009). The determinants of medical scheme membership. In CMS News. Issue No. 2 of 2009 – 2010. Pretoria: Council for Medical Schemes. <http://www.medicalschemes.com>
- Walensky R, Woods R, Weinstein M, Martinson N et al (2008). Scaling up antiretroviral therapy in South Africa: The impact of speed on survival. *The Journal of Infectious Diseases* 197: 1324-32. Doi:10.1086/587184. <http://www.who.int/hiv/events/artprevention/walensky.pdf>. (Accessed November 2009)
- White R, Orroth K, Glynn J, Freeman E, Bakker R, Habbema J, Terris-Prestholt F, Kumaranayake L, Buvé A, Hayes R (2008a). Treating curable sexually transmitted infections to prevent HIV in Africa: Still an effective control strategy? *Journal of Acquired Immune Deficiency Syndrome* 47(3):346-353
- White R, Moodley P, McGrath N, Hosegood V, Zaba B, Herbst K, Newell M-L, Sturm A, Hayes R (2008b). Low effectiveness of syndromic treatment services for curable sexually transmitted infections in rural South Africa. *Sexually Transmitted Infections published online 15 Aug 2008*. Doi: 10.1136/sti.2008.032011
- World Development Report (2006). *Equity and Development*. Washington DC: The World Bank. <http://www.worldbank.org>

APPENDIX 1

CURRENT PROPOSAL FOR NATIONAL HEALTH INSURANCE: CRITICAL ISSUES FOR CONSIDERATION



Component of NHI	Current proposal	Benefits	Risks	Alternatives to consider	Issues unaddressed	
Contributors	Formal sector employees	Risk-pooling with the healthiest sector of the population	Disincentive to employ workers full-time	Increase in general taxation with progressive tax incidence	Contributions from self-employed: who will pay the employers' component?	
	Elimination of tax rebate on medical aid contributions Added taxation		Disincentive for marginal small enterprises			
Revenue collection	Dedicated payroll tax	Ease of collection	Added cash flow burden and additional cost to employers	Increase in general taxation with progressive tax incidence		
			Prescribed minimum benefits package may already be provided efficiently in private sector, so little funding available for cross-subsidization			Keep employer contribution at 1/3 of total contribution
National Health Insurance Fund	Central pool of funds received from Treasury comprised of dedicated payroll revenue and general taxes	National risk-pooling	High administrative costs and overheads associated with monopolies	Accredit several competitive funds or use existing medical aids to achieve efficiencies and user choice	How will additional allocations be safeguarded over time i.e. not reduce health allocation from general taxes?	
		Ability to negotiate best prices with providers				
Payment system	Capitation system	Removes incentive for over-servicing	High administrative burden and need for accurate and rapidly updated information system	Fee for service (also high admin. costs and incentives to oversupply)	How will system deal with high degree of internal migration in SA?	
			Possibility of over claiming client base, especially in mobile communities	Salaried (or flat rate remuneration) with performance monitoring		How will payment structure account for variable burden of disease and operating costs across country?
			Inability to deal with large number of foreign nationals in SA, and over reporting of numbers if retrospective reimbursement			
Component of NHI	Current proposal	Benefits	Risks	Alternatives to consider	Issues unaddressed	

Service provision	Accredited public and private providers - primary care GPs and multi-disciplinary teams, and hospitals	Use of all available resources in SA	Opting out of private providers Envisaged benefits package is unaffordable and actually offers little more than uninsured persons get now Tendency to use private providers in preference to public providers with net flow of funds away from public facilities and hence higher average cost Could create upward pressures on public sector salaries	Contractual arrangements between public and private sector to use private sector beds (at marginal cost similar to public sector costs) Specific tax-revenue derived allocations (and agency) for human resource development and retention in public sector	How will tendency of contractual health providers to push up costs be contained? What will happen in communities where there are too few doctors? What about services not covered in the benefits package? How will poor access these services?
Beneficiaries	South African citizens and legal residents	Ensures that all South Africans receive care	Does not take into account the large number of foreign nationals	All people living in South Africa	
Quality assurance	National Office of Standards Compliance will accredit facilities and continue monitoring	Across-the-board quality improvements	Lack of alternative services in underserved areas will leave no alternative but to use existing facilities, regardless of quality	None	