Data Collection Survey on Health Sector

Country Report
Republic of South Africa

October 2012

Japan International Cooperation Agency
(JICA)

KRI International Corp.

TAC International Inc.

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This report is prepared to support JICA's country operation in health through strategic programming. The contents, however, may need to be supplemented with the latest and more detailed information by the readers since the report is mainly based on literature review and not on field study, with the exception of some countries.

Foreword

Background

The current situation surrounding the health sector in developing countries has been changing, especially at the start of the 21st century. Based on the recommendations from the concept of "Macroeconomics and Health"[1], development assistance for health has greatly increased to accelerate efforts to achieve the Millennium Development Goals (MDGs) by 2015. The development assistance for health has risen sharply from USD 10.9 billion to USD 21.8 billion in 2007[2]. Moreover, development assistance was harmonized by the common framework developed at the three consequent high-level forums in Rome (2003), in Paris (2005) and in Accra (2008).

Regardless of such favorable environmental changes for the health sector in developing countries, the outcomes do not seem to reach the level of expectation in many countries. Many developing countries, particularly Sub-Saharan African countries, will not achieve some of their MDGs 4 (Reduce child mortality), 5 (Improve maternal health) and 6 (Combat HIV/AIDS, malaria and other diseases) by 2015. Therefore, while raising more money for health is crucial for lower-income countries striving to move closer to universal coverage[3]; "More Money for Health[4]", it is just as important to get the substantial health gains out of the resources available; "More Health for Money[5]". Efficiency is a measure of the quality and/or quantity of output of services for a given level of input, and improving efficiency should also be seen as a means of extending coverage for the same cost and the improved health outcomes.

Considering this situation surrounding the health sector in developing countries, in a recent movement of its development assistance work, JICA has been working on country-based analytical work. This consists of macro level and sector wide analytical work aiming to clarify JICA's aid direction in each country by looking at priority areas of concern and aid mapping. The purpose of the Data Collection Survey on Health Sector is to contribute to JICA's analytical work efforts. In the past, JICA's analytical efforts were concentrated on the project planning purpose, as a consequence, information gathered in such analytical works were naturally limited to be around the particular projects. It is therefore thought to be important for JICA to conduct a country-based health sector review to gather complete information and analyze the whole sector to learn about the situation of the country and identify high priority problems and issues to be tackled in the health system.

Objectives of the Study

The key to the formulation of a good project is having conducted thorough sector reviews. Good sector reviews and analyses help us to understand the health situation and its determinants, and the capacity for health project implementation in the countries. They also help us to contribute to the countries for identifying the feasible projects in the context of priorities and developing the necessary policies and strategic planning for the health service delivery. It is also necessary to conduct such health sector review studies on a regular basis in order to develop and implement effective and efficient health projects. Based on this concept, JICA decided to carry out the sector review studies of 23 selected countries. The objectives of the sector review are to give recommendations to JICA on the aid direction for the health sector in each country, and to improve strategic approaches and the efficiency of aid cooperation.

Structure of the Report

The health sector study country report consists of seven chapters. Chapter 1 is the summary of the socio-economic situation of each country. Chapter 2 is an analysis of the national health policy, strategic approaches, and plans. Chapter 3 describes the health situation of each country to show the priority health problems by using health information and data. Chapter 4 is an analysis of the health service delivery function of each country, while Chapter 5 is an analysis of other functions of the country's health system namely: human resources for health, health information systems, essential medical products and technologies including the health facilities, health financing, and leadership and governance. Chapter 6 is an analysis of the development partners' assistance and cooperation. Based on the above analysis, Chapter 7 provides recommendations to JICA on the strategic areas of cooperation and its approaches..

[1] WHO announced "Macroeconomics and Health: Investing in Health for Economic Development" in December, 2000. This regards Health is an intrinsic human right as well as a central input to poverty reduction and socioeconomic development and the process helps place health at the centre of the broader development agenda in countries.
[2] Ravishankar N., Gubbins P. Cooley J.R., et. al; June 2009; Financing of global health: tracking development assistance for health from 1990 to 2007; the Lancet 373:2113-2132
[3] According to WHO, Universal coverage (UC) is defined as ensuring that all people have access to needed promotive, preventive, curative and rehabilitative health services, of sufficient quality to be effective, while also ensuring that the use of these services does not expose the user to financial hardship. (http://www.who.int/health_financing/universal_coverage_definition/en/index.html)
[4] In the World Health Report 2010 (WHO), the report advocates it with the following concrete three suggestions as the requirements; 1) Increase the efficiency of revenue collection, 2) Reprioritize government budgets, and 3) Innovative financing. As the forth suggestion, it advocates increasing development aid and making it work better for health.
[5] The World Health Report 2010 also suggests the needs of improving the efficacy in the health systems and eliminating the inefficiency/waste will enable the poor countries to improve the availability and quality of the services.

Abbreviation and Acronyms

AEF	Aid Effectiveness Framework
AIDS	Acquired Immune Deficiency Syndrome
ANC	African National Congress
ANC	Antenatal Care
ART	Anti-retroviral Therapy
ARV	Anti-retroviral Drug
ASGISA	Accelerated and Shared Growth Initiative for South Africa
AusAID	Australian Agency for International Development
BANC	Basic Antenatal Care
BRICS	Brazil, Russia, India, China and South Africa
CCS	Country Cooperation Strategy
CHC	Community Health Center
CHW	Community Health Worker
CMS	Council for Medical Scheme
CSS	Client Satisfaction Surveys
CTOP	Choice on Termination of Pregnancy
DCSST	District Clinical Specialist Support Teams
DCU	Development Cooperation Unit
DFID	Department for International Development
DHIS	District Health Information System
DHMIS	District Health Management Information System
DHS	Demographic and Health Survey
DOH	Department of Health
DOTS	Directly Observed Therapy Short-course
EDL	Essential Drug List
EHS	Environmental Health System
EMS	Emergency Medical Services
ENT	Ear, Nose and Throat
EPI	Expanded Programme on Immunization
ESMOE	Essential Steps in Managing Obstetric Emergency
EU	European Union
G20	Group of Twenty
G24	Group of Twenty Four
GDP	Gross Domestic Product
GFATM	The Global Fund to Fight AIDS, Tuberculosis and Malaria
GGHE	General Government Health Expenditure
GIZ	German Agency for International Cooperation

GNI	Gross National Income
HCBC	Home and Community Based Care
HDACC	Health Data Advisory and Co-ordination Committee
HIS	Health Information System
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
HPCSA	Health Professional Council of South Africa
HSS	Health Service Strengthening
IMCI	Integrated Management of Childhood Illness
IPT	Isoniazid Prevention Therapy
IRS	Indoor Residual Spray
JICA	Japan International Cooperation Agency
M&E	Monitoring and Evaluation
MAC	Ministerial Advisory Committee
MCC	Medicines Control Council
MCHC	Maternal and Child Health Cluster
MDG	Millennium Development Goal
MDR-TB	Multidrug-Resistant Tuberculosis
MNCWH	Maternal, Newborn, Child and Women's Health
MTSF	Medium Term Strategic Framework
NCCEMD	National Committee on Confidential Enquiries into Maternal Deaths
NCD	Noncommunicable Disease
NDP	National Development Plan
NDP	National Drug Policy
NFCS	National Food Consumption Survey
NGO	Non-Governmental Organization
NGP	New Growth Path
NHC	National Health Council
NHI	National Health Insurance
NHIRD	National Health Infomration Repository and Datawarehousing
NHISSA	National Health Information Systems Committee of South Africa
NIDS	National Indicator Data Set
NORAD	Norwegian Agency for Development Cooperation
NPC	National Planning Commission
NSDA	Negotiated Service Delivery Agreement
NSNP	National School Nutrition Programme
NSP	National Strategic Plan
NSSD	National Statistics Systems Division (of Statistics of South Africa)

NT	National Treasury
NUMSA	National Union of Metalworkers of South Africa
OECD	Organization for Economic Cooperation and Development
OHSO	Office of Health Standards Compliance
PDOH	Provincial Department of Health
PEPFAR	The President's Emergency Plan for AIDS Relief
PHC	Primary Health Care
PIDS	Provincial Indictor Data Set
PMTCT	Prevention of Mother to Child Transmission
PPIP	Perinatal Problem Identification Programme
PPP	Purchasing Power Parity
QRS	Quarterly Reporting System
RH	Reproductive Health
SAMJ	South African Medical Journal
SANAC	South African National AIDS Council
SANC	South African Nursing Council
SANHANES	South African National Health and Nutrition Examination Survey
SASAS	South Africa Social Attitude Survey
SRH	Sexual and Reproductive Health
SSF	Single Streams of Funding
STG	Standard Treatment Guidelines
STI	Sexually Transmitted Infection
STPs	Service Transformation Plans
StatsSA	Statistics South Africa
TB	Tuberculosis
THE	Total Health Expenditure
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VCT	Voluntary Counseling and Testing
WHO	World Health Organization
XDR－TB	Extensively Drug-Resistant Tuberculosis

Source: Http://www.freemap.jp/africa/africa_soutuafrica_all.html
(access in August, 2012)

The Republic of South Africa

Summary

1. Although the economic growth has been stagnant in recent years, the Republic of South Africa is classified as a middle income country, with GDP per capita of US$8066 in 2011. South Africa also plays a key role in the African economy. After the apartheid policy was dismantled in 1994, the government is promoting social support programs including provisions on social services such as education and health to eradicate poverty and social and economic disparities. However, the efforts have not been translated enough in employment creation and poverty reduction. Economic inequities in South Africa remain to be one of the worst in the world.

2. The health sector priorities are addressed in the National Development Plan (NDP): Vision 2030 and the Medium Term Strategic Framework (MTSF) (2009-2014). However, despite a series of government strategies and significant inputs, improvement in the health status of the population has been slow. As a health sector plan, the Ten Point Plan in the health sector reform was issued. Based on the recommendations made in the plan, the Department of Health (DOH) developed the National Department of Health Strategic Plan 2010/11-2012/13. Subsequently, the Negotiated Service Delivery Agreement (NSDA) (2010-2014) between the President and the relevant ministerial departments was signed to achieve the targets of government programs. The health sector must contribute in attaining the NSDA's Outcome 2: A Long and Healthy Life for All South Africans. Furthermore, the Re-engineering PHC Services Plan was announced in 2011. Up to the present, a number of calculated measures are being taken in align with the above policies and plans.

3. South Africa is in the midst of epidemiological transition and characterized by a multiple burden of diseases comprising infectious diseases, perinatal and maternal mortality, noncommunicable diseases (NCD), and burden of injuries. Malnutrition and preventable infections such as diarrhea remain a problem. Improvement in maternal and child mortality are still insufficient. South Africa has high prevalence of HIV/AIDS. HIV/AIDS is not only the first leading cause of overall deaths, but is one of the major causes of maternal and child deaths. South Africa has the third highest burden of TB in the world and co-infection of HIV with TB is also an emergent serious concern. South Africa is unlikely to achieve most health related MDG targets except for child immunization coverage. However, recently the government has revised the baseline and lowered the MDG target values of maternal and under-five and infant mortality, which will help in attaining MDGs more realistically.

4. South Africa is taking measures to reduce maternal and child deaths. The Re-engineering PHC Plan and the strengthening of district health service system are also expected to contribute to the improvement of maternal and child health. Specific interventions are being made to improve quality of care and access in the public facilities, which include renovation of health infrastructure, human resources capacity building and revision of standard protocol of emergency obstetric care. The control and prevention of HIV/AIDS and TB are the topmost priority in South Africa. In this respect, the National Strategic Plan (NSP) (2012-2016) has set out priority interventions to reduce new HIV/AIDS/TB infections, and expand care and provide anti-retroviral therapy (ART) services to the people living with HIV/AIDS (PLWHA). Progress has been made in the reduction of new HIV cases, expanded treatment services,

and improved prevention of mother to child transmission (PMTCT). At the same time, the health service system including funding, human resources, facilities and equipment, and drug supply must be strengthened to meet the growing demand of ART and related services. The tuberculosis cure rate has improved, however, multi-drug resistant tuberculosis and co-infection with HIV complicate the situation. Interventions for malnutrition and the NCD have been left behind due to the imbalanced resource inputs in favor of the HIV/AIDS and TB control programs. The government plans strengthen the nutrition and the NCD programs in the current DOH strategy.

5. The proportion of health sector expenditure to GDP and the per capita health expenditure are among the highest in the world. The fact is that almost half of the funding are spent for the private sector, which covers only a small portion of affluent population. It is now largely recognized that the structural problem, i.e., distorted allocation of resources and health professionals between the public and private sector, are the underling factors for the poor health status of the majority of the population. In response, the government has introduced a pilot program of the National Health Insurance (NHI) to facilitate universal access to quality of care for all South Africans. However, the public health system needs to be revitalized to support the implementation of the NHI and to improve services for maternal and child health. As part of the government efforts, the Health Humnan Resources Strategy for Health Sector (2012/13-2016/17) was formulated in 2012 to correct the severe shortage in health personnel in the public sector, through appropriate human resource development policies, funding allocation, and management system. The health information system (HIS) has been in operation since 1990's and the district health information system (DHIS) was first introduced in South Africa. The HIS is widely established yet in recent years the fragmentation among different information sources were pointed out. The government announced the District Health Management Information System Policy in 2011 to improve the data quality and integration of different data systems.

6. The proportion of donor assistance in the health sector is relatively insignificant and the support is almost limited to the HIV/AIDS program. However, the government expressed concerns over the lack of government leadership in aid coordination and harmonization, and issued the Aid Effectiveness Framework (AEF) in 2011. The aim of AEF is to attain the government leadership on coordination and oversight, and to facilitate an effective development assistance by harmonizing all ODA activities with priorities, strategies, and implementation plans defined in the national development agenda.

7. Given the situation above, the government has a strong commitment and vision to strengthen the heath system. In line with the government strategies and efforts, the government of Japan should continue to provide support to ensure equity in health services, by making the best use of the past assistance and experience on HIV/AIDS program and medical equipment management.

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Country Report
Republic of South Africa

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Chapter 1 Country Situation

1.1 Socio and Economic Situation

The first multi-racial elections in 1994 brought an end to the apartheid that began in 1948, and thereafter South Africa became a constitutional democratic country. In 2009, the country held its fourth general elections, and the African National Congress (ANC) elected Jacob Zuma as President of South Africa. Under the new government, the cabinet was expanded from 28 to 34 ministries to strengthen planning, performance monitoring, and service delivery functions [1] [2]. The gross domestic product (GDP) was US$408.1 billion, and GDP per capita was US$8066 in 2011. South Africa is classified as a middle-income country and has a vital role in Africa's economy, representing 40% of the Sub-saharan economy. The GDP growth has recovered from -1.5% in 2009 to 3.1% in 2011; however in 2012, it was projected that GDP growth will drop to 2.7% [3] [4]. On the other hand, South Africa has become increasingly prominent in the international arena as an emerging power, with its positions in the UN Security Council, G-20, G-24 and BRICS[6] [3].

Since 1994 the government has been promoting social support program to eradicate poverty. This program combines compulsory education, free primary health care (PHC), food, subsidized housing, water and electricity supply, and transportation subsidies [5]. In the fiscal years 2012 and 2013, social spending comprises 58 % of government expenditure which covers almost a third of the total population [6].

Despite relatively good economic performance and high level of social expenditure, the government's own assessments also recognized that the performance has not reflected on poverty eradication, mitigating economic disparities, and high unemployment rate. The underlying factors of persistent poverty in South Africa can be explained not only by administrative mismanagement, corruption, uneven and poor-quality public services, but also to the social structure which as a legacy of apartheid's divisions and exclusion make South Africa's development challenges extremely complex and deep-rooted [3] [1]. Even after 1994, inequality in South Africa is not only one of the highest in the world but continue to worsen with each passing day. The Gini index, a measurement of the inequality of income or wealth, showed an increase from 0.65 in the late 1990s to 0.70 in 2008 [7] [1]. In this regard, 22% of the population lives below the national poverty line[7], and the economic disparities among the racial groups are significant. In 2006, Black African which constitutes 79.4 % of the total population earned 41.2 % of the total income, while the white population which constitutes only 9.2 % of the total population earned 45.3% of the total income [5]. Further, the unemployment rate is extraordinarily high at 24.5% for the total working population in 2010 [4] and 48.2% for the population aged 15-24 in 2009 [2].

1.2 Population

Table 1-1 shows the selected economic and population indicators. The population under the age of 30 years

[6] An acronym for the group countries of Brazil, Russia, India, China, and South Africa.
[7] The proportion of people living less than US$2.5 per day.

accounts for approximately 60% of the total population, and the 20-24 age group accounts for the highest proportion of 10.5% [8]. According to the estimates in 2012, Black African comprised 79.4% of the total population, the white comprised 8.8%, the colored 9.2%, and the Indo/Asian 2.6% [9]. In 2010, 60% of the population lived in urban areas [2].

Table 1-1 Selected Economic and Population Indicators

Indicator	Unit	South Africa	Sub-Saharan Africa	Year	Source
Population	Person	50,270,497	-	2011/July	DOH
Population Growth Rate	%	1.4	2.8	2000-2009	UNICEF
Crude Birth Rate (per 1,000 population)	-	22	38	2009	UNICEF
Crude Death Rate (per 1000 population)	-	15	14	2009	UNICEF
Life Expectancy at Birth	Years	52	54	2009	UNICEF
GNI per Capita	US$	6,100	1,192	2010	UNICEF
Net Official Development Assistance Received (% GDP)	%	0.4	9.9	2009	UNDP
Literacy Rate (15 years old and above)	%	88.7	61.6	2005-2010	UNDP
Primary School Net Enrolment/Attendance	%	100	96	2005-2009	UNICEF
Human Development Indicator	-	123/187	-	2011	UNDP

Sources: Annual Performance Report 2012, DOH (4 March 2012) [10]
The State of the World Children 2011, UNICEF (2011) [11]
Human Development Report 2011, UNDP (2011) [12]

1.3 Administrative Division

South Africa consists of nine provinces: Gauteng, KwaZulu-Natal, North West, Limpopo, Free State, Mpumalanga, Eastern Cape, Western Cape, and Northern Cape. The provinces are divided into three types of municipalities as shown below:

1. Category A: Metropolitan municipalities (9 municipalities)
   The metropolitan municipalities do not have local municipalities and non-metropolitan municipalities are divided into two categories as stated below:
2. Category B: Local municipalities (226 municipalities)
3. Category C: District municipalities (44 municipalities)

The district municipalities comprised of the local municipalities. The metropolitan municipalities and local municipalities are further divided into 4277 wards [13].

Chapter 2 Development Policies and Plans

2.1 National Development Policy

In November 2011 the National Planning Commission (NPC) announced the National Development Plan (NDP): Vision 2030[8]. The NDP indentifies the national policy priorities and seeks to address the country's main development challenges. The NDP also indentifies nine priority interventions[9]. The 5-year New Growth Path (NGP) aims to promote infrastructure development, export diversification, entrepreneurship, and efficient production system. In line with the NDP, national and provincial 3-year and annual performance plans need to be developed focusing on health, education, creation of employment, crime prevention, and rural development [14].

The Medium Term Strategic Framework (MTSF) 2009–2014 is a document meant to guide planning and resource allocation across all spheres of the government. Taking into account MTSF, the national and provincial departments in particular will need to immediately develop their 5-year strategic plans and budget requirements. MTSF identifies ten strategic priorities, of which Strategic Priority 5: Improve the health profile of all South Africans is related to the health sector [15].

2.2 Health Sector Development Plan

To achieve the MTSF's Strategic Priority 5: Improve the health profile of all South Africans, the Negotiated Service Delivery Agreement (NSDA) from year 2010 to 2014, was signed between the President and Minister of Health in September 2010. The NSDA is a charter that reflects the commitment of key partners, in which the health sector must contribute in attaining NSDA's Outcome 2: A Long and Healthy Life for All South Africans.

To this end, the Health Minister and the Department of Health (DOH) have identified four measurable strategic outputs to be achieved. These are [17] [16] [18]:

1. Increasing life expectancy;
2. Decreasing maternal and child mortality;
3. Combating HIV and AIDS and decreasing the burden of disease from Tuberculosis; and
4. Strengthening health system effectiveness (including National Health Insurance).

Some of the main outcome indicators in the health sector are presented in Table 2-1.

[8] NDP was scheduled to be presented to the parliament in May 2012. The updated information is not confirmed. While the parliament has already adopted the National Evaluation Framework to evaluate the outcomes of NDP.
[9] "Quality Health Care for All" is one of the priority interventions.

Table 2-1 Health Sector Outcome Indicators in NSDA (2010-2014)

	Indicator	2009 Baseline	2014/15 Target
1	Life Expectancy (years)	53.9	57.2
2	Under-five Mortality Rate (1,000 live births)	104	20
3	Infant Mortality Rate (1,000 live births)	53	18
4	Maternal Mortality Ratio (per 100,000 live births)	625	100
5	New HIV Infections	-	50% reduction
6	Number of TB Incidence	341,165	175,000
7	TB Cure Rate	64%	85%

Source: Delivery Agreement For Outcome 2, DOH (2011) [18]

In the budget speech in May 2011, the Minister of Health announced the Re-engineering Primary Health Care and stated that needed substantive improvements should clearly link to the attainment of the four strategic objectives identified in the NSDA. The short-term priority of the Re-engineering Primary Health Care is to introduce the following approaches [10]:

- Districts specialist clinical support Teams;
- School-based health programme; and
- Municipal ward-based PHC outreach teams.

(1) Health Sector Road Map

During the past several years, the government and the DOH have promoted a series of reforms to improve the health delivery service system and at the same time, developed a number of policy documents . However, these policies were not adequately translated into practical implementation and assessment, and the gap between the policy and the implementation in the heath sector is frequently pointed out. As a consequence, after 2007, despite a series of interventions and inputs by the government in the health sector, there are growing concerns that the progress on the health status of the people has been insufficient. In response, the Health Sector Road-map[10] was developed in 2008 to initiate health reform. This process was commissioned by the ANC National Executive Committee (NEC)'s Sub-Committee on Education and Health to analyze the major priority areas in the health sector.

(2) Ten-point Plan in the Health Sector Reform (2010-2014)

Based on the recommendations made in the Road-map, a ten-point plan in health reform was formulated. The plan is a guiding document for the health system reform and coordination efforts in the public and private health sector to improve access to quality health care, especially for reducing disease burden on women and children. Ten priority areas identified in the plan are as follows [16] [17 [19]:

1. Provision of strategic leadership and creation of a social compact for better health outcomes;
2. Implementation of a National Health Insurance (NHI);
3. Improving the quality of health services;

[10]The Road-map is a situational analysis report, where experts and health sector partners carried out health sector analysis and recommendations from July to October 2008 to contribute to the development of the ten-point plan. The analysis was made in the following five areas: diagnostics of health status of the population (incl. data analysis), health sector reform (incl. decentralization, roles of the central, provincial and district governments), HIV and AIDS and other diseases burden, and financing.

4. Overhauling the health care system and improving its management;
5. Improving human resources management, planning, and development;
6. Revitalization of health infrastructure;
7. Accelerated implementation of the National HIV&AIDS and STI National Strategic Plan and increase focus on TB and other communicable diseases;
8. Mass mobilization for better health for the population;
9. Review of the drug policy; and
10. Strengthening research and development

(3) National Department of Health Strategic Plan 2010/11-2012/13 and Provincial Long-term Plan

The ten-point plan above resulted in the formulation of the National Department of Health Strategic Plan 2010/11-2012/13 in February 2010. The priority areas recommended in the road-map were incorporated into the strategic plan. The provincial departments of health, in alignment with the ten-point plan, are expected to develop long-term plans, service transformation plans (STPs), and also to develop detailed service delivery plans including human resources, quality improvement, drug supply and management, information and communication technologies, health information system (HIS), research and development, and financing.

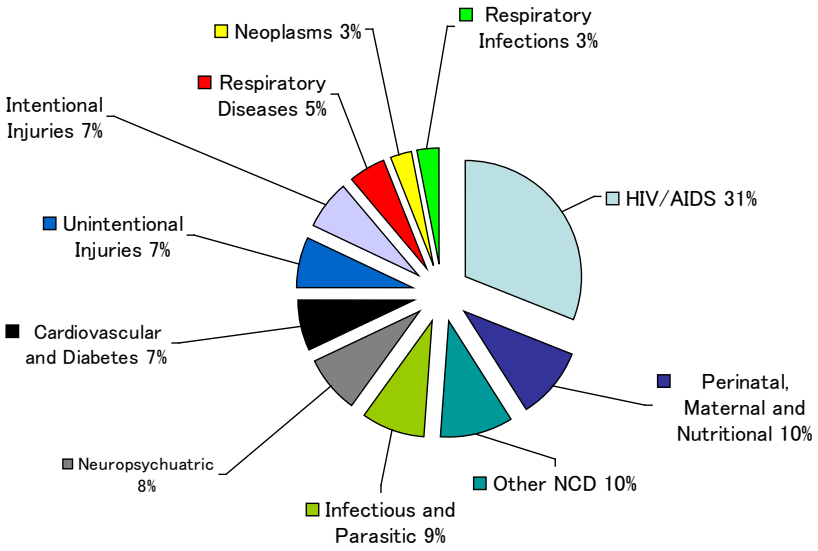
Chapter 3 Health Status of the People

3.1 Overview

South Africa is in the midst of epidemiological transition and faces a quadruple burden of disease consisting of communicable diseases, perinatal and maternal mortality, noncommunicable diseases, and injuries [10]. This situation indicates that urgent intervention is needed to focus on high maternal and child deaths in the short-term, but also mid- and long-term intervention are required for continual service provisions for HIV/AIDS and Tuberculosis (TB) including co-infection of HIV/AIDS, and prevention and control of increasing cases of noncommunicable disease such as cardiovascular disease, diabetes, and mental health.

The current health status of the population is further exacerbated by adverse social determinants of health such as poverty, economic disparities, and lack of access to the basic social services including sanitation and safe water [10] [20]. The crude mortality rate has increased from 8 per 1000 population in 1990 to 15 per 1000 population in 2010. This rate is more than double the average of the high and middle income countries. The life expectancy rate at birth has decreased from 63 to 52 during the same period. The situation is mainly attributed to the adverse impacts of HIV/AIDS[11].

Figure 3-1 presents the major causes of deaths in 2010.



*Perinatal Death: A death of fetus after 22 weeks of gestation and a death of infant within the first seven days of life
Source: HRH Strategy for the Health Sector 2012/2013-2016/2017-Consultation Document V3, DOH (20 January 2012) [21]

Figure 3-1 Distribution of Causes of Death (%) (2010)

HIV/AIDS was the first leading cause of death and the second was unintentional and intentional injuries. The population over 60 years of age accounted for 60% of the total population, and this proportion is the highest among the African countries [21]. The increase in the ART coverage will further reduce the number of deaths due to HIV/AIDS, leading to the increase of noncommunicable diseases like lifestyle-related illnesses.

[11] NHP data

Table 3-1 shows the achievability of major health related Millennium Development Goal (MDG) targets. Except for the immunization coverage against measles and the complete immunization coverage of one-year old children, most of the health related MDG targets in South Africa are unlikely to be achieved [10].

Table 3-1 Achievability of Major Health Related MDG Targets

MDG	Indicator	Base Line	Status in 2010 (or nearest year)	2015 Target	MDGs Target Achievability
1: Eradicate Extreme Poverty and Hunger	Prevalence of underweight children under-five (%)	9.3 (1994)	10.2 (2005)	4.7	Unlikely
	Incidence of severe malnutrition in children under-five (per 1,000 children under-five)	1.4 (1994)	1.0 (2005)	0.7	Possible
4: Reduce Child Mortality	Under-five mortality rate (per 1,000 live births)	59 (1998)	104 (2007)	20	Unlikely
	Infant mortality rate (per 1,000 live births)	54 (2001)	53 (2007)	18	Unlikely
	Immunization coverage of one year old children against measles (%)	68.5 (2001)	98.3 (2009)	100	Likely
	Complete immunization coverage under one year old (%)	66.4 (2001)	95.3 (2009)	100	Likely
5: Improve Maternal Health	Maternal mortality ratio (per 100,000 live births)	369 (2001)	625 (2007)	38	Unlikely
	Proportion of births attended by skilled health personnel (%)	76.6 (2001)	94.3 (2009)	100	Possible
6: Combat HIV/AIDS, Malaria, and Other Diseases	HIV prevalence among population aged 15-24 (%)	9.3 (2002)	8.7 (2008)	<9.3	Possible
	HIV prevalence among pregnant women aged 15-24 years (%)	22.8 (2002)	29.3 (2008)	22.8	Unlikely
	Proportion of population with advance HIV infection with access to ART (%)	13.9 (2005)	41.6 (2009)	≈100	Unlikely
	Incidence of malaria	64,600 (2000)	6,800 (2008)	<6,800	Likely
	Mortality rate associated with malaria (per100,000 population)	2.0 (2002)	0.6 (2007)	<2.0	Achieved
	Mortality rate associated with TB (per100,000 population)	147 (2002)	179 (2007)	<147	Unlikely
	Proportion of tuberculosis cases detected and cured under DOTS (%)	65.5 (2004)	76.4 (2008)	100	Possible

Source: Millennium Development Goals Country Report 2010, RSA and UNDP (2010) [5]

3.2 Maternal and Child health

3.2.1 Maternal Health

In South Africa, the recording system of maternal deaths has been in operation since 1997. However, there are significant discrepancies in the maternal mortality data among different sources, for instance, the 2001 census reported that the maternal mortality rate was 369 per 100,000 live births, while the 2007 Community Survey reported that the rate was 625 per 100,000 live births. The latter rate of 625 was used as a baseline value in the 2010 MDGs report and NSDA. Although the Health Data Advisory and Co-ordination Committee (HDACC) revised and lowered the maternal mortality ratio to 310 as the year 2008 value [10], this figure is still high. In addition, maternal deaths in the rural areas estimated at 20%-60% of the total rate

may not be reflected in the reported number. As seen in Table 3-2, HIV/AIDS is the first leading cause of maternal deaths, but there are also a large number of maternal deaths caused by the structural factors including poor health facilities, inadequate management, transportation problem at emergency, and delay in administering ART to HIV positive pregnant women.

Although the coverage of antenatal care in 2010/11 was 72% and the rate of institutional delivery was as high as 94% in South Africa, government reports indicated that the number of maternal deaths in all levels of health facilities increased from 2005 to 2007 and from 2008 to 2010. A notable fact is that 71.4% of these deaths were reported to be avoidable[12] [22] [10].

Table 3-2 Causes of Maternal Death (%) (2008-2010)

A. Direct Cause	**46.3**
Hypertension	14.0
Obstetric Haemorrhage	14.1
Ectopic Pregnancy	1.5
Miscarriage	3.8
Pregnancy Related Sepsis	5.3
Anesthetic Related	2.5
Embolism	1.9
Acute Collapse	3.0
Hyperemesis Gravidarum	0.1
B. Indirect Cause	**49.3**
Non Pregnancy Related Infections (HIV/AIDS)	40.5 (27.9)
Medical and Surgical Condition	8.8
C. Unknown	**4.4**

Source: Saving Mothers 2008-2010: Fifth Report on Confidential Enquires into Maternal Death in South Africa, NCCEMD (22 May 2012) [22]

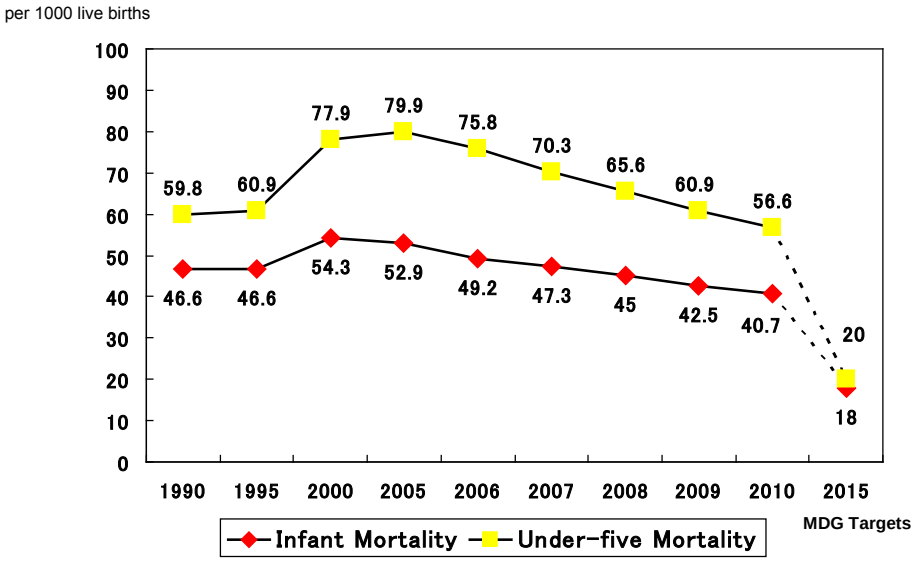
3.2.2 Child Health

The infant and under-five mortality rate increased from 1990 to mid-2000, but the rate thereafter decreased. There are geographical differences in the infant mortality. The rate is 32.6 per 1000 live births in the urban areas compared to 52.6 on average in the rural areas, but infant mortality in some areas of Eastern Cape is significantly high at 70 per 1000 live births. The high child mortality especially in the rural areas has been a concern [7] [21].

The major cause of the increase in infant and child mortality was due to HIV/AIDS and in response, efforts have been made in delivering prevention of mother to child transmission (PMTCT) program. A study done by the Medical Research Council in 2011 found that mother to child transmission rate of HIV among 6-week old infants has decreased from 8% in 2008 to 3.5% in 2010 across all provinces [10] [22]. Figure 3-2 presents the trends in the infant and under-five mortality rates[13].

[12] Maternal deaths which could have been prevented from the following factors: (1) Administrative related (45.1%) (transportation problem, lack of health facilities, shortage of qualified health personnel, etc.), (2) Health care provider related emergency management problems in first, second, and tertiary health facilities (delay in recognition of emergency, incorrect diagnosis etc., in first and second level facilities, and sub-standard or sub-optimal case management etc., in tertiary facilities)

[13] There are discrepancies in infant and under-five mortality data in South Africa. The estimated data by the UN Inter-agency Group for Child Mortality Estimation (IGME) are used for Figure 3-2.



Source: Child Mortality Estimates, IGME (May 2011) [23]

Figure 3-2 Trends in Infant and Under-Five Mortality (1990-2010)

There are inconsistencies in infant and under-five mortality data among sources in South Africa. In this respect, the HDACC Report of November 2011 revised the baseline figure of under-five mortality from 104 (2007) used in the MDGs Report to 56 (2009), and at the same time revised the target figure for 2014/15 from 20 to 50, respectively. Likewise, the baseline figure of infant mortality figure was revised from 53 (2007) to 40 (20009) and the target figure for 2014/15 was revised from 18 to 36 (see Table 3-3)[14] .

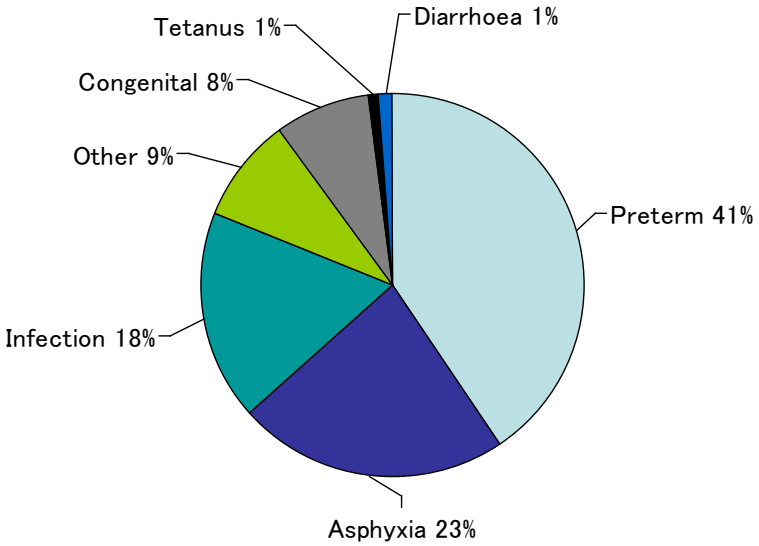
Table 3-3 Baseline (2009) and Target (2014, 2016) of Child Mortality Set by HDACC

Indicator	Baseline (2009)	Target (2014)	Target (2016)
Under-five Mortality Ratio	56	50	40
Infant Mortality Rate *	40	36	32
Neonatal Mortality Rate **	14	12	11

* Probability of dying between birth and exactly one year of age per 1,000 live births
**Probability of dying during the first 28 completed days of life per 1,000 live births.
Source: Strategic Plan for Maternal, Newborn, Child and Women's Health and Nutrition in South Africa 2012-2016, DOH (24 May 2012) [24]

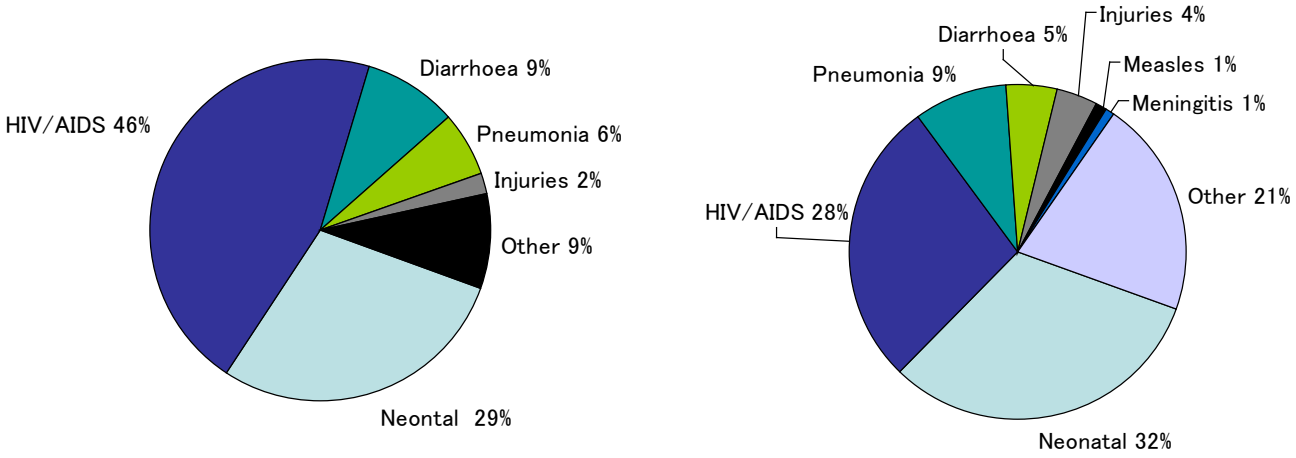
As Figure 3-3 shows, the major causes of neonatal death are preterm, asphyxia, and infection. For the major causes of under-five mortality, as Figure 3-4 shows, the proportion of HIV/AIDS as the leading cause of death in 2008, decreased from 46% in 2008 to 28% in 2010. The factors for the decline in prevalence of HIV/AIDS deaths can be attributed to the promotion of PMCTC and ART program for HIV infected under-one infant.

[14] Whether the revised figures of infant and under-fiver mortality by HDAAC are internationally recognized is not confirmed.



Source: Country Report 2010 South Africa-Maternal, Newborn & Child Survival, Countdown to 2015(2010) [25]

Figure 3-3 Causes of Neonatal Death (2008)



Sources : Country Report 2010 South Africa-Maternal, Newborn & Child Survival, Countdown to 2015 (2010) [25]
Country Report 2012 South Africa-Maternal, Newborn & Child Survival, Countdown to 2015 (2012) [26]

Figure 3-4 Causes of Under-five Death (2008 and 2010)

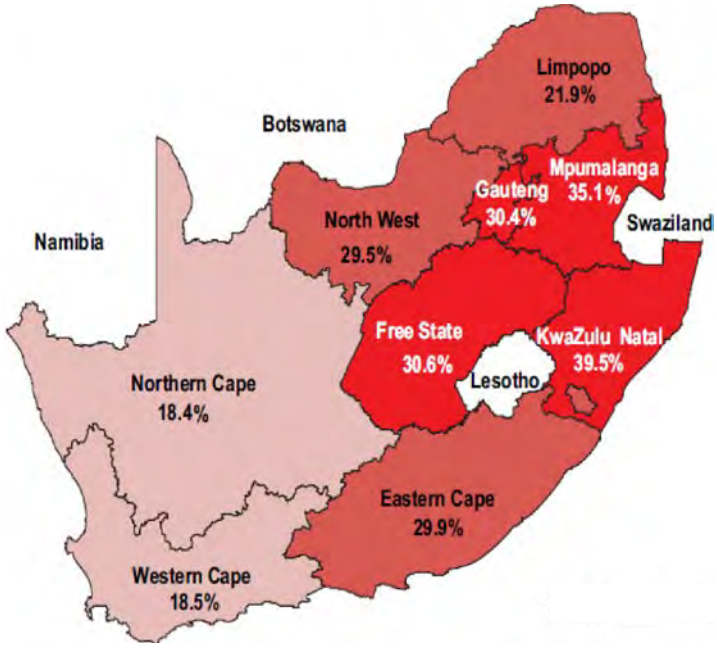
3.3 Situation of Infectious Diseases

3.3.1 HIV/AIDS

Among others, South Africa has the highest burden of HIV/AIDS in the world. The Joint United Nations Programme on HIV/AIDS (UNAIDS) estimated that the HIV prevalence in the general population in 2010 was 17.9%, and the number of people living with HIV/AIDS (PLWHA) was 5.575 million. Of these, an estimated 520,000 were children below 15 years old and 2.95 million were females over 15 years. There were 3,332,512 new infections in adults above 15 years old. Young women between the ages of 15 and 24 years are four times more likely to have HIV than males of the same age. The risk of HIV infection is especially higher among pregnant women and victims of physical violence. Incidence of TB due to

HIV/AIDS is high and 73% of TB patients are HIV positive. About 1.2 million children have been orphaned as a result of HIV/AIDS in 2009 [27] [28].

HIV prevalence among pregnant women attending public health antenatal clinics has increased from 0.7% in 1990 to 30.2% in 2010[10]. HIV prevalence rates among pregnant women by province are shown in Figure 3-5. KwaZulu-Natal hags the highest figure with 39.5%, while Northen Cape has the lowest figure with 18.4%.



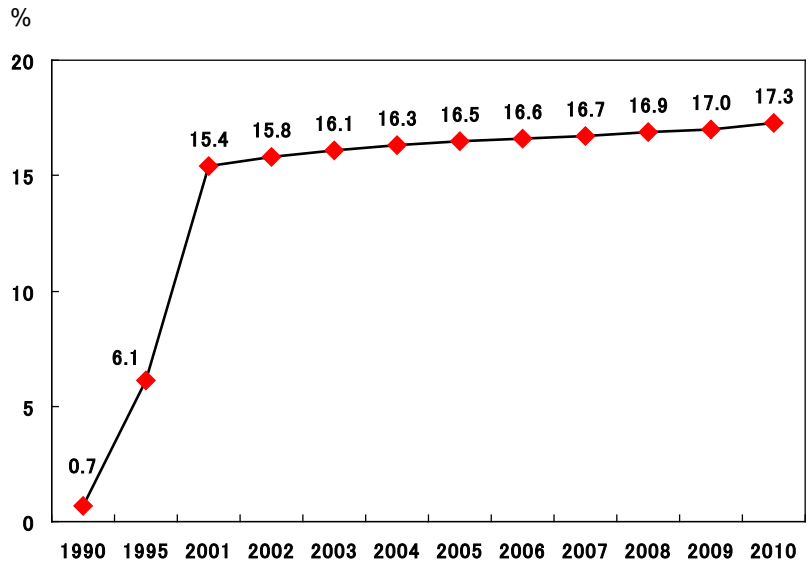
Source: Evaluation of the Effectiveness of the National Prevention of PMTCT, DOH et.al. (2012) [29]

Figure 3-5 HIV Prevalence Rates Among Pregnant Women Attending Antenatal Clinics (2010)

According to the report of the UNAIDS, only 30% of young male aged 15-24 years and 27% of females of the same age group can correctly identify ways to prevent sexual transmission of HIV, and reject major misconceptions about HIV transmission and prevention [27].

Figure 3-6 shows the trends of HIV prevalence among 15-49 aged group. Since 2000, HIV prevalence has been relatively stable, however, a rapid expansion of ART services is likely to increase the lifespan of PLWHA, and consequently increase the HIV prevalence. For this reason, it is more appropriate to measure the HIV incidence[15] instead of the HIV prevalence[16] to assess the success of the HIV/AIDS program in South Africa.

[15] The number of new HIV infections in a specific population during a specific period of time.
[16] The number of people living with HIV infection in a given year.



Note: 1990 and 1995: WDI data, 2001-2010: Statistics data
Sources: World Development Indicators and the World Bank [30]
Statistical Release Mid-year Population Estimates 2010, StatsSA (July 2010) [31]

Figure 3-6 Trends in HIV Prevalence among 15-49 Aged Group (1990-2000)

Based on the EPP/SPETRU model[17], the HIV prevalence for the general population was 1.5% in 2009. Geographically, the lowest prevalence rate among 15-49 years was found in Western Cape (0.5%) and the highest was found in KwaZulu-Natal (2.3%) (see Table 3-4) [32].

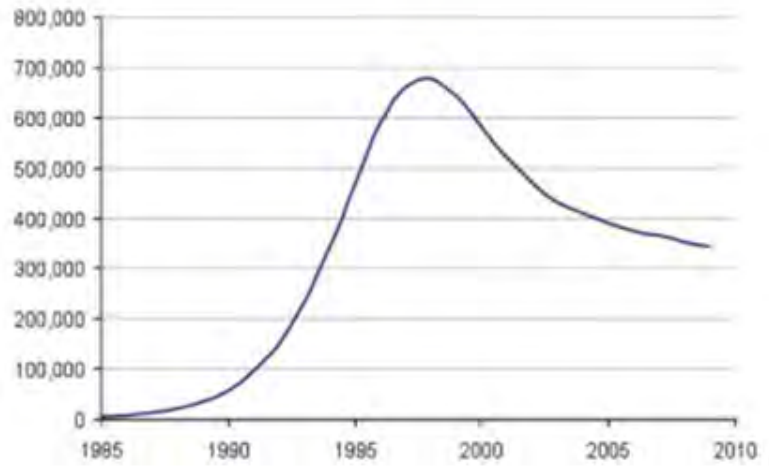
Table 3-4 Estimates of New HIV Infections by Province (2009)[18]

	Estimated Number of New Infections (15-49 years)	Estimated Incidence (%) (15-49 years)	Estimated Number of New Infections (0-14 years)
South Africa	335,700	1.5	48,481
KwaZulu-Natal	98,600	2.3	14,235
Mpumalanga	28,200	1.9	4,069
Free State	22,600	1.7	3,263
Gauteng	67,100	1.4	9,692
Northwest	28,500	1.6	4,111
Eastern Cape	46,400	1.6	6,704
Limpopo	29,000	1.1	4,181
Northern Cape	3,100	0.7	449
Western Cape	12,300	0.5	1,778

*Estimates are based on EPP/SPETRU model
Source: Progress on HIV Incidence Estimation Methods in South Africa-Vol. 1, No.1, DOH (2011) [32]

Figure 3-7 shows the trends in the estimated number of new HIV infection among the population over 15 years. It shows a downward trend since 2000.

[17] The EPP/SPETRU models are used by UNAIDS.
[18] The two models, ASSA and EPP/SPERCTRUM, are widely used to estimate HIV incidence in South Africa. Table 3-4 shows the estimates based on the EPP/SPERCTRUM model.

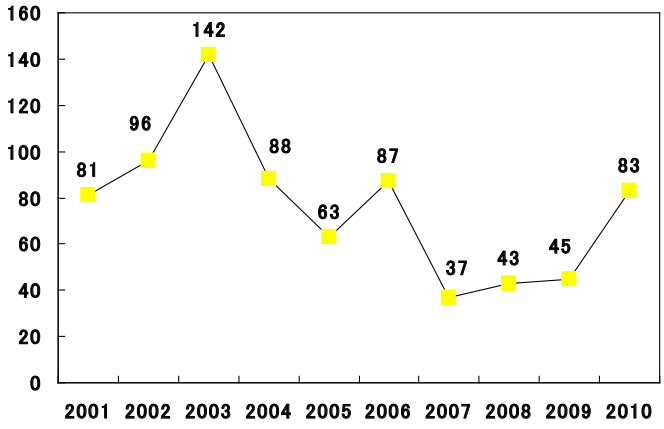


Source: Progress on HIV Incidence Estimation Methods in South Africa-Vol. 1, No.1, DOH (2011) [32]

Figure 3-7 Trends in the Estimated Number of New HIV Infections Among Over 15 Years (1985-2010)

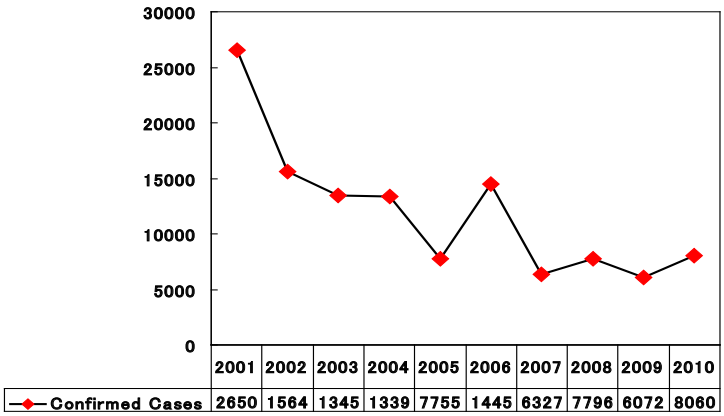
3.3.2 Malaria

In South Africa, malaria is endemic only in some parts of the provinces of Limpopo, KwaZulu-Natal, and Mpumalanga in the northern area bordering Swaziland and Mozambique, and 90% of the population live in malaria free areas. The malaria death rate has been low at 4 to 10 per 1000 population since 1999. As Figures 3-8 and 3-9 show, the number of confirmed malaria cases and deaths increased in 2006 and 2010, yet the overall trend remains low. Furthermore, the malaria incidence was reduced to 0.6 per 1000 population at risk in 2010/11, which was in line with the national target of 0.66 per 1000 population at risk. The key intervention of malaria in South Africa is the indoor residual spraying (IRS) program which reached the target coverage of 90% in 2010/11. The long-term objective is to eliminate malaria in South Africa by year 2018 [5] [33] [34] [10].



Source: World Malaria Report 2011, WHO (2011) [34]

Figure 3-8 Trends in Malaria Death (2001-2010)



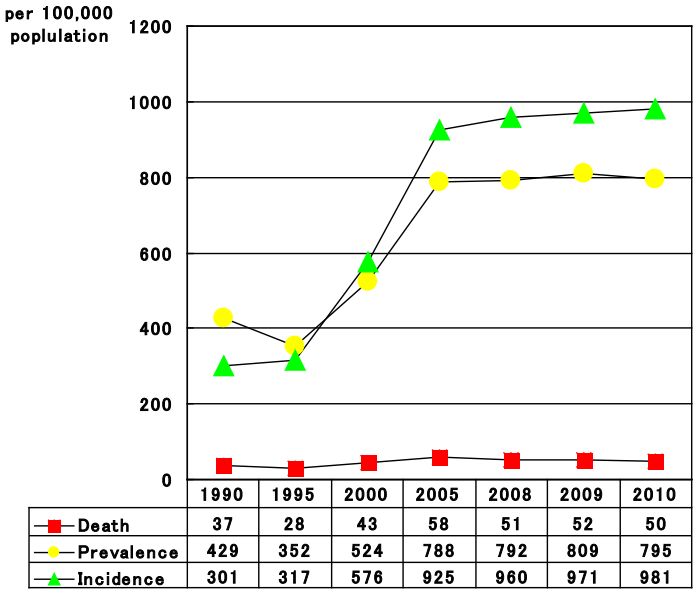
Source: World Malaria Report 2011, WHO (2011) [34]

Figure 3-9 Trends in Number of Malaria Confirmed Cases (2001-2010)

3.3.3 Tuberculosis

WHO reported that South Africa (0.40 million–0.59 million) has the third largest number of TB incidence cases in 2010 after China (0.9 million–1.2 million) and India (2.0 million–2.5 million). It is also noted that

South Africa accounts for one quarter of the total notified cases of TB in Africa [35]. TB is the most common opportunistic infection in South Africa, and as mentioned earlier, more than 70% of TB patients are also infected with HIV. Approximately 1% of the population develops TB every year and the number of cases detected for all forms of TB has increased from 148,164 in 2004 to 401,048 in 2010. The highest prevalence of TB infection is found among the group aged 30–39 years in township communities and informal settlements. The rate is estimated as high as 88% [28] [36]. Figure 3-10 shows the trends in TB death, incidence, and prevalence from 1990 to 2010.



	1990	1995	2000	2005	2008	2009	2010
Death	37	28	43	58	51	52	50
Prevalence	429	352	524	788	792	809	795
Incidence	301	317	576	925	960	971	981

Source: Tuberculosis Control Report 2011, WHO (October 2011) [35]

Figure 3-10 Trends in TB Death, Prevalence, and Incidence Rates (1990-2010)

Due to several factors like delays in diagnosis confirming TB cases, inappropriate method of treatment, and poor management of treatment, the TB epidemic is further compounded by multidrug-resistant tuberculosis (MDR-TB) and extensive drug resistant tuberculosis (XDR-TB). In 2010, the estimated proportion of new TB cases with MDR-TB was 1.8%, and estimated proportion of retreatment of TB cases with MDR-TB was 6.7%. There were approximately 7386 laboratory confirmed MDR-TB cases and 741 confirmed XDR-TB cases in the same year [28] [35].

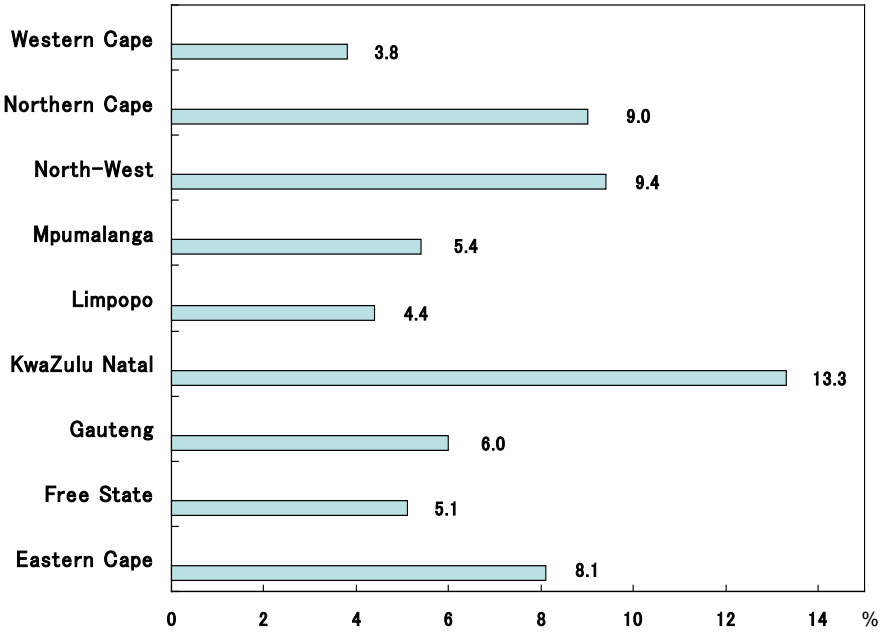
3.4 Nutrition

The level of food security in South Africa reduced by more than half, from 52.3% in 1999 to 25.9% in 2008[19]. Among the provinces, the Eastern Cape Province had the highest rate of food insecurity of 45.4%, while Northern Cape Province had the lowest rate of 14.2%[20][37]. According to the UNICEF report, the

[19]The data of 1999 are derived from the National Food Consumption Survey (NFCS) and the data for 2008 are from the South Africa Social Attitude Survey (SASAS).

[20]The level of food security here is measured on (i) the availability of food that is nutritious and safe, (ii) an assured ability to procure and acquire food of good quality in a socially acceptable way, by using the Community Childhood Hunger Identification Project (CCHIP). The eight questions concerning (i) Household-level food insecurity, (ii) Individual-level food insecurity, and (iii) Child hunger were asked.

cases of under-five moderate-and-severe underweight was 9% and the moderate-and-severe acute malnutrition cases was 5% (2006-2010) [38]. WHO also reports that 17% of pre-school children and 19% of pregnant women are Vitamin-A deficient, and 24% of pregnant women and 22% of children are iron deficient [39]. Figure 3-11 shows the proportion of under-five severe malnutrition by province.



Source: Millennium Development Goals Country Report 2010, RSA and UNDP (2010) [5]

Figure 3-11 Proportion of Under-Five Severe Malnutrition by Province (2000-2010)

The percentage of exclusive breastfeeding up to six months was 7% in South Africa (2000-2007); the rate was one of the lowest in the world [11]. This was due to the concern over the risk of postnatal mother-to-child HIV transmission. WHO and UNICEF now recommend that all mothers, regardless of their HIV status, practice exclusive breastfeeding to prevent infant illnesses such as diarrhea and respiratory infections. According to WHO, even if a mother is HIV infected, the risk of mother-to-child HIV transmission can be reduced if the newborn will receive ART at the same time. During 2010/11, 25% of infants 0-6 months were exclusively breastfed, which exceeded the target of 10% set for the year [10].

3.5 Noncommunicable Diseases

As mentioned in Section 2.1, due to the epidemiological transition, the burden of noncommunicable diseases (NCDs)[21] has rapidly increased together with the burden of communicable diseases and perinatal and maternal morbidity. Around 35% of the recorded deaths in South Africa were due to NCDs, and empirical studies estimated that NCDs account for 11 to 13% of all the burden of diseases. Over the next 10 years, NCD-related deaths, notably cardiovascular diseases, cancers, diabetes, and respiratory diseases are projected to increase by 24%. The increased cases of NCDs are caused, to a large extent, by relevant risk factors (e.g. dietary habits, physical inactivity, smoking, and alcohol intake) and mostly in the proportion of people over 60 years. It is also anticipated that the burden of NCD will continue to increase due to the

[21] NCDs include chronic diseases (especially, hypertension and diabetes), disabilities, ophthalmology, dentistry, mental disorder, drug abuse, and injuries.

reduction of HIV/AIDS and TB related deaths [10] [40] [36]. Although many other countries are experiencing the transition from acute to chronic diseases, South Africa faces unprecedented burden from the uninterrupted and expanding service provision for infectious diseases, especially HIV/AIDS and increasing cases of NCD [41].

The second leading cause of death is injuries and second to disability-adjusted life years (DALYs) lost in the country after HIV/AIDS. The 2010 burden of disease data indicated that in South Africa, road traffic accident injuries are ranked 5th and interpersonal violence is ranked 8th with respect to the leading causes of years of life lost (YYL). Violence against women and girls are frequently reported[22] and it becomes a serious health problem as risk factors of HIV transmission and common mental disorders, such as post-traumatic stress disorder and depression. Prevention of such violence and injuries is also a national public health priority [10] [41].

[22] The number of reported cases are estimated to be nine times lower than the actual number.

Chapter 4 Health Services

4.1 Maternal and Child Health

A number of health care policies have been developed and free PHC services focusing on the needs of mothers and children are being provided to improve maternal and child health. However, it is well recognized that these interventions have not been translated enough into every aspect of health development in women and children. There is a concern over the fact that South Africa still has a high rate of maternal mortality, whereas antenatal care (ANC) (more than four ANC visits: 87.1% in 2008) and institution delivery (94.1% in 2009) were widely common [36]. The main reason for the high rate of maternal mortality, especially in the rural areas, is due to poor quality of services in the public sector. Furthermore, lack of functional referral system hampers the provision of emergency obstetric care (EmOC); transportation problem to heath facilities, delayed diagnosis or identification of emergency in first and second level facilities like district hospitals, and the lack of tertiary hospitals are the major causes of poor referral system.

4.1.1 Implementation Structure and Strategy

In 2012, the DOH formulated Strategic Plan for Maternal, Newborn, Child and Women's Health (MNCWH) and Nutrition in South Africa to identify priority interventions which will have the greatest impact on maternal and child health. The strategies will focus mainly on establishing service delivery system for mothers and children, which will include strengthening of the antenatal and the perinatal care, early detection of HIV infections, provision of ART, school health, and the community based services.

At the national level, the Maternal and the Child Health Clusters (MCHC) of the DOH are responsible for overseeing MNCWH and the nutrition services. Each province has an assigned unit responsible for this role. The unit facilitates implementation of relevant planned programs. At the district level, primary services are provided through the district health system. A range of health and community health workers (CHW) are expected to play an important role in service delivery along with doctors, nurses, and other health professionals. The ward-based PHC outreach teams introduced in 2011 are also expected to strengthen the provision of community-based services. In addition, a pilot program of NHI will facilitate the district-based interventions that will tackle the problems of high maternal and child mortality within the frame of NHI [24].

4.1.2 Re-engineering of Primary Health Care (PHC)

The PHC services are specifically addressed in four out of the ten priority areas in the DOH Strategic Plan (2010/11-2012/13). In May 2011, the DOH announced a re-engineering of the PHC and the health system reform plans, especially prioritizing on maternal and child health to attain the four strategic outputs defined in NSDA.

The PHC and the district health system are closely related to the implementation of comprehensive maternal and child health. The following three streams are introduced under the re-engineering PHC plan:

- Ward-based PHC Outreach Team:

  The Ward-based PHC Outreach Team consists of professional nurses, enrolled nurses, and

community health workers (CHWs). The team aims to provide a range of services of MNCWH in communities and homes including health promotion and disease prevention. They will also ensure referral for appropriate treatment and rehabilitation, and improve access to both PHC and hospital level service in the community. At least ten CHWs together with trained PHC workers[23] will be assigned in each ward. By December 2011, a total 79 PHC outreach teams[24] were formed nationwide. The family health teams were also established at the provincial level.

- School Based Health Program (Improvement of child and adolescent health)
  In collaboration with the Department of Basic Education and Social Development, the services to be provided will include oral health, impaired vision and hearing screening, immunization, prevention of teenage pregnancies, HIV/AIDS prevention and services, and drug and alcohol abuse prevention. Around 8000 schools located in the impoverished areas will be targeted first, and prevention and basic treatment services will be provided under this program. The standards set for the program are to provide one nurse per 2000 students and one health promotion practitioner per 10000 students.

- District Clinical Specialist Support Team (DCSST):
  The DCSST will consist of an integrated team of specialistis: a principal obstetrician and gynecologist; principal pediatrician; principal family physician; anesthetist; advanced midwife; advanced PHC nurse, and advanced pediatric nurse. They will be based on either the regional hospitals or the district health offices.

The primary function of these teams will be to enhance governance and support for MNCWH service delivery at PHC and hospital levels and to ensure health care provision at all levels in the districts. The DCSST will be introduced first in 25 districts with poor maternal and child health. The DCSST will eventfully cover all districts. At the end of October 2011, 1000 nurses and 200 clinicians were employed and assigned in DCSSTs [10] [21] [24].

4.1.3 Maternal and Women's Health:

(1) Maternal Health

The 2012 Annual Performance Plan of the DOH identifies the key strategies to reduce maternal deaths significantly, which include the rolling out of dedicated obstetric ambulances, the scaling up of the programme for Essential Steps in Managing Obstetric Emergency (ESMOE), and the training of health personnel. The key strategies will be implemented in the 25 priority districts with poor maternal and child health indicators, and will be quickly expanded to cover the whole nation [10].

Priority interventions for mothers：

- Basic antenatal care (BANC);

[23] In January 2011, the first training was conducted for 5000 new CHWs. The provincial guideline for employment and training is also formulated.
[24] Eastern Cape 27 teams, Gauteng 6 teams, Free State 5 teams, Mpumalang 18 teams, and North West 23 teams

- HIV testing during pregnancy with initiation of ART and provision of PMTCT;
- Improved access to care during labor through introduction of dedicated obstetric ambulances and establishment of maternity waiting homes[25];
- Improved intrapartum care (in line with standard protocols for managing complications); and
- Post-natal care within six days of delivery [24]

Table 4-1 shows the major outcomes of the programs to reduce maternal mortality.

Table 4-1 Major Outcomes of Maternal Health Program

	Baseline	Outcome	Target
Basic Antenatal Care in PHC Facilities	30% (2009/10)	72% (2010/11)	60%
Institutional Delivery	76.6% (2001)	94.1% (2009)	-
Eligible HIV Positive Pregnant Women on HAART	76.6% (2009/10)	79.4% (2010/11)	-
Post-natal Care within 6 Days of Delivery	Mother 27% Newborn 29.9% (2010/11)	63% for both Mother and newborn (Jul-Sept 2011)	50%

Sources: South Africa Yearbook 2010/11 Chapter 12 Health (January 2011) [36]
Annual Performance Plan 2012, DOH (4 March 2012) [10]

(2) Women's Health

Non-pregnant women tend to have less access to the health services. The 2012 Annual Performance Plan of DOH intends to provide a health service package for women's health. This package includes family planning services, care for sexual violence, and treatment of sexually-transmitted infections.

- Sexual and reproductive health (SRH)
- The services include information on family planning, safe choice on termination of pregnancy (CTOP) services, and reproductive health education and services. At present, around 40% of the designated facilities are providing CTOP services.
- Sexual violence
- Based on the results of the survey conducted in 2011, the services will be strengthened in collaboration with provincial health departments, NGOs, police, and the law enforcement authority.
- Adolescent health
- The provision of youth-friendly health services at PHC facilities (at present, 40-50% of the facilities are said to provide relevant services.) [8]

4.1.4 Child Health

The Strategic Plan for MNCWH and Nutrition (2012-2016) lists the following priority interventions for newborns and children:

Priority interventions for newborns:

- Exclusive breastfeeding (breastfeeding is made as safe as possible for HIV-exposed infants);
- Provision of PMTCT;

[25] Maternity waiting home is a WHO's strategy to reduce maternal deaths. Maternity waiting homes are residential facilities, located near a qualified medical facility, where women defined as "high risk" can await their delivery and be transferred to a nearby medical facility shortly before delivery.

- Care for small/ill newborns according to standardized protocols; and
- Post-natal visit within six days of delivery

Priority interventions for children:

- Promotion of breastfeeding and appropriate complementary feeding practices;
- Immunization, growth monitoring, Vitamin A supplementation, and deworming;
- Integrated Management of Childhood Illnesses (IMCI) including early identification and management of children with HIV and TB;
- Early identification of HIV-infected children and appropriate management including initiation of ART;
- Improved hospital care for ill children using standardized protocols; and
- Expansion and strengthening of school health services [24]

An examples of specific interventions are explained below:

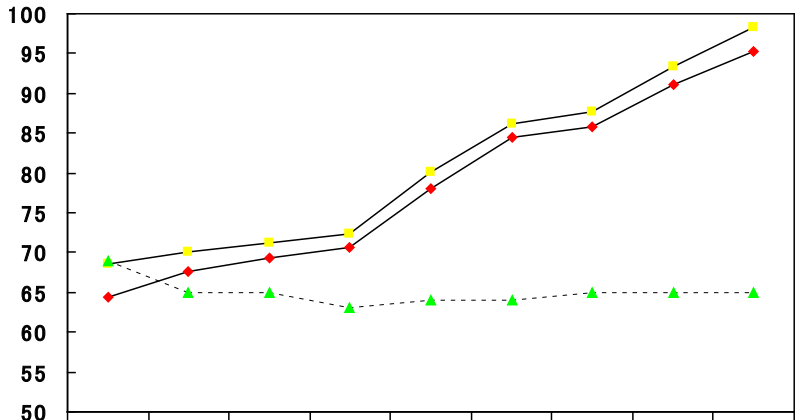
Integrated Management of Childhood Illness (IMCI)

The management of severe malnutrition was introduced in 118 hospitals. The number of PHC facilities with trained health workers in IMCI will be 80% by 2011/12, in addition the implementation of the household and community component of the IMCI will be strengthened. The perinatal problem identification programme (PPIP) will also be initiated in 18 priority districts. With these interventions, the postnatal care within six days of delivery and children receiving HIV/AIDS treatment coverage has increased [10] [36].

Expanded Program on Immunization (EPI)

Reducing child mortality through immunization program is one of the effective interventions, resulting in decreased child mortality. The DOH is increasing the EPI coverage of its immunization campaigns for polio and measles. As Figure 4-1 presents, the rate of full immunization increased from 64.4% in 2001 to 68.5 % in 2009. Likewise, the rate of measles immunization increased from 95.3% in 2001 to 98.3% in 2009. The government reported that the universal coverage of child immunization has been almost achieved, while the estimates of WHO/UNICEF indicated that the rate of measles was 65%[26] in 2009. There are inconsistencies between the government reported figures and the WHO/UNICEF estimates.

[26] There are data inconsistencies in immunization coverage of other diseases.



	2001	2002	2003	2004	2005	2006	2007	2008	2009
Full Immunization (Gov. Report)	64.4	67.7	69.4	70.7	78.1	84.4	85.8	91.1	95.3
Measles (Gov. Report)	68.5	70.1	71.3	72.3	80.1	86.1	87.6	93.3	98.3
Measles (WHO/UNICEF Estimates)	69	65	65	63	64	64	65	65	65

Sources: Millennium Development Goals Country Report 2010, DOH and UNDP (2011) [43]
South Africa: WHO and UNICEF estimates of immunization coverage 1997-2010, WHO (17 July 2010) [44]

Figure 4-1 Trends in the Rate of Measles Immunization (Gov. Report/WHO/UNICEF Estimates) and Full Immunization (Gov. Report) (2001-2009)

4.2 Infectious Disease Control

4.2.1 HIV/AIDS Control Program

(1) Strategy

Since 2000, the government has developed a number of policies and implemented relevant programs with particular focus on care and treatment services as well as prevention of HIV infections. The government also recognizes the importance of multi-sectoral approach and 16 major sectors are involved in HIV/AIDS control strategy [45].

1) Upscaled HIV/AIDS Prevention and Treatment Plan

In April 2010, the upscaled HIV/AIDS Prevention and Treatment Plan was launched. At the same time, the government has started the expansion of the PMCTP. The specific interventions of the plan include: [46]

- All children under one year of age received ARV treatment if tested to be HIV-positive, irrespective of their CD4 level;
- All patients with both TB and HIV received ARV treatment if their CD4 count is 350 or less;
- All HIV-positive pregnant women with a CD4 count of 350 or less started on ATV treatment (All other HIV-positive pregnant women not falling in this category are put on treatment at 14 weeks of pregnancy to protect the baby); and
- A counseling and testing campaign has been launched, and all 4300 public health institutions received and assisted patients.

2) National Strategic Plan (NSP) (2012-2016)

Subsequently, the National Strategy Plan (NSP) (2012-2016), a 5-year framework to guide the HIV/AIDS, STI and TB control was launched. Key strategic objectives in the NDP for the next five years include the following:

- Addressing the social and structural barriers that increase vulnerability to HIV, STI, and TB infection
- (multi-sectoral approach to address structural factors);
- Preventing new HIV, TB, and STI infections;
- (integrated approach of biomedical, behavioral, social, and structural interventions);
- Sustaining health and wellness;
- (universal access to affordable and good quality diagnosis, treatment, and care program focusing on welfare); and
- Increasing protection of human rights and improving access to justice.

The NSP 2012-2016 has the following broad goals:

- Reduce new HIV infections by at least 50% (estimated baseline: 0.94% in 2012);
- Initiate at least 80% of eligible patients on anti-retroviral treatment (ART), with 70% live on treatment for five years after initiation;
- Reduce the number of new TB infections as well as deaths from TB by 50% (baseline: 981/100,000：50/100,000 in 2010);
- Ensure an enabling and accessible legal framework that protects and promotes human rights in order to support implementation of the NSP; and
- Reduce self-reported stigma[27] related to HIV and TB by at least 50% (baseline value will be decided in 2012).

The NSP will provide guidance to all sectors and provinces to develop and measure the overall impact of their implementation plans.

(2) Implementation System

The South Africa National AIDS Council (SANAC) is responsible for the implementation and coordination of the NSP, and monitor the outcome in all the sectors involved. The role of SANAC is to facilitate the cooperation and coordination among the provincial AIDS councils, district AIDS councils, other government departments[28], private sector, and civil society [28].

The following are members of the Inter-Ministerial Committee:

[27] PLWHA Stigma Index will be used to measure self-reported stigma. Stigma Index is a joint initiative of organizations such as the UNAIDS who have worked on HIV/AIDS. The information on stigma, discrimination and harassment in family community, workplace, health services, education, and law etc. will be collected and analyzed through interviews. The index will differ depending on country and community.

[28] Department (Dept) of Basic Education, Youth Commission, Dept. of Minerals and Energy, Dept of Labour and the Chamber of Mines and NUMSA, Dept. of Justice, Dept of Social Development, Dept of Human Settlement etc.

- Department of Health;
- Department of Basic Education (prevention of school drop-outs of HIV infected children and HIV/AIDS orphans, etc.);
- Department of Transportation (programs in transportion sector);
- Department of Energy and Minerals (programs in mining sector etc.);
- Department of Social Development (Home and Community Based Care, Care for HIV/AIDS orphans etc.);
- Department of Public Service and Administration (M&E on HIV/AIDS program administration, workplace program etc.); and
- Department of Correctional Services (DCS) (intervention services in correctional and detention facilities etc.).

(3) Funding

The HIV/AIDS related budget increased from US$1.3 billion in 2008 to US$1.5 billion in 2009 [45]. Although the proportion of donor funding to the health sector is low at 1-2%, 26% of the HIV/AIDS program was supported by external funding in 2007 [47]. It is estimated that the overall funding requirements of the NSP for five years is US$130.7 billion.

The ART service is the most important program component for countries with high HIV prevalence like South Africa, but it is also the most expensive service in the HIV/AIDS program [47]. The number of people on ART was 781,478 in April 2009 and the number of people who require the services is growing every year.

The financial shortfall of the ART services increased from US$215 million in 2009 to US$570 million in 2010. Even with the support from PEPFAR and GFATM, it is difficult to secure financial resources to meet the expanding demand in ART [27][48]. Table 4-2 shows the funding from PEPFAR[29]. In 2010, the US government signed a 5-year Partnership Framework with the Government of South Africa, and pledged support to the HIV/AIDS Control Joint Strategic Plan for five years.

Table 4-2 PEPFAR Bilateral Support (FY2004-2011)

(US$1,000,000)

2004	2005	2006	2007	2008	2009	2010	2011	2004-2011 Total
89.3	143.3	221.6	397.8	590.9	561.3	560.4	548.7	3113.4

Source: Partnership to Fight HIV/AIDS in South Africa, PEPFAR (2011) [49]

Table 4-3 shows the support from GFATM (including funding for TB program up to 2010). The support of GFATM started in 2003, and at 2010 a total of US$233.5 million was approved, of which US$171 million was allocated for HIV/TB program.

[29] Phase 2 (2009-2013) is on-going

Table 4-3 GFATM Support to HIV/TB and HIV/AIDS Programs

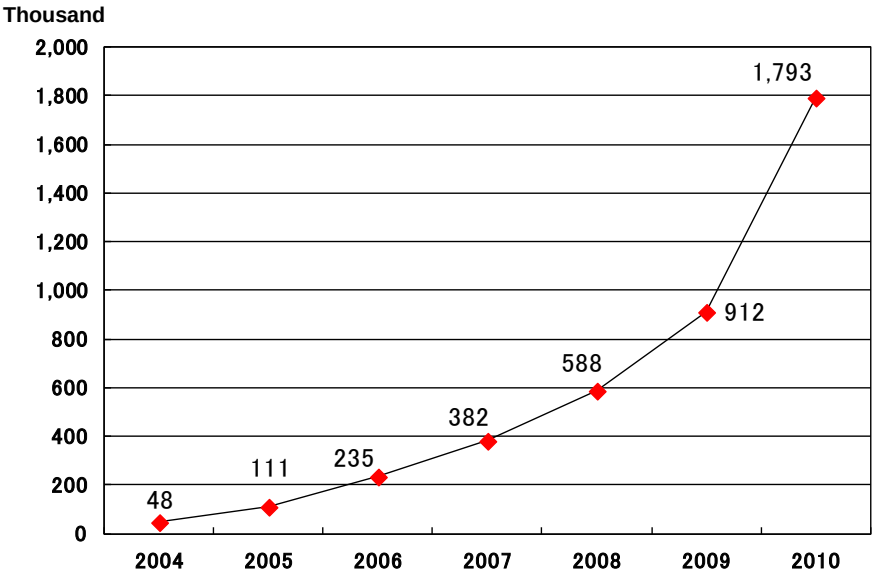
Grant Type	Round	Period	Total Signed Amount (US$)	Principal Recipient
HIV/TB	R1	2003/12-2004/12	2,354,000	NT
	R1	2003/8-2005/12	17,872,665	NT
	R1	2004/1-2009/6	49,771,823	NT
	R2	2006/1-2010/12	24,400,220	DOH
HIV/AIDS	R3	2004/9-2013/6	102,035,239	Western Cape PDOH
	R6	2008/1-2012/12	72,753,637	DOH
	R9	2010/12-2012/11	924,149	DOH
	R9	2010/8-2011/3	4,779,830	Networking AIDS Community of South Africa
	R9	2010/10-2012/9	12,331,525	National Religious Association for Social Development
	SSF	2011/4-2013/3	17,564,908	Networking AIDS Community of South Africa
	SSF	2011/7-2013/3	100,270,275	DOH
	SSF	2011/7-2013/3	16,169,384	Right to Care

Source: South Africa-Grant Portfolio, GFATM (14 May 2012) [50]

(4) Result of HIV/AIDS Measures

Anti-retroviral Therapy (ART)

South Africa is providing the world's largest ART program [46]. Figure 4-2 shows the trends in the number of people receiving ART, and Table 4-4 shows the number of people receiving ART by sex, age (children under-15), and service provider. Expansion of the ART service is notable, and the proportion of people with advanced HIV who had access to ART increased from 13.9% in 2005, 30.0% in 2007, 37.3% in 2008 to 41.6% in 2009. However, this is still way below the target of 80% in 2016 [27].



Source: Access to Antiretroviral Treatment in South Africa, 2004-2011, Johnson, and L.F (2012) [51]

Figure 4-2 Trends in the Number of People Receiving ART (2004-2010)

Table 4-4 Number of People Receiving ART by Sex, Age, and Provider (2004-2010)

	2004	2005	2006	2007	2008	2009	2010	2011
By Sex/Age								
Man	17,700	37,500	75,000	120,000	183,000	283,000	396,000	551,000
Woman	25,600	63,600	138,000	228,000	354,000	553,000	777,000	1,090,000
Children under-15	4,200	9,800	22,000	35,000	51,000	76,000	113,000	152,000
By Provider								
Public facilities	9,600	60,600	163,000	290,000	470,000	748,000	1,073,000	1,525,000
Private organization	34,100	43,800	57,000	68,000	86,000	117,000	154,000	190,000
NGO program	3,900	6,400	15,000	24,000	32,000	47,000	60,000	78,000

Source: Access to Antiretroviral Treatment in South Africa, 2004-2011, Johnson, L.F (2012) [51]

The ART services are mainly provided in the public facilities (hospitals, CHC, and clinics). The formal involvement of the private sector and NGOs complement the ART services (see Table 4-4). Due to constraints especially on the shortage of health professionals, many CHCs in the rural areas rely on NGOs[30] funded by external donor agencies for the provision of ART services.

Similarly, because of the shortage of doctors in the public health facilities, nurses are also trained to administer ART. Although the ART program has significantly expanded, funding, human resources, patients' access to health care, and supply of ART drugs need to be safe and secured to further expand the ART program. Given the situation, donor support to the ART service plays a significant role in order to ensure continual and equitable service delivery [45] [47].

Voluntary Counseling and Testing (VCT):

Voluntary counseling and testing (VCT) is also an important strategy for the prevention of HIV and is an entry point for care and treatment to HIV positive individuals. The number of VCT services increased from 1 million in 2008 to 2.5 million in 2009 [45]. In 2009, 31.8% of men and 71.2% of women took HIV tests. Results showed that women, more likely, have the chance to be tested for HIV, benefitting from ANC services [27].

Prevention Mother to Child Transmission (PMTCT) Program:

During 2010/11, a total of 96.9% of pregnant women agreed to be tested for HIV and were tested. As for the PMTCT program, there were major improvements shown with 79.4% of eligible HIV positive pregnant women were placed on highly active anti-retroviral therapy (HAART), which exceeded the target of 70%. At present the PMTCT program is covering over 95% of health facilities [10].

Provision of Prevention Means (distribution of condom):

The number of condoms distributed for prevention of HIV increased from 450 million in 2009 to 1.5 billion. The government plans to further increase condom distribution [46]. The population over 15 who used condom during their last sexual intercourse increased from 27.3 % in 2002, 35.4 % in 2005 to 62.4% in 2008 [27].

[30] Most of the ART services provided by the NGOs are supported by PEPFAR and administered in the public health facilities.; therefore the location of PEPFAR support greatly influence the service equity.

4.2.2 Tuberculosis Control Program

(1) Implementation Structure and Strategy

The Chief Directorate TB Control and Management in DOH oversees the TB control program. NSP (2012-2016) is the framework for TB control as well as HIV/AIDS program. Major targets include the following:

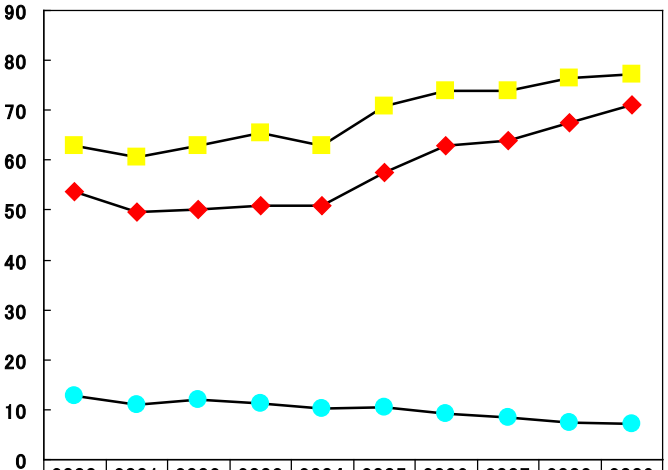
- Reduce TB cases from 341,165 (2008/09) to 175,000 (2012/13);
- Reduce defaulter rate of TB patients from 7.9% (2009) to 5% (2012/13);
- Increase TB cure rate of 64% (2007) to 80% (2012/13)[31]; and
- Reduce MDT-TB cases [28] [36].

(2) Program Funding

According to the WHO estimate, the total budget of the TB Control Program in 2011 was US$218 million. Support of GFTAM to the TB control program was completed in 2010, and all the program funding is now allocated from the government budget. It has been very difficult to compile expenditures from local municipalities and obtain estimated budget required for the program; therefore, financial management system is needed to track funding and expenditures of the TB program. Generally, the cost needed for treatment per TB patient is US$100-500. In South Africa, the cost per patient exceeds US$1000 [35]. Several factors such as MRD-TB, HIV-TB co-infection, and long-term hospital admission may be attributed to this high expense.

(3) TB Control Program Performance

Figure 4-3 shows the trends in TB cure rate, treatment success rate, and defaulter rate. While progress is being made and cure rate has been increasing, the treatment success rate is still below the WHO global target of >80%. The treatment success rate for new TB cases was 77.1% in 2009 [28].



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Cure Rate	53.8	49.7	50	50.9	50.8	57.6	62.9	64	67.5	71.1
Treatment Success Rate	63	60.5	63	65.5	62.9	70.8	73.8	73.9	76.4	77.1
Defaulter Rate	12.7	11.1	11.9	11.2	10.3	10.4	9.1	8.5	7.5	7.1

Source: National Strategic Plan on HIV, STIs, and TB 2012-2016, SANAC (2011) [28]

Figure 4-3 Trends in Cure Rate, Treatment Success Rate, and Defaulter Rate (2000-2009)

[31] The target for the year 2014/15 is 85%.

The DOH has implemented the MDT-TB management program since early 2000. MDR-TB patients will be treated in the centralized DR-TB unit of provincial hospitals, the decentralized DR-TB unit in districts and sub-districts, the satellite DR-TB, or through PHC outreach network [52]. TB screening among people living with HIV is around 80%. Of those individuals screened negative for TB, 38% were initiated on isoniazid prevention therapy (IPT) [28]. South Africa adopted the WHO new policy guidance on IPT, and the number of PLWHA who were provided with IPT increased by more than five-fold between 2009 and 2010. However, the late initiation of ART in TB patients has contributed to high levels of mortality [35]. The program needs to be further strengthened. Over 5000 health professionals and 3200 health workers (3% of the public sector health personnel) received training on TB control and management in 2010 [10].

4.3 Nutrition Program

Nutrition is highlighted as one of the six program areas of the DOH's, i.e., fourth program area (PHC Services) [10]. The key target of the government is to decrease the percentage of the population who experience hunger from 52% to 30% in 2014, and the rate of undernutritioned children from 9.3% to 5% [32][36].

The coverage of the nutrition programs is said to be generally low [53]. The key nutrition programs so far are the National School Nutrition Programme (NSNP) and social grants under different social welfare programs. The NSNP was initiated in 1999 as a short-term measure to improve child nutrition. For instance, at least 200,000 children were covered under the NSNP in Western Cape Province in 2009. However, some schools, especially in rural areas, have not yet been reached due to poor road condition and transportation problem. It is also reported that the social grant programme has not reached all the poor population. The reasons may include inconsistent criteria in selecting the qualified people, intra-departmental corruption within the program, and stringent guidelines for selection [37].

During 2009/10, the WHO's 10-Step Programme for Managing Severe Malnutrition was introduced in 145 health facilities, and in 131 facilities in 2010/11. In addition, the coverage of Vitamin A supplementation among children aged 12-59 months was around 40% [36] [10].

In January 2012, the government announced the implementation of the South African National Health and Nutrition Examination Survey (SANHANES) with support from the Department for International Development (DFID). SANHANES is designed to assess the health and nutritional status of adults and children, and it aims to provide data on communicable and noncommunicable diseases at national and provincial levels. It is expected that SANHANES will provide a comprehensive understanding of the health profile of the population. Based on the survey, nutrition profiling model will be developed and utilized for in the planning and implementation of health programs [54] [10].

[32] Based on the national food-consumption survey data

4.4 Noncommunicable Diseases

In the past, because of the spread of infectious diseases, especially HIV/AIDS and TB, measures to control NCDs have been neglected. In 2006, the DOH formulated the National Guideline of Management and Control of Noncommunicable Diseases, and several additional disease-specific guidelines. However, chronic diseases and their risk factors were not adequately diagnosed or treated due to insufficient capacity of human resources, lack of management and assessment, and insufficient dissemination,. As a consequence, many cases of hypertension, diabetes, hyperlipidemia, and respiratory infections have been left uncontrolled [20].

The National Department of Health Strategic Plan 2010/11-2012/13 aims to implement enhanced programs for the prevention and treatment of lifestyle diseases, and to facilitate coordination in intersectoral interventions to reduce intentional and unintentional injuries [40]. The control of the NCDs is included in the DOH's fourth program area (PHC Service) as one of its sub-programs. The DOH will develop a set of policies, regulations and guidelines for NCD such as chronic diseases, disabilities, geriatric, ophthalmology, dentistry, mental disorder and injuries, and support health department of each province to monitor the program. In 2014/15, the chronic care model and debates with focus on hypertension is planned to be introduced in ten districts to prevent and manage chronic disease [10].

Chapter 5 Health System

5.1 Human Resources for Health

5.1.1 Situation of Human Resources for Health

(1) Number of Human Resources and Funding

The overall number of workers in the public health sector increased from 153,383 to 280,511 from 2004 to 2010, mainly in the nursing category. In 2010, there were 231,086 nurses registered with the South African Nursing Council (SANC), and 12,813 pharmacists and 9071 pharmacist assistants registered with the Pharmacy Council. In addition, there were 162,630 health professionals registered with the Health Professions Council of South Africa (HPCSA) in June 2011. As seen in Table 5-1, the increase in the number of health professionals is slow, and as Table 5-2 shows, the rates of the vacant posts in the public health sector are high. Some of the factors attributing to the shortage of health professionals in the public sector are the lack of efforts in retaining health professional graduates in the public sector, insufficient planning and budgeting for the public sector posts, and the poor management of health professionals. In addition, the lack of funds hampers absorption capacity of health professionals in the public sector, as a result, about 70% of the graduates from health personnel training institutes work outside of the public sector. It is estimated that around R4 billion is necessary to fill the current gap in the health professional posts.

Table 5-1 Number and Percentage of Increase in Selected Public Sector Health Professionals and % per 10,000 Uninsured Population (2002 and 2010)

Occupational Classification	Number		% of Increase	Per 10,000 Uninsured Population		% of Increase
	2002	2010	%	2002	2010	%
Medical Practitioners	7,291	11,664	60	1.89	2.85	50.6
Medical Specialists	3,585	4,513	25.9	0.93	1.10	18.5
Professional Nurses	40,786	55,309	35.6	10.57	13.49	27.6
Dental Practitioners	527	828	57.1	0.14	0.20	47.9
Pharmacist	1,234	3,285	166.2	0.32	0.80	150.6

Source: HRH Strategy for the Health Sector: 2012/13-2016/17, DOH (20 January 2012) [21]

Table 5-2 Percentage of Vacant Posts in Public Health Sector (2008)

South Africa	Eastern Cape	Free State	Gauteng	KZN	Limpopo	MP	Northern Cape	North West	Western Cape
35.7	48%	50.7%	28.1%	33.3%	42.1%	37.6%	36.3%	11.6%	23.3%

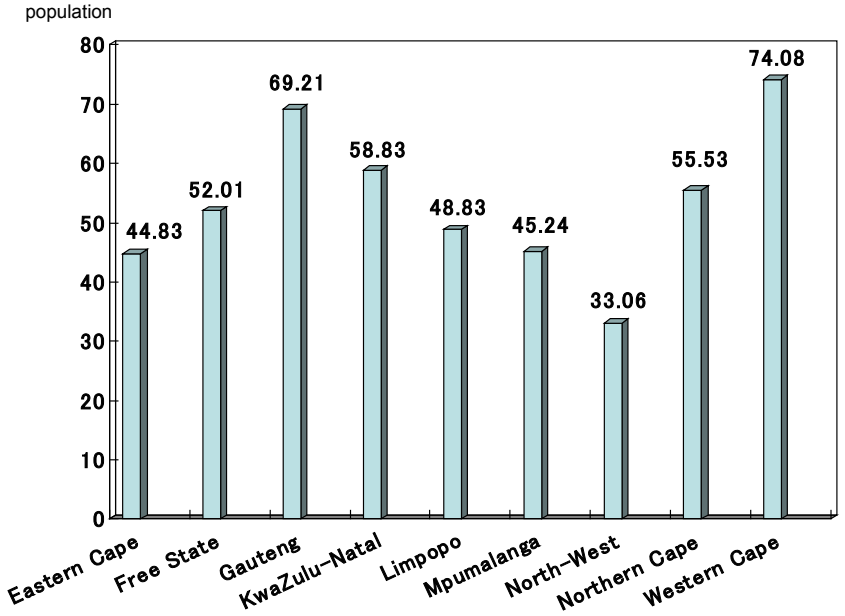
KZN: KwaZulu-Natal, MP: Mpumalanag

Source: UKZN, Human Resources for Health South Africa-A Needs and Gaps Analysis of HRH in South Africa [55]

(2) Imbalanced Distribution of Health Personnel

Marked imbalances exist in the number of health personnel between the public and private sectors and between the urban and rural areas. There are few incentives and career advancement opportunities for health professionals working in the rural areas compared to the urban areas. Further, working and living conditions are more difficult in the rural areas [55]. Figure 5-1 shows a large variance in the ratio of health professionals

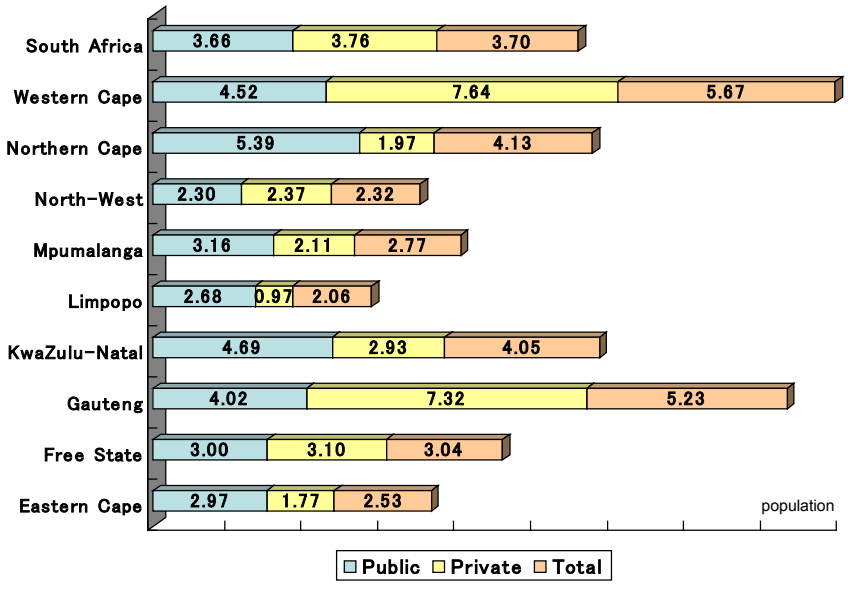
per 100,000 among the provinces. North-West province has the lowest ratio of 33 people, which is less than half of the ratio of Western Cape (the highest, 74 people) and Gauteng Province (the second highest, 69 people).



Source: HRH Strategy for the Health Sector: 2012/13-2016/17, DOH (20 January 2012) [21]

Figure 5-1 Total (Public and Private) Health Human Resources per 10,000 Population by Province (2010)

There are also differences in the ratio of medical practitioners per 10,000 population between the public and private sectors by province. The ratio of medical practitioners is remarkably high in Western Cape and Gauteng provinces (Figure 5-2).



Source: HRH Strategy for the Health Sector: 2012/13-2016/17, DOH (20 January 2012) [21]

Figure 5-2 Number of Medical Practitioner per 10,000 Population in Public and Private Sectors by Province (2010)

(3) Attrition and International Migration of Health Personnel

The attrition rate in the public sector health personnel is estimated at around 25% per year. There is an additional 6% attrition rate due to retirement and death, etc. The attrition rate among the community health workers is around 23% per year. The factor for the high attrition rates is particulary due to poor working environment in the public sector. Furthermore, according to the Organization for Economic Cooperation and Development (OECD)'s report, there were 8921 medical practitioners working aboard (in developed countries like USA and UK) in 2003. This figure accounts for more than a third of the medical practitioners registered in South Africa of the same year. The major reasons for the migration of health personnel abroad include lack of posts in the public sector, poor working condition, workload in the public sector, and the risk of contracting TB. The attrition and migration of a large number of health personnel exacerbates the shortage of human resources in the public sector [21].

5.1.2 Human Resource Supply System

Since 1990's, the supply of health human resources has not been adequately managed and utilized. All professions require post-school qualifications that have to be obtained from one of 22 higher education institutions, provincial training colleges, and nursing and ambulance colleges. However, educational training programs in the health sector are neither managed nor coordinated to meet the demands. This is due to the lack of integrated planning between the health and education sectors, and the importance of educational training for health personnel was not fully recognized in the policy level. Another constraint is that a significant number of posts for academic clinicians have been frozen due to substantial budget cuts in the 1990's, creating a serious conditions like the shortage of training programs and a decline in the number of medical students. As a consequence, some medical schools are facing difficulties maintaining their training program. Health professional output from higher education institutions has been stagnant for the past 15 years[33]. Table 5-3 indicates the vacancy rates of the registered training posts and sub-specialist training posts by university.

Table 5-3 Health Professions Council of South Africa (HPCSA) Approved Registered Training Posts and Sub-specialist Training Post Vacancy by University

	UCT	US	Wits	UP	UKZN	FS	UL	WSU	Total
Training Post	33%	18%	27%	33%	50%	21%	48%	97%	38%
Sub-specialist Training Post	3%	72%	47%	100%	84%	94%	100%	100%	75%

UCT-University of Cape Town, US-University of Stellenbosch, Wits -University of the Witwatersrand, UP-University of Pretoria, UKZN -The University of KwaZulu-Natal, FS-The University of Free State, UL- University of Limpopo, WSU- Walter Sisulu University

Source: HRH Strategy for the Health Sector: 2012/13-2016/17, DOH (20 January 2012) [21]

The reduction of specialist and sub-specialist training posts in medical schools has an effect on the capacity of the health system as a whole. The increase in the number of specialists and sub-specialists are also essential in fulfilling the Health Minister's plans for specialist teams at district level and to provide the

[33] The number of graduates from the eight medical schools were 1131 in 2000 and 1309 in 2008.

staffing for the "Five Flagship Academic Hospitals Project"[34]. There is an urgent need to strengthen and enhance the human resource planning and development in a long-term vision [21] [56].

5.1.3 Human Resource Development Plan

The planning and sustainable increase in health human resources is very critical to implement important health sector priority, re-engineering PHC and to ensure the expansion of NHI, which is currently in the pilot phase. In January 2012, the DOH developed the Human Resources for Health for the Health Sector: 2012/13-2016/17 with the objective of producing human resources to meet targets set in the health sector policies and service needs. The HRH Strategy is guided by the MTSF (2009-2014) and the 10 point plan (2010-2014). The latter incorporates human resources development as one of its priorities. The HRH strategy was analyzed in the following three thematic areas and specific measures are suggested for each area: (i) the supply of health professionals and equity of access, (ii) education, training, and research, and (iii) the working environment of the health workforce [21]. Based on the HRH strategy, targets have been set to increase the number of various categories of health personnel. The eight medical schools have submitted a proposal to the DOH[35] [10].

5.2 Health Management Information System

5.2.1 Situation of Health Management Information System (HMIS)

(1) Overview

Since 1994, the DOH has established a range of systems including disease surveillance systems as part of the national health information system. In 1999, the District Health Information System (DHIS) [36]was introduced, and since then, the data are transferred electronically to the provincial and national departments. The system is implemented in all public sector health facilities in the country.

The National Health Information System of South Africa (NHISSA) Committee was established in 1995 to coordinate the planning and development of the health information system across all provinces. However, HNISSA has not functioned well. Provincial coordinating committees have the similar function at the provincial level. Besides the DHIS, the Department of Interior, Statistics South Africa (StatsSA), National Treasury, research and academic institutes, and private sector etc. have their own health related information systems, and there are a total of over 40 information and surveillance systems[37]. Within the StatsSA, there is a National Statistics System Division (NSSD) which is responsible in coordinating all statistical systems in the country; however, the coordination is not well managed. The major health information systems are listed below [57].

[34] In 2011, five academic universities were assigned as flagship universities as part of the re-engineering PHC.
[35] For instance, the University of Witwatersrand increased their medical students by an additional of 38 students.
[36] DHIS is a tool for collection, validation, analysis, and presentation of aggregate statistical data. The system allows the user to design the contents of a specific information system without the need for programming. The DHIS is used in many countries in Africa and Asia.
[37] Vital registration (births・deaths), DHIS, Drug Supply Management System, HIV/AIDS Surveillance, Hospital Information System, Malaria Surveillance, Maternal Mortality Surveillance, National Nutrition Surveillance, TB・MDR-TB・XDR-TB Surveillance, Census, population-based surveys etc.

- DHIS

  The DHIS is the most important component in DHMIS and it provides a large proportion of the information for planning, budgeting, monitoring, and reporting. The DHIS consists of multiple sources of data, yet its main source is the routine health information system which tracks mainly public health services at the sub-district, district, provincial, and national levels. The DHIS has gradually expanded to cover hospital data, emergency medical services (EMS) data, environmental health system (EHS) data, client satisfaction surveys (CSS), core standards and measures of quality of care, survey data sets, and data sets related to infrastructure and populations.

- Vital Registration

  Vital registration includes information of births, deaths and stillbirths, and causes of deaths. The registration is done at the Department of Home Affairs, in collaboration with the DOH. The StatsSA has the responsibility of processing data and producing statistical releases. The estimated coverage of birth registration was 81% for both male and female and death registration was 85% for male and 79% for female in 2007. The information on children, infant, and stillbirths in the rural areas are inadequate.

- Census

  Census was implemented in 1996, 2001, and 2011 after the apartheid.

- Demographic and Health Survey (DHS)

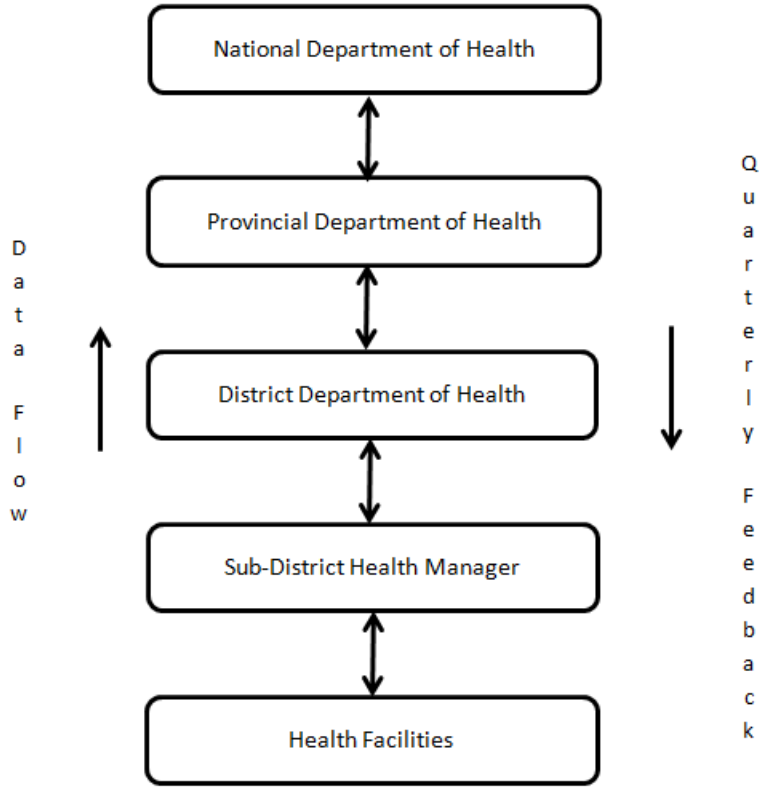
  The DHS was implemented in 1999 and 2003.

- Health Service Related Information System (Budget, Human Resources, and Drug Quality Management System)

  There is inadequacy to meet the required demands. There is a lack of human resources to maintain and update the various database [57] [58] [59]

(2) Flow of Data Collection and Reporting

As Figure 5-3 shows, the data from the health facilities are collected by the DOH. As a feedback mechanism, quarterly feedback reports concerning program performance and data quality are prepared at each level. The quarterly reporting system (QRS) was initiated in 2003/04 to monitor the implementation of the annual performance plans (APPs) of the national and provincial departments. The QRS also identify areas where support is required. For the financial year 2010/2011, all nine provinces submitted all four quarterly progress reports. Data completeness and quality have also improved significantly over the years.



Source: District Health Management Information System (DHMIS) Policy, DOH (27 July 2011) [58]

Figure 5-3 Data and Reporting Flow of DHIS

The National DOH is responsible for developing and monitoring the national indicator data set (NIDS). The NIDS is reviewed every two years in alignment with the national health goals and priorities. The Provincial Indicator Data Set (PIDS) is closely related to the NIDS. The PIDS contains all the indicators in the NIDS. Province-specific indicators are not required for reporting nationally. Indicators in the private sector are not included in the current national indicators [58].

(3) Issues in Health Information System

The assessment of HIS conducted in 2009 pointed out the critical bottlenecks to achieve comprehensive health information system, which include the fragmentation of national health information and insufficient integration of the HIS and the different information systems of service delivery (e.g. funding and HR support data), and disintegration of the public and private sectors. However, there was no national strategy to integrate and enhance the different major data systems. The annual performance report of the DOH also states that lack of quality and reliable data are obstacles in monitoring and evaluating the different health programs [58] [10].

In response, the DOH established the Health Data Advisory and Co-ordination Committee (HDACC) which consist of three sub-committees[38] with the intention to improve the quality of health data and integration of different data systems. Subsequently, the District Health Management Information System (DHMIS) Policy

[38] (i) Life expectancy, child mortality, and maternal mortality, (ii) HIV and AIDS and TB, and (iii) health systems.

was developed in 2011. Monitoring and evaluation of progress with the implementation of the health sector's NSDA 2010-2014, has been constrained by the lack of availability of good quality and reliable data to track progress towards improving life expectancy. To address this, in October 2010 the department established a Health Data Advisory and Co-ordination Committee, which aims to improve the quality and integrity of data on health indicators. This committee primarily consists of researchers from diverse academic and research institutions, statisticians, and demographers. The objectives of the policy are to ensure the production of comprehensive, reliable, and good quality data from the DHMIS and unitization of such information for decision making, planning, and monitoring in the health sector. This policy does not apply to the private sector, thus, the need to include the private sector in the next policy is expected.

The National Health Information Repository and Datawarehousing (NHIRD), which was suggested in the above HIS assessment, was initiated at the central level in July 2011, and at the provincial level in February 2012 [58] [60] [61].

5.2.2 Health Facility Network

In South Africa, the private sector is well established and parallel public and private service systems exist. However, the maldistribution of resources between the public and private health sectors is apparent; 20% of the richest uses the private sector services and 79% of doctors work in the private sector [7].

Table 5-4 shows the number of public health facilities and population per health facility. The core services provided in each level of the facilities are summarized in Table 5-5.

Table 5-4 Number of Health Facilities by Cadre and Population per Health Facilit (2010)

Level	Type of Facility	Number	Population/ Facility
First	Clinic	3,595	13,718
	Community Health Center (CHC)	332	148,553
	District Hospital	264	186,817
Secondary	Regional Hospital	14	930,560
Tertiary	Provincial Tertiary Hospital	9	3,522,835
	National Central Hospital	9	5,479,966
Specialized Hospital	Specialized Psychiatric Hospital	53	1,972,788
	Specialized TB Hospital	41	1,202,919
Total		4,333	

Sources: Annual Performance Plan 2011/12-2013/14, DOH (4 March 2011) [62]
Saving Mothers 2008-2010: Fifth Report on Confidential Enquires into Maternal Deaths in South Africa, DOH (28 May 2012) [63]

Table 5-5 Core Services Provided in Each Level of Health Facilities

District Hospital	The smallest type of hospital which provides general medical services and four general specialist services that are limited to four basic areas namely: obstetrics and gynecology, pediatrics and child health, general surgery, and family medicine. Additionally, service includes trauma and emergency care, in-patient care, out-patient visits, rehabilitation services, geriatric care, laboratory and diagnostic services, pediatric and obstetric care.
Regional Hospital	The regional hospitals offer a range of general specialist services, and eight general specialist services: general surgery, orthopedics, general medicine, pediatrics, obstetrics and gynecology, psychiatry, radiology and anesthetics. They also receive referrals from district hospitals.
Tertiary Hospital	Tertiary hospitals render super specialist and sub-specialist care (cardiology, craniofacial surgery, endocrinology, diagnostic radiology, ear, nose and throat, hematology, human genetics, infectious diseases, general surgery, orthopedics, general medicine, pediatrics, obstetrics and gynecology, radiology and an aesthetics). They also serve as a main platform in the training of health workers and research.
National Central Hospital	These are national referral hospitals that are attached to a medical school and provide a training platform for the training of health professionals and research. Central hospitals render highly specialized tertiary and quaternary service.
Specialized Hospital	The two most common specialized hospitals are TB and psychiatry. They may also provide acute and chronic care services.

Source: National Health Insurance Policy Paper, DOH (12 August 2012) [64]

As seen in Table 5-4, the population per clinic is 13,718 which does not meet the WHO recommended level of 10,000 population per clinic. The utilization rate of the PHC facilities was 2.5 visits per person per year in 2008/09. The bed occupancy rate of district hospitals was 65.2%, regional hospitals 77.1%, tertiary hospitals 71.5%, and central hospitals 69.2%. These rates were below the national targets [40].

In remote areas, clinics, heath posts, and mobile services points are placed, and emergency medical services (EMS) are being strengthened. One of the government's medium-term priorities is to improve the condition of health facilities. In 2011, a total of 1967 infrastructure projects were implemented, covering 52 hospitals in different provinces [10].

5.3 Drug Supply System

The 1999 National Drug Policy with the objectives of ensuring quality, safety, and efficacy of drugs were reviewed in 2009/10. The Essential Drugs List (EDL) and the Standard Treatment Guidelines (STG) are periodically reviewed and developed by the National Essential Drugs List Committee. The Medicines Control Council (MCC) is responsible for registering, re-licensing, and evaluation and testing of drugs[39]. The DOH monitors suppliers/tenders that supply drugs.

The pharmaceutical industry in South Africa is relatively well developed and mostly focusing on the production of generics. Domestic producers meet around one-third of the pharmaceutical demand in South Africa. The DOH procures drugs through a competitive bidding process and drugs are sent to government warehouse depots in each province, and then distributed to health facilities. The PHC facilities generally acquire drugs either from larger hospitals in their areas or from supply depots. The private sector is not bond to the EDL and can procure MCC approved drugs directly from wholesalers and pharmaceutical companies.

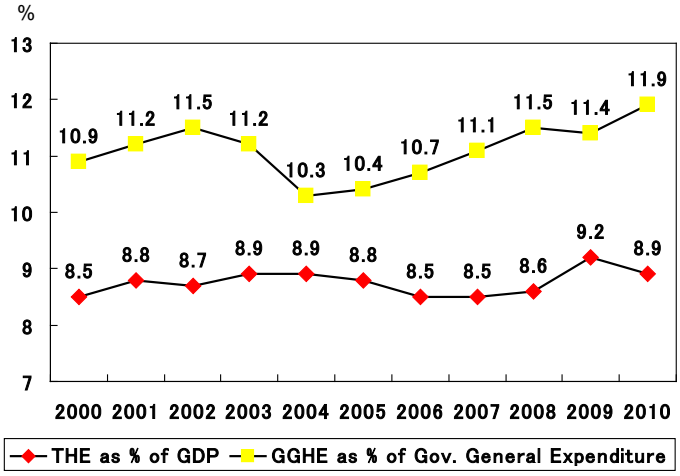
[39] One in five drugs sold in South Africa is counterfeit. Many of them are imported illegally from India and Pakistan. DOH has a small investing team; however they prosecuted only one case in 2010.

Stock-outs of anti-retroviral drug (ARV) and TB drugs are reported in all provinces. Factors influencing drug stock-outs include financial constraints and insufficient budget allocation for pharmaceuticals at provincial level, centralized distribution system, and the delay in procurement. In 2009/10 the DOH secured R 900 million of ARV and TB drugs to support all provinces. The DOH plans to improve the monitoring and management system of drug supply to eliminate stock-out of essential drugs including TB drugs and ARV[40] [65].

5.4 Health Financing

5.4.1 Overview

As Figure 5-4 shows, according to WHO estimates, the total health expenditure (THE) as percentage of GDP fluctuated from 8% to 9%, and the general government health expenditure (GGHE) as percentage of the government expenditure fluctuated from 10% to 11% from 2000 to 2010.



*THE: Total Health Expenditure
GGHE: General Government Health Expenditure
Source: Global Health Expenditure Database, WHO [66]

Figure 5-4 Trends in THE as % of GDP and GGHE as % of the General Government Expenditure (2000-2010)

As seen in Table 5-6, the Private Expenditure on Health (PvHE) as percentage of the THE has remained higher than the percentage of the GGHE, although the proportion of the PvHE has been decreasing since 2004. It is also notable that the private insurance as percentage of the PvHE was extremely high in South Africa. GGHE per capita was US$412 in 2010.

Table 5-6 Financing Agent (%) and Public Sector Funding per Capita (US$) in the Health Sector (2000-2010)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
General Government Expenditure on Health (GGHE) as % of THE	40.5	39.5	38.7	39.5	36.4	38.3	39.9	40.8	42.1	43.8	44.1
External Resources on Health as % of THE	0.3	0.2	0.4	0.4	0.5	0.5	0.7	0.8	1.1	1.8	2.2
Private Expenditure on Health (PvHE) as % of THE	59.5	60.5	61.3	60.5	63.6	61.7	60.1	59.2	57.9	56.2	55.9
Out-of-pocket Expenditure as % of PvHE	25.0	23.6	23.1	23.2	28.8	29.8	30.1	29.7	29.7	29.6	29.6
Private Insurance as % of PvHE	69.9	71.3	71.8	71.9	67.2	66.6	66.7	66.3	66.2	66.1	66.1
General Government Expenditure on Health per capita/PPP(NCU/US$)	228	239	242	260	257	287	312	340	375	407	412

*THE: Total Health Expenditure
PvHE: Private Health Expenditure

Source: Global Health Expenditure Data, WHO [66]

The level of external funding in the health sector is low except for HIV/AIDS: 1% in 2008 and 2.2% in 2010. Table 5-7 shows the amount and percentage of funding by source in the health sector in 2010/2011.

Table 5-7 Amount and Percentage of Funding by Source in the Health Sector (2010/2011)

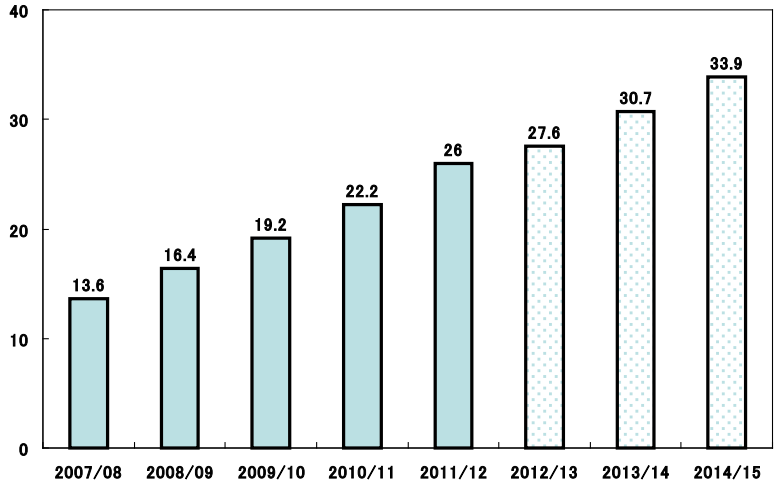
	Amount (million R)	% to THE	% to GDP
Public Expenditure	10,969	48.2%	4.1%
Private Expenditure	112,387	49.3%	4.2%
External Expenditure	5,787	2.5%	0.2%
Total	227,943	100%	8.5%

Source: NHI Financing Options, National Treasury (8 December 2011) [67]

According to the National Treasury, the government health expenditure per capita in 2010/2011 was R2635 a year and the average medical scheme contribution per beneficiary per year was R11,600 in 2010/2011. A huge proportion (41%) of spending on health care in South Africa are premiums of individuals on voluntary private health insurance which covers only 16.2% of the population. South Africa has the second highest percentage of voluntary private health insurance in the health care spending after the United States. There is an imbalance in the structure of the health care services in South Africa, where a larger part of the financial and human resources is located in the private health sector serving a minority section of the population, while the public sector has to serve a majority of the population with under-funded resources[64][68].

Figure 5-5 describes the trends in the expenditure and budget of the DOH from 2007/08 to 2012/15. The expenditure significantly increased from R13.6 billion to R26 billion between 2007/08 and 2011/12. The budget will increase by 9.2% per year and the estimated amount will be R33.9 billion in 2014/15. Medium-term priorities in health spending include the National Health Insurance (NHI), hospital infrastructure, the comprehensive HIV/AIDS treatment and prevention programme, and the expanding health professional training. In align with the priorities, the health sector has allocated an additional of R12.3 billion over the next three years, of which R1 billion is allocated for national health insurance pilot projects and

increasing primary health care visits, and R450 million to upgrade of about 30 nursing colleges. Further, R426 million is allocated for the rebuilding of five major tertiary hospitals, and R968 million for ART services [69].



Sources: Annual Performance Plan 2011, DOH (4 March 2011)[8]
Annual Performance Plan 2012, DOH (4 March 2012) [10]

Figure 5-5 Trends in Level of Expenditure (2007/08-2011/12) and Budget (2007/08-2011/12) of Department of Health

5.4.2 National Health Insurance (NHI)

(1) Background

In South Africa, a large part of the financial and human resources for health is occupied by the private health sector serving a small percentage of more affluent population. The financial imbalances between the public and private sector has resulted in distorted allocation of health personnel in favor of the private sector. Given this situation, the majority of the population lacks access to quality health care [64].

In 2007, the government initiated the consultative process on the NHI to balance the inequality in the national health system. In November 2009, as part of the health sector reform, the government formed the NHI-Ministerial Advisory Committee (MAC) and the Inter-Ministerial Committee to explore comprehensive discussions including costing and options for funding resources, the role of PHC in the frame of NHI, and the communication strategy. Based on a series of discussions, the NHI Policy Paper was developed in August 2011, subsequently, the government decided to implement the NHI in three phased matter over a period of 14 years from 2012/13 [8] [16].

(2) Objectives of the NHI

The major goal of the NHI is to achieve universal coverage by providing sustainable and equitable quality of care. The implementation of the NHI is one of the priority strategies defined in the NSDA. The NHI will also be implemented as part of the 10-point plan. The specific objective of the NHI is to reduce burden of disease caused by HIV/AIDS, TB, maternal deaths, child deaths, NCDs, injuries, and mental disorder. In addition, there is a great expectation that NHI will mitigate the disparities between public and private, rural and urban, and among socioeconomic classes.

(3) Health Service through NHI

The NHI will cover health services at all levels from PHC to tertiary and quaternary. The NHI expects to establish a mutually complementary relationship between public and private health facilities. However, participation of the private facilities in the NHI will be voluntary. The government also emphasized that concomitant improvement of the public health system is dispensable in the implementation of the NHI[40]. Therefore, reform in the district health system and the PHC system and sufficient funding to the public health sector are the premises for the NHI. To ensure the quality services in the public health facilities, the following measures will be taken:

- Allocation of resources to improve public health facilities and equipment;
- Establishment of an independent national quality management and certification body, Office of Health Standards Compliance (OHSO), to assure the quality of services offered in the health facilities; and
- Improvement of health care management in line with the ten-point plan [16] [64]

(4) NHI Funding

The principal financial source of NHI is the general tax revenue; other options are an increase in the VAT rate, payroll tax on employers, surcharge on the taxable income of individuals, or mandatory NHI contribution. In 2014/15, an additional budget of R60 billion is estimated to be necessary for implementing the NHI. Achieving an appropriate balance in the funding of national health insurance is necessary to ensure that the tax structure remains supportive of economic growth, job creation, and savings [69]. The NHI funding will be allocated to each province to implement the pilot program. Over the next three years (2012/13-2014/15), an estimated R1 billion is allocated for the national health insurance pilot projects[70].

(5) NHI Pilot Program

In March 2012, ten pilot districts with execessive needs were selected. The number of districts will be expanded to 20 in June 2013. The NHI pilot program started in April 2012 and it will strengthen EmOC, newborn care, PMTCT, EPI, diarrhea, and ART [61] [19]. The objectives of the pilot program are as follows:

- To assess whether the health service package, the PHC teams, and a strengthened referral system will improve access to quality health services particularly in the rural and previously disadvantaged areas of the country;
- To assess the feasibility, acceptability, effectiveness, and affordability of engaging private sector resources for public purpose;
- To examine the extent to which communities are protected from financial risks of accessing needed care;
- To test the ability of the districts to assume greater responsibilities associated with the purchaser-provider split required under the NHI; and
- To assess utilization patterns, costs, and affordability of implementing a PHC service package [71].

[40] In the first phase, the following action will be needed: drafting of new legislation to facilitate NHI implementation; increase funding of public sector health services from general tax revenue, revitalization of public health infrastructure, introduction of quality improvement and quality assurance programs, and development of human resources programme.

5.5 Health Administration

5.5.1 Organizational Structure and Role of Department of Health

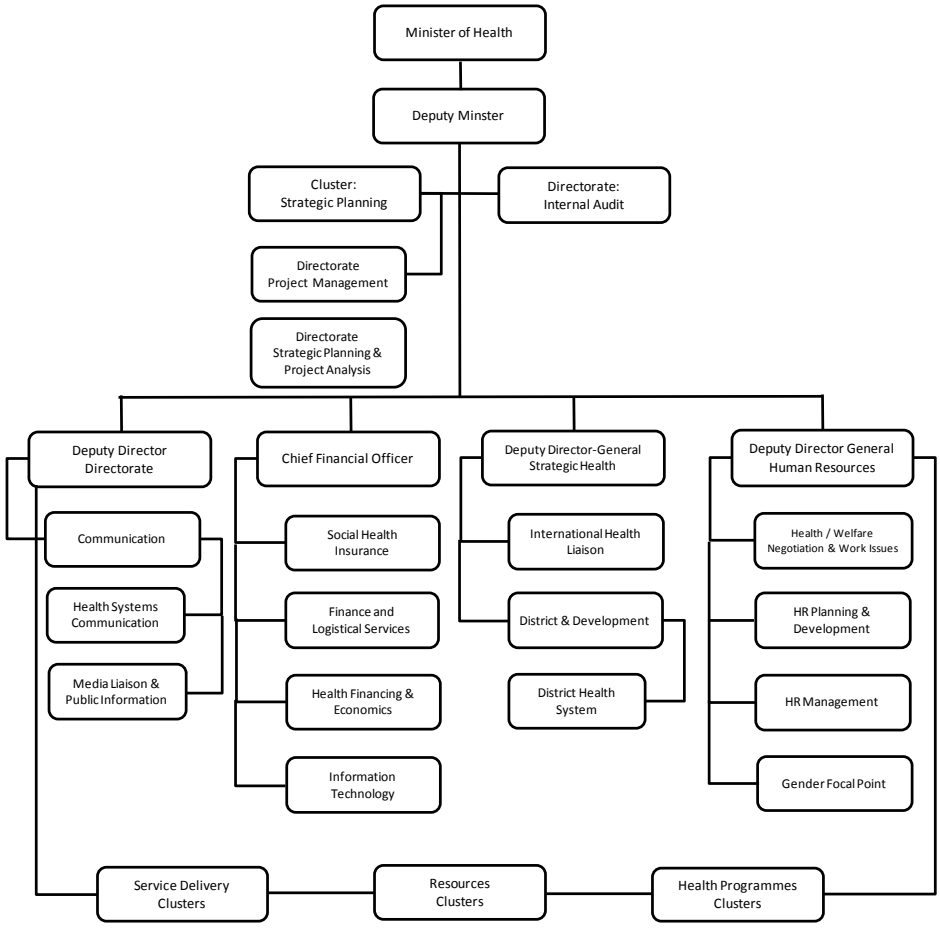
The Department of Health (DOH) is responsible for the development of policies and guidelines, coordination and support pertaining to the overall health service delivery system, including improvement in the access and quality of health services at all levels. The DOH also assists provincial health departments in developing service transformation plans and in allocating resources for sustainable health service delivery which are responsive to the needs of the people.

The program areas of the DOH are listed below:

- Administration
- Health Planning and System Enablement
- HIV/AIDS, TB and Maternal, Child and Women's Health
- PHC Services
- Hospitals, Tertiary Services and Workforce Development
- Health Regulation and Compliance Management

The Council for Medical Schemes (CMS) oversees the private sector health insurance [36] [8].

Figure 5-6 shows the organizational chart of the DOH.



Source: Transformation in the South African Public Service, Rakate N.F. (13 February 2007) [72]

Figure 5-6 Organizational Chart of the Department of Health

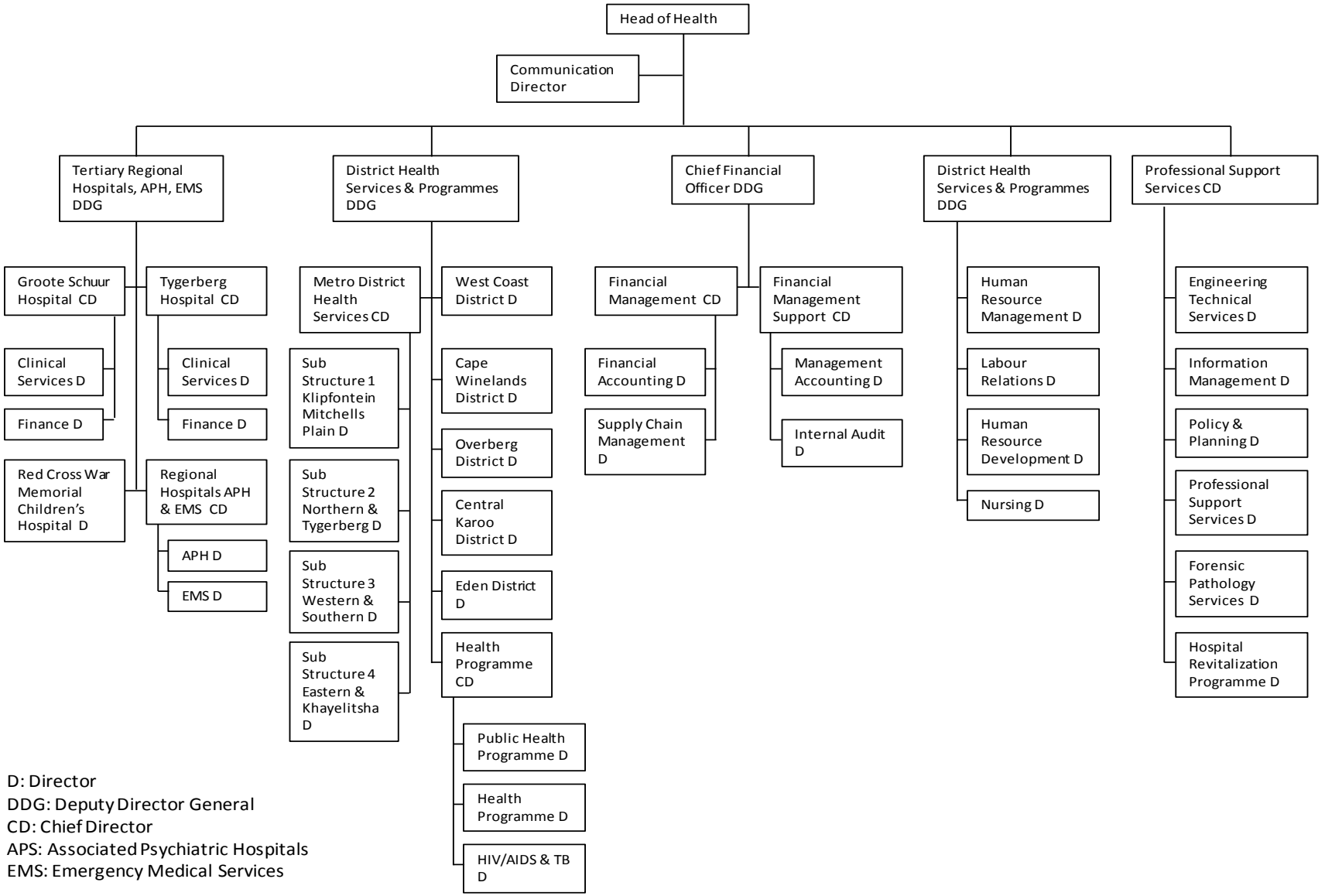
5.5.2 Organization Structure and Role of Provincial Department of Health

The provincial health departments provide and manage comprehensive health services at all levels of care. The basis for these services is a district-based PHC model. The major emphasis in developing health services at provincial level has been the shift from curative hospital-based health care to integrated community-based services.

The provincial health departments are responsible for:

- Providing health services;
- Formulating and implementing provincial health policy, standards and legislation;
- running and managing a provincial health information system;
- Researching health services to ensure efficiency and quality;
- Screening applications for licensing and inspecting private health facilities;
- Coordinating the funding and financial management of district health authorities; and
- Consulting effectively on health matters at the community level [36]

Figure 5-7 is the organizational chart of the Western Cape Provincial Health Department.



Source: Report of the Intergraded Support Team, Western Cape Department of Health (May 2009)[73]

Figure 5-7 Organizational Chart of the Provincial Health Department (case of Western Cape Province)

Chapter 6 Development Assistance and Partnership

6.1 Framework of Donor Coordination

6.1.1 Situation of Donor Cooperation

There are more than 25 health sector partners assisting South Africa. The main partners include the United States government/PEPFAR, USAID, European Union (EU), Australian Agency for International Development (AusAID), German Agency for International Cooperation (GIZ), Norwegian Agency for Development Cooperation (NORAD), the Government of Japan, the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM), and UN agencies [74]. Although the donor contribution to the health sector budget is low at around 2.2%, the government addressed the following issues pertaining to the situation of development assistance with the intention to facilitate alignment of donor assistance to a single national health policy and strategy and to a more efficient and effective use of funds.

- The large number and the diverse nature of the development partners in the health sector;
- Large amounts of funding earmarked for specific diseases and intervention, with resultant funding distortions and imbalances within the sector;
- Duplication of funding objectives and the pursuit of parallel agendas;
- Deliberate by-passing of the government's existing policies and systems of Official Development Assistance (ODA) implementation, with the resultant lack of ownership, leadership, and cooperation from government ;
- Insistence on multiple channels of ODA flows; and
- Insistence on performance indicators which are not consistent with the government's national development strategies.

In response to the above, the DOH announced the Aid Effectiveness Framework (AEF) underpinned by the principles of the Paris Declaration and the Accra Agenda for Action, and in line with NSDA to harmonize the donor assistance. The objective of the AEF is to attain the government leadership on coordination and oversight, and to facilitate effective development assistance by harmonizing all ODA activities with priorities, strategies, and implementation plans defined in the national development agenda. The following structures are suggested as a review mechanism of the AEF:

- Executive ODA Coordinating Forum
- Technical ODA Planning Forum
- Technical Committee of the National Health Council (NHC)
- The Development Cooperation Unit (DCU)＜secretariat to the ODA Planning Forum in DOH＞
- Programme/Project Steering Committees
- Provincial ODA Coordinators [75]

6.1.2 Overview of Donor Cooperation

A large portion of donor assistance is allocated to the HIV/AIDS program, however, some support is directed to the maternal and child health program. Table 6-1 summarizes the assistance and support of major donor agencies.

(1) UK Department for International Development (DFID)

The priority areas in South Africa are HIV/AIDS and maternal health. Assistance to the health sector including reproductive health (RH), and maternal and newborn health for the period of 2010/11-2014-15 will be £ 32.8 million.

Currently, the DFID is implementing the "Reducing Maternal and Neonatal Deaths in Rural South Africa Through the Revitalisation of Primary Health Care (2011-2015)" (£ 5,043,256)、and the "Strengthening South Africa's Revitalised Response to AIDS and Health (2009-2014)" (£ 26,973,838). The DIFD's support also includes technical support to the National Health Insurance and nutritional survey [3] [76].

(2) United States Agency for International Development (USAID)

In 2010, the Government of South Africa signed a 5-year Partnership Framework with the US government. Under the leadership and coordination of the government in implementing the program, the PEPFAR strategic focus in South Africa has shifted from the support in improving and expanding access to health services to the capacity building for producing sustainable results. In 2011, the health sector got financial support from the US government amounting to US$545.969 million for HIV/AIDS, and the support from USAID was US$14.500 million (US$13.000 million for TB and US$1.500 for RH). Please refer to 4.2.1 (2) for the PEPFAR support.

(3) The United Nations Children's Fund (UNICEF)

The UNICEF support includes capacity building of district health teams to improve maternal and child health and PHC services, training of community health workers, nutrition program including exclusive breastfeeding, and PMTCT.

(4) World Health Organization (WHO)

Priority areas of WHO support are decrease in maternal and child mortality and HIV/AIDS related deaths, and improvement of quality services. The current Country Cooperation Strategy (CCS) focuses on the following five strategies:

1. Strengthen health policies and systems to minimize inequities in access;
2. Reduce neonatal, infant, child and maternal morbidity and mortality and promote responsible and healthy sexual and reproductive health behavior;
3. Combat HIV and AIDS, tuberculosis, and malaria.;
4. Prevent and reduce disease, disability and premature death from chronic noncommunicable conditions, accidents, violence, and injuries; and
5. Strengthen surveillance systems to promote prevention of communicable and noncommunicable diseases and their impact on health.

Table 6-1 Donor Assistance and Areas of Support

	Country Strategic Plan	Areas of Support						
		Child Health	Maternal Health	Nutrition	HIV/ AIDS	Malaria	TB	HSS
UNICEF	Country Program Document (2007-2012)	○	○	○	○			
WHO	Country Cooperation Strategy (CCS) (2008-2013)	○	○	○	○	○	○	○
DFID	Country Operational Plan (2011-2015)	○	○	○	○			
USG/ USAID	The Global Health Initiative (2011-2015)		○		○		-	
EU	Joint Country Strategy Paper (2007-2013)				○			
Germany	-				○			

Source: South Africa Annual Report, UNICEF (2011) [53]
Country Cooperation Strategy 2008-2013, WHO (2009) [74]
Operational Plan 2011-2015, DFID (May 2011) [3]
DFID Homepage [76]
FY2008-2011 USAID-State Foreign Assistance Appropriations, USAID [77]
Joint Country Strategic Paper 2007-2013, EU [78]
GIZ Homepage [79]

6.2 Outline of Japanese Cooperation

Since the early 1990's, after Apartheid policy ended, the Government of Japan has provided bilateral economic cooperation to South Africa through training programs and Grant Assistance for Grassroots Human Security Projects. The present Japanese assistance policy to South Africa is formulated in accordance with Accelerated and Shared Growth Initiative for South Africa (ASGISA) and Joint Initiative for Priority Skills Acquisition (JIPSA). The underlining principles of assistance to South Africa are: (i) human resource development for ASGISA, (ii) pro-poor development, and (iii) support to the countries in the region (third country assistance) by utilizing available resources in South Africa.

Table 6-2 summarizes the Japanese assistance to South Africa.

Table 6-2 Health Sector Support by the Japanese Government

Grant Aid and Multilateral Cooperation				
Assistance Period	**Scheme**	**Project Name**	**Assistance Amount**	**Objective/Summary**
FY 2005	Grant Aid	Improvement of Medical Equipment for Primary Health Care Institutes in Eastern Cape Province	JPY1,038 million	Primary medical services in Oliver Tambo District in Eastern Cape Province is improved through the provision of medical equipment to the primary health care facilities, district hospitals, health centers and clinics, and maintenance of mobile clinic cars for the remote community.

Technical Cooperation Project		
Assistance Period	**Assistance Period**	**Objective/Summary**
1/4/2006～ 31/3/2010	Establishment of Monitoring and Evaluation System for Home Community Based Care Staying and Community	Home Community Based Care (HCBC) services in South Africa is improved by implementing a monitoring and evaluation system of HCBC by government agencies and HCBC service providers at all levels.
3/3/2008～ 2/3/2011	Capacity Building of Community Health Service Provider Project	The health status of children, teachers, and the community in Gauteng Province is improved by promoting school health programme in 14 pilot schools.
7/6/2009～ 6/3/2013	Capacity Building in Medical Equipment Maintenance and Management for Southern Africa	A holistic provincial model to improve Medical Equipment Maintenance and Management (HCBC) is developed, which is applicable for the other provinces in South Africa and the Southern African region. Eastern Cape is the project pilot province.

Experts		
Assistance Period	**Project Name**	**Objective/Summary**
11/9/2008～ 11/9/2010	Monitoring and Evaluation (HIV/AIDS) Advisor	The M&E methodologies on HIV/AIDS programs in the Southern Africa is improved by strengthening the M&E systems in the five countries under the project (Republic of South Africa, Botswana, Namibia, Swaziland, and Lesotho) and building regional network.
1/9/2010～ 31/3/2012	Monitoring and Evaluation (HIV/AIDS) Advisor	Ditto
14/1/2012～ 15/1/2014	HCBC Monitoring and Evaluation Advisor	Quality improvement and expansion of HCBC in South Africa is realized by implementing the M&E system.

Sources: ODA Country Data Book 2010 (March 2011) and 2011 (March 2012), Ministry of Foreign Affairs [80] [81]
Japan's ODA Rolling Plan for South Africa, Ministry of Foreign Affairs (May 8, 2009) [82]
JICA Knowledge Site [83]

Training Programs in Japan and Third Country	
Assistance Period	**Training Name and Content**
1/4/2008～ 31/3/2011	Name: Strengthening Monitoring and Evaluation Capacity for HIV/AIDS Response Programmes Counterpart Agency: University of South Africa Content: The project will facilitate human resource development in M&E method in Botswana, Swaziland, Namibia, Republic of South Africa, and Lesotho, and improve M&E methods on HIV/AIDS in the region, therefore, contributing to improvement of the overall HIV/AIDS programme.

Chapter 7 Priority Health Issues and Recommendations

7.1 Priority Health Issues

7.1.1 Health Situation

At the moment, South Africa is suffering from a quadruple burden of diseases comprising communicable diseases (especially HIV/AIDS and TB), noncommunicable diseases (hypertension, diabetes, respiratory disease, hyperlipidemia, and mental health etc.), high perinatal and maternal deaths, and violence and injuries. Of these, the most urgent priority is to reduce the deaths due to HIV/AIDS and its most common opportunistic infection, TB. The prevention control continues to be essential in reducing new HIV cases, but also service provisions will be required to meet the increasing demand in care and treatment (ART) for PLWHA.

South Africa has higher maternal and child mortality as compared to other middle income countries. However, the continued efforts and inputs have not been reflected well enough in outcomes, and maternal and child health remains a priority area for improvement. One reason for the slow improvement in high maternal and child mortality can be attributed to the inadequate services in the public health sector, but at the same time, the factors due to HIV/AIDS is also significant; therefore, PMTCT and HIV/AIDS services to pregnant women and infants/children need to be strengthened within the frame of the HIV/AIDS program.

7.1.2 Background of Health Issues

The situation of HIV/AIDS in South Africa was exacerbated by inappropriate policies and delayed interventions by the past political parties. Furthermore, a large portion of resources has gone to the private sector to which only a few affluent population has benefitted, as a consequence, has resulted in the shortage of health personnel, lack of human resource development and management, deteriorated facilities and equipment, and poor access to services in the rural areas. Despite the established network of public health services and a series of health policies and programs, the inequality between the public and private sector has caused substandard quality care in the public sector and high maternal and child mortality. The growing social and economic disparities are the underlying factors of the health problems in South Africa.

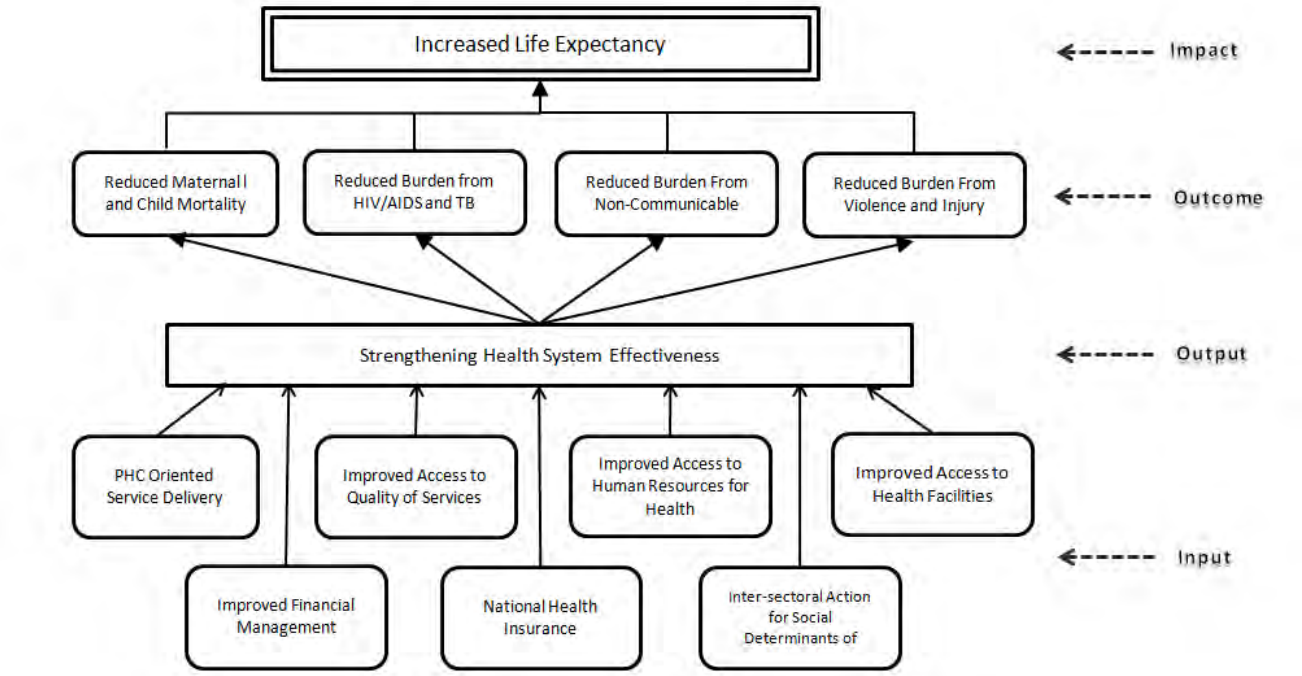
The concentration of resources on HIV/AIDS program and resource allocation in favor of hospital services have led to imbalances within the sector; the end result is an inadequate service provision for communicable diseases except HIV/AIDS, nutrition program, and maternal and child health including EmOC.

7.1.3 Government and Donor's Approach and Problems in the Future to Priority Issue

In response to the situation above, the government addresses in MTSF that improving access to health services and achieving better clinical and patient outcomes from the public health system is a central goal of the government’s healthcare services. Specific strategies to improve the health status of the population include mitigating disparities in the service provision, improving quality of services and facility infrastructure, strengthening of human resource capacity, and controlling HIV/AIDS and other illnesses.

As seen in Figure 7-1 below, in alignment with NSDA (Outcome 2) , the government is taking different

measures (e.g. funding management, facility improvement, and capacity building of health human resources) to control a quadruple burden of disease. For instance, re-engineering PHC and strengthening district health services are the important strategies for improving maternal and child health. The government also initiated a pilot program of the NHI, and making a vigorous inputs and dynamic efforts in improving the access and quality of the public health services, which covers the majority of the population excluding the affluent class.



Source: Delivery Agreement for Outcome 2: A Long and Healthy Life for All South Africans, DOH (2010) [84]

Figure 7-1 Approach to Health System Strengthening (Health Sector NSDA 2010-2014)

The prevention of new HIV infections is a core objective of the HIV/AIDS control program, and a new infection has been hampered through strengthened education program and provision of prevention means and HIV testing. Simultaneously, the implementation of PMTCT and HIV testing of pregnant women and infant/children are being strengthened. In addition, South Africa is investing a large amount of government funding to care and treatment services for PLWHA to attain a universal access with support from PEPFAR and GFATM.

As for maternal and child health, the IMCI plans to review and strengthen its program including nutrition problem, infectious diseases like diarrhea, and EmOC.

7.2 Recommendations

The Government of Japan is providing support for capacity building in HIV/AIDS control program and medical equipment maintenance and management. Reducing HIV/AIDS related deaths, eliminating disparities in service delivery and improving quality service should continue to be the focus of its support. While western donor agencies are generally providing substantial financial assistance to South Africa, Japanese assistance is focusing more on strengthening the capacity of health personnel who has important roles in the service delivery, for instance an on-going support in the M&E capacity building for HIV/AIDS

program. This approach consists with the South Africa's strategic agenda on human resource capacity building. Furthermore, a key principle of the Japanese assistance to South Africa is to provide support to the neighboring countries (third country assistance) by utilizing the available resources in South Africa. In this respect, support to the neighboring countries can be expanded in collaboration with the government agencies of South Africa

(1) HIV/AIDS and TB Control

By making use of the best past assistance and experience, similar support can be provided especially for capacity building in provision of HIV/AIDS and TB treatment (e.g. network building of treatment services, strengthening community services, and M&E). It will also be effective to include similar capacity building component into the on-going M&E support for the neighboring countries (Botswana, Namibia, Swaziland, and Lesotho).

(2) Support to Health System Strengthening including PHC and Provincial Health Service

1) Health System Strengthening

A strategy to ensure equity and universal access to health services is an important priority in the improvement of maternal and child health. By targeting areas (e.g. districts) where the access to health services is very difficult, support to build functional referral system, and to strengthen the PHC outreach program to reduce maternal and child deaths can be considered with available local resources.

2) Capacity Strengthening of Health Human Resources

Human resource development is indispensable to achieve health system strengthening. Depending on the government's needs, support for strengthening human resources, such as in-service training for health personnel including administrators, nurses, and community workers, can be considered as an option.

ATTACHMENTS

Attachment 1: Major Health Indicators

Attachment 2: References

Attachment 1: Major Health Indicators (Republic of South Africa)

Republic of South Africa				MDGs	Sources	1990	2000	Latest	Latest year	Latest in Region	(Latest year)	Region
0 General Information	0.1 Demography	0.1.01	Population, total		WDI	35,200,000	44,000,000	49,991,000	2010	853,434,000	(2010)	Sub-Saharan Africa (developing only)
		0.1.02	Population growth (annual %)		WDI	2.0	2.5	1.4	2010	2.5	(2010)	Sub-Saharan Africa (developing only)
		0.1.03	Life expectancy at birth, total (years)		WDI	61.5	54.8	52.1	2010	54.3	(2010)	Sub-Saharan Africa (developing only)
		0.1.04	Birth rate, crude (per 1,000 people)		WDI	29.3	24.5	21.2	2010	37.4	(2010)	Sub-Saharan Africa (developing only)
		0.1.05	Death rate, crude (per 1,000 people)		WDI	8.3	12.2	14.9	2010	12.6	(2010)	Sub-Saharan Africa (developing only)
		0.1.06	Urban population (% of total)		WDI	52.0	56.9	61.7	2010	37.4	(2010)	Sub-Saharan Africa (developing only)
	0.2 Economic・Development Condition	0.2.01	GNI per capita, Atlas method (current US$)		WDI	3,390	3,050	6,090	2010	1,188.5	(2010)	Sub-Saharan Africa (developing only)
		0.2.02	GNI growth (annual %)		WDI	-0.6	4.2	3.1	2010	4.1	(2010)	Sub-Saharan Africa (developing only)
		0.2.03	Total enrollment, primary (% net)	2.1	WDI		93.9	90.0	2009	76.3	(2009)	Sub-Saharan Africa (developing only)
		0.2.04	Ratio of female to male primary enrollment (%)	3.1	WDI	99.0	95.2	95.8	2009	91.6	(2009)	Sub-Saharan Africa (developing only)
		0.2.05	Literacy rate, adult total (% of people ages 15 and above)		WDI			88.7	2007	62.3	(2009)	Sub-Saharan Africa (developing only)
		0.2.06	Human Development Index		HDR	0.67	0.70	0.62	2011	0.46	(2011)	Sub-Saharan Africa
		0.2.07	Human Development Index (rank)		HDR	70/160	107/173	123/187	2011			
		0.2.08	Poverty gap at $1.25 a day (PPP) (%)		WDI		8.2	2.3	2009	20.6	(2008)	Sub-Saharan Africa (developing only)
	0.3 Water and Sanitation	0.3.01	Improved water source (% of population with access)	7.8	HNP Stats	83	86	91	2010	61.1	(2010)	Sub-Saharan Africa (developing only)
		0.3.02	Improved sanitation facilities (% of population with access)	7.9	HNP Stats	71	75	79	2010	30.6	(2010)	Sub-Saharan Africa (developing only)
1 Health Status of People	1.1 Mortality and Morbidity	1.1.01	Age-standardized mortality rate by cause (per 100,000 population) - Communicable		GHO			983	2008	798	(2008)	Africa
		1.1.02	Age-standardized mortality rate by cause (per 100,000 population) - Noncommunicable		GHO			635	2008	779	(2008)	Africa
		1.1.03	Age-standardized mortality rate by cause (per 100,000 population) - Injuries		GHO			72	2008	107	(2008)	Africa
		1.1.04	Cause of death, by communicable diseases and maternal, prenatal and nutrition conditions (% of total)		HNP Stats			66.7	2008	64.6	(2008)	Sub-Saharan Africa (developing only)
		1.1.05	Cause of death, by non-communicable diseases (% of total)		HNP Stats			28.5	2008	28.3	(2008)	Sub-Saharan Africa (developing only)
		1.1.06	Cause of death, by injury (% of total)		HNP Stats			4.8	2008	7.1	(2008)	Sub-Saharan Africa (developing only)
		1.1.07	Distribution of years of life lost by broader causes (%) - Communicable		GHO			79	2008	78	(2008)	Africa
		1.1.08	Distribution of years of life lost by broader causes (%) - Noncommunicable		GHO			15	2008	15	(2008)	Africa
		1.1.09	Distribution of years of life lost by broader causes (%) - Injuries		GHO			6	2008	17	(2008)	Africa
	1.2 Maternal and Child Health	1.2.01	Maternal mortality ratio (modeled estimate, per 100,000 live births)	5.1	MDGs	230	380	410	2008	650	(2008)	Sub-Saharan Africa (developing only)
		1.2.02	Adolescent fertility rate (births per 1,000 women ages 15-19)	5.4	MDGs		74.7	53.9	2010	107.6	(2010)	Sub-Saharan Africa (developing only)
		1.2.03	Mortality rate, under-5 (per 1,000)	4.1	MDGs	59.8	77.9	56.6	2010	121.2	(2010)	Sub-Saharan Africa (developing only)
		1.2.04	Mortality rate, infant (per 1,000 live births)	4.2	MDGs	46.6	54.3	40.7	2010	76.4	(2010)	Sub-Saharan Africa (developing only)
		1.2.05	Low-birthweight babies (% of births)		HNP Stats					13.3	(2010)	Sub-Saharan Africa (developing only)
		1.2.06	Fertility rate, total (birth per woman)		HNP Stats	3.7	2.9	2.5	2010	4.9	(2010)	Sub-Saharan Africa (developing only)
	1.3 Infectious Diseases	1.3.01	a) Prevalence of HIV, male (% ages 15-24)	6.1	MDGs			4.5	2009	1.5	(2009)	Sub-Saharan Africa (developing only)
			b) Prevalence of HIV, female (% ages 15-24)	6.1	MDGs			13.6	2009	3.8	(2009)	Sub-Saharan Africa (developing only)
		1.3.02	Notified cases of malaria per 100,000 population	6.6	MDGs Database			80	2008			
		1.3.03	a) Malaria death rate per 100,000 population, all ages	6.6	MDGs Database			0	2008	96	(2009)	Sub-saharan Africa
			b) Malaria death rate per 100,000 population, ages 0-4	6.6	MDGs Database			0	2008	519	(2009)	Sub-saharan Africa
		1.3.04	Tuberculosis prevalence rate per 100,000 population (mid-point)	6.9	MDGs Database	429	524	795	2010	479	(2009)	Sub-saharan Africa
		1.3.05	Incidence of tuberculosis (per 100,000 people)	6.9	MDGs	301	576	981	2010	271	(2010)	Sub-Saharan Africa (developing only)
		1.3.06	Tuberculosis death rate (per 100,000 people)	6.9	MDGs	37	43	50	2010	28	(2010)	Sub-Saharan Africa (developing only)
		1.3.07	Prevalence of HIV, total (% of population ages 15-49)		HNP Stats	0.7	16.1	17.8	2009	5.5	(2009)	Sub-Saharan Africa (developing only)
		1.3.08	AIDS estimated deaths (UNAIDS estimates)		HNP Stats	2,900	170,000	310,000	2009			
		1.3.09	HIV incidence rate, 15-49 years old, percentage (mid-point)		MDGs Database	0.41	2.64	1,49	2009			
		1.3.10	Paritial Prioritization Score by the Global Fund (HIV)		GF			9	2012			
			Paritial Prioritization Score by the Global Fund (Malaria)		GF							
			Paritial Prioritization Score by the Global Fund (TB)		GF			9	2012			
	1.4 Nutrition	1.4.01	Prevalence of wasting (% of children under 5)		HNP Stats			4.7	2008			
2 Service Delivery	2.1 Maternal and Child Health	2.1.01	Births attended by skilled health personnel, percentage	5.2	MDGs Database			91.2	2003			
		2.1.02	Birth by caesarian section		GHO			20.6	2003	3.5	(2011)	Africa
		2.1.03	Contraceptive prevalence (% of women ages 15-49)	5.3	MDGs	57		59.9	2004	21.7	(2010)	Sub-Saharan Africa (developing only)
		2.1.04	Pregnant women receiving prenatal care (%)	5.5	HNP Stats			97.1	2008	73.5	(2010)	Sub-Saharan Africa (developing only)
		2.1.05	Pregnant women receiving prenatal care of at least four visits (% of pregnant women)	5.5	HNP Stats		73.1	87.1	2008	45.6	(2010)	Sub-Saharan Africa (developing only)
		2.1.06	Unmet need for family planning, total, percentage	5.6	MDGs Database			13.8	2004	24.8	(2008)	Sub-Sahara Africa
		2.1.07	1-year-old children immunized against: Measles	4.3	Childinfo		72	65	2010	75	(2010)	Sub-Saharan Africa
		2.1.08	1-year-old children immunized against: Tuberculosis		Childinfo		89	86	2010	84	(2010)	Sub-Saharan Africa
		2.1.09	a) 1-year-old children immunized against: DPT (percentage of infants who received their first dose of diphtheria, pertussis and tetanus vaccine)		Childinfo		85	73	2010	85	(2010)	Sub-Saharan Africa
			b) 1-year-old children immunized against: DPT (percentage of infants who received three doses of diphtheria, pertussis and tetanus vaccine)		Childinfo		73	63	2010	77	(2010)	Sub-Saharan Africa
		2.1.10	1-year-old children immunized against: Polio		Childinfo		71	67	2010	79	(2010)	Sub-Saharan Africa
		2.1.11	Percentage of infants who received three doses of hepatitis B vaccine		Childinfo		73	56	2010	74	(2010)	Sub-Saharan Africa
	2.2 Infectious Diseases	2.2.01	Condom use with non regular partner, % adults (15-49), male	6.2	MDGs							
		2.2.02	Condom use with non regular partner, % adults (15-49), female	6.2	MDGs							

Attachment 1: Major Health Indicators (Republic of South Africa)

Republic of South Africa				MDGs	Sources	1990	2000	Latest	Latest year	Latest in Region	(Latest year)	Region
		2.2.03	Men 15-24 years old with comprehensive correct knowledge of HIV/AIDS, percentage	6.3	MDGs Database					33	(2005-2010)	Sub-Saharan Africa
		2.2.04	Women 15-24 years old with comprehensive correct knowledge of HIV/AIDS, percentage	6.3	MDGs Database					26	(2005-2010)	Sub-Saharan Africa
		2.2.05	Ratio of school attendance of orphans to school attendance of non-orphans aged 10-14 years	6.4	MDGs Database					0.92	(2005-2010)	Sub-Saharan Africa
		2.2.06	Use of insecticide-treated bed nets (% of under-5 population)	6.7	HNP Stats					34.0	(2010)	Sub-Saharan Africa (developing only)
		2.2.07	Children under 5 with fever being treated with anti-malarial drugs, percentage	6.8	MDGs Database					36	(2008-2010)	Sub-Saharan Africa
		2.2.08	Tuberculosis treatment success rate under DOTS, percentage	6.10	MDGs Database		63	73	2009	80	(2008)	Sub-Saharan Africa
		2.2.09	Antiretroviral therapy coverage (% of people with advanced HIV infection)	6.5	MDGs			37.0	2009			
		2.2.10	People aged 15 years and over who received HIV testing and counselling, estimated number per 1,000 adult population		GHOr			240.1	2010			
		2.2.11	Testing and counselling facilities, estimated number per 100,000 adult population		GHOr			16.7	2010			
		2.2.12	Pregnant women tested for HIV, estimated coverage (%)		GHOr							
		2.2.13	Percentage of HIV-infected pregnant women who received antiretroviral drugs to reduce the risk for mother-to-child transmission (Mid point)	6.5	MDGs Database			88	2009			
		2.2.14	Tuberculosis case detection rate (all forms)		HNP Stats	73.0	59.0	72.0	2010	60	(2010)	Sub-Saharan Africa (developing only)
		2.2.15	Tuberculosis treatment success rate (% of registered cases)	6.10	MDGs		63.0	73.0	2009	79	(2009)	Sub-Saharan Africa (developing only)
	2.3 Nutrition	2.3.01	Vitamin A supplementation coverage rate (% of children ages 6-59 months)		HNP Stats			39.0	2008	85.8	(2010)	Sub-Saharan Africa (developing only)
		2.3.02	Consumption of iodized salt (% of households)		HNP Stats					49.8	(2010)	Sub-Saharan Africa (developing only)
	2.4 Quality and Coverage	2.4.01	Estimate of health formal coverage		ILO			100		69.2		Countries of Medium Vulnerability
		2.4.02	Population not covered (%) due to financial resources deficit		ILO			0		39.4		Countries of Medium Vulnerability
		2.4.03	Population not covered (%) due to professional health staff dificit		ILO			0.0		27.3		Countries of Medium Vulnerability
3 Health System	3.1 Human Resources	3.1.01	Physicians (per 1,000 people)		HNP Stats			0.77	2004	0.2	(2010)	Sub-Saharan Africa (developing only)
		3.1.02	Midwives (per 1,000 people)		HNP Stats							
		3.1.03	Nurses (per 1,000 people)		HNP Stats			4.1	2004			
		3.1.04	Dentistry personnel density (per 10,000 population)		GHO			1.3	2004	0	(2007)	Africa
		3.1.05	Density of pharmaceutical personnel (per 10,000 population)		GHO			2.8	2004	1.0	(2007)	Africa
	3.2 Health Financing	3.2.01	Health expenditure, total (% of GDP)		HNP Stats		8.5	8.9	2010	6.5	(2010)	Sub-Saharan Africa (developing only)
		3.2.02	Health expenditure, public (% of total health expenditure)		HNP Stats		40.5	44.1	2010	45.1	(2010)	Sub-Saharan Africa (developing only)
		3.2.03	Health expenditure, private (%) of total health expenditure)		HNP Stats		59.5	55.9	2010	54.9	(2010)	Sub-Saharan Africa (developing only)
		3.2.04	Out-of-pocket health expenditure (% of private expenditure on health)		HNP Stats		25.0	29.6	2010	64.7	(2010)	Sub-Saharan Africa (developing only)
		3.2.05	Health expenditure, public (% of government expenditure)		HNP Stats		10.9	11.9	2010	10.0	(2005)	Sub-Saharan Africa (developing only)
		3.2.06	External resources for health (% of total expenditure on health)		HNP Stats		0.3	2.2	2010	10.5	(2010)	Sub-Saharan Africa (developing only)
		3.2.07	Social security expenditure on health as a percentage of general government expenditure on health		GHO			2.9	2009	7	(2009)	Africa
		3.2.08	a) Health expenditure per capita (current US$)		HNP Stats		250.7	648.7	2010	84.3	(2010)	Sub-Saharan Africa (developing only)
			b) Per capita total expenditure on health (PPP int. $)		GHO		552	862	2009	157	(2009)	Africa
		3.2.09	Per capita government expenditure on health at average exchange rate (US$)		GHO		101.0	195	2009	41	(2009)	Africa
	3.3 Facilities, Equipments and Supplies	3.3.01	a) Median availability of selected generic medicines (%) - Public		GHO							
			b) Median availability of selected generic medicines (%) - Private		GHO			71.7	2004			
		3.3.02	a) Median consumer price ratio of selected generic medicines - Public		GHO							
			b) Median consumer price ratio of selected generic medicines - Private		GHO			6.5	2004			
		3.3.03	Hospital beds (per 1,000 population)		HNP Stats			2.8	2005	1.2	(1990)	Sub-Saharan Africa (developing only)

WDI: World Development Indicators & Global Development Finance (http://databank.worldbank.org/ddp/home.do) (Accessed 07/2012)
HDR: Human Development Reports (http://hdr.undp.org/) (Accessed 07/2012)
HNP Stats: Health Nutrition and Population Statistics (http://databank.worldbank.org/ddp/home.do) (Accessed 07/2012)
GF: Global Fund eligibility list for 2012 funding channels, the Global Fund to Fight AIDS, Tuberculosis and Malaria (http://www.theglobalfund.org/en/application/applying/ecfp/) (Accessed 07/2012)
GHO: Global Health Observatory Country Statistics (http://www.who.int/gho/countries/en/) (Accessed 07/2012)
GHOr: Global Health Observatory Repository (http://apps.who.int/ghodata/) (Accessed 07/2012)
MDGs: Millennium Development Goals (http://databank.worldbank.org/ddp/home.do) (Accessed 07/2012)
MDG database: Millennium Development Goals Indicators (http://mdgs.un.org/unsd/mdg/) (Accessed 07/2012). Regional data is available on The Millennium Development Goals Report Statistical Annex 2011 (United Nations).
Childinfo: Childinfo UNICEF (http://www.childinfo.org/) (Accessed 07/2012)
ILO: World Social Security Report 2010/11: Providing coverage in times of crisis and beyond. International Labour Office Geneva: ILO 2010.

1.3.10 Partial Prioritization Score is composed of the income level score for the country and the disease burden score for the particular disease in the country. The minimum score is 3 and the maximum score is 12.

2.4.01 Estimate of health formal coverage is indicated as percentage of population covered by state, social, private, company-based, trade union, mutual and other health insurance scheme.

2.4.02 Population not covered (%) due to financial resources deficit (based on median value in low-vulnerability group of countries) uses the relative difference between the national health expenditure in international $ PPP (excluding out-of-pocket) and the median density observed in the country group with low levels of vulnerability as a benchmark for developing countries. The rate can be calculated using the following formula:

Per capita health expenditure not financed by private households' out-of-pocket payments (PPP in int. $) [A]
Population (in thousands) total [B]
Total health expenditure not financed by out of pocket in int. $ PPP (thousands) [C = A x B]
Population covered by total health expenditure not financed by out-of pocket if applying Benchmark* (thousands) [D = C ÷ Benchmark]**
Percentage of the population not covered due to financial resources deficit (%) [F = (B - D) ÷ B x 100]
*Benchmark: Total health expenditure not financed by out-of-pocket per capita = 350 international $ PPP.
**This formula was partially modified from the original in the source to suit an actual calculation.

2.4.03 Population not covered (%) due to professional health staff dificit uses as a proxy the relative difference between the density of health professionals in a given countries and its median value in countries with a low level of vulnerability. The rate can be calculated using the following formula:

Total of health professional staff [A = B + C]
Number of nursing and midwifery personnel [B]
Number of physicians [C]
Total population (in thousands) [D]
Number of health professional per 10,000 persons [F = A ÷ D x 10]
Total population covered if applying Benchmark* (thousands) [E = A ÷ Benchmark x 10]
Percentage of total population not covered due to health professional staff deficit [G = (D - E) ÷ D x100]
Benchmark: 40 professional health staff per 10,000 persons.

Attachment 2：References (Republic of South Africa)

	TITLE	AUTHOR	URL	YEAR
1	South Africa: Country Brief	World Bank	http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/AFRICAEXT/SOUTHAFRICAEXTN/0,,menuPK:368086~pagePK:141132~piPK:141107~theSitePK:368057,00.html	2012
2	The World Factbook: South Africa	CIA	https://www.cia.gov/library/publications/the-world-factbook/geos/sf.html	
3	Operational Plan 2011-2015 DFID South Africa	DFID	http://www.dfid.gov.uk/Documents/publications1/op/south-africa-2011.pdf	May 2011
4	World Economic Outlook Database	IMF	http://www.imf.org/external/pubs/ft/weo/2012/01/weodata/weorept.aspx?sy=2004&ey=2012&scsm=1&ssd=1&sort=country&ds=.&br=1&c=199&s=NGDP_RPCH%2CNGDPD%2CNGDPDPC%2CLUR&grp=0&a=&pr1.x=54&pr1.y=15	2012
5	Millennium Development Goals Country Report 2010	RSA and UNDP	http://www.statssa.gov.za/news_archive/Docs/MDGR_2010.pdf	2010
6	2012 Budget Speech, Minister of Finance Parvin Gordhan	National Treasury	http://www.treasury.gov.za/documents/national%20budget/2012/speech/speech.pdf	Feb 2012
7	Health care financing in South Africa: moving towards universal coverage	Ataguba J.E.O. et.al. (CME vol.28 no.2)	http://www.cmej.org.za/index.php/cmej/article/view/1782	Feb 2010
8	Annual Performance Plan 2011	DOH		Mar 2011
9	South Africa Yearbook 2010/11 Chapter 1 The Land and its People	StatsSA	http://www.gcis.gov.za/sites/default/files/docs/resourcecentre/yearbook/chapter1.pdf	Jan 2011
10	Annual Performance Plan 2012	DOH	http://www.doh.gov.za/docs/stratdocs/2012/app2012.pdf	Mar 2012
11	The State of the World Children 2009	UNICEF	http://www.unicef.org/sowc09/docs/SOWC09-FullReport-EN.pdf	Dec 2008
12	Human Development Report	UNDP		2011
13	South Africa Yearbook 2010/11 Chapter 15 Government System	StatsSA	http://www.justice.gov.za/about/sa-yearbook/2010_adminjustice.pdf	Jan 2011
14	National Development Plan: Vision 2030	NPC	http://www.npconline.co.za/medialib/downloads/home/NPC%20National%20Development%20Plan%20Vision%202030%20-lo-res.pdf	Nov 2011
15	Medium Term Strategic Framework 2009-2014	RSA	http://www.info.gov.za/view/DownloadFileAction?id=103901	Jul 2009
16	Overview of Health Sector Reforms in South Africa	DFID	http://www.sarrahsouthafrica.org/LinkClick.aspx?fileticket=XB382Sl2kmw%3D&tabid=2321	Dec 2011
17	The 10 Point Plan	DOH	http://www.healthlink.org.za/publications/874	Jul 2009
18	Delivery Agreement For Outcome2: A Long and Healthy Life for All South Africans	DOH	http://www.poa.gov.za/Documents/Outcome%20Delivery%20Agreements/Outcome%202%20Health.pdf	2010
19	Criteria for the Selection of the NHI Pilot Districts	DOH	http://www.doh.gov.za/docs/publicity/2012/nhi10districts.pdf	Feb 2012
20	The burden of non-communicable diseases in South Africa	Mayosi, B.M. et al. (Lancet vol. 374:934-47)	http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(09)61087-4/abstract	Sep 2009
21	Human Resources for Health South Africa-HRH Strategy for the Health Sector: 2012/13-2016/17 Consultation Document V5	DOH	http://www.doh.gov.za/docs/stratdocs/2012/hrhstrat.pdf	Jan 2012

Attachment 2：References (Republic of South Africa)

	TITLE	AUTHOR	URL	YEAR
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