

COUNTRY PROFILE: SOUTH AFRICA

A DESCRIPTIVE OVERVIEW OF THE COUNTRY AND HEALTH SYSTEM CONTEXT INCLUDING THE OPPORTUNITIES FOR INNOVATION

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EXECUTIVE SUMMARY

Two decades into its democracy remnants of South Africa still affect the lives and health of its people. Social inequality among racial groupings remains a strong determinant for access to healthcare and opportunities. The South Africa government has taken great strides towards addressing access and equity in the healthcare sector through policies such as the National Department of Health Strategic Plan 2010/11–2012/13 and the National Development Plan which show firm commitment to improving outcomes in the country. However, many challenges remain the three most significant of these is the shortage of health workers, the prevalence of HIV and poor infrastructure.

FULL COLOUR THINKING



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1. COUNTRY AT A GLANCE

COMPONENT	INDICATORS	DATA
Population	Total population	53,7 Million
	Rural vs Urban	62% urban; 38% rural
Geography	South Africa is situated on the southern tip of the African continent, it is a mountainous country largely surrounded by the Indian and Atlantic oceans. The country has a variety of animals and plants indigenous to the land. South Africa is a medium-sized country, with a total land area of slightly more than 1.2-million square kilometres, making it roughly the same size as Niger, Angola, Mali, and Colombia	
Ethnic composition	Xhosa (20%), Zulu (28%), Sotho (11%), Tswana (9.7%), Southern Sotho (9.5%), Tsonga (5.5%), Swazi (3.1%), Venda (2.1%), Ndebele (2.6%), Coloured (8.9%), Whites (35%; English 35%; Afrikaner 65%), Asians/Indians (2.3%)	
Government	Constitutional multiparty, three spheres (local, provincial, national) democracy.	
Economic Situation	GDP per capita	6,617.91 USD (2013)
	Economic growth %	1.3%
	Gini-index	0.65
	HDI	0.629
	Number of people living on <\$ 1 / day	45%
	Unemployment	24,9%
	Adult literacy	93.1%
	Girls vs Boys education	100 (2013)
	% population access to sanitation	79,9%
Health System	Health as % of GDP	8.3
	\$ health expenditure per person	593 USD
	No doctors/ 100 000 population	77
	No nurses / 100 000 population	408
	% births with skilled attendance	91%
	Infant mortality rate	35 per 1000 live births

	Under 5 mortality rate	44 per 1000 live births
	Average life expectancy	58 years
	Maternal mortality	300 per 100 000 live births
Disease burden	HIV/ AIDS prevalence	385.9
	Deaths from HIV AIDS	33.2%
	Deaths due to Maternal conditions	140 / 100 000 population
	Deaths to the Chronic Disease	750 per 100 000 deaths
	Deaths due to Violence	2.4%
Innovation Challenges	<ol style="list-style-type: none"> 1. An acute shortage and misdistribution of healthcare workers. 2. High demand for health services and public services failing to meet the demand 3. Paper based records and operations 	
Innovation Opportunities	<ol style="list-style-type: none"> 1. Task shifting and an opportunity to explore other cadres of health professionals 2. A growing middle income market base 3. Development of affordable and accessible e-health technology solutions 	

2. COUNTRY CONTEXT

2.1. COUNTRY HISTORY & POLITICAL CONTEXT

South Africa like most of the countries in the African continent has experienced a great deal of violence and economic difficulties. For South Africa these were directly caused by the authoritative governance during the Apartheid regime which ended in 1994. Apartheid was a political system of racial subjugation and economic deprivation targeting South Africa's black population. This sought to provide privileges to white citizens exclusively, including access to education, land and jobs. To date, South Africa remains beset with inequalities, where access to opportunities, services, education and essential facilities are still disproportionately divided between racial groups.

Since 1994 the African National Congress (ANC) has been the ruling party, it has led policy development in all areas of the country's functioning. The introduction of growing political opposition parties has provided some variation in the political landscape such that in one of its nine provinces, the Western Cape, the ANC is no longer the leading political party. Meaning, at provincial level this province determines its internal policies and processes. This has sparked a lot of commentary and interest from civil society with more protests emerging and citizens voicing out their dissatisfaction with the government. Unrest has been characteristic of the country's township populous where there is poor service delivery and standard of living for its black and coloured communities (www.sahistory.org.za).

2.2. POPULATION

South Africa has a population of 53.7 million people living in its 9 provinces (Kwa Zulu Natal, Gauteng, North West, Mpumalanga, North West, Eastern Cape, Western Cape, Limpopo and Free) State. The country has great diversity with 11 official languages and an array of cultures that make the country and its people unique. There is also some ethnic diversity, Zulu's make up 28% of the population while Xhosa people are at (20%), Sotho's (11%), Batswana (9.7%), Southern Sotho (9.5%), Tsongas (5.5%), Swazi (3.1%), Vendas (2.1%), Ndebeles (2.6%), Coloureds (8.9%), Whites (35%; English 35%; Afrikaner 65%), Asians/Indians (2.3%). The country has a fairly young population with the average age being 26 years. It is plagued with social inequalities, poor service delivery and high disease burden and the life expectancy has only risen steadily to 56 years in recent years due to government administered antiretroviral.

The distribution of males and females has not changed much over the years. Women still make up most of the population at 51.3% and males making up 48.7%. Although the average age in South Africa has been reported as 26, there are differences in median ages between races, the median ages for black/African populations in 24, 27 years for coloured people and 32 and 39 for Indians and white's respectively. This is reflective of the aforementioned disparities in access to resources. A noted difference in population trends from the last census in 2011 has been the decline of people aged 5-14 in the population (Statistics South Africa, census 2011).

South Africa has a large number of its people living in informal housing structures, which makes access to proper sanitation, water and electricity difficult. The rate of housing delivery over the years has been slow, especially with the increases in corruption and mismanagement of funds. The 2030 National Development Plan holds the promise of better development, an increase in job opportunities for South Africans and improved infrastructure, which means increasing the number of houses built and jobs created.

2.3. ECONOMIC ENVIRONMENT

South Africa has one of the thriving economies in the African continent with a GDP valued at 350.63 billion US dollars in 2013 (World Bank, 2013). The agricultural, mining and manufacturing sectors remain the biggest contributors to the country's revenue. South Africa's currency has experienced a decline over the years similar to international trends, however, its sound budgetary policies have sustained its development according to the World Bank. South Africa has a high official unemployment rate which currently stands at 26.4%. Given its young population, this means a large number of young people are out of work. A poor transformation agenda has been implicated in the economic disparities within the country. As a result, poverty remains a major challenge with 45% of the South African population living on \$2 per day. Personal income tax makes up about 34% of South Africa's taxation base, with 2.2 million registered tax payers (Tax Statistics, 2013).

The disparity between socio-economic and racial groups within the country is one of the widest in the world, since the top 10% of South Africans earn 58% of the total national income. The distribution of government grants/subsidies has played a major role in alleviating poverty. When last recorded in 2013 government grants reached 30.2% people (National Development Plan 2030: Our future make it work, 2015). Basic needs and services also lag behind where some citizens struggle getting access to the basic requirements of life such as clean water, nutrition, sanitation, and education.

2.4. CLIMATE & ENVIRONMENT

South Africa has also been affected by the change in global climates and rainfall. These changes have disproportionately affected the poor, for example flooding in some areas mean that those living in shacks have to vacate their homes or fall ill from exposure to cold. According to the NDP 2030 document "South Africa is not only a contributor to greenhouse gas emissions – it is also particularly vulnerable to the effects of climate change on health, livelihoods, water and food, with a disproportionate impact on the poor, especially women and children"

2.5. POLICY ENVIRONMENT

Important country policies:

National Development Plan (NDP)

Policy outlines strategies to achieve the following:

i. Eliminate poverty and reduce unemployment; ii. Improve the quality of school education; iii. Deconstruct the spatial patterns of the apartheid system; iv. Reduce unemployment from 27% to 14% by 2020 and to 6% by 2030 v. The level of inequality, as measured by the Gini coefficient, should decrease from 0.7 in 2007 to 0.6 in 2030 vi. Become a less resource intensive economy, adopt sustainable development practices

National Department of Health Strategic Plan 2010/11–2012/13

1. Provision of strategic leadership and creation of a social compact for better health outcomes. 2. Implementation of the National Health Insurance. 3. Health service quality improvement. 4. Strengthen the health care system management. 5. Improve Human Resource development, planning and management. 6. Infrastructural revitalisation. 7. Accelerated implementation of HIV, STI & TB-related strategic plans. 8. Intensify health promotion programmes and mass mobilisation. 9. Review of drug policy

There have been numerous reforms in South Africa regarding healthcare in recent years, for example, the Primary Healthcare Re-engineering initiative sought to improve access to health services. With this framework came the acknowledgment and incorporation of community health workers as key actors in the health system (Re-engineering Primary Health Care: Learning-by-doing to support equity and access, 2010). Current health system change strategies have not achieved their intended impact, as these have mostly been implemented in a top-down fashion, leaving frontline workers feeling disempowered and without the agency to bring about change in their immediate surroundings or in their community. Through their activist behaviour, NGO's often challenge the government on its poor health service delivery. Across the healthcare system and within communities, there are individuals with the potential for making a valuable contribution that could achieve positive systemic change. The value and importance of each of these change agents' needs to be recognized, nurtured, and supported such that a broader collective agenda of equity, access, and accountability can be achieved across South Africa.

2.6. INNOVATION ECO-SYSTEM

“Innovation is necessary for a middle income country to develop”- (NDP, 2030:33)

The landscape for innovation in healthcare in the country has focused primarily on technology, product innovations and vaccines. Other innovations have been focused on addressing the energy crisis and environmental challenges such as pollution. The National Development Plan is one of the more recent documents that has made innovation synonymous with technology, thus efforts and government funding and support have been focused in this arena with the belief that this form of innovation can contribute towards improving the country's economy. The Technology Innovation Agency is an example of a government initiated agency that focuses on developing devices and vaccines and is supported by the Department of Science and technology. There is also a growing number of incubators and funding mechanisms such as crowd funding emerging that have created an appetite for innovation.

3. HEALTHCARE IN SOUTH AFRICA

3.1. HEALTH SYSTEM OVERVIEW

South Africa's health care system may be viewed, to a large extent, as a reflection of the issues facing other Southern African countries who struggle with a similar disease burden, lack of systemic infrastructure and cohesiveness, and societal inequities (Kautzky & Tollmani, 2008). Both the public and private sector coexist in South Africa. However, the private sector accounts for the largest share of the money spent in healthcare, this included out-of-pocket payments and medical schemes.

According to studies conducted, there is an uneven distribution of resources between the poor and the rich where 20% of the richest in the country utilize 18% of the resources in health compared to the poorest 20% that only use 5% (Ataguba & Akazali, 2010). The use of public sector facilities is skewed towards the rich even though poorer people within the country require more care. With over 120 medical schemes serving various employed groups, it is noted that there is poor cross-subsidization across the private sector. Although the proposal for the new National Health Insurance system has been discussed as a possible solution to these problems (for example it is said to address equity in health care and provide care for those that need health services the most) one major challenge remains, 5% of the labour force contributes towards personal taxes which contribute a large sum in countries that have National Health Insurance. Beyond the normative forms of taxation, a large number of people working and earning in the private sector are not taxed yet they will benefit from this new form of insurance. Thus, for some opposing this new financing change in healthcare, equity is a real concern.

3.2. ORGANISATION OF THE HEALTH SYSTEM

The public health sector is divided into three tiers where health services are provided: (1) Primary Healthcare Facilities are meant to be the first point of contact for patients. These are clinics that provide initial assessment of the patient (National Development Plan 2030). Over the past 20 years, over two thousand clinics have been built, within 5km from communities to make them accessible (2) District level hospital are the second point in the referral chain. This is where patients can be tested and minor procedures performed (3) Tertiary Hospitals are bigger in terms of infrastructure and have advanced technologies for major surgeries and to treat patients with serious conditions where specialists are required. Alongside these, are private hospitals and clinics assessable to those with medical insurance or those who can pay out of pocket for health care. Community Health Workers form a crucial part of this service chain that supports healthcare in South Africa.

3.3. HEALTH SYSTEM CAPACITY

NGOs make an essential contribution to HIV, Aids and TB, mental health, cancer, disability and the development of public health systems. Minister of Health Aaron Motsoaledi announced in 2014 that the South African government has committed, under the NHI, to build a minimum of 213 new clinics across the country within the next 5 years, 870 clinics within the 11 NHI pilot areas will be refurbished and re-equipped and the government will be building at least 43 more hospitals in the hopes that this will streamline the patient referral process (National Development Plan-2030). The part played by NGOs – from a national level, through provincial and local, to their role in individual communities – is vitally important to the functioning of the overall system. These have accelerated the rate of healthcare delivery, in preparation for the NHI plans are underway to build more facilities. Both policy and academic papers have recognised that South Africa's health system faces a massive challenge in terms of human resources for health. As a result the public health sector is overburdened and understaffed, 70% of medical doctors' work in the private sector and the 30% are left to serve 80% of the population using public health facilities.

3.4. HEALTH FINANCING

In 2011, total spend on health was R248.6-billion (8.3% of GDP) which is 5% above the recommended amount by the World Health Organisation (WHO, 2013). Despite this high expenditure, health outcomes remain poor when compared to similar middle-income countries. In South Africa, the distribution of resources in the private sector is inequitable; thus, those who need healthcare services cannot access them. According to Ataguba & Akazali (2010) there are over a 120 medical schemes in South Africa, they mostly cater to the wealthier demographic and do not reduce financial risk because there is poor subsidization. In reality this means if costs of care exceed what is offered in the scheme, people look to the public sector to receive care. Current financing mechanisms are not equitable nor sustainable in the long term due the economic inequality

3.5. HEALTH SYSTEMS PERFORMANCE

Using Millennium development goals as a measure for health system performance, South Africa has made some progress in the areas of child mortality and maternal health. For example under 5 child mortality declined from 61 per 100 000 live births in 1990 to 44 in 2013, however maternal mortality has decreased from 150 to one 140 during this period. This is despite free provision of anti-natal care in the public sector. Poverty has also declined over the last five years.

3.6. COUNTRY DISEASE PROFILE

South Africa is facing a quadruple burden of diseases consisting of HIV and AIDS; communicable disease; non-communicable disease; and violence and injuries. The consequence of these colliding epidemics is high levels of mortality and morbidity. South Africa is home to the world's largest population of people living with HIV – 17% of the global HIV burden - and it has one of the highest incidence rates of multi-drug resistant tuberculosis in the world. Currently, over 6 million people are infected with HIV/AIDS and over 2.4 million are receiving anti-retroviral treatment. In 2013, the leading cause of death in South Africa was tuberculosis at 8.8%, followed by influenza and pneumonia at 5.2%. HIV was the third leading cause of death in the country, accounting for 5.1% of deaths. South Africa is further experiencing a growing burden of chronic non-communicable disease. In 2013, diabetes, cerebrovascular, heart and hypertensive disease were responsible for 17% of deaths in the country.

4. INNOVATION OPPORTUNITIES

4.1. INNOVATION LANDSCAPE

There have been developments within the South African innovation landscape in the areas of technology, new applications and capitalization of the growing use of mobile phones has created a new and competitive market. There is a shift towards improved and context appropriate technologies that present immediate solutions. One example is Power Free Education Technologies which have produced a fetal heart monitor that does not require electricity and can be used with water. Such technology is life saving and needed in rural areas where infrastructure still remains poor.

Lastly, grassroots innovations are underexplored as a way of alleviating the burden on public health facilities. There have been examples of these namely the [MSF Adherence Clubs](#) in Khayelitsha, Cape Town and [Iyeza Express](#) that are kept running by individuals from under resourced community and have achieved good outcomes. The plans echoed by the minister of health regarding the NHI are good, however capacity needs to be built within communities to encourage communities to develop better behaviours for their health and seek entrepreneurial opportunities not offered by the state. Below are several other opportunities for innovative entrepreneurs to contribute to healthcare in South Africa:

INNOVATION CHALLENGE 1: An acute shortage and misdistribution of healthcare workers.

In the public sector there is a substantial shortage of health workers especially in rural areas. The ratio of physicians per 10 000 population is 8 and there are 5.1 nurses per 10 000 populations. The first obstacle that has been identified is the issue of retention of health professionals in poor, rural areas.

Opportunity: This shortage of healthcare professionals is providing South Africa the opportunity to explore other cadres of health workers and the greater involvement of lay people in the delivery of care.

The success of task-shifting as a systems intervention with the integration of CHW has been successful in alleviating the congestion in the public health sector. Another area where this has been effective is in allowing nurses to take on tasks traditionally ascribed to doctors such as ARV prescriptions and training them to prescribe treatments for primary care. Other untapped areas are family based care, which could take the shape of educating family members to provide support.

INNOVATION CHALLENGE 2: HIGH DEMAND FOR HEALTH SERVICES AND PUBLIC SERVICES FAILING TO MEET THE DEMAND

As described above, public health facilities are very congested because the ratio of patients to health workers is disproportional, thus they have long waiting times and oftentimes people miss work while waiting to be attended to and health workers are stretched. Private health facilities do not face these challenges but are not affordable for those who are in low socio-economic settings.

OPPORTUNITY: A growing middle income market population in South Africa.

One of the noticeable trends in South Africa is a growing middle class, defined as earners above R25 000 per capita. This group has steadily grown from 3.6 million to 7 million since 1993 (Kotzé, du Toit, Khunou, & Steenekamp, 2013). This growing group presents an opportunity for innovations which can saturate service delivery to serve various income groups.

Kenya as an example has been filling this gap with a competitive private sector. It is not as restrictive as the health system in South Africa where those in who cannot afford private healthcare are completely relegated to the public sector. Micro insurance schemes for example have been a key financing mechanism that has allowed Kenyans in the middle to lower middle income group access to private care. Furthermore, those in the informal sector can access some of these even though their income is irregular.

INNOVATION CHALLENGE 3: Paper based records and operations

Patient records are currently paper based, which presents a number of challenges. "Patients often move among multiple providers, payers and other stakeholders. This 'crossover' or migration of patients leads to fragmentation of their healthcare records across multiple locations that are

historically not interconnected or interoperable. The fragmentation leads to gaps in information for the clinician at the bedside” (Shapiro, , Farzad, Nicholas, & Kuperman, Gilad, 2011: 167).

INNOVATION OPPORTUNITY: Development of affordable and accessible e-health technology solutions

The popularity of technology has created new possibilities in this arena. Innovative applications such as Vula Mobile, which is an eye health referral app has illustrated how this can be time and cost effective and new ICT solutions like this need to be encourage to improve efficiency in our health system.

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