

SOCIAL INNOVATION IN HEALTH:

The South African Landscape



“ The disparity between socio-economic groups within the country is one of the widest in the world. ”



Background

South Africa's healthcare system is fraught with challenges, specifically in three major areas: the growing quadruple disease burden; systemic and structural challenges in service delivery; and societal challenges associated with poverty and unemployment. The vast burden of diseases is a major challenge, and the overburdened public health system is unable to accommodate increased demand.

The country's quadruple burden of diseases consists of HIV and AIDS, communicable diseases, non-communicable diseases, and violence and injuries. The consequence of these colliding epidemics is high levels of mortality and morbidity.¹ South Africa has the world's largest population of people living with HIV – 7.1 million people are afflicted – and one of the highest rates of multidrug-resistant tuberculosis in the world.² Additionally, our society gives rise to injury and violence, and we still face challenges with maternal and child health.³

The South African health system faces a range of systemic and structural challenges, which include widespread inefficiencies, staff shortages, variability in skill sets between rural and urban areas, and suboptimal care levels and patient management.⁴ The healthcare system consists of a large poorly funded public sector and a smaller better-resourced private sector.

Healthcare provision is somewhat structured around a degree of decentralisation⁵:

- » The national health department is responsible for national health policy.
- » However, the nine provincial health departments have autonomy of service delivery in their respective jurisdictions.
- » There are tertiary, regional and district hospitals, often located at considerable distances from the populations who need their services the most.
- » The primary healthcare system (clinics and community healthcare centres usually staffed by nurses) is inadequately resourced.
- » Local governments and municipalities provide preventive and promotive health services.

1. Health Minister Dr Aaron Motsoaledi, Foreword to the National Department of Health Strategic Plan, 2010/2011-2012/2013.
2. UNAIDS, AIDSinfo, AIDSinfo.unaids.org, accessed October 2019.
3. BM Mayosi et al., Health in South Africa: changes and challenges since 2009, *The Lancet*, 380(9858): p. 2029-2043, 2012.
4. Health and Welfare Sector Education and Training Authority (2011) Sector Skills Plan for the Health Sector in South Africa, p xiii.
5. H Coovadia et al., The health and health system of South Africa: historical roots of current public health challenges, *The Lancet*, 374(9692): p. 817-834, 2009.

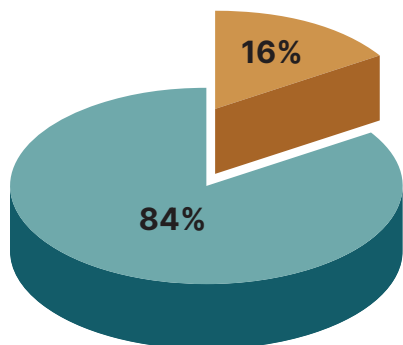


Figure 1: SA population accessing healthcare (55,5 million people)

● Public Sector ● Private Sector

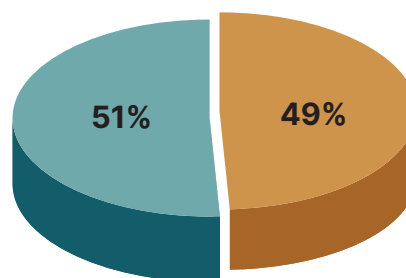


Figure 2: Public and private sector health expenditure FY2017/2018 (+/-R400bn)

● Public Sector ● Private Sector

The private sector is dominated by a few players, characterised by large investment flows and stable profitability. There is also overcapacity in the private health sector which negatively impacts the public sector. A report by the Competition Commission found that private hospitals are owned by the Netcare, Life and Mediclinic groups, which, when combined, hold 75% of the private market share. Most private healthcare facilities are concentrated in Gauteng, KwaZulu-Natal (KZN) and the Western Cape, and the prices for accessing healthcare in the private sector are over-inflated.⁶

Medical aid schemes cover 4.05 million members and 8.94 million beneficiaries in South Africa. In 2019, there were 78 registered medical schemes in the country, 20 of which were open schemes (Discovery, Momentum, etc.) and the remainder of which were closed (GEMS, Bankmed, Polmed, etc.). Open medical schemes carried 55% of all medical scheme beneficiaries in the country.^{7, 8}

Pharmaceutical companies account for 80% of all sales value but only 20% of the volume in the private sector, and this is reversed in the public sector.⁹ Prescription drug spending contributes to 88.3% of the market while over-the-counter medicine spending contributes to 11.5%.¹⁰ Some drugs are produced in the country, namely for HIV, TB, Hepatitis A and B, influenza and common ailments. However, only two facilities can produce active pharmaceutical ingredients (APIs) locally, hence South Africa's heavy reliance on imported APIs.¹¹

Furthermore, many South Africans struggle with accessing quality healthcare services.

6. Health Market Inquiry: Final Findings and Recommendations Report, Competition Commission South Africa, 2019.
 7. Council for Medical Schemes, Annual Report 2019/2020.
 8. The biggest medical aid schemes in South Africa in 2020, *BusinessTech*, 2020.
 9. Changes and growth in the Gauteng pharmaceutical industry, *Global Africa Network*, 2020.
 10. South Africa Healthcare Market Overview, Africa Health, www.africahealthexhibition.com/en/overview/industry-insights/south-africa-healthcare-market-overview/page-3.html, 2020.
 11. M Parrish, Global Dose: Focus on South Africa, Pharma Manufacturing, 2020.

Access to healthcare has three dimensions¹²:

PHYSICAL AFFORDABILITY	FINANCIAL AFFORDABILITY	ACCEPTABILITY
<p>Availability of good health services within reasonable reach of those who need them, and of opening hours, appointment systems and other aspects of service organisation that allow people to obtain the services when they need them.</p>	<p>A measure of people's ability to pay for services without financial hardship. It considers not only the price of the health services but also indirect and opportunity costs (e.g., the costs of transportation to and from facilities and of taking time away from work). Affordability is influenced by the wider health financing system and by household income.</p>	<p>This captures people's willingness to seek services. Acceptability is low when patients perceive services to be ineffective or when social and cultural factors such as language or the age, sex, ethnicity, or religion of the health provider discourage them from seeking services.</p>

Finally, South Africa is introducing universal health coverage, under the banner of a National Health Insurance (NHI) system, that is envisaged as a response and solution to these three major challenges. The goal of the NHI is to foster healthcare reform to improve service provision and healthcare delivery for all socio-economic groups, while also partnering with providers and organisations within the private sector in the delivery of healthcare.

Private sector healthcare and medical aid schemes will remain in existence. The NHI is intended to ensure that South Africans can access both the public and private sectors through a blended model that will provide services in a way that benefits the entire population. In 2012, the NHI began a phasing process that will see it come into existence over a period of 14 years.

However, the implementation of the NHI just highlights the scale of the interventions needed to ensure a well-functioning health system. The public sector's critical shortages, maldistribution of resources, and underrepresentation of medical personnel and other health professionals highlights the urgent need for a more integrated health system, and the need to improve quality of care, access to services and general health equity.¹³

12. K de Villiers, Bridging the health inequality gap: an examination of South Africa's social innovation in health landscape, *Infectious Diseases of Poverty*, 10(1): p. 19, 2021.
 13. A Smith et al., Human Resources for Health Planning and National Health Insurance: the urgency and the opportunity, in LC Rispel and Padarath A, editors, *South African Health Review*, Durban: Health Systems Trust, 2018. Health Market Inquiry: Final Findings and Recommendations Report, Competition Commission South Africa, 2019.

What is social innovation in health?

Social innovation in health is a lens or approach through which countries can be supported to achieve sustainable, equitable and integrated people-centred health systems and health services. The primary outcome of social innovation is enhanced quality of life, equity, and justice for all members of society. The social innovation process embodies a bottom-up view of design and implementation that starts with the belief that all members of society are competent interpreters of their own lives and have the capacity to solve their own problems.

The outcomes of social innovation can be twofold:

- » **Tangible:** New services, products, etc. that are more inclusive, effective and sustainable than the status quo.
- » **Transformational:** By challenging social practices, rules, and relationships, social innovation provides an alternative that changes and makes a system more resilient.

What is health system innovation?

A health system consists of all organisations, people and actions whose primary intent is to promote, restore or maintain health.¹⁴ Innovations in health systems refer to new medicines, diagnostics, health technologies, new ideas, practices, objects, or institutional arrangements perceived as novel by an individual or a unit of adoption.

Although government remains a key provider of basic services, social innovations are primarily developed at the frontlines of healthcare delivery by individuals and communities in response to a pressing need, often not met by government services. These social innovations take various forms, from technological products to processes, novel organisational models and market mechanisms. Social innovation is most often implemented and tested at a local, grass-roots level before being extended to district, provincial and national levels, and is often adopted in an ad hoc fashion.¹⁵

14. World Health Organisation, Health Systems Governance <https://www.who.int/india/health-topics/health-systems-governance#:~:text=A%20health%20system%20consists%20of,overburdening%20people%20with%20healthcare%20costs>.

15. K de Villiers, Bridging the health inequality gap: an examination of South Africa's social innovation in health landscape, *Infectious Diseases of Poverty*, 10(1): p. 19, 2021.

SYSTEM BUILDING BLOCKS

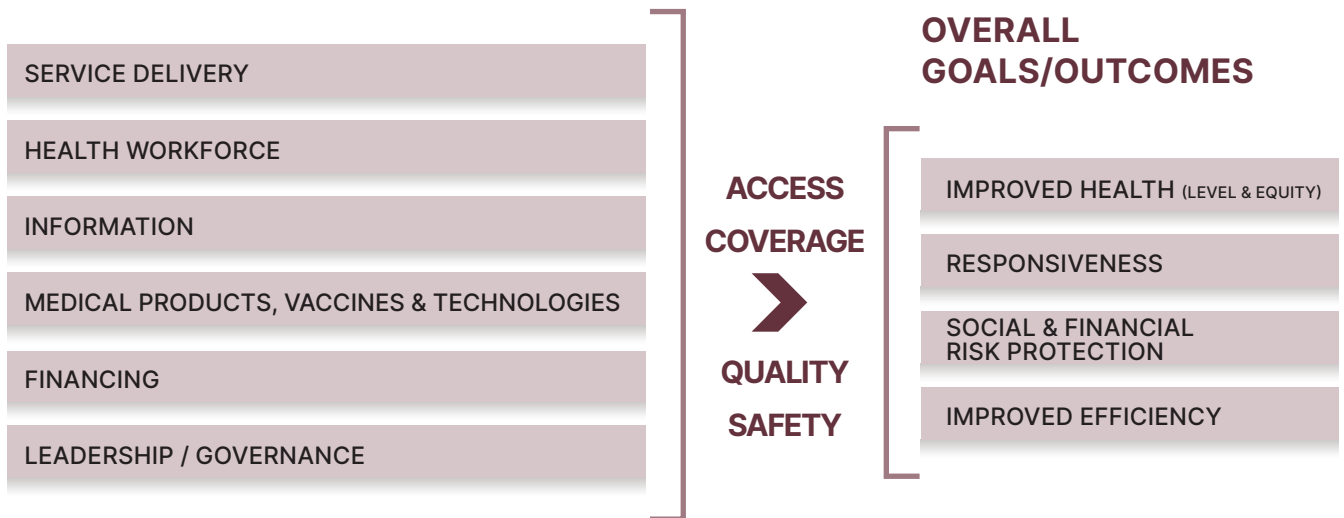


Figure 3: The World Health Organization's Health System Framework

Social innovation in health can involve:

- » **TECHNOLOGY** – telehealth through smartphones.
- » **PEOPLE** – community health workers.
- » **PROCESSES** – thoughtful scheduling of scarce devices.
- » **MEANS OF DELIVERY** – drone delivery of medication.

TYPES OF INNOVATION

DISRUPTIVE	CATALYTIC	INCLUSIVE	FRUGAL
An innovation that creates a new market and value network or enters at the bottom of an existing market and eventually displaces established market-leading firms, products and alliances. It should be noted that not all innovation is disruptive – revolutionary is not disruptive. A disruptive innovation can be low-end or new-market and it is a process rather than a new product or service	Catalytic innovation is a solution that surpasses the status quo by providing good enough solutions to inadequately addressed social problems. It is a subset of disruptive innovation. It is typically simpler, more convenient, less expensive and it appeals to new or less demanding customers. Social change is the primary objective	Inclusive innovation is the development of new products or processes (or a combination thereof) that improve the lives of those living with the lowest incomes. It involves the end user in the design and development of the solution or intervention and recognises that innovation that impacts a community cannot be developed without the community itself	Innovation focused on developing cheaper and better solutions at a rapid pace, undergirded by the principles of: <ul style="list-style-type: none"> » Reuse » Repurpose » Recombine » Rapidity

Social innovations in healthcare – solutions in South Africa

1) BroadReach GP Down-Referral Model – *DISRUPTIVE*

Public-private partnerships (PPP) are mechanisms through which private sector involvement in developing, financing and providing healthcare infrastructure and service delivery within the public sector is harnessed. One such PPP is the GP Down-Referral Model, launched by BroadReach Healthcare in 2005 in partnership with the North West Department of Health.

The GP Down model works by shifting the delivery of antiretroviral therapy of stable patients from the overburdened public sector to private independent general practitioners. The model frees up resources in the public sector, and improves the care offered to patients – now they are able to consistently see the same physician – while also reducing the direct and indirect costs of having to access the public health system.¹⁵

Through PEPFAR grants and subsidies in kind from the provincial government, this co-funded model allows BroadReach to pay for model set-up and staffing costs, as well as providing patient adherence support and covering the costs of GP consultation fees. In turn, the North West Department of Health provides the antiretrovirals and the laboratory support.¹⁶ Patients reported that they valued the chance to build more trusting relationships with their doctors, while also being able to save money, visit a clinic closer to home and where appointments were timely.

2) Umthombo Youth Development Foundation (UYDF) – *INCLUSIVE*

UYDF identifies, trains and supports rural youth to become qualified healthcare professionals and improve healthcare services to the indigent rural population of northern KZN and rural Eastern Cape. Due to the large migration of healthcare workers to urban areas, rural areas have a dire need for healthcare in their areas.

However, research shows that health professionals are more likely to live and work at a rural hospital if they grew up in a rural community or were exposed to the realities of rural healthcare delivery throughout the course of their university training. A long-term solution is to recruit and retain quality healthcare professionals in rural areas. UYDF provides mentoring, financial support and assistance with integrating into hospital environments once graduates are qualified.

3) Vula mobile app – *CATALYTIC*

The use of smartphone and tablet applications in healthcare is rapidly expanding. Vula is a digital app that connects healthcare workers and provides a secure, safe platform to receive patient treatment plans and refer patients to specialist services and departments. This eliminates incomplete, fragmented and disorganised clinical communication which contributes to medical errors. Vula bridges this gap. Originally designed for ophthalmology referrals, Vula has since expanded to over 16 specialities, each with its own custom template for referrals. Furthermore, the Vula app was found to decrease the workload of overburdened referral hospitals.

16. R Chater and L van Niekerk, The GP Down-referral Model: BroadReach general practitioner down-referral public-private partnership, South Africa, Social Innovation in Health Initiative, Case Collection, 2016.

17. Ibid.

4) Pelebox Smart Lockers – CATALYTIC AND INCLUSIVE

In South Africa, a patient’s experience tends to be one of long waiting times, typically two to three hours on average.¹⁷ This poses potential adherence barriers which may lead to poor health outcomes, and places a strain on patients in terms of transport costs and loss of income. Having to take time off work to travel to the clinic is already an inconvenience; coupling this with long queues makes this unbearable.

This is the core issue that Pelebox is well positioned to address. Pelebox Smart Lockers reduce the average waiting time from three hours to less than two minutes. Pelebox is a digital platform that manages various internet-enabled smart lockers. Pelebox Smart Lockers enable patients to collect their repeat chronic medication quickly instead of waiting hours queuing at public clinics. It’s a social innovation that leverages the power of technology to improve service delivery and truly offer patient-centric service.

Pelebox Smart Lockers can be placed at various locations such as shopping malls, commuter nodes or partner retail outlets. They represent alternative ways of reaching patients, thus ensuring that core clinic resources can focus on patient interface rather than spending time on dispensing.

5) Shonaquip – CATALYTIC AND FRUGAL

Shonaquip is a social enterprise based in the Western Cape that designs, manufactures and distributes paediatric wheelchairs and assisted mobility devices. Imported devices are often too expensive and not appropriate for use in remote and rural areas, and this is a gap that Shonaquip fills. Since being founded in 1994, Shonaquip has provided devices, services and training to an estimated 450 000 people with disabilities, mainly in South and Southern Africa.¹⁸



18. AS Karat et al., Estimating waiting times, patient flow, and waiting room occupancy density as part of tuberculosis infection prevention and control research in South African primary health care clinics, *PLOS Global Public Health* 2(7), 2022.

19. How Shonaquip is improving the lives of disabled children across South Africa, Meaningful Business, www.meaningful.business/how-shonaquip-is-improving-the-lives-of-disabled-children-across-south-africa/, accessed November 2022.

Thirty percent of Shonaquip’s production department employees have a form of disability, but work fully integrated within an inclusive environment. Its design department includes key stakeholders such as users, therapists and caregivers in the design process.¹⁹ The devices manufactured by Shonaquip are not only more appropriate for rural and remote settings, but are also less than a third of the price of imported devices, and importantly, they can be serviced locally.²⁰

6) Netcare My Walk Initiative – *FRUGAL*

The hospital group uses PVC bags for drips and oxygen masks in its daily operations. Instead of directing these waste materials to landfills, which contributes to pollution, the group has partnered with Adcock Ingram Critical Care in an initiative that recycles waste products into school shoes (similar to gumboots) for vulnerable children.

Approximately 20 PVC bags are required to make one school shoe, and in 2019, 18.8 tonnes of PVC bags were collected for recycling – which was enough to make 23 000 pairs of new school shoes. The group aims to upscale its recycling to 55 tonnes in 2023.



20. S Chakravarty and P Knorrington, Enabling Inclusive Technological Change through Transformative Policies: Frugal innovations from medical device manufacturing firms in South Africa, International Institute of Social Studies, UJ-TRCTI Working Paper Series (WP 2021-07), University of Johannesburg, 2021.

21. Ibid.

Health sector opportunities

Private sector investors can contribute to the healthcare system, improving healthcare outcomes and making a social impact, while generating a financial return. Healthcare in South Africa presents many challenges, but many opportunities as well. Innovative financing for social innovations in health has the potential to improve health outcomes and strengthen the healthcare system by supporting innovations that plug the various gaps.

Some financial investments occur along a spectrum as described below:

TRADITIONAL DONOR FUNDING	RESULTS-BASED FINANCING	CATALYTIC FUNDING	IMPACT INVESTING	SUSTAINABLE INVESTING	NEW TAXATION CHANNELS
Monies from private sources that don't require a financial return but rather are solely concentrated on creating a positive social and/or environmental impact	Payment is tied to results. It enables more accountable and efficient allocation of government and donor funds to create effective programmes. This group generates a fair volume and applies over a wide range	Leverages external and often more commercially oriented sources of capital, to kick-start a market that can ultimately scale. There is a mix of efficiency improvements and mobilising private capital	Investments in companies, funds or organisations with the purpose of generating measurable social and environmental returns in addition to financial returns.	Incorporates environmental, social and governance factors into investment decisions, to better manage risk and generate sustainable long-term returns.	New sources of funding made available through national and international taxes. High volumes are generated from mobilising public funds; there is an adequate application range and these mechanisms are suitable for low- or middle-income countries. Challenges include the macro-economic environment.
EXAMPLES					
<p><i>Impact only funding</i></p> <ul style="list-style-type: none"> • Programmatic funding • System funding • Collaborative funding • Consumer donations 	<p><i>Emphasis on outputs and outcomes instead of inputs or service rendered</i></p> <ul style="list-style-type: none"> • Debt swaps • Challenge funds • Cash-on-delivery aid • Performance-based contracts • Outcomes-based contracts • Impact bonds 	<p><i>External capital required to scale solutions</i></p> <ul style="list-style-type: none"> • Pooled investment fund • Co-funding • Seed funding • Volume guarantees • Revolving funds • Advanced market commitments 	<p><i>Generating of social and/or environmental and financial returns</i></p> <ul style="list-style-type: none"> • Fund of funds • Intermediated funds • Direct investment funds • Blended finance facilities • Impact-focused capital market solutions 	<p><i>Made with the purpose of mitigating ESG risks</i></p> <ul style="list-style-type: none"> • Social/green/sustainable bonds • Mutual funds • Pension funds 	<p><i>Funds from international and domestic taxes</i></p> <ul style="list-style-type: none"> • Domestic health taxes • International solidarity levy • Earmarked taxes (e.g. sin taxes)



Potential priority investment areas²¹

1) Mid-fee healthcare facilities

Invest in the development of mid-fee healthcare clinics that serve middle- and low-income South African citizens who cannot afford private medical insurance and/or finance capital expenditure for the development of infrastructure for mid-fee healthcare facilities. This has the potential to improve access to primary healthcare in underserved communities, create employment opportunities, increase access to affordable private healthcare, decrease inequality by addressing healthcare disparities in South Africa, and reduce the burden on the public healthcare sector. There is the potential for **medium to high returns** over the **medium term**.

2) Modular medical facilities

Establish modular healthcare infrastructure solutions that can be deployed in remote and underserved regions. The benefits of doing so include the increasing deployment of cost-effective healthcare services in both urban and rural settings, reducing costs, improving access to primary care in rural areas and increasing job creation. The return profile generates **zero to low returns** and the investment is between the **medium to long term**.

3) Digital healthcare platforms

Invest in platforms that provide access to digital healthcare services for South Africans who are situated far from clinics or hospitals. Potential outcomes include mobile health platforms that can be used to support healthcare delivery to low-income communities, making healthcare inclusive, easy to use and affordable. Digital healthcare platforms have the potential to increase the accessibility and affordability of healthcare, reduce child mortality, improve health records and increase empowerment opportunities for women. There is generally a **lower return** expected in this area over the **medium to long term**.

4) Healthcare professional training centres

By investing in this area, investors can increase training opportunities for mid-level healthcare workers, which has the potential to decrease human resource shortages, improve healthcare access and equity, reduce healthcare disparities between rural and urban regions, improve the quality of care, increase job creation and improve skills development. These investments can generate **medium to high returns** over the **medium term**.

22. The South Africa SDG Investor Map 2020, United Nations Development Programme South Africa Country Office: Pretoria, 2020.

The Imagine Social Outcomes Based Contract (SOBC)

The SOBC is an example of an innovative finance mechanism applied to healthcare led by the South African Medical Research Council. The programme targets adolescent girls and young women in rural KZN and North West and provides a comprehensive package of sexual and reproductive health services. This is on account of the high rates of HIV infection and teenage pregnancies in the country, which impacts one of the most vulnerable population segments.

The South African healthcare system tends to focus on curative rather than preventative approaches. However, economic evaluations indicate that prevention can save the government millions,²² hence the adage 'prevention is better than cure'. The Imagine SOBC focus areas are:

- i. Provision of pre-exposure prophylaxis (HIV PrEP) to prevent HIV infection.
- ii. Provision of contraception to prevent teenage pregnancies.

For girls who are HIV positive and/pregnant, the following outcomes will be measured:

- i. Initiation on anti-retroviral treatment.
- ii. Linkage to ante-natal care services.

Conclusion

No one actor, no matter how innovative, can change the system alone. The interaction and collaboration between the government and non-state actors is critical for an integrated and effective delivery system for both healthcare and social care. The social innovation felt at a grass-roots level must be celebrated and promoted on a national level so that successful ideas, products, services and solutions are connected to policymakers at all levels of government.

Across the healthcare system and within communities, there are individuals with the potential to make a valuable contribution that could achieve positive systemic change. The value and importance of each of these change agents need to be recognised, nurtured and supported so that a broader collective agenda of equity, access and accountability can be achieved.

23. L Jamieson et al., Relative cost-effectiveness of long-acting injectable cabotegravir versus oral pre-exposure prophylaxis in South Africa based on the HPTN 083 and HPTN 084 trials: a modelled economic evaluation and threshold analysis, *The Lancet*, HIV, 2022.

24. K de Villiers, Bridging the health inequality gap: an examination of South Africa's social innovation in health landscape, *Infectious Diseases of Poverty*, 10(1): p. 19, 2021.