INNOVATIVE FINANCE FOR HEALTH IN SOUTH AFRICA

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Acknowledgements

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Methodology

This report has been written based on desktop research using the innovative finance framework from "Investing for Impact" by USAID in 2019 and "Innovative financing mechanisms for health" by Thinkwell Institute in 2020 with further insights drawn from work of the Innovative Finance Initiative at UCT GSB Bertha Centre."

The OECD DAC criteria were used to rate the different case studies according to their relevance, coherence, effectiveness, efficiency, impact and sustainability. These criteria provide a framework to evaluate the impact of an innovative finance project through the lens of international development with the aim of contributing to decision-making in the public and healthcare sectors.

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FOREWORD

"Innovative financing is an approach to funding organisations, businesses and projects that optimises positive social, environmental and financial impact. It uses all available commercial and philanthropic financial tools to support the growth of these initiatives, and when existing tools do not work, it creates new ones. This is done in order to improve developmental results by making funds go further and by raising funds from new sources. These mechanisms are designed to complement traditional local and international resource flows"

The South African healthcare system has been fraught with challenges and provides fragmented healthcare services to the public. There is a consistently widening gap between the public and private healthcare sectors which results in inaccessible care and unaffordable healthcare costs, having the largest impact on underserved populations. Challenging healthcare systems can also be found in other contexts regionally and in similar LMICs.

One of the globally recognized six health system building blocks as illustrated by The World Health Organisation is health financing[1]. Despite the large sums of funding allocated specifically for healthcare expenditure, patients at the end of the value chain do not fully realize improved health outcomes. Furthermore, on account of the high costs of healthcare due to out-of-pocket payments and physical inaccessibility of healthcare services, it is crucial to innovate new methods of health financing. Innovative health financing holds promise for the healthcare system as it introduces new ways of raising funds for healthcare as well as creating efficiencies in the use of existing funds. For instance, the National Strategic Plan for HIV, TB and STIs for 2017-2022 calls for the identification and leveraging of innovative finance mechanisms to generate new sources of funding. When tailored accordingly for the context, health priority and aim, innovative financing for health can yield greater benefits.

While COVID-19 has been described as the pandemic that exposes the fault-lines in the healthcare system undoing the gains made in recent times, it has also shown the willingness and ability of funders and governments to brainstorm new ways of mobilizing and spending additional funding.

This report paints a picture of the current healthcare financing landscape and accompanying market failures that are evident in both the public and private sectors. This is followed by examples and case studies of innovative healthcare financing mechanisms specifically in the South African setting with consideration of the country's burden of disease and health priorities. The intended audience consists of government decision-makers, potential investors in the healthcare sector, implementation partners searching for new options to mobilize funding and civil society who will ultimately benefit from the health finance mechanisms.

This landscaping report was commissioned by the SAMRC with the aim of understanding the innovative health finance landscape in South Africa. The report contributes to the establishment of the invest4health initiative, which is a pipeline of outcomes-based contracts for health in the southern African region. The i4h initiative will be housed within the SAMRC and will perform the functions of intermediary, thought leader and network facilitator for future health projects using outcomes-based contracts.

In conclusion, innovative healthcare financing and collaboration of multiple stakeholders and champions will ensure more effective, equitable and affordable healthcare outcomes for patients and communities.

- Gillian Moodley
Senior Project Manager: Health Finance

1) World Health Organization (2007)

EXECUTIVE SUMMARY

Innovative Finance (IF) can be used to address shortfall in funding by increasing funding from traditional and non-traditional funders; and increasing effectiveness, efficiency and equity of current spend. Chapter 1 outlines how there is both a shortfall in health funding and a lack of effectiveness and efficiency in how public and donor funds are spent. This is because of the inequality built into the system, poor management and high burden of disease.

In Chapter 2, the funding landscape is divided between government, the proposed National Health Insurance, and private donors. The largest international donor is the Global Fund for AIDS, TB and Malaria, while PEPFAR makes a smaller contribution. Local donors, through the Solidarity Fund, have shored up COVID-19 spending along with private commercial investors. Innovative Finance mechanisms can be classified according to their function of either mobilising additional funds or the spectrum of capital they are likely to attract. These are broken down in Chapter 3 according to traditional, results-based, catalytic, impact and sustainable finance with new taxation as a potential source of earmarked revenue. The eight IF case studies and associated IF mechanisms highlighted in Chapter 3 are evaluated according to OECD DAC criteria which are: relevance and coherence, effectiveness and efficiency, impact and sustainability.

	Case study	Relevance and coherence	Effectiveness and efficiency	Impact	Sustainability
1	Discovery Foundation Awards as an example of programmatic funding	Medium	Low	Low-medium	Low
2	SAMRC Imagine Social Impact Bond as an example of a Social Impact Bond	Medium	Medium	High	Medium
3	GAVI COVAX Advanced Market Commitment as an example of an Advanced Market Commitment	High	Medium with potential to go high	Medium with potential to go high	High
4	Goodbye Malaria as an example of collective funding	High	Medium with potential to go high	Medium with potential to go high	High
5	Biovac institute as an example of public private co-funding	High	High	Medium	Low
6	RH Bhopelo as an example of a direct investment fund	High	High	Medium	Low
7	Growthpoint Healthcare Property Holdings as an example of a direct investment fund	High	Medium	Medium	Medium
8	Medi-clinic RMB loan as an example of Sustainability-Linked Debt	High	Medium	High	High

Introduction to Innovative Finance

There is both a shortfall in health funding and a lack of effectiveness and efficiency in how public and donor funds are spent. This is because of the inequality built into the system, poor management and high burden of disease.

Innovative Finance (IF) mechanisms can be used to address shortfall in funding by:

- Increasing the amount of funding from traditional sources being government, Overseas Development Assistance (ODA) and private funding. This is done by implementing voluntary (e.g. consumer donations) and solidarity (e.g. earmarked taxes) contribution schemes. Or instigating debt swaps, buy-downs and spending effectively. It is done tangentially by becoming a regional expert hub thereby attracting funding for wider utilisation.
- Attracting funding from non-traditional sources including commercially- and philanthropically-minded private investors that require a social as well as a financial return on their investment. This includes DFI's and institutional investors alongside impact investors and foundations. Funding is raised by leveraging in risk-sharing agreements - either where the public sector is absorbing financial risk through blended finance arrangements or the private sector is absorbing implementation risk in outcomes-based contracts. More and more private capital is supporting market-based solutions to previously publicly-held problems.

Innovative Finance mechanisms can be used to address ineffective, inefficient and unequal funding by:

- Using performance based funding mechanisms like results-based financing (RBF), Outcomes Based Contracting (OBC) or Impact Bond funding mechanisms to align stakeholders against a clear set of results by attaching payment triggers to those. These increase transparency, accountability and effectiveness, which attract large private and country donors who want to pay for results.
- Using the limited amounts of grant and concessionary funding available in the system in a catalytic manner to address specific market failures and leverage more risk-averse capital. Concessionary funding is generally cheaper and more patient than commercial capital so it cannot be used to solve the problem but rather to pilot, test and trigger bigger engagement.
- Reducing fragmentation of funding which has generally inhibited systemic programmes from reaching critical mass.
- Using new technologies, particularly with regards to mobile penetration, smart contracts, impact verification and process automation with the intention of streamlining programme delivery and contract management.
- Focusing on quality and equity and not solely on access.

Not all IF mechanisms are relevant for all cases and contexts. They should rather be used judiciously to solve specific problems. They can be evaluated against the OECD DAC criteria, which are: relevance and coherence, effectiveness and efficiency, impact and sustainability, and advanced accordingly.

Chapter 1: Health funding needs and market failures

- **Inequitable health funding:** There are large disparities between the public and private sectors in terms of funding models, distribution of the human resources for health and costs incurred per patient. These exacerbate inequalities in health and contribute to the misalignment of health system needs, while inflating costs, which results in a negative impact on patients seeking healthcare services.
- **Health funding needs:** Despite spending more on healthcare than similar Upper Middle-Income Countries (14% compared to 11%[2]), there is a disproportionate under achievement of health outcomes[3]. The main expenditure areas are human resources and infrastructure.
- **High disease burden:** South Africa has a high burden of both communicable and non-communicable diseases (NCDs). Despite the focus on communicable and infectious diseases, NCDs account for 65% of deaths. However, most deaths, especially maternal and child deaths, are preventable.

Inequitable health funding

Issue 1: Unequal distribution of services creating an underserved population group

Medical aid members consume in excess of 50% of total healthcare expenditure[2] as a result of a mutually enforcing ecosystem of health insurers, hospitals and specialists. A key cause for the disparity is the fragmentation of health financing with the poor and rich utilizing separate revenue collection and pooling mechanisms which is common is Low Middle Income Countries[4].

Private sector[5,6]

- Supports 8,8mil people (16% of the population) which are mostly members of private medical aid schemes.
- The per capita expenditure in the private sector is 5x that of the public sector.
- Healthcare workers prefer working in the private sector, exacerbating the inequitable distribution.

Public sector[5]

- 48,2% of the country's total health expenditure and 14,2% of total government expenditure is tax based and used to finance health facilities and public health programmes.
- Patients are able to receive free hospital care at the point of service, subject to meeting the criteria of the Uniform Patient Fee Schedule.
- Primary Health Care (PHC) is free at all points of care regardless of income.

Figure 1: Uneven distribution of healthcare professionals in the public and private sectors. Out of every 10 healthcare professionals, the number green practice in the private sector[5]

GPs in the private sector

Dentists in the private sector

Pharmacists in the private sector

2) Health Policy Project (2016) **3)** Ngobeni, Breitenbach & Aye (2020) **4)** McIntyre (2012) **5)** Belli et al. (2018) **6)** Naidoo (2012)

Issue 2: "Double" taxation

Medical aid and private coverage has strong barriers to accessibility and many households spend a large proportion of their income on private insurance[5]. Members who contribute to private schemes also contribute tax for publicly funded health system and so they are paying "double". This is described as a regressive tax system[7]. In addition, the government provides the private sector with tax breaks which contributes to the private sector provision of healthcare goods and services. The govern- ment therefore subsidizes the private healthcare sector and in 2017, this subsidy amounted to ZAR18bn or 11% of total private health expenditure[5].

Issue 3: Moral hazard in the private sector

A common market failure is patient information asym- metry and market power, which is when payment to health providers is linked to the volume and cost of services provided without adequate knowledge about what is being paid for. Health providers tend to over diagnose, over-treat and over-pre- scribe (supply-induced demand) if their income is dependent on the service provided (retroactive or fee for service payments). Rather than changing the provider payment systems towards prospective payments (such as capitation for Primary Care or Diagnostic Group Based for hospital care), medical aid schemes attempt to address this tendency by increasing members' co-payments and deductibles, which decreases patients' financial protection.

The nature and extent of moral hazard in the private sector is contested. However, expenditure by medical schemes has increased faster than the rate of inflation over the last 2 decades, with private hospitals and specialists cited as the main drivers of medical scheme costs[7].

Figure 2: SA Population accessing healthcare (55,5mil)[5]

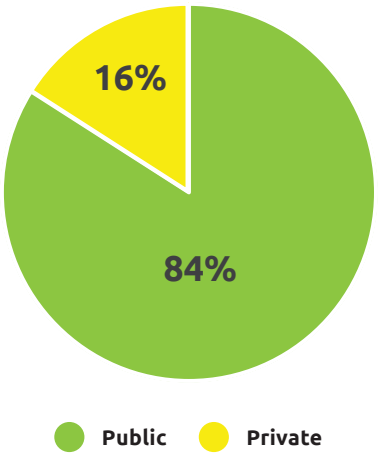


Figure 3: Public and private sector health expenditure FY2017/18 (±R400bn)[8]

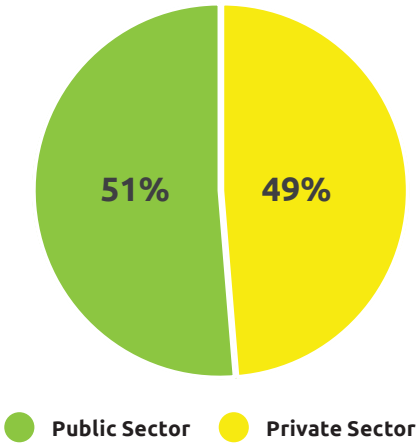


Table 1: Medical aid penetration according to household income[5]

Monthly household income (HH)	Ave. %HH income spent on Medical Aid (MA)	HH penetration of MA
R850 – R1500	8,6%	1,2%
R1500 – R3500	13,1%	3,9%
R3500 – R7500	8,1%	22,1%
R7500 – R10,000	6,5%	47,9%
>R10,000	3,9%	71,6%

5) Belli et al. (2018) **6)** Naidoo (2012) **7)** Competition Commission (2019) **8)** Simkins (2021)

Health funding needs

Poor health outcomes despite levels of funding

- Health outcomes in the SA public sector are less than outcomes in similar lower income countries.[9,10]
- Contributing factors include poor leadership, inadequate management reflected in a lack of vision, lack of clear philosophy and poor goal setting[9,11]

Primary health care

- The South African healthcare system is described as hospi-centric due to dominance of hospitals in the service chain to provide effective preventive and curative primary care units[12].
- Patients bypass primary care and visit hospitals as their first point of contact with the health system. Primary healthcare services continue to be underdeveloped and underfunded[13].

Infrastructure

- On account of a poor track record in spend (supply chain and procurement related), provinces have received lower budget allocations for infrastructure[14].
- Improving health facilities and ensuring the construction of appropriate health facilities on the basis of need and sustainability.
- Collaboration between National Treasury and DoH to catalyze the delivery of infrastructure for the implementation of NHI.
- 2 Conditional Grants for Infrastructure: Health facility revitalization grant – the largest source of public funds (ZAR19,9bn over the MTEF period) and the National Health Insurance indirect grant (ZAR4,6bn in the MTEF period)[15].

9) Johnston, Spurrett & Bernstein (2011) **10)** Pillay-van Wyk et al. (2016) **11)** Carney (2009) **12)** Ataguba, Day & McIntyre (2014) **13)** Coovadia et al. (2009) **14)** UNICEF (2018) **15)** Parliamentary Budget Office (2021)

Health information systems

- Standards should be tailored to local contexts. Successful technology adoption is based on the establishment of networks and layering information systems in order for health professionals to improve the quality of data and inform decision-making[16].
- The challenges in the healthcare information systems range from barriers in legislation to management of data.
- HIS in NHI pilot sites were found to be inadequate for diagnostic and procedure coding for NHI reimbursements and resource management.

Human Resources for Health

- There is a shortage of healthcare workers caused by inadequate production and recruitment (especially in rural areas), poor retention and staff management[17].
- Staff shortages are mostly felt at the nursing level because they are at the frontline of service delivery[13,18].

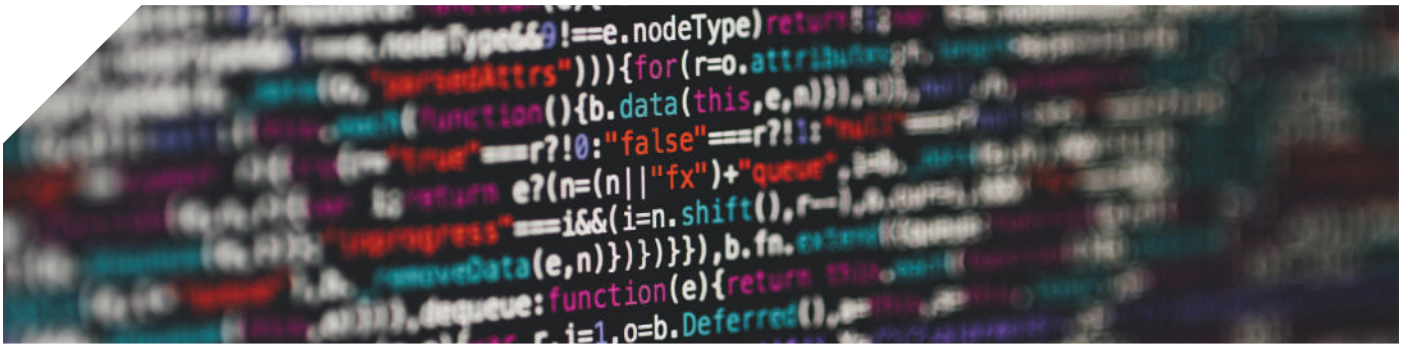
Ministerial Task Team for Human Resources

This team is tasked with developing a strategy for HR priorities in the healthcare sector. This includes:

- Developing a strategy and operational plan to address HR requirements, including filling critical vacant posts for implementation of UHC.
- Expanding the Community Health Worker programme to include 50,000 CHWs in the healthcare system.
- Consolidating of nursing colleges – one per province with satellite campuses.
- Expanding the Nelson Mandela Fidel Castro Programme for healthcare workers trained in Cuba. Expand local capacity and training with infrastructure, equipment and personnel to increase student intake for local training.

Table 2: National data on complaints logged for 2018 and 2019 (NSP 2020/21-2024/25)[19]

Complaints on the quality of care[17]	National %
Waiting times	31
Patient care	29
Staff attitude	26
Other	13
Access to information	8
Safe and secure environment	5
Waiting List	4
Hygiene and cleanliness	3
Availability of medicines	3
Physical access	3



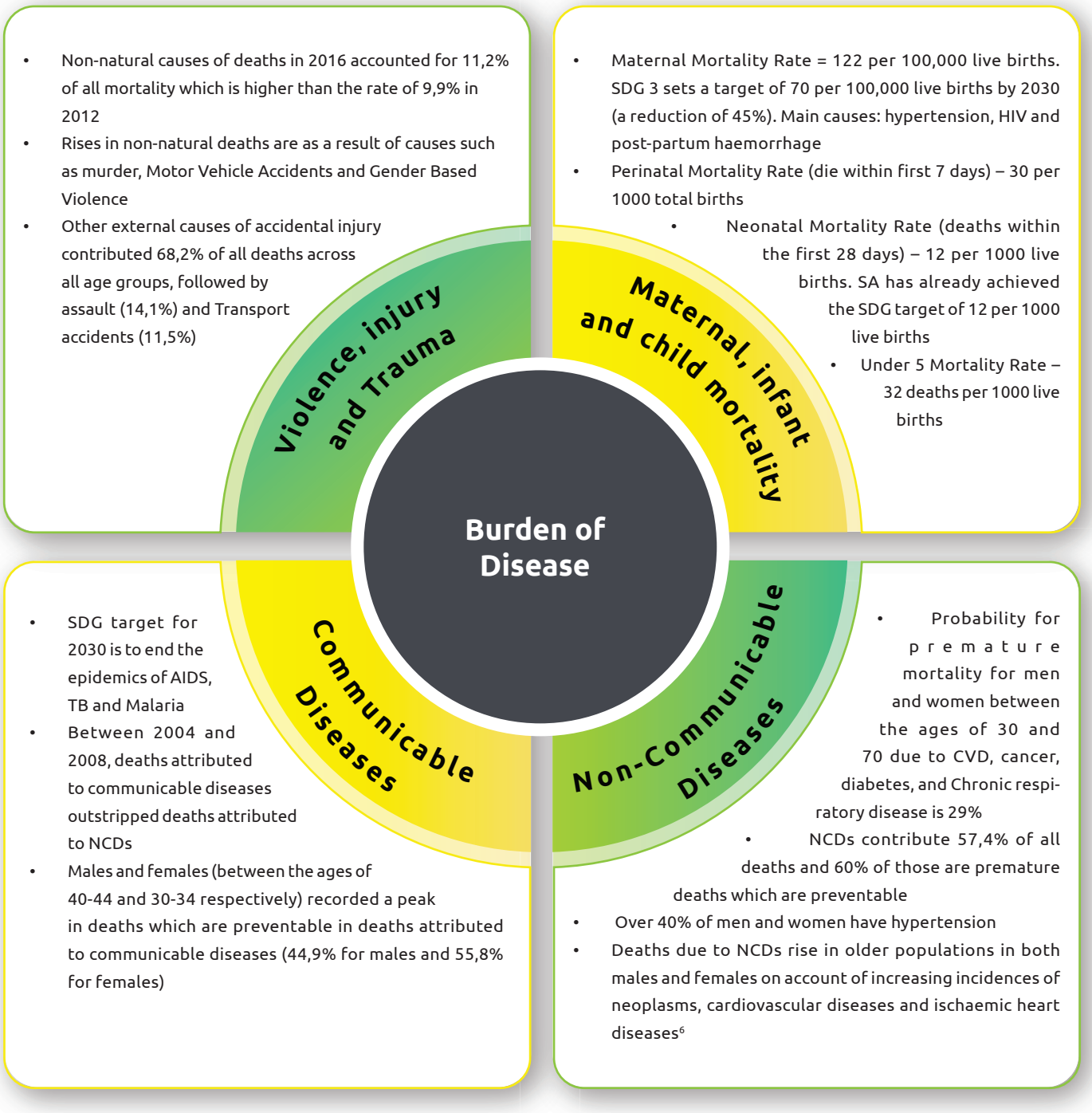
13) Coovadia et al. (2009) **14)** UNICEF (2018) **15)** Parliamentary Budget Office (2021) **16)** Jaccuci, Shaw & Braa (2006) **17)** Veld & van de Voorde (2013) **18)** Voget (2017)
19) National Department of Health

High disease burden

The disease burden

Poverty, inequality and a poorly resourced health system have led to a high burden of disease[6]. The leading causes of death amongst the black African population are due to communicable diseases whilst with the coloured, indian and white populations, it is non communicable diseases.

Figure 4: South Africa's quadruple burden of disease[20]



6) Naidoo (2012) **20)** Stats SA (2021)

Epidemiology and quadruple Burden of Disease[17]

Mortality patterns in SA are changing:

- Deaths due to NCDs account for 65% of all natural causes of deaths.
- Mortality due to TB has reduced by 25%.
- No. of deaths due to HIV reduced from 35,4% to 22% of total deaths between 2009 and 2018.
- Modifiable factors of mortality – 60% of all maternal deaths had factors that were modifiable according to delays in seeking care, inter-facility transport, poor quality of clinical care.

Figure 5: Leading causes of natural deaths representing 44% of all deaths[20]

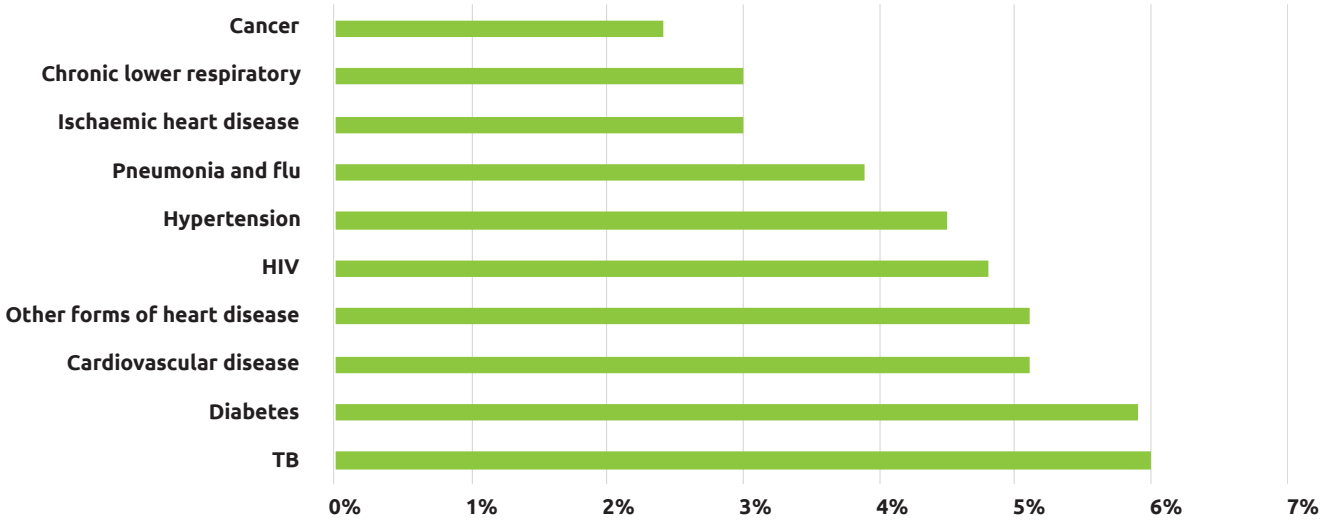
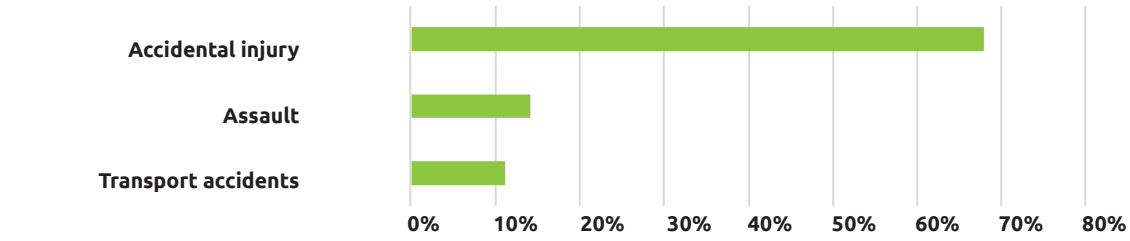


Figure 6: Leading causes of non-natural deaths representing 12% of all deaths[20]



17) National Department of Health (2020) **20)** Stats SA (2018)

Chapter 2: Current funding flows

- **Public sector:** The South African government has historically spent a large proportion of the public budget on healthcare although this falls short of the 15% Abuja Declaration commitment. The provincial departments orchestrate most of the expenditure for health services, while State Entities, such as the SA Medical Research Council (SAMRC), receive some budget allocation from the National Treasury and government departments. COVID-19 has necessitated the triggering of emergency funds for a pandemic response across all levels.
- **National Health Insurance (NHI):** The NHI has been designed to eliminate barriers to healthcare and the high costs associated with accessing healthcare services. The initiative is aligned with the WHO's goal of realizing Universal Health Coverage, with plans to centrally manage funds for the strategic purchases of quality healthcare services and goods from multiple sources, although it has been slow to realise and is politically fraught.
- **Donors:** Donor organisations have contributed to the South African healthcare system with a focus on communicable diseases in vulnerable populations. Donors have also pivoted from a focus on vertical disease programmes to health system strengthening. However, donor funding has been decreasing over time due to the country's middle income status and changes in donor preferences.
- **COVID-19 vaccines and the Solidarity Fund:** The pandemic has elicited an urgent response from multiple stakeholders to mobilize resources in the interest of preventing the spread among the public. However, the cost of vaccines and implementation of vaccination campaigns is sub-optimal.
- **Private sector:** Most investment flows into a small number of profitable sectors serving a small segment of the population. Dominant industries include medical schemes, private hospital groups and pharmaceutical companies, among others. There is potential for market expansion into business models serving lower/middle income clients and there is some interesting early-stage investment in this space.
- **Outcomes based contracting (OBC):** OBC focuses on the quality of care resulting in positive health outcomes, rather than simply extending access which many of the OBC contracts incentivize. It often (but not necessarily) transfers risk to a third party investor whilst providing a degree of flexibility to the implementer to deliver for results rather than activities. It is a tool that can support the shift from value for money to value based health services.

Public sector

Health in South Africa receives one of the biggest national budget allocations (13% of the public budget) with the National Treasury allocating a total of ZAR236,3bn to the national health budget for FY 2021/22[21]. However, this is still below the recommended 15% indicating insufficient progress towards targets for health outcomes[22]. South Africa was one of the signatories of the Abuja Pledge in 2001 where countries committed to allocating 15% of their budgets to health. Of the 16 SADC countries, South Africa had the greatest potential of achieving this target but only spends close to 8,5% of its GDP on health and therefore has not managed to achieve the same health outcomes as countries with similar expenditures. A key focus area has been the COVID-19 response which was a point of exception where funding was mobilized through emergency reserves. Historically, the bulk of the health budget has been allocated to treatment of communicable or infectious disease. However, the budget allocation for Primary and Mental Health Care is expected to increase as the next phases of NHI are implemented[21].

Figure 7: Health budget allocations FY2021[21]

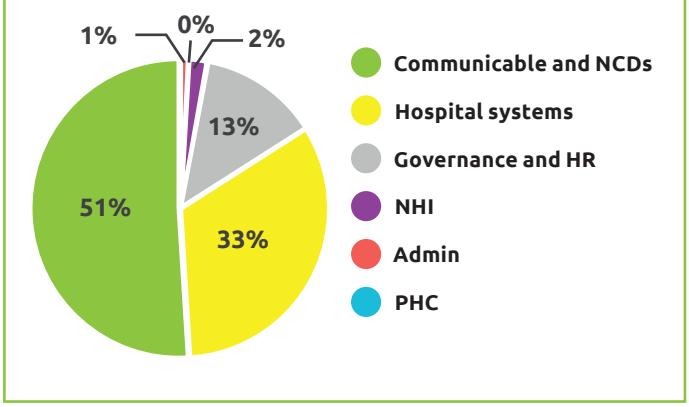


Figure 8: COVID vaccine rollout - ZAR9bn Allocation to NDoH baseline[21]

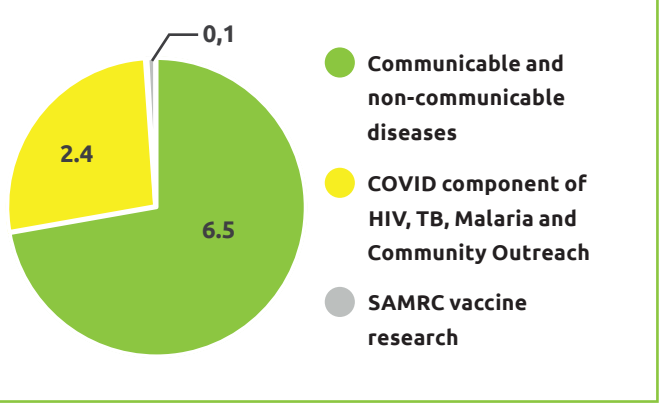


Figure 9: Historic health budget allocations[21]

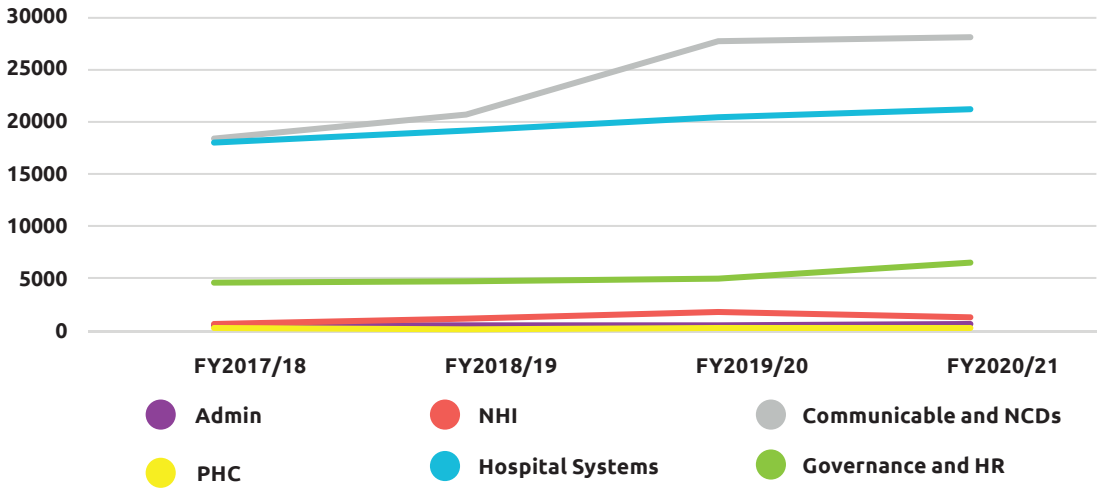
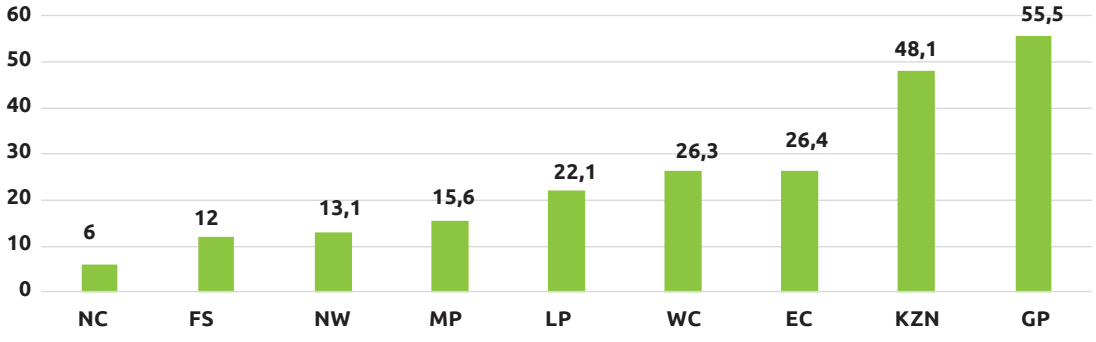


Figure 10: Provincial health budget allocation FY2020 (ZAR(bn))[21]

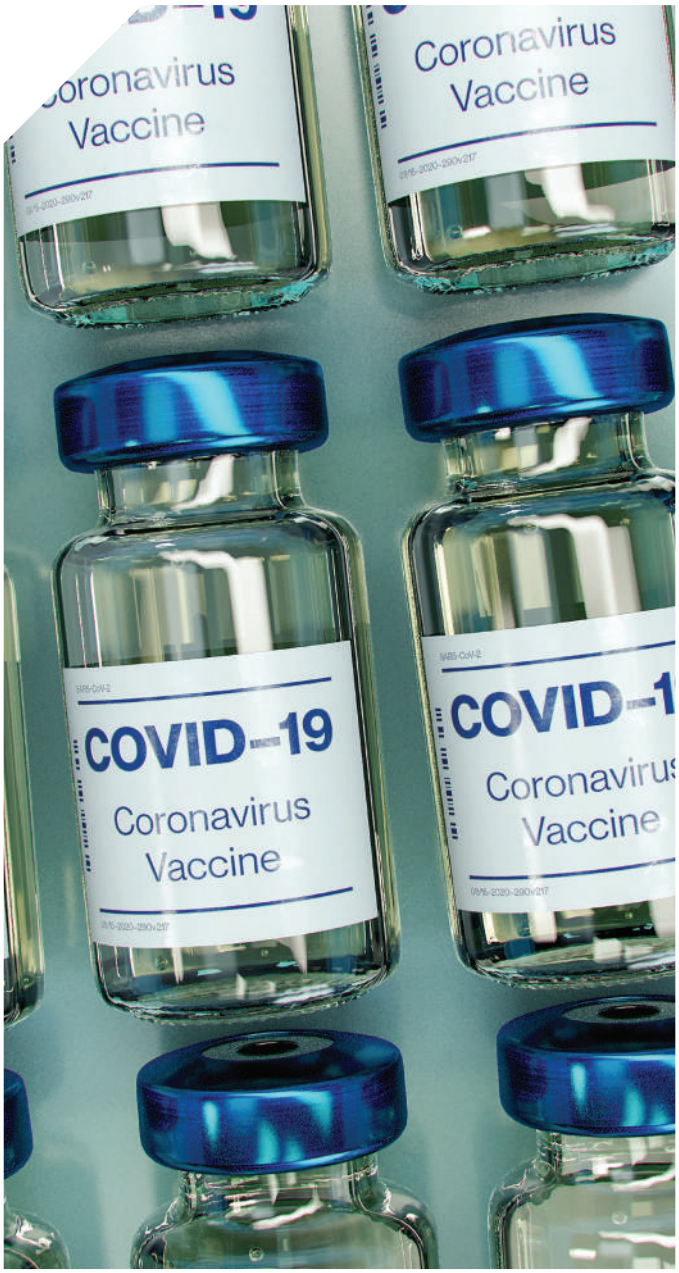


21) National Treasury (2021) **22)** South African Institute of International Affairs (2021)

Table 3: National budgets for state entities in health[21]		
State Entities1	**Description**	**FY20/21Budget**
Compensation Commissioner for Occupational Diseases in Mines and Works (CCODMW)	Reimburse workers for loss of earnings	R231,512,000
Council for Medical Schemes (CMS)	Oversee medical scheme	R 197,900,000
National Health Laboratory Service and National Institute of Communicable Diseases (NHLS and NICD)	HIV, TB and COVID testing nationally	R9,600,200 000
Office of Health Standards Compliance (OHSC)	Norms in public and private	R137,600,000
South African Health Products Regulatory Authority	Regulating products	R387,800,000
South African Medical Research Council	Research and innovation	R1,200,000,000

COVID-19

- COVID-19 is expected to widen the gap in healthcare. In June 2021, ZAR21,5bn was reprioritized to funding public health interventions, expansion of hospital capacity to accommodate large volumes of patients and to procure PPE[21].
- ZAR100m was allocated to SAMRC for vaccine research.
- The Special Adjustments Budget allocated and reprioritized ZAR20bn.
- The Medium term goal was to promote disease spread through non-pharmaceutical interventions and rollout of vaccines.
- Vaccine rollout allocation = R9bn (ZAR6bn FY21/22 and ZAR3bn FY22/23) [21].
- Government could augment allocations from reserves and revenue generated from the sales of vaccines.
- Provinces have received larger budget allocations for the COVID-19 response as a result of the reprioritization of funds from other conditional grants.
- Provincial budgets increased in total by almost 8% (ZAR17,4bn) during FY2020. Baselines were suspended to accommodate the COVID-19 response[21].
- According to the Provincial Equitable Share, provinces received an additional ZAR8bn to continue prevention, testing and treatment[21].
- Allocations were informed by epidemiological modelling and a national health sector COVID-19 cost model. Provincial response plans had been added to the HIV, TB, Malaria and Community Outreach grant.
- ZAR1,25bn was allocate in the FY20/21 for vaccines and research according to PFMA emergency provision[21].



21) National Treasury (2021)

National health insurance (NHI)

The South African government established the NHI to provide accessible, affordable healthcare to the population and reduce the inequalities from the two-tier health system according to the principles of Universal Health Coverage. The NHI is planned to be implemented in phases across fourteen years with priorities in primary healthcare and financing reforms[5].

Figure 11: World Health Organization goals for Universald Health Care (2017)[23]

The WHO developed a Reference Guide that processes an outline of a country's health financing strategy but each country has to analyse their respective contexts, current performance and challenges faced in the health sector. This diagram shows generic guidelines and objectives for the implementation of Universal Health Coverage (UHC) but requires a needs analysis of the country itself.

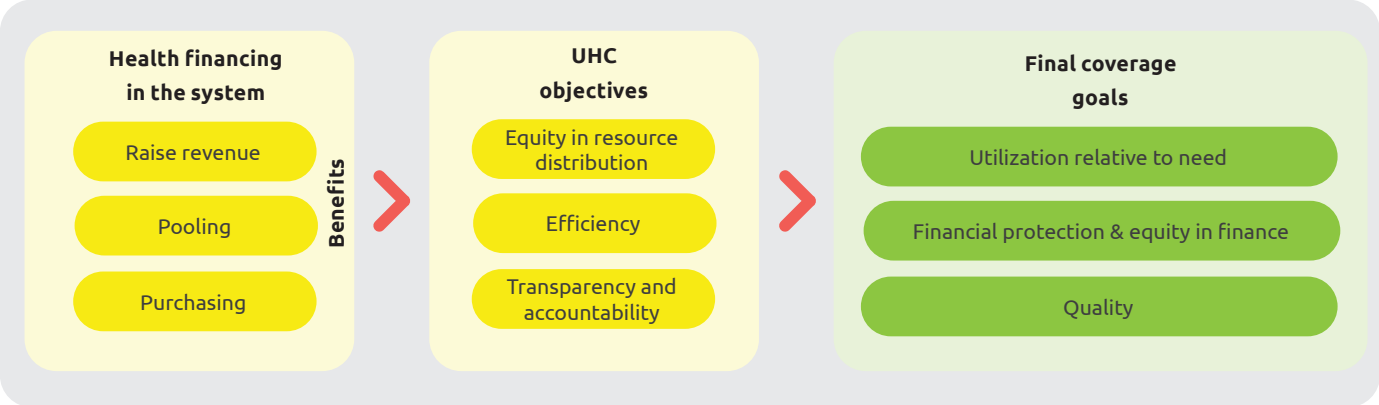


Figure 12: NHI model

The NHI is envisioned to address high out of pocket costs for patients, moral hazard by the private sector, overburdening of hospitals, inadequate health information systems and infrastructure and non-standardization of healthcare services through centralization of procurement and strategic purchasing[24].

Figure 13: National health Insurance (NHI) phases[25]

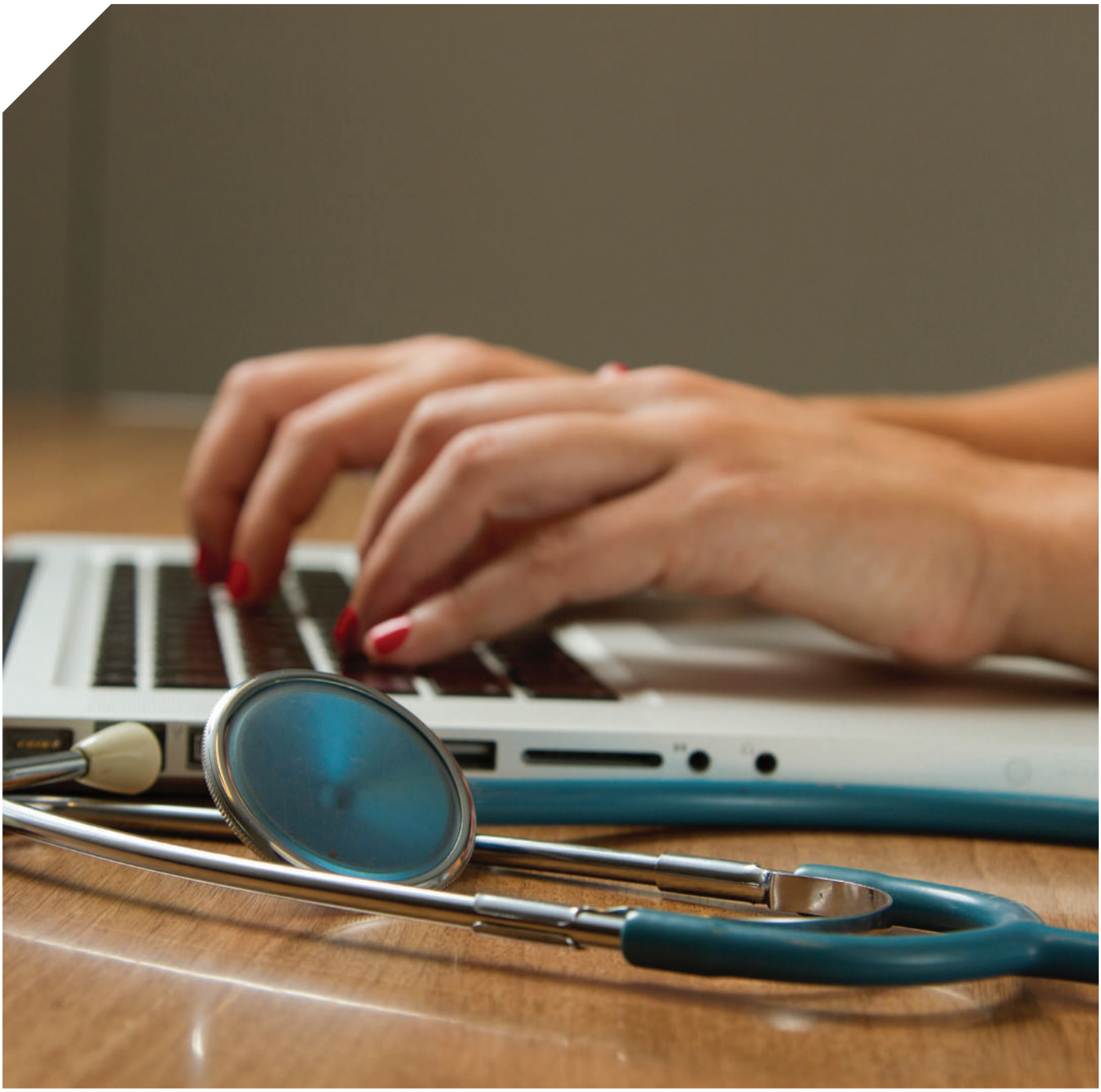
NHI Phases	Date	Description
1	2012-2017	Pilot and develop systems
2	2017-2022	Develop systems & processes to ensure functioning and administration of NHI Fund
3	2021-2025	Mandatory prepayment, contracting service providers, finalization of implementation of Medical Schemes and NHI Acts

5) Belli et al 2018 **23)** World Health Organization (2017) **24)** South African National Government (2015) **25)** Business Tech (2021)

NHI Pilot results[26]

Phase 1 pilots focused on strengthening PHC rather than source new funding arrangements. There were 10 NHI pilot sites with an additional 1 funded through the KZN provincial Department of Health. The interventions piloted in Phase 1 consisted of: Ward Based Primary Outreach Teams, Integrated School Health programme, General Practitioner contracting, Ideal Clinic Model, District Clinical Specialist Teams, Centralised Chronic Medicine Dispensing and Distribution, Health Patient Registration System, Stock Visibility Systems, Infrastructure Projects and Workload Indicator for Staffing Needs. Findings from the pilot phase showed some success, and the common factor among successful sites were strong political will, adequate human and financial resources for implementation, coordination and communication and effective monitoring systems during implementation. The challenges documented in this period were inadequate planning, lack of resources, inconsistent communication, lack of coordination and insufficient mechanisms to monitor progress and timely corrections. For Phase 2 of the pilot, there will have to be a strong governance component to ensure the success of implementation around the country.

In a survey on South African public perceptions of the NHI and the government's COVID-19 response, 69% of respondents said the government was justified to increase levy taxes for NHI and many people could not afford accessing to private healthcare services or medical aid[8]. This was exacerbated during the COVID-19 pandemic.



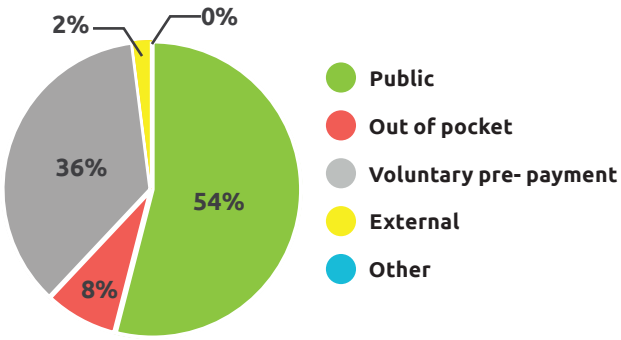
26) Genesis Analytics (2019)

Donors

The largest expenditures for government are sourced from government revenue and individuals paying for their own healthcare, either though out of pocket payments or voluntary prepayment. South Africa was considered a high priority country for donors in response to the HIV pandemic. However, in recent years donor funds have focused on vertical diseases and strengthening components of the health system. Despite the reliance on donor funds, total donor funds only contribute 2% to the total health expenditure[2].

South Africa received grants from the Global Fund of US$312mil over the period 2016-201927 and total budgeted allocations between 2005 and 2021 from PEPFAR was US$7,105,477,005[28]. Other sources of donor funds have come from UK, France, the Netherlands and Germany who have contributed a total of US$ 1,28bn[29]. By 2012, the Bill and Melinda Gates Foundation had invested US$200mil in South Africa in support of support for HIV/ AIDS, TB, malaria, family planning intervention, vaccines, water & sanitation, urban development and agriculture[30]. However, donor funding has stagnated and has begun to show a decline in recent years, which raises concerns of sustainability.

Figure 13: Sources of finance for healthcare[31]



2) Health Policy Project (2016) 27) The Global Fund (2017) **28)** amfAR The Foundation for AIDS Research (2022) **29)** Gona et al. (2020) **30)** Bill and Melinda Gates Foundation (2022) **31)** World Health Organization (2021)

Figure 14: Official Development Assistance (ODA) for South Africa[32]

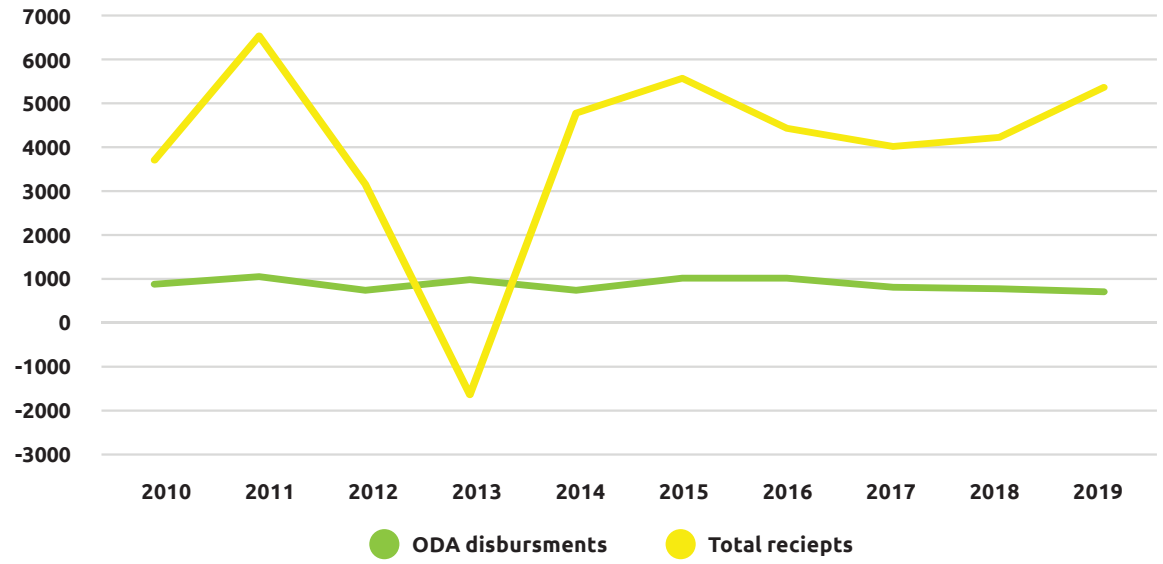


Figure 15: Global Fund budgeted (US$mill)[33]

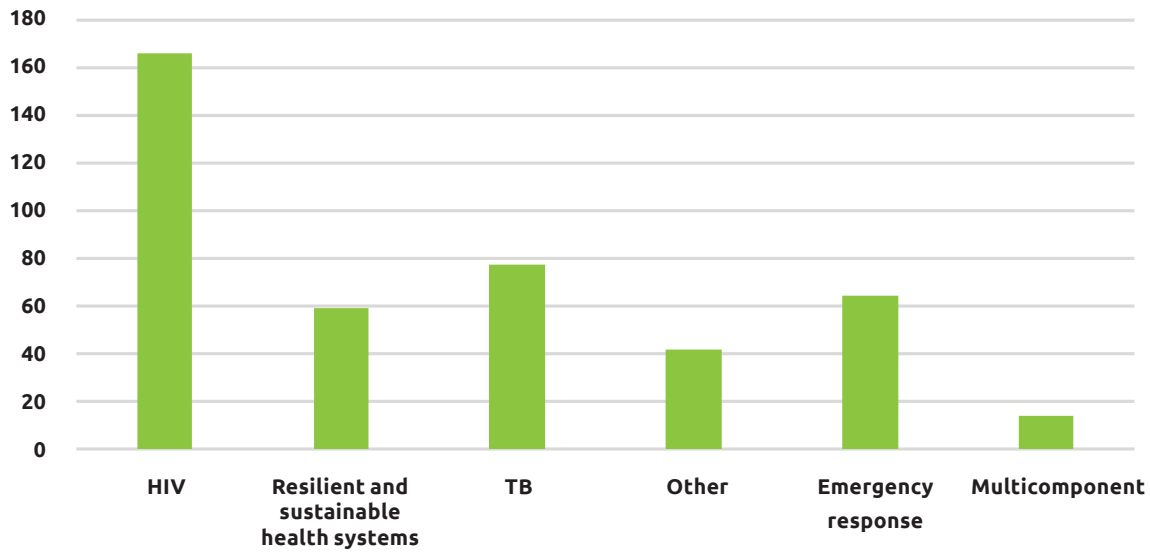
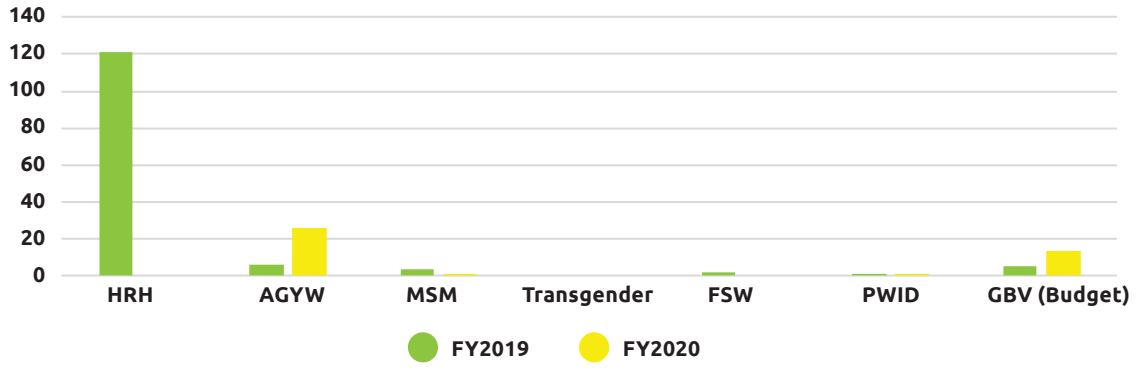


Figure 16: PEPFAR budget allocations for HIV Programmes (US$mill)[34]



32) Organization for Economic Co-operation and Development (2022) **33)** The Global Fund (2021) **34)** amfAR The Foundation for AIDS Research (2021)

Latest trends in Development Assistance for Health[32]

- Increased emphasis on the healthcare sector and pandemic preparedness.
- COVID-19 vaccine research.
- Social protection.
- Immediate humanitarian assistance (move from a long term view of economic growth to reduce poverty and increase infrastructure development).
- Changes in priorities, reallocation of budgets, movement of funds from non-health programmes.
- Debt relief as a result of a debt crisis induced by COVID-19. A G20 moratorium was issued on debt repayments and the IMF rescheduled payments from member countries.
- Increased donor attention to global public goods (for example climate change), which changes the Global North/South narrative.
- Emphasis on global health as protection for the donor countries.

Table 5: Global Fund vs. PEPFAR approach to grant funding

Global Fund approach to funding	PEPFAR approach to funding
Country-driven – Country Coordinating Mechanisms comprising of government, private sector, faith-based organisations, donors and civil society stakeholders.	Donor-driven – PEPFAR sets the priorities and therefore has strong data systems in place
Allocation developed every 3 years based on disease burden and country income.	Allocation developed annually based on levels of funding.
Funding only – funds and activities are managed by in local organisations.	Full package – widely supported from the US government in terms of experts and partner organisations.
Monitored centrally – GF grant managers monitor expenditure but are mostly based in one location.	Monitored locally – US personnel who are based in-country

NCDs – the silent killers/threat on the horizon[35,36]

NCDs are largely forgotten by donor organisations, yet they are responsible for over 70% of global deaths annually. There are over 12million annual deaths in LMICs' working age populations that can be attributed to NCDs. They are the biggest threat to development and GDP growth. However, NCDs received 1-2% of global health financing since 2000.

32) Organization for Economic Co-operation and Development (2022) **35)** Roades & Feigl (2021) **36)** World Health Organization and World Economic Forum (2011)

COVID-19 vaccines and the Solidarity Fund

Despite significant investment by the national government in response to the pandemic, resources have been insufficient to cover the full cost of the response. The COVID-19 pandemic required cooperation of key stakeholders in both public and private sectors. The Solidarity Fund was set up as an initiative between public and private sectors to be the sole recipient and dispenser of corporate contributions specifically for COVID-19. This was done to ensure maximum optimization of donor spending and alignment with national policy[37]. Government financing contributed to the COVAX facility and medical schemes paid for their members. Businesses and corporate South Africa topped up funding if required.

Table 6: Stakeholder position on COVID-19 vaccine response[37]

	Access to vaccines	Negotiating power	Access to funding	Funding to vaccinate for herd immunity	Direct economic interest and funding to achieve herd immunity
Government	✓	✓	✓	✗	✓
Medical schemes	✗	✗	✓	✗	✗
Business	✗	✗	✓	✗	✓

Figure 17: Funding requirement to achieve herd immunity (21,41mil lives) through vaccines[37]

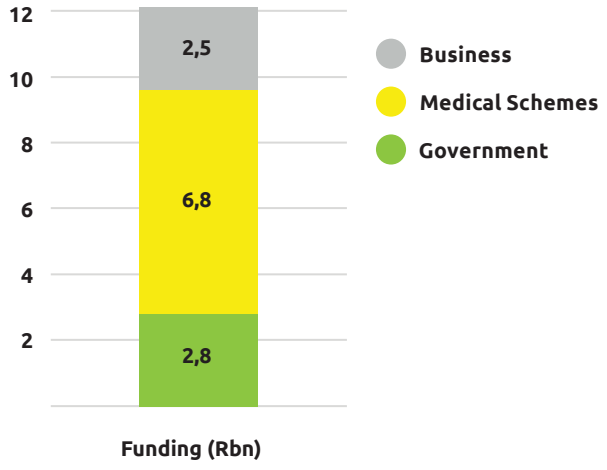
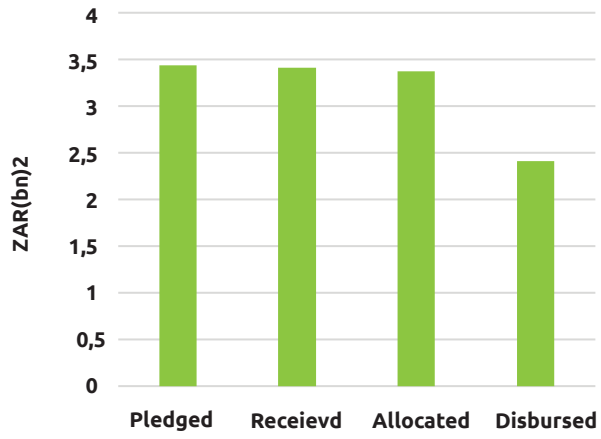


Figure 18: Solidarity Fund monies pledged, received, allocated and disbursed during the COVID-19 response[37]



Solidarity Fund[38]

- The response is divided into 3 pillars: Health, humanitarian and behavioural pillars.
- 33,9mil adults were reached through the campaign.
- 1,2mil reagent and extraction kits were sourced for testing.
- 52,000 critical health equipment units procured for provinces.
- SAMRC JnJ implementation: ZAR24,3mil.
- Other plans include:
  - Surge sites were meant to receive ZAR300mil.
  - Vaccine capacitation and technical assistance provided to NDoH totalled ZAR69mil.
  - Procurement of esssential equipment for FS, NW, MP, NC, LP provincial health departments = ZAR58,9mil.

37) Malherbe (2020) **38)** The Solidarity Fund (2021)

Table 7: COVID-19 vaccine considerations for the South African population[37]

Brand	% mix	Doses	Price per person (R)
Pfizer	10%	2	459-600
Moderna	0%	2	574-766
AstraZeneca	30%	2	80-120 (2.5x more than EU countries4)
J&J	60%	1	136-233
Cost of logistics (excl vaccine) per uninsured patient			150

Intellectual property and technology transfer

Prior to June 2021, South Africa did not have the capacity to manufacture vaccines from scratch. The Technology Transfer Hub facilitated by the World Health Organization was established to ensure that South African companies BioVac Institute and the Afrigen Biologics will be equipped with the necessary technology, skills and licensing required to manufacture vaccines at an industrial scale. Pfizer and Moderna are meant to share their technology with the hub. The World Health Organization and other partners will contribute lessons in production, quality control and registration as well as licensing to enable broad and rapid technology transfer and exchange. This will ultimately contribute to reducing inequitable vaccine distribution in developing countries[39].

37) Malherbe (2020) **39)** World Health Organization (2021)

Private sector

Despite the private health sector being dominated by a few players, it is characterized by large investment flows and stable profitability[7]. Conclusions drawn from the Health Market Inquiry by the Competition Commission found that there are groups which dominate the market. Other findings were that there is overcapacity in the private sector, which negatively impacts the public sector; mergers and collusion between hospital groups undermines competition in the market; flouting of HPCSA regulations and stifling multidisciplinary models of care and innovation. Furthermore, there is no standardization of performance and outcomes, which leads to an information symmetry between patients, practitioners and funders[7].

Medical Schemes[40,41]

- 2019 had 78 registered medical schemes in SA, 20 of which were open schemes and the remainder were closed.
- Open schemes carried 55% of all medical scheme beneficiaries.
- 4,05mil members and 8,94mil beneficiaries were registered to schemes.
- Principal members covered an average of 1,2 dependents and gender distribution was equal among all schemes.
- 40% of members reside in GP, 15% in WC and 14% in KZN.

Private hospitals[42]

- Private sector facilities serve less than 20% of the SA population
- There are in excess of 600 clinics and 200 hospitals, with more than 30,000 beds all owned by the private sector in SA.
- Netcare, Life and Mediclinic Groups combined hold greater than 75% of the private market share and competition is relatively low.
- A Health Market Inquiry by the Competition Commission found that prices of healthcare in the private sector are exorbitant[7].
- However, a survey found that those who made use of private facilities were satisfied with the services received.

Pharmaceutical companies[43]

- Account for 80% of pharmaceutical sales by value but only 20% by volume (this is reversed in the public sector).
- Per capita spending on pharmaceuticals in 2017 was US$57 and total pharmaceutical expenditure is likely to increase[44].
- Prescription drug spending contributes to 88,3% of the market while OTC medicine spending contributes only 11,5%[44].
- Local production consists of generic production for HIV, TB, Hepatitis A and B, influenza, pain, common ailments[45]. Only 2 facilities can produce Active Pharmaceutical Ingredients (APIs) locally, hence South Africa's heavy reliance on imported APIs.

Figure 19: Market share of medical aid schemes in South Africa[40,41]

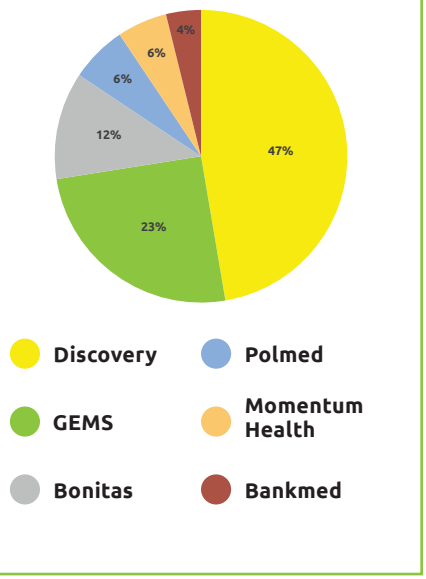


Figure 20: Market share of private hospital groups in South Africa[7]

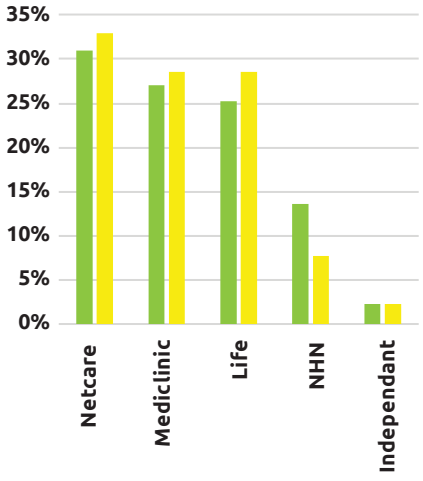
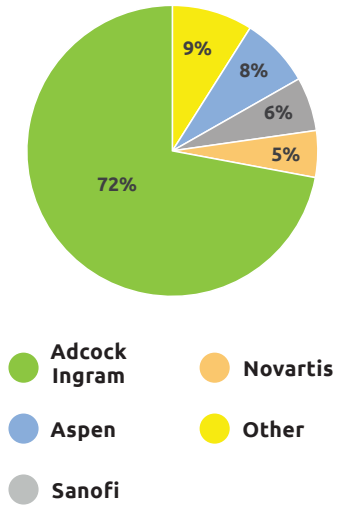


Figure 21: Market share of pharmaceutical companies in South Africa[46]



7) Competition Commission (2019) **40)** Business Tech (2020) **41)** Council for Medical Schemes (2020) **42)** FIND diagnostics (2020) **43)** Global Africa Network (2020) **44)** Africa Health (2020) **45)** Parrish (2020) **46)** Marketline (2021)

There are a small number of private market funds investing at the higher impact end of the market:

RH Fund Managers[47]

An equity firm focused on healthcare infrastructure, providing accessible and affordable healthcare. Their investment strategy is to identify healthcare rehabilitation opportunities that are bankable and have growth potential.

- ZAR5bn worth of investment in Razorite Funds, RH Bophelo.
- ZAR10bn worth of assets are invested in African Healthcare, Busamed, Sakhiwo Health Solutions.
- ZAR800m in premiums.

Growthpoint Healthcare Property Holdings[48,49]

Funds 4 hospitals – Busamed, Mediclinic and Netcare. The group owns ZAR3,2bn worth of assets consisting of hospitals, clinics, biotechnology facilities and laboratories. The capital amount to construct the Cintocare Green Hospital in Pretoria totalled ZARR510m.

United Nations Development Programme (UNDP) High potential SDG Investment areas[50]

- Mid-fee healthcare facilities with market is expected to grow to US$47.1bn by 2027
- Modular medical facilities such as Unjani container clinics
- Leveraging digital health technologies considering that there was 81,7% smartphone penetration in 2019
- Healthcare professional training centres to address need for an additional 97,000 healthcare workers by 2025

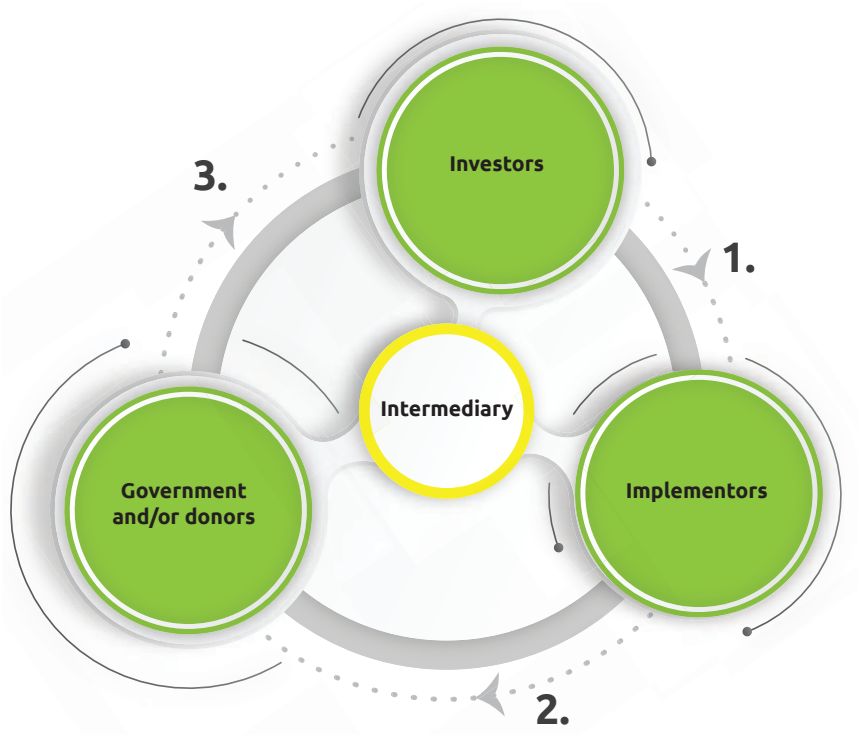
47) RH Fund Managers (2021) **48)** Growthpoint (2021) **49)** West (2021) **50)** United Nations Development Programme (2020)

Outcomes based contracting

Important considerations for application of Outcomes-based contracting for healthcare[51,52]

- ✓ Outcomes may require long terms to ascertain impact.
- ✓ External factors may not be accurately accounted for.
- ✓ Financial resource allocation is limited by the amount of outcomes funding available and outcome payors that are willing to test these instruments.
- ✓ Contracts are generally set up with third party providers (even though majority of healthcare is delivered by the state) thus enabling competition.
- ✓ OBCs can provide health funding to organisations that are experienced in provision of healthcare services.
- ✓ The policy environment may lag implementation but pilot projects can be used to build a precedent.
- ✓ Transparency is key to learning.
- ✓ Equitable patient access and affordability are necessary for sustained delivery and need to be built into the design.
- ✓ Continued innovation as the field is currently being shaped and there is lots of room for refining the concept.

Figure 22: Impact Bond model



1. Investors provide the working capital for implementation
2. Outcomes are assessed and verified
3. Financial return to investors based on success
4. Intermediary often required to design and manage contract

Evaluation of effectiveness of outcomes-based contracting (OBC) or results-based financing (RBF) mechanisms

The evidence for RBF is small and growing. For example, the Centre for Global Development evaluated a number of health contracts around the world involving performance-based financial incentives. It found significant improvements in key health indicators, including when rewards or punishments were relatively small.[53]

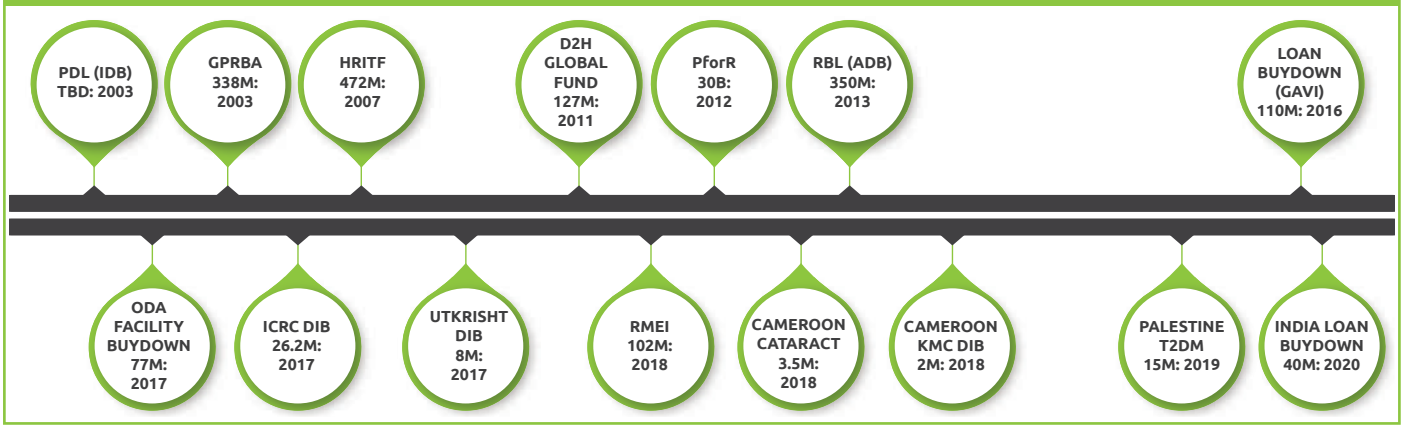
However, the Norwegian Knowledge Centre for Health Services conducted an analysis of 10 systematic reviews and 4 direct evaluations of RBF projects in LMIC health sectors. This study found that there was "limited evidence of the effectiveness of RBF and almost no evidence of the cost-effectiveness of RBF"[54]. Continued evidence building is required in order for the market to grow.

51) Honoré et al. (2004) **52)** Alkhatib & Abraham (2020) **53)** Blavatnik School of Government Government Outcomes Lab (2021)
54) Blavatnik School of Government Government Outcomes Lab (2022)

Table 8: Types of Results Based Finance[55]

Type of Results Based Finance[18]	Output or outcome based?	Private sector pre-financing required?	Recipient of performance payment
• Output-based aid • Debt swap • Conditional transfer • Performance based loan	Output	✗	Government
• Performance based funding	Output/outcome	–	Implementer
• Outcomes Based Contracting • Impact Bonds • Social success note	outcome	^	Investor

Figure 23: Timeline of health-focused results-based finance projects[56]



World Bank Program-for-Results (PforR)[57]

Since 2012 when PforR was established, 113 PforR initiatives valued at US$33.1bn have been created. Just under US$5n was allocated to health through more than 15 operations[58].

The 4 main features of the PforR are59:

- Finance and support borrower's (government's) health programmes.
- Disburse funding when results are achieved.
- Strengthen capacity and processes/procedures required for the desired results.
- Provides assurance that World Bank financing is being used for sustainability priorities.

Examples:

An Ethiopian Health MDG received US$350m in funding from the World Bank which supported a US$750m government programme.

A Vietnamese results-based rural water and sanitation programme received US$200m from the World Bank supporting a US$260m government programme.

Image credit - "© UNICEF / Phil Hatcher-Moore"

55) Instiglio (2014) **56)** Thinkwell Institute (2020) **57)** World Bank (2021) **58)** World Bank (2016) **59)** World Bank (2019)

Chapter 3: Innovative finance classification and case studies

Traditional donor funding

1: Discovery Foundation Awards as an example of programmatic funding

Results based financing

2: SAMRC Imagine Social Impact Bond as an example of a Social Impact Bond

Catalytic funding

3: GAVI COVAX Advanced Market Commitment as an example of an Advanced Market Commitment

4: Goodbye Malaria as an example of collective funding

5: Biovac institute as an example of public private co-funding

Impact Investing

6: RH Bhopelo as an example of a direct investment fund

Sustainable investing

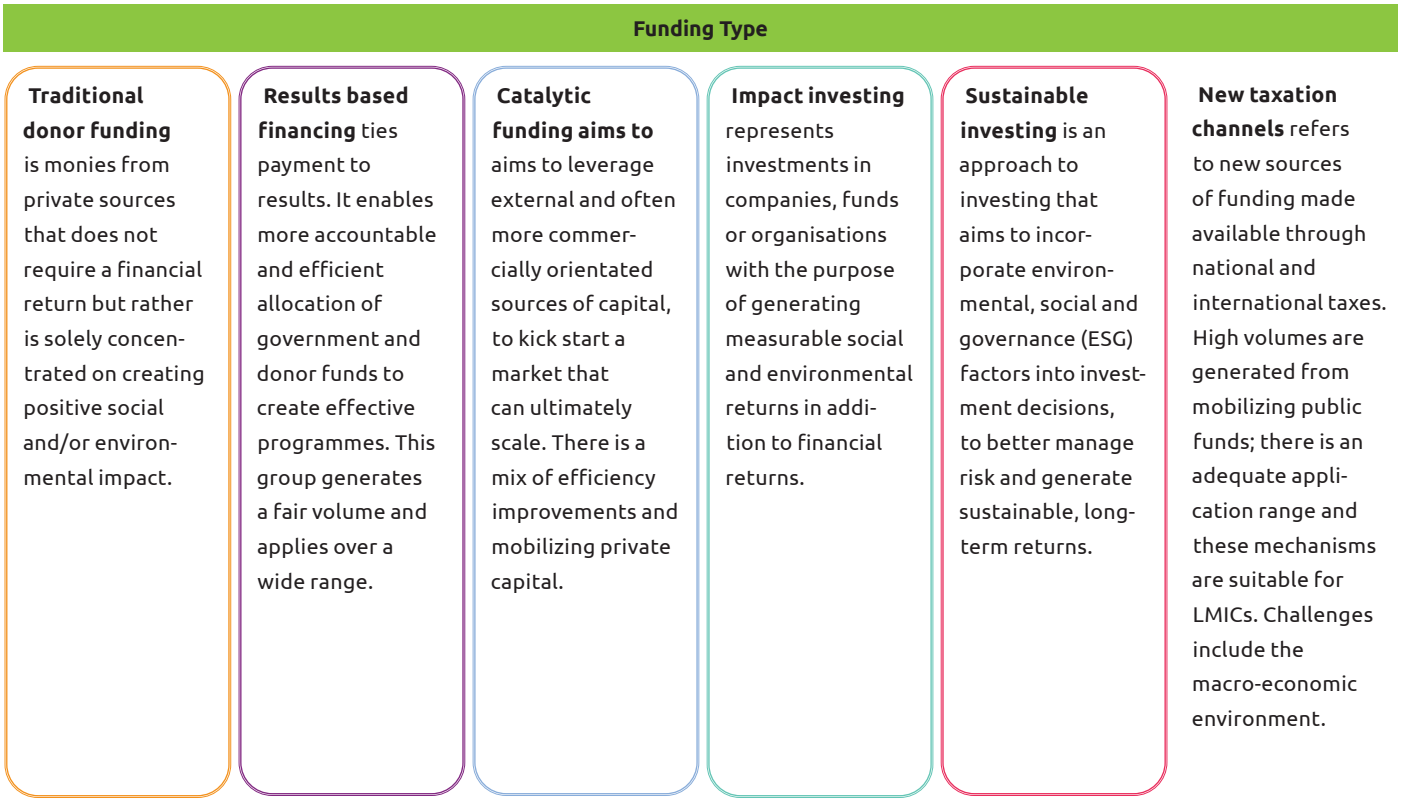
7: Growthpoint Healthcare Property Holdings as an example of a direct investment fund

8: Medi-clinic RMB loan as an example of Sustainability-Linked Debt

Criteria	Definition	Traditional donor funding	Results based financing	Catalytic funding	Impact investing	Sustainable investing
Relevance and coherence	Were the mechanisms in the respective classification designed appropriately to respond to local priorities in financing health and did they remain relevant over time? Do the mechanisms in the specified classification complement other relevant interventions or do they undermine them?	Medium	Medium	High	High	High
Effectiveness and efficiency	Did the mechanisms in the specified classification achieve their intended outcomes in a cost-efficient way, especially in relation to aid efficiency and additionality? How successful have these interventions been in crowding-in private sector financing?	Low	Medium	Medium with potential to go high	High	Medium
Impact	What difference have the mechanisms in the respective classification made? This includes looking at both positive or negative, intended or unintended impacts in terms of impacts on financing in health as well.	Low to medium	High	Medium with potential to go high	Medium	Medium – High
Sustainability	Have the mechanisms in the respective classification led to benefits which will last? This includes the sustained net benefits to both the underlying financing of the intervention and health outcomes over time.	Low	Medium	Medium - High	Low	Medium - High

Conceptual framework for innovative finance in health

Figure 24: Classification of innovative finance instruments according to the spectrum of capital[60]



Adapated from **56)** Thinkwell Institute (2020) and **60)** USAID (2019)

Programmatic Funding: Discovery Foundation Awards

Classification:	Traditional donor funding
Mechanism:	Programmatic Funding
Description:	Groups of funders interested in supporting the same issue who pool their resources. Generally this is done to ensure long-term commitments by a group of important stakeholders from different sectors to a common agenda for solving a specific social problem.
Case study:	Discovery Foundation Awards
Funder:	Multiple private donors and foundations*

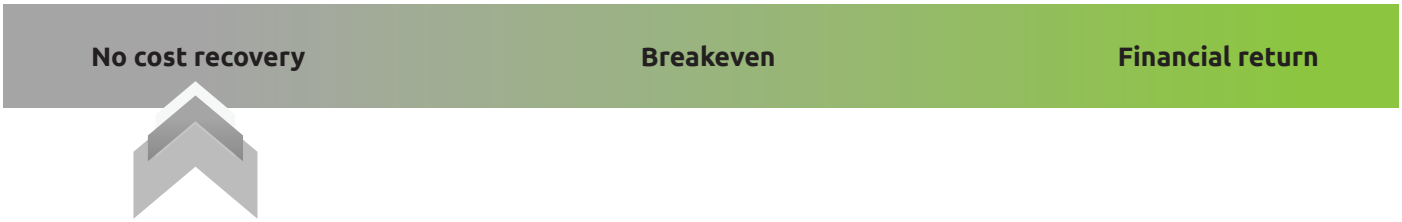
In 2006, Discovery Limited established the Discovery Foundation to support Black Economic Empowerment by investing ZAR150m in grants towards the education and training of 300 healthcare workers over a period of 10 years[61]. The Foundation has grown to provide ZAR278m to support academic medicine and aims to invest ZAR300m over 20 years[61]. It assists graduate doctors and medical researchers working in the public sector in pursuing further academic study, with the aim of targeting the critical shortage of medical graduates and specialist skills[62]. The Foundation works actively to ensure that across all grants, at least 75% of total financial support goes to black health professionals to further their education or benefit socio-economic development activities[62]. This is achieved through fellowships and residencies at US hospitals, funding for postgraduate research, Sub-Specialist Awards, rural fellowship awards and excellence awards[63].

The Discovery Foundation Academic Fellowship Awards promote research-focused training in academic medicine and aims to develop more clinical scientists who will benefit the healthcare system through the completion of Masters or Doctoral degrees[62].

The Discovery Foundation Sub-Specialist Awards contribute to resources for healthcare through clinical or academic medicine by supporting sub-specialist training and R&D in South African health faculties.

The Discovery Foundation Awards for healthcare in rural and underserved areas provides grants to senior doctors, registrars and specialists in family medicine (and other clinical disciplines) to deliver and support healthcare services in these areas. The Foundation also builds the capacity of institutions and supports institutional partnerships with universities through direct annual awards. Lastly, it provides grants to institutions in order to attract experienced clinicians who can mentor healthcare workers in rural areas[62].

61) Discovery Foundation (2021) **62)** Discovery (2019) **63)** Discovery Foundation (2018)



Criteria	Rating	Justification
Relevance and coherence	Medium	• The amount of donor funding available for health is dwarfed compared to the public health budget. By pooling funding, donors can effect systemic rather than programmatic change. • The estimated allocation from CSI, which is the largest donor pool in South Africa was ZAR40m in FY19/20, which was largely the same as the previous year[64,65]. • Well spent programmatic funding enables new more effective or cost-effective programmes to be tested outside of risk averse public sector system.
Effectiveness and efficiency	Low	• The Discovery Foundation programme achieved it's intended outcomes of supporting academic medicine through research, development and training of medical specialists in South Africa. • However, the grants are limited in supporting only specialists which is inefficient and does not support the health system requirement of more primary care healthcare workers • There is little to no evidence of crowding-in funding from other private sector investors.
Impact	Low to medium	• Despite the success of the programme in financing graduate and specialist studies, the number of graduates is small and there is little evidence about whether awardees are currently using their acquired skills in the public or private sector. • The impact of the programme is limited to mainly patients in the private sector who will benefit from the skills and training of specialists supported by this programme, rather than members of the underserved population.
Sustainability	Low	• Philanthropic donors tend to fund according to individual organisational mandates on a year by year basis. Thus most implementing organisations live from hand to mouth beholden to the next donor strategy review. • There is a preference from donors for government to sustain programmes past the proof of impact period although this is relatively rare.

64) Trialogue (2020) **65)** Trialogue (2019)

Results based financing: SAMRC Imagine SIB

Classification:	Results based finance
Mechanism:	Social Impact Bond
Description:	Social Impact Bonds are outcomes-based contracts where government is the outcome payor. Private investors provide the working capital for implementors to deliver services to a population group. Once outcomes have been verified, the investment funding is reimbursed by the government with a modest return on investment. depending on success of the intervention.
Case study:	SAMRC Imagine Social Impact Bond
Funder:	Multiple private donors and foundations*
Outcome funder:	National Treasury through the Department of Science (DSI) and to the state entity, the SA Medical Research Council
Investor:	**TBC**
Amount of outcomes funding:	**TBC**
Amount of investment:	**TBC**
Total:	**TBC**

The Imagine SIB focuses on the achievement of sexual reproductive health outcomes of the vulnerable Adolescent Girls and Young Women (AGYW) population66. Young women have the highest risk of becoming infected with HIV and are four times more likely than men to contract the disease. Only 51% are on anti-retroviral therapy[66].

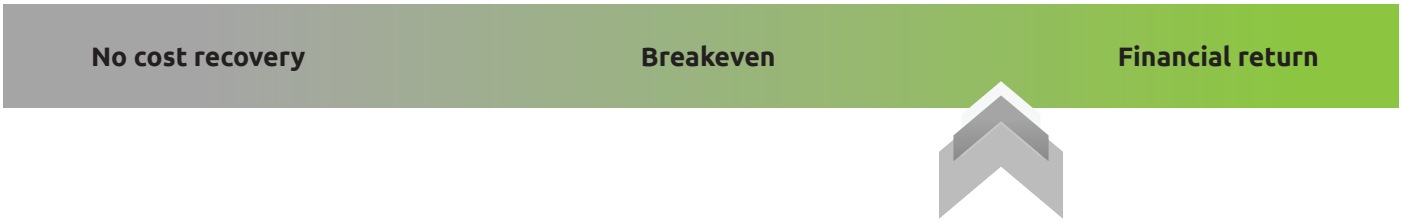
Having closely evaluated existing programmes, the SAMRC has identified that significant improvements can be achieved by delivering a multi-faceted and comprehensive package of services that includes biomedical and psycho-social support. NACOSA, who will be implementing the package, will rely on a data-driven approach to decision making in order to reach targets.

The SAMRC has raised funding from the DSI to pay for a suite of associated outputs and outcomes. The outputs are indicative of school readiness and engagement with AGYW. The outcomes are focused on HIV and pregnancy prevention, as well as the support of pregnant or HIV positive AGYW, with a view to reduce cases of disease and unwanted pregnancy. An investor will cover working capital requirements in advance of outcomes being achieved and stand to earn a capped return on investment.

The strategic goals of SAMRC in this project include:

- Transferring risk from the government to the private sector.
- Testing outcomes-based contracting for health and social programmes with a view to build a pipeline of projects.
- Providing greater flexibility and an improved management model to the implementer, which can be used across the wider suite of implementer programmes.
- Creating value for money for the outcomes funder.
- Attracting public and private investment for future outcomes-based contracts.

66) Abdullah et al. (2019)



Criteria	Rating	Justification
Relevance and coherence	Medium	• AGYW are particularly vulnerable to HIV infection, constituting 1,5% of new infections annually. There has been low success with current programming[66]. Biomedical and psychosocial services are required to address problem, making an Impact Bond mechanism suitable. • There are 34 Impact Bonds globally in the area of health, with five targeting women and girls[67,68]. • The Impact Bond mechanism has evolved from an existing trend on results-based finance, of which health has been a key focus. Health projects have made up 14% of RBFs worldwide with a value of USD76m[68]. • These instruments are complementary to sound strategic contract management practices, but are not always aligned to regulation or public sector practice.
Effectiveness and efficiency	Medium	• The outcomes generated through the Imagine SIB will be verified on a quarterly basis, with an impact and economic evaluation scheduled for the duration of the con- tract. • Global evidence suggests that the majority of the beneficiaries are marginalised youth/young adults[67]. Out of 50 completed impact bonds, only two have not repaid investors69 but overall evidence on whether the benefits outweigh the costs remains inconclusive and requires more research[70]. • The development and transaction costs remain, although there is a drive to reduce this through standardisation and/or scale. Some of the key variables include interests of public sector authorities, collaboration, attitude towards efficiency and effectiveness, attention to the sustainability of public finance and accountability. • These instruments can bring in non-traditional funders to assume risk.
Impact	High	• Even if transactions are not large enough to improve outcomes at scale, the benefits can cause a paradigm shift in the healthcare system. • Historically it has been easier to pay for outputs, but if the healthcare system wants to drive quality, they will need to focus on outcomes.
Sustainability	Medium	• Sustainability largely depends on how the mechanism is integrated into the public sector. SAMRC is working through a new initiative, Inevst4Health, to institutionalise their learnings.

67) Brookings (2020a) **68)** INDIGO Impact Bond Dataset (2021) **69)** Brookings (2020b) **70)** Brookings (2020c)

Advanced market commitment: GAVI COVAX

Classification:	Catalytic Funding
Mechanism:	Advanced market commitment
Description:	AMCs are transactions of volume and the price is negotiated with the manufacturers of pharmaceuticals and vaccines. This is based on economies of scale and generating demand for the product or vaccine at ground level to ensure that the term for the AMC is sustained. Manufacturers are therefore incentivised through a "pull" by a guarantee at a predetermined price for a specific target group[56].
Case study:	GAVI COVAX Advanced Market Commitment
Funder:	South African Government
Amount of funding:	ZAR283m

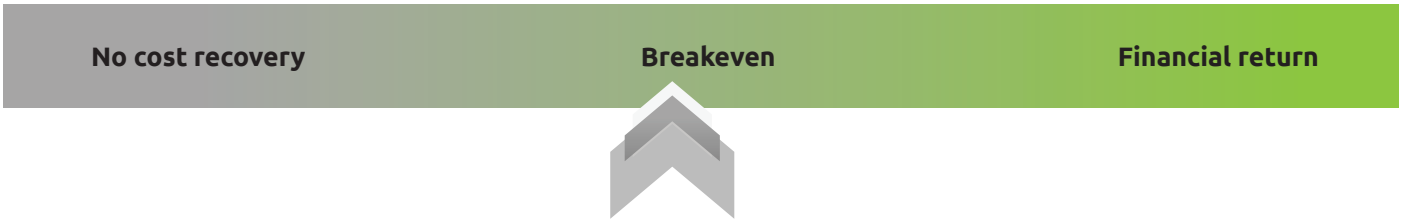
COVID-19 Vaccines Global Access (COVAX) is a worldwide initiative aimed at providing equitable access to COVID-19 vaccines. The initiative is led by GAVI (the Vaccine Alliance), the Coalition for Epidemic Preparedness Innovations (CEPI), and the World Health Organisation (WHO). It consists of gov- ernments, global health organisations, manufacturers, researchers, the private sector, civil society and philanthropists, and was established to assist LMICs in the procurement of vaccines by mid-December 2021[71].

COVAX applied the AMC mechanism to the procurement of vaccines for ±144 developing nations and had delivered 435 million doses by November 2021. The slow roll out has been blamed on re-direction of vaccine doses to high income countries and India. The International Finance Facility for Immunisation has issued Vaccine Bonds through which GAVI is able to access to purchase more vaccines[72].

South Africa has estimated that the cost of its national vaccine roll-out plan will be ZAR20.6bn. This will mostly be carried by the National Treasury with additional support from medical aid providers for their members[73].

Through the Solidarity Fund (a coalition of public, private, civil society and other stakeholders), South Africa made a committed purchase through the COVAX facility and negotiated a lower upfront purchase price of 15% of the total costs to cover at least 10% of the population[73,74]. Alternatively, the country leadership could have chosen the optional purchase deal whereby the country makes a higher upfront payment with the advantage of selecting vaccine allocations[74]. However, the country then also has no option to opt out of any of the vaccine doses produced by the various suppliers[73]. South Africa paid ZAR283m to COVAX in December 2020, but due to supply constraints, the country has yet to receive the vaccines[75]. The option to participate in COVAX was based on the risk that direct bilateral agreements to purchase from manufacturers would be price confidential and, in the instance that vaccines are ineffective, the country would forfeit the upfront payments[74].

71) Nhamo et al. (2021) **72)** International Finance Facility for Immunization company (2019) **73)** GAVI (2021) **74)** South African National Government (2021) **75)** Daniel (2021)



Criteria	Rating	Justification
Relevance and coherence	High	• Securing COVID-19 vaccines are essential to the reduction in hospital admissions and the economic recovery of South Africa and other developing nations. Using an AMC to buy vaccines is one of several strategies that government can employ to secure sufficient, reasonably priced doses. • Despite the contextual relevance of AMC, the roll out has been slow and as a middle income country SA has had other more successful routes to access, (which many low income countries have not) including procuring vaccines directly from suppliers and manufacturing vaccines at local facilities • COVID-19 vaccines present a recurring expense which will require ongoing procurement, thus once supply has stabilised the mechanism may prove more useful[76]. • These mechanisms are effective when designed to address specific market failures. They can thus be applied to other health challenges.
Effectiveness and efficiency	Medium with potential to go high	• Return on investment of immunization in GAVI-supported countries has been calculated as US$54 for every US$1 spent. The economies of scale and coordination have enabled this efficiency. • However, despite the projections of delivering 2bn doses of the vaccine by the end of 2021, only a quarter of this amount has actually been delivered[77].
Impact	Medium with potential to go high	• GAVI has achieved its impact objectives since establishment in 2011. These include (i) number of children immunized (ii) deaths averted and (iii) under 5 mortality rate.
Sustainability	High	• GAVI has succeeded in (i) reducing cost of vaccinating a child by 22% (ii) increased supply of scarce vaccines (iii) increased number of GAVI specific manufacturers (iv) strengthened health systems to deliver without GAVI reliance. This is indicative of the sustainability of the approach[78]. • AMCs rely on effective coordination, concessionary funding and country commitments to succeed. The growth of these mechanisms over decades is testimony to their sustainability. • Guarantees utilized in AMC are key in leveraging additional funding, a principle which can be applied to other health challenges[79].

76) United Nations Development Programme (2021) **77)** Briggs (2021) **78)** GAVI (2022) **79)** Milken Institute

Pooled Investment Fund: Goodbye Malaria

Classification:	Catalytic Funding
Mechanism:	Collective funding
Description:	Pooled Investment Funds aggregate funding from a variety of donors and partners to achieve a common goal, such as elimination of a disease, immunisation programmes or specific healthcare system strengthening. Pooled funds can be used to address market failures, such as insufficient access to medications and essential commodities[56].
Case study:	Goodbye Malaria
Funder:	Private sector South Africa
Amount of funding:	ZAR80mil

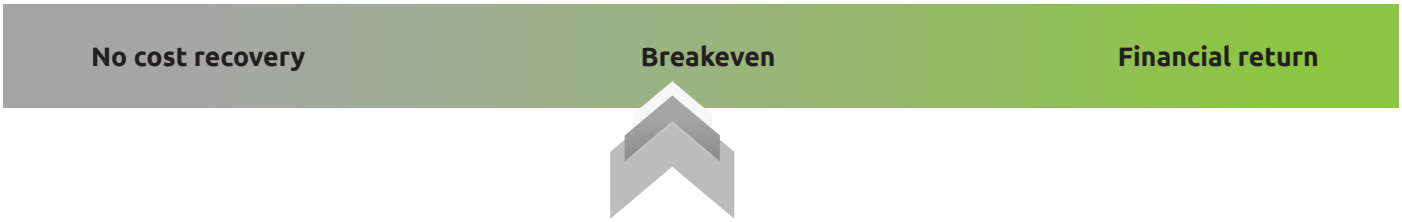
Goodbye Malaria, a programme between South Africa, Mozambique and Eswatini (MOSASWA), mobilises community and social capital with the dual aim of preventing malaria and creating employment[80]. It is co-funded by Global Fund, the relevant governments and private sector companies such as Nandos, Bayer Health, Vodacom, Nedbank, Bill and Melinda Gates Foundation, and Airports Company South Africa, among others. Thus, the resources and skills of both public and private sector are brought to bear on this issue.

Goodbye Malaria mobilises funds, supports and catalyses malaria elimination programmes and raises awareness through marketing campaigns and retail sales of merchandise produced by social entrepreneurs. The malaria residual spraying programme employs close to 1,500 people and owns various assets and equipment. As a result of the work of the programme, the prevalence and incidence of malaria in the region has decreased by more than 50%, placing the southern African countries on track to eliminate malaria[81,82].

Key strategies that have been used in the programme are: harmonising policies between the different countries, strengthening capacity at the sub-national levels and knowledge-sharing; expansion of access to malaria elimination initiatives focused on underserved and vulnerable populations; strengthening surveillance, operational research and M&E systems; mobilising resources and advocating for increases in long-term financing for sustainability; innovating new financing mechanisms; promoting the engagement with private sector and, lastly, advocating for more public sector funding[82].

This case study is an example of how priority social and health issues can be tackled by combining resources of both the public and private sector. It is projected that eliminating malaria in South Africa would require ZAR30m per annum for the 20/21 and 21/22 financial periods, over and above the conditional grant figure of ZAR378m[83]. If the private sector pooled resources, they could bolster the budget to effect this systemic change towards eliminating malaria in the region.

81) The Global Fund 82) Maitan-Shepard & Hamilton (2019) **83)** Moonasar et al. (2016) **84)** Niau et al. (2021)



Criteria	Rating	Justification
Relevance and coherence	High	• Despite the growing prevalence of Malaria, South Africa's status as an upper middle-income country means it is unable to receive funding for malaria from the Global Fund – a key funder of prevention in the region[83,84]. Private funders have thus taken a creative approach to addressing the shortfall. • The Solidarity Fund is a COVID-19-specific example of how funding from multiple do- nors can be more efficiently distributed to areas of need.
Effectiveness and efficiency	Medium with potential to go high	• Partners take a business approach to tackling issues, for example, using the supply chain of corporate donors to deliver medication and treatment to communities[84]. . The initiative has leveraged additional donor funding – the US$145m from Global Fund has attracted US$222m in additional resources[85]. • Public and private sectors bring respective expertise/skills.
Impact	Medium with potential to go high	• Impact is higher than would be experienced by partially funded piecemeal programme. • Collective funding has stimulated regional and cross-border collaboration, and has enabled countries to be included which may otherwise be ineligible for funding.[85] • The programme has not only directly addressed the health issue posed by malaria but is supporting local economic development through Goodbye Malaria shopfront.
Sustainability	High	• Amount of funding required to reduce malaria sources = ZAR6,34bn, and despite a national conditional grant allocation over the next three years, more sustained investment is required[83]. Donor funding is in limited supply. • Funders can initiate, drive or participate. By doing this they ensure the initiative is sustainable. • Collective funding efforts can rely on the energy and momentum created by multiple organisations rather than a single organisation (or individual within that organisation), and so have a greater likelihood of developing and sticking to longer term goals.

83) Niau et al. (2021) **84)** The Global Find (2021) **85)** Roll Back Malaria programme (nd)

Public private co-funding: Biovac Institute

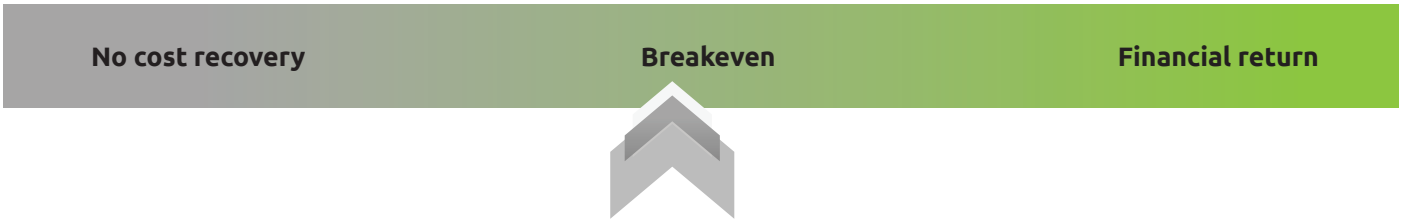
Classification:	Catalytic Funding
Mechanism:	Public-private co-funding
Description:	A partnership where public funding is used to leverage private funding and knowledge to increase impact towards development. The goal is to support solutions by rapidly mobilising resources and innovating to support a specific goal or mission in global and public health[56].
Case study:	Biovac Institute
Funder:	IFC, World Bank, Proparco, DEC (Germany) and DFC (USA)
Amount of funding:	Euro 600m/ZAR10bn

The Biovac Institute was established in 2003 for the purposes of vaccine R&D, manufacture and supply for the South African national immunisation programme86. This three-pronged approach was novel in the market at the time[86]. South Africa's Expanded Programme on Immunisation (EPI) is extensive and requires 46 million vaccine doses annually at a cost of ZAR1,5bn to prevent deaths attributable to vaccine-preventable diseases86. The Biovac Public Private Partnership (PPP) was motivated as a need for the security of vaccines supplies by ensuring local manufacturing of BCG (used in the prevention of TB) and polio[86]. Originally, Biovac began as a PPP with the NDoH, but this was later transferred to the Department of Science and Innovation (DSI) and its subsidiary, the Technology Innovation Agency (TIA), which each hold 35% and 12,5% of Biovac shares respectively[87]. Biovac was recently awarded a ZAR11,4bn NDoH tender to supply childhood vaccines from June 2020 to December 2023[87].

A portion of procurement costs (price premium between 10% and 20%) were set aside to fund capital investment and the new product R&D[86]. This transaction is characterised by private ownership or a private finance initiative where the private partner has a controlling stake[86]. The funding to conduct this transaction was sourced through loans from the Industrial Development Corporation and Technology Innovation Agency[86].

The global inequitable COVID-19 vaccine production and distribution has prompted Biovac partnerships with pharmaceutical companies like Pfizer to manufacture vaccines locally[88]. Production is scheduled to begin in 2022 and aims to produce 100 million doses per annum for the African continent[88]. This agreement is based on the fill-and-finish concept, where the company imports the active ingredients from overseas, combines them according to a prescribed formulation by Pfizer, packages the doses in vials and then transports and distributes them to other African countries[88].

86) Walwyn & Nkolele (2018) **87)** Tomlinson (2021) **88)** Council on Foreign Relations (2021)



Criteria	Rating	Justification
Relevance and coherence	High	• The Biovac PPP is an effective demand-side instrument to build manufacturing capacity to address a need in the public sector[86]. • Global Fund finances and procures 21% of drugs for HIV, and GAVI's strategy is to share markets for vaccine products – therefore Biovac is complementary especially in light of the supply constraints experienced by COVAX[89].
Effectiveness and efficiency	High	• Value for money of public funds was achieved through the Biovac PPP, however, more efficiencies can be gained though creating competition in the market[86]. • A premium was used to service operational expenses, which left a lack of opportunities to expand manufacturing capacity and R&D[86]. • By aligning public and private funders, this mechanism can lead to increased efficiency.
Impact	Medium	• The Biovac Institute has a small capacity compared to other pharmaceutical companies. However, it has produced an uninterrupted supply of vaccines to the South African government and was able to respond timeously to vaccine shortages[86]. • Skills development, technology transfer and localisation of manufacturing processes[86], which enables the country to export to other African countries.
Sustainability	low	• The procurement of Active Pharmaceutical Ingredients (API) is made possible through grants and loans[86]. However, Biovac has limited negotiating power for competitive vaccine prices[86]. • The nature of PPP agreements results in insufficient funding for CapEx and restricts private sector partners from raising debt or equity capital[86]. In addition, contracts are also short term, which further prevents raising of capital. • Some pooled approaches can crowd-in private sector funding, and this is a potential consideration for Biovac moving forward. • Blended finance solutions are underutilised in crowding-in funding. Sub-Saharan Africa accounted for 61% of blended finance transactions in 2020[90]. As a proportion of deals by target countries launched between 2018 and 2020, South Africa received 29% of blended finance deals90. However, blended finance transactions specifically related to healthcare only amount to 18% of total blended finance transactions, with only 7% of transactions closed in 2020[90].

86) Walwyn & Nkolele (2018) **89)** Walwyn & Sampath (2021) **90)** Convergence (2021)

Impact investing: RH Bophelo

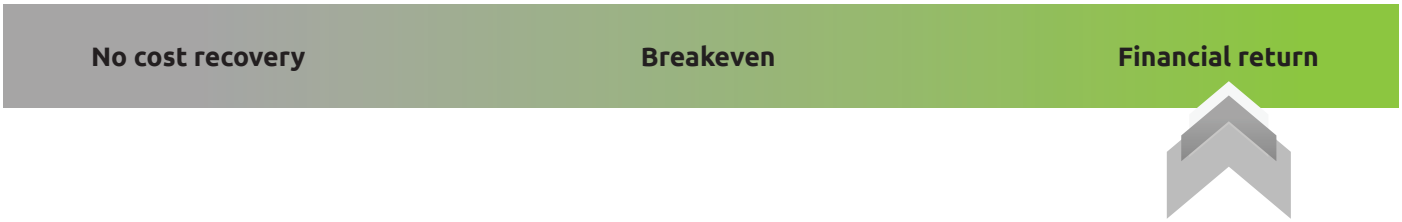
Classification:	Impact investing
Mechanism:	Direct investment fund
Description:	A direct investment fund refers to any investment made into a company, structured fund or organisation with the purpose of generating measurable, beneficial and environmental impact in addition to financial returns. The goals of impact investing is intentionality, impact measurement, investment with return expectations, flexible range of asset classes and return expectations[56].
Case study:	RH Bhopelo
Funder:	RH Bhopelo
Amount of funding:	ZAR500m

RH Bhopelo focuses on investing in healthcare, with the aim of generating social and economic return for investors[91]. The company's mission is to identify and create investment opportunities to narrow the gap between private and public healthcare sectors in South Africa[92].
Priority areas for investment include infrastructure, healthcare ICT and financial services. In addition, RH Bhopelo invests in the management and ownership of hospital beds through contracts with eight provinces in South Africa[92].

The focus for the forthcoming period is on Hospital Property (REITs), Investment Funds, health technology fund, pharmacy and logistics (warehousing and retail) and expanding into East Africa[92]. According to its five-year strategy, RH Bhopelo intends on making contributions to programmes related to socio-economic change and justice through private medical schools and nurse training colleges[92].

The founder and current CEO has experience in high level business management, investment banking and private equity. He also has experience in debt capital markets focusing on raising capital in the biggest economies in the Southern, Eastern and Western regions of Africa[93].
The company acquires investments through two subsidiaries: RH Bhopelo Operating Company Proprietary Ltd. (healthcare investments consisting of 90% of the groups' holdings), and RH Financial Services Proprietary Ltd. (financial services consisting 10% of the group's holdings) [92].

91) RH Bhopelo (2021a) **92)** RH Bhopelo (2021b) **93)** RH Bhopelo (2021c)



Criteria	Rating	Justification
Relevance and coherence	High	• Most impact investing in healthcare is focused on healthcare delivery services and health insurance[94]. • South Africa is the largest market for impact capital in southern Africa: 74% or US$29,1bn (from DFI and non-DFI sources combined) of all impact capital disbursed in the region[95]. • Impact investment amounted to US417,6bn with some investments covering a wide range of impact investing indicators[96]. • Health focused investments accounted for a small percentage of that amount, which indicates potential for more investment in future[95].
Effectiveness and efficiency	High	• The WHO does not invest in for-profit healthcare facilities and healthcare insurance on the basis that it is striving towards Universal Health Coverage[97]. • Private sector investments can fill a gap in underserved middle-income markets in the medium term. This market segment cannot afford access to private healthcare at the current prices but are willing to pay for quality healthcare at a reasonable and affordable price[98]. • Private sector investors apply business principles to service delivery. For example, RH Bophelo strategically targets investments in efficient hospitals to ensure that patients do not incur high hospital fees, with the aim of integrating with the NHI model in future[99].
Impact	Medium	• Impact investing can and has targeted underserved populations who are disproportionally affected by disease and are often geographically distant from main centres[92,94]. • Further standardisation is required with regard to impact measures to ensure comparability. This includes comparability between public and private programmes. For example, DALYs or QALYs.
Sustainability	low	• RH Bophelo issued ZAR1,5bn in securities and plans to expand their investor database[99]. Nevertheless, capital raising is tough, especially where commercial investors do not understand the risk-return proposition. • Business models serving low income customers can take longer to reach financial sustainability than commercial investors are used to. • Technical assistance can be used judiciously to support fund managers and underlying investee enterprises to become sustainable and grow.

94) Global Impact Investing Network (2017) **95)** Global Impact Investing Network (2016) 96) Dhlamini et al. (2017) **97)** United Nations Principles for Responsible Investment (2018) **98)** RH Bhopelo (2021d) **99)** RH Bhopelo (2021e)

Sustainable investing: Growthpoint Healthcare Property Holdings

Classification:	Sustainable investing
Mechanism:	Direct investment fund
Description:	An investment made taking into consideration environmental, social and corporate governance (ESG) criteria to generate long-term competitive financial returns and positive societal impact.
Case study:	Growthpoint
Funder:	Growthpoint Properties and other third-party investors
Amount of funding:	ZAR470m & ZAR8,45bn

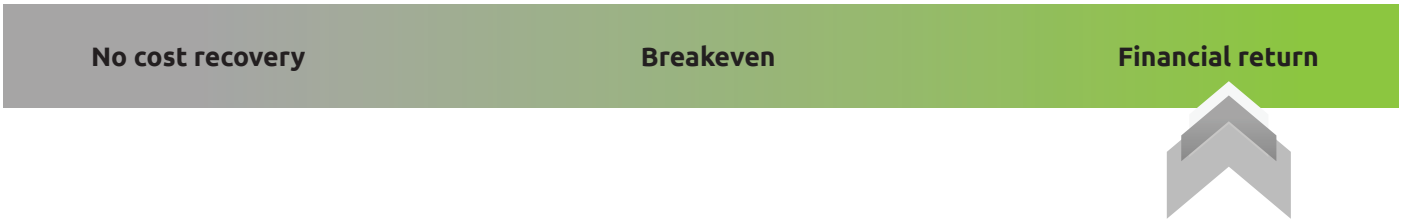
One of the flagship buildings of the Growthpoint Property portfolio is the Cintocare Hospital in Pretoria, which boasts the first 5-star green rating for hospitals in Africa[100]. The hospital is valued at ZAR470mil, covers 11,000sqm^2 and integrates clinical practice into its business model[100]. Collectively, construction and equipment of the hospital amounted to ZAR510mil[101].

The green approach to the hospital is justified in more ways than one. Studies have shown that healthcare facilities with environmentally-focused designs promote faster patient recovery rates, reduce the need for pain management services and medication, reduce the number of secondary infections, and reduce the length of patient stays[100]. The hospital-built environment can influence the healing process and have a direct impact on patient outcomes, including reducing levels of patient anxiety and stress, shortening recovery periods after surgery[102,103].

Unfortunately, Cintocare's emphasis on private healthcare makes it largely unaffordable to underserved populations. The hospital provides largely specialised services and contains theatres for complex surgical procedures.

Growthpoint Healthcare Property Holdings is a holding company with a portfolio of six hospitals and a medical chambers building. Currently, there are five properties (four hospitals and one medical chamber) under GHPH Ltd worth ZAR2.7bn. They are managed and operated by Cintocare, Netcare, Mediclinic and Busamed hospital groups[101]. Growthpoint Properties holds 62% in GHPH and has an average lease length of eight years (indicative of the hesitant nature of investing in healthcare real estate)[101].

100) PropertyWheel (2021) **101)** Growthpoint (2021b) **102)** Douglas & Douglas (2004) **103)** Jamshidi, Parker & Hashemi (2020)



Criteria	Rating	Justification
Relevance and coherence	High	• The greening of hospitals and healthcare is growing, and hospital infrastructure offers an opportunity to design, build, manage and invest in healthcare systems and facilities that generate minimal environmental impact. • Climate-conscious healthcare systems and facilities are aligned to regional and global climate change objectives. • Green hospitals are currently a priority in Europe and some Latin American countries[104,105].
Effectiveness and efficiency	Medium	• The IFC's EDGE (Excellence in Design for Greater Efficiencies) tool was used to identify cost effective measures to allow savings in energy and water consumption in health-sector infrastructure projects. For new healthcare buildings, savings could come at an incremental cost of US$20/m2, compared to the incremental cost of current hospital infrastructure at US$49/m2[104]. • The savings generated from green hospital construction also contribute to financial sustainability by allowing resources to be redirected to other health programmes for community care[104]. • By installing solar energy sources in hospitals, access to on-site, clean, affordable energy will enable greater cost-effectiveness, while reducing carbon footprint[106].
Impact	Medium	• KPI's under SDG3 are harder to measure than KPIs focused on energy consumption, however, if adequately planned, healthcare indicators can be incorporated into capital raising[105]. • Of the 47 healthcare funds in the world, only 0,51% had greater than 50% alignment to SDG3[105].
Sustainability	Medium	• The market for green hospital infrastructure in LMICs and underserved areas is promising and requires more uptake, especially in rural and underserved areas. • More financing transactions need to be accompanied by the principles of ESG and green hospital infrastructure to attract funding. • Older hospital infrastructure – especially in the public sector – could be considered for greening in order to generate cost savings, which can be redirected to PHC and other healthcare-system priorities. • The link between patient outcomes and greening needs to be further explored in order to promote green hospitals.

104) Gonzalez-Mahecha, Dalaison & Astorga (2020) **105)** Murdoch (2021) **106)** Burger (2021)

Sustainable investing: sustainability-linked instruments

Classification:	Sustainable investing
Mechanism:	Sustainability linked debt
Description:	A debt instrument that is not restrictive about use of proceeds and where the interest rate is linked to performance against ESG targets. Capital can be raised from either investors or banks.
Case study:	Medi-clinic Sustainability –linked loan
Funder:	Rand Merchant Bank (RMB)
Amount of funding:	RMB & Mediclinic = ZAR8,45bn Standard Bank and Netcare = ZAR1bn

In 2021, Rand Merchant Bank (RMB) was approached by Mediclinic to refinance existing loan facilities of ZAR6,65bn and preference shares of ZAR1,8bn[107]. RMB facilitated a ZAR8,45bn debt package as a sustainability-linked loan[107,108].

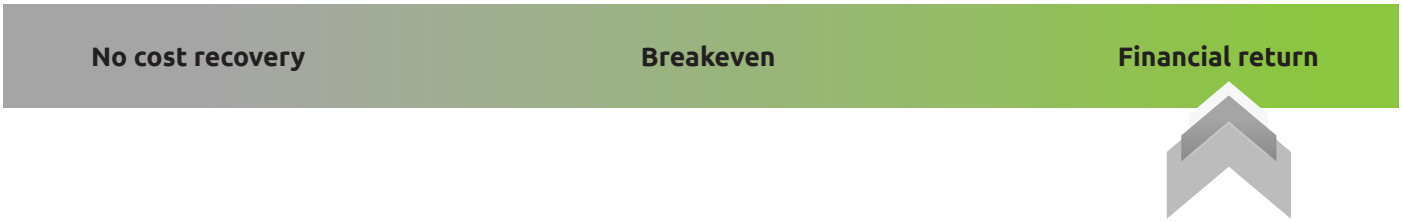
RMB was the sole mandate lead arranger, debt coordinator and sustainability agent, and the Sustainable Finance, ESG Advisory and Loan Syndication teams structured the funding package, which contains a pricing benefit related to the attainment of sustainability-linked key performance metrics:

- Reducing carbon emissions.
- Reducing water consumption.
- Diverting waste away from landfill (reduce, reuse and recycle).
- Improving patient experience[107].

All of the indicators will be independently assessed and measured annually. They are aligned to Mediclinic's ESG strategy and supports them in meeting specific sustainability goals of achieving carbon neutrality by 2030[107,108]. This is in-line with the FirstRand Group's financial strategy of and approach to responsible leverage by managing resources responsibly and efficiently for the benefit of stakeholders and the environment[108]. Furthermore, research suggests that firms that have robust management of environmental, labour and human rights issues are more financially competitive, are more likely to anticipate related legal requirements and have lower credit risk[108].

Sustainability-linked bonds (SLB) are issued with specific ESG targets, which, if not achieved in the specified timeframe, result in a higher coupon rate.[109,110] If the issuer manages to achieve the targets, they benefit from a step down in the coupon rate[110,111]. The principles of SLBs state that they must include third party verification[110,111]. In order to be transparent, the issuers of the SLB must disclose the rationale for selecting the KPIs, motivation for the targets (benchmarking etc.), changes of bond/financial/structural characteristics and trigger events, intended reporting and independent verification[110,111].

107) RMB (2021a) **108)** RMB (2021b) **109)** Schroeders (2021) **110)** International Capital Markets Association (2020) **111)** Wiesner (2021)

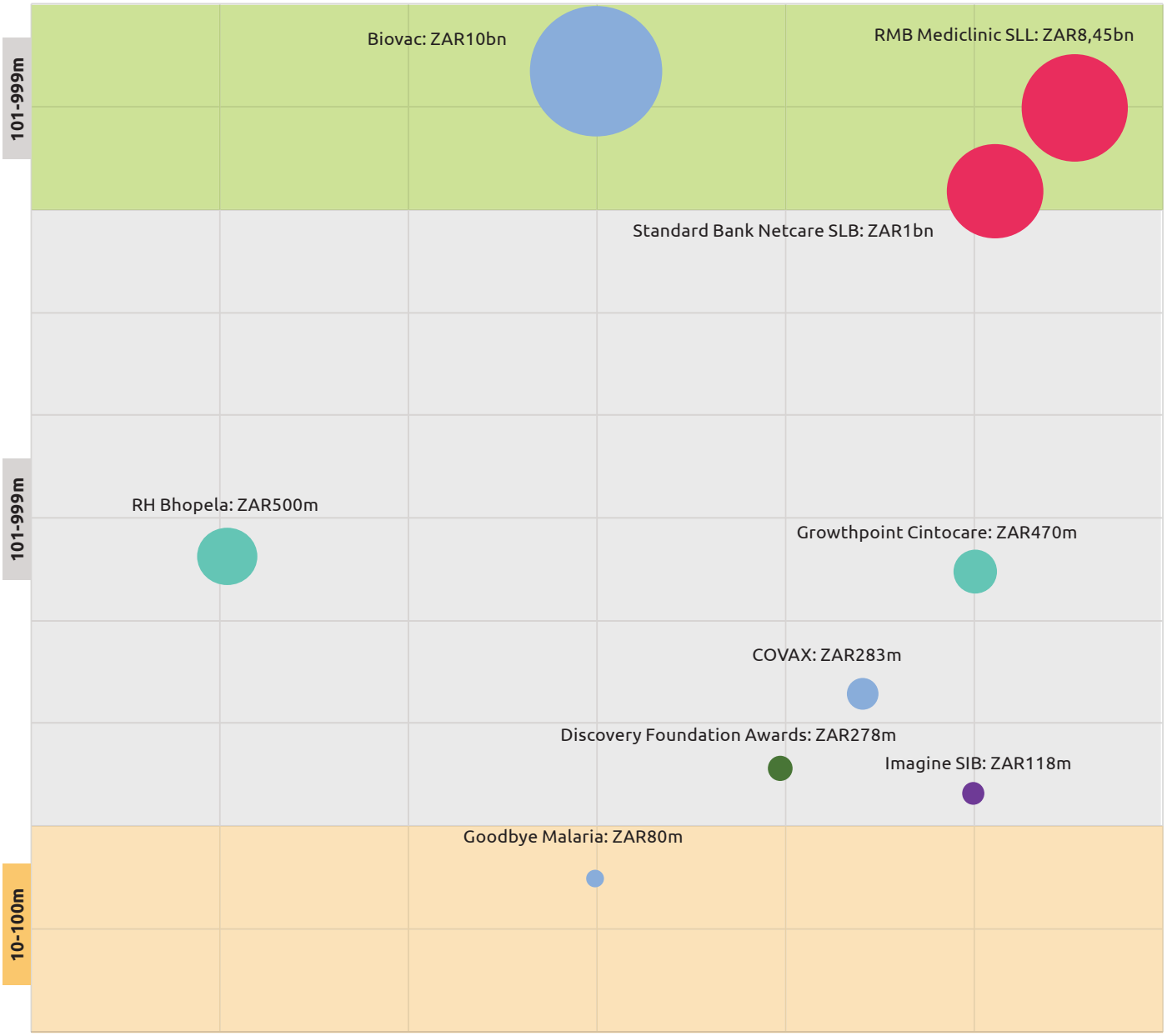


Criteria	Rating	Justification
Relevance and coherence	High	• Because the SLBs are related to performance and the company's commitment to enacting the environmental change, they can be classified as relevant. SLBs also score highly for coherence because, although there are social and green bonds which are more project focused, SLBs contribute to wider organisational change, and therefore do not conflict with the other instruments[109]. • The capital raised for sustainability-linked loans are usually from banks, whereas the capital from SLBs are made through investors.
Effectiveness and efficiency	Medium	• SLBs are not as widespread as green or social bonds[109] and therefore more research on their effectiveness and efficiency is needed. • If there is no achievement of the prescribed targets, the investors are provided with a return on the principal amount lent at the date of maturity as part of the penalty[109]. • A sustainability-linked finance framework has been developed aligned with the Sustainability-Linked Bond Principles. These provide guidance on the selection of KPIs, calibration, structuring the instruments, reporting and verification.
Impact	High	• A profit-for-purpose instrument is focused on the long term and emphasises impact through strong commitments. These instruments are also tied to KPIs which ensure that performance can be tracked over time[109]. • SLBs can also assist a company in meeting their ESG goals[109].
Sustainability	High	• If indicators and KPIs have specific objectives, and if these goals are met on or before the deadline, it is indicative of the company improving. It results in cost reduction through conscious natural resource use, aligning the company's overall strategy to the global movement on climate change, reducing environmental risks through foresight and developing sustainable infrastructure, which makes it conducive for long-term investing[109]. • There is an option for scalability of SLBs by government or state agencies.

109) Schroeders (2021)

Mapping health finance case studies in South Africa

Health financing examples are mapped across a spectrum of their deal size, year and category of investment. These examples are only in the South African context



- **Traditional funding**
- **RBF**
- **Catalytic funding**
- **Impact Investing**
- **Sustainable financing**

RECOMMENDATIONS:

The South African healthcare system is fraught with challenges and requires new ways of thinking about financing for healthcare. Different priority areas can be improved using innovative finance mechanisms to either mobilize new funds or increase efficiency of spend. When selecting innovative health finance initiatives, it is important to analyse the mechanism against the criteria of relevance and coherence, efficiency and effectiveness, impact and sustainability. Furthermore, innovative health finance initiatives should be carefully designed and tailored to the local context, bearing in mind the role of different actors in the ecosystem as well as regulatory and compliance issues.

Strong M&E frameworks, data for decision-making and standardization is also required to measure the impact of innovative finance mechanisms. This will contribute to documenting evidence and sharing lessons among all stakeholders interested in using innovative finance mechanisms in the healthcare setting.

Lastly, there should be a call to action to increase spending efficiency, mobilise additional sources of funding and use the funding in innovative ways. There is also a need to bring in Investors and stakeholders who may have no prior history in investing in health and healthcare and create a network of investors who aim to contribute to the efforts towards SDG3. This radical collaboration can foster new and innovative solutions to strengthen the healthcare system.

CONCLUSION:

This report has provided some context of the South African health system and the various challenges that it faces. It went further to highlight the differences between public and private sector health financing, and analyzed innovative health financing case studies according to OECD criteria.

Health systems were already exploring the use of innovative health finance pre-COVID-19 and the pandemic pushed health systems to innovate for Research and Development, supply chain distribution and access to medicine, some of which also used innovative financing tools. As the South Africa and the southern African region moves to recover from COVID-19, health systems will continue to require innovative finance solutions to ensure that many of the under- served continue to receive access to essential health products and services.

List of Abbreviations	
AGYW	Adolescent Girls and Young Women
AMC	Advanced Market Commitment
API	Active Pharmaceutical Ingredient
COVAX	COVID-19 Vaccines Global Access
COVID-19	Coronavirus or SARS-CoV-2
CSI	Corporate Social Investment
CVD	Cardiovascular Disease
D2H	Debt2Health
DAC	Development Assistance Committee
DALY	Disability Adjusted Life Year
DFI	Development Finance Institution
EPI	Expanded Programme for Immunization
ESG	Environmental, Social and Governance
FSW	Female Sex Worker
GAVI	Global Alliance for Vaccines and Immunizations
GBV	Gender Based violence
GP	General Practitioner
GRPBA	Global Partnership for Results-Based Approaches
HIS	Health Information System
HIV	Human immunodeficiency virus
HRH	Human Resources for Health
HRITF	Results Innovation Trust Fund
ICRC DIB	International Committee of the Red Cross Development Impact Bond
ICT	Information Communications Technology
IF	Innovative Finance
IFC	International Finance Corporation
KMC DIB	Kangaroo Mother Care Development Impact Bond
KPI	Key Performance Indicator
LMIC	Low-middle income countries
MSM	Men who have Sex with Men
NCD	Non-Communicable Disease
NDoH	National Department of Health
NHI	National Health insurance
NSP	National Strategic Plan
OBC	Outcomes-Based Contract
ODA	Official Development Assistance
OECD	Organization for Economic Co-operation and Development
PEPFAR	President's Emergency Plan doe AIDS Relief
PforR	Payment for Results
PHC	Primary Health Care
PPP	Public Private Partnership
PWID	People Who Inject Drugs
QALY	Quality Adjusted Life Year
R&D	Research and Development
RBF	Results Based Finance
REIT	Real Estate Investment Trust

RMB	Rand Merchant Bank
RMEI	Regional Malaria Elimination Initiative
SADC	Southern African Development Community
SAMRC	South African Medical Research Council
SANAC	South African National AIDS Council
SDG	Sustainable Development Goal
SIB	Social Impact Bond
SLB	Sustainability Linked Bond
STIs	Sexually transmitted infections
T2DM	Type II Diabetes Mellitus
TB	Tuberculosis
UHC	Universal Health Care
UPFS	Uniform Patient Fee Schedule
WHO	World Health Organization

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