



Social Innovation in the South African Health Ecosystem

A review of the current state of social
innovation in the South African health
ecosystem in 2025



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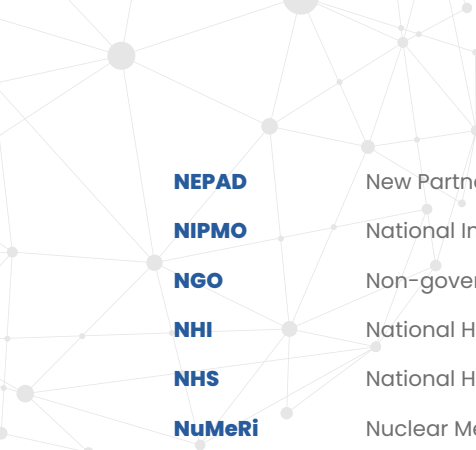
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Acronyms

AfCFTA	African Continental Free Trade Agreement
AHRIF	Africa Health Research and Innovation Funder's Forum
AIDS	Acquired immunodeficiency syndrome
ARLP	African Regulatory Leadership Programme
AUDA	African Union Development Agency
B-BBEE	Broad-based Black Economic Empowerment
CDC	Centers for Disease Control and Prevention (US)
CHW	Community health worker
CPSI	Centre for Public Service Innovation
CSIR	Council for Scientific and Industrial Research
DCST	District Clinical Specialist Team
DFIs	Development Finance Institutions
DSBD	Department of Small Business Development
DSTI	Department of Science, Technology and Innovation
DTIC	Department of Trade, Industry and Competition
ESDE	Ecosystems Development for Small Enterprises
ESO	Entrepreneur support organisations
EU	European Union
GHIA	Global Health Innovation Accelerator
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (German Agency for International Cooperation)
HEIs	Higher education institutions
HINs	Health Innovation Networks
HIV	Human Immunodeficiency Virus
HPTN	HIV Prevention Trials Network
ICSSs	Integrated Care Systems
IDC	Industrial Development Corporation
IDIA	International Development Innovation Alliance
KfW	Kreditanstalt für Wiederaufbau, Germany's development bank
LMICs	Low- and middle-income countries
MeDDIC	Medical Device and Diagnostic Innovation Cluster
MEL	Monitoring, evaluation and learning
MHRA	Medicines and Healthcare products Regulatory Agency (UK)
MRC UKRI	Medical Research Council of UK Research and Innovation
MSM	Men who have sex with men
NCD	Non-communicable disease
NDoH	National Department of Health



NEPAD	New Partnership for Africa's Development
NIPMO	National Intellectual Property Management Office
NGO	Non-governmental organisation
NHI	National Health Insurance
NHS	National Health Service
NuMeRi	Nuclear Medicine Research Infrastructure
NRF	National Research Foundation
ODA	Official Development Assistance
PET/CT	Positron Emission Tomography–Computed Tomography
PHC	Primary Health Care
RD&I	Research, Development and Innovation
RI	Research infrastructure
RIA	Regulatory impact assessment
SADC	Southern African Development Community
SAHPRA	South African Health Products Regulatory Authority
SAMRC	South African Medical Research Council
SAPRIN	South African Population Research Infrastructure Network
SARChI	South African Research Chairs Initiative
SARIR	South African Research Infrastructure Roadmap
SDG	Sustainable Development Goals
SEFA	Small Enterprise Finance Agency
SHA	Social Health Authority
SHIP	Strategic Health Innovation Partnerships
SIHI	Social Innovation in Health Initiative
SMME	Small, medium or micro enterprise
STI	Science, Technology and Innovation
TB	Tuberculosis
TIA	Technology Innovation Agency
TTO	Technology Transfer Office
TVET	Technical and Vocational Education and Training
UCT	University of Cape Town
UK	United Kingdom
UKFCDO	United Kingdom Foreign, Commonwealth and Development Office
UKRI	UK Research and Innovation
UNFPA	United Nations Population Fund
USAID	United States Agency for International Development
VCs	Venture capitalists
WBPHCOT	Ward-based Primary Health Care Outreach Team
WEF	World Economic Forum
WHO	World Health Organization

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Introduction

Over the past decade, there has been growing global recognition of the important role that innovation plays in addressing complex health and development challenges. Many countries are increasingly investing in innovation ecosystems that support the Sustainable Development Goals (SDGs) and help build stronger and more inclusive health systems. Despite these global efforts, recent reports show that progress remains uneven. According to the United Nations (UN), almost half of the global SDG targets show weak or insufficient progress. A concerning 18 per cent of targets have reversed, with the most concerning goal – Zero Hunger (Goal 2) – showing a high percentage of regression. The effects of social and economic inequality have further slowed progress, particularly in developing countries. The SDGs, adopted in 2015 as part of the 2023 Agenda for Sustainable Development, provide a shared blueprint for promoting prosperity while protecting the planet. Two of these goals, SDG 3 (Good Health and Well-being) and SDG 9 (Industry, Innovation and Infrastructure), are directly linked to health innovation. SDG 3 seeks to ensure healthy lives and promote well-being for all at all ages, while SDG 9 focuses on building resilient infrastructure, promoting inclusive and sustainable industrialisation, and fostering innovation (United Nations, 2025). Health innovation is increasingly conceptualised as more than the development of new medical technologies; it encompasses a wide range of strategies designed to improve health systems performance, service delivery and population outcomes (Kosiol, 2024). These strategies include organisational models, community-driven interventions, digital platforms and policy innovations that collectively enhance access, efficiency and equity in healthcare (Tomoh et al., 2025). For example, digital health tools such as telemedicine, mobile health applications and electronic health records have transformed care delivery in resource-limited settings, improving both reach and quality of services (Maita, 2024). Similarly, community-based programmes, including participatory health initiatives and the integration of community health workers, have proven effective in addressing local health needs and promoting preventive care.

Despite these global advances, South Africa's health system continues to face significant structural and financial challenges that hinder equitable access to quality healthcare. The country operates a dual health system characterised by a highly resourced private sector serving a small proportion of the population and an under-resourced public sector serving the majority (The Presidency of the Republic of South Africa, 2024). Around 84 per cent of South Africans rely on the public health system, which is burdened by staff shortages, inadequate infrastructure and inequitable distribution of resources (De Villiers, 2021). Funding constraints have also contributed to persistent gaps in service delivery. According to the National Treasury (2023), real per-capita spending on public healthcare has declined in recent years, limiting the system's ability to recruit and retain skilled professionals or maintain essential services. The inequitable allocation of health resources between urban and rural communities means that patients in rural areas often face longer travel distances, lower staff-to-patient ratios and limited access to specialised care (Health Systems Trust, 2025). The success of health innovation depends not only on the solutions themselves, but also on the broader policy environment, regulatory frameworks and multi-sector collaboration. Studies suggest that innovation ecosystems flourish when governments, private-sector actors, academic institutions and civil society work in concert to share knowledge, align goals and mobilise resources (Mazzucato, 2020; Organisation for Economic Co-operation and Development, 2025). Community engagement is particularly critical; interventions that are co-designed and implemented with local stakeholders are more likely to be adopted, sustained and scaled (Shahid et al., 2025).

Within this context, the International Development Innovation Alliance (IDIA) provides a comprehensive framework for understanding and strengthening innovation ecosystems. Sustainable innovation requires inclusive, locally driven approaches that integrate human capital, infrastructure, finance, policy and partnership (International Development Innovation Alliance, 2021). By viewing innovation as a systemic process rather than isolated technological advancement, the IDIA framework enables policymakers and practitioners to assess ecosystem performance, identify gaps and prioritise interventions that maximise impact. Within the South African context, the application of this framework offers a valuable lens for assessing the strengths and weaknesses of the national health innovation ecosystem, which encompasses government bodies, research councils, universities, non-governmental organisations and private-sector actors (Department of Science and Innovation, 2023). Although significant progress has been achieved (including expanded investment in digital health, biotechnology and local pharmaceutical production), challenges persist in areas including coordination, equitable access and scaling of innovation solutions (ibid).

In South Africa, innovation has become a central focus for addressing long-standing social and health challenges. The country continues to experience high levels of inequality and unemployment, and a high burden of disease driven by Human Immunodeficiency Virus (HIV), acquired immunodeficiency syndrome (AIDS), tuberculosis (TB), non-communicable diseases (NCDs) such as diabetes, hypertension and cardiovascular conditions, and emerging infectious diseases. To respond to these challenges, the Department of Science, Technology and Innovation (DSTI) has placed Science, Technology and Innovation (STI) at the centre of the national development agenda. The 2019 *White Paper on Science, Technology and Innovation* and the *STI Decadal Plan (2022–2032)* outline a vision of inclusive and sustainable partnerships that support social and economic transformation (Department of Science and Innovation (Department of Science and Innovation, 2019; Department of Science and Innovation, 2022). These policy frameworks align with the *National Development Plan 2030*, which shows innovation as a key enabler for improving health outcomes, creating employment opportunities and building a knowledge-based economy (National Planning Commission, 2013).

This review analyses the current state of social innovation in the South African health ecosystem, identifying the key role-players, reviewing the current enablers, barriers and key developments in the space, and outlining a set of recommendations to further strengthen the ecosystem.

Methodology

This review applied a mixed qualitative and desk-based research approach, guided by the IDIA framework (2021) and the World Health Organization (WHO) Health Systems Building Blocks (2010). Together, these frameworks provided a structured lens to assess how South Africa's innovation ecosystem supports the development, scaling and sustainability of social innovations in health.

Data collection

Two primary data collection methods were used:

- **Desktop research:** A review of peer-reviewed and grey literature, national policy documents, government reports and global case studies was undertaken to establish the contextual foundation of South Africa's health innovation ecosystem. This provided insight into global and local trends, enabling conditions, and institutional arrangements shaping the sector.
- **Key Informant interviews:** Thirty-eight semi-structured interviews were conducted with a diverse range of stakeholders across the public sector, private sector, research and academic institutions, and international development organisations. Interviewees represented the following types of stakeholder: eight interviewees from academia and research councils; two from entrepreneur support organisations (ESOs); six from startups, scale-ups or social enterprises; seven from international development organisations, foundations, or international cooperation bodies; two from investment actors; five from the private sector, including pharmaceuticals, medical aid schemes, healthcare providers and corporate innovation; and eight interviewees from public-sector institutions, including national and provincial departments and regulators. Participants were purposively selected based on their expertise, leadership roles and direct involvement in South Africa's health innovation ecosystems. Interviews were conducted between July and October 2025, lasting approximately one hour each and exploring actors' perspectives on ecosystem enablers and barriers, and recent developments related to human capital, finance, policy, culture and infrastructure, among others.

Data analysis

Interview data were thematically coded and triangulated with desktop findings to ensure validity and depth. This combination enabled the identification of converging insights and outlier perspectives, offering a balanced understanding of systemic strengths, weaknesses, opportunities and threats. The synthesis was organised using the nine IDIA ecosystem goals (Figure 1) to map linkages between health system performance and innovation activity.



Figure 1: Ecosystem-strengthening goals (IDIA, 2021)

Validation and synthesis

Emerging findings were iteratively reviewed and discussed among the research team to ensure analytical rigour and consistency. Cross-comparison with international benchmarks (United Kingdom, Kenya and India) provided comparative insight into policy and institutional models supporting social innovation in health. Finally, the draft findings were presented to all interviewees and additional stakeholders in a validation session for inputs and comments, and these comments were incorporated into the final report.

Output

The final insights presented in this report represent an analysis and synthesis of both evidence streams (desktop research and stakeholder interviews), thus providing an integrated, system-level overview of South Africa's ecosystem of social innovations in health, along with practical recommendations to strengthen it going forward.

Limitations

While this review aimed to provide a comprehensive overview of South Africa's ecosystem of social innovations in health, several limitations should be noted.

Broad scope versus analytical depth

Given the intentionally wide scope of this review, covering a wide definition of social innovations in health spanning biomedical, medical technology (MedTech), digital health, and business model and service-level innovations, it was not possible to explore each thematic area or stakeholder perspective in depth. The analysis therefore prioritised breadth and systems-level insight over granular, domain-specific detail (for example, within subfields such as MedTech regulation, digital health, or financing mechanisms).

Non-exhaustive set of findings

Although the review triangulated desktop research with 32 key informant interviews, it does not represent an exhaustive mapping of all initiatives, actors or viewpoints active within the health innovation ecosystem. The findings reflect the perspectives of the stakeholders engaged and the information available at the time of data collection (August to October 2025). Additional insights may emerge as new programmes, policies and market developments unfold.

Variability in data availability and consistency

Some data gaps exist in publicly available information and in the documentation of ongoing initiatives, especially those implemented through cross-sector or donor-funded partnerships. As a result, some findings rely on qualitative accounts rather than consistent, standardised datasets.

Time and contextual constraints

The health innovation landscape in South Africa is dynamic and evolving. Policies, regulatory frameworks and institutional roles are undergoing change, meaning that some findings may shift as implementation progresses or new reforms take effect.



Definitions

Social innovation in health

Social innovation in health refers to novel solutions such as processes, products, practices, market mechanisms or models developed in response to priority health needs within specific social and geographical contexts (Social Innovation in Health Initiative, 2017). These innovations aim to improve health outcomes by being more inclusive, effective, equitable and sustainable than current alternatives (Murray, 2010). They create value that primarily benefits communities and the broader health system rather than private individuals (Phills, 2008), and they often foster new social relationships while shifting resource flows or institutional norms to enhance the system's capacity to act. Importantly, these innovations should be scalable and adaptable (Westley & Antadze, 2010).

This definition aligns with South Africa's 2015 *Health Innovation Implementation Plan*, which defines health innovation as "the development of new drugs, vaccines, diagnostics and medical devices, as well as new techniques for process engineering and practices, and new approaches in policies in health systems and services, including a better understanding of human behaviour" (Avenyo, Habiyaemye & Tregenna, 2024). However, subsequent analysis (ibid.) notes that global and local policymakers continue to lack a coherent definition of what health innovation is or is for, often prioritising technological innovation over systemic and social innovation within health systems.

In line with the WHO, which defines health innovation as "a new or improved solution with the transformative ability to accelerate positive health impact" (World Health Organization, 2023), social innovation in health thus recognises that innovation is not synonymous with technology. It can occur at multiple entry points of the health system – from governance and service delivery to community participation and behavioural change – and may include both high-tech and low-tech or non-tech approaches that achieve measurable improvements in access, affordability, inclusion, effectiveness, quality, safety and sustainability.

Accordingly, social innovations in health:

- Address priority health needs, especially of underserved or marginalised populations;
- Are cross-sectoral and community-engaged, involving civil society, government, academia and the private sector;
- Transform social structures or relationships, shifting power dynamics, improving equity and strengthening collaboration;
- Demonstrate measurable impact on access, affordability, inclusion and effectiveness of health services;
- Are both incremental and systemic, with potential for scaling and/or transfer across contexts;
- Can include non-technological or low-tech solutions, provided they drive meaningful social and health outcomes.

They exclude:

- Initiatives that are purely commercial or profit-driven, where social benefit is incidental or secondary;
- Conventional health system reforms or programmes that replicate standard systems without significant novelty or contextual adaptation;
- Technology innovations that lack social transformation or value creation for disadvantaged groups;
- Projects without evidence or a strong business case demonstrating improved social or health outcomes beyond the status quo.





Social entrepreneurship or enterprise

Social entrepreneurship is the pursuit of sustainable, systemic solutions to social challenges through entrepreneurial action. Social entrepreneurs act as change agents, using innovation, creativity and bold leadership to address persistent social problems, often targeting entrenched inequalities or unmet needs (Martin & Osberg, 2007). They prioritise social impact over personal gain, continually adapting and learning to create lasting value for marginalised groups and society at large (Dees, 1998). A social enterprise is the organisational vehicle through which social entrepreneurs operate, using commercial strategies to generate income while advancing a core social mission (Weaver, 2023). These enterprises reinvest their profits primarily into achieving social objectives, rather than maximising shareholder returns.

Social impact and social justice

Social impact refers to the beneficial and lasting changes in people's lives that result from prosocial actions, policies or interventions. These outcomes are experienced by the intended individuals, communities or environments – and may extend to broader societal systems (Rawhouser, Cummings & Newbert, 2017; Nicholls & Emerson, 2010).

Social justice underpins this by striving for the equitable distribution of resources, opportunities and recognition across all social groups, ensuring that individuals have the fair capacity and agency to shape society in ways that meet their needs (Badgett, 2022).

“Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.”

– Preamble to the Constitution of the WHO, 1948.

Health and health systems

A **health system** comprises all people, institutions, resources and activities whose primary purpose is to promote, restore and maintain health. Organised in line with established policies, it aims to improve population health, respond to people's legitimate expectations and protect them from the financial consequences of ill-health. Health systems must: (1) provide services, (2) generate the human and physical resources that make service delivery possible, (3) raise and pool the resources used to pay for healthcare and (4) undertake stewardship – that is, set and enforce the rules of the game and provide strategic direction for all actors involved. These functions are performed to achieve (1) health, (2) responsiveness to people's non-medical expectations, and (3) fair (financial) contribution. (World Health Organization, 2000; World Health Organization, n.d.)

Health systems strengthening entails the process of identifying and implementing strategic changes in policies, practices or structures that improve one or more health system functions, ultimately enhancing access, coverage, quality or efficiency to better address a country's health and system challenges (World Health Organization, 2011; Islam, 2007).

The innovation ecosystem role-players

An innovation ecosystem is a dynamic network of interdependent actors, institutions and relationships that collectively enable new ideas, technologies and approaches to emerge, scale, and deliver impact. These ecosystems are not defined by strict boundaries; they often span local, national and global levels, and include a diverse mix of public- and private-sector players, research and academic institutions, investors, entrepreneurs, development partners, intermediaries and civil society organisations. Each brings distinct resources, expertise and functions – from policy-setting and regulation to financing, research, commercialisation, advocacy and end-user engagement.

What makes innovation ecosystems effective is the connectivity, credibility and collaboration among stakeholders, as well as various enabling conditions – such as supportive policies, finance, human capital, infrastructure and culture – that allow innovations to move from ideation through to sustainable scale. When these elements align, ecosystems become powerful engines for translating health challenges into transformative solutions that improve access, equity, quality and resilience across health systems.

Table 1 below details the categories of stakeholders involved in social innovations in health, and the roles they generally play.

Table 1

 <p>Government / Public sector</p> <p><i>Includes all layers of governments (from national to local) and implementing agencies.</i></p>	<p>Policy and regulation: Sets the legislative, regulatory and policy framework that guides health innovation, including intellectual property, procurement, clinical trials, and accreditation.</p> <p>Funding and incentives: Provides public financing for research and innovation, including through the DSTI, National Department of Health (NDoH) and other state agencies.</p> <p>Health system stewardship: Defines national and provincial health priorities (e.g., National Health Insurance, HIV/TB programmes, maternal and child health, digital health) and creates demand for scalable innovations.</p> <p>Coordination: Serves as a convener, aligning stakeholders across government, the private sector and civil society around health innovation strategies.</p> <p>Procurement: Acts at market-shaping level by directing public expenditure towards goods, services and technologies that advance health system goals.</p>
 <p>Funders and development agencies</p> <p><i>Includes multilateral agencies and development banks, bilateral donor agencies, global health and innovation funds, academic and research funders, international NGOs and trusts (as re-granters and intermediaries), and philanthropic and corporate foundations.</i></p>	<p>Resource mobilisation: Provide grants, technical assistance and blended financing for social innovations in health, especially targeting underserved or marginalised populations.</p> <p>Risk-sharing: Absorb early-stage risk to support experimentation, pilots and capacity-building.</p> <p>Global linkages: Connect South African innovators to international best practice, networks and funding streams.</p> <p>Capacity development: Fund ecosystem-strengthening initiatives such as health innovation challenges, research consortia, and monitoring/evaluation platforms.</p> <p>Convening: Leverage their reach and power to act as conveners, most often around innovation or development challenges.</p>

Banks and financial services providers



Includes banks, financing or investment actors such as venture capitalists (VCs), private equity, family offices, high-net-worth individuals.

Investment capital: Provide debt and equity financing for health startups, social enterprises and SMMEs, although often risk-averse.

Financial innovation: Develop blended finance models, health bonds and impact investment mechanisms suited to social innovation.

Advisory support: Offer financial literacy, investment-readiness and business development services to health innovators.

Scaling enabler: Catalyse transition from grant dependency to sustainable business models.

Healthcare industry / Private sector



Includes hospital networks, medical insurance companies, the pharmaceutical industry and the broader medical industry.

Market creation: Develop and adopt innovative products, processes and service delivery models, often through partnerships with public health systems.

Technology transfer: Bring in new health technologies and adapt them to local needs.

Commercial pathways: Provide scale-up opportunities through manufacturing, distribution and health supply chains.

Partnerships: Collaborate with innovators to pilot, validate and integrate solutions in clinical or community settings.

Innovation catalysts: Enable innovation through collaboration and coordinated efforts, both within and beyond the organisation, to bring new ideas to life.

Startups / innovators



Includes health startups, social enterprises and individual innovators.

Innovation drivers: Generate novel solutions (products, processes, business models) addressing priority health needs.

Agility and experimentation: Rapidly test and adapt approaches to suit local contexts.

Equity focus: Frequently address gaps in underserved communities, with potential for inclusive impact.

Catalysts for change: Challenge status quo models and highlight new ways of delivering care.

Staying power: Maintains sustained commitment to advancing and scaling their innovation despite financial pressures, procurement fatigue or operational obstacles.

Entrepreneur support organisations



Includes hubs, incubators, accelerators and innovation support programmes.

Capacity-building: Provide mentorship, technical skills, business support, and access to labs/workspaces.

Networking: Connect innovators to funders, government, and industry partners.

Validation platforms: Support pilots, prototyping, and testing of health innovations.

Scaling: Strengthen innovators' ability to grow beyond the early stages.

Education and academia



Includes universities, other education facilities, research institutes and consortia.

Research and knowledge generation: Conduct basic and applied health research, generating evidence that underpins innovation.

Training and skills development: Build a pipeline of health professionals, researchers and entrepreneurs with innovation and implementation skills.

Knowledge transfer: Provide evidence for policymakers and practitioners to inform adoption of innovations.

Partnerships: Collaborate with innovators, industry and government in consortia, clinical trials and demonstration projects.

Convening: Bringing together academia, innovators, ESOs, etc., to tackle specific challenges related to research and innovation.

Councils



Includes professional associations and bodies, industry associations and professional councils.

Standard-setting: Define professional and ethical standards for health innovations.

Advocacy: Influence policy and represent the interests of members (clinicians, pharmacists, nurses, traditional healers, etc.).

Capacity-building: Provide continuous professional development and training.

Quality assurance: Ensure health innovations are safe, effective and aligned with national standards.

Civil society and NGOs



Includes community-based organisations, NGOs, advocacy and rights groups and faith-based organisations.

Advocacy / Voice of communities: Articulate the needs and priorities of underserved and marginalised populations.

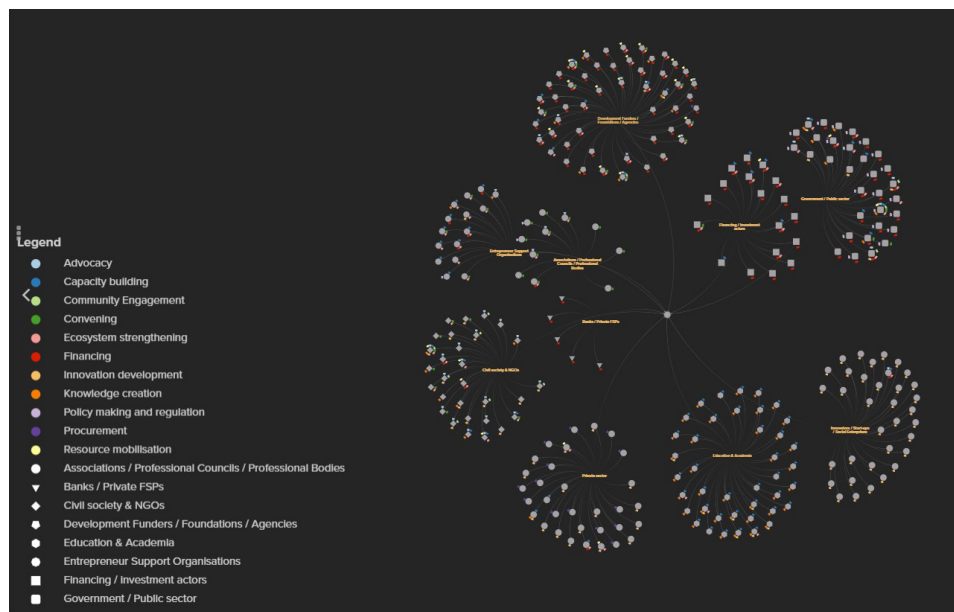
Demand generation: Drive uptake of health innovations by building trust and community engagement.

Accountability: Monitor government, funders and the private sector to ensure equity, transparency and inclusivity.

Co-creators: Partner in co-design and implementation of social innovations, ensuring relevance and sustainability.

A stakeholder map of the South African ecosystem of social innovations in health was created based on insights from interviews. Figure 2 (right) shows the outcome of the stakeholder mapping activity.

This map should not be taken as an exhaustive list of stakeholders, as it reflects the data that the authors were able to collect during the research project. If you would like to submit an entity for addition to the ecosystem, please fill in the following form: South African Social Innovation in Health Ecosystem Review 2025.



<https://amybenn.kumu.io/social-innovation-in-the-south-african-health-ecosystem>

Figure 2: Stakeholder map: Social innovation in the South African health ecosystem

The current state of social innovation in the South African health ecosystem

Overview

The IDIA framework serves as a diagnostic and learning tool to assess the extent to which ecosystem strengthening factors, or goals, support an enabling environment for innovation to take place, or for the creation of a strong innovation ecosystem (IDIA, 2021). IDIA highlights nine specific goals that, if well-developed, catalyse the effectiveness of innovation in any ecosystem. These goals are: Building informed human capital; ensuring accessibility of finance for innovation processes; establishing supportive research, markets, energy, transport, and communications infrastructure; creating enabling policies and regulations; nurturing a culture supportive of innovation and entrepreneurship; supporting networking assets that enable productive relationships between different actors; ensuring equitable and inclusive ecosystem governance and participation; creating smoother pathways to scale for specific innovations; and mobilising a collective ecosystem approach to address a particular development challenge.

Informed by desktop research and stakeholder interviews, the current context, enablers, barriers and key developments in each of the goals were mapped out. An overarching SWOT analysis – which aims to condense the key takeaways of the detailed analysis in subsequent sections – is presented in Table 2 below.



Table 2: Overview of the ecosystem

S W O T	Strengths	S W O T	Weaknesses
	<ul style="list-style-type: none"> South Africa has a mature health innovation ecosystem, supported by robust public-private partnerships across the Department of Science, Technology and Innovation (DSTI), the South African Medical Research Council (SAMRC), universities, research councils, National Health Laboratory Service (NHLS), South African Health Products Regulatory Authority (SAHPRA), and international collaborators like the United States National Institutes of Health (NIH), the HIV Prevention Trials Network (HPTN), the United Kingdom (UK) Medicines and Healthcare products Regulatory Agency (MHRA), and the UK's National Health Service (NHS). A solid Research, Development and Innovation (RD&I) and academic base, combined with extensive research infrastructure and innovation hubs, enables collaboration, clinical trials and commercialisation across sectors. A diverse and growing network of ESOs, incubators, accelerators and hubs provides training, mentorship and commercialisation support to innovators. Specialised programmes link academia and practice, while global mentorship and investor networks expand market reach. Platforms such as The Innovation Hub, eKasi Labs, GAP and Innovation Bridge actively connect innovators with funders including the SAB Foundation, Grovest, and Old Capital Partners. South Africa exhibits strong government commitment to innovation through a comprehensive and evolving policy framework that spans multiple sectors, including digital health, research and innovation infrastructure, and science and technology development. The COVID-19 pandemic accelerated support and financing for health innovations, catalysing a surge in telemedicine, diagnostics, and maternal and community health pilots that have demonstrated clear proof of concept and early scaling potential. With high mobile penetration and reliable network coverage, low-data digital health solutions can reach users across socio-economic and geographic divides. This growing digital adoption, coupled with rising investor confidence, is driving both local and international investment into South Africa's emerging health innovation market. Access and affordability are seen as primary criteria for investment, with a focus on improving health outcomes for women and children. South Africa boasts a strong grassroots innovation culture. Social sciences have begun to be integrated into innovation work, through a combination of science, technology, engineering and mathematics (STEM) and social sciences, humanities and the arts (SHAPE) disciplines, which is enhancing technical innovations' applicability and adoption. 	<ul style="list-style-type: none"> Academic performance metrics prioritise publications over practical impact, resulting in limited translation of research into real-world innovation and entrepreneurship. This gap weakens the link between academic outputs and tangible health or commercial outcomes. The innovation ecosystem faces fragmentation and limited coordination, with many actors working in silos, and limited visibility across initiatives. Institutional capacity constraints, including a shortage of technology-transfer professionals, high staff turnover in historically disadvantaged institutions, and limited mandates and funding for agencies such as the National Intellectual Property Management Office (NIPMO) and the Technology Innovation Agency (TIA), undermine effective collaboration and translation pathways. In addition, limited market preference, compliance bottlenecks, and unfavourable cost and tariff dynamics undermine the viability of South African-made MedTech innovations. Funding for innovation is fragmented and difficult to access, with slow procurement processes, rigid co-funding rules, and reduced availability of local financing compared to previous years. These inefficiencies hinder timely implementation and scaling of innovations. Innovation efforts are hampered by high compliance and development costs, unclear and fragmented regulatory processes, and public-sector contracting bottlenecks, including the absence of a centralised procurement system, which varies by province. Despite strong policy ambitions, implementation remains uneven, and limited supportive ecosystems for social innovation constrain health system-strengthening and scaling. Smaller, township, and rural innovators face barriers to engaging major hospitals, corporates and funders, with bureaucracy and institutional misalignment further slowing collaboration and uptake. Persistent emigration of skilled professionals and weak mechanisms for knowledge transfer within networks undermine long-term ecosystem learning and continuity. There is insufficient strategic focus and support for scaling South African innovations across other African markets, constraining regional influence and market growth. 	

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Opportunities

- There is growing policy and institutional commitment to integrating Indigenous Knowledge Systems (IKS) into South Africa's innovation and health research agendas. This creates opportunities to embed traditional knowledge, practices and community participation into innovation design and delivery, fostering contextually relevant, culturally grounded and sustainable health solutions.
- Africa's growing focus on consistent standards and regulatory harmonisation presents an opportunity to build trust and enable safe scaling of innovations, including AI-based medical devices. Regional market integration would expand market size and attract greater investment, while international partnerships (particularly with the US and UK) offer valuable pathways for benchmarking, funding access, and knowledge exchange to strengthen continental innovation capacity.
- There is growing potential for philanthropic and corporate investment, alongside a broader shift from traditional aid towards partnership-based and expertise-driven funding models. This evolution supports more sustainable, collaborative and impact-oriented financing for innovation and health system strengthening.
- South Africa can leverage its strong policy foundation, through the STI Decadal Plan, MedTech Master Plan and initiatives like Strategic Health Innovation Partnerships (SHIP), to deepen collaboration between government, academia and industry and create smoother pathways to scale. Existing assets such as NIPMO's 27 World Intellectual Property Organisation (WIPO) Technology and Innovation Support Centers (TISCs) hosted in South African institutions can be expanded for training, intellectual property (IP) support and knowledge exchange, while international partnerships like SAHPRA-MHRA and alignment with global regulatory standards offer avenues to accelerate approvals, strengthen local manufacturing and open export markets.
- There is increasing momentum towards co-design and multi-stakeholder collaboration, with social innovation labs, challenge-based procurement and participatory approaches creating more enabling environments for scaling impactful solutions. At the same time, the rising legitimacy of social enterprises in the market strengthens demand for inclusive, impact-driven innovation models that blend social and commercial value.
- The continued rollout of digital health systems and the rapid adoption of telehealth, data-driven platforms and AI-powered solutions are creating new opportunities for local technology development and workforce upskilling, strengthening South Africa's capacity to deliver and scale innovative health solutions.

Threats

- Persistent digital divides – across rural and urban areas, income groups and digital literacy levels – combined with the continued exclusion of township innovators, risk widening inequality in South Africa's innovation landscape. Without inclusive policies and targeted support, digital health and technology ecosystems may reinforce existing disparities rather than bridge them.
- Lengthy payment cycles, complex procurement procedures and strict Public Finance Management Act (PFMA) compliance create barriers for innovators engaging the public sector. At the same time, many locally developed solutions are tailored to private healthcare, limiting their fit and scalability within public systems such as South Africa's future National Health Insurance (NHI) model.
- South Africa's innovation ecosystem remains vulnerable to donor dependence, with initiatives at risk when major funders withdraw, and limited local mechanisms to sustain them. At the same time, intensifying global competition and market saturation make it difficult for local innovations to compete internationally. Rising competition for grants further threatens sustainability, underscoring the need to develop diversified and resilient funding models.
- Innovation efforts risk being guided by technological novelty over real-world needs, leading to solutions that lack relevance or adoption.
- Unclear maintenance and sustainability plans for research infrastructure threaten the long-term viability of major capital investments currently being implemented.

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South Africa's National Health Insurance

A discussion of South Africa's ecosystem of social innovations in health is incomplete unless it is grounded in an acknowledgement of the significant role that the National Health Insurance (NHI) system will play in reshaping the health sector. The NHI represents one of the most significant health system reforms since the end of apartheid, aiming to achieve universal health coverage by pooling resources and ensuring equitable access to quality healthcare for all citizens. Beyond its policy ambitions, the NHI also has far-reaching implications for social innovations in health, from how services are designed and financed to how care is delivered and governed.

Its success will depend on how effectively national vision is translated into practical, accountable and locally responsive delivery systems. Stakeholder insights and lessons from international experience, particularly from the UK, Kenya and India (please refer to the [Country Benchmarks section](#)), highlight the value of coupling central coordination with devolved implementation, ensuring both consistency and flexibility across diverse health contexts.

Key insights include the need for a governance model that combines a single national purchaser with locally managed service compacts; financing systems that reward quality and outcomes rather than volume; and the establishment of transparent, evidence-based mechanisms for technology adoption and procurement. Digital infrastructure is another cornerstone – linking patients, facilities and funders through interoperable systems to improve data-driven decision-making.

Equally important are investments in primary care, workforce capacity and public trust. By empowering multidisciplinary teams, promoting preventative care and celebrating early wins that demonstrate improved service delivery, the NHI can build confidence and momentum. Collectively, these insights suggest that with transparent governance, adaptable implementation and a commitment to learning, the NHI can evolve into both a driver of equitable healthcare and a platform for inclusive health innovation.





1.

**Building
Human Capital**

1.

Building Human Capital

Current context

Human capital is a critical driver of innovation and health system performance, encompassing the knowledge, skills, experience and capabilities of individuals that collectively influence the development, implementation and scaling of impactful solutions (Ogundaini & Mavhandu-Mudzusi, 2024). In South Africa, digital initiatives such as Vula mobile, Mom-Connect and telemedicine platforms like Quro Medical provide healthcare professionals with practical opportunities to acquire digital skills and strengthen patient-management capabilities (Mbunge et al., 2022). However, adoption of these tools is uneven, with younger professionals more readily adapting to digital platforms, while older staff, particularly women in rural areas, face barriers related to literacy, technology access and usability, compounded by limited availability of smartphones, affordable data and structured digital training programmes (Agbeyangi, 2025).

Urban-rural disparities further exacerbate these gaps, as healthcare workers in rural areas often have limited access to the training, mentorship and infrastructure necessary for effective use of digital tools (Mwansa et al., 2025). Beyond technical competence, effective innovation requires business acumen, regulatory knowledge and the ability to engage end-users. However, many innovators encounter difficulties navigating regulatory frameworks, aligning solutions with public-sector procurement processes and translating research into scalable applications (Gretler, 2025). The broader health and innovation ecosystem relies heavily on collaboration among universities, government agencies, SMMEs and international partners, highlighting that human capital development is embedded within complex, interconnected systems (Department of Science and Innovation, 2025). Despite strong theoretical knowledge among many professionals, mismatches between formal training and practical, regulatory, or community needs limit the workforce's ability to fully contribute to the innovation ecosystem (Adcorp Group, 2025).

Enablers

The critical skills required to enable health innovation to take place are technical, digital, transdisciplinary, and entrepreneurial skills.

Technical skills remain a core strength within South Africa's health and research sectors. The country has a well-established foundation in medical, pharmaceutical and biomedical sciences, supported by advanced training and research infrastructure at institutions such as the University of the Witwatersrand, Stellenbosch University, the University of Johannesburg, the University of Cape Town, the University of Pretoria and Sefako Makgatho Health Sciences University. These universities offer postgraduate programmes that integrate research with industry exposure, providing health students with hands-on experience in innovation and problem-solving (Department of Higher Education and Training, 2020). Stakeholders confirmed that this technical capability has been further enhanced through government investment in health sciences training and innovation-focused research, reinforcing South Africa's capacity to develop, test and implement new health technologies. The Department of Higher Education and Training's (DHET) strategic plan for 2020–

2025 emphasises the importance of an integrated, coordinated and articulated post-school education and training system to improve economic participation and social development, with a specific focus on expanding access to quality education and training in health sciences (Department of Higher Education and Training, 2020).

The Health and Welfare Sector Education and Training Authority (HWSETA) Sector Skills Plan highlights ongoing technical skills development through training and professionalisation programmes, ensuring that health workers acquire and maintain competencies aligned with sector needs (Health and Welfare Sector Education and Training Authority, 2019).

Stakeholders highlighted that South Africa's academic and research institutions provide a strong technical foundation for the MedTech sector. Universities such as the Central University of Technology (CUT), University of the Free State (UFS) and University of Cape Town (UCT) produce graduates with strong competencies in bioengineering, biotechnology, chemistry and related scientific fields. These technical skills form the backbone of product design, manufacturing and quality assurance processes.

Stakeholders further noted that practical training facilities, such as the Centre for Rapid Prototyping and Manufacturing (CRPM) and the Product Development Technology Station at CUT serve as vital platforms for developing applied technical expertise. These facilities enable students and researchers to gain hands-on experience in medical device innovation and production, bridging the gap between academic learning and industrial application.

Digital skills development has accelerated through both higher education and community-based initiatives. Technical and Vocational Education and Training (TVET) colleges complement university programmes by equipping students and mid-career professionals with applied digital and technical competencies relevant to healthcare, such as digital data management, electronic health records and telehealth operations. Department of Communications and Digital Technologies (2020) initiatives such as the National Digital and Future Skills Strategy (2021–2025) and the National e-Health Strategy (2019–2024) further promote digital literacy and workforce readiness, ensuring alignment with South Africa's broader digital transformation goals. Innovation hubs such as The Innovation Hub, eKasi Labs, Propella Business Incubator, the Vaal University of Technology's I2P Lab and UCT's Solution Space provide mentorship, technical training and digital entrepreneurship support to innovators, enhancing digital fluency and encouraging collaboration across the health and technology sectors (Percept, 2021).

Stakeholders acknowledged that digital capabilities are increasingly central to MedTech innovation. They highlighted the growing importance of data literacy, digital design and automation skills, which support research, prototyping and production efficiency. The integration of 3D-printing technologies and digital manufacturing systems at institutions such as CUT was cited as a positive example of how digital skills can enhance product development and reduce lead times. Stakeholders also discussed the importance

of developing national digital systems, such as a centralised human capital database hosted by the Council for Scientific and Industrial Research (CSIR). This platform will consolidate data on training programmes, skills and employment trends, enabling evidence-based decision-making and improved coordination across the MedTech sector.

Entrepreneurial skills are increasingly recognised as critical to health innovation and sustainability. Stakeholders noted that training providers delivering Continuous Professional Development (CPD) programmes to healthcare professionals have begun integrating entrepreneurship modules into their offerings to foster innovation, leadership and commercial thinking among health workers. This growing recognition of entrepreneurial competence as a key component of health innovation reflects South Africa's shift towards a more holistic human capital development approach that values both technical and non-technical expertise. Similarly, innovation incubators and funding agencies such as the TIA and NIPMO support entrepreneurship through business development training, regulatory support and market-access facilitation (Ogundaini & Mavhandu-Mudzusi, 2024).

Stakeholders highlighted the need to strengthen entrepreneurial and business management skills within the MedTech ecosystem. Many innovators and researchers possess strong technical knowledge but lack the commercial acumen required to scale products or navigate market entry. Strengthening entrepreneurship training – especially in regulatory compliance, intellectual property management, and business development – was identified as a key enabler for industry growth.

Universities and Sector Education and Training Authorities (SETAs) – particularly the Manufacturing, Engineering and Related Services SETA (MerSETA) and the Health and Welfare SETA (HWSETA) – have expressed commitment towards collaborating on the alignment of training programmes with industry needs.

This alignment is expected to foster an entrepreneurial mindset among graduates and promote the emergence of startups and small enterprises in the medical technology space.

Transdisciplinary skills, which enable collaboration across scientific, social and policy domains, are also increasingly prioritised. The integration of STEM and SHAPE disciplines enhances the social relevance, ethical grounding and sustainability of innovations (Royal Society & British Academy, 2021). Institutions such as the NHLS exemplify this approach by providing research and development (R&D) support across clinical and diagnostic sciences. Through collaborations with academic institutions, industry partners and healthcare providers, the NHLS brings together laboratory scientists, clinicians and technology developers, fostering cross-disciplinary problem-solving and translating research into practical, socially impactful health innovations. Similarly, the CSIR supports health innovation through multi-disciplinary research that combines biomedical science, engineering and data analytics. Its projects link health, digital technology and engineering solutions, fostering collaboration across sectors and translating scientific knowledge into practical, socially impactful innovations.

Stakeholders emphasised that MedTech innovation requires collaboration across disciplines, combining expertise in health sciences, engineering, data analytics and policy. Transdisciplinary training approaches that bring together students and professionals from multiple fields were viewed as essential for solving complex health and technology challenges. In this regard, stakeholders supported the idea of establishing an employment and collaboration hub to connect graduates, researchers and industry partners. Such platforms would encourage knowledge exchange and promote cross-sector innovation. Furthermore, ongoing collaboration between universities, SETAs and regulatory bodies was seen as critical to ensuring that training programmes remain responsive to emerging industry trends and regulatory requirements.



Barriers

Despite notable progress, human capital development in South Africa's innovation ecosystem faces persistent and structural barriers.

Brain drain and workforce retention remain critical challenges, as skilled professionals often migrate in search of better-funded opportunities abroad, reducing continuity and local capacity for innovation (National Research Foundation, 2023). Generational disparities and digital literacy gaps further hinder the effective adoption of emerging technologies, particularly among older health professionals and those based in rural or resource-limited settings (Agbeyangi, 2025).

Infrastructure and connectivity limitations continue to constrain participation in digital innovation initiatives. Many rural and township areas face inadequate broadband access, unreliable electricity and high data costs, which restrict access to online training, research collaboration and digital platforms essential for innovation (U.S. Chamber of Commerce, 2024). Unequal access to mentorship and funding worsen these inequalities, with innovators from urban areas benefiting disproportionately from established innovation hubs and accelerator programmes, while rural innovators remain underrepresented (Department of Science and Innovation, 2022a).

Regulatory complexity and administrative burdens limit early-stage innovators from navigating compliance, intellectual property protection and ethical approval processes efficiently. These challenges delay commercialisation and discourage SMMEs from entering the health innovation market (Zulu, 2023). Many innovators also face limited business acumen and commercialisation experience, leading to unsustainable business models and reduced scalability of promising innovations (Percept, 2021).

At the educational level, mismatches between academic training and industry needs persist. While universities and TVET colleges provide valuable technical foundations, they often lack curricula aligned with fast-evolving industry demands in digital health, artificial intelligence and biotechnology (Department of Higher Education and Training, 2020). This results in graduates who are theoretically competent but underprepared for practical innovation roles (Muzanhenhamo & Rankhumise, 2022).

Persistent gender and diversity disparities continue to constrain human capital development in South Africa's research and innovation landscape. Women and historically disadvantaged groups remain significantly underrepresented in leadership and decision-making positions within research institutions, innovation hubs and entrepreneurial ventures. This lack of representation not only limits diversity of thought but also constrains the inclusivity and contextual relevance of innovation design and implementation (National Research Foundation, 2023; Ogundaini & Mavhandu-Mudzusi, 2024).

Stakeholders identified challenges affecting human capital development. While training and capacity-building programmes exist, the long timelines and resource intensity of translating early-stage research into market-ready products require diverse expertise that is not always readily available.

Stakeholders also raised several challenges affecting skills development and coordination. This included the lack of a centralised database capturing the different training and research programmes offered by universities, which leads to duplication and

inefficiency; a shortage of regulatory expertise within both academia and government institutions, affecting the ability to navigate medical device approval and compliance processes; a recent regulatory request for ISO 13485 certification, a process that can take up to two years and may delay product development; a lack of specialised knowledge by departments currently with the onus of handling public procurement for the MedTech sector; and financial limitations making it difficult to implement large-scale skills coordination and certification programmes.

Key developments

South Africa's innovation ecosystem has experienced significant progress in recent years, with deliberate efforts to strengthen human capital across education, health and technology sectors. The deliberate integration of STEM and SHAPE disciplines has enhanced the social relevance, adoption and sustainability of innovations. This interdisciplinary approach ensures that technological advancement is complemented by ethical, cultural and community-oriented insights, leading to more inclusive and context-appropriate solutions (Royal Society & British Academy, 2021; Department of Science and Innovation, 2022a). The rollout of digital health programmes such as Electronic Medical Records (EMR), Vula Mobile, Mom-Connect and telemedicine platforms has provided hands-on exposure for healthcare professionals to using digital systems for patient care, monitoring and data management (Agbeyangi, 2025). These tools have also improved digital literacy through structured training and mentorship programmes that support both early-career and senior healthcare workers. Importantly, these platforms foster on-the-job learning, enabling health professionals to acquire digital competencies while improving service delivery.

Stakeholders emphasised that human capital development is a cornerstone of strengthening South Africa's health innovation ecosystem. The SAMRC's Research Capacity Development (RCD) division plays a central role in this effort by supporting postgraduate students (master's and doctoral), postdoctoral fellows and early-career researchers. These programmes provide training in technical skills, process engineering, laboratory techniques, regulatory sciences and innovation translation, thereby equipping the next generation of scientists with enhanced skills to contribute effectively to health research and product development.

Building on this foundation, the SHIP programme, another flagship initiative of the SAMRC in collaboration with the DSTI, further strengthens human capital through structured mentorship, advanced technical training and exposure to real-world innovation projects. SHIP supports multi-institutional research consortia that enhance regulatory readiness, commercialisation capability and translational science skills, contributing to the development of a sustainable, skilled innovation workforce.

A recent evaluation (2025) highlighted SHIP's effectiveness in building human capital by training a significant number of postgraduate students and early-career researchers, equipping them with the technical, managerial and professional competencies required to thrive in South Africa's evolving health innovation sector. A notable example is the Centre for Advanced Training and Innovative Research (CATIR), a collaborative initiative between Thermo Fisher Scientific, Sefako Makgatho Health Sciences University and the SAMRC. The first CATIR cohort, launched in 2025, received structured mentorship, hands-on technical training



and exposure to practical innovation projects. This partnership demonstrates how co-ordinated, well-funded programmes can effectively translate capacity-building investments into tangible workforce development outcomes.

Stakeholders also highlighted a targeted biomanufacturing workforce programme which is further strengthening South Africa's innovation capacity. The Biomanufacturing Workforce Development Programme, supported by the Chan Soon-Shiong Family Foundation in partnership with the SAMRC, builds regulatory and laboratory competencies, through opportunities such as internships at SAHPRA. This initiative exposes trainees to real-world regulatory environments, improving their understanding of compliance and product evaluation processes. Similarly, the infrastructure programme funded by Kreditanstalt für Wiederaufbau (KfW), Germany's development bank, embeds workforce training directly within vaccine R&D infrastructure, ensuring that new facilities are supported by a technically skilled workforce. Stakeholders agreed that these initiatives collectively address critical skills shortages in regulatory science, vaccine production and quality assurance areas historically underdeveloped within the South African context.

Such public-private-academic partnerships and targeted funding mechanisms exemplify how strategic investments in research training, mentorship and innovation translation foster a workforce capable of advancing South Africa's digital and biomedical innovation agenda (South African Medical Research Council, 2024). Collectively, these initiatives ensure that the country develops not only strong technical expertise but also the leadership, entrepreneurial and translational skills necessary to sustain a vibrant, resilient and competitive health research and innovation ecosystem (South African Medical Research Council, 2024).

Nelson Mandela's enduring legacy of prioritising education, mentorship and empowerment continues to inspire national programmes aimed at leadership and human capital development. His philosophy aligns with current initiatives to strengthen capacity within research institutions and promote youth engagement in innovation ecosystems, particularly through internship

and learnership programmes under the National Skills Development Plan (NSDP 2030) (Department of Higher Education and Training, 2020). At the policy level, national frameworks such as the National Digital and Future Skills Strategy (2021–2025), National e-Health Strategy (2019–2024) and the NSDP 2030 emphasise lifelong learning, inclusivity and digital readiness across all sectors (Department of Communications and Digital Technologies, 2020; Department of Higher Education and Training, 2020). International collaboration continues to strengthen these efforts through partnerships with global institutions such as Innovate UK, the Bill and Melinda Gates Foundation, and the global health NGO PATH, which provide mentorship, funding and technical expertise to local innovators. A growing number of initiatives also emphasise gender inclusivity, youth empowerment and rural innovation. Programmes such as SheTradesZA, Women in Innovation and Entrepreneurship (WINIE) and Digital Skills for Africa have contributed to expanding women's participation in innovation ecosystems, while community-based digital literacy initiatives often implemented through TVET colleges bridge urban-rural divides in access to innovation opportunities (Department of Science and Innovation, 2022a; National Research Foundation, 2023).

Finally, stakeholders highlighted several positive developments under the MedTech Master Plan, the implementation of which began in 2025. A key initiative is the planned establishment of a national skills database, to be hosted by the CSIR, which will capture information on training programmes, individual skills profiles and employment data to support coordinated workforce development. Collaborations are also being explored with universities and SETAs to align academic and vocational training with industry needs, ensuring that graduates and trainees are well-prepared for employment in the MedTech sector. In addition, a proposed employment matching centre will connect trained graduates and interns with MedTech companies, while ongoing skills-mapping workshops continue to identify gaps and inform future training strategies. Looking ahead, new regulatory training programmes are being developed to strengthen understanding of compliance and approval processes within both industry and government, thereby creating a more enabling environment for MedTech innovation and growth.



2.

Access to Finance

2. Access to Finance

Current context

The current context is influenced by global economic uncertainty, under which investors are scaling back and opting to be more risk averse. Grant and donor funding providers are also saturated with applications and are therefore more selective in the programmes they fund, with more stringent requirements for programme monitoring. The cuts in aid, for example, from the United States, affected a variety of health programmes and therefore had knock-on effects on RD&I trials.

Official Development Assistance (ODA) and donor funding have supported health innovation processes, but it is currently unsustainable. Access to finance for SMMEs is characterised by a large gap between supply of and demand for funding. One of the reasons that SMMEs cannot access funding is inadequate funding readiness. This can be caused by a lack of creditworthiness, early-stage capital, or capacity to do financial forecasting, along with a fragmented support ecosystem.

The DSTI has established an Innovation Fund to attract private-sector investment and create job opportunities and economic competitiveness. Through dedicated innovation funding initiatives, the fund is enabling startups and tech-focused SMMEs to grow, scale and thrive. Innovative startups and technology-driven SMMEs are key drivers of job creation and economic expansion. However, many struggle to survive due to insufficient early-stage funding – which is where the Innovation Fund steps in. Launched as a pilot initiative, the fund aims to close the critical funding gap, accelerate the commercialisation of locally developed intellectual property and drive the growth of high-tech enterprises. By reducing investment risk at the early stages, a strong pipeline of scalable, high-impact startups – and the positioning of South African innovation to compete on the global stage – is being cultivated.

Health-tech ventures continue to attract investment, although not to the extent of fintech or e-commerce startups. This reflects the hesitancy or strategic vision of VC firms. Early-stage seed funding is more challenging to secure, as funders are selective and have more stringent terms and requests for proof of concept or revenue. Health innovations often fail to reach the scaling stage due to lack of capital.

From the VC perspective, international investors find it challenging to invest. Portfolios should be local and aligned to local intellectual property jurisdiction. Philanthropies still play a crucial role in developing the early-stage ecosystem. VCs like Africa Health Ventures are interested in the seed stage and require at least one full-time founder, a minimum viable product, and evidence of traction.

Other funders who have provided innovation funding for health systems in South Africa include the US Centers for Disease Control and Prevention (CDC); NDoH; National Department of Women, Youth and Persons with Disabilities; Bill and Melinda Gates Foundation; Wellcome Trust; British Medical Research Council (which funded Teen MomConnect); SAMRC (through the DSTI); and the United Nations Population Fund (UNFPA), among others.

Enablers

From the public-sector perspective, stakeholders highlighted that SHIP has been playing a coordinating and financing role for RD&I in health since 2012–2013. SHIP funds and manages product development of new drugs, diagnostics and medical devices, and vaccines from early discovery to proof of concept. For example, catalytic funding for clinical studies was provided under the programme for the Ellavi uterine balloon tamponade, through which further financing was received from international funders, and wide scale-up and international roll-out has been achieved (Bernson, 2019; PATH, 2022). This is not limited to medical devices – solutions supported have included service innovations (e.g., Iyeza Express medicine bicycle couriers), digital health solutions (e.g., Health Connect) and pharmaceuticals. The establishment of SHIP earlier on enabled other strategic partnerships and programmes such as the SAMRC's Global Health Innovation Accelerator (GHIA), all of which function in a complementary manner to each other and are important in the strategic funding partnerships of the public-sector innovation ecosystem.

To support this, foundations and philanthropic organisations play a crucial role in financing social innovations in health in South Africa, especially in situations where public funding is limited and private investments are hard to obtain. Foundations and philanthropic organisations usually provide early startup capital through grants. The aim of the funding is often to support organisations or enterprises working towards achieving a social return, with no (or a limited) expectation of financial return. They are therefore important actors in promoting health innovations and providing startup capital for entrepreneurs wanting to go into the health sector. However, philanthropic donors tend to fund according to individual organisational mandates on a year-by-year basis. Thus, most implementing organisations depend on the next donor strategy review. Although they are important in providing initial capital, there are challenges related to financial sustainability and support for scaling up.

Impact investing was identified by interviewees as another innovation ecosystem enabler. Impact investors provide seed capital during the early stages of startups through grant or competition funding. There are a variety of organisations that support the early stages of startups, many of which run incubator and accelerator programmes that require founders to complete tasks or assignments. Impact investors and pension funds play enabling roles in place-based innovation. Grant funding and incubation hubs are seen as enablers for fostering innovation, but they are not well-established. Traditional funding is not the only avenue available to innovators. Competitions and targeted awards create opportunities for recognition, credibility and financial support. Alternatively, there are opportunities to collaborate with international funders, as well as public-private partnerships, to pool resources. Ongoing funding support is required to ensure that ideas can reach the health system.

Barriers

Despite the successes of the SHIP initiative in funnelling public and private funding to research and innovation in health, a recent evaluation of the programme (2025) highlighted that its sustainability remains a key concern due to its heavy reliance on government funding (especially from the DSTI), which risks its future if support declines.

Finance is a major barrier for health innovation in South Africa – companies struggle to afford compliance and development and encounter a variety of hurdles in the way of getting their products to market. When accessing funding from traditional banks and Development Finance Institutions (DFIs), companies face a high level of paperwork and documentation requirements to apply for funding offerings (FindFund, 2025). In addition, SMMEs may also struggle to meet funding requirements due to no evidence of creditworthiness, collateral, and the high failure rate associated with startups. This is compounded by the information asymmetry that exists in the market (Baloyi & Khanyile, 2022). These are barriers for social entrepreneurs when trying to access capital for their innovations, especially for startups in informal economies.

Another barrier to accessing finance for social innovations is investment uncertainty, often driven by risk aversion among investors and broader market failures. Many health innovations, especially those targeting low-income or rural populations, deliver high social value but limited financial returns, making them less attractive to private investors. For foreign investors in particular, limited access to reliable data further exacerbates this uncertainty. As *The Economist* (2024) notes, poor data availability across the African continent makes it difficult to assess risk and return, discouraging investment in critical sectors like health. More reliable and accessible data is therefore essential to attract investors and correct misconceptions about risk in African markets.

In South Africa, racial disparities continue to shape the success and survival of SMMEs, particularly in relation to access to funding. Although Broad-Based Black Economic Empowerment (B-BBEE) was introduced to reduce historical inequalities, black-owned SMMEs still face systemic barriers in securing financial support. Research shows that 90 per cent of successful SMMEs are white-owned. Black entrepreneurs struggle with limited access to external finance and face bureaucratic barriers when applying for funding through B-BBEE programmes (Musabayana & Mutambara, 2022). This failure is partly due to black-owned businesses having to compete with established white-owned corporations. Moreover, B-BBEE deals are often obtained by politically influential actors (Musabayana & Mutambara, 2022). Bias and discrimination are therefore evident in the allocation of funding for SMMEs in South Africa.

Furthermore, there are gender disparities in accessing funding. Across grant, competition, equity and international funding categories, women remain under-represented as recipients regardless of funding type, with a higher proportion of women being denied access to equity and international funding (Bertha Centre & South African Breweries Foundation, 2021).

The public sector does provide funding for health innovations under the TIA and the DSTI. However, applicants face a rigorous process coupled with opportunity costs. There are firms that specialise in third-party applications, but their services may be unaffordable to some startups. Another option is public funding – however, this is subject to fiscal



budget processes and priorities, which can hinder the sustainability of funding for applicants. The TIA, which is an entity under the DSTI, plays a role in providing access to finance for technological innovations in healthcare products and services. This is done through risk funding for actors who support the creation of an enabling environment for social entrepreneurship. Some examples of ecosystem actors that TIA supports are higher education institutions, scientific councils, and research institutions. TIA offers payback mechanisms for innovators, but the terms and rates can be unfavourable to startup founders.

Startups in the health space struggle with unclear regulatory pathways, which increases risk and delays return on investment. The public procurement framework tends to favour established players, which makes it challenging for early-stage innovators to participate. In addition, there are uncertainties about policies and reforms like the NHI, and how innovation will be involved in the healthcare system. There are also high costs for validated electronic data capture systems, and regulatory hurdles slow innovation and market access. Cost and compliance barriers restrict access for smaller players and local innovators, and limit their ability to conduct research and bring innovations to market.

Key developments

SHIP was established to centralise innovation funding, foster cross-sectoral collaboration and support early-stage, locally manufactured innovations that address South African health priorities. With increased funding from the DSTI, over 98 per cent of funds were disbursed to support innovations targeting HIV, TB and malaria.

Grand Challenges South Africa, a partnership between the DSTI, SAMRC, and the Bill and Melinda Gates

Foundation that was established in 2015, launched joint challenges that catalyse innovative health research.

The Africa Health Research and Innovation Funder's Forum (AHRIF) brings over 60 funders of health research and innovation together with implementing agencies to foster greater alignment, awareness and transparency of programmes which lead to impact. A current priority topic is finding ways of collaborating to respond to diminishing ODA.

The African Healthcare Funders Forum, led by the African Venture Philanthropy Alliance (AVPA), is a 12-week leadership initiative followed by nine months of ongoing support, aimed at Africa's leading healthcare investors and funders. It convenes social investors, venture capital and private equity managers, development finance institutions and others involved in all aspects of the healthcare value chain.

In 2025, a Ministerial Working Group on Science, Technology and Innovation Funding was established in response to the exit of the United States Agency for International Development (USAID), whose healthcare-oriented impact investment funds were affected. At the same time, partnerships with the European Union (EU), the German Agency for International Cooperation (GIZ) and other international actors have been strengthened to support continued health innovation financing.

Independent philanthropic funders have bridged early-stage innovations with de-risking, grant-focused capital to fund the testing phase and reach Minimum Viable Product (MVP) stage.

VC and private-sector investments are increasing their presence and attracting more investment as digital health gains momentum. In this context, more emphasis is being placed on sustainability, impact, scaling beyond pilots and proof of concept, and outcomes.





3.

Supportive Markets and Infrastructure

3.

Supportive Markets and Infrastructure

Access to markets and supporting infrastructure are foundational to effective innovation ecosystems. They determine how research, entrepreneurship and investment connect to deliver impact at scale. In low- and middle-income countries (LMICs), the benefits of research are often limited by weak linkages between universities, research institutions, the private sector and government, as well as poor alignment with national priorities and limited demand for evidence in policymaking (International Development Innovation Alliance, 2021).

Collaborations between researchers and private-sector actors can strengthen innovation by improving access to markets, finance and networks. For many entrepreneurs, the market represents the main route to scale, and the ability to test demand and reach end-users is essential for sustainability. The World Economic Forum (WEF) identifies market access as one of the three most critical ecosystem pillars for entrepreneurial growth. The maturity of local infrastructure such as transport systems, telecommunications and energy supply further determines whether innovations can reach the people and institutions that need them most. In South Africa's health innovation ecosystem, the key market- and infrastructure-related factors are research infrastructure, access to market, digital infrastructure, the academia/industry disconnect, and manufacturing.

The key considerations in South Africa when it comes to supportive markets and infrastructure are:

Research infrastructure (RI): RI forms the foundation of innovation by enabling the generation, validation and scaling of knowledge. It includes physical facilities such as laboratories, testing centres and biobanks; institutional assets such as universities, science councils and technology parks; and digital data systems for open and interoperable research (International Development Innovation Alliance, 2021).

Access to markets: Access to markets refers to the conditions, mechanisms and pathways that allow innovations to reach users or customers at scale. It includes economic, legal, logistical and institutional factors that influence market entry and growth.

Digital infrastructure: Digital infrastructure, which includes mobile networks, broadband connectivity, cloud systems and digital platforms, underpins modern innovation ecosystems and digital health. It enables the seamless flow of data, real-time communication, and service delivery. Reliable connectivity and interoperable platforms allow innovators, providers and users to exchange information efficiently, scale solutions, and integrate technologies across the health system.

Research infrastructure (RI)

Current context

South Africa's RI landscape is anchored in several policy instruments. The 2010 RD&I Infrastructure Funding Framework defined key investment priorities including high-end facilities, specialised equipment, global research access, and cyberinfrastructure. The 2016 South African Research Infrastructure Roadmap (SARIR) advanced these priorities by promoting coordination

and reducing duplication through a national portfolio aligned with thematic and socio-economic goals. The Decadal Plan (2022–2032) reaffirmed the importance of RI (Department of Science, Technology and Innovation, 2022) as the foundation to RD&I through the provision of critical facilities.

Laboratory-focused organisations and universities face high maintenance costs and resource constraints.

Enablers

Innovation hubs such as The Innovation Hub in Gauteng provide access to prototyping machinery and technical mentorship. These facilities help entrepreneurs transition from idea to proof-of-concept, while national strategies like the SARIR provide a framework for resource sharing and coordination between institutions. In addition, dedicated funds such as the €20 million financing agreement reached between the DSTI and Germany's KfW Development Bank in 2023 for vaccine development and production infrastructure seek to address the infrastructure constraints. These funds are usually co-funded between the DSTI and such international development funders and managed by the SAMRC.

Barriers

A key barrier lies in the sustainability of infrastructure, as many institutions lack the financial mechanisms and maintenance capacity to keep laboratories operational. Unclear governance structures for shared facilities further contribute to fragmentation, and although the Decadal Plan sets out a strong strategic vision, its practical operationalisation remains uncertain.

Key developments

Several national and regional initiatives have strengthened the research infrastructure ecosystem. The South African Population Research Infrastructure Network (SAPRIN), hosted by the SAMRC, has supported national demographic and health surveillance, providing vital data during the COVID-19 response. The Nuclear Medicine Research Infrastructure (NuMeRI) supports translational research in nuclear medicine, molecular imaging and theranostics. At the continental level, the African Union Development Agency–New Partnership for Africa's Development (AUDA–NEPAD) Research Infrastructure initiative promotes regional collaboration by designating countries with advanced RIs as Centres of Excellence, supporting shared research and capacity-building across Africa.

Access to market

Current context

In South Africa, market signals remain inconsistent due to high procurement costs, weak demand forecasting, and limited translation of research into policy and commercial activity. Although many universities have established incubators and technology-transfer offices, their effectiveness varies. Universities and TVETs have successfully spun-out companies such as HearScreen, Impulse Biomedical, and Biocode, for example. However,



many research outputs remain confined to academia rather than being commercialised or scaled.

Enablers

Several structures facilitate market access. At a national level, since 2013, the SHIP initiative enables access to markets through funding and managing multi-institutional, multidisciplinary projects in product development, and facilitating the movement of new products and services through the innovation pipeline to market, implemented by the SAMRC. Technology Transfer Offices (TTOs), the TIA, and the South African Bureau of Standards (SABS) support innovators through licensing, compliance, mentoring and networking. ESOs such as GrowthAfrica and GSMA connect startups to investors and markets. Public procurement is an important enabler, offering potential for early adoption of innovations by government. In addition, partnerships between startups and corporates, such as Roche's collaboration on artificial intelligence for TB detection, can validate market potential and attract investment. Finally, the Wits Health Consortium's Health Systems Enablement and Innovation (HSEI) unit also plays a role in bridging the gap between the public, academic and private sectors.

Barriers

Firstly, the disconnect between academia and industry remains a significant barrier to getting to market in South Africa. Academic outputs are largely confined to publications, with limited translation into commercial or policy impact. Academic incentives reward publication rather than productisation, while industry requires workable, market-ready solutions. Finally, several stakeholders highlighted the gap between university-level funding through the TTOs and financing for real-world application and commercialisation as a stumbling block to getting to market. As a result, significant RD&I expenditure yields limited industrialisation outcomes.

Significant challenges persist in aligning innovation cycles with procurement processes, which are often constrained by annual budget frameworks. Corporate-startup collaborations are limited by risk aversion and competition, while startups may lack readiness for partnerships or large-scale production. University innovations frequently require seven to eight years to reach the market, exceeding standard incubation cycles.

Regulatory bottlenecks also delay market entry, as

innovators often engage with regulatory agencies too late. Early engagement with regulators could accelerate compliance and improve product design. The imbalance between small innovators and large corporations highlights the need for an intermediary mechanism to facilitate equitable collaboration.

Finally, the domestic production of medical devices and health technologies remains limited. Less than 5 per cent of local industry players manufacture devices, while more than 76 per cent of medical devices are imported (South African Medical Research Council, 2022). The local manufacturing capacity exists, but the South African market is flooded by cheaper, imported products, while local manufacturers face compliance bottlenecks, weak local preference (90:10 weighting on cost vs local content), high tariffs for international export versus no tariffs in South Africa for imported medical devices, and delayed payment through the public sector. All these present existential threats to local innovators and producers.

Key developments

Progress is visible in targeted initiatives. Under GHIA, the Medical Device and Diagnostic Innovation Cluster (MeDDIC), supported by the SAMRC and TIA, helps bridge the gap between development and market entry by providing early-stage support. One project, VIVAsite, a locally designed needleless valve, went on to secure a five-year procurement contract with the Western Cape Department of Health.

SAHPRA is creating innovation desks to assist early-stage innovators in navigating regulatory requirements. NIPMO is revising the Intellectual Property Rights Act to increase coverage from about 60 per cent to nearly 90 per cent of publicly funded research, enabling broader commercialisation.

The MedTech Master Plan (2024), of which implementation had just begun in 2025, is looking at adjusting improved weightings for local procurement; Africa-wide export opportunities to grow volume and attract multinational investment; Proudly South African local MedTech expos to counteract international-dominated exhibitions; and proactive trade negotiations for reciprocal tariffs agreements – all of which present promising opportunities to improve conditions for MedTech innovators in the country.

These efforts collectively strengthen the conditions for market access and innovation uptake.

Digital infrastructure

Current context

In South Africa, digital technologies have improved access, efficiency and inclusion. Platforms such as MomConnect for maternal health and Vula Mobile for clinical referrals have shown the potential of digital innovation in strengthening health systems.

The 2019 National Digital Health Strategy sets out a vision for better health through person-centred digital health systems, improved governance, and integrated platforms. The strategy's success depends on strong cybersecurity, equitable access to digital services, and consistent evaluation to avoid exacerbating inequalities (Avenyo, 2024).

Enablers

High mobile penetration and extensive network coverage, even in rural areas, provide a solid foundation for digital innovation. The National Digital Health Strategy offers a clear policy mandate, signalling government support for digital transformation. Partnerships with international donors and research organisations, such as the UK Foreign, Commonwealth and Development Office (UK FCDO) and the Bill and Melinda Gates Foundation, further bolster digital ecosystem development through infrastructure development and digital health solutions piloting and scale-ups.

Barriers

Integration between the NDoH's digital health initiatives and the broader innovation ecosystem managed by the DSTI remains limited (Avenyo, 2024), along with alignment between digital health and AI strategies at sub-national levels. Persistent urban-rural disparities in broadband access and affordability hinder equal participation. Many rural facilities lack stable electricity, Wi-Fi and hardware. According to a report prepared for the DSTI (Avenyo, 2024), limited access to devices and infrastructure restricts the implementation of health innovations. In addition, the NDoH's "progressive realisation" approach, which prioritises in-house development of digital tools over collaboration with entrepreneurs and innovators, has slowed adoption and knowledge exchange by the public sector.


Key developments

There have been important advances in digital infrastructure in recent years. Stakeholders reported that Electronic Medical Record (EMR) systems have been piloted in more than 40 districts, improving patient tracking across regions. The UK FCDO has supported digital pilots on remote health monitoring and youth-focused chatbots for sexual and reproductive health. These have improved access to health services. Municipal health departments are increasingly using digital information systems to improve planning and coordination. Together, these developments signal growing capacity and a more connected digital ecosystem.

CASE STUDY

HealthTech Hub Africa is a hybrid pan-African healthcare accelerator, with a physical co-working and community space in Kigali, Rwanda (HealthTech Hub Africa, n.d.). It seeks to drive development of health technologies and fast-track innovations in public health systems through collaboration with government partners and global health funders.

It has supported:

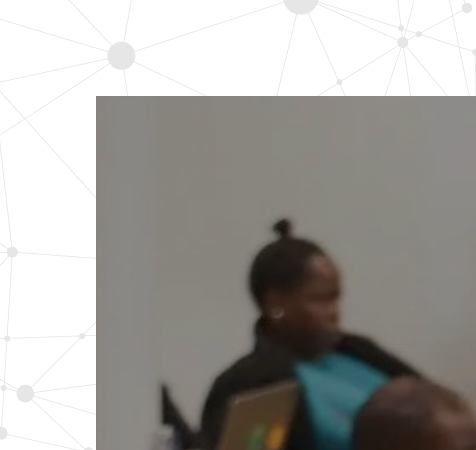
-  **98 startups and scale-ups**
-  **Creation of 1781 new local jobs**
-  **reaching 4.5 million direct beneficiaries.**

Partners and funders include: The Novartis Foundation, The Global Fund, Patrick J McGovern Foundation, Norrsken East Africa, Villgro Africa and JhPiego.

It acts as a visibility hub, located in a known innovation space (Norrsken House Kigali), giving startups legitimacy and providing physical proximity for investors, government officials or corporate partners to visit and connect. It hosts events, demo days and stakeholder convenings, enabling networking and interactions.

It was highlighted by stakeholders as a great example of a physical hub dedicated to health innovation.





4.

Policies and Regulations

4.

Policies and Regulations

Current context

The establishment of coherent and enabling policy and regulatory frameworks is a critical component for strong national innovation systems. The effectiveness of innovation processes depends heavily on the clarity, consistency and adaptability of the rules that govern them (International Development Innovation Alliance, 2021). Regulation, and the barriers and enablers associated with it, emerges as a recurring theme across multiple goals in this review. This section therefore seeks to integrate these perspectives, highlighting the interdependence between regulatory structures on one side, and the innovators and institutions navigating them on the other.

Recognising the breadth and complexity of South Africa's legal and policy landscape, spanning innovation, health, intellectual property and data protection, this section does not attempt to address every dimension in detail. Instead, it narrows the lens to a practical theme, **"Regulation into Practice"**. The emphasis is on understanding how South Africa can strengthen the link between formal regulatory intent and effective implementation within the health innovation ecosystem. In doing so, it considers how enabling frameworks can evolve into operational systems that are accessible, trusted and usable by innovators, regulators and health practitioners alike.

In this context, **"regulation"** is understood broadly to encompass the full ecosystem of laws, policies, standards and administrative mechanisms that define the requirements for safety, quality and data protection, and the ethical use of health technologies and services. **"Into practice"** refers to the translation of these requirements into actionable and predictable processes, meaning clear pathways, advisory mechanisms, predictable timelines and user-centred regulatory systems that enable rather than impede innovation. Together, these dimensions frame the discussion on how South Africa can move from regulatory intention to implementation, ensuring that frameworks not only exist on paper but function effectively in guiding and supporting real-world innovation for all stakeholders in the health innovation ecosystem.

Regulations and policies link to the various other goals and areas in this report, including pathways to scale, highlighting their interdependence: policy coherence, responsive regulation and effective procurement mechanisms form the backbone of national scaling capacity (Department of Trade, Industry and Competition, 2024; National Department of Health [South Africa], 2019).

While numerous legislative and policy developments have shaped the health sector since 2017, this section focuses on four key developments that collectively illustrate how regulation is evolving from a static compliance function into a dynamic, enabling practice. These include the MedTech Master Plan (2024) and the National Digital Health Strategy (2019), which are currently driving the most active areas of regulatory reform, covering health technologies and digital health systems, and providing recommendations and actions to guide regulatory practice. Complementing these are the National Policy Framework on Policy Coordination (2020), which establishes a whole-of-government foundation for coherent policymaking, and the regional

HealthTech Hub Africa initiative as a case study of collaborative, cross-sector approaches that can translate regulatory intent into implementation.

A detailed mapping of the stakeholders – particularly government departments, regulators and related public entities – and the legislative and programme developments underpinning enabling policies and regulations is provided in the Appendices and accompanying Kumu map, as otherwise these are too numerous to capture here.

Key developments

The key developments outlined below illustrate how policy and regulation are beginning to shape a more coherent and adaptive environment for health innovation, particularly within the MedTech and digital health domains.

Together, these developments demonstrate how regulatory frameworks are being translated into practice from national and regional levels, each offering practical lessons.

- 1. MedTech Master Plan (2024):** MedTech covers medical devices, including in vitro diagnostic (IVD) devices and software, among others. Pillar 1 of the Master Plan provides for a regulatory framework including a joint public-private stakeholder forum consisting of the national Department of Trade, Industry and Competition (DTIC), NDoH, industry bodies, SAHPRA, South African National Accreditation System (SANAS), SABS, National Treasury, South African Revenue Service (SARS), labour groups, Independent Communications Authority of South Africa (ICASA), MeDDIC, Port Health, and the National Regulator for Compulsory Specifications (NRCS). Among other actions, it provides for regulator capacity and capability-building, regulatory impact assessment, and regional harmonisation of standards and registration processes across Africa. The Master Plan also provides for research and investigation to be undertaken to determine the benefits of "government promulgating stand-alone legislation for MedTech that will benefit industry growth (target: 2030)".
- 2. National Digital Health Strategy (2019):** This strategy uses the WHO definition of digital health as being "the field of knowledge and practice associated with any aspect of adopting digital technologies to improve health, from inception to operation"; and "understood to incorporate eHealth and also deals with issues such as scalability, replicability, interoperability, security and accessibility." Led by the NDoH, the strategy anchors the national digital transformation of health services and defines key regulatory interventions. The strategy specifically calls for: (a) establishing a body to review and enforce digital-health regulation and (b) strengthening data protection, data sharing and cybersecurity.
- 3. National Policy Framework on Policy Coordination (2020):** Adopted by Cabinet to improve coherence and reduce duplication across government, this framework underpins alignment between the health, industry, and science portfolios.

4. Regional and continental initiatives – HealthTech Hub Africa (HTHA) case study:

Operating as a pan-African healthtech accelerator, HTHA also uniquely works on enabling policy and facilitates regional dialogue for healthtech. Its Policy Blueprint (2024) promotes digital one-stop licensing portals, data-governance frameworks and regulatory sandboxes for AI and virtual care, offering lessons for South Africa's ongoing regulatory reforms and regional harmonisation agenda.

How different stakeholders experience the current policy and regulatory environment

Translating “Regulation into Practice” depends on how different stakeholders experience, and act within, the system. These stakeholders can be grouped into: the regulators and government departments who design and enforce the frameworks that make innovation possible; the innovators who navigate these frameworks to bring solutions to market; and the wider stakeholders – ranging from clinicians to patients and funders – who are affected and impacted by how accessible, clear and responsive the regulatory environment is. These groups represent two sides of the same coin: the intention and effectiveness of regulation are ultimately tested by its usability and impact in practice (Organisation for Economic Co-operation and Development, 2025; Binns, 2025).

Government and regulators are responsible for shaping the policy and regulatory landscape, designing and enforcing the rules, and mostly require coordination and capacity.

Innovators are the ones regulated. They navigate the regulations and need clear guidance on what support they can get from whom across various points along the pathway to scale, and how to access said support.

Other stakeholders experience the impact of regulations and have an interest in regulations being responsive to changing technology and global developments. They need inclusion and consultation, for example in an area such as telemedicine.

Each of these groups also experiences both enablers and barriers.

Enablers

For government and regulators, stakeholders highlighted several factors which are contributing to a more enabling environment for health innovation in South Africa. The presence of strong institutions and regulatory bodies, including SAMRC, SAHPRA, and NIPMO, provides a solid foundation for governance, oversight, and research excellence. Policy momentum has also accelerated through initiatives such as the MedTech Master Plan and the National Digital Health Strategy, both of which demonstrate a commitment to strengthening the regulatory and innovation landscape. In addition, collaboration across key government departments, including the NDoH, the DTIC, and the DSTI, is helping to align priorities and resources, with the SAMRC playing a pivotal role in bridging policy, research and implementation.



For innovators, a range of supportive structures is helping to strengthen the pathway from research to market. Within the SAMRC, the MeDDIC programme provides targeted regulatory support, assisting innovators in navigating complex compliance processes and advancing product development (South African Medical Research Council, 2023). In addition, TTOs, along with various incubators, accelerators and innovation competitions, such as those supported by the SAB Foundation, were highlighted as offering valuable guidance, mentorship and networking opportunities. Together, these mechanisms create an enabling environment that helps innovators and entrepreneurs refine their ideas, build partnerships, and make progress toward commercialisation.

For other stakeholders, recent experiences have demonstrated the potential for more agile and responsive regulation. The COVID-19 pandemic, for example, revealed that regulatory processes can be adapted within shorter timeframes when required, as seen in the rapid authorisation of telemedicine services to meet urgent patient needs. This was achieved through proactive engagements between role-players such as professional associations and regulators to swiftly adapt telemedicine-related regulations, as shared by some stakeholders. In addition, certain sectors such as MedTech are now better represented across stakeholder groups and are increasingly reflected in policy and planning frameworks, indicating growing alignment between public, private and regulatory actors in advancing health innovation.

Barriers

For government and regulators, several barriers were highlighted in interviews; barriers which continue to constrain the effective implementation of health innovation policies. Persistent resource limitations (primarily of skilled personnel and financing) and the inherently slow pace of government processes often delay regulatory reform and policy execution. While some areas, such as MedTech, benefit from structured policy development support and clearer institutional frameworks, others – notably digital health – remain more difficult to navigate and lack a dedicated champion within government to drive and coordinate a cohesive response. Policy coordination across multiple

departments and agencies also remains a challenge, making it difficult to sustain momentum and ensure alignment in the rollout of plans and strategies.

For innovators, the regulatory environment is often experienced as complex, fragmented and difficult to navigate. Many report encountering excessive bureaucracy and administrative hurdles, which slow down progress and create uncertainty around compliance requirements. The absence of a clear, step-by-step roadmap leaves innovators unsure of what processes to follow and when, resulting in delays and inconsistent engagement with regulatory authorities. Access to information is also uneven: while sectors such as pharmaceuticals are relatively well supported, with established guidance and processes, emerging areas like MedTech and digital health, particularly those involving data protection, face greater ambiguity and fewer resources for regulatory navigation. Moreover, some reported that government policies and programmes that appear well-designed in theory often prove difficult to access or operationalise in practice, creating a gap between formal intent and the lived experience of innovators seeking to scale their solutions. Some stakeholders also reported long waiting times in regulatory or related processes, similar to experiences reported by participants in the SAMRC survey (South African Medical Research Council, 2022). Lastly, innovators frequently engage with regulators and support institutions too late in the development process, missing opportunities for early guidance that could streamline compliance and accelerate market entry.

For other stakeholders, there is a shared perception that excessive bureaucracy and procedural complexity continue to hinder the pace of health innovation. Many view the current environment as overly regulated and insufficiently aligned across different pieces of legislation, leading to duplication and uncertainty in compliance. There is also a sense of policy stagnation, with stakeholders waiting for government to take the next steps in operationalising existing policies, strategies and frameworks. This combination of regulatory inertia and limited policy follow-through contributes to frustration among role-players who are ready to engage but face delays in translating policy intent into coordinated action.



CASE STUDY: HealthTech Hub Africa (HTHA) Policy Programme

The HTHA is a hybrid pan-African healthtech accelerator that also works directly on enabling policy – one of its pillars – through its Policy Programme, and has the goal of “supporting the development of forward-looking policies to accelerate market entry, scalability, integration and sustainability of innovative healthtech solutions that advance public health equity and access across Africa.” It plays a pivotal role in bridging the gap between innovation and regulation by ensuring that healthtech startups and governments co-create solutions within supportive policy and regulatory environments (HealthTech Hub Africa, n.d.).

According to the HTHA, the purpose and work of the Policy Programme are (HealthTech Hub Africa, n.d.; HealthTech Hub Africa, 2024):

- *Facilitating dialogue:* The Policy Programme creates opportunities for direct engagement between startups and policymakers, addressing systemic barriers and enabling the scaling of proven innovations within national and regional health systems.
- *Influencing policy:* Through its platforms and partnerships, HTHA contributes to shaping both national and global health policy by capturing real-world insights on the policy and regulatory gaps that hinder healthtech adoption and scale.
- *Translating insights into action:* Insights gathered from innovators and country experiences are translated into actionable policy guidance, ensuring tangible improvements in population health outcomes.

Policy Programme pillars include (HealthTech Hub Africa, n.d.; HealthTech Hub Africa, 2024):

1. Intergovernmental Working Group (IWG):

- The Intergovernmental Working Group is a key mechanism that fosters sustained intergovernmental dialogue and political commitment at both country and regional levels.

2. The HealthTech Hub Africa Policy Blueprint:

- The Policy Blueprint is a playbook for governments to fast-track innovation, by complementing and reinforcing their existing efforts in digital health.
- **Developed through:** Multi-country consultations, desktop research and stakeholder validation across 11 African countries.
- **Goal:** To provide actionable recommendations that help governments create enabling environments for healthtech innovation.
- **Focus areas:** Addressing the most consistent and pressing challenges reported by innovators across the region.
- **Challenges identified in the Blueprint affecting healthtech in Africa:**

“Lack of unified, comprehensive, and updated set of policies governing healthtech at country and regional levels; Complex, lengthy and unclear healthtech licensing processes; Poor infrastructure to support healthtech; Limited access to healthcare data; Data insecurity; Lack of protection for healthtech intellectual property rights; Limited integration of healthtech into health systems; Limited operational capacity for healthtech; Poor coordination, partnerships and collaborations; Insufficient funding for healthtech...”

3. Recommendations emerging from HTHA and the IWG (Mbugua, 2025):

HealthTech innovators:	Policymakers
<ul style="list-style-type: none"> • Engage early with public stakeholders • Align with national health strategies • Invest in user-centred design and integration • Prioritise strategic partnerships 	<ul style="list-style-type: none"> • Strengthen multi-stakeholder dialogue platforms • Streamline and digitise licensing processes • Enhance data governance and interoperability • Establish HealthTech Liaison Offices





5.

**Innovation
Culture**

5. Innovation Culture

Current context

South Africa's social innovation health ecosystem is shaped by deep structural inequities in employment, poverty, transport, and food security, all of which significantly impact health outcomes. These challenges have given rise to two distinct innovation cultures: one driven by survival and necessity, and the other by opportunity and goodwill. Township-based innovators often operate in resource-constrained environments with limited access to capital for compliance, development and scaling. Many lack exposure and technical capacity and require bridging support, such as that provided by The Innovation Hub, to navigate the innovation landscape.

While there is growing interest in grassroots and indigenous innovations, institutional appetite for risk and experimentation remains low. Government support is mixed; some innovators report receiving no assistance, and public-sector delivery is often fragmented. Moreover, government tends to be risk-averse, favouring physical devices and service delivery models over digital solutions. Infrastructure gaps, particularly in rural areas, further complicate efforts to foster innovation regionally, as uniform solutions are often not viable across diverse contexts.

Despite these barriers, South Africa's innovation culture is evolving, bolstered by international visibility through global funding and government-linked initiatives. Regulations increasingly prioritise support for previously disadvantaged innovators, with the aim of building a more equitable society. A strong grassroots innovation culture is emerging, supported by incubators like The Innovation Hub and eKasi Labs, which offer access to maker tools, coding programmes, 3D printing and business training. Structured entry pathways – such as the Gauteng Accelerator Programme and SAB Foundation Social Innovation Awards – provide prize funding, visibility and incubation support.

These platforms have enabled impactful solutions rooted in lived experience, including Pele Box smart lockers for medicine collection, and hospital workflow monitoring systems.

Enablers

As reiterated by stakeholder perspectives, South Africa's innovation ecosystem is increasingly supported by a mix of government, the private sector, and international platforms. Government initiatives like eKasi Labs and The Innovation Hub help innovators prototype solutions and build side businesses. International platforms, including Medica, Arab Health, and WHX Africa, play a vital role in elevating local innovations by offering global exposure and credibility. TIA supports the development of physical devices and assists with legal requirements for clinical trials, which is critical for health-related products.

Innovations such as mobile diagnostic tools are expanding rural access to healthcare and enabling telemedicine models, helping to address infrastructure gaps and improve service delivery. Industry players like Impulse Biomedical are increasingly willing to provide mentorship and guidance, demonstrating that support is available for those who actively seek it.

South Africans are globally recognised for their resourcefulness and valuable skills, as highlighted by interviewees. Entrepreneurs from previously disadvantaged backgrounds bring unique insights into the lived realities of underserved communities, offering funders, both local and international, a deeper understanding of the pain points that drive innovation. Together, these elements contribute to a dynamic and evolving innovation landscape that is not solely reliant on local funding, but increasingly shaped by global partnerships, grassroots ingenuity, and a growing culture of experimentation.





Barriers

Despite growing momentum, several systemic barriers continue to hinder progress and uptake. Regulatory complexity and a lack of procurement support, particularly in public health, make it difficult for new innovations to be adopted. Bureaucratic constraints around co-funding and fragmented government departments further slow implementation and scale. Public-sector procurement tends to be risk-averse, favouring tested solutions over new ones, which limits opportunities for innovators to pilot and validate their products in real-world settings.

Innovation transfer from universities is constrained by a shortage of technology-transfer professionals and limited institutional infrastructure, as was highlighted in public-sector interviews. Many innovators begin with a technology-first or product-focused mindset, rather than starting from a clear problem statement. This often leads to circular development and wasted resources, as solutions are built without a defined market need or user base.

A critical gap in the ecosystem is the absence of dedicated mechanisms to assess the quality and relevance of innovations. While a technology may meet regulatory requirements, it may not adequately address societal, clinical or medical needs; or consider Health Technology Assessment (HTA) standards. This is especially concerning for digital health solutions, which are often trained on niche or limited datasets that may not scale effectively or serve the intended population.

The ecosystem is marked by disparities in education levels, which affect the capacity to engage with technical and business-development processes. Incubation and accelerator programmes often have misaligned monitoring, evaluation and learning (MEL) targets that prioritise the number of technologies incubated over actual market success. This skews perceptions of impact and perpetuates investment in programmes that may not deliver long-term economic or social value.

Recognising the duality of South Africa's innovation landscape, where one ecosystem is driven by survival and the other by opportunity, is critical to shaping a

more inclusive and effective innovation environment. This duality reflects the lived realities of communities across the country and must be acknowledged to avoid reinforcing systemic divides. By intentionally bridging grassroots ingenuity with formalised innovation systems, we enable reciprocal knowledge exchange, resource sharing, and co-creation of solutions that are both contextually grounded and scalable. Such collaboration not only strengthens the innovation pipeline but also ensures that healthcare innovations are designed with equity in mind: technically sound, socially responsive and economically viable. Ultimately, this approach positions South Africa as a global exemplar of inclusive innovation, where diversity of need and access to resources is leveraged as a strategic asset rather than a structural barrier.

Key developments

South Africa's health innovation ecosystem is undergoing a notable transformation, marked by the emergence of new actors and shifting investment dynamics. International and private-sector players, such as the Rwanda HealthTech Hub and Stanford University, are stepping in to offer strategic support and resources that remain largely out of reach for the public sector. These partnerships help bridge critical gaps in capacity and capability.

A wave of startups is introducing agile, locally informed innovations that directly respond to persistent challenges within the health system, from service-delivery inefficiencies to data fragmentation. These ventures are increasingly attracting attention from investors seeking pan-African opportunities, signalling a growing appetite for scalable, cross-border health solutions. The gradual integration of digital tools into medical delivery is also gaining traction, enhancing access and enabling more responsive care models.

Meanwhile, knowledge-facilitation and research-oriented organisations like BioInformatiCo are entering the market, contributing to a more collaborative and evidence-driven innovation environment. Together, these developments point to a maturing ecosystem that is becoming more interconnected, resilient and globally engaged.



6.

**Networking
Assets**

6. Networking Assets

Current context

South Africa's health innovation ecosystem presents a fascinating paradox: despite world-class collaboration and expertise and clear capacity for sophisticated networking, it remains largely disconnected and uncoordinated at a national, systemic level. This duality represents both the ecosystem's greatest strength and its most important opportunity. These networks take many forms, from formal RD&I partnerships and geographical clusters to informal social connections, each contributing in different ways to an innovator's journey.

The most visible strengths lie in formal, project-based networks. Partnerships are a defining feature, often involving anchor institutions such as the SAMRC, leading universities, public hospitals, and renowned international research bodies like the US National Institutes of Health (NIH) and the HPTN. These project-based networks stand out because they attract significant funding, operate with defined objectives and deliverables, and are often linked to international collaborations that bring structure, accountability, and measurable outcomes. This makes them highly visible and productive within specific research or innovation cycles. However, while highly effective, these collaborations are usually tied to individual projects rather than embedded in a sustained national framework, requiring innovators to build new consortia for each grant. Stakeholders noted that this repeated rebuilding of networks consumes time and resources and can make it difficult to retain collective learning across projects.

In the absence of a coordinated system, informal and social networks have become the primary way for innovators to navigate the landscape. Many interviewees emphasised that building trust and credibility is an essential first step. As one startup founder explained, the greatest challenge is often to build a reputation and form trusted relationships, sometimes taking on any feasible opportunity simply to get a foot in the door. This reliance on personal relationships creates a strong foundation of trust among those already connected, but it can unintentionally make it harder for newcomers, especially those from marginalised areas such as townships, to gain entry.

Stakeholders across the healthcare and innovation sectors also pointed out that, while South Africa produces significant research outputs and has a rich base of expertise, efforts often occur in isolation. This leads to duplication and limited visibility across the ecosystem, with many products and technologies developed locally still being manufactured or commercialised abroad. This reinforces the need for stronger coordination and clearer pathways linking research, development, and market access.

A significant share of collaboration is also influenced by international and donor priorities. Many stakeholders described partnerships as "donor-driven" or "champion-led," shaped by organisations such as the EU, GIZ, the Bill and Melinda Gates Foundation, and philanthropic partners like the SAB Foundation and Mastercard Foundation. While these collaborations bring essential funding and expertise, they can sometimes be temporary, leading to uncertainty once projects conclude. Sustaining the momentum of these

initiatives locally remains a key area of opportunity – it requires strengthening domestic funding mechanisms, building institutional ownership and embedding successful donor-funded projects into local systems. This includes creating clearer pathways for government or private-sector uptake once external funding ends, thus ensuring that promising innovations do not stall or disappear after their pilot phases. Developing long-term partnerships and co-funding models between local and international actors could help anchor these gains, turning short-term projects into lasting, system-wide impact.

Enablers

Despite its challenges, South Africa's ecosystem is built on a strong foundation of institutions, expertise and collaborative intent. This foundation provides the credibility, infrastructure and networks that enable innovation to move from research to real-world application. Anchor institutions such as the SAMRC, the NHLS, major universities, and innovation intermediaries including The Innovation Hub and UCT's Research Contracts and Innovation (RC&I) play important convening roles across research, policy and industry. They serve as trusted bridges between government, academia and the private sector, helping to align priorities, manage partnerships and support the translation of scientific research into scalable products and services. Their technical capacity, research excellence and established international linkages form the backbone of South Africa's health innovation ecosystem, ensuring that even in a fragmented system, collaboration and progress remain possible.

Over the past decade, the SAMRC has evolved from being primarily a research funder to a strategic broker of national and international partnerships, managing relationships with the DSTI, NIH, Bill and Melinda Gates Foundation, Wellcome Trust and multiple bilateral funders. This shift has enhanced its ability to leverage resources, coordinate cross-border initiatives and strengthen South Africa's credibility as a key player in global science networks.

The country's collaborative potential can also be understood through the Helix models of innovation: the Triple, Quadruple, and Quintuple Helix frameworks, which highlight the value of interaction between academia, industry, government, civil society and the environment. South Africa already has strong actors within each of these spheres; the next step lies in nurturing the connections between them.

International collaboration remains one of the ecosystem's greatest strengths. Stakeholders from the regulatory sector highlighted that the partnership between SAHPRA and the UK's MHRA is helping to accelerate approvals and reduce costs through "reliance" models.

Locally, several promising platforms are helping to strengthen coordination and dialogue. Stakeholders pointed to municipal forums like the South African Local Government Association (SALGA)'s national indabas (policy and stakeholder meetings), which provide valuable opportunities for engagement between innovators and local governments. Impact investors such as Grovest, Old Capital Partners and the SAB Foundation also continue to support early-stage ventures with both funding and networks.

SHIP serves as an important national enabler, linking institutions, funders and innovators. It coordinates financing through mechanisms such as the African Health Research and Innovation Funders Forum, aligning efforts to counteract fragmented funding and ODA decline. SHIP also demonstrates a collective approach, bringing together government departments, funding bodies, private-sector collaborators, and research and development institutions. Its CATIR initiative, which recently launched its first cohort of trainees, is strengthening human capital and building capacity within coordinated research and innovation networks.

Stakeholders described SHIP as a “game-changer” for South Africa’s innovation landscape – a catalyst that seeded later programmes such as Grand Challenges South Africa, the joint programmes with the Medical Research Council of UK Research and Innovation (MRC UKRI), and the Healthy Life Trajectories Initiative (HeLTI) programme, led in South Africa by the SAMRC, among other programmes. Through these initiatives, SHIP helped put South Africa on the global stage, facilitating participation in international networks like Grand Challenges Global, ERA PerMed, and GlupidR, and demonstrating the country’s leadership in health innovation diplomacy. It also exemplifies the SAMRC’s growing convening power, having hosted the Grand Challenges Strategy Meeting in South Africa, and shows the potential of cross-sector partnerships that now include the DSTI, TIA, universities and private industry partners in areas such as vaccines, diagnostics and indigenous knowledge systems.

Together, programmes such as SHIP, the SAMRC-TIA Seed Fund, GHIA, and the MeDDIC initiative are helping to bridge the gap between research and market, supporting multidisciplinary collaboration and the translation of innovations into real-world solutions.

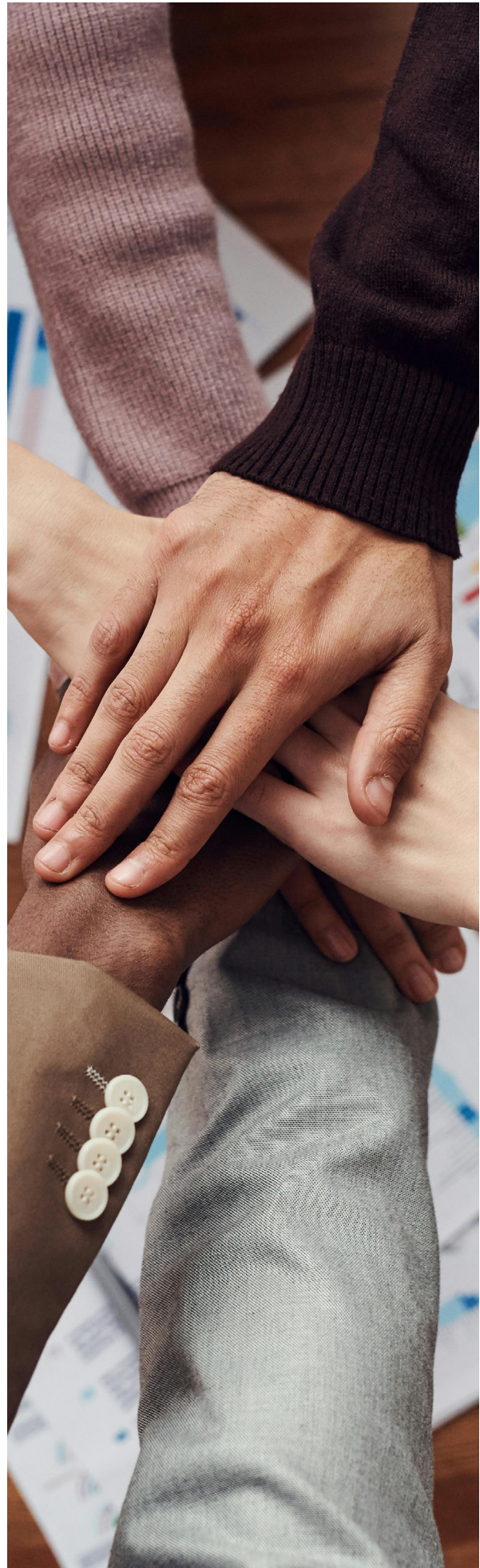
Barriers

While the ecosystem is rich in talent and collaboration, its connections are often fragmented. Many organisations operate independently, which can lead to repeated efforts and limited visibility of complementary initiatives. Stakeholders observed that similar solutions are often created multiple times in isolation. This reflects not a lack of skill, but rather a need for stronger convening mechanisms to link the many capable actors working in parallel.

Access to networks also remains uneven. Early-stage and township-based innovators may find it difficult to engage with hospitals, corporates or municipalities, particularly where formal points of entry are unclear. Procurement processes, especially in the public sector, are often viewed by stakeholders as lengthy and rigid, which can make it challenging for the government to purchase from startups. In the private sector, innovators encounter varied procurement systems and compliance requirements across hospital groups, which many described as confusing and time-consuming.

Stakeholders also highlighted the “pillar-to-post” problem, where innovators must navigate multiple agencies without clear handovers or visibility between programmes. This lack of coordination and institutional networking makes it difficult to sustain momentum and scale.

Stakeholders further noted limited communication and knowledge-sharing between funders, innovators and academia, which leads to duplication and missed opportunities for partnership.





Knowledge retention and skills continuity present additional challenges. Stakeholders noted that expertise developed through projects is not always systematically transferred or preserved, which can limit collective learning. Private-sector engagement, though improving, can also be cautious. Industry representatives shared the view that some companies maintain a myopic view of the idea of what a pie is, sometimes perceiving collaboration as competition rather than as an opportunity to grow markets together.

Key developments

The continued expansion of government and regional innovation programmes reflects a positive trajectory. SHIP has emerged as a central coordination mechanism, enhancing collaboration through initiatives such as AHRIF and the CSSFF-SAMRC Capacity Development Programme started in 2022-2023, which bring together local and international partners to align priorities and funding efforts.

The SAMRC's GHIA was established to grow South Africa's medical technology ecosystem and support innovators in taking local health solutions from concept to market. The MeDDIC initiative, which falls under GHIA, includes a medical device portal hosted on the Innovation Bridge platform. This initiative connects South Africa's MedTech community, innovators, funders, regulators and researchers, helping to improve visibility, reduce duplication and strengthen coordination within the medical device and diagnostic ecosystem.

Similarly, AUDA-NEPAD's regional innovation programmes work with governments and the Southern African Development Community (SADC) Secretariat to strengthen research, capacity-building, and the development of indigenous knowledge-based health innovations across Africa.

A further development shaping the national innovation landscape is the Innovation Compact, a high-level conceptual framework outlined in the government's Decadal Plan for STI. It is designed to foster a "whole of society approach to innovation" by aligning government, business, academia and civil society around shared national goals, particularly the need to address the "triple challenge of poverty, inequality and unemployment" (Nzimande, 2022). The compact promotes practical measures such as legislation to support the public procurement of locally developed technologies, tax incentives, and strategies to build stronger networking assets (Nzimande, 2022).

Together, these developments underscore South Africa's growing capacity not only to participate in global science systems but to influence them, using platforms like SHIP and the other partnerships managed by SAMRC as strategic connectors that enhance cross-border collaboration, human capital development and innovation diplomacy.

Together, these initiatives demonstrate that South Africa's innovation ecosystem already has many of the necessary building blocks in place. The focus now is on improving alignment and coordination to ensure that these strengths reinforce one another and contribute to a more cohesive and sustainable system.



7.

**Equitable
and Inclusive
Participation**

7.

Equitable and Inclusive Participation

Current context

South Africa's health innovation and social entrepreneurship ecosystem has grown significantly over the past decade. Driven by a mix of necessity, creativity and community resilience, innovators across the country are addressing persistent health inequities through new technologies, participatory models and social enterprise approaches. Yet, despite this vibrancy, the ecosystem remains fragmented and poorly coordinated. This fragmentation limits knowledge sharing, weakens partnerships, and constrains the scaling of successful interventions, ultimately undermining efforts to achieve equitable and inclusive health outcomes.

Since the end of apartheid, the South African government has made substantial investments in social programmes aimed at reducing poverty and inequality. Key initiatives have included the introduction of the B-BBEE programme to promote investment in Black-owned businesses; the expansion of social safety nets such as free primary education and child support grants; the development of the NHI scheme to improve access to healthcare; and large-scale infrastructure projects to enhance access to water, sanitation, housing, and health facilities. While these efforts reflect a strong commitment to social protection and have achieved notable successes in specific areas, their overall impact has been inconsistent and unevenly distributed across different sectors and communities.

The enactment of the National Health Insurance Act of 2023 marks a watershed moment in South Africa's health reform journey. The Act promises to establish a unified system that ensures that all South Africans – regardless of income, geography or social background – have access to quality health services. Conceptually, it represents a move towards universal health coverage (UHC) and a more equitable redistribution of resources within the national health system.

However, the promise of the NHI is not yet fully realised. Many of the Act's core provisions – such as provider payment systems, accreditation mechanisms and governance structures – are still being defined. Deep-seated inequalities persist, especially among rural populations, informal settlement residents, migrants, and marginalised groups such as LGBTQ+ individuals and people with disabilities. These communities continue to face barriers not only to accessing care but also to participating in health-related decision-making processes.

In this context, formal structures for participation do exist – but inclusion and influence remain weak. Mechanisms like clinic committees, ward-based outreach teams and community forums are often mandated to represent community voices in governance, yet they frequently operate without the authority, training or resources to exert meaningful influence. Community participation tends to remain externally driven, initiated by government agencies, NGOs or academic institutions, rather than being community-led. This undermines local ownership and risks turning participation into a box-ticking exercise rather than a transformative practice.

In the context of deep inequality, new methods of addressing and overcoming social and environmental challenges need to be explored. The work of social innovation provides an opportunity to develop transformative and systemic solutions that move the system as a whole closer to achieving health equity, embodying what Mason et al. (2015) term its greatest value, namely “its capacity to redress system failures at local levels”.

Enablers

Despite systemic challenges, there are encouraging signs of change at community level. South African innovators are increasingly using participatory and co-design approaches to ensure that interventions are more responsive and inclusive. For instance, research on health equity among men who have sex with men (MSM) has pioneered frameworks emphasising sensitisation training, community engagement and empowerment. Similarly, partnerships between midwives and traditional birth attendants and the growing role of community health workers (CHWs) have brought care closer to people's daily lives while affirming local knowledge systems.

Methods such as visual storytelling, community co-design workshops and participatory research have become powerful tools for inclusion. They enable individuals, especially those traditionally left out of formal policy spaces, to articulate their needs, contribute to solution design, and take ownership of interventions. Yet the impact of these participatory models is often constrained by resource shortages, limited institutional support and unequal power dynamics between communities and external organisations.

There is a growing demand for flexible, adaptive, localised approaches that can respond to diverse community contexts while maintaining coherence across the broader health ecosystem. An example here is the work of BroadReach, an organisation which places specialist doctors, nurses and community health workers in rural clinics. Through the lens of the NDoH's Differentiated Model of Care framework, BroadReach capacitates “health influencers” – community health workers on the ground who make it their mission to reach young people in order to create better health outcomes for their communities. This approach responds to the unique contexts young people experience, ensuring that they are supported in ways that are relevant to their needs.

Notwithstanding these barriers, South Africa benefits from a rich network of enablers that can strengthen the social innovation landscape. Government structures, particularly the National and Provincial Departments of Health, play a central role through policies like the NHI and the Primary Health Care (PHC) Re-engineering Policy. The PHC policy, launched in 2011, reorients the health system towards preventive, community-based care through initiatives such as Ward-based Primary Health Care Outreach Teams (WBPHCOTs), School Health Services, and District Clinical Specialist Teams (DCSTs). These programmes recognise the vital role of CHWs in ensuring equity and inclusion, particularly in rural areas.

Anchor institutions – including universities, the SAMRC, and innovation hubs such as the Wits Health Consortium, Stellenbosch LaunchLab and the University of Cape Town’s Healthy Futures South Africa initiative – serve as key drivers of research, training and enterprise development.

Barriers

While innovation in South Africa’s health sector is expanding, its impact is hindered by structural and systemic barriers. Fragmentation is a defining feature: innovation efforts are dispersed across numerous sectors, with minimal coordination mechanisms to foster shared learning or resource pooling. Universities, government agencies, private firms and community organisations often operate in parallel rather than in partnership. This lack of coherence leads to duplication and weakens the collective ability to tackle systemic challenges in a unified way. The lack of systemic infrastructure and cohesiveness is a central barrier for social innovation in health in South Africa.

Infrastructure inequality further compounds these issues. In many rural and semi-rural areas, unreliable transport networks, electricity shortages and limited internet connectivity restrict both access to care and participation in digital health initiatives. This digital divide is another key barrier, as it not only limits the reach of data-driven solutions but also perpetuates broader social exclusion by preventing rural innovators from accessing the same opportunities available in urban centres.

Another critical barrier lies in how participation itself is structured. While mechanisms for community involvement exist, they often remain top-down, with communities invited to participate in processes that have already been defined elsewhere. Genuine empowerment requires a horizontal distribution of

power – one that enables communities to make choices, act, and bring about change on their own terms. Without this shift, participation risks remaining procedural rather than transformative.

Funding constraints similarly continue to hinder several promising initiatives. Many innovators operate in what can be termed the “missing middle”, which is where we find those who are too advanced for seed grants but not yet eligible for large-scale investment. Funding strategies often fail to address their needs, leaving promising innovations stuck at the pilot phase. There is also a need for defined pipelines or pathways to scale/engagement, without which many grassroots innovations cannot move beyond the prototype or pilot stage into sustained implementation.

Together, these factors illustrate a system that is expanding yet uneven. South Africa’s health innovation ecosystem has energy and promise, but requires greater alignment, resourcing and flexibility to fulfil its inclusive potential.

Key developments

Understanding what success looks like within this ecosystem is as important as enabling innovation itself. Accurately measuring impact requires moving beyond narrow efficiency or patient-volume indicators to include dimensions such as equity, empowerment, inclusion, voice, and system adaptability. South Africa’s health innovation ecosystem is therefore at a crucial inflection point. Its growth and creativity are undeniable, but its fragmentation and uneven inclusivity continue to limit impact. Ultimately, the country’s progress towards universal health coverage and health equity will depend not only on the introduction of new technologies or policies but also on its ability to create a health innovation ecosystem that is coherent, participatory and rooted in the lived realities of all South Africans.





8.

**Pathways
to Scale**

8. Pathways to Scale

Current context

As mentioned previously, South Africa currently has a MedTech Master Plan, launched by the DTIC in 2024, which is aimed at strengthening the MedTech sector. Pillars of the plan include regulatory framework reform, market growth, skills development, research, innovation and data, and promoting local production of products and services. It also commits to creating jobs in the sector, reducing imports while increasing exports, and improving investor confidence. In parallel, the local development and manufacturing of Active Pharmaceutical Ingredients (APIs) is being explored to strengthen South Africa's pharmaceutical supply chains.

The SAMRC's MeDDIC cluster, under GHIA, and the SHIP programme are separate programmes but work in a complementary manner. The MeDDIC cluster works together with academia, industry, regulators and government stakeholders to support development, testing and commercialisation, while SHIP's role supports de-risking the transition and commercialisation steps with funding. TIA supports health-sector innovation through funding and partnerships between SMMEs, universities and industry.

To support scaling, SAHPRA is working to make regulatory processes more efficient through digital platforms. Some of the proposed initiatives are self-service portals, case management, real-time status tracking, reporting, and digital tools. There is also attention on regulatory leadership, harmonisation, and capacity-building for innovators. Across the continent, the African Regulatory Leadership Programme (ARLP) is harmonising regulatory leadership and collaboration among African countries, which complements the activities of the African Medicines Agency.

Data use and digital health are being strengthened via specific provincial and public-private projects. For example, the Western Cape is scaling the use of health data for TB and HIV. However, there is a need for place-based innovation and scaling, to ensure transformative health systems where innovations are needed most. For example, in the Eastern Cape, innovations around the healthcare workforce such as CHWs, mobile clinics and telemedicine innovations are essential in the context of a low health worker-to-patient ratio. In KwaZulu-Natal, innovations such as drone delivery to support adherence to medication in outlying areas has the potential to improve rural health outcomes.

Currently, there is a backlog in the regulatory processes. This is due to a combination of factors: either innovators consult regulatory bodies too late, or the regulations become a barrier to scaling innovations. For example, innovators look to global markets for scaling opportunities while forgetting the need for and potential impact of scaling within domestic markets. However, this can be influenced by the affordability of the innovation in domestic markets and the slow uptake of innovations in the public sector. Innovators also consider scaling to one country at a time versus scaling to a region and leveraging regulatory arbitrage. Uptake of innovations is welcomed, especially where service delivery is improved – but mandates and resources are constraints that must be factored in when scaling.

Enablers

Stakeholders interviewed highlighted that innovation and commercialisation agencies provide funding, technical support, incubation and connections to markets, which are essential for scaling. In addition to the TIA, SAMRC and SHIP, there is also the innovation fund from the DSTI, which targets growth-stage SMMEs to prevent them from failing. The Small Enterprise Finance Agency (SEFA) and Industrial Development Corporation (IDC) offer debt and equity support to help small innovators scale operations. The National Research Foundation (NRF) provides research and innovation grants to form the basis for downstream commercialisation.

Intermediaries and hubs support innovators with mentorship, validation, investment readiness, partnerships and policy engagement. The Centre for Public Service Innovation (CPSI) is a government entity that supports innovations in public service delivery, including health. Innovation Edge provides early-stage catalytic funding and incubation for innovations in health. mLab, Founders Factory Africa, BioCiTi and Savant provide incubation, acceleration and commercialisation support for healthtech startups. Villgro Africa specialises in incubation and investment support for social enterprises in Africa and South Africa. There is a growing mix of public, philanthropic, impact and private capital to support the scaling phases of innovations in the country. Impact investors such as E-squared, Edge Growth and the Allan Gray Orbis Foundation Endowment provide patient, catalytic and growth capital. The Gates Foundation, ELMA Philanthropies and Wellcome Trust fund pilots, research and ecosystem development.

Blended finance is one tool to create smoother pathways to scaling. Defined as “the use of catalytic capital from public or philanthropic sources to increase private sector investment in sustainable development” (Convergence, 2025), blended finance combines philanthropic or grants and commercial capital for investment.

Grants serve as a crucial funding mechanism in the early stages of social innovation, supporting ideation and pilot testing. While revenue from sales could theoretically help transition innovations towards financial sustainability, most social enterprises struggle to generate sufficient market income to achieve self-sufficiency. Alternative funding streams – such as community-based support, including crowdfunding, microfinance and stokvels (informal savings and investment groups common in South Africa) – not only provide financial resources but also foster local ownership and buy-in for social initiatives. Public-sector organisations typically offer organisational and infrastructural support, though usually only after innovations have progressed beyond their initial phases. Philanthropic funding, including donations and venture philanthropy, offers some flexibility but operates within a constrained and highly competitive donor landscape. Private-sector investment remains challenging to secure without significant de-risking through the funding channels, highlighting the complex financial ecosystem social innovators must navigate to achieve sustainability.



While most global health investments support pilot phases, they often fail to adequately fund scale-up efforts. To address this gap, accelerators and incubators should play a more active role in helping innovators develop long-term financial strategies that ensure sustainability beyond initial grant funding. By using the above funding mechanisms in combination, a significant MedTech de-risking occurs, which concurrently increases appetite for investment into social innovations for health.

Throughout the continent, the African Medicines Agency aims to harmonise regulatory standards across countries and speed up cross-border market entry. The Africa Centres for Disease Control and Prevention (Africa CDC) and the AUDA-NEPAD innovation platforms promote scale across markets through policy alignment and pooled procurement. The SADC offers opportunities for cross-border scaling, regional manufacturing hubs and pooled health procurement.

Barriers

South Africa's social innovation sector faces systemic funding challenges that hinder growth and scalability. Three of the main barriers that innovators encounter when scaling include finance, regulations and procurement processes. From a finance perspective, early-stage ventures face limited financing options in addition to structural barriers that disproportionately affect women and Black entrepreneurs. Social innovators navigate a complex landscape with limited support. These challenges are compounded by mismatched financial instruments, investor biases and persistent inequalities in access to capital – all of which require urgent attention to unlock the sector's full potential.

Social innovators typically rely on personal savings to launch their ventures before seeking grants, competition prizes or awards. Conventional funding sources like bank loans, crowdfunding and angel investment remain underutilised due to accessibility barriers.

Early-stage innovators often struggle with limited networks, stringent eligibility criteria, underdeveloped ventures or insufficient financial literacy, all of which restrict their fundraising success. Other barriers reported by interviewers include difficulties translating innovations from research and development phase to market readiness; delays in contracting processes related to university administrative requirements; insufficient late-stage funding; and lack of absorption into health systems. There is also a mismatch between public-sector funding cycles and the long patient capital needed for health innovations.

Competition-based funding, while accessible, demands significant effort with no guaranteed return, and the modest prize amounts rarely justify the investment. Equity financing favours tech-driven solutions but remains out of reach for many due to limited investor connections. Debt financing is the least viable option, as most social ventures lack the revenue stability to mitigate lender risk. International funding, though offering larger investments for scaling, often falters due to unfamiliarity with South Africa's unique socio-economic and health system challenges.

Traditional financial instruments frequently fail social enterprises, which operate with diverse and often unpredictable business models. Funders must adapt by designing flexible financing structures that align with these unconventional cash flows. Persistent inequities further compound these challenges. Women and innovators of colour remain underrepresented across all funding types – grants, competitions, equity, and international financing. Black entrepreneurs face systemic barriers beyond early-stage grants, particularly in securing equity investment. Investor bias towards technology-driven solutions sidelines low- and non-tech innovations, while direct-to-consumer or cross-subsidised models struggle against preferred third-party payer structures. Although grants and competitions provide some early support, Black innovators find equity financing disproportionately inaccessible – a critical gap that stifles growth and perpetuates inequality.

This multifaceted funding crisis demands systemic solutions, from more inclusive capital access to financial instruments tailored for social enterprises. Without addressing these barriers, South Africa risks stifling the very innovations capable of driving meaningful social change (Bertha Centre & South African Breweries Foundation, 2021).

While South Africa has channelled substantial investments into pharmaceuticals, supply chains, hospital infrastructure and digital health technologies, critical gaps persist in other essential healthcare areas. Many communities still lack access to affordable basic services, while patients continue to bear heavy burdens of time and financial costs. These systemic challenges highlight the urgent need to prioritise and support social innovations that can directly overcome barriers to equitable, accessible healthcare. By fostering solutions that address these persistent gaps, the public healthcare system could significantly improve service delivery and health outcomes for underserved populations (United Nations Development Programme, 2020).

Innovations within health systems are desperately needed; however, considerable challenges are encountered when trying to scale through the public sector. SAMRC projects often reach pre-clinical or proof-of-concept stages, but struggle with getting things into the market. This is due to complex and slow procurement processes and policies at various government levels. Procurement frameworks need explicit innovation tracks to allow pilots that prove effective to transition directly into adoption. Another issue with procurement processes is the dominance of existing suppliers, which leads to innovators being undercut by the existing suppliers' scales and distribution channels, which means that innovators are crowded out. Furthermore, policies around the protection of data and information can also hinder the absorption of innovations in the public sector.

Key developments

The MedTech Master Plan is a DTIC initiative to strengthen local medical technology manufacturing

and market access for scaling diagnostics, devices and digital solutions; while the Decadal Plan for Science, Technology and Innovation (2022–2032) positions health innovations as a strategic pillar and calls for stronger pathways to scale – from research to commercialisation and public adoption.

The Digital Health Ecosystem is proposed as a coordination platform that convenes government, innovators and the private sector to codesign scalable solutions (Herselman & Botha, 2024), and the Health Innovation Exchange – led by The Innovation Hub and the DSTI – is a matchmaking and partnership platform connecting local innovators with health system needs and procurement opportunities.

Provincial innovation labs (Health Innovation Hub in the Western Cape, The Innovation Hub in Gauteng) serve as test sites and launchpads for scaling social innovations in primary care, chronic disease management and maternal health, and milestone-based incubation programmes assist with moving innovations from scale phase to commercial and scaling phases. Villgro Africa, BioCiTi, Savant and Founders Factory offer tailored support (investment readiness, regulatory navigation and go-to-market strategies), and physical and virtual platforms like mLab and HealthTech programmes offer spaces for real-world validation and scalability.

A recently launched project aims to identify the uptake absorption of innovations into public health systems and assesses increases in efficiencies and cost-effectiveness that inform procurement decisions, but this is still at an early stage.

The African Continental Free Trade Area (AfCFTA) is expected to improve market access for healthtech services and innovations, and African innovators are increasingly visible at trade shows (Medica, Arab Health, WHX Africa).

Early-stage entrepreneurs receive small amounts of funding to refine prototypes, secure compliance testing and develop packaging, while more advanced ventures are prepared for investor engagement with institutions such as the IDC and the DTIC.





9.

**Collective
Approach**

9. Collective Approach

Current context

The South African health innovation ecosystem demonstrates numerous examples of collaboration but remains fragmented and uneven in its collective approach to innovation. Historically, collective efforts have tended to coalesce around specific health crises or thematic priorities, such as HIV and AIDS, TB and COVID-19, rather than being embedded as part of a sustained, system-wide innovation strategy. Many multi-stakeholder initiatives are driven by civil society or donor-funded organisations, including the African Health Collaborative, Social Innovation in Health Initiative (SIHI), and the Health Systems Trust. Further to this, stakeholders noted that the recent reduction in external ODA streams, including the closure of USAID and a broader shift away from ODA by many governments, has catalysed a rebalancing towards domestic and blended financing models. This shift is prompting greater focus on sustainability and self-reliance in funding health innovation.

Positively, stakeholders confirmed that innovation-convening and ecosystem-building events are increasingly common, though participation is often dominated by established institutions and well-connected innovators. Grassroots and community-based innovators remain under-represented. Additionally, despite some alignment between the public health sector and research entities, there remains a disconnect between innovation generation and downstream adoption. In many cases, and as noted by several stakeholders interviewed, health innovations developed with public RD&I funding often struggle to transition into public procurement, constrained by regulatory complexity, budget limitations and the incremental “progressive realisation” mandate of certain government entities.

National policies such as the National Health Research Strategy and the DSTI’s Decadal Plan address health innovation, and positive strides are being made to advance collective action. However, coordination between government departments and agencies, the private sector, and innovators remains limited. Additionally, academic institutions play a critical role in generating research, developing new technologies, and training the next generation of health innovators – yet the mechanisms to translate these innovations into mainstream service delivery are weak. The private sector also contributes to piloting and commercialising innovations, but integration with the public system remains uneven. Academic institutions such as the University of Cape Town, Stellenbosch University and the University of the Witwatersrand also serve as key conveners of health innovation through dedicated research chairs, entrepreneurship hubs and technology-transfer offices. However, commercialisation pathways remain limited, and partnerships with local industry are often project-based rather than systemic, which constrains the broader diffusion of academic-led innovations. Separately, stakeholders highlighted joint efforts between the DSTI, the TIA, universities and industry partners in vaccines, diagnostics and indigenous knowledge systems which also reflect a growing ecosystem mindset and a stronger culture of collaboration.

Areas such as digital health, telemedicine and data analytics are beginning to create new opportunities for collaboration and system integration. However, these remain at an early stage in many cases and are unevenly adopted across provinces and the rural/urban divide. For example, a study in the Nkangala District in Mpumalanga found that, while implementing Big Data Analytics (BDA) in community health centres could improve healthcare service delivery, outdated infrastructure and resistance to change were identified as challenges to its adoption and success (Ndikuyezze, 2025). The National Digital Health Strategy (2019–2024) and the Health Data Governance Framework provide an enabling backdrop for scaling digital and data-driven health innovations, though implementation remains uneven. Together, these factors highlight the mix of strengths and constraints that continue to shape South Africa’s health innovation landscape, creating both opportunities and challenges for collective, system-wide progress.

Enablers

Several institutional and programmatic enablers provide a foundation for stronger collective, system-oriented approaches. Anchor institutions such as the SAMRC, the DSTI and the NDoH play a central role in co-ordinating cross-sector partnerships and aligning research with policy priorities. Programmes like the SHIP initiative, a collaboration between the SAMRC and the DSTI, exemplify how government and research institutions can jointly advance national health goals by funding and managing multi-institutional RD&I projects across areas such as vaccines, diagnostics and medical devices (South African Medical Research Council, 2025a). Similarly, SIHI provides a global and local framework for supporting grassroots innovations that improve access, affordability and quality of health services, with the South African hub – based at UCT’s Bertha Centre – facilitating knowledge exchange and scaling community-driven solutions (Social Innovation in Health Initiative, 2025).

South Africa’s broader National System of Innovation (NSI) further underpins these efforts through entities like the TIA, the CSIR and the NRF. These organisations provide funding, incubation and technical support to bridge the gap between health research and market-ready solutions. Platforms such as The Innovation Hub, the Tshimologong Digital Precinct, and the SAB Foundation act as intermediaries that connect academia, business and civil society, creating ecosystems where social entrepreneurs and innovators can collaborate and grow. Various stakeholders reiterated that, over the past decade, SHIP has catalysed multiple strategic funding partnerships which have developed into fully fledged programmes in their own right. Examples here include Grand Challenges South Africa, HeLTI, JPIAMR, and three programmes run jointly with MRC UKRI. Additionally, programmes like MeDDIC have been established to promote local innovation in medical technologies and facilitates knowledge transfer between researchers and industry (South African Medical Research Council, 2025b).

Collectively, these enablers demonstrate that the institutional architecture required for a more connected and inclusive health innovation ecosystem already exists, though they remain underutilised and poorly integrated.



Barriers

Despite this progress and the various enablers noted above, South Africa's collective innovation capacity continues to be constrained by several systemic barriers which surfaced in interviews. The ecosystem remains fragmented, with limited coordination mechanisms between key government departments, funders and innovation actors. In many cases, collaborative initiatives often rely on ad hoc partnerships rather than institutionalised structures, which undermines continuity and limits the diffusion of successful models. In addition to this, funding and donor cycles remain short-term and project-based, focusing on activities and outputs rather than long-term impact and sustained ecosystem development. This has resulted in a proliferation of unconnected projects, duplication of efforts, and limited shared learning.

A further structural challenge lies in the misalignment between funding cycles and the long-term timelines required for RD&I, which acts as a critical bottleneck for innovation. This mismatch often leads to funding gaps that disrupt momentum and hinder the translation of early-stage innovations into scalable health solutions. This challenge is particularly evident in government-funded initiatives such as SHIP, under which rigid financial management rules and short funding horizons have constrained the continuity of multi-year product development and delayed progress towards commercialisation.

Another key barrier lies in the lack of empowered intermediaries capable of bridging the gap between innovators, policymakers and funders in a sustained manner. Existing intermediaries, such as the TIA or CPSI, often face resource constraints and shifting mandates that limit their ability to facilitate long-term collaboration. The inclusion of grassroots and community-based innovators also remains limited, with participation in national platforms often dominated by well-established institutions. This top-down orientation risks overlooking locally grounded solutions that address social and behavioural determinants of health. Procurement and regulatory bottlenecks further inhibit the scaling of validated social innovations. Innovators frequently struggle to transition from pilot

projects to public-sector adoption due to complex approval processes, misaligned budget cycles and rigid procurement frameworks. Even when innovations demonstrate cost-effectiveness or improved outcomes, there are few established pathways for institutional uptake. These issues are compounded by institutional instability and shifting policy priorities, which often disrupt continuity and reduce confidence among private-sector and development partners, as noted in various interviews conducted. As a result, the health innovation system often functions as a network of disconnected initiatives rather than a coherent, learning-oriented ecosystem.

Key developments

Recent developments, however, signal a growing recognition of the need for collective approaches within the health innovation ecosystem. The SHIP platform continues to expand its role as a national mechanism for integrating innovation into public health priorities. There has also been progress towards aligning funders and reducing fragmentation through the establishment of AHRIF – convened by the TIA and SAMRC – which seeks to harmonise government, donor and private-sector investments.

At a regional level, the AUDA–NEPAD Health Innovation Programme and related continental initiatives such as BioInnovate Africa promote regional collaboration, shared learning and cross-border partnerships. Public-private partnerships (PPPs) – such as the memorandum of understanding between Novartis, SAMRC and DSTI signed in 2017 under the SHIP framework (South Africa Government News Agency, 2017) – are also emerging as practical vehicles for co-investment and problem-driven innovation. Meanwhile, SIHI South Africa continues to elevate community-based innovators through research, case studies and global learning exchanges, with several affiliated innovations being recognised in the WHO Innovation Challenge. The inclusion of social innovation principles in the Decadal Plan for STI further underscores the national intent to embed inclusive innovation models into South Africa's long-term development agenda (Department of Science, Technology and Innovation, 2022).

Country Benchmarks

To contextualise South Africa's health and social innovation landscape, this section presents international benchmarks from three diverse ecosystems – the United Kingdom, Kenya and India. Each offers useful lessons on how national systems can enable health innovation through policy coherence, institutional coordination and inclusive ecosystem design. These countries were selected due to similarities in areas such as national health systems, investment environment and existing bilateral collaborations with South Africa.

United Kingdom



As a high-income country with a universal public healthcare system, the UK's health sector is characterised by rising demands linked to demographic trends such as an ageing population and increasing expectations for quality and equitable care. The National Health Service (NHS), which provides healthcare to over 67 million people, faces escalating delivery costs, chronic workforce shortages and mounting pressure to adopt new and efficient technologies.

Health spending accounted for 12 per cent of GDP in 2023, up from 10.2 per cent in 2019, driven in part by long-term conditions such as cardiovascular disease, cancer and diabetes, which account for around 70 per cent of health and care spending. These trends are prompting a policy and innovation shift towards preventative care, education and early detection of hereditary and lifestyle-related conditions, to reduce the future burden on clinical services. This focus provides a clear innovation focus, enabling cross-sector collaboration with the agricultural, urban planning, education and food supply sectors.

The government plays a key role in innovation development and uptake

The UK's innovation system is anchored by the NHS and the Department of Health and Social Care, supported by public funding agencies like Innovate UK and the National Institute for Health and Care Research (NIHR). Strategic planning is underpinned by the [NHS Long Term Plan](#), which prioritises tech adoption, decentralised care and preventative services. Historically, adoption in the NHS is slow, which inhibits its capacity to deliver the most impactful cures to communities. With its shift from cure to preventative measures, this also increases its capacity to deliver high-quality healthcare by reducing the number of patients and enabling adoption of preventative measures that encourage a healthier population.

[UK Research and Innovation](#) (UKRI) and members of the UKRI family, including Innovate UK, Innovate UK Business Connect and Innovate UK Business Growth, play a major role in funding and supporting innovations in healthcare. The Innovate UK Accelerators Programme has supported numerous innovators, entrepreneurs and startup or spin-out companies (see case studies). Although funding from UKRI, including Innovate UK, is primarily designed for UK organisations, opportunities exist for international collaborations or bilateral funding. For example, UKRI supports innovations [globally](#), and African countries could be eligible to apply for [Horizon Europe funding](#) in partnership with UK organisations.

The UK has an integrated and inclusive health innovation ecosystem

The UK health innovation ecosystem is designed to promote visibility, inclusion and strategic collaboration across sectors. A core feature of this system is its *network of networks* approach, including 15 regional Health Innovation Networks (HINs), NIHR Biomedical Research Centres (BRCs), Centres for Doctoral Training (CDTs), Royal Colleges, the National Institute for Health and Care Excellence (NICE), MHRA, Medical Research Charities, NIHR Applied Research Centres (ARCs), government-led taskforces, academic institutions, hospitals, entrepreneurs and more. These stakeholders regularly gather insights from patients and communities to co-design inclusive solutions tailored to regional health needs. This participatory model supports the UK's ability to translate public health priorities into integrated innovation strategy, enhancing the responsiveness and equity of the healthcare system. HINs and their activities can be explored further [here](#).

The NHS, as one of the world's largest single-payer healthcare systems, offers a powerful platform for testing and scaling innovations. This is further supported by programmes such as:

- **The NHS Innovation Accelerator**, which accelerates high-impact innovations into clinical practice.
- **The NHS Clinical Entrepreneur Programme (CEP)**, which allows clinical and non-clinical NHS staff to develop innovative ideas which benefit both patients and the wider NHS – and ultimately other healthcare providers.

- **HealthTech Research Centres (HRCs)**, which support translational R&D for emerging technologies.
- **AI in Health and Care Award**, a £140 million programme over four years focused on supporting AI-driven tools from prototype through to clinical validation.

The UK's globally recognised research base and regulatory frameworks further enhance its innovation capacity. It is home to four of the world's top 10 universities for life sciences and medicine, and six of the top 100 hospitals worldwide, contributing to a deep pipeline of health innovation talent.

Investment and funding landscape in UK health innovation

The development of innovation in this sector is underpinned by a robust ecosystem of public funding, private investment and coordinated infrastructure. From 2016 to 2021, UK healthtech startups raised approximately \$3.8 billion (≈£3.1 billion), ranking third globally behind only the US and China (Haydon, 2021). This momentum has continued, with UK digital health startups raising over £2.8 billion in equity funding and the total healthtech sector attracting more than £27.4 billion by the end of 2024.

This strong flow of private capital is complemented by a wide array of public funding mechanisms designed to support innovation at all stages, from discovery to deployment. Key programmes are shown in table 3.

Table 3: Key innovation programmes in the UK health sector

Programme	Focus	Funding size	Lead agency
NIHR (National Institute for Health and Care Research)	Clinical and translational research; infrastructure	>£1.2 billion/year	Department of Health and Social Care
Innovate UK (Health & Life Sciences)	Early-stage research & development, collaborative innovation	~£400–£500 million/year	UKRI / Department for Business, Energy and Industrial Strategy
Biomedical Catalyst	Translational research (academia & SMEs)	£30–50 million/year	Innovate UK / MRC
Life Sciences Innovative Manufacturing Fund	Advanced manufacturing (e.g. biologics, cell therapy)	£60 million (2023 round)	Department for Business and Trade
Digital Health Technology Catalyst (DHTC)	MedTech and digital health commercialisation	£35 million over 4 years (phased out)	Innovate UK
NHS Innovation Accelerator / SBRI Healthcare	Commercial pilots inside NHS	~£40 million since 2009	NHS England / AHSNs
AI in Health and Care Award	Testing and scaling of AI solutions in the NHS	£140 million over 4 years	NHS AI Lab / NIHR
Medical Research Charities	Fund a wide range of areas of research in health	According to MRC, in 2024 they funded £1.6 billion in research	Association of Medical Research Charities (AMRC)

These mechanisms are further enhanced by initiatives like the Health Technology Access Partnership, which helps small and medium-sized enterprises (SMEs) gain access to hospitals and scale-up opportunities, ensuring that innovations are validated in real clinical environments.

Focus areas for innovation

Key priorities for health innovation in the UK include early detection and treatment of diseases, prevention and management of Multiple Long-term Conditions (MLTC), shifting care from hospitals to communities, applications of digital/AI tools and technologies, personalised and data-driven care (such as genomics and AI), addressing health inequalities, and digitally transforming care delivery. The NHS is moving from a reactive to a preventative model, with increased emphasis on public education around obesity, nutrition and early intervention for chronic conditions.

To support this shift, the UK has invested in advanced digital infrastructure. The NHS App now has over 33.6 million registered users (NHS England, 2023), making it one of the most widely used health apps in the country. As of October 2025, over 98 per cent of GP practices in England use digital systems (NHS Digital, 2025) for patient registration and records, enabling services such as remote consultations, digital triage, and electronic prescriptions. Programmes such as the NIHR Innovation Observatory and regional Health Research Collaborations (UK Clinical Research Collaboration, n.d.) play a pivotal role in translating research into real-world impact by identifying emerging technologies, supporting evidence generation, and accelerating NHS adoption.

Targeted funding mechanisms also reinforce innovation in priority areas. The AI in Health and Care Award, backed by the NHS AI Lab and NIHR, provides up to £140 million to accelerate testing and scaling of AI-driven tools for diagnostics and early detection, particularly for high-burden conditions like cancer, dementia and cardiovascular disease (NHS England, 2025a). The UK's leadership in genomics is further demonstrated through Genomics England and the NHS Genomic Medicine Service, which deliver whole-genome sequencing as part of routine care and expand precision medicine capabilities across the health system (NHS England, 2025b).

Regulatory processes are also becoming more innovation-friendly. The MHRA has introduced new pathways such as the Innovative Licensing and Access Pathway (Medicines and Healthcare products Regulatory Agency, 2025a) and the Innovative Devices Access Pathway (Medicines and Healthcare products Regulatory Agency, 2025b) to accelerate approval and adoption of emerging technologies, ensuring faster patient access to promising treatments and tools.

Challenges and opportunities

Despite a robust ecosystem, the NHS remains slow in adopting innovation at scale, due to institutional complexity, procurement barriers and risk aversion. Digitalisation efforts risk widening health inequalities, especially among older or digitally excluded populations (National Institute for Health and Care Research, 2025; Rousaki et al., 2024). For instance, only 42 per cent of people over 65 use the NHS App, raising concerns about digital access and literacy.

However, major system reforms are underway. The MHRA's regulatory overhaul and the "Design for Life" roadmap aim to improve speed-to-market, while regional partnerships are addressing health disparities through community-driven approaches. Co-development of national strategies like the Life Sciences Vision, which is shaped by more than 250 public and private stakeholders, reflects a systemic commitment to inclusive, joined-up innovation (UK Government, 2025).

The Integrated Care Boards (ICBs) have been trying to address the procurement barriers. These are NHS organisations in England which are responsible for planning and commissioning health services for regional populations within Integrated Care Systems (ICSs). ICBs replaced Clinical Commissioning Groups (CCGs) in 2022 to manage NHS budget and health services for their regions.

Collectively, this ecosystem, combining national infrastructure, regional HINs, targeted public funding and a favourable regulatory landscape, positions the UK as a premier destination for health innovation with global relevance. According to a PwC report commissioned by the Association of the British Pharmaceutical Industry (ABPI) and aligned with the UK Government's Life Sciences Vision (2021), fully realising this strategy could generate £68.1 billion in additional UK GDP over 30 years and create approximately 85 000 new jobs, primarily driven by innovation in high-growth areas such as biopharma, diagnostics and digital health.

CASE STUDIES

1. Oxford–AstraZeneca COVID-19 vaccine

In January 2020, soon after the release of the SARS-CoV-2 genome, researchers at Oxford University's Jenner Institute and the Oxford Vaccine Group began developing a COVID-19 vaccine, building on a platform previously used for Middle East Respiratory Syndrome (MERS) research, funded by UKRI's MRC and Biotechnology and Bioscience Research Council (BBSRC). Early animal studies confirmed strong immune responses, enabling rapid progression to human trials. This work was supported through UKRI and NIHR rapid-response funding, including £2.6 million in March 2020 to accelerate trials and scale production. Human testing began in April, and by November 2020 results showed 70 per cent efficacy overall, rising to 90 per cent under a different dosing regimen, with no major safety concerns reported.

A partnership with AstraZeneca provided global manufacturing, regulatory and logistics capacity to distribute the vaccine. The agreement ensured not-for-profit distribution during the pandemic and ongoing affordability in low- and middle-income countries. Oxford scientists also designed a simplified production process that allowed the vaccine to be manufactured in existing facilities worldwide, forming the basis of a franchised technology-transfer model across 15 countries by late 2021.



CASE STUDIES (continued)

By November 2021, over two billion doses had been supplied to more than 170 countries, with around two-thirds reaching low- and lower-middle-income nations through the COVAX initiative. A large proportion of these doses were produced outside high-income countries. The NIHR estimated that the vaccine prevented tens of thousands of hospitalisations and deaths in the UK and reduced household transmission by about 65 per cent after a single dose.

The Oxford–AstraZeneca vaccine demonstrates the effectiveness of the UK’s health innovation ecosystem. Rapid coordination between academia, public funders and industry enabled swift vaccine development, supported by agile regulation through the MHRA, and proactive government investment in manufacturing capacity. The outcome illustrates a system capable of mobilising resources and partnerships at unprecedented speed to address global health emergencies.

2. Calla Lily Clinical Care: Progesterone therapy innovation

Progesterone therapy options for women have historically been outdated, often causing discomfort and compromising patient dignity due to issues such as leakage and invasive application methods. In response to this long-standing challenge, Calla Lily Clinical Care developed Callavid, a novel, patient-friendly delivery system designed to offer a cleaner, more comfortable and dignified alternative for women requiring progesterone treatment (Calla Lily Clinical Care, 2025).

To enable this innovation, Calla Lily Clinical Care secured £2.3 million in private capital, including a significant £260 000 investment from a key investor. As the business matured, the team expanded from just four to 16 employees, and the company built academic collaborations to strengthen its research pipeline, including funded PhD partnerships with Queen Mary University of London and the University of Warwick. The de-risking effect of public grant funding was instrumental in catalysing investor confidence and accelerating progress towards market readiness.

The company received structured support across the innovation journey: £350 000 in early-stage funding from Innovate UK to support startup activities; £700 000 from the Biomedical Catalyst for collaborative R&D with Queen Mary University and UCL; and £1 million from the NIHR i4i Product Development Award to enable clinical validation. This was supplemented by tailored business support from Innovate UK Business Growth, including guidance on pitch strategy, intellectual property management and investor readiness (InnovateUK, 2025).

The Callavid development journey illustrates the value of the UK’s health innovation ecosystem in supporting women’s health. The ecosystem provided coordinated support across public funding, academic research partnerships and commercial readiness. By reducing financial risk and enhancing the company’s credibility, these interventions helped drive both investor engagement and clinical translation. The success of Calla Lily Clinical Care demonstrates how targeted funding mechanisms like the Biomedical Catalyst and NIHR i4i can accelerate the development of impactful, patient-centred technologies that address longstanding health challenges.

KENYA



As a lower-middle-income country with a population of over 53 million, Kenya faces a dual burden of disease, combining infectious diseases like HIV and TB with rising NCDs such as cancer and diabetes (Institute of Economic Affairs, 2025). This complexity shapes both the demand for innovation and the infrastructure required to support it. Kenya's health innovation ecosystem offers a dynamic example of how innovation operates within a developing-country context, especially when compared to more centralised systems like the UK's NHS. The sector is currently navigating a period of significant operational, structural and funding transitions that present both challenges and opportunities. Much of this complexity stems from the devolution of health functions to county governments under the 2010 Constitution, which has led to ongoing policy and administrative recalibration (Malaki, 2025). A notable recent transition is the shift from Kenya's longstanding National Hospital Insurance Fund (NHIF) to the newly formed Social Health Authority (SHA) in 2024. While the NHIF historically provided public health coverage, its transition to SHA was intended to enhance efficiency, transparency and sustainability. However, the process has faced significant challenges, including debates around its effectiveness, issues of transparency, and concerns about the sustainability of its funding mechanisms (Malaki, 2025). Despite this, SHA represents a major shift towards universal health coverage, although practical implementation remains uneven, creating continued reliance on private insurance and opening further opportunities for health innovation (Nzungi, 2025). While this evolving landscape can complicate long-term strategic planning, it also encourages flexibility and responsiveness, fostering an ecosystem well-positioned to address emerging health challenges through innovation.

Stakeholders and governance

The Kenyan innovation landscape is supported by key national institutions including the Ministry of Health (MoH), the Kenya National Innovation Agency (KeNIA), the National Commission for Science, Technology and Innovation (NACOSTI), and the National Research Fund (NRF). While these entities guide innovation through national frameworks such as Kenya Vision 2030, the Fourth Medium Term Plan and Kenya's 10-year National Innovation Masterplan, their implementation is mediated by county-level governance structures, requiring decentralised engagement strategies (Kenya State Department for Planning, 2024).

Health innovation in Kenya is shaped by a broad range of actors, each playing distinct and complementary roles. The MoH provides essential policy guidance and national legitimacy (Nzungi, 2025), while the private sector is widely recognised as the engine of innovation, proactively responding to service gaps and market needs (Malaki, 2025).

Development partners and NGOs play a key role in Kenya's health innovation ecosystem, particularly in early-stage funding, pilot implementation and support for underserved communities. Major actors like the Bill and Melinda Gates Foundation and UK Aid provide critical resources for programmes in maternal health, diagnostics and malaria (Gates Foundation, 2024; USAID, 2024). NGOs such as Jhpiego and SFAIDS often deliver these programmes in partnership with counties. While donor funding is declining in some areas, their involvement remains essential to de-risking innovation and enabling uptake where public resources are limited (Nzungi, 2025; Malaki, 2025).

Under Kenya's 2010 Constitution, health is a devolved function, with county governments responsible for service delivery, while the national government retains policy, regulation and referral services roles (Republic of Kenya, 2010; Ministry of Health, 2014). Counties therefore serve as the primary adopters of innovations, shaping uptake around their local health priorities, budgets and political will. Meanwhile, regulation remains centralised under statutory bodies such as the Kenya Medical Practitioners and Dentists Council (KMPDC), the Pharmacy and Poisons Board (PPB), the Nursing Council of Kenya and others, ensuring national-level oversight of quality and standards.

This devolved framework presents both opportunities and challenges for innovators. On the one hand, it allows for tailored adoption of solutions that address county-specific health needs, fostering experimentation and localised impact. On the other hand, innovators often face fragmented procurement processes, varying county capacities and political dynamics that can delay or complicate scaling. Successful health innovations in Kenya therefore require dual engagement: navigating the decentralised decision-making of county governments while simultaneously aligning with national regulatory and policy frameworks.

National coordination is supported by the KeNIA, which implements a cluster-based approach to organising and strengthening the ecosystem (Nzungi, 2025). This structure often requires innovators to engage county by county, but it also enables deep local integration of solutions.

Strengths and capabilities in health innovation

Kenya's innovation ecosystem is distinguished by a pragmatic, solutions-oriented approach, largely driven by its active private sector and flexible county structures. Private actors contribute significantly through investments to improving service delivery and access, while county governments ensure

relevance and contextual fit through localised adoption (Malaki, 2025). Innovations with strong performance, such as Point-of-Care Ultrasound (POCUS), can secure national support for wider rollout (Butterfly Network, n.d.). Innovation platforms such as the Public Sector Scaling (PSS) Action Lab and programmes led by Villgro Africa provide pilot environments for scaling technologies, while digital health platforms like m-TIBA and HealthX are helping to expand access to care in low-resource settings (HealthX Africa, n.d.; SAfAIDS, 2025; Chepkemoi, Kremer & Omarshah, 2023).

Development partners are pivotal in de-risking early-stage innovation, offering funding and validation that enable growth (Malaki, 2025). KeNIA's cluster model is helping to consolidate expertise and foster collaboration in areas like biosciences and healthtech (Nzungi, 2025). A highly skilled workforce, bolstered by returning diaspora and professionals from international health projects, adds to the ecosystem's adaptive capacity (Nzungi, 2025).

Investment and funding landscape in Kenya health innovation

Kenya's funding environment is diverse but fragmented, comprising private investment, essential grant support and variable public financing. Private-sector interest – particularly in health financing and service delivery – remains strong, driven by unmet demand and perceived limitations of the SHA (Malaki, 2025).

The SHA aims to consolidate health financing nationally, but its implementation has faced delays and enrolment challenges, particularly in private facility coverage (Institute of Economic Affairs, 2025). In this environment, grant funding remains critical for early-stage innovations, as public or insurance-based reimbursement is rarely available during initial testing and validation (Nzungi, 2025).

Changes in international aid – including reduced USAID funding – have disrupted programme continuity, especially in areas like sexual and reproductive health (Nzimande, 2022). For successful innovations, scaling typically requires a blend of county procurement, donor funding and impact investment, underscoring the need for sustainable finance strategies. Key programmes are shown in Table 4.

Table 4: Key Kenyan innovation programmes

Programme	Focus	Funding size	Lead agency
KEMRI Internal Research Grants	Research capacity and innovation	KSh 100–300 million per call (PATH, 2020; KEMRI, 2023)	KEMRI (Ministry of Health)
Pneumonia & Pandemic Preparedness Programme	Public health data systems	\$350 000 over 10 months (Gates Foundation, 2024)	Gates Foundation
Investing in Innovation (i3) – Butterfly Network	Maternal health (POCUS)	\$5 million over 2 years (Salient Advisory, 2022)	Gates Foundation/MSD/WHO Africa
Ilara Health (Maternal Diagnostics)	Maternal and reproductive health diagnostics	\$916 007 over 28 months (Gates Foundation, 2020)	Gates Foundation
US HHS HIV/TB Diagnostic Networks Grant	HIV and TB laboratory diagnostics	\$6 million (Year 1); 5-year total (FundsforNGOs, 2024)	US Department of Health & Human Services
Urban Reproductive Health Initiative	Family planning and HIV integration	\$22.9 million (Jhpiego, 2022)	Jhpiego and Gates Foundation
Kenya Demographic and Health Survey (KDHS)	Health data collection (maternal, child, FP)	\$1 million over 34 months (Gates Foundation, 2022)	Gates Foundation/Kenya National Bureau of Statistics
Health Research Operations (Malaria)	Translational malaria research	\$1.4 million over ~5 years (Gates Foundation, 2021)	Gates Foundation
Innovative Vector Control Consortium (IVCC)	Malaria insecticide innovation	\$50.7 million over 5 years (IVCC, 2022)	Gates Foundation, UK Aid, USAID

Focus areas for innovation

Innovation in Kenya prioritises practical, high-impact solutions that address service delivery gaps, particularly in rural and underserved areas. Public system strengthening remains a central goal, with scale often pursued through integration into county health structures (Nzungi, 2025). Innovations such as drone delivery services and portable diagnostic tools are targeting barriers related to logistics and access (Butterfly Network, n.d.; Nzungi, 2025). Kenya's Digital Masterplan (2022–2032) aims to expand public Wi-Fi access, digitise health records and scale mobile health tools (Kenya National Innovation Agency, 2024). Although progress varies by county, platforms like HealthX and Cofpak are helping to accelerate adoption of electronic medical records and telehealth services (Cofpak, 2025). Others focus on supply chain efficiency, workforce connectivity and health data. Funding priorities, particularly for HIV and TB, continue to shape the landscape, though there is growing interest in targeting NCDs such as cancer, informed by private-sector feedback (Nzungi, 2025).

Challenges and opportunities

Kenya's ecosystem faces governance complexity, funding uncertainties and barriers to access, but also benefits from strong local demand, engaged stakeholders and promising models for scale. The evolving division of roles between national and county health authorities adds to administrative complexity (Nzungi, 2025), while the SHA's performance and budget stability are central to future innovation adoption (Institute of Economic Affairs, 2025). Despite SHA covering approximately 20 million people, gaps in effective coverage remain significant, particularly in outpatient care, resulting in limited financial protection for patients and continued reliance on out-of-pocket payments or private insurance (Nzungi, 2025). Private insurance, although providing better coverage, is only affordable to about 5 per cent of the population, mainly those in formal employment, which highlights substantial inequities and gaps in comprehensive healthcare access (Malaki, 2025). While mobile platforms show promise, significant rural-urban divides in connectivity, health literacy and service availability persist. Innovations must address these access challenges to avoid deepening inequalities, particularly for youth, women and rural populations (Institute of Economic Affairs, 2025).

Despite these challenges, opportunities abound. The private sector's responsiveness drives real-time problem-solving (Malaki, 2025). County-level procurement enables tailored scaling pathways for relevant solutions (Nzungi, 2025). Development partners continue to fill key funding gaps, and platforms like KeNIA's clusters support knowledge exchange (Nzungi, 2025). As Kenya transitions toward reduced aid dependency, strengthening domestic resource mobilisation and diversifying funding sources will be vital.

Navigating complexity through opportunity

Kenya's health innovation ecosystem, though complex and decentralised, offers fertile ground for impactful, locally driven solutions. County governments play a central role in adoption, while a responsive private sector and supportive development partners continue to drive innovation. Challenges around financing, regulatory coherence and national-county coordination persist, but targeted reforms – particularly to strengthen the SHA and diversify funding – can unlock further scale.

With the right alignment and investment, Kenya is well-positioned to build a more inclusive, resilient and innovation-led health system.

CASE STUDY 1: Zipline (drone deliveries)

In January 2020, soon after the release of the SARS-CoV-2 genome, researchers at Oxford University's Jenner Institute and the Oxford Vaccine Group began developing a COVID-19 vaccine, building on a platform previously used for Middle East Respiratory Syndrome (MERS) research, funded by UKRI's MRC and Biotechnology and Bioscience Research Council (BBSRC). Early animal studies confirmed strong immune responses, enabling rapid progression to human trials. This work was supported through UKRI and NIHR rapid-response funding, including £2.6 million in March 2020 to accelerate trials and scale production. Human testing began in April, and by November 2020 results showed 70 per cent efficacy overall, rising to 90 per cent under a different dosing regimen, with no major safety concerns reported.

A partnership with AstraZeneca provided global manufacturing, regulatory and logistics capacity to distribute the vaccine. The agreement ensured not-for-profit distribution during the pandemic and ongoing affordability in low- and middle-income countries. Oxford scientists also designed a simplified production process that allowed the vaccine to be manufactured in existing facilities worldwide, forming the basis of a franchised technology-transfer model across 15 countries by late 2021.

Zipline, a private company, exemplifies leveraging technology to address critical supply chain challenges in health. It has achieved significant scale by integrating with public health systems in Kenya and other regions. Initially supported by grants for testing, Zipline attracted substantial venture capital, raising \$821 million by April 2023 (Clay, 2025). Philanthropic grants, such as \$1.015 million from the Elton John AIDS Foundation in 2022, also supported specific social impact initiatives like HIV prevention in Western Kenya (Chepkemai, Kremer & Omarshah, 2023). Zipline's drone delivery system has significantly reduced medical product stockouts (e.g., 11 per cent reduction in days without product, 60 per cent reduction in vaccine shortages) and led to a "56.4 per cent reduction in maternal deaths" at served facilities, alongside increased antenatal visits and facility-based deliveries (IDinsight, 2022; Business Africa Online, 2025). Healthcare worker satisfaction with medicine availability also increased by 28 per cent (IDinsight, 2022). Zipline's scaling strategy involves county governments incorporating its services into their supply chains and contributing to operational costs, demonstrating demand-driven adoption (Nzungi, 2025). This hybrid funding model, blending private investment, grants and public-sector contracts, provides a template for scaling impactful innovations in resource-constrained environments (Nzungi, 2025).

CASE STUDY 2: Point-of-Care Ultrasound (POCUS)

POCUS is a transformative health innovation improving diagnostic capabilities and maternal-neonatal outcomes in underserved, rural settings through accessible technology and targeted training. Its adoption and scaling in Kenya were primarily supported by a significant \$5.8 million grant from the Gates Foundation to the Butterfly Network in 2022 (Butterfly Network, n.d.). This philanthropic investment facilitated the deployment of 1 000 Butterfly iQ+ probes and comprehensive training for over 1 000 healthcare workers in obstetric point-of-care ultrasound across Kenya and South Africa (Butterfly Network, n.d.). POCUS has proven critical for early detection of life-threatening complications during pregnancy, leading to improved access to ultrasonography, timely diagnoses and appropriate referrals (Butterfly Network, n.d.). More than 500 000 scans have been performed in Kenya by 514 users across 224 public facilities, predominantly rural, with an average of 8 400 monthly scans (Butterfly Network, n.d.). Healthcare workers reported greater confidence in decision-making, and the programme achieved a 99 per cent passing rate on obstetric POCUS exams after week-long training sessions (Butterfly Network, n.d.). POCUS serves as a prime example of an innovation that the "national [government] is the one that is pushing it to be rolled out everywhere" due to its significant impact potential, demonstrating a top-down adoption strategy (Nzungi, 2025). This model highlights how targeted philanthropic capital can de-risk and accelerate innovation for public good, leading to national adoption (Butterfly Network, n.d.).

CASE STUDY 3: Hewatele (affordable medical oxygen)

Hewatele is a Kenyan social enterprise addressing critical gaps in medical oxygen access, particularly in rural and underserved areas. Launched in 2014, the enterprise uses a decentralised model to produce oxygen through Pressure Swing Adsorption (PSA) plants located near public hospitals, reducing reliance on expensive and delayed deliveries from centralised suppliers (Hewatele, 2023).

This model proved vital during the COVID-19 pandemic, when oxygen demand spiked. Hewatele partners with county governments and faith-based hospitals to enable cost-effective last-mile delivery aligned with Kenya's devolved health system (Chepkemai, Kremer & Omarshah, 2023). It received early support from development partners such as Grand Challenges Canada and the Clinton Health Access Initiative (CHAI), which provided funding and technical assistance (Grand Challenges Canada, 2020; Clinton Health Access Initiative, 2022).

By 2022, Hewatele had established PSA plants in Machakos, Siaya and Nakuru counties, reducing oxygen costs by up to 50 per cent and improving supply reliability (Hewatele, 2023). It also contributed to better outcomes for patients with respiratory conditions like pneumonia, and continues to advocate for the inclusion of oxygen as an essential medicine in Kenya's policy frameworks (Chepkemai, Kremer & Omarshah, 2023).

Hewatele's hybrid approach offers a replicable model for affordable, life-saving innovations in low-resource settings.



INDIA



India is experiencing a triple transition – economic, demographic and epidemiological. Sustained GDP growth, a large working-age population and an ageing demographic underpin progress, but the country continues to face a dual disease burden, with NCDs rising rapidly alongside communicable diseases. Major health gains include a decline in infant mortality from 88 to 32 per 1 000 live births (1990–2020) and maternal mortality from 556 to 113 per 100 000 live births (1990–2018). Persistent challenges include TB (including multidrug-resistant forms), dengue, and chikungunya, while NCDs now account for more than half of the disease burden (Selvaraj et al., 2022).

The Pradhan Mantri Jan Aarogya Yojana (PM-JAY), launched in 2018, represents a milestone in financial protection, providing coverage of INR 500 000 per year for 500 million people. Alongside this, the National Health Policy aims to raise public health expenditure to 2.5 per cent of GDP by 2025 and expand universal health coverage.

Despite these policy milestones, India's healthcare infrastructure and workforce remain critically strained. The country has only 0.7 doctors per 1 000 people – well below the WHO benchmark of 2.5 – and 0.5 hospital beds per 1 000, compared to the global average of 3. Access to quality secondary and tertiary care is concentrated in major cities, with up to 60 per cent of facilities located in urban areas, leaving rural populations underserved (BMJ, n.d.).

India now hosts the second-largest digital health ecosystem globally, according to Galen Growth (2024). A strong base of digital public infrastructure, private-sector innovation and a diverse population position it as a global leader in digital-health transformation. India was instrumental in advancing the WHO Global Initiative on Digital Health (GIDH) during its 2023 G20 Presidency (Kamineni & Bishen, 2025).

A diverse network of public, private and international actors drives health innovation

The Ministry of Health and Family Welfare, National Health Authority (NHA) and National Health Mission (NHM) lead the health system, while states oversee implementation. The private sector delivers 70 per cent of outpatient, 58 per cent of inpatient, and 90 per cent of pharmaceutical services, but remains fragmented. Oversight is provided by the National Medical Commission (NMC) and allied regulatory bodies, while local committees such as Rogi Kalyan Samitis and Village Health Sanitation and Nutrition Committees face limited effectiveness (Selvaraj et al., 2022).

Public innovation is driven by programmes such as the Ayushman Bharat Digital Mission (ABDM), CoWIN, and eSanjeevani, with private institutions like Apollo Hospitals advancing telemedicine and AI diagnostics. International initiatives, particularly through the WEF and Digital Healthcare Transformation (DHT) Initiative, have strengthened cross-sector collaboration (Kamineni & Bishen, 2025). Over 1 100 investors, including Peak XV Partners, Accel, and Chiratae Ventures, have supported digital-health growth (Galen Growth, 2024).

A growing investment landscape anchored by public platforms and private capital

India attracted \$7.92 billion in venture-capital funding for digital health over the past decade, ranking second in the Asia-Pacific region. Public funding in platforms such as CoWIN and ABDM provides foundational infrastructure, while private investments support AI-enabled and telehealth solutions. The DHT Initiative aims to scale collaborative, replicable healthcare models (Kamineni & Bishen, 2025).

Priority innovation areas include interoperable digital infrastructure, telemedicine expansion, AI diagnostics, cross-border data harmonisation, and capacity-building for digital health skills. However, challenges persist – startup survival remains below average (80 per cent), market fragmentation hampers scalability, and weak policy alignment limits private-sector sustainability (Galen Growth, 2024; Kamineni & Bishen, 2025). Additional barriers include poor internet access, unreliable electricity and repeated data entry requirements (Mukherjee, 2024).

Opportunities for global leadership through scalable and inclusive innovation models

India's stabilising investment climate and established digital backbone offer a strong foundation for sustainable growth. Its diverse population and digital infrastructure make it an ideal testbed for scalable, low-cost models adaptable to other low- and middle-income countries. India's leadership in the GIDH and DHT initiatives cements its position as a standard-setter in global digital health.

Future opportunities include cross-sector partnerships, RD&I incentives, innovation hubs linking academia and industry, and performance-linked innovation funds to accelerate translation from research to market (Indian Pharmaceutical Alliance, 2019; Mukherjee, 2024).

CASE STUDY: The 100 Days Programme (2024)

As part of the Viksit Bharat 2047 vision, the Department of Health Research (DHR) under India's Union Health Ministry launched the 100 Days Programme in October 2024. The initiative aims to strengthen health innovation, pandemic preparedness and the development of indigenous medical technologies to advance national self-reliance, under the Atmanirbhar Bharat policy framework (Ministry of Tribal Affairs, Government of India, n.d.).

Led by the DHR, the programme brings together key partners including the Indian Council of Medical Research (ICMR), Central Drugs Standard Control Organization (CDSCO), Department of Biotechnology (DBT) and major research institutions such as the National Institute of Virology (NIV) and ICAR-NIHSAD, alongside private-sector and academic collaborators.

Flagship initiatives include Med-Tech Mitra (supporting more than 250 health innovators), the National One Health Mission (strengthening BSL-3 lab networks and surveillance systems), Integrated Research and Diagnostic Laboratories (IRDLs), rare-disease drug development, and the "First in the World" biomedical innovation challenge. The programme also promotes evidence-based clinical guidelines and capacity-building through fellowships for PhD students, faculty, and women scientists.

By late 2024, Med-Tech Mitra had engaged more than 250 innovators, a national BSL-3 network had been operationalised, and vaccine development had begun for avian flu, Kyasanur Forest Disease, mpox, and the Nipah virus. Early-warning surveillance systems were piloted, and over 200 research fellowships were awarded. Upcoming milestones include expanding IRDLs, launching the Centre for Evidence-Based Guidelines, and funding 50 high-risk biomedical innovations (Ministry of Health and Family Welfare, 2024).

This case study highlights a successful approach to government-level coordinated health innovation support.




Insights and recommendations for South Africa's NHI

South Africa's NHI presents an opportunity to transform healthcare access and equity while stimulating local innovation. Lessons from international systems, particularly the UK, Kenya and India, suggest that successful universal health coverage depends on balancing strong national stewardship with decentralised delivery, predictable purchasing systems and inclusive innovation pathways.

Governance is a key determinant of success. A single national purchaser, as envisioned under the NHI, should be complemented by devolved delivery mechanisms. The UK's ICSSs and Kenya's county-led model demonstrate the benefits of combining national policy coherence with local flexibility. South Africa could adopt a similar hybrid approach by establishing a national "NHI Delivery Playbook" that defines benefits, referral pathways and procurement norms, while allowing provinces to sign service compacts tailored to their capacity and population needs. To ensure accountability and transparency, an independent Health Technology Assessment panel and Outcomes Observatory, drawing from the UK's NICE and India's HTA bodies, should oversee the evidence-based adoption of innovations.

Financing and payment mechanisms should reward value rather than volume. The NHI's purchasing system can blend global budgets and Diagnosis-Related Groups (DRGs) for hospitals with capitation for primary care providers, including quality-linked incentives. Priority areas such as TB, maternal health and diabetes could pilot pay-for-outcomes contracts verified by independent evaluators. Kenya's blended finance experience and India's use of public and private partnerships offer models for combining government funding with donor and private investment. An Innovation and Outcomes Fund could help de-risk promising local solutions aligned with NHI priorities, attracting philanthropic and impact investment while ensuring scalability through transparent public procurement.

Digital transformation must underpin implementation.

India's Ayushman Bharat Digital Mission shows how national health information systems with unique patient IDs, consent management and open data standards can create interoperability while keeping markets open. South Africa should prioritise developing a unified digital backbone that links facilities, patients and suppliers through standardised, open-access systems. Publishing de-identified dashboards on access, expenditure and outcomes would improve transparency and public trust.

Strengthening primary care is central to achieving efficiency and equity.

Team-based primary care models, combining GPs, nurses, community health workers and pharmacists, supported by telehealth and digital referral systems, can reduce pressure on hospitals and improve continuity of care. Evidence from India and the UK shows that shifting to preventative and community-based care not only improves outcomes but also lowers long-term costs.

Sustained capacity-building will be crucial.

The NHI should prioritise training for managers in contracting and data use, clinicians in evidence-based care, and community workers in patient engagement. Adapted from the UK's Clinical Entrepreneur Programme, a local initiative could provide small grants and mentorship for frontline innovation.

Finally, **building public trust is essential.** Transparent payment systems, open communication, and early visible successes such as reduced medicine stockouts, faster referrals or improved maternal health outcomes will strengthen legitimacy.

In essence, South Africa's NHI can learn from the UK's integrated planning and evidence-led adoption, Kenya's devolved responsiveness and blended financing, and India's digital infrastructure and scale. If implemented with transparency, flexibility and focus on outcomes, the NHI could evolve into a cornerstone of equitable health access and a powerful enabler of inclusive health innovation.

Recommendations and the way forward

Based on the findings, and leveraging other ecosystems such as those of India, the United Kingdom, and Kenya, the following recommendations have been put forward. If successfully implemented, these recommendations should lead to the strengthening of key components of the ecosystem as identified in Table 5.

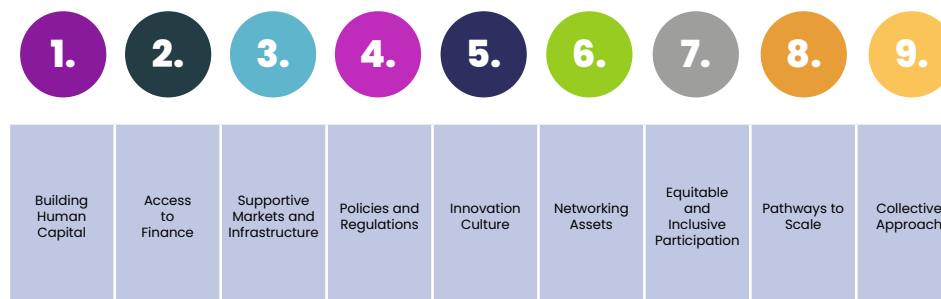
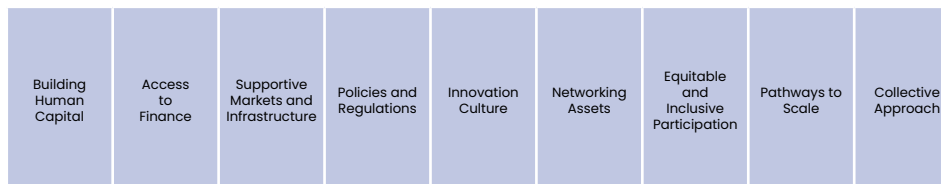


Table 5: Key components ecosystem

Human capital and innovation capacity								
<p>Strengthen incubation pathways and extend support across the innovation lifecycle</p> <ul style="list-style-type: none"> Extend incubation timelines for health innovations to account for lengthy regulatory processes and real-world validation cycles. Establish structured pathways from idea to pilot to scale, including early partnerships with clinicians, hospitals, and public health infrastructure (e.g., NHLS) for testing, validation and adoption. Expand access to incubation and mentorship in underserved regions to ensure equitable participation. 								
<p>Embed market-driven and multi-stakeholder approaches into innovation development</p> <ul style="list-style-type: none"> Introduce Technology Readiness Level (TRL)-aligned training that includes stakeholder mapping, co-design, and engagement with regulators, payers and clinicians. Ensure innovations are designed for real delivery contexts, especially in rural and vulnerable settings. Balance social impact and commercial viability by aligning business models with health system needs. 								
<p>Align skills development and talent pipelines with industry needs</p> <ul style="list-style-type: none"> Co-develop curricula and innovation challenges with investors, industry and universities to build market-relevant skills. Expand digital literacy and entrepreneurship training for diverse age groups, addressing generational and gender gaps. Integrate regulatory, compliance and market-entry training into academic and professional programmes. 								
<p>Ensure scale-ready and sustainable ventures</p> <ul style="list-style-type: none"> Pair incubation with scale-readiness initiatives such as bootcamps and mentorship for cross-border expansion. Strengthen venture quality and resilience through advanced investor readiness, governance and monitoring support. Encourage social enterprises and non-profits to pursue earned revenue models to reduce donor dependency and ensure long-term sustainability. 								



Finance, investment and sustainability

Establish sustainable and systemic financing models

- Shift from short-term project grants to **long-term, flexible financing** that supports the full innovation lifecycle – from R&D and proof-of-concept to scale and systemic impact.
- **Develop early-stage, de-risking funds** to bridge the “valley of death” between research and commercialisation.
- **Provide unrestricted capital for ecosystem-building functions, intermediaries and collaborative platforms** that connect government, academia and industry.
- Design funding instruments that **invest in networks, clusters, partnerships and shared infrastructure**, not just individual firms.
- Support **Africa-based, Africa-benefitting innovations**, with a focus on solutions for underserved communities and locally relevant health challenges.
- Prioritise funding for **innovations with high potential for regulatory approval**, reducing downstream financial losses.
- Embed **health technology assessment** and **quality assurance mechanisms** into funding decisions to ensure innovations meet societal, clinical and health-system needs beyond regulatory compliance – especially critical for digital health solutions trained on limited or biased data.

Mobilise domestic, blended and innovative finance models

- **Expand use of innovative finance mechanisms**, such as blended capital, pooled funds, catalytic instruments and outcome-based financing to diversify funding sources and reduce donor dependency.
- **Convene continent-focused investors**, high-net-worth individuals, pension funds and family foundations to **co-finance health innovation and strengthen local ownership**.
- Partner with venture capital, impact funds and public-private vehicles to **channel finance towards scalable, high-impact health solutions**.
- **Leverage South Africa’s population diversity** as a comparative advantage for international MedTech investment and product validation.

Embed inclusion and impact accountability in investment models

- **Prioritise funding for women-led enterprises, women’s health and underserved communities**, ensuring equitable access to capital.
- **Promote double-bottom-line investment vehicles** that balance financial returns with social outcomes, linking financial performance to measurable health and equity impacts.
- **Standardise impact measurement tools and metrics** to guide investment decisions and improve transparency and comparability across funders.





Markets, procurement and infrastructure

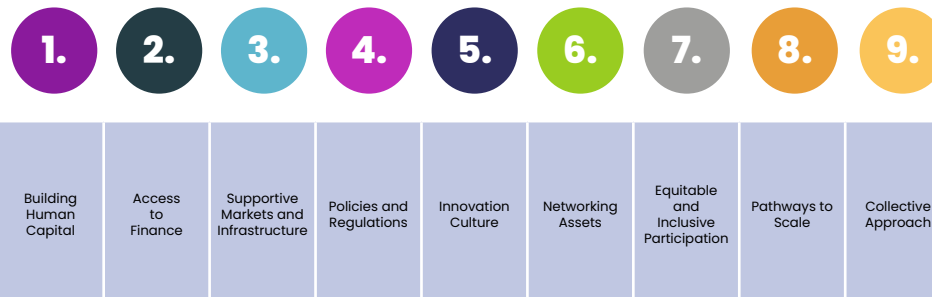
Strengthen and sustain inclusive innovation and research infrastructure

- **Prioritise equitable access to both digital and physical infrastructure**, including affordable connectivity, devices and innovation hubs, particularly in underserved areas.
- **Expand, maintain and coordinate research and digital health infrastructure** to ensure sustained investment that attracts talent and supports long-term innovation.
- **Empower and resource innovation intermediaries**, hubs and TTOs to act as connectors between grassroots innovators, academia, funders and markets.
- **Leverage one-stop innovation hubs** (e.g., HealthTech Hub Africa model) as entry points to markets, networks and policy dialogue.
- **Ensure TTOs are well-resourced and supported** (including through NIPMO funds) to review and commercialise IP and maintain strong university-innovator relationships.

Enable market access, procurement reform and pathways to scale

- **Reform procurement frameworks** to include innovation tracks, allowing promising pilots to transition seamlessly into national or provincial adoption.
- **Use provincial autonomy to pilot and scale** innovations through flexible, demand-driven models.
- **Support innovators to build scaling and market strategies** that balance sustainability and local delivery realities.
- **Encourage South African firms to expand into domestic and African regional markets**, leveraging comparative strengths and aligned funding priorities.
- Ensure strong **public-sector buy-in** so that innovations addressing health priorities are absorbed into service delivery.





Policy, regulation and governance

Making regulation responsive – Addressing red tape, bureaucracy and bottlenecks, and establishing more responsive timeframes for action

To make the regulatory environment more enabling for innovation while upholding safety and quality standards, government and regulatory bodies should focus on improving responsiveness, alignment and accountability in the regulatory landscape.

- **Conduct a comprehensive legislative and regulatory audit** to identify areas of unnecessary red tape, duplication and misalignment. This should include assessing whether current provisions are fit for purpose and responsive to the needs of innovators, and identifying where legislative or procedural streamlining is possible.
- **Set clear performance benchmarks and monitor progress** by introducing measurable targets for regulatory processes (e.g., SAHPRA device registration turnaround times) and conducting regular, transparent check-ins against milestones in the Digital Health Strategy, MedTech Master Plan and the National Policy Development Framework.
- **Pinpoint and address systemic bottlenecks along the innovation pathway** – such as delays in device certification, data-sharing approvals or cross-departmental reviews – and create feedback mechanisms so innovators can flag emerging issues.
- **Improve regulatory responsiveness through iterative updates and flexible mechanisms** such as “fast-track” or adaptive review processes for priority health technologies and public health innovations.
- **Strengthen regulatory partnerships** (e.g., MHRA–SAHPRA) and **cross-border collaboration** to accelerate learning, align timelines and enable early adoption of best practices.

Enable better navigation of regulatory processes and address barriers – local and international

Supporting innovators to navigate regulatory systems (domestically, regionally and globally) is critical to ensuring that promising innovations reach markets and patients faster. This requires a mix of direct support, institutional capacity-building, and international alignment.

- **Establish dedicated regulatory support services, with roadmaps**, to help innovators navigate complex requirements, including SAHPRA processes, IP protection, and ISO certification. These services should begin early in the innovation lifecycle – not only at the clinical or trial stages.
- **Expand regulatory assistance programmes and build on proven models** such as SHIP, GHIA, MeDDIC support and ISO training initiatives, to provide guidance, mentorship and resources.
- **Facilitate alignment with international regulatory standards from the outset**, ensuring that innovators building for export markets avoid costly delays or redesigns later in the product lifecycle.
- **Build regulatory capacity and infrastructure** by capacitating SAHPRA for more rapid certification and increasing local capacity for internationally certified product testing.
- **Establish dedicated coordination and support platforms** such as a national regulatory forum or think tank where government, industry and academia can share information, discuss barriers and co-design solutions.
- **Scale regulatory training and knowledge dissemination** across the public and private sectors to improve compliance readiness and reduce time-to-market.
- **Simplify approval pathways and streamline processes** where possible, including through tailored navigation support and roadmaps for innovators.





Policy, regulation and governance

Policy coordination across government – Building momentum on strategic actions and putting plans into practice
 Achieving a more innovation-friendly regulatory environment depends not only on technical fixes but also on how government coordinates, governs and implements existing strategies and commitments. Greater institutional alignment, leadership and proactive mechanisms are essential.

- **Strengthen cross-government coordination and collaboration**, ensuring departments and agencies work together on health innovation regulation as envisioned by the **National Policy Development Framework**. This includes aligning actions across the **MedTech Master Plan, Digital Health Strategy** and other relevant policies.
- **Assign clear leadership and accountability** by designating a dedicated “regulatory champion” or coordination body responsible for driving momentum, aligning domestic regulations with international standards and supporting innovators navigating multiple regulatory bodies.
- **Create regulatory sandboxes** to pilot and refine new approaches for emerging technologies, particularly in digital health, drawing on lessons from fintech and international best practice.
- **Establish mechanisms for real-time progress tracking** on regulatory commitments and actions in key policy documents, ensuring that actions proposed under the MedTech Master Plan’s Regulatory Pillar and the Digital Health Strategy’s “Strategic Interventions” are actively monitored and implemented.
- **Enhance governance of emerging regulatory areas** by establishing or strengthening bodies responsible for reviewing and updating regulations, developing new legislation where needed, and creating enforcement and compliance mechanisms.
- **Prioritise critical areas for regulatory reform and oversight**, including data protection, public-private data-sharing frameworks, data interoperability and cybersecurity standards.
- **Create enabling conditions for innovation adoption within government systems** by continuing to reduce bottlenecks, ensuring policies facilitate rather than hinder innovation uptake, and expanding collaborative models such as international regulatory partnerships.





Innovation culture and collaboration

Foster an inclusive innovation culture and locally led participation

- **Support and scale community-based and grassroots innovations**, including mentor-mother and youth-led models in rural and peri-urban areas.
- **Intentionally include women-, youth- and township-led innovators in programmes and events**, ensuring equitable access to mentorship, funding and exposure.
- **Embed co-creation and participatory design practices** by engaging end-users and community health workers throughout the innovation lifecycle.
- **Adopt place-based approaches** linking township and rural economies, integrating health professionals into new local infrastructure (e.g., retail or service hubs).
- **Include social scientists in innovation teams** to strengthen cultural relevance, communication and adoption.
- **Increase political and institutional support** for inclusive health innovation as a national priority.
- **Celebrate and recognise innovation through awards and storytelling campaigns** that highlight women, youth and rural innovators.
- **Strengthen municipal innovation capacity** through toolkits, inter-municipal exchanges and innovation champion incentives.

Strengthen collaboration, learning and collective action

- **Build a national and continental knowledge hub** hosting playbooks, templates, case studies and toolkits to accelerate scaling and prevent duplication.
- **Facilitate peer-to-peer learning and knowledge exchange** between innovators, funders, practitioners and policymakers.
- **Deepen cross-sector partnerships** among government, academia, civil society, corporates and funders to strengthen innovation pipelines and SMME support.
- **Promote regional collaboration and shared market access** by further designing continental initiatives and bilateral innovation programmes.
- **Launch challenge-driven calls and joint fellowships** focused on key health priorities (e.g., maternal health, diagnostics, digital health).
- **Leverage international funding streams and platforms** (e.g., UKRI, GCRF, AHRIF) to enable cross-border collaboration and measurable impact.





Building Human Capital	Access to Finance	Supportive Markets and Infrastructure	Policies and Regulations	Innovation Culture	Networking Assets	Equitable and Inclusive Participation	Pathways to Scale	Collective Approach
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Networks, platforms and coordination mechanisms

Strengthen national coordination and multi-stakeholder governance

- **Establish a National Health Innovation Network** as a practical extension of the Innovation Compact – aligning government, business, academia and civil society around shared innovation goals.
- **Create a national networking platform** (online and in-person) to connect innovators, funders, municipalities, research sites and corporates, enabling collaboration and opportunity-sharing (or further strengthen existing platforms such as Innovation Bridge).
- **Institutionalise multi-stakeholder** forums that enable proactive policy dialogue, regulatory reform and ecosystem collaboration – drawing from models like the SAMA-led telehealth coalition during COVID-19.
- **Facilitate regular multi-ministry dialogues** (Health, DSTI, Treasury etc.) to tackle systemic barriers (procurement, regulatory alignment, data interoperability).
- **Encourage inclusive participation by grassroots, women- and youth-led innovators**, ensuring community voices inform policy and implementation.
- **Enhance market access and industry partnerships** through matchmaking platforms, PPPs and university-industry collaboration frameworks.

Advance regional and continental integration for health innovation

- **Address shared continental barriers**, including fragmented policies, slow licensing and inadequate data governance, through coordinated regional action.
- **Strengthen regional dialogue and coordination mechanisms** among healthtech stakeholders across Africa, with **South Africa playing an active leadership role**.
- **Establish regional regulatory harmonisation mechanisms** such as a Pan-African or bilateral “innovation passport” and SADC taskforces on healthtech standards.
- **Align national licensing and IP frameworks with continental platforms** (e.g., AUDA-NEPAD, SHIP, BioInnovate Africa) and global regulatory initiatives (e.g., the International Medical Device Regulators Forum [IMDRF]).
- **Promote cross-border challenge-driven initiatives and joint calls** addressing shared health priorities (maternal health, diagnostics, digital health).
- **Develop policy coherence** on health data access, hosting and interoperability to facilitate innovation while protecting security and privacy.



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Appendices

Appendix I: Key policy and regulation role-players and initiatives

More information on key role-players in the public sector related to health innovation are detailed below. This list of government departments and regulators is not exhaustive; these were mentioned as they related to the goals above. Further information is available at www.gov.za.

NDoH – National Department of Health

- **Status:** National department (policy owner and system integrator). Vision/mission published. <https://www.health.gov.za>
- **Administers/implements:** [National Digital Health Strategy](#); Health Normative Standards Framework for Interoperability in eHealth (HNSF) (shared co-ordination with various stakeholders including OHSC, SAHPRA); National Health Act norms/standards (via the Office of Health Standards Compliance [OHSC]); NHI policy direction.
- **Mission/focus:** “A long and healthy life for all South Africans.” Improve access, equity, efficiency, quality and sustainability.
- **Enables innovation:** Sets digital standards (HNSF); steers NHI information systems; programmatic adoption pathways and [national guidance](#).

DSTI – Department of Science, Technology and Innovation (previously and sometimes referred to as DSI)

- **Status:** National department responsible for science, technology and innovation <https://www.dsti.gov.za>
- **Administers/implements:** 2019 [White Paper on Science, Technology and Innovation](#); extensive list of [relevant legislation and policies](#).
- **Mission/focus:** Provides “leadership, an enabling environment, and resources for science, technology and innovation” in support of South Africa’s development.
- **Enables innovation:** “Through its Programmes (Administration; Technology Innovation; International Cooperation and Resources; Research Development and Support; and Socio-economic Innovation Partnerships) and several entities that work alongside it, [the Department](#) is accomplishing groundbreaking science and enhancing the well-being of all South Africans.”

DTIC – Department of Trade, Industry and Competition (previously DTI)

- **Status:** National department for industrial policy, trade and competition. <https://www.thedtic.gov.za>
- **Administers/implements:** Med-Tech Master Plan (2024); master-plan toolkit; localisation and [export-promotion instruments](#).
- **Mission/focus:** “Promote structural transformation, towards a dynamic industrial and globally competitive economy; Provide a predictable, competitive, equitable and socially responsible environment, conducive to investment, trade and enterprise development; Broaden participation in the economy to [strengthen economic development](#).”
- **Enables innovation:** Through the Med-Tech Master Plan’s Pillar 1 on regulatory reform, which aims to improve efficiency and alignment in the regulatory environment. [Key actions](#) include establishing a joint regulatory forum, conducting RIAs, modernising regulatory systems (including AI-based upgrades), and advancing harmonisation with African frameworks – all intended to reduce time and cost to market.

SAMRC – South African Medical Research Council

- **Status:** National public entity (PFMA Schedule 3A); statutory research council. <https://www.samrc.ac.za>
- **Administers/implements:** Established by the [SAMRC Act](#); implements national [research and innovation programmes](#).
- **Mission/focus:** “To advance the nation’s health and quality of life and address inequity by conducting and funding relevant and responsive health research, capacity development, innovation and research translation.”
- **Enables innovation:** Through [various programmes](#).

SAHPRA – South African Health Products Regulatory Authority

- **Status:** National public entity (PFMA Schedule 3A) reporting to the Minister of Health through its Board. <https://www.sahpra.org.za>
- **Administers/implements:** Medicines & Related Substances Act 101 of 1965 (as amended); also radiation-emitting devices via the Hazardous Substances Act 15 of 1973.
- **Mission/focus:** “SAHPRA has three pillars to ensure that medicines, medical devices and IVDs meet the requisite standards to protect the health and well-being of South Africans: Safety, Efficacy and Quality.”
- **Enables innovation:** Various areas covered, see [extensive list](#).

HPCSA – Health Professions Council of South Africa

- **Status:** Statutory regulator under the Health Professions Act 56 of 1974. <https://www.hpcsa.co.za>
- **Administers/implements:** Ethical rules and scopes of practice via 12 Professional Boards; [HPCSA Booklet 10: General Ethical Guidelines for Good Practice in Telehealth](#) (revised December 2021).
- **Mission/focus:** “To regulate and guide registered healthcare professions and protect the public.”
- **Enables innovation:** Telehealth rules; scope-of-practice [guidance](#) for task-shifting and clinician use of digital tools.

The following regulators and government organisations also play a significant role. Although their primary mandates may not be in health or innovation, the legislation and policies they administer influence the health innovation ecosystem:

NIPMO – National Intellectual Property Management Office

- **Status:** National office established in law. [NIPMO](#), under the DSTI, was established through the Intellectual Property Rights from Publicly Financed Research and Development [IPR Act](#) (No. 51 of 2008). <https://www.nipmo.org>
- **Administers/implements:** NIPMO administers the IPR Act and oversees the full lifecycle of publicly funded IP in South Africa, from invention disclosure and IP protection to commercialisation, benefit-sharing, funding support and national compliance. NIPMO administers the Intellectual Property Fund (which funds the costs of patent filing, patent prosecution and IP maintenance, among other things), and the Office of Technology Transfer Office (OTT) Support Fund (which provides operational support and capacity-building funds to establish and strengthen tech-transfer offices).
- **Mission/focus:** “To ensure the effective identification, protection and utilisation of intellectual property emanating from publicly funded research and development, aligned with the IPR Act, while building capacity, raising awareness and enabling partnerships that unlock South Africa’s innovation potential for economic and social development.”
- **How it enables:** Through its [extensive list](#) of work areas.

SABS – South African Bureau of Standards

- **Status:** Statutory body under the [Standards Act 8 of 2008](#).
- **Administers/implements:** Mandated to develop, promote and maintain South African National Standards (SANS) in accordance with the SABS National Norm for the development of [South African National Standards](#).
- **Mission/focus:** “Develop, promote and maintain SANS [Develop, promote and maintain SANS](#); promote quality in connection with products/services” and “render conformity assessment services and assist in matters connected therewith”.
- **Enables innovation:** “Standards [form the basis](#) for introduction of new technologies and innovations, as well as ensuring that products, components and services supplied by different companies will be mutually compatible” and includes “collection of more than 7 600 South African National Standards (SANS); approximately 350 national standards published annually; manages over 295 technical committees with over 1 900 technical experts”.

National Treasury/ GTAC/ (Future) NHI Fund

- **Status:** The [National Treasury](#) is “responsible for managing South Africa’s national government finances. Supporting efficient and sustainable public financial management is fundamental to the promotion of economic development, good governance, social progress and a rising standard of living for all South Africans. The Constitution of the Republic (Chapter 13) mandates the National Treasury to ensure transparency, accountability and sound financial controls in the management of public finances.” The National Treasury’s [legislative mandate](#) is also described in the [Public Finance Management Act](#).
- **Administers/implements:** PFMA frameworks and Treasury regulations.
- **Mission/focus:** [Treasury](#) ensures prudent finance and procurement; through the [Government Technical Advisory Centre](#) (GTAC) it supports PPPs and public investment quality.
- **Enables innovation:** The [GTAC](#) “promotes evidence-based learning and policy advice and supports effective procurement and programme management processes. Partnerships form the basis of its development methodology, within government and with the private sector, the academic and research community, and civil society stakeholders.”

Department of Small Business Development (DSBD)

- **Status:** “Established as a standalone national department in accordance with the reorganisation of some national departments announced by the President in May 2014.” <http://www.dsbd.gov.za/about-us>
- **Administers/implements:** The DSBD programmes.
- **Mission/focus:** The “coordination, integration and mobilisation of efforts and resources towards the creation of an enabling environment for the growth and sustainability of small businesses and co-operatives.”
- **Enables innovation:** The Innovation Bridge Portal is “a South African Government initiative led by the [DSTI] and the [DSBD]. The initiative is co-funded by the [EU] through the Ecosystems Development for Small Enterprises (ESDE) programme and supported by the World Bank Group.”

Information Regulator (South Africa)

- **Status:** Independent statutory body established under the Protection of Personal Information Act (POPIA). <https://www.inforegulator.org.za>
- **Administers/implements:** POPIA (Act 4 of 2013), including health-related data-processing regulations; monitors and enforces compliance and may issue codes of conduct.
- **Mission/focus:** “A world-class institution in the protection of personal information and the promotion of access to information” and monitors/enforces POPIA; issues guidance/codes; protects data subjects’ rights.
- **Enables innovation:** For digital health: lawful data sharing/processing, analytics, cloud and related aspects.

Health innovation programmes

There are various government-led health innovation programmes, partnerships and projects across South Africa that can be accessed through the relevant organisation’s website. This is not an exhaustive list:

- Health innovation initiatives managed by the SAMRC:
 - The SAMRC currently has 12 strategic projects and programmes, including the CSSFF-SAMRC Capacity Development Initiative, the KfW Infrastructure Initiative, the mRNA Tech Transfer Hub, and the EU Africa PerMed, among others.
 - Under Strategic Funding Partnerships, partnerships hosted by SAMRC include:
 - **The Strategic Health Innovation Partnerships (SHIP)** – Established in 2013 by the Department of Science and Technology and managed by SAMRC, it funds and manages innovation projects focused on the development of new drugs, treatments, vaccines, medical devices and prevention strategies. SHIP provides life-saving innovations to the health industry and the South African public through involvement in developing new and improved treatment options.
 - Participation in the **Joint Programming Initiative on Antimicrobial Resistance (JPIAMR)**, an international collaborative platform established in 2011. Its primary goal is to coordinate research funding and efforts across nations to tackle the global challenge of antimicrobial resistance (AMR) through a One Health approach – i.e., recognising the interconnections between human health, animal health and the environment.
 - Together with AUDA-NEPAD and Grand Challenges Africa, **Grand Challenges South Africa** is supporting the establishment of Country Grand Challenges programmes on the African continent. In South Africa, four targeted challenges are Grand Challenges AMR, Grand Challenges Infodemics, Grand Challenges AI and Grand Challenges Climate and Health. <https://gcgh.grandchallenges.org>
 - **The Healthy Life Trajectories Initiative (HeLTI)**, led in South Africa by the SAMRC in collaboration with the WHO and the University of the Witwatersrand, tests integrated life-course interventions from pre-conception through early childhood to prevent obesity and NCDs. Through the South African Bukhali study, the SAMRC funds, coordinates and evaluates evidence-based interventions that improve maternal and child health, build local research capacity and inform national policy on early prevention and healthy development.
 - **The partnership between the SAMRC and the French National Agency for Research on AIDS and Viral Hepatitis (ANRS) – Emerging Infectious Diseases International Network (ANRS MIE)** supports collaborative South Africa-France research on TB. The initiative funds projects spanning the spectrum of TB – from subclinical and drug-resistant forms to new diagnostics, precision medicine, vaccines and shortened regimens – all co-led by South African and French investigators to accelerate innovation around and elimination of TB.
 - **The partnership between the SAMRC and UKRI MRC** supports collaborative South Africa-UK research to understand and address NCDs, the interplay of infectious and chronic conditions (multimorbidities), and One Health-linked challenges. The partnership aims to advance mechanistic insights, develop affordable and sustainable interventions, build research capacity across Africa and translate findings into policies and practice in resource-constrained settings.

- Other innovation initiatives include:

- **The Global Health Innovation Accelerator (GHIA):** Formed in 2014 as a partnership with PATH, to address the gaps and barriers in the health innovation ecosystem in South Africa and to enhance the ability of both organisations to meet their respective mandates. GHIA is aimed at facilitating the late-stage development and introduction of affordable and appropriate technologies in South Africa and, more broadly, across Africa.

- **The Medical Device and Diagnostic Innovation Cluster (MeDDIC)** is a **national programme aimed at increasing innovation and manufacturing** in the medical devices and diagnostics sector in South Africa. It is funded by TIA and the DSTI and hosted by the SAMRC under the GHIA programme. MeDDIC was established to harness South Africa's strong base of expertise, skills and infrastructure in the medical devices sector. The initiative is aimed at stimulating and intensifying technology innovation within the sector as well as encouraging an integrated ecosystem in support of increasing the competitiveness of the industry.

- **The Innovation Bridge:** A South African Government initiative led by the DSI and DSBD. The initiative is co-funded by the EU through the ESDE programme and supported by the World Bank Group.

- Through a series of strategic projects, investments and collaborations, the DSTI is actively involved in the country's health innovation efforts as well as various facets of the health sector. Here are just some of the initiatives under the department's banner:

- NuMeRI (Nuclear Medicine Research Infrastructure): Revolutionising disease diagnosis and treatment through advanced nuclear medicine technologies.

- DIPLOMICS: Building world-class Omics capabilities to support cutting-edge research and precision medicine.

- Biovac: Developing and manufacturing vaccines locally to enhance health security and reduce dependency on imports.

- Indigenous Knowledge Systems (IKS): Unlocking traditional wisdom to innovate products in health, beauty and nutrition.

Appendix II: Policies and regulations definitions

Source: *National Policy Development Framework* (The Presidency of the Republic of South Africa, 2020, pp. 8–9)

Policy can be defined as the organisation's stated position on internal or external issues. It provides the written basis for an organisation's operations and informs legislation, regulations and the organisation's governing document. A policy is typically based on a government's political priorities, usually contained in the governing party manifesto and part of its programme of action.

Policy development is the activity of developing policy, and generally involves research, analysis, consultation and synthesis of information to produce recommendations. The end product of this process is a policy document reflecting on the policy issue to be addressed, along with procedures and mechanisms aimed at achieving the strategic thrust of the policy.

Public policy is an authoritative statement by policymakers in response to a societal problem, opportunity or changing circumstance the population is faced with at any given time. Policy contains goals to be pursued and the course of action needed to achieve the goals. Public policy becomes implementable provided the elected policymakers and senior government officials have authorised and legitimised it through a formalised policy development process. A type of policy, **regulatory policies** (p. 11) exert control over individuals and corporations. These policies are formulated to control or put limitations on the options available for individual or collective human behaviour. Typical regulatory policies would cover the protection of consumer rights (e.g., the National Consumer Protection Act) and the environment. Regulatory policies usually focus on business regulatory policies, such as those pertaining to the control of pollution or regulation of the transportation industry. Some deal with topics such as affirmative action and gun control. Some set standards for quality that drug manufacturers must comply with. Other examples include the national traffic regulations, health regulations, and export and import regulations.

Act of Parliament refers to final **legislation** which originally assumed the status of a Bill (e.g., Health Practitioners Bill) and was subsequently passed by Parliament to become a law. The Act of Parliament will have a force of law once the President has assented to it and published a date for its implementation through a proclamation. Another term synonymous with an Act of Parliament is 'statute'.

Bill refers to a draft law or legislation (e.g., Health Practitioners Bill) that is subjected to public consultative processes, parliamentary debate, voting and enactment. Once Parliament passes the Bill into law, the piece of legislation is sent to the President for assent and signature.

Statutory law refers to law written down in statutes, parliamentary and provincial Acts, by-laws, proclamations, regulations and other subordinate legislation.

Regulations flow and derive from an Act of legislatures. It is intended to amplify the content of the original legislation for the purpose of implementation on the part of the policy implementers (i.e., bureaucrats). A designated Minister would be responsible for developing a regulation or regulations based on the content of a piece of legislation. For example, the Minister for Health may decide to develop a regulation based on the Health Practitioners Act.

Proclamation refers to when the President makes a public announcement in the Government Gazette about the commencement date of an Act or legal action.

It is noted in the Framework that: The relationship between strategy and policy is highly iterative. Thus it is crucial that this relationship is clearly understood. For instance, once a policy is approved, the policymaker may develop a strategy as a tool to carry out the policy implementation. Similarly, once a strategy has been adopted, the policymakers may decide to develop a policy as an implementation mechanism. There prevails no rule that is indicative on which one comes first.



Social Innovation in the South African Health Ecosystem

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