

# The challenges and possibilities inherent in turning Africa into a research and development hub

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Africa is being regarded as the last frontier of the world economy. However, the disparity in healthcare indices between Africa and the developed world is gross.



Source: [Rxabay](#)

Much of Africa has not built and developed strong health research and development (R&D) capabilities, which could contribute to the discovery and availability of essential health products, services and solutions and improve the health of the population of the continent.

This has been a longstanding concern and mainly attributed to inadequate funding, skills, infrastructure and weak health-research governance.

However, this huge gap also presents the opportunity to drive this much, much further, across the continent. Health R&D is a key component of transforming the health, equity and development of the population.

R&D is critical to advance scientific knowledge, and to discover and introduce new technologies, products services and solutions that have the ability to address the continent's healthcare challenges as well as improve the health and wellbeing of

Africans.

The continent bears the brunt of dual epidemics of communicable and non-communicable diseases, with a population that is highly vulnerable because of largely poor socio-economic status.

There has been a minimal capability that can swiftly develop vaccines to respond to epidemics and pandemics when they happen leading to vaccine inequity and health insecurity. The Covid-19 pandemic did clearly illustrate this.

Research and development in the vaccine and pharmaceutical space could help with the discovery, development and creation of better access to effective vaccines and therapeutics, in a continent where only 1% of vaccines and less than 5% of the pharmaceutical products consumed on the continent are actually manufactured in Africa.

According to United Nations Economic Commission for Africa's (Uneca) report on health and economic growth in Africa in 2019, the African healthcare market was estimated to be around \$259bn and could become the second biggest, only next to the USA in 2030.



## Africa: the face of vaccine inequity

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This presents a huge opportunity to discover, develop and create access to essential medicines and vaccines of key public-health importance, locally. However, despite these clear growing needs and gaps, most African countries still vastly under-fund R&D capabilities.

In 2006, member states of the African Union committed to spend 1% of their GDP on R&D. But by 2020, R&D funding in sub-Saharan Africa stood at only 0.32%, compared to the global average of 1.9%.

Investing in R&D in the health space is more than a healthcare imperative.

R&D can act as an important driver of economic growth, job creation and sustainability as well as a key element in ensuring that health security in some African countries is making decent progress in fulfilling its return on investment, its target on building R&D capacity – and is nearing the 1% target.

Kenya and South Africa, for example, are investing about 0.8% and 0.75% of GDP on R&D respectively and have emerged as regional research hubs over the last years.

## Closing the R&D gap

To reduce the existing gap in healthcare R&D between Africa and the rest of the world, there is a need to invest in R&D aggressively and progressively.

That could make us see green shoots of progress bloom into fully-fledged hubs of innovation, research, scientific advancement, and manufacturing. Member states of the African Union will also need ongoing investment to develop local manufacturing capacity and capabilities to take safe and efficacious essential healthcare products discovered and developed on the continent to the population in order to achieve greater success in Innovation, R&D and access to essential medicines and vaccines. A sustained and inclusive collaboration between the public and private sectors is crucial.

There is good news: we are seeing a growing body of evidence to show that this investment and collaboration is taking place.

There are some signs of commitment to develop the healthcare R&D continent. In April 2021, the World Health Organization

(WHO) along with SA, announced the selection of Afrigen Biologics and Vaccines, an Avacare and IDC company, as a global mRNA technology transfer hub to provide training and technology transfer to several countries in the world to enable them to develop and manufacture mRNA-based vaccines.

Several months later, South Africa was selected to be one of six African countries to receive the technology needed to produce mRNA vaccines in Africa.

The aim is to empower countries to not only be able to make their own mRNA vaccines, but ultimately to have the choice of which vaccines they want to make – actively enabling the country and the rest of the continent to develop groundbreaking solutions that curb diseases such as HIV, malaria and tuberculosis.

## Developing home-grown African solutions for Africans

With the intent and passion to provide excellent solutions in healthcare, Some African-founded healthcare companies are heavily investing in strengthening the R&D capabilities and expertise needed across the continent.



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Afrigen Biologics and Vaccines – Avacare’s R&D arm focusing on the fields of human and veterinary vaccines, vaccine-adjuvant development, platform technologies like nanosomal and liposomal technologies; as well as mRNA-based therapeutics – announced in January that it had successfully produced a lab-scale batch of mRNA-based Covid-19 vaccine that is similar to the one made by global biotechnology company, Moderna.

This is a critical milestone in the journey towards achieving continental self-sufficiency in health science, discovery, and R&D, as it illustrated to the world that African companies and countries have the potential to develop technologies and products that are not only needed in Africa but all over the world.

Afrigen has a wide-ranging pipeline of products and solutions that are being developed using cutting-edge science and research. However, these efforts need to be backed up by commitments from, and collaboration between, private, government and non-governmental stakeholders.

African leaders need to take a stand and say it is now high time to develop and grow R&D in Africa to its full potential, and focus on financing and creating enabling policy frameworks and enabling environments, as well as cutting red tape. This, in addition to, incentivising and protecting homegrown companies.

When we start to see the impact of these actions unfold, we will realise the potential of Africa to not only overcome the healthcare security issues that continue to contribute to large-scale economic insecurity, but to also become an equal competitor of scientific and health innovation on the world stage.

## ABOUT THE AUTHOR

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