

#FDHICINSIGHTS

A study of 70 Global Healthtech Unicorns Valued at **\$1Billion+**

2022 Healthtech Unicorns Insight Paper
'Building African Healthtech Unicorns'

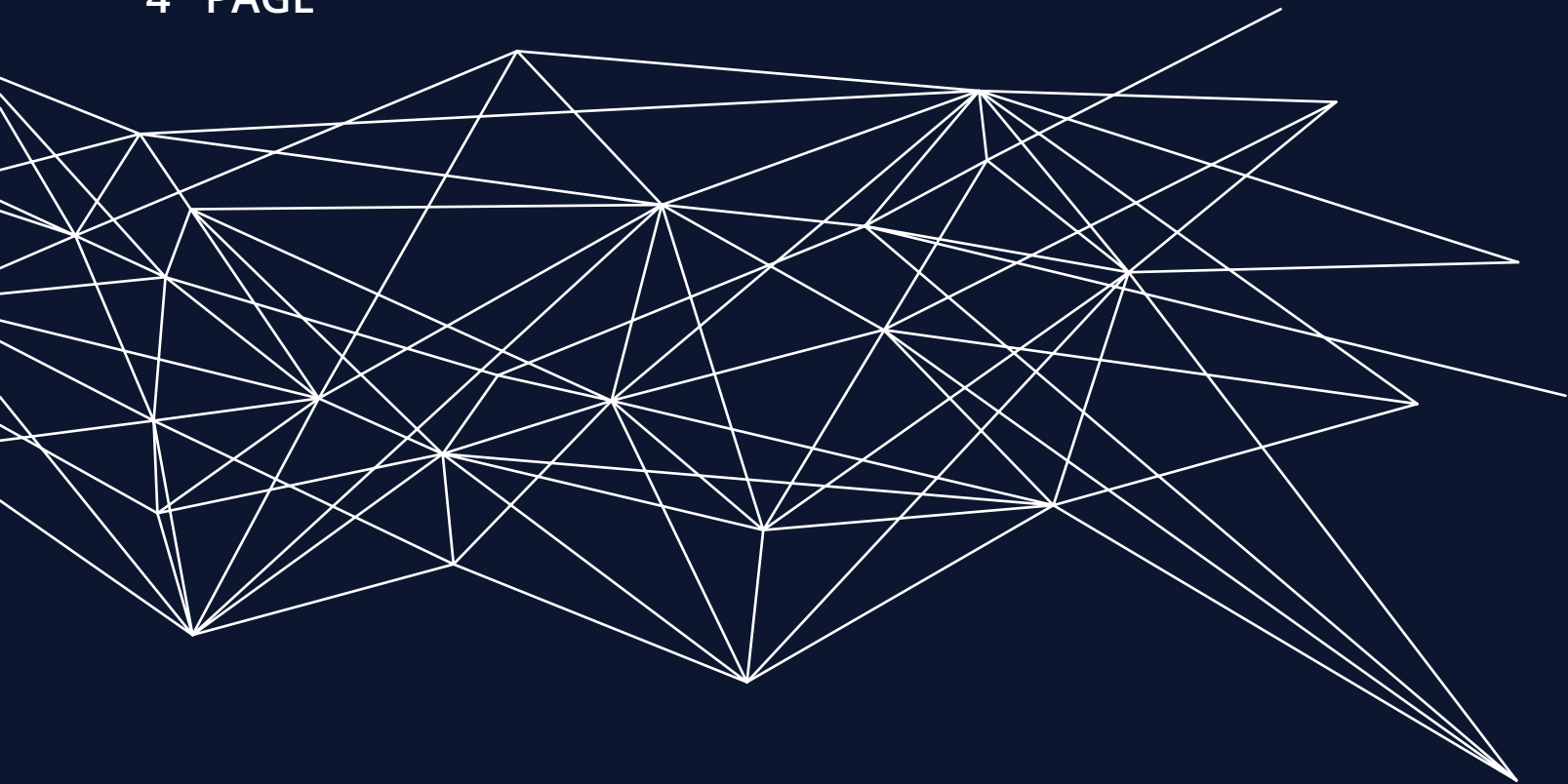


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Table of Content



Introduction.....	04
Key Insights.....	06
Why Healthcare Matters.....	07
Healthtech Unicorns; at a glance.....	09
Meet the Unicorns.....	13
Predictions for the Future.....	24
Imperatives for Building Healthtech Startups in Africa.....	28
How to win in African healthtech	08
Conclusion.....	09



Introduction

The Flying Doctors Healthcare Investment Company (FDHIC) is a sector-focused Healthcare/Wellness Investment Company that invests exclusively in African healthtech and fintech startups through our venture capital arm, and healthcare infrastructure through our project finance/public-private partnership (PPP) arm.

The role of FDHIC in the healthcare ecosystem is centred across four core thematic areas: distilling insights; raising/investing funds; executing projects; and providing strategic advice.

Our goal is to make healthcare affordable, accessible and acceptable across the continent by fostering the delivery of innovative tech-enabled healthcare PPP projects and combining infrastructure financing with enabling technologies.

Our 2022 Healthtech Unicorns Insight Paper focuses on some of the most valuable healthtech companies in the world valued at US\$1B+. This paper will start with a reminder of why healthcare is so important particularly in Africa, then goes on to look at the characteristics of healthcare unicorns across the globe before distilling possible learning points for Africa.

A unicorn startup or unicorn company is a private company with a valuation of over \$1B. As of February 2022, Omada Health, Athelas and Transcarent were the latest to join the list of healthcare unicorns around the world.

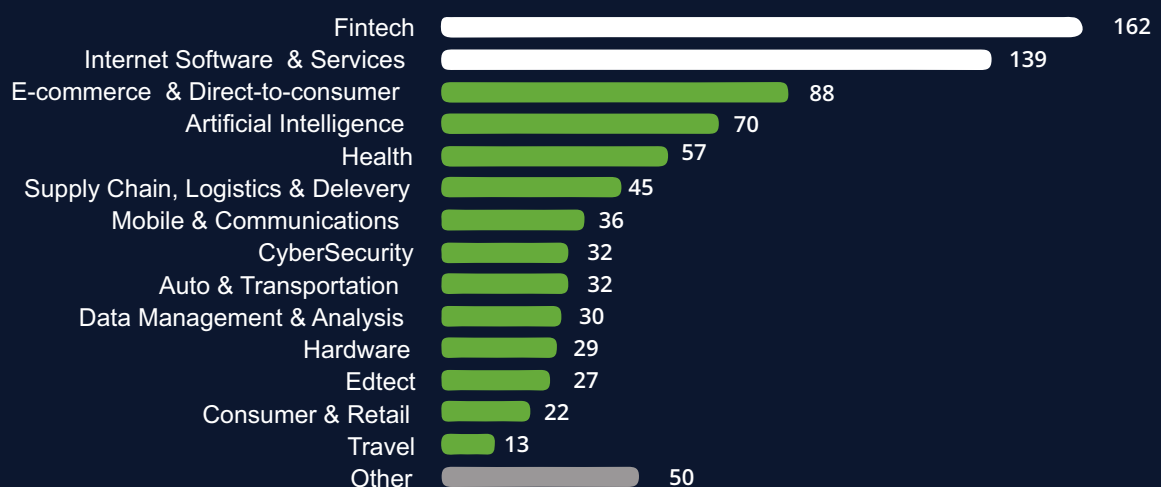
In this insight paper, we have analysed the different sub-sectors in which healthcare unicorns have emerged. We focus on aiding the development of a better understanding of global healthtech unicorns with a cursory look at what they are achieving, why and how their results could be improved. In addition, this paper seeks to provide founders and investors with a better understanding of the healthtech ecosystem across Africa. The paper has been divided into two parts: a global overview and an African spotlight.

Fintech, internet software, ecommerce and AI sectors have all produced more unicorns than healthcare globally according to CB insights.

As we examine the factors that could lead to the emergence of more healthtech unicorns in Africa, it's important for us to bear this list in mind as we also think about integrating our healthtech innovations with functionality from some of the sectors that are higher up on the list such as AI and fintech.

Fintech and Internet Lead in Unicorn Categories

Number of unicorns per category



Categories are not mutually exclusive and unicorns are shorted based on their primary use case

Source: CB Insights

Key Numbers/Insights

Before we dive in, this section gives us an overview of health techs position relative to other tech sectors. These numbers will be instructive as we move through the body of the report.

1. According to CB Insights, fintech leads the herd: nearly 1 in 5 of the world's 800+ unicorns (private companies valued at \$1B+) are fintech startups.
2. Healthtech has 70 unicorns, making it the third largest 'unicorn-producing' sector.
3. Within healthtech, healthcare IT/software emerges as the top business model with 33 unicorns. San Francisco has seen the most unicorn activity in healthtech and is home to 14 healthtech unicorns.
4. Healthtech has the potential to top the unicorn category in Q4 of 2022.
5. There are three times as many fintech unicorns than there are healthtech unicorns.
6. As of 2019, healthtech represented a global market of approximately \$350B, with many opportunities to compete across multiple subcategories.
7. Many healthtech companies pivot to the enterprise model to sustain growth and the bottom line.
8. It is difficult to get patients as individual consumers, to pay for health-related tech.
9. There are a number of global unicorns developing new approaches to pharmaceuticals and therapeutics. This report will examine the likelihood of African healthtech companies following this trend in the sections that follow.

Sources: WHO, CB Insights, Tracxn

'Africa is the poorest continent in the world and this poverty affects the health ecosystem. For instance, poor households cannot access clean water or proper sanitation, so 40% of the 800 million people without access to clean water live in Sub-Saharan Africa'

- Global Citizen.

Why Healthcare Matters

Africa makes up 16% of the world population and carries 23% of the global disease burden, yet it accounted for just 1% of total global health expenditure in 2015 .

The continent has a population of 1.3 billion people; this magnifies the need for healthcare while simultaneously decreasing the capacity to pay for it.

Healthcare systems in Africa suffer from neglect and underfunding, leading to a gap in the actualisation of good healthcare infrastructure. But even beyond Africa, healthcare costs are rising and the cost-effective provision of universal healthcare is a challenge across the world.

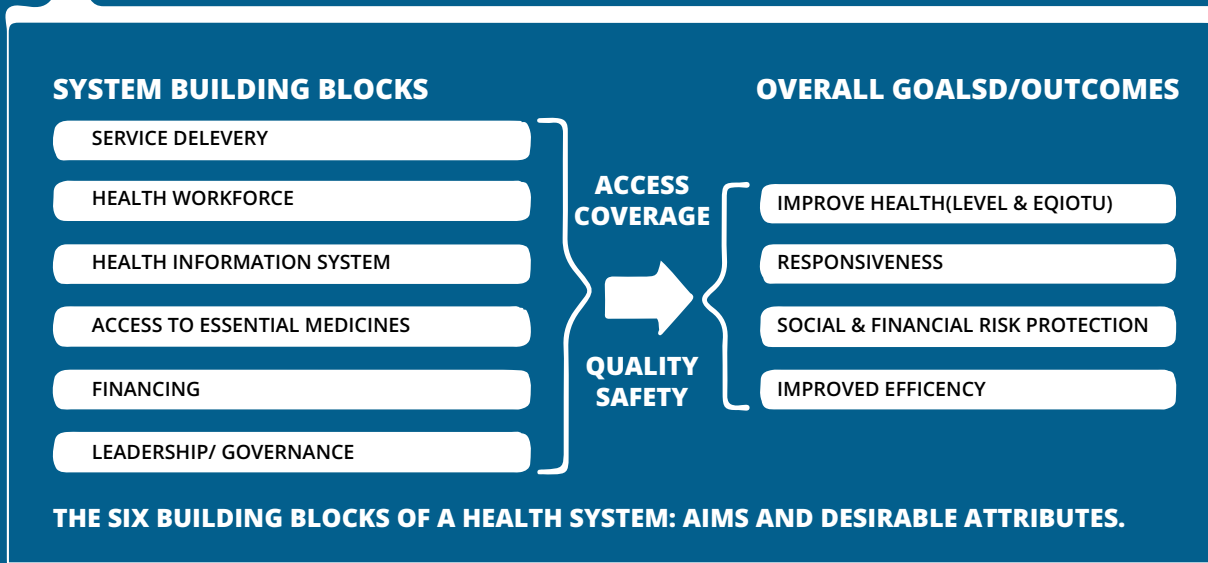
Financial technology revolutionised the way millions of consumers trade, save and make payments in Africa. Innovative fintech software has allowed people to transact using their phones improving financial inclusion, creating jobs and lifting people out of poverty. Some of the earliest innovation in this space came not from Europe or America, but from Africa.

We believe that healthtech, at scale, can bring the same kind of transformative change to the continent which according to the World Bank, has the worst healthcare outcomes in the world. But as we mentioned in the prior paragraph, healthcare challenges do not only occur in Africa. But just like financial technology solutions from Africa have scaled across the world. We see the potential for African healthtech solutions, not just to solve African healthcare problems, but perhaps global challenges also.

According to the World Health Organization, there are six pillars of healthcare delivery, namely: service delivery; health workforce; health information systems; access to essential medicines; financing; and leadership/governance.

There are healthtech solutions that address challenges in each of these pillars. However, African healthtech start up's have not yet scaled to unicorn status like their counterparts in fintech and ecommerce.

The WHO Health Systems Framework



Sources: WHO

The next section will take a deeper look at trends seen in healthtech companies that have achieved unicorn status focusing on the sub-sectors, time to reach unicorn status, top investors in the healthtech unicorns, number of investors as well as cities in which they operate.



Healthtech Unicorns at a glance

Overview of the Healthtech Sector

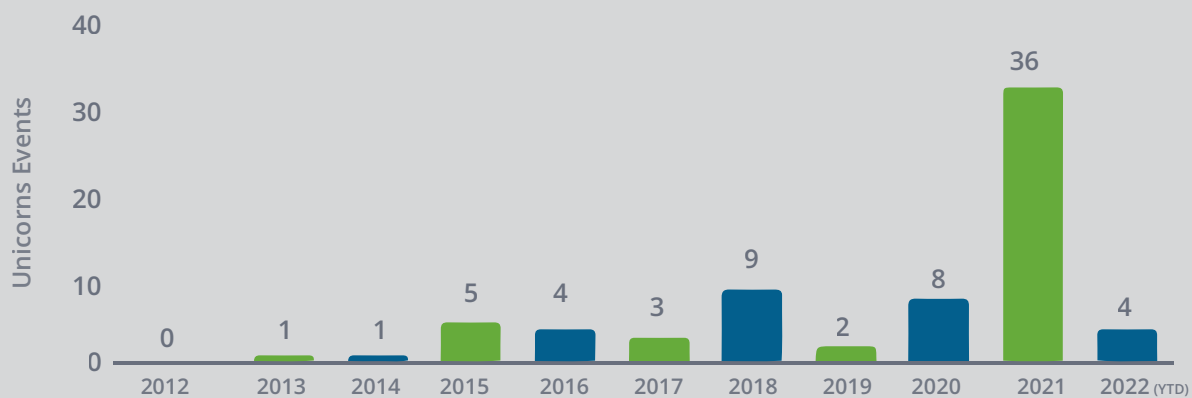
A Quick look at healthtech Sector

Unicorn Created	Average funding in new unicorns	Average time from series a to unicorn	Median Number of Investors
70	\$157M	4.7 Years	(8)
	(-\$57M)	(+.3 Years)	(+2)

Number within bracket show deviation for average/median values

Sources: [Tracxn](#)

Healthtech Unicorns Created



Average number of Unicorns Events

Sources: [Tracxn](#)

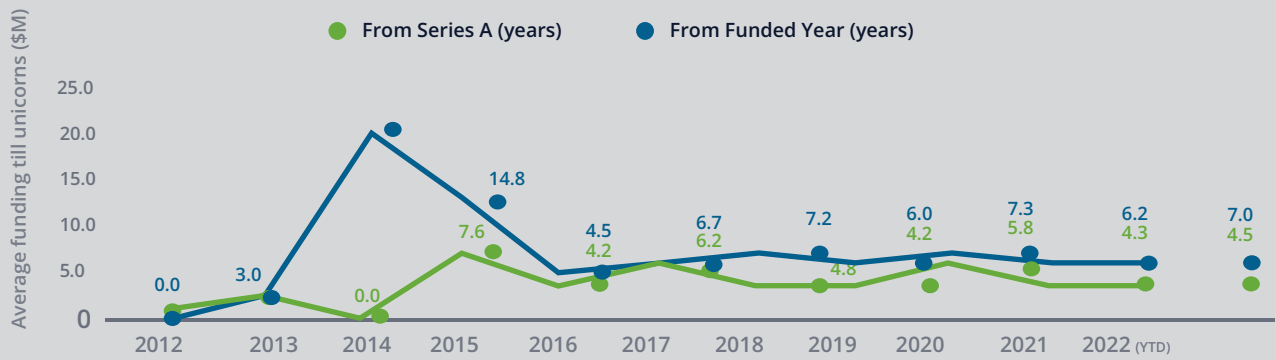
Average Funding till Unicorn (\$M)



Average funding till unicorns (10 Years) : \$92M

Sources: **Tracxn**

Time a Unicorn from Series A (years)



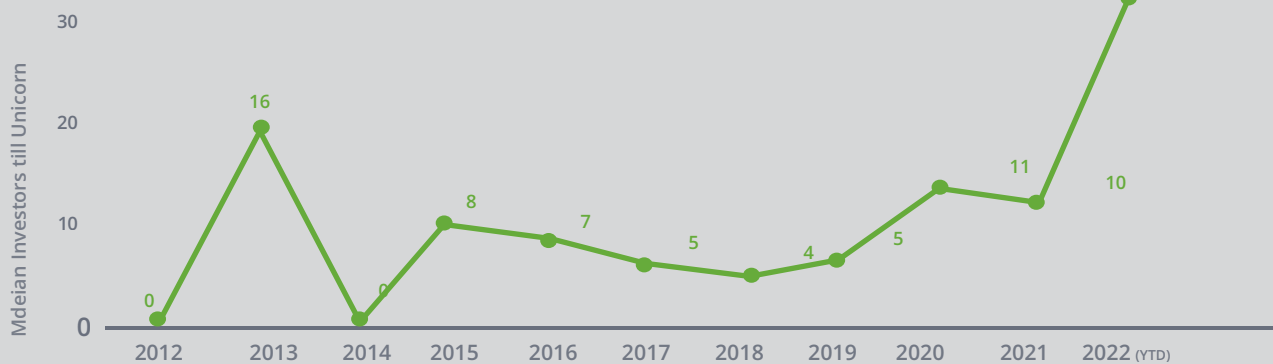
Average Time from Series A (10 years): 4 years

Average Time from Funded Year (10 years): 8 years

Sources: **Tracxn**



Median Investors till unicorns



Median Investors till unicorns (10 Years) : 7

Sources: [Tracxn](#)

Top Business Models with Most Unicorn Activity

- 01. Healthcare IT:** Omada Health, Alto, Cadence, Iodine Software, SWORD Health (+28).
- 02. Healthcare Booking Platforms:** Transcarent, Cerebral, Truepill, PharmEasy, Honor (+16).
- 03. Employee Health IT:** Cult.fit, Papa, Workrise, Ginger, Lyra Health.
- 04. Fitness & Wellness Tech:** Tonal, Strava, Whoop, Keep.
- 05. Disease Self Management:** Cult.fit, Papa, Workrise, Ginger, Lyra Health.

Sources: [Tracxn](#)

Top Investors in Unicorns

Here are the 5 most active Investors with Unicorns in Healthtech

PharmEasy
23and
Noom
Innovaccer
live (+11]



PharmEasy
Hinge Health
Medable
Innovaccer
Benchling (+8]

PharmEasy
23and Me
Honor
Ro
SonderMind (+7]



Grand Rounds,
Modernizing
Medicine
Capsule
Omada Health
Olive (+4]

Honor
Benchling
Capsule
Cedar
Cityblock (+4]



Sources: **Tracxn**

Meet the Unicorns

The last section showcased headline statistics about healthtech unicorns globally, by median number of investors, average time to unicorn status and business model according to Tracxn. This McKinsey report, highlights the fact that Africa stands out as a region without a health tech unicorn whereas India has produced several, later on in this report we will try to ascertain the reasons why this is.

In this section, we examine the data more deeply, paying greater attention to sub-sectors, business model, customer focus and listing some of the healthtech unicorns that we have studied.

Across the healthcare value chain, looking at the data that we have collected, software is king when it comes to healthtech. However, therapeutic and pharmaceutical companies that develop new approaches to diagnostics or new medicines also contribute significantly to the number of healthtech unicorns. In this deep dive, we will also be trying to ascertain the sub-sectors that are most likely to produce in Africa and if the trend will differ from the trends seen in developed and even other emerging markets.



Healthtech by sub-sector: does the sub-sector matter?

The bulk of healthtech companies develop technologies that have a direct impact on patient care. About 49% of the digital health companies that McKinsey studied fall into the care-delivery category (that is, offering more effective therapies, providing remote patient support or supplying therapies to patients)—a \$157B market (as of 2019) comprising 45% of the overall digital health market. Companies in this category either provide novel therapeutic solutions enabled by digital technologies—such as Livongo for diabetes—or use technology to broaden patient access to healthcare solutions, for example our portfolio companies; teleradiology company InstantRad (offering Teleradiology platform as a service bundled with RIS, PACS server, Reporting System, Second Opinion, Archive System, Image Transfers) or online pharmacy Lifestores (supplying drugs and hypertension support to patients).

This McKinsey report believes that every value pool in this category is expected to grow by at least 10% per annum through 2024. Many companies in this value pool provide precision-medicine solutions that are aimed at enabling faster drug discovery (for instance, Tempus) or AI-enabled patient recruitment and decentralised or virtual-

trial solutions to improve the efficiency of clinical trials (for example, Infiuss Health; another one of our portfolio companies). This market, however, was previously thought to be relatively mature compared to other digital health areas and is expected to grow at a slower rate of 8% per annum compared with other value pools, which are typically growing at 10% or more per annum. However, COVID-19 has accelerated interest in personalised/precision medicine and we expect to see many of these novel therapeutics emerge into the clinical trial stage in the near future.



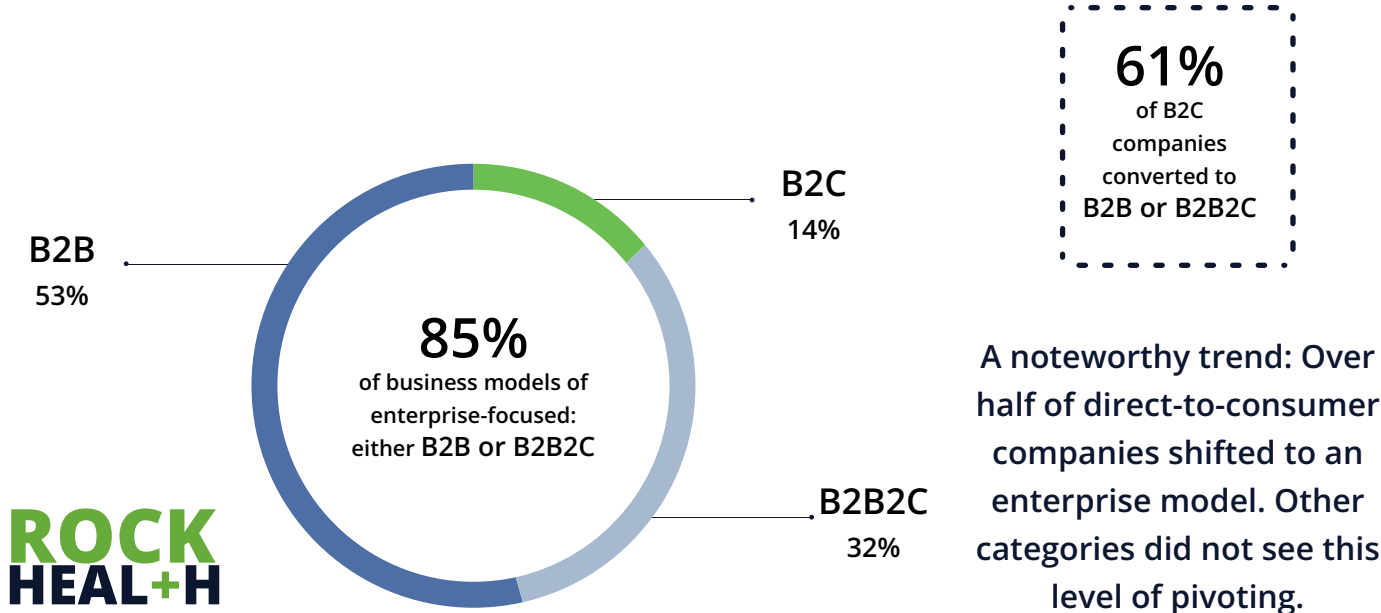
Healthtech by Customer Focus

A report by Rock Health incorporates insights drawn from a survey of digital health startups as well as established industry representatives such as Blue Shield of California, Sutter Health and Takeda. Their findings show that 34% of startups began as

B2C and 61% of those companies ultimately pivoted to B2B or B2B2C. Only 14% currently sell directly to consumers. Read more here. This is instructive, please bear this point in mind as we shall return to it later.

Business models of digital health startups

The rumors are true: B2B Business Models Dominate Digital Health



Sources: **Rock Health**

Healthtech Unicorns By Country

The country with the most unicorns is the United States of America, home to 796 unicorns. Among the cities with the most unicorn activity, San Francisco tops the list with 216 unicorns. The United Kingdom is

home to 74 unicorns, making it the fourth largest country with the most unicorns. London alone, the city with the most unicorn activity, has 55 unicorns. Read more here.



- 01. San Francisco:** Omada Health, Alto, Transcarent, Cerebral, Hinge Health (+9)
- 02. New York City:** Cadence, Maven, Capsule, Komodo Health, Cedar (+6)
- 03. Beijing:** Miaoshou, Keep.
- 04. Boston:** Pear Therapeutics, Whoop.
- 05. Chicago:** Tempus, Outcome Health.

Sources: [Tracxn](#)

Some Global Healthtech Unicorns by sub-sector and their Valuations

Therapeutics/Therapy/Pharmaceuticals				
S/N	Company	Description	Country	Valuation
1.	SWORD Health (2012)	Provider of digital therapeutics for physical rehabilitation. The platform also matches the patients with physical therapists for consultation	Porto, Portugal	\$2B as at 22 Nov 2021
2.	Hinge Health (2015)	Provider of digital solutions for employees recuperating from chronic pain for musculoskeletal disorders	San Francisco, United States	\$6.2B as at 28 Oct 2021
3.	SonderMind (2014)	Suite of software tools and services for mental health therapists	Denver, United States	Total funding: \$276M
4.	Valuation: Undisclosed	Virta Health develops and delivers clinically proven and individualised therapies for metabolic health in chronic disease patients	San Francisco, United States	\$2B as at 19 Apr 2021
5.	Biosplice	They restore health by delivering first-in-class therapies that harness alternative splicing	United States	\$12.4B
6.	Caris Life Sciences (2008)	Caris Life Sciences is on a mission to help patients, clinicians, researchers and payers navigate, advance and reinvent cancer care	United States	\$7.83B
7.	Pear Therapeutics (2013)	Developer of prescription digital therapeutics for several neuropsychiatric conditions	Boston, United States	\$1.6B as at 22 Jun 2021
8.	RO (2017)	Provider of multiple health management solutions for men	New York City, United States	Total funding: \$7B as at 16 Feb 2022

Tech-enabled infrastructure				
S/N	Company	Description	Country	Valuation
1.	Doximity (2011)	Mobile networking platform for medical professionals; enables hospitals to find doctors and recruiters	San Mateo, United States	\$80M as at 05 Sep 2012
2.	Ginger (2011)	Ginger is a provider of an on-demand mental and behavioural health coaching software for employees and individual	San Francisco, United States	\$1B as at 24 Mar 2021
3.	Komodo Health (2014)	Komodo Health is an AI-based platform for expertly curated big data and analytics in healthcare and life sciences	New York City, United States	\$3.3B as at 22 Mar 2021
4.	K Health(2016)	Online platform offering multiple healthcare services	New York, United States	Total funding: 283M Valuation: Undisclosed
5.	Grand Rounds (2011)	Provider of healthcare concierge service provider	San Francisco, United States	\$1.3B as at 09 Sep 2020
6.	YITU (2012)	Yitu provides AI-based business applications. It has developed technologies for computer vision, natural language, knowledge reasoning, intelligent hardware and robotics for different business sectors such as healthcare	Xuhui, China	Total funding: \$385M Valuation: Undisclosed
7.	PointClickCare (2000)	Cloud-based administration task management tool for providers	Mississauga, Canada	Total funding: \$283M Valuation: Undisclosed
8.	Cityblock (2017)	Provider of tech-heavy clinics for multiple healthcare solutions for patients	Brooklyn, United States	\$5.7B as at 03 Sep 2021

Fitness, Wearables and Devices

S/N	Company	Description	Country	Valuation
1.	Whoop (2011)	Provider of a smart wearable device for physical activities monitoring	Boston, United States	\$3.6B as at 30 Aug 2021
2.	Keep (2014)	Video-based workout guide and progress monitoring tool	Beijing, China	Total funding: \$649M Valuation: Undisclosed
3.	Fab (2010)	Provider of online platforms for yoga classes. Provides packages for fitness and yoga training	New York, United States	Total funding: \$331M Valuation: Undisclosed
4.	Elvie (2013)	First internet brand offering wearable breast pumps	London, United Kingdom	\$4B as at 27 Jul 2021
5.	SmileDirectClub (2014)	Developer of customised dental aligners	Nashville, United States	Total funding: \$440M Valuation: Undisclosed
6.	OrCam (2010)	Provider of AI devices for visually impaired	Jerusalem, Israel	Total funding: \$86.4M Valuation: Undisclosed
7.	Tonal (2015)	AI-based digital full body motion analysis and training system. Provides exercises for strength training using digital weight machines	San Francisco, United States	\$1.6B as at 21 Mar 2021

Insurance and Drug Pricing

S/N	Company	Description	Country	Valuation
1.	CityBlock Health	Cityblock is an insurance provider that addresses gaps in your current care	United States	\$5.7B as at 03 Sep 2021
2.	Change HealthCare (2007)	Digital healthcare financial management and collaboration tool for payers, providers and patients	Nashville, United States	\$13.5B
3.	Dutchie (2017)	Online marketplace for cannabis products	Bend, United States	\$3.75B as at 14 Oct 2021
4.	Cedar(2016)	Cloud-based payment solutions for the healthcare industry	New York City, United States	Total funding: \$351M Valuation: Undisclosed

Genomics

S/N	Company	Description	Country	Valuation
1.	Tempus (2015)	Oncology platform for sequencing, analytics and information. It offers sequencing analytics, an informatic platform for cancer treatment that helps physicians make real-time data-driven decisions based on computational analysis of a patient's pathology	Chicago, United States	Total funding: \$1.05B Valuation: Undisclosed
2.	iCarbonX (2015)	IcarbonX provides a bioinformatics platform for health management and drug development	Shenzhen, China	Total funding: \$366M Valuation: Undisclosed

Genomics				
S/N	Company	Description	Country	Valuation
3.	Gingko Bioworks	Biology is the most advanced manufacturing technology on the planet. We programme cells to make everything from food to materials to therapeutics	United States	\$4.2B
4.	23andMe (2006)	Provider of genetic test solutions to study ancestry, genealogy and inherited traits	Mountain View, United States	Total funding: \$943M Valuation: Undisclosed

Imaging and Diagnostics				
S/N	Company	Description	Country	Valuation
1.	LetsGetChecked (2014)	LetsGetChecked is an online platform to order at-home diagnostic tests for all health conditions	Dublin, Ireland	\$1B as on 07 Jun 2021
2.	Radiology Partners	Radiology Partners is a national radiology practice transforming radiology, radiology practice, hospitals, health systems, patients and families. They operate differently through innovation and collaboration. Radiology Partners strives to reimagine radiology's position in healthcare delivery	United States	\$4B
3.	HeartFlow (2017)	Provides cardiovascular diagnostics support using analytics	Redwood City, United States	Total funding: \$622M Valuation: Undisclosed

Providers and Concierges

S/N	Company	Description	Country	Valuation
1.	Cadence (2021)	The company has developed software that allows providers to give patients education tools and more. It has features for patient experience management, workflow operations, clinical support and more	New York, United States	Total funding: \$144M Valuation: Undisclosed
2.	DocPlanner (2011)	Provider of an online doctor appointment booking platform and offers doctors to manage patient appointments	Warsaw, Poland	\$1B as at 06 Sep 2021

Big Data and Analytics

S/N	Company	Description	Country	Valuation
1.	LinkDoc (2014)	LinkDoc is a provider of the oncology-focused database. It is a big data company that is involved in medical information systems integration and application software development	Haidan, China	Total funding: \$263M Valuation: Undisclosed
2.	Modernizing Medicine (2010)	AI and Cloud-based EMR and practice management software for clinics	Boca Raton, United States	Total funding: \$329M Valuation: Undisclosed
3.	Flatiron Health (2012)	Cloud-based oncology platform offering analytics, billing and HR	New York City, United States	\$1.9B
4.	Truven Health (2012)	Truven Health Analytics provides healthcare data integration and analytics solutions and services	Ann Arbor, United States	\$2.6B

Big Data and Analytics

S/N	Company	Description	Country	Valuation
1.	Cerebral (2020)	Provider of mental health telemedicine solutions	San Francisco, United States	\$1.2B as at 10 Jun 2021
2.	RO	Ro seamlessly connects telehealth, diagnostics and pharmacy services to provide high-quality, affordable healthcare without the need for insurance	United States	\$7B as at 16 Feb 2022
3.	Honor (2014)	Online platform offering elderly care services. Appointments can be made on an hourly basis with a different premium plan	San Francisco, United States	Total funding: \$325M Valuation: Undisclosed
4.	LifeStance (2017)	Online telehealth service booking platform for mental health	Bellevue, United States	\$7.5B as at 10 Jun 2021
5.	Dental monitoring (2013)	Dental monitoring technology to detect tooth movements	Paris, France	\$1B as at 21 Oct 2021
6.	Doctorlib (2013)	Online platform for booking doctor appointment	Levallois-perret, France	Total funding: \$266M Valuation: Undisclosed
7.	Zocdoc (2007)	Provider of healthcare appointment booking service	New York City, United States	Total funding: \$375M Valuation: Undisclosed
8.	Kry (2014)	Kry is a provider of an online telemedicine platform for patients. The application platform allows the patients to register and seek advice and prescription of medicine via a video conferencing tool	Stockholm, Sweden	\$2B as at 27 Apr 2021
9.	Maven (2014)	Telemedicine app that caters to the healthcare needs of women and provides healthcare information for women	New York City, United States	\$1B as at 17 Aug 2021
10.	Workrise (2015)	Employee wellness tracking and management platform	San Francisco, United States	\$2.9B as at 20 May 2021

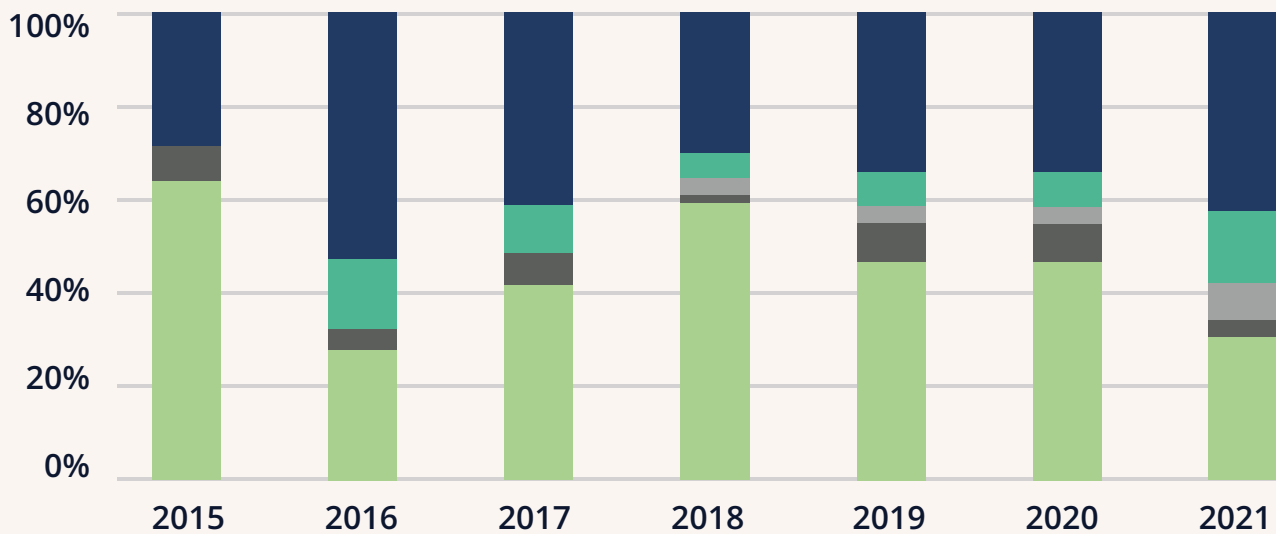
Predictions for the Future

African tech funding trends

According to a McKinsey report, the first half of 2020 saw an unprecedented digital health activity: record levels of venture funding of \$5.4B; megadeals, such as Teladoc Health’s \$18.5B acquisition of Livongo; and accelerated virtual care delivery, such as telehealth and remote monitoring.

Today, Africa boasts an impressive list of unicorns that are setting the pace for others to emerge across

different sectors such as fintech, ecommerce and healthtech. Africa’s first unicorn, Jumia, was founded in 2012 with a valuation of \$1B in 2016; the second unicorn, Interswitch, was founded in 2002 and became a unicorn in 2019; and Fawry, the continent’s only non-Nigerian unicorn, was founded in 2008 and announced its \$1B valuation in 2020. Read more about Africa’s four (or maybe six) unicorns here.



■ Pre-Seed and Seed
 ■ Series A-B
 ■ Series C+
■ Other
 ■ Non-equity financing

Sources: [The Baobab Insights](#)

Overall healthcare funding trends and the 'COVID19 Effect'

COVID-19 has accelerated numerous existing and/or emerging healthcare trends, particularly around health equity, and environmental and sustainability. Additionally, shifting consumer preferences and behaviour, the integration of life sciences and healthcare sector, rapidly evolving digital health technologies, new talent and care delivery models, and clinical innovation continue to be top of mind for healthcare executives globally. How they respond to these challenges to address the pandemic will be critically important in 2022.

-Stephanie Allen

Global Public Health & Social Services Leader

Globally, as at 5:38pm CET, 3 March 2022, there were 438,968,263 confirmed cases of COVID-19, including 5,969,439 deaths, reported to WHO. As at 27 February 2022, a total of 10,585,766,316 vaccine doses had been administered. [Read more here.](#)

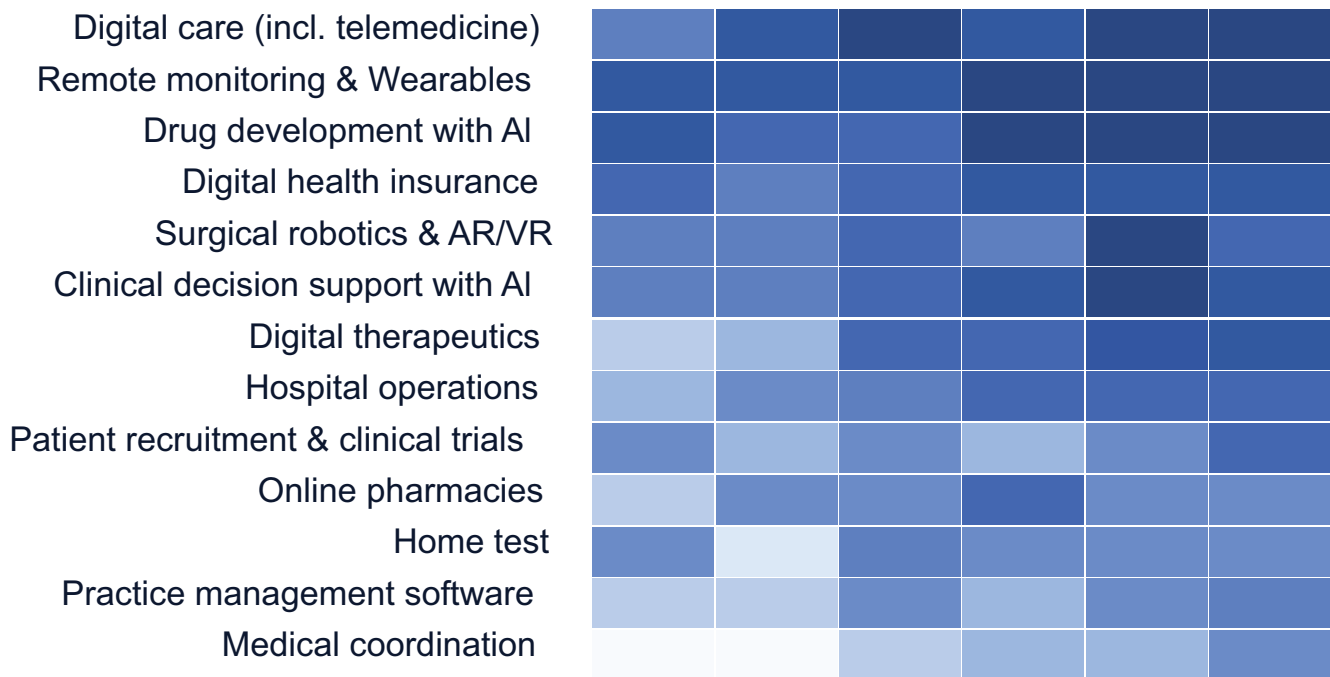
In a recent 2022 Global Healthcare Outlook report, we discovered that COVID-19 has accelerated numerous existing and/or emerging healthcare trends. Today, the rapidly evolving digital health technologies have propelled vaccine developers to use a variety of technologies and techniques to contain the COVID-19 virus and prevent severe disease, hospitalisation and COVID-19 related deaths. For example, the first vaccine to receive emergency-use authorisation in the United States was a first-in-class synthetic messenger RNA (mRNA) vaccine, making RNA a household term. Most mRNA-based therapeutics are being used as vaccines against infectious

diseases such as COVID-19 or to develop personalised cancer vaccines. Ongoing research is also exploring whether this technology can be used as a protein-replacement therapy, particularly for rare diseases such as the blood-clotting disorder haemophilia. The report noted that by February 2021, there were more than 520 clinical trials testing mRNA therapeutics across more than 20 disease categories with investment growing considerably.

Investment in healthtech is expected to continue to be strong in 2022. The biggest shifts we can expect to see in healthcare in 2022 as reflected upon by industry leaders in an article by the World Economic Forum highlighted that many other digital health trends will accelerate this year to make patient care more precise, personalised and connected. [Read more here.](#)



Venture capital investment activity has moved beyond telehealth, to remote monitoring, AI-first products, digital therapeutics and more.



Sources: [Dealroom.co Digital Healthcare report, 2021](#)

The data above tells us two main things. Firstly that venture capital investment into Africa is growing at an exponential rate and secondly that global interest from investors in healthcare and healthtech have also accelerated due to the global COVID19 pandemic. The combined effect of both of these facts make the emergence of healthtech unicorns in Africa more likely.

Imperatives for Building Healthtech Startups in Africa

The first and most obvious factor to consider is all healthtech unicorns so far have been built in countries with one of more of the following:

1. Deep Health Insurance penetration
2. High levels of disposable income
3. Significant government spending on healthcare
4. Widespread, low cost access to broadband internet

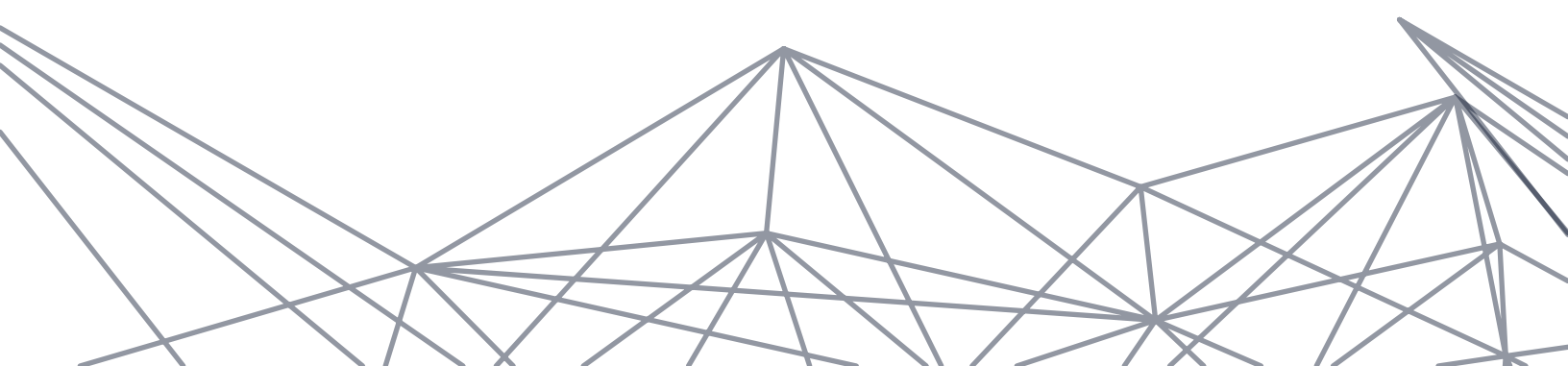
Africa's underdeveloped insurance market need not be seen solely as a challenge, but can be viewed as an opportunity for both players in the insurance sector and for African societies in general. However, it has to be said that many healthtech unicorns in developed countries serve insurance companies, selling to patients paying out of pocket is very different out-of-pocket is very different. In many parts of Africa, health insurance penetration is low combined with low disposable income, thus making achieving massive scale via a B2C model more difficult.

Similarly, increasing internet access has been the main driver of significant amounts of capital inflows and investments

in the African healthcare sector. The report, 'High Tech Health: Exploring the African E-health Startup Ecosystem Report 2020', says the number of startups active in the healthtech space on the continent has grown by 56.5% over the last three years and has hit an all-time high at 180 active companies. However, despite this progress data costs in many parts of Africa still remain high compared to other emerging markets such as India. This may also be a factor that impedes scale for healthtech startups that rely on the internet where the target markets are low-income consumers or small low-margin businesses.

Heavy R&D spending and expertise is required when building high-growth healthtech start ups in the pharmaceutical, therapeutics and biotech space where new approaches are developed to treat rare or challenging diseases. Bringing new therapeutics into a competitive and highly regulatory market requires a lot of expensive R&D work.

The only African country on the list of countries with the most doctoral graduates is South Africa.



Countries with the Most Doctoral Graduates

The Countries With The Most Doctoral Graduates

Number of doctoral graduates (all fields) in 2014



©StatistaCharts Source: OECD

statista

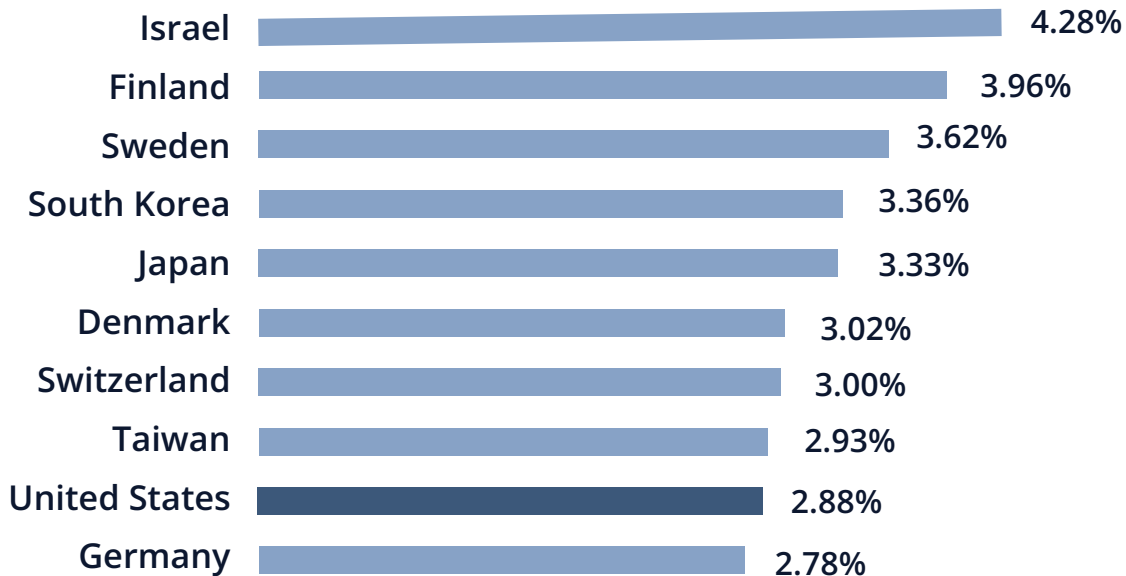
Sources: Statista

In 2009, the U.S. R&D to GDP ratio was 2.9%—a number last achieved in 1964—and near a record high. Nonetheless, eight nations had a higher ratio. There is no African country on the list of top spenders

on R&D as a percentage of GDP. This is why our vision is that the first African unicorn is more likely to come from the software category unless there are changes in R&D funding.

Top Spenders on R&D as a Percentage of GDP

Top Spenders on R&D as a Percentage of GDP



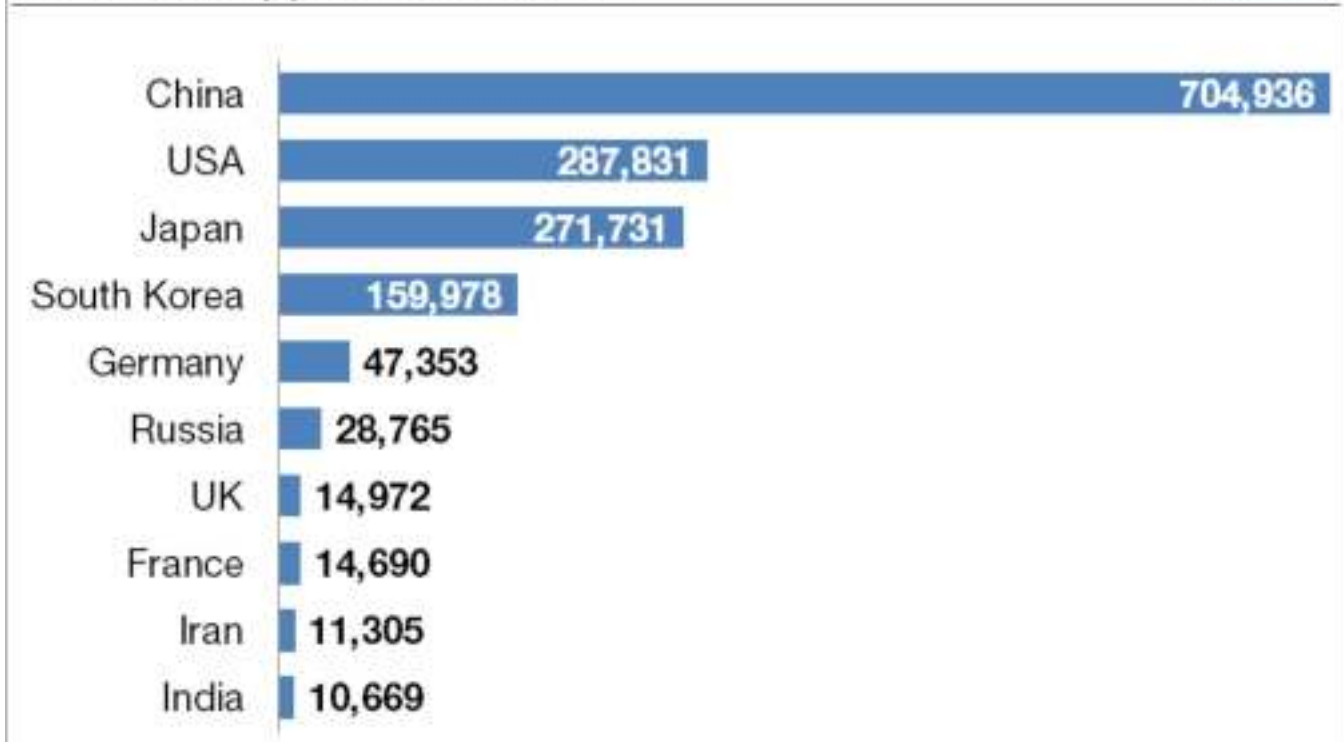
Sources: [National Science Foundation](#)

The World Intellectual Property Organization (WIPO) showed that 234,700 patents were registered in Africa in the last 22 years. South Africa accounted for 55% of these, while Nigeria registered a

mere 1%—less than 2,500 patents. High-quality patents are directly correlated with economic growth. Africa is not creating patentable innovations.

Countries Filing the Most Patent Applications

Countries filing the most patent applications Number of applications in 2013



Sources: [World Intellectual Property Organization \(WIPO\)](#)

This section has given us a lot to think about when it comes to potential impediments to scaling healthtech innovation in Africa.

There are the general challenges that could prevent start ups in any sector operating on the continent from scaling such as high data costs, low broadband access and low disposable income.

In addition to this, there are the more sector specific challenges such as low public spending on research and development, lack of doctoral level expertise required for drug development,

low health insurance penetration and lack of government investment in healthcare. We believe, looking at the data on patents and research, that It is more likely for Africa to come up with software/pharmtech than novel therapeutics. A healthtech unicorn will most likely emerge in the software development space rather than other sub-sectors that require significant research and development spending, a critical mass of doctoral level academics publishing their findings and a large number of new patent ready innovations.



How to Win in African Healthtech

So far we have looked at healthcare unicorns globally by sector as well as looking at some unicorns individually by studying how they raised venture capital, who they raised from, their business models and what city/country they operated in.

This penultimate section attempts to synthesise learnings from all the data studied in previous sections to provide some insights for innovators who are currently aiming to build the first set of African healthtech unicorns.

1. Focus on disposable income of the target market. Many African markets have large numbers of people with low disposable incomes, for example in Nigeria, an average of 66% of income is spent on food and nearly half of the population live in poverty. It is therefore important to size market size, addressable market and disposable income appropriately.

2. When focusing on lower income demographics, consider how to get round data costs/ access. Many patient and small businesses will find it difficult to afford internet access, so its worth thinking about offline, USSD or low bandwidth solutions as you build.
3. Think about how to integrate physical infrastructure with tech-heavy services. Our portfolio company MDaaS Global has done this with their tech-heavy diagnostic centres across Nigeria. This again helps circumvent the data access and cost issue.
4. Think about integrating fintech services into healthtech services just as two of FDHIC's healthtech portfolio companies, HeliumPay and Lifestores Pharmacy have done with Helium Health, with an embedded financing solution that allows hospitals and pharmacies to purchase goods on credit through a buy now, pay later solution for medical consumables and drugs. This improves margins for your solution, but also improves affordability for end users.
5. Healthtech providers are more likely to be serving businesses or the government than their counterparts in fintech. B2B and B2G mean longer sales cycles, skilled sales teams and a polished, competitive product offering. This means healthtech companies will need to invest in product management, sales training, sales people, strategic partnerships, public affairs functions and stakeholder management earlier than their counterparts in other sectors building B2C solutions.
6. Collaboration. This is key for all technology companies as African stock markets remain relatively illiquid and M&A markets on the continent are still developing. In a world where winning in technology means successful exits, health tech companies will need to seek ways to collaborate for exits through international IPO's and acquisitions as well as potentially when seeking talent and market access.





Conclusion

Our top four value propositions at FDHIC are:

1. Business Development/Sales and Marketing Support
2. HR/Talent Development Support
3. Fundraising Support
4. Strategy Support

We have helped our portfolio companies raise millions of dollars in follow-on capital through assisting with deck/data room preparation as well as direct introductions to investors. FDHIC provides support in accessing international capital pools in addition to sourcing, evaluating and executing investment opportunities across emerging and frontier markets.

This insight paper demonstrates how we think about the last point on our value proposition list: strategy.

We started by outlining the reasons why healthcare matters, then we analysed through unicorns in our dataset. We then went on to discuss our thoughts about the future and the things that founders and investors perhaps may want to consider when building in the African healthtech sector.

Digital health is the future of healthcare. Budding healthtech companies in Africa need

radical solutions with innovative thought to break the current impasse in building African healthtech unicorns.

Could Africa's most valuable company be a healthtech? Not impossible. BYJU'S, an edtech company in India, has a valuation of \$16.5B with 40 million users, of whom 3 million are annual paid subscribers. It is currently India's most valuable company. [Read more here.](#) We think this highlights that the possibility that fintech unicorns may not reign supreme forever in Africa.

We are excited about the potential healthtech companies in Africa hold to address the continent's key challenges in relation to healthcare and to scale to unicorn status by solving one of the biggest problems currently facing the continent. We hope this has helped you contextualise the problems and the opportunities as we continue to build the future.

